



## Waipā District Council – Urban Mobility

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### SINGLE STAGE BUSINESS CASE CAMBRIDGE AND TE AWAMUTU

## DOCUMENT CONTROL

### Document Information

|                |                                                |
|----------------|------------------------------------------------|
| Document ID    | 10583702                                       |
| Document owner | Bonnie Lewis                                   |
| Issue date     | 9 May 2022                                     |
| Filename       | PR4292 PR4293 WDC Urban Mobility Business Case |

### Document History

| Version   | Issue Date   | Changes                                                                               |
|-----------|--------------|---------------------------------------------------------------------------------------|
| Draft 1   | 06/04/2021   | None                                                                                  |
| Draft 2   | 02/09/2021   | Various changes as requested by Waka Kotahi and to ensure alignment with approved LTP |
| Draft 3   | 02/09/2021   | Some changes and formatting                                                           |
| Draft 4   | 04/11/2021   | Completion of economic analysis peer review                                           |
| Version 2 | Feb-Apr 2022 | Full Business Case Peer Review – Karen Boyt                                           |

### Document Review

| Role                                 | Name             | Review Status               |
|--------------------------------------|------------------|-----------------------------|
| Programme Engineer<br>Transportation | Erik van Der Wel | Final Draft for endorsement |

### Document Sign-off

| Role                   | Name         | Sign-off Date                                                                         |
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## EXECUTIVE SUMMARY

This business case is a response to the strong desire from our community to transition towards a transport network that favours alternative transport modes, such as walking and cycling. Residents of all ages and abilities want to be able to commute in our main urban areas safely and conveniently.

The investigation worked through the current state of the pedestrian and cycling network, identifying the areas in most need of improvement, as well as the preferred routes. The process included a robust and exhaustive review of the alternative solutions, proposing three main themes that were released to the community through a consultation process seeking community input.

From the community feedback the preferred solution was developed for inclusion in this business case. The resulting proposal for consideration is summarised below:

- For **walking** we are proposing a network-based approach to improve existing facilities, in particular the crossing points on key routes on busy streets.
- For **cycling** we are proposing to develop a network of key routes. The infrastructure proposed will be designed for the safe and easy use by people of all ages and all abilities.
- For **bus users** we will ensure that we provide the necessary connectivity and infrastructure to facilitate how bus users incorporate walking or cycling into their journey.

The proposal is very similar for both towns in its structure, but unique in that each town has had its network specific details tailored to the feedback from the specific community.

The initial stages, to be delivered over the 10 year period from 2021 – 2031, would involve the expansion of key routes to include well frequented key destinations to maximise the benefits to the community early in the project programme. The proposed early focus is described below.

The proposal also includes a full list of improvements to complete the preferred urban mobility programme, for delivery over the next 30 year period.

### Cambridge

Implementing routes that connect Leamington via Victoria Street to the newly constructed Hamilton Road Cycleway, as well as the Te Awa River Ride, the central business district and schools.

The Middle School and central business district are in close proximity to the above and are planned to be linked as a priority to this network.

### Te Awamutu

Extension of the Kihikihi pathway further into the central business district, linking to Te Awamutu Intermediate School, and then linking to the Events Centre / Library and then Te Awamutu College.

### Preferred Programme

The preferred programme, the Refined Cross-town Cycleways, identifies a list of projects that will meet the needs of the community to achieve the business case investment objectives to deliver:

- 1. Improved safety and perception of safety for active mode users:** Improvements to connectivity and crossing points for footpaths, cycleways and shared paths result in improved perceived and real safety outcomes for all active modes.
- 2. Increased active mode use:** Provide quality infrastructure that will be well used by people of all ages and all abilities.
- 3. Improved health:** Increased accessibility to footpaths and cycleways results in more users choosing active modes.

The full programme is targeted for delivery over the next 30 years, by 2051. However, for this business case we have developed the economic, financial and management case for delivery of the first stage of works, at a total cost of \$10.9M. This is targeted for delivery of projects by June 2031, with ongoing culture change packages to continue to encourage increasing use of active modes of transport.

Complementary and separately funded in the Long Term Plan (LTP) is the delivery of walking and cycling infrastructure within new growth cells around the periphery of Cambridge and Te Awamutu. The preferred programme is coordinated with growth projects to ensure good linkages to schools, shopping centres and employment hubs.

### **Next steps**

Waipā District Council (WDC) has confirmed subsidised funding of \$10.9M in its 2021 – 2031 Long Term Plan. This business case will be used to support our funding application to Waka Kotahi for inclusion and financial assistance for this programme in the 2021 – 2031 National Land Transport Plan.

## PART A. STRATEGIC CASE

### 1. INTRODUCTION

#### 1.1. PURPOSE

This strategic case sets out the context for improving and increasing urban mobility for people of all ages and all abilities to move easily around, using public and active transport in Cambridge and Te Awamutu. It outlines the current state of walking and cycling provision in the district, identifies existing problems and opportunities, and potential benefits of investing. Walking and cycling are considered as modes by themselves and as a means of access to public transport.

#### 1.2. BACKGROUND

Waipā is home to around 56,200 residents; a significant number of whom live in the two main towns— Cambridge and Te Awamutu. The Waipā 2050 Growth Strategy forecasts that by 2050, the population of the two main towns will nearly double. As the population increases, so too does the travelling demand for social, work and educational activities. To manage the travel demand and reduce traffic pressure on the roads, it's important to promote and enable walking, cycling and public transport as alternative transport modes.

Cambridge is the largest town in the Waipā district with approximately 20,510 residents (2020). The town centre is located north of the Waikato River and characterised by retail and commercial buildings along Victoria Street. Shakespeare Street in Leamington is another business and commercial centre in Cambridge. Roughly 5,700 people live within 20 minutes walking distance from the centres. About 17,600 people live within 15 minutes cycling distance from the Cambridge town centre.

As at 2020, approximately 13,100 people lived in Te Awamutu. The town centre is on Alexandra Street. About 7,700 people live within 20 minutes walking distance from the town centre. About 11,700 people live within 10 minutes cycling distance from the town centre. Walking and cycling catchment maps are included in the Appendix A and B.

Due to the small size of the towns, it's feasible to advance walking and cycling as the best way to move around Waipā's towns and promote these modes as safe and convenient modes of transport.

#### 1.3. PUBLIC TRANSPORT

A separate business case was developed in 2019 by Waipā District Council in partnership with Waka Kotahi New Zealand Transport Agency (NZTA) and Waikato Regional Council (WRC), to improve public transport services.

There are two community bus services in the district: Cambridge to/from Hamilton and Te Awamutu to/from Hamilton. Annual patronage (Mar 2019-Feb 2020) was 64,371 on Cambridge services and 77,460 on the Te Awamutu services. Eight services run per day from Cambridge to Hamilton and nine from Te Awamutu to Hamilton on weekdays, and four services from both centres on weekends and public holidays.

Both Waipā District Council (WDC) and Waikato Regional Council (WRC) endorsed the first stage of a Public Transportation Improvement Plan which will include the following changes:

1. Provide regular services seven days per week with expanded operating hours.
2. Upgrade the existing Te Awamutu route to include Kihikihi on all trips and potentially add trips to provide service to Waikeria Prison.
3. Upgrade the existing Cambridge route to include Cambridge East (Taylor Street) area on all trips.
4. Weekday service hourly, with one additional peak service to accommodate more passengers during the morning (7am-9am) and afternoon (4pm-6pm) peak times in each direction and extension of hours. Weekends and holidays two hourly frequency.

Improving the bus services will provide residents with greater transport choice to travel to Hamilton and within the towns. Ideally, the improved bus services will operate from 2022. It is envisaged that passenger transport in the district will continue to focus in the short term on commuter travel as follows:

- Leamington – Cambridge – Tamahere – Hamilton
- Kihikihi – Te Awamutu – Ōhaupō – Hamilton

Proposed Cambridge and Te Awamutu bus route maps are in Appendix C and D.

This Urban Mobility Business Case aims to improve and increase urban mobility for people of all ages and all abilities to move easily around using public and active transport in Cambridge and Te Awamutu. To contribute to the accessibility of Public Transport to improve and increase its use, this business case considers Public Transport locations, for example, bus stops, as key destinations for walking and cycling access.

## 2. STRATEGIC ASSESSMENT

A facilitated Investment Logic Mapping (ILM) and Benefit Mapping workshop was held in July 2020 with key stakeholders from a range of organisations (listed below). Before the workshop, stakeholders were provided with a pack of information and evidence about crash data, a mode share report and Council strategy documents to inform the conversation.

### 2.1. PARTNERS AND KEY STAKEHOLDERS

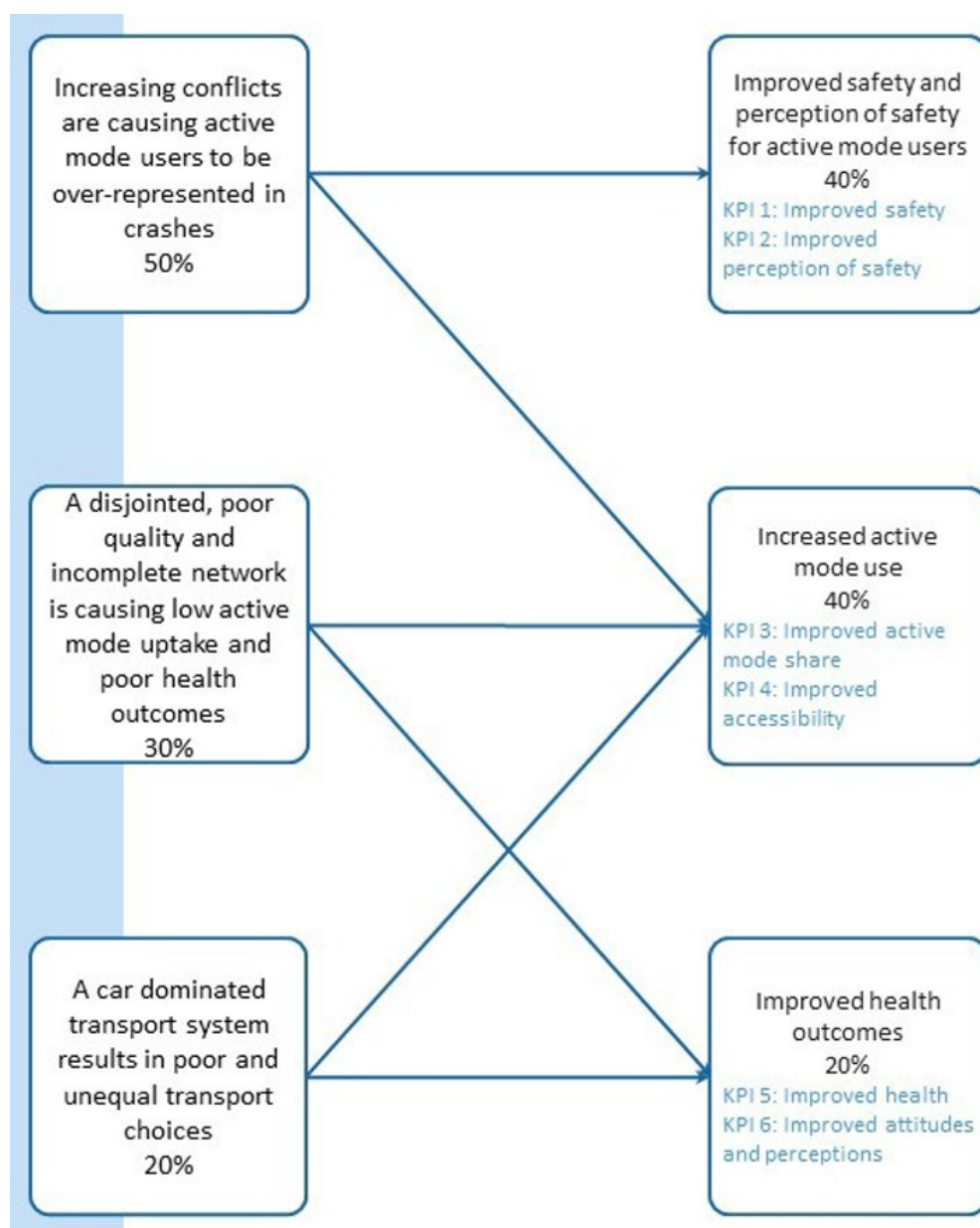
Table A – Partners and Key Stakeholders

| Organisation           | Name            | Position                          | Role in the project |
|------------------------|-----------------|-----------------------------------|---------------------|
| Waipā District Council | Bryan Hudson    | Transportation Manager            | Investor            |
|                        | Erik Van DerWel | Transportation Programme Engineer | Project Manager     |
|                        | Xinghao Chen    | Transportation Planning Engineer  | Project Engineer    |
|                        | Justine Kennedy | Strategic Project Driver          | Stakeholder         |
|                        | Lou Brown       | Councillor                        | Stakeholder         |
|                        | Roger Gordon    | Councillor                        | Stakeholder         |

| Organisation              | Name           | Position                                                        | Role in the project |
|---------------------------|----------------|-----------------------------------------------------------------|---------------------|
| Waka Kotahi               | Jo Carling     | Principal Advisor /<br>Team LeadPartnership<br>Investments      | Funder              |
|                           | SharleenHannon | Principal Advisor –<br>Walkingand Cycling<br>Transport Services | Funder              |
| Te Awa Trust              | Sarah Ulmer    | Trustee                                                         | Stakeholder         |
| Cycling Action<br>Network | Aidan Boswell  | Local CAN member                                                | Stakeholder         |

## 2.2. DEFINING THE PROBLEM

The stakeholders identified and agreed the following problems:



- **Problem one:** Increasing conflicts are causing active mode users to be over-represented<sup>1</sup> in crash injury statistics (50%). Evidence of this problem includes:
  - Total of 71 crashes recorded had pedestrians<sup>1</sup> or cyclists involved in the period 2015-2019
  - 32% of injury crashes on local roads had pedestrians or cyclists involved.
  - There were 49 people (40 cyclists and nine pedestrians) with injuries severe enough to be admitted to hospital following a transport related crash over the same five- year period. Two of the pedestrians subsequently died in hospital.

| Active mode users involved in crashes | No injury / moderate injury | Severe injury (requiring hospitalisation) | Fatal |
|---------------------------------------|-----------------------------|-------------------------------------------|-------|
| Pedestrians                           | 28                          | 3                                         | 2     |
| Cyclists                              | 31                          | 7                                         | 0     |
| Total                                 | 59                          | 10                                        | 2     |

\*numbers represent data for the whole WDC

- **Problem two:** A disjointed, poor quality and incomplete network is causing low active mode uptake<sup>2</sup>. Evidence of this problem includes:

Table B – Walking and Cycling Barriers to Te Awamutu and Cambridge

|           | Walking                                                                                                                                                                                                                                                                                                                                                                                                                                | Cycling (existing cycle facilities)                                                                                                                                                                                                                                             |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cambridge | <ul style="list-style-type: none"> <li>• Narrow footpaths, which are non-compliant with current standards, in high pedestrian demand areas</li> <li>• High traffic volume and speed, and lack of safe crossing facility, difficult to cross arterial/busy roads</li> <li>• Complex traffic movements (lack of crossings, multiple decision points, fast traffic, high traffic volumes) at both sides of the Victoria Bridge</li> </ul> | <ul style="list-style-type: none"> <li>• Victoria Road shared path: unsealed, unsafe crossings</li> <li>• Victoria Street CBD cycle lane: Not segregated from busy traffic</li> <li>• Town belt shared path: Not on desired routes for commuters or school cycle use</li> </ul> |

<sup>1</sup> Over-represented refers to the large number of crashes with cyclists and pedestrians involved, and reflects the impact of crashes on active mode users, such that walkers and cyclists will be seriously affected by a crash with a vehicle. Particularly, stakeholders noted that any crash or near miss causes pedestrians and bike users to feel less safe. Reducing conflicts between modes will improve safety and reduce the number of crashes with pedestrians and cyclists involved.

<sup>2</sup> Problem statement 2 has been updated since the ILM workshop to remove the words “and poor health outcomes”. It is acknowledged that a disjointed, poor quality and incomplete network does not make people less healthy, however improving this problem could enable people to walk and cycle more to improve their health.

|            | Walking                                                                                                                                                                                                                                                                     | Cycling (existing cycle facilities)                                                                                                                                                                                                                                                       |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Te Awamutu | <ul style="list-style-type: none"> <li>Narrow footpaths, which are non-compliant with current standards, in high pedestrian demand areas</li> <li>High traffic volume and speed, and lack of safe crossing facility making it difficult to cross State Highway 3</li> </ul> | <ul style="list-style-type: none"> <li>Te Awamutu to Kihikihi shared path: unsealed (in part), unprotected on arterial road (Golf Road) crossing, ends at Albert Park not CBD (incomplete – doesn't link to key destination)</li> <li>There is no other segregated cycle path.</li> </ul> |

- A 2018 Cambridge school survey showed that one of the main reasons why parents are not wanting their child to walk/scoot/bike to school (65%) is because of road safety risks. The road safety risks include crossing intersections, driving behaviour and the unsafe speed of vehicles.
- Residents expect Council to build more footpaths and cycleways shown in a Council Resident Satisfaction Survey. The level of satisfaction of availability of footpaths decreased from 60% in 2019 to 45% in first half of the year 2020. The level of satisfaction of availability of cycleways decreased from 51% to 43% in the same period of time. The significant drops in the level of satisfaction show that residents have more awareness of walking and cycling facilities as an essential service provided by Council. It may have also been affected by the COVID-19 lock down in 2020 as more residents wished to walk and cycle at that time with less traffic on the roads.
- **Problem three:** A car dominated transport system results in prejudiced<sup>3</sup> transport choices (20%). Evidence of this includes:
  - A recent mode share study shows that overall vehicles (cars, heavy vehicles and motor bikes) had the highest volumes of all transport modes, which is over 94%.
  - 89% of the urban road network has a footpath on at least one side of the road. The network is well formed, however with increased traffic volumes connectivity across roads is more difficult without using formal crossing points.
  - Reference the Te Awamutu Western Arterial Designation Review Business Case, which identifies in its Problem 2 that “the form of the strategic road network creates reliance on vehicle travel, severance for vulnerable road users and reduced liveability and vibrancy for Te Awamutu”. This evidences that:
    - Over 70% of work/school trips are by private or business vehicle; to the town centre it is over 90%

<sup>3</sup> Problem statement 3 has been updated since the ILM workshop to improve the words “poor and unequal” to better explain the influence that the current imbalance of travel choice creates on ongoing travel mode choice.

- Many main roads are wide, designed primarily for large vehicles
- High vehicle volumes, up to 13,000 vpd around Te Awamutu town centre, as many people still travel through the town centre
- Noisy trucks in town centre area
- Few formal pedestrian crossing points where they are most desired
- More people could walk/cycle/scooter if it felt safe to do so.

The full investment logic map is attached as Appendix E.

### 2.3. THE BENEFITS OF INVESTMENT

The workshop participants identified and agreed the following benefits for the proposal:

- Benefit one: Improved safety and perception of safety for active mode users (40%)

**KPI 1:** Improved safety

**KPI 2:** Improved perceptions of safety

- Benefit two: Increased active mode use (40%)

**KPI 3:** Improved active mode share

**KPI 4:** Improved accessibility

- Benefit three: Improved health outcome (20%)

**KPI 5:** Improved physical health

**KPI 6:** Improved attitudes and perceptions

The benefit map is attached as Appendix F.

### 2.4. MEASURES, BASELINES AND TARGETS OF THE INVESTMENT

The measures listed below are based on *NZTA Land Transport Benefits Framework*.

Table C – KPI's for investment

| KEY PERFORMANCE INDICATORS | MEASURES<br># = quantitative       | BASELINE                                                                      | TARGET                                         |                                                                              |
|----------------------------|------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------|
|                            |                                    |                                                                               | 2031                                           | 2051                                                                         |
| KPI 1: Improved safety     | 1.1.3 Death and serious injuries # | 1.11 death and injury crashes per 10,000 residents average per year 2018-2020 | Reduce number of DSIs per year by at least 50% | Reduce number of DSIs per year by at least 80%.<br>Number of Deaths to Zero. |

| KEY PERFORMANCE INDICATORS                                                       | MEASURES<br># = quantitative                                                                                                     | BASELINE                                                                                                                           | TARGET                                                                                                                                                                                   |                                                                       |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
|                                                                                  |                                                                                                                                  |                                                                                                                                    | 2031                                                                                                                                                                                     | 2051                                                                  |
| KPI 2: Improved perceptions of safety                                            | 2.1.1 Access – perception# – perception of safety and ease of walking and cycling.                                               | 36.5% students using active transport modes to go to school <sup>4</sup> in Cambridge xx <sup>5</sup> % in Te Awamutu <sup>6</sup> | Increase in students who use active transport modes by 5%                                                                                                                                | Increase in students who use active transport modes by 15%            |
| KPI 3: Improved active mode share                                                | 10.2.1 People – mode share#                                                                                                      | 3-6% active transport mode users                                                                                                   | 11-14% active transport mode users                                                                                                                                                       | 15-16% active transport mode users                                    |
| KPI 4: Improved accessibility through providing safe and high quality facilities | 10.1.4 Network condition – cycling#<br>Percentage travel on cycle network classified as complying with defined level of service. | Will complete LoS analysis during concept plan phase                                                                               | All new cycle lanes achieve QoS 1 or QoS 2 based on Auckland Transport Evaluation of QoS <sup>7</sup> for all proposed cycle facilities, taking the network to 12% and 25% at LoS A or B | 24% and 37% of cycleway network at LoS A or B                         |
|                                                                                  | 10.2.4 Spatial coverage – Number of people living within 500m of a high-quality <sup>8</sup> cycling facility#                   | 10,000 houses currently within 500m of protected/ separated cycleways                                                              | >20% increase in houses within 500m of protected/ separated cycleways                                                                                                                    | >40% increase in houses within 500m of protected/ separated cycleways |
| KPI 5: Improved physical health                                                  | 10.1.7 People throughput (UCP)#<br>Number of pedestrians and cyclists                                                            | Counters to be installed in key locations in each town                                                                             | 5% increase in overall active mode use                                                                                                                                                   | 15% increase in overall active mode use                               |

<sup>4</sup> Only intermediate and Middle School

<sup>5</sup> Data is from Cambridge School Survey report 2018. More details are in following sections. The blanks in the table will be set up later in the business case.

<sup>6</sup> Te Awamutu School survey to be carried out once funding approved.

<sup>7</sup> The cycle facility quality of service evaluation tool (QoS tool) has been developed and aims to highlight where facilities meet critical minimum standards and will be comfortably used by a broad range of cyclists.

<sup>8</sup> High quality for this business case includes all cycle facilities that are separated from traffic lanes and provide a safe off-road, protected or separated cycleway. This includes unsealed paths and shared paths.

| KEY PERFORMANCE INDICATORS                   | MEASURES<br># = quantitative                                                                                                                          | BASELINE                                                                                                     | TARGET                                                  |                                                         |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|
|                                              |                                                                                                                                                       |                                                                                                              | 2031                                                    | 2051                                                    |
| KPI 6:<br>Improved attitudes and perceptions | Personal satisfaction and liveability – satisfaction in the safety of the footpaths and cycleways from Council’s annual ratepayer satisfaction survey | July 2021:<br>Satisfaction in the safety of footpaths = 42%<br>Satisfaction in the safety of cycleways = 48% | Level of satisfaction greater than 55% in each category | Level of satisfaction greater than 65% in each category |

## 2.5. INVESTMENT OBJECTIVES

The following Investment Objectives were determined to direct the investment decision making, potential solutions, alternatives and options:

- 1. Improved safety and perception of safety for active mode users:** Improvements to connectivity and crossing points for footpaths, cycleways and shared paths result in improved perceived and real safety outcomes for all active modes.
- 2. Increased active mode use:** Provide quality infrastructure that will be well used by people of all ages and all abilities.
- 3. Improved health:** Increased accessibility to footpaths and cycleways results in more users choosing active modes.

## 2.6. ALIGNMENT WITH EXISTING STRATEGIES

### Government Policy Statement on Land Transport 2021/22-2030/31

A Government Policy Statement (GPS) is issued by the Minister of Transport every three years to guide government land transport funding spending. The current GPS provides four priorities: a land transport system free of death and serious injury; better travel options; reduced emissions; and improved freight connections. For the walking and cycling programme, the GPS supports investment to:

- Improve the safety of walking and cycling
- Provide appropriately designed and maintained infrastructure and speed management
- Increase uptake of active travel modes such as walking and cycling.

## **Waikato Regional Land Transport Plan 2021-31**

The 2021 Regional Land Transport Plan sets out the strategic direction for land transport in the Waikato Region. The Waikato Regional Council is seeking more investment in public transport and active modes to improve transport choice. Specifically, it includes targets for:

- Access and Mobility that *“Year on year, trips per capita by public transport and active modes significantly increase while trips by motor vehicles decrease.”*
- Safety – *“a 40% reduction in deaths and serious injuries from 2018 level by 2030”, and*
- Economic Development – *“Maintain travel time predictability of 88% on key strategic corridors”*
- Climate change – *“Reduce carbon emissions from the transport sector by a minimum of 30% by 2030 (from 2018/19 levels) on the path to net carbon zero by 2050”*

## **Regional Road Safety Strategy: Challenges We Face – A Regional Evidence Base (2020)**

This document is a shared evidence base for transport safety for the Waikato Region. The report states that pedestrians and cyclists are extremely vulnerable in a crash and are disproportionately affected by traffic volume increase and vehicle speeds. Pedestrians represented 21 per cent of regional urban casualties between 2009-18. Cyclists represent about 15 per cent of urban fatal and serious crashes in the region between 2009-18.

## **Waipā Long-term Plan 2021-31**

The Waipā Long Term Plan was adopted by Council in July 2021. It identifies this Urban Mobility programme as one of its highest priority projects, noting that:

*The community provided strong support for Council to roll out an urban mobility network in Cambridge and Te Awamutu to better connect places like schools, shops and workplaces for cyclists, pedestrians and scooter users. While there are many benefits to safer cycling, walking and scootering through an urban mobility network, such as less traffic congestion, reduced vehicle emissions, better safety, less demand on parking, and more vibrant towns, Council did acknowledge that a willingness to change our behaviours to benefit wellbeing can be difficult for some residents. So an independent committee or community working group will be established for the project to work in the best interests of delivering good community outcomes. The Urban Mobility Network will cost \$10,920,120 with \$5,569,261 in funding from Waka Kotahi (NZTA)*

It identifies that this programme specifically contributes to meeting the Council’s external strategic priority:

- Creating vibrant communities; We celebrate all the things residents love about Waipā and foster connections with people and places.

## **Waipā Integrated Transport Strategy 2010-2040 (under review 2021)**

The Waipā Integrated Transport Strategy 2010-2040 sets out the direction for our district’s transport system over the next 30 years. The vision is ‘People and freight in Waipā have access to an

affordable, integrated, safe, responsive and sustainable transport system that supports community aspirations.'

In relation to walking and cycling, the strategy aims to:

- Increase walking, cycling and public transport use by ensuring the urban form and road development support the use of these modes
- Improve opportunities for pedestrians and cyclists to move safely and comfortably within and around town centres
- Undertake education and promotional campaigns to encourage use of public transport, walking and cycling.

Of relevance to this business case is also the impact of Council's parking policy (Council's parking policy is attached in Appendix K). The Waipā Integrated Transport Strategy 2010-2040 lists the following parking strategy matters:

- Issues: High dependence on vehicles and dispersed urban growth
- The need to balance parking supply and travel demand
- The need to monitor parking demand change in town centres
- The need to offer more transport choices.

Therefore, working within the parking policy allows prioritisation of other transport modes over motorised vehicles. Waipā District Council is a high growth Council and has been required by National Development Standards to remove minimum parking requirements from its District Plan. Council has not included any substantial new parking provision in the 2021-2031 Long Term Plan. These moves require better utilisation of existing parking and may lead to a "sinking lid" on parking provision in future, which encourages alternate transport modes.

### **Cambridge Town Concept Plan 2019 Refresh**

Waipā District Council published a Cambridge Town Concept Plan Refresh document in September 2019. It includes a series of deliberate near and long term actions developed using the community's ideas and priorities. Actions include:

- Apply contemporary street design (such as healthy streets or living streets approaches) to town centre streets
- Develop a cycling network plan and level of infrastructure service standard
- Provide for a continuous multi-modal corridor along Victoria Street from Hautapu to the south end of Leamington and through the town centre.

**The Cambridge town Concept Plan Refresh 2019 lists the following desirable parking outcomes:**

- Encourage higher turnover of vehicle parking
- Spread peak parking demand over a wider area
- Encourage non-motor vehicle modes for easy trips to the town centre.

## Te Awamutu Town Concept Plan 2010

Te Awamutu Town Concept Plan contains design objectives set out to respond to future opportunities. One of the objectives is to enhance and extend connectivity throughout Te Awamutu by providing improved opportunities for pedestrians and cyclists to move safely and comfortably within and around the town. Provision of clear connections within the town centre will help to link places of interest, such as local amenities, retail, schools, places of work and recreational areas.

## Waipā's Transport Activity Management Plan 2021-2031

The Transport Activity Management Plan (AMP), which was developed to identify the transport activity requirements to be included into the Long Term Plan, identifies how the planning for transport activities delivers on the Council's Community Outcomes as follows:

| Vision                                                   | Community Outcome                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | How the Service Supports those Outcomes                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waipā Home of Champions - Building Connected Communities | <div><div><b><u>Socially Resilient</u></b></div><div></div></div>         | <div><b>He aha te mea nui o te ao? Māku e kī atu he tangata, he tangata, he tangata! – it's all about people</b></div> <div><ul style="list-style-type: none"><li>▪ Waipā is a great place to live, work, play and invest</li><li>▪ We invest in hauora and support the great work community groups do</li><li>▪ Waipā provides a high quality of life for current and future generations</li></ul></div>                                                                                                  | <div><ul style="list-style-type: none"><li>▪ Our services contribute to creating attractive and vibrant neighbourhoods and liveable communities. We also want to be a work place of choice and attract and retain professional staff to manage our transport services.</li></ul></div>                                                                                                  |
|                                                          | <div><div><b><u>Cultural Champions</u></b></div><div></div></div>       | <div><b>Promoting our culture and heritage</b></div> <div><ul style="list-style-type: none"><li>▪ We champion the unique history of Waipā</li><li>▪ We have a high level of cultural awareness</li><li>▪ We partner with tangata whenua</li><li>▪ We respect the cultural diversity in our district</li></ul></div>                                                                                                                                                                                        | <div><ul style="list-style-type: none"><li>▪ Our services follow best cultural practice</li><li>▪ Cultural sites are often accessed from roads or in the case of some monuments and art are contained within the road corridor.</li></ul></div>                                                                                                                                         |
|                                                          | <div><div><b><u>Environmental Champions</u></b></div><div></div></div>  | <div><b>Protecting and sustaining our environment</b></div> <div><ul style="list-style-type: none"><li>▪ Environmental awareness and responsibility is promoted within the community</li><li>▪ We support programmes that promote environmental sustainability</li><li>▪ We are responsive to climate change</li></ul></div>                                                                                                                                                                               | <div><ul style="list-style-type: none"><li>▪ Our services follow best environmental practice and we seek to limit negative impacts of the services.</li><li>▪ We focus on increasing walking, cycling and use of passenger transport.</li></ul></div>                                                                                                                                   |
|                                                          | <div><div><b><u>Economically Progressive</u></b></div><div></div></div> | <div><b>Supporting a thriving, sustainable economy</b></div> <div><ul style="list-style-type: none"><li>▪ We have financially sustainable decision making and work programmes</li><li>▪ We provide new infrastructure as an economic stimulus for our district</li><li>▪ Our services provide excellent value for money</li><li>▪ We actively promote our district to enable development, employment and business opportunities</li><li>▪ Waipā is a great place to invest and do business</li></ul></div> | <div><ul style="list-style-type: none"><li>▪ Our transportation services are delivered at reasonable cost. Connections of people, goods and services are maintained. Investment is guided by agreed levels of service and asset condition. This supports business and our productive economic base. We make greater investment in roads of greater use and criticality.</li></ul></div> |

This business case particularly focuses on the transport goals of the AMP by encouraging and enhancing use of active and public transport modes, to contribute to the socially resilient and

environmental targets and through these enhancement opportunities, to improve economic stimulus and cultural significance will open up.

### **Te Awamutu Western Arterial Designation Review Business Case 2021**

The review of the Te Awamutu Designation, which expires after 2032, resulted in a business case that considered whether the Western Arterial will be required in the future or whether some other investment might provide a better outcome for future transport needs. This business case considered the needs of the strategic transport network in Te Awamutu, noting the forecasts for increasing traffic volumes, and considered alternatives to manage the transport network until a Western Corridor can be more affordable. Its secondary objective was to recommend long term affordable improvements to the strategic transport network that improve the accessibility, liveability and economic wellbeing of Te Awamutu and Kihikihi.

The recommended programme for short term investment identified that urban amenity, traffic management, walking and cycling and safety improvements, with Mutu Street as a through vehicle route, could achieve the investment objectives for the next 10 to 20 years. This recommendation identified that the recommendations aligned well with this Urban Mobility Business Case.

## **3. STATUS OF EVIDENCE BASE**

The following sets out the available evidence where collected/referred to for the development of this business case.

### **3.1. CRASH DATA**

The crash data is recorded by the NZTA Crash Analysis System (CAS). For this analysis the following search criteria was used to identify current crash statistics:

- Calendar year
- Local roads (Waipā, not state highway)
- Urban speed zone (based on speed limit and classification as of crash date)
- All fatal and serious crashes.

From this search, it was identified that in 2021 – **four serious injury crashes** occurred. All were located around Cambridge. One was on Maungatautari Road in the 60km zone near Karapiro domain (rural aspect but low speed zone therefore included in the “urban” search).

To calculate the measure of number of Death and Serious Injuries (DSIs) per 10,000 population the following information was obtained:

59,500 total Waipā population (**estimate from Stats NZ - Subnational population estimates (TA, SA2), by age and sex, at 30 June 1996-2021**).

$$59,500 / 10,000 / 4 = 0.67$$

For the KPI baseline we have analysed the three year average DSIs per 10,000 population for 2018-2020 as follows:

2018 - **55,000** pop. - **6** DSi crashes = **1.09**

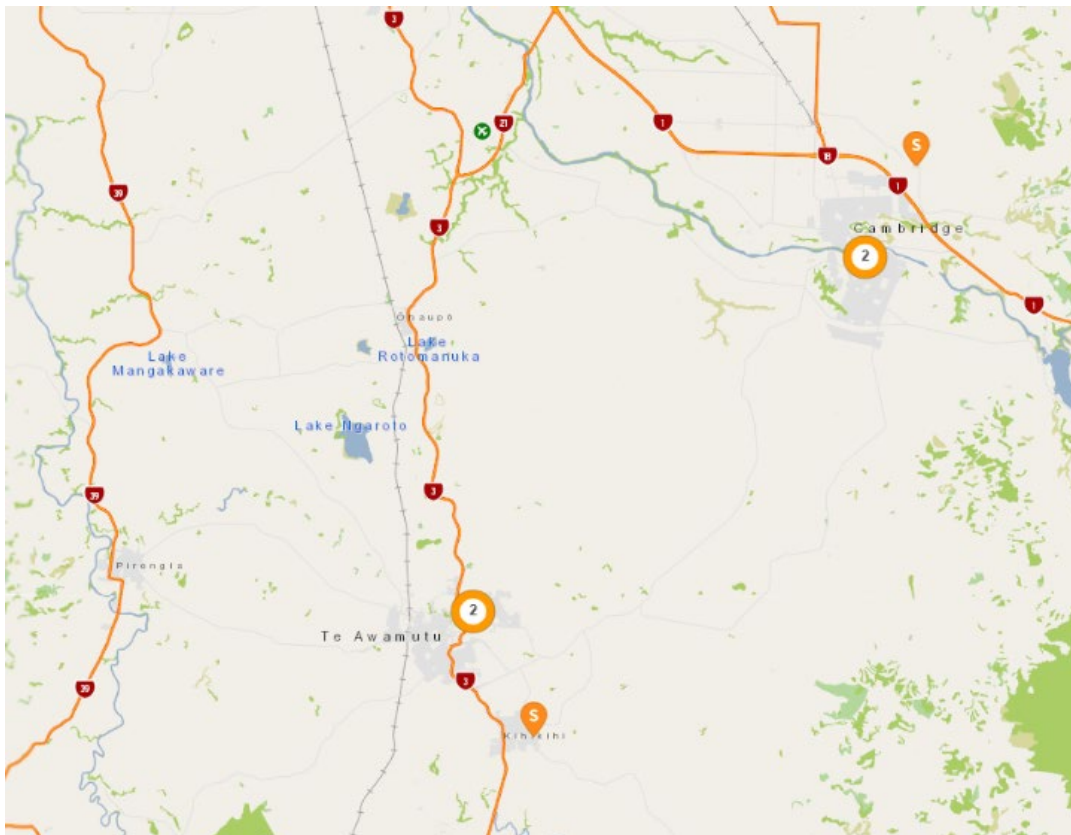
2019 - **56,400** pop. – **4** DSi crashes = **0.71**

2020 - **58,600** pop. – **9** DSi crashes = **1.54** (note: One was on Maungatautari Rd., new 60km zone near Karapiro domain (rural aspect))

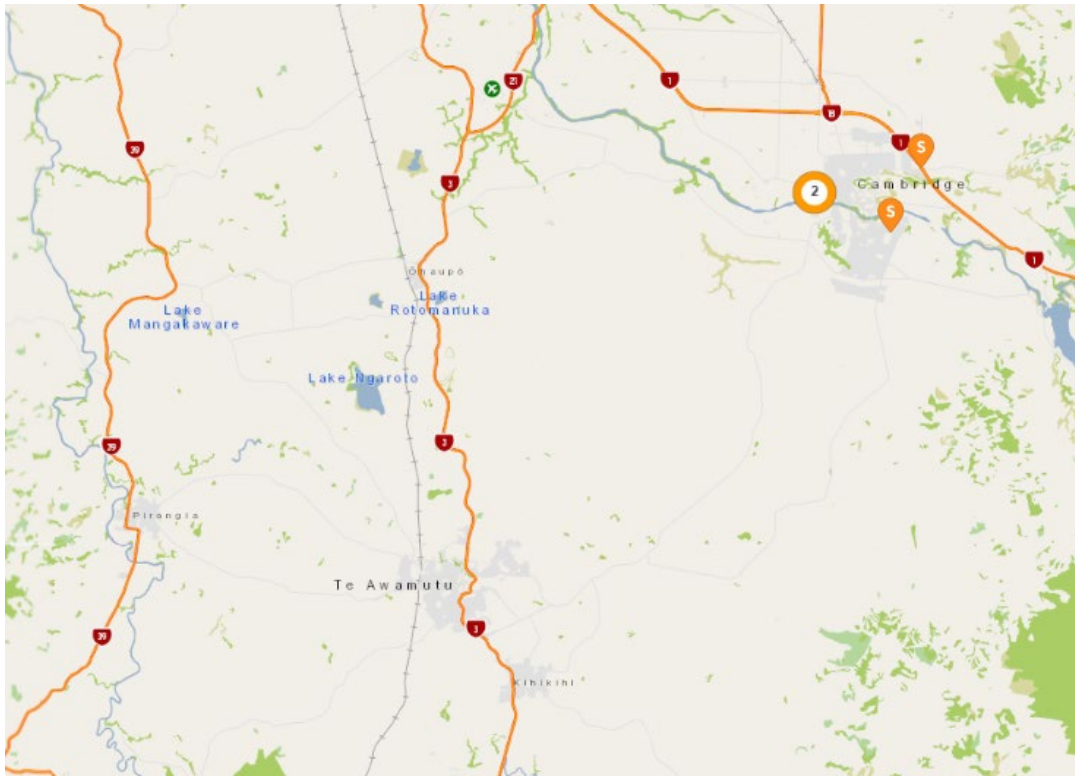
- Average over three years = **1.11**

The following maps indicate the crash locations:

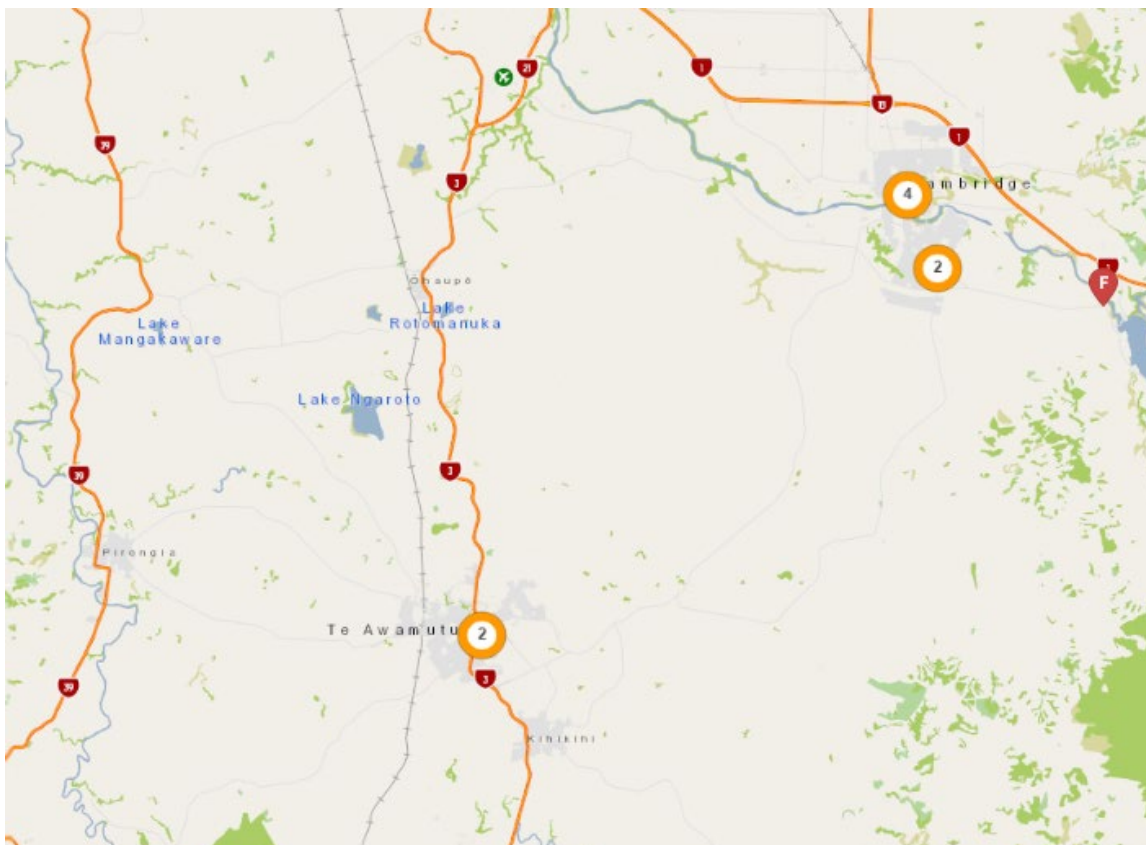
2018 - 6 serious crashes:



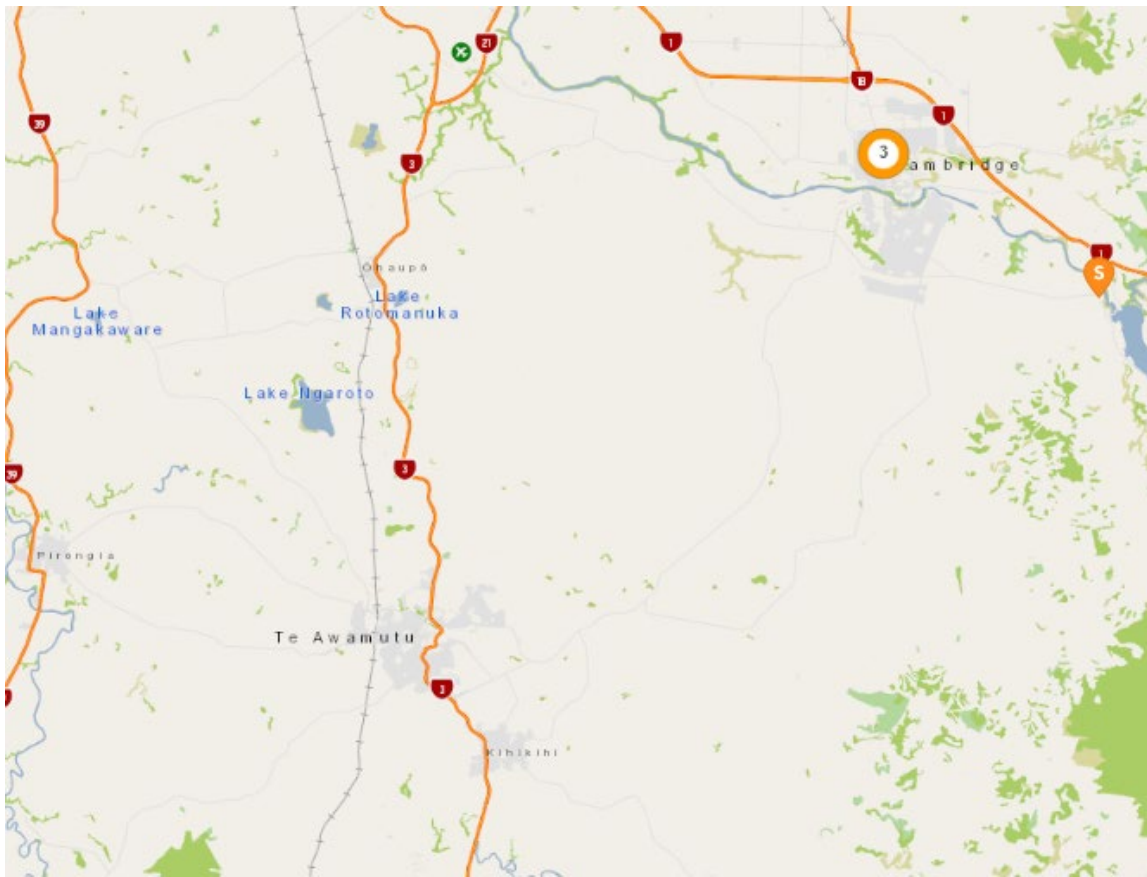
2019 - 4 serious crashes:



2020 - 8 serious, 1 fatal crash:



2021 – 4 serious crashes:



The figures below show the areas where crashes occurred over the period from 2015 to 2019 to indicate the areas of risk in Cambridge and Te Awamutu in 2015-19.

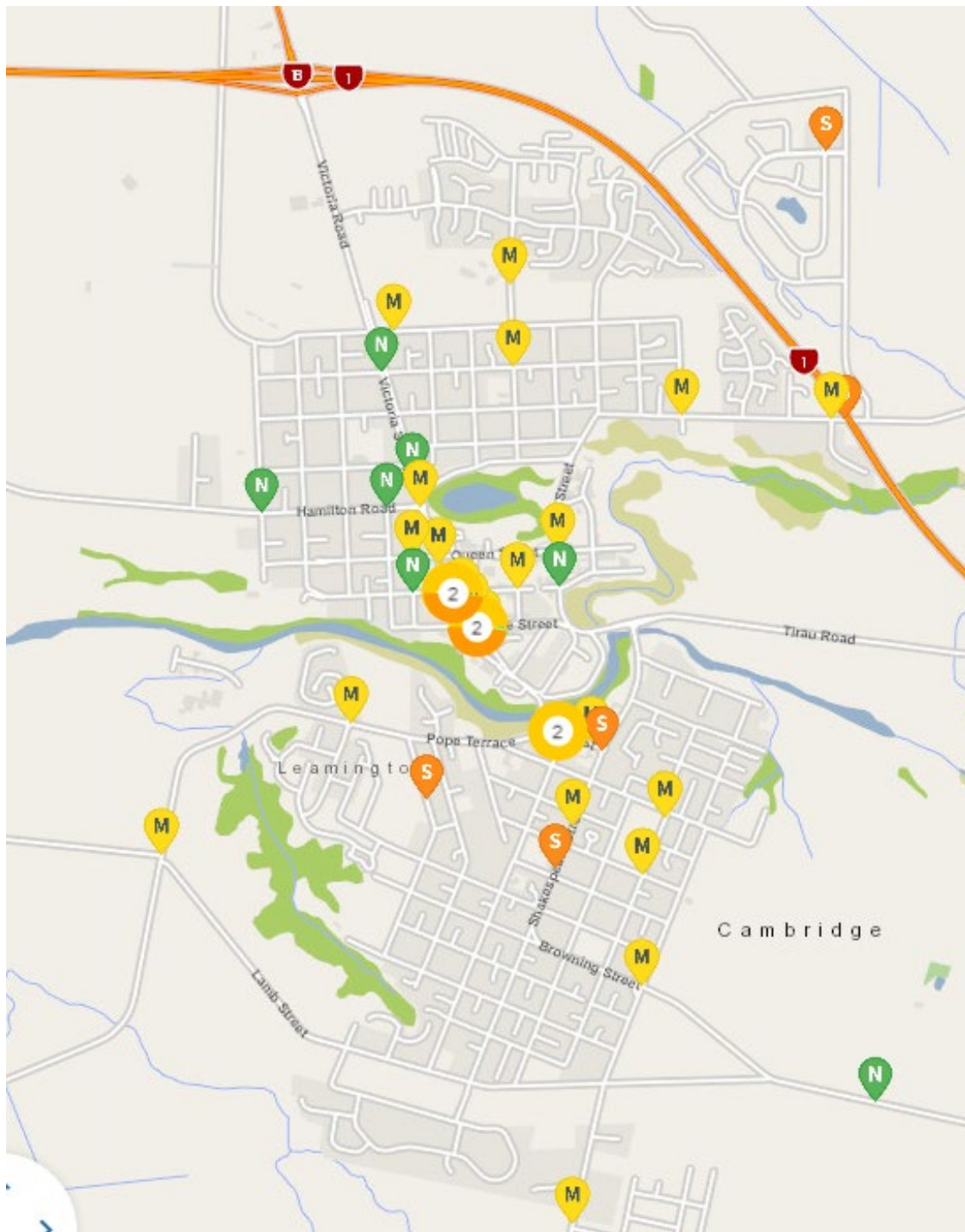


Figure 1 - Cambridge

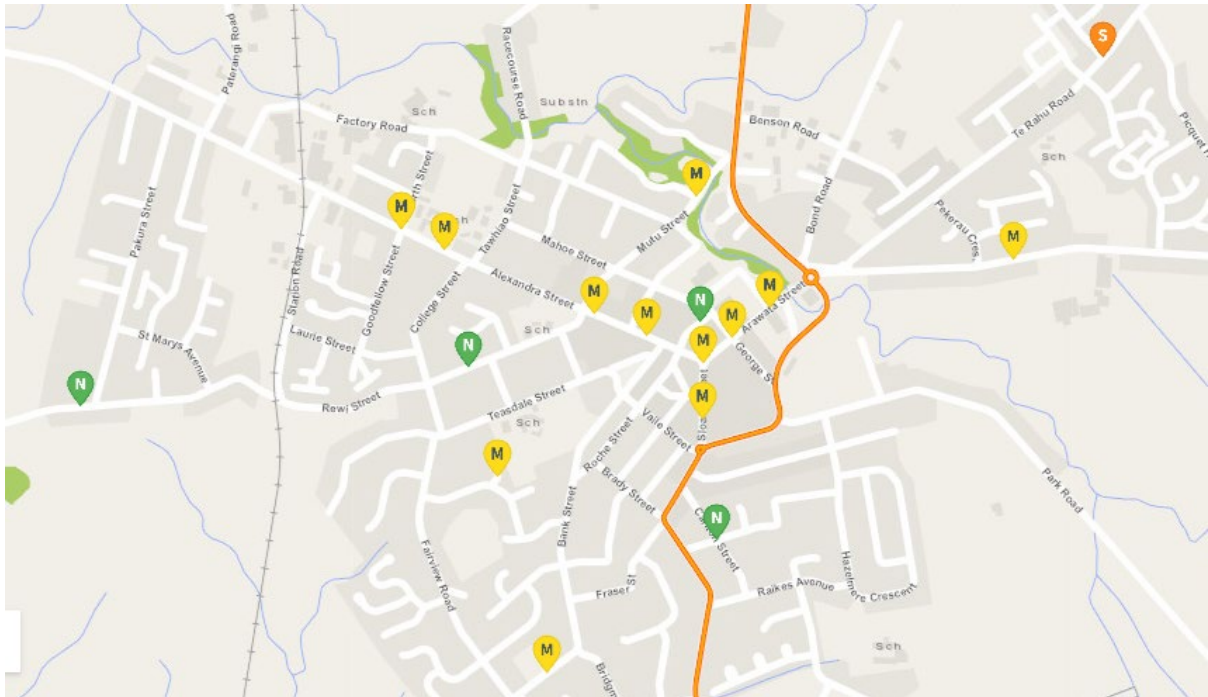


Figure 2 – Te Awamutu

### 3.2. SAFE WAYS TO SCHOOL CAMBRIDGE 2018

Perception of safety is an important factor that has an influence on people choosing their travel options. The 2018 Cambridge school survey shows that 36.5% of primary and middle school students use active transport such as walking, cycling and scootering to school every day. About 51% of students are car passengers, with 12.5% catching a bus. The two main reasons stated for not using active modes are safety (44%) and long travelling distances (43%). This suggests that the Cambridge school community is interested in travelling to and from school by active modes, but that people choose not to do so because of safety reasons.

The report also developed high use route priorities for each school. The results have been used to help the business case to plan the future network. An example for Cambridge Middle School is shown below.

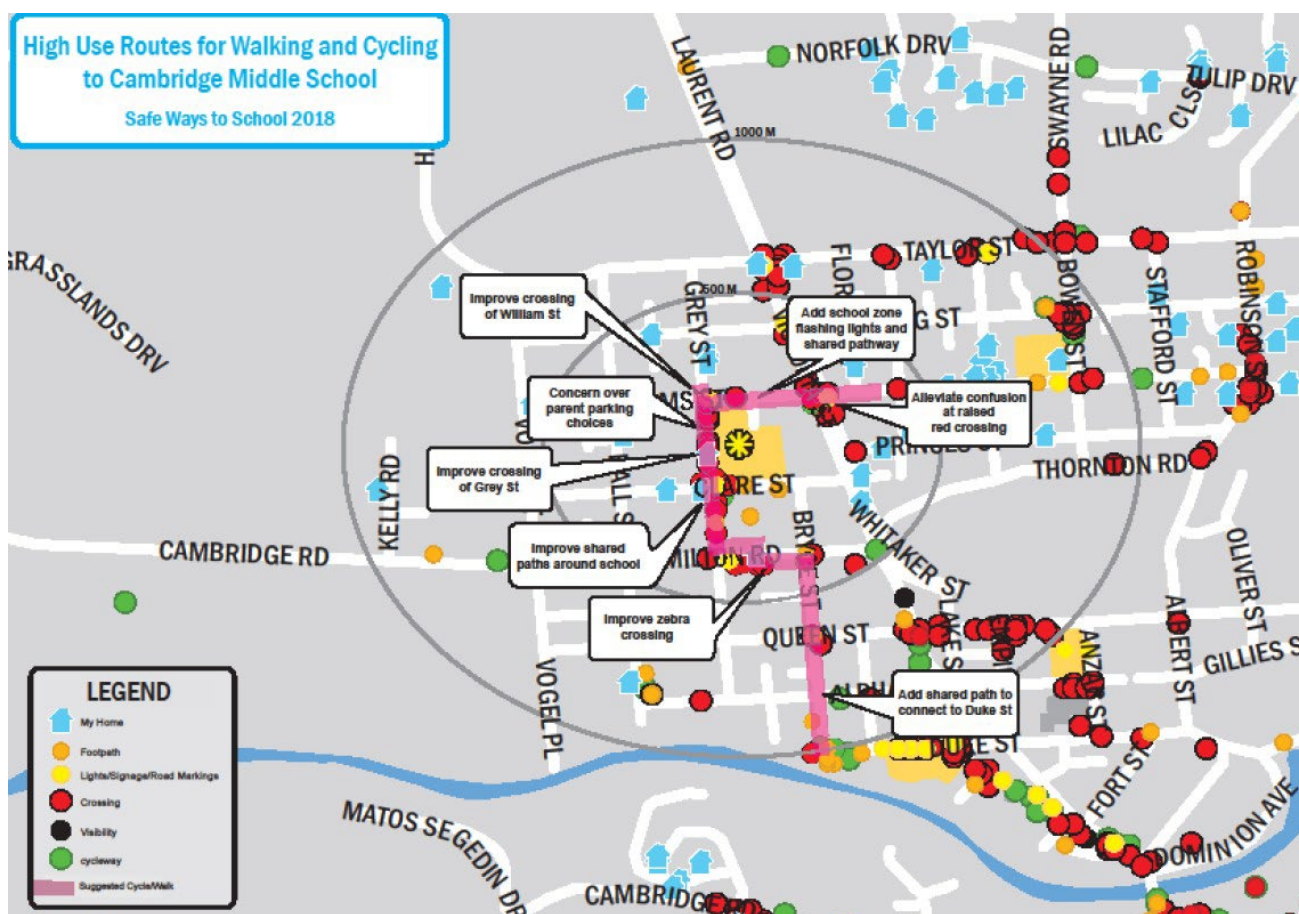


Figure 3 - High Use Route Priorities for Cambridge Middle School

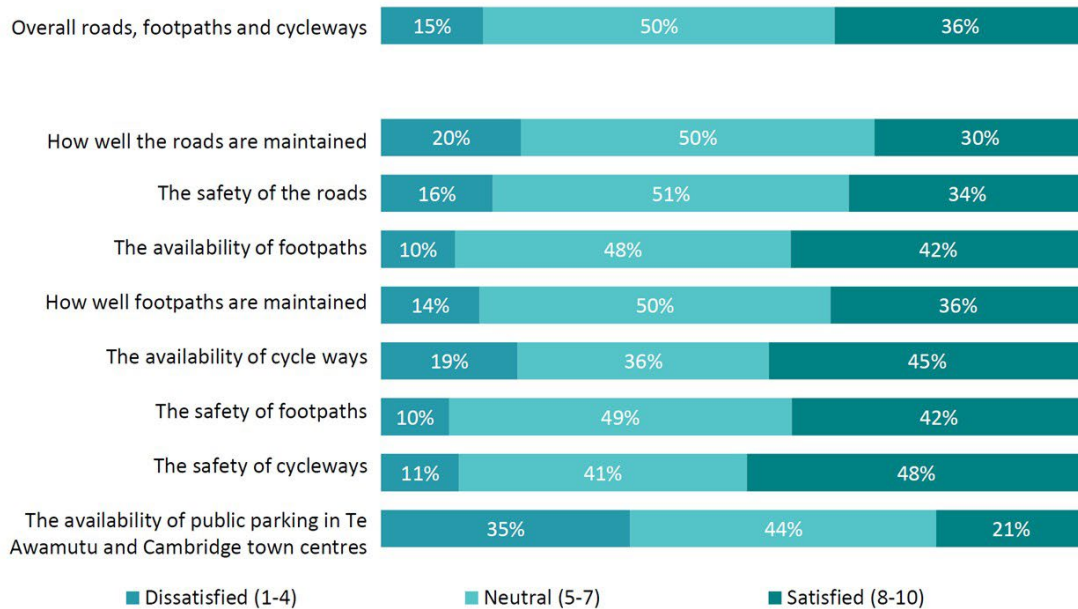
A school survey using similar methods will be undertaken for Te Awamutu schools to understand the current status and safety risks in this area.

### 3.3. COUNCIL RESIDENT SATISFACTION SURVEY

Council undertakes resident surveys quarterly to gain a better understanding of residents' thoughts and opinions across the whole district. The resident survey asks residents for their perceptions around the environment and lifestyle associated with the Waipā district, and satisfaction with Council services.

In the July 2021 survey report, safety of roads had a relatively low performance score, with 48% satisfied responses for the safety of cycleways and 42% for the safety of footpaths. The 2021 survey is the first survey that addresses these specific points, and hence there is a good opportunity to see changes with regard to the perception of safety throughout project development.

## Roads, footpaths and cycleways



| % 8-10                                                                      | 2021  | 2020 | 2019 |
|-----------------------------------------------------------------------------|-------|------|------|
| Overall roads, footpaths and cycleways                                      | 36%   | 38%  | 45%  |
| How well the roads are maintained                                           | 30%   | 35%  | 43%  |
| The safety of the roads                                                     | 34% ▼ | 49%  | 44%  |
| The availability of footpaths                                               | 42%   | 45%  | 60%  |
| How well footpaths are maintained                                           | 36% ▼ | 45%  | 50%  |
| The availability of cycle ways                                              | 45%   | 43%  | 51%  |
| The safety of footpaths                                                     | 42%   | -    | -    |
| The safety of cycleways                                                     | 48%   | -    | -    |
| The availability of public parking in Te Awamutu and Cambridge town centres | 21%   | -    | -    |

Figure 4 - Safety of footpaths and cycleways<sup>9</sup>

### 3.4. MODE SHARE REPORT

A mode share study was undertaken in 2019-20 to determine the current state of facility usage within Te Awamutu and Cambridge. The selected sites were Victoria Bridge in Cambridge and Sloane Street in Te Awamutu, shown in the figures below. Victoria Bridge crosses the Waikato River and links Leamington to the Cambridge town centre. Two pedestrian footpaths are located on both sides of the bridge.

<sup>9</sup> The second table shows the percentage of responses that scored each category as Satisfactory (8-10).

Sloane Street is a busy shopping street in the Te Awamutu town centre with a supermarket, shops and restaurants along the street. The survey results indicated that the mode share for cars is substantially higher than any other transport mode, with 94.2% in Cambridge and 97.1% in Te Awamutu. At these screen lines only 5.8% and 2.9% of users are travelling by active transport modes in Cambridge and Te Awamutu respectively.



Figure 5 - Locations of Mode Share Study

### 3.5. WORK TRAVEL DATA – 2018 CENSUS DATA

From the 2018 Census Commuter Waka tool, it shows that 5,082 workers work in Cambridge; 75% are Cambridge local residents. The table below shows the percentages of people who live in Cambridge, travelling to work in Cambridge, by mode of travel.

Figure 6 – Cambridge “Travel to Work” Numbers

| By Car | Work from home | Walk/Jog | Passenger | Cycle |
|--------|----------------|----------|-----------|-------|
| 74%    | 18%            | 4%       | 3%        | 1%    |

The number of total workers who work in Te Awamutu is 3,873; 61% are Te Awamutu residents. The table below shows the percentages of Te Awamutu residents, travelling to work in Te Awamutu, by mode of travel.

Figure 7 – Te Awamutu “Travel to Work” Number

| By Car | Work from home | Walk/Jog | Passenger | Cycle |
|--------|----------------|----------|-----------|-------|
| 78%    | 13%            | 5%       | 3%        | 1%    |

It is acknowledged that this data was recorded prior to COVID-19, therefore there will have been changes since that time. The Transport Activity Management Plan notes that the impact on traffic demand is unknown at this stage – there are impacts of changes to traffic volumes through more people working from home, loss of tourists, and reduced use of passenger transport. However, the effect of these changes is uncertain at this stage, and likely to continue to change.

### 3.6. TRAUMA TRACKING FROM DISTRICT HEALTH BOARD

According to the Waikato District Health Board trauma registry there were 49 people<sup>10</sup> (40 cyclists and nine pedestrians) across the Waikato area with injuries severe enough to be admitted to hospital following a transport related crash over the five year period 2015-2019. Two of the pedestrians subsequently died in hospital. The average total cost of acute health care is estimated at \$744,592 (this does not include the cost of rehabilitation or costs to the individuals and families involved).

### 3.7. ROAD SAFETY PROMOTION

Council receives Waka Kotahi funding for road safety promotion activities and spent approximately \$450k in the 2018-2021 period. Council runs a programme for road safety promotion and education to encourage safe use of alternative modes. Funding for the 2018-2021 period also included funding from ACC for cycle education (note ACC no longer funds this activity).

The Cycle Education programme currently targets the following annual programmes:

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<sup>10</sup> In the trauma registry the person needs to have been admitted to hospital or died in an Emergency Department. If a person dies at the scene of the crash or on the way to hospital, they are not included here. It also does not include those people who were treated in the Emergency Department and then discharged home (ie. not admitted).

- Te Awamutu Intermediate school – up to 30 students – training undertaken early in the school year to encourage cycling to school safely
- Cambridge Middle school – up to 60 students
- Adult training – training provided as required with a particular focus on the large, increasingly popular older cyclist social groups.

We provide support to ‘walking to school’ initiatives by schools with resources, however we do not run them. We also support School Community Officers (Police) with resources for their school visits.



Photo 1: Te Awamutu Intermediate Cycle Safety Training 2022

### 3.8. CYCLEWAY AND FOOTPATH NETWORK

As small towns, both Cambridge and Te Awamutu are easily accessible by walking and cycling.

The Cambridge and Te Awamutu walking and cycling catchment maps in Appendix A and B show just how accessible the main centre of these towns are. There is a difference to the preferred mode of active travel in each town however, with Te Awamutu residents finding that walking is the more convenient mode, while Cambridge with slightly longer travel distances, preferring cycling.

#### 3.8.1. EXISTING CYCLEWAYS

Maps of existing cycle routes in Cambridge and Te Awamutu are shown in Appendix G and H. These maps show the key destinations for walking and cycling trips listed as points of interest.

In Cambridge, there are walking and cycling shared paths around the town green belt which are primarily used for recreational trips. A painted on-street cycle lane links Cambridge town centre to Leamington business centre, crossing Victoria Bridge. The on-street cycle lane only provides limited green surface paint at intersections; cyclists are required to merge with the general traffic lanes and roundabouts and across Victoria Bridge (painted sharrows advise motorists to share the road). Most of the time cyclists share the carriageway space with traffic.

Photos that help to demonstrate the current cycle facilities were taken in September 2020 at different locations of cycleways as shown in Appendix I.

Te Awamutu has one shared path that connects from Albert Park to the Kihikihi northern town boundary. This connection was completed in November 2017. It is 2.5m wide and is concrete in urban areas and crushed limestone in rural areas. Photos are shown in Appendix I.

The KPI measure for number of houses within 500m of a shared/separated cycleway was based on maps showing the 500m buffer as shown in Appendix J. The base number of houses within 500m of a protected/separated cycleway was rounded to 10,000. The count of properties as at February 2022 equates to 10,684, however this will be an over-estimate due to there being assigned address points that do not yet have households corresponding to them.

### 3.8.2. PROPOSED CYCLEWAYS

Both Cambridge and Te Awamutu townships will keep expanding in the future. Under the District Plan, new collector roads should provide good quality walking and cycling facilities and facilitate safe and easy access for pedestrians and cyclists to, from and within the area. Proposed cycleways in growth areas have been added to the cycling maps (Figures 8 and 9).

The network development process will be discussed further in Section 4.4.4. Also, it is worth noting that the cycleway network within new growth cells will be developed in accordance with the District Plan and Regional Infrastructure Technical Specification (RITS).

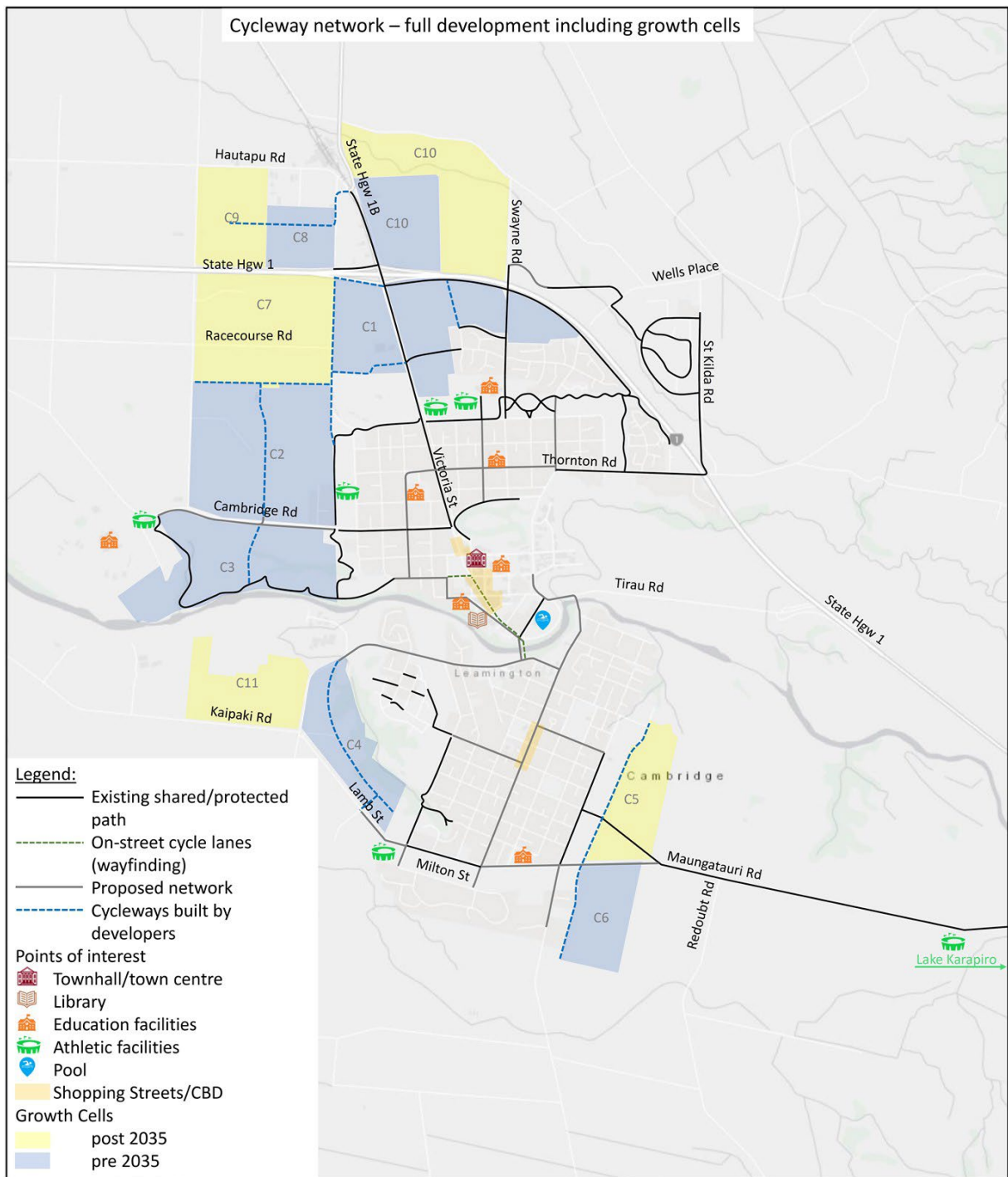


Figure 8 – Cycleway network – full development including growth cells

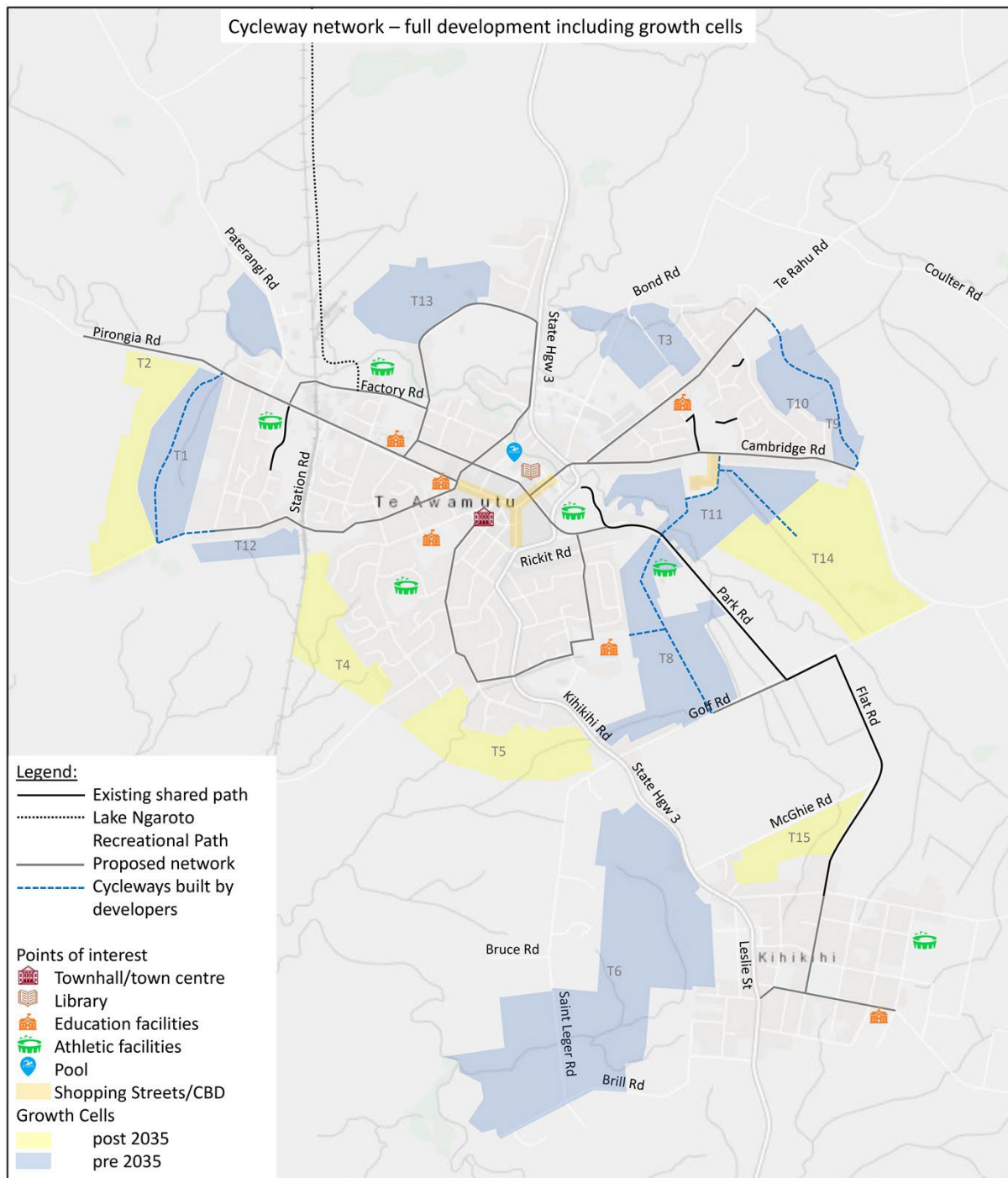


Figure 9 – Cycleway network – full development including growth cells

### 3.8.3. EXISTING FOOTPATHS

Maps of existing footpaths in Cambridge and Te Awamutu are shown in the maps below. These maps include locations of bus stops which are considered as a key destination for this business case.

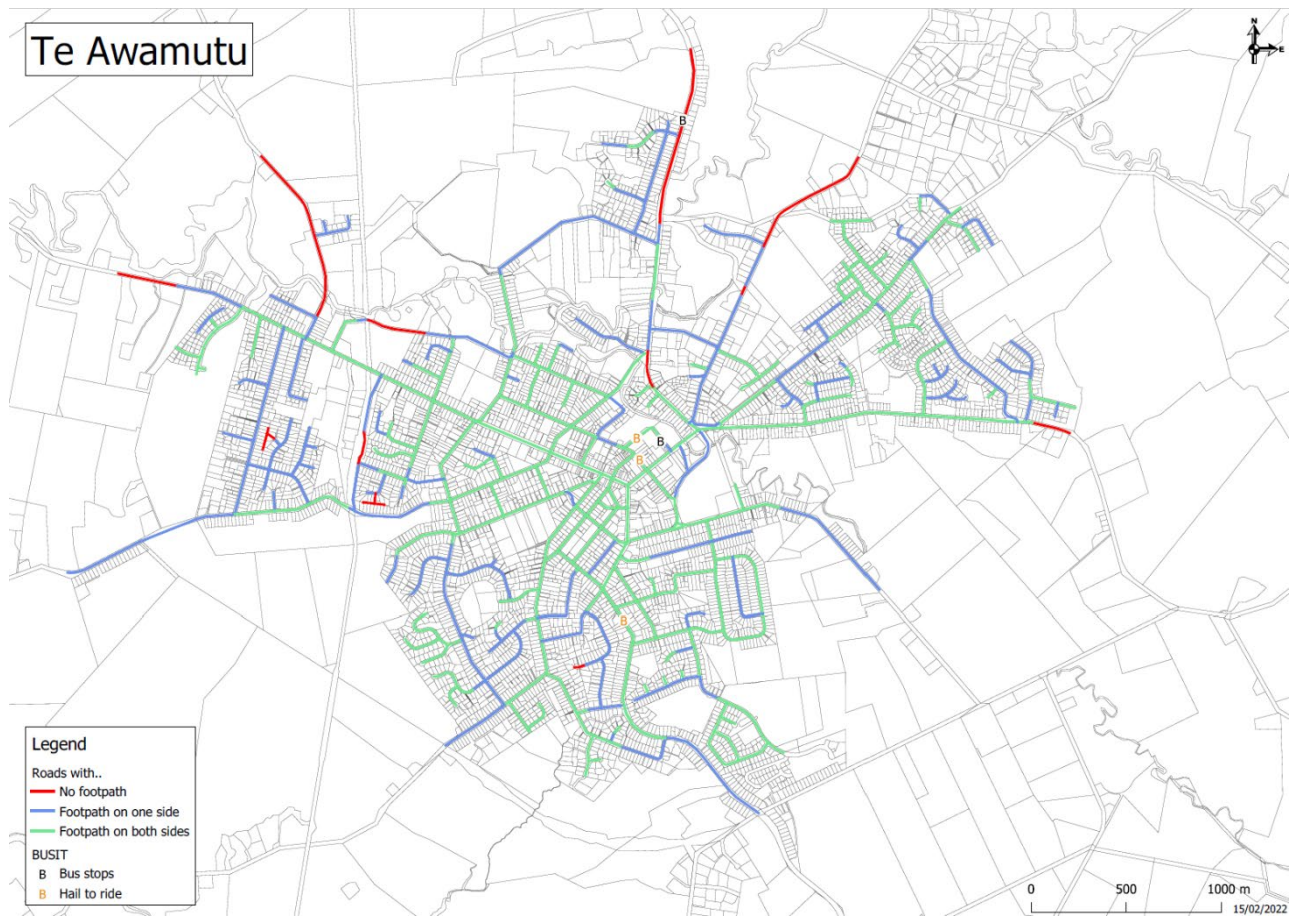


Figure 10 – Existing footpath network in Te Awamutu

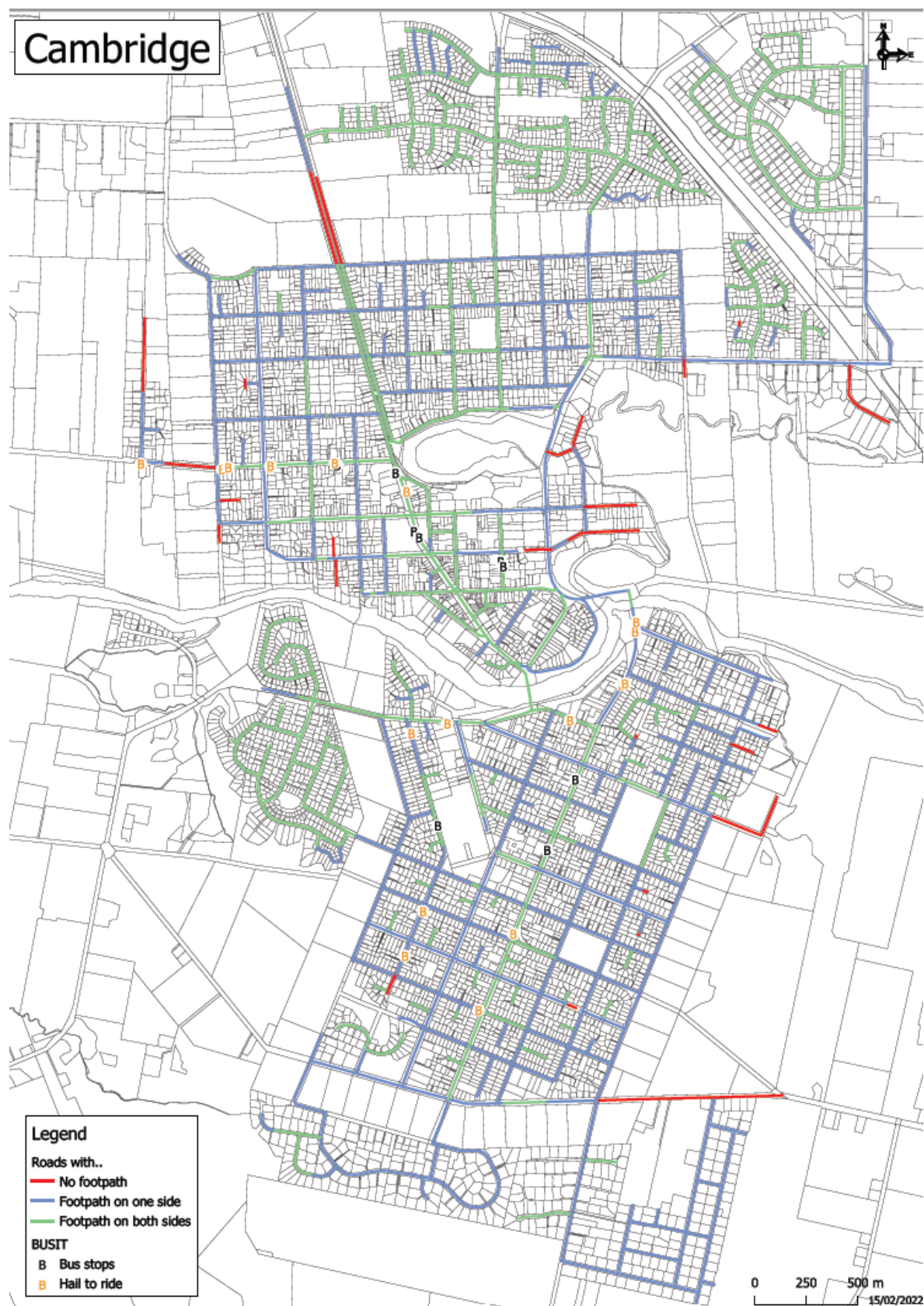


Figure 11 – Existing footpath network in Cambridge

## PART B. ECONOMIC CASE

This section of the report summarises the option generation, assessment and selection of the preferred option for Te Awamutu and Cambridge.

### 4. ECONOMIC CASE

#### 4.1. DO MINIMUM OPTION

##### 4.1.1. EXISTING ENVIRONMENT

Both Te Awamutu and Cambridge are currently car dominated and the Do Minimum option assumes that no interventions will be put in place to change this situation. Without intervention in better walking and cycling infrastructure and commensurate travel behaviour change interventions, traffic congestion can be expected to worsen during the peak hours, Death and Serious Injury (DSI) crashes involving pedestrians and cyclists will increase and WDC will not be able to deliver on their climate change objectives and those targets set by the New Zealand Government.

##### 4.1.2. EXISTING NETWORKS

While Cambridge has an extensive network of shared paths, with a total of 46km, these are largely recreational facilities, more concentrated in the northern part of the town and there are large gaps through the town centre and active users are not well catered for across the main river crossing bridge along Victoria Street.

Te Awamutu has a very limited network of cycling friendly paths, with the main facility being the 4.1km long shared path between Kihikihi and the town centre, and some isolated links in the east and west of the northern parts of town.

The existing cycling networks in Cambridge and Te Awamutu are shown in Figure 12 and Figure 13 respectively.

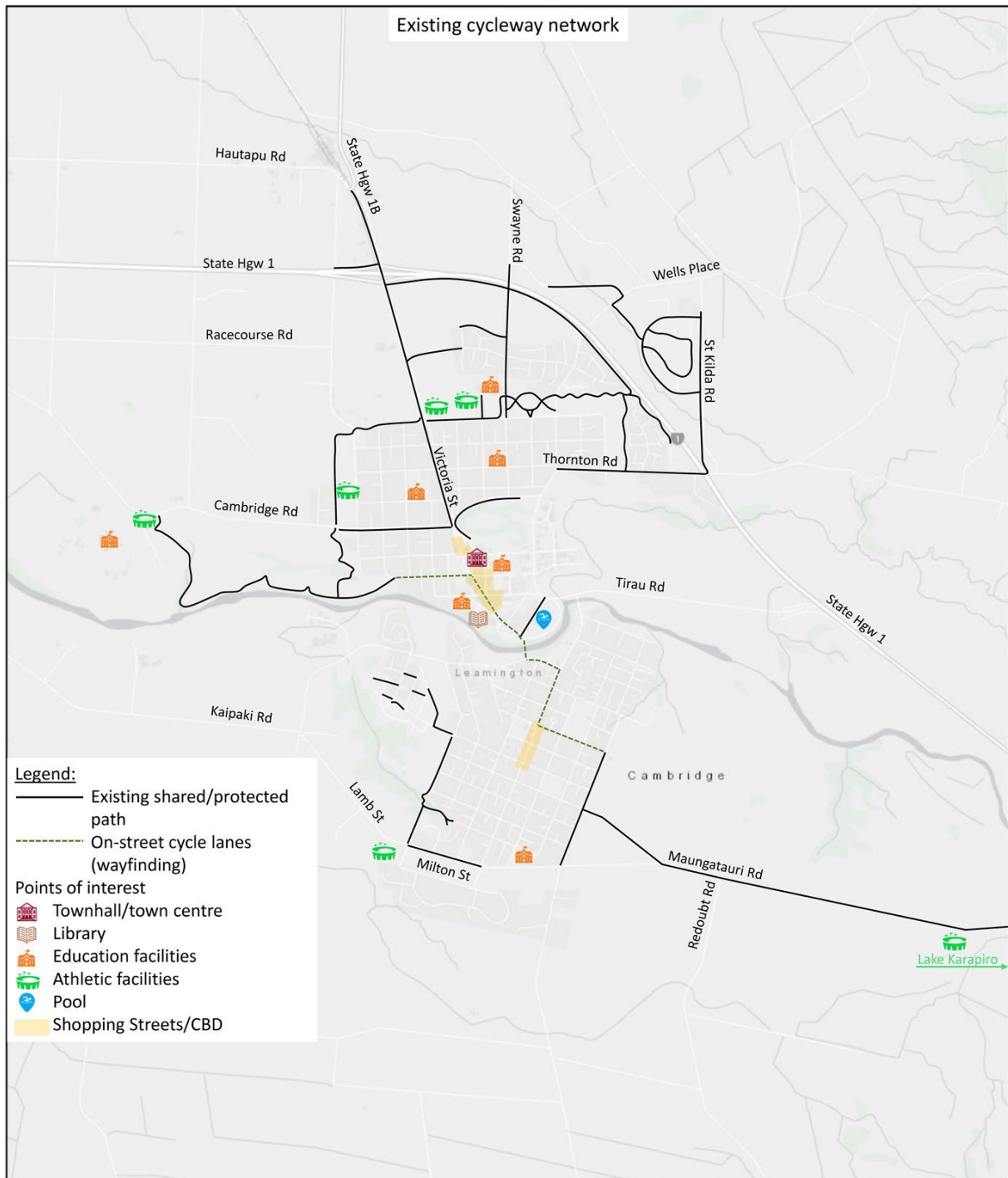


Figure 12 – Existing cycling infrastructure network in Cambridge

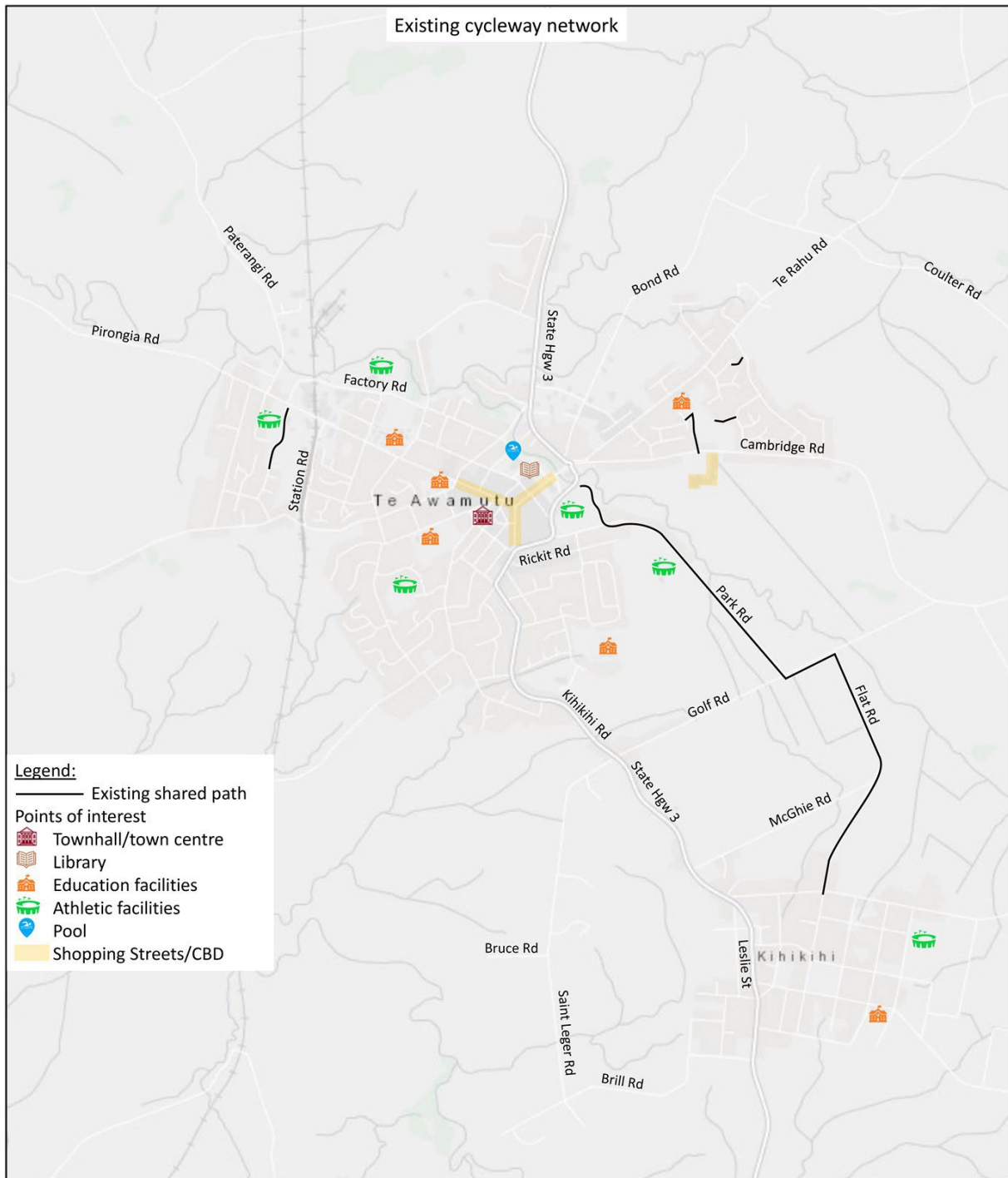


Figure 13 – Existing cycling infrastructure network in Te Awamutu

The footpath network through both towns is extensive, with good access available around the towns. The most significant gap with no access to footpaths is along SH3 between Mutu Street and Shanel Place, north of Te Awamutu, although a service lane provides quiet street access. Connectivity to the CBD from northern suburbs is accessed via Mutu Street.

The existing footpath networks in Te Awamutu and Cambridge are shown in Figure 14 and Figure 15 respectively.

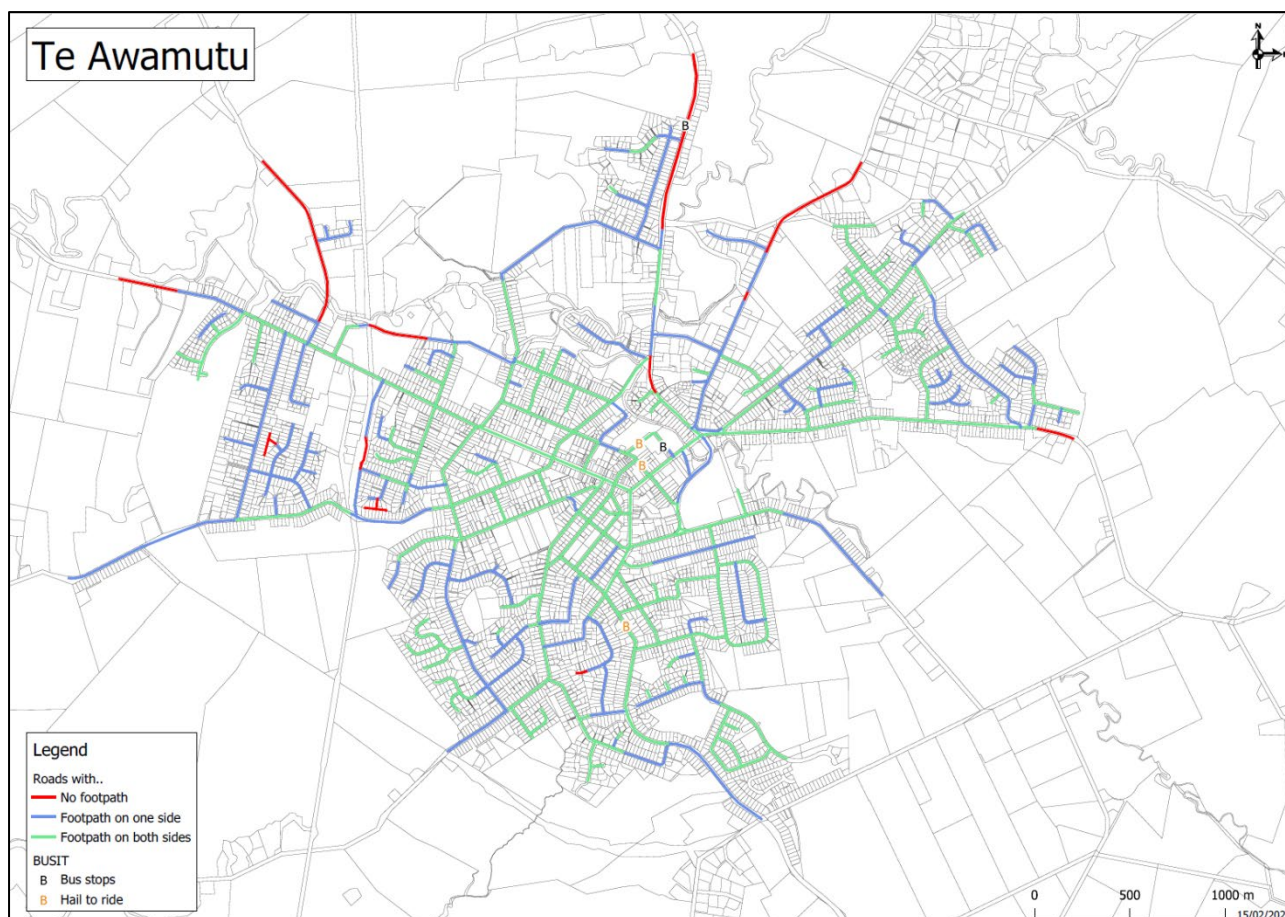


Figure 14 – Existing footpath network in Te Awamutu

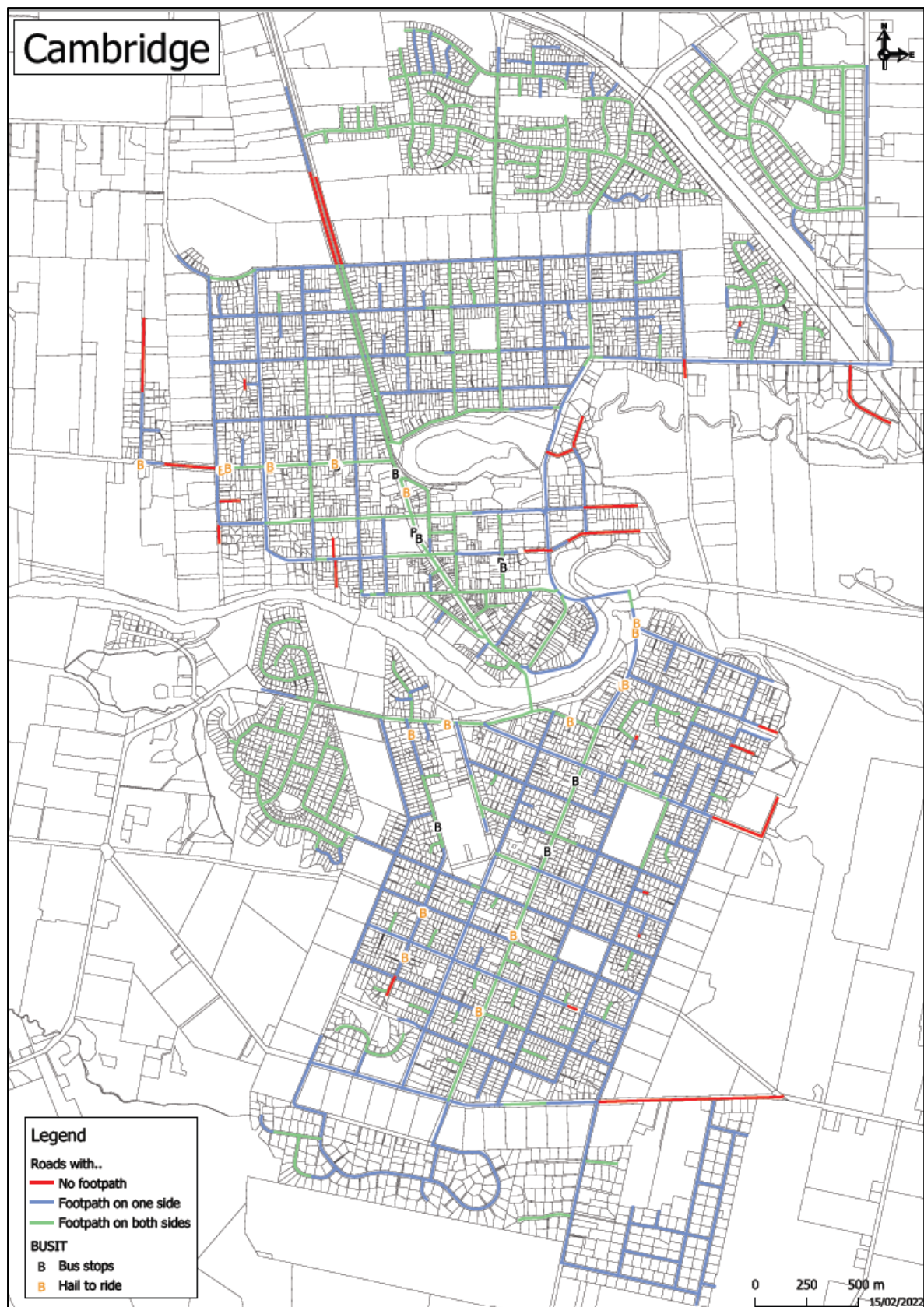


Figure 15 – Existing footpath network in Cambridge

#### 4.2. DO MINIMUM ACTIVITIES

The Do Minimum option assumes that travel in the two towns continues to be dominated by private vehicles in the future as it currently is. It assumes no new investment in walking and cycling activities other than business as usual 'Low Cost Low Risk' (LCLR) programme activities.

The current LCLR focus is on safety around the town centres where pedestrian crossings are being upgraded, lighting improved, and CCTV cameras installed for the safety of users. Modest sections of shared path extensions are planned as the funding from growth in the area becomes available.

The LCLR programme includes:

- Road safety promotion
- Footpath and cycleway maintenance and renewals
- Pedestrian LCLR activities
- Cycling LCLR activities.

These activities are outlined in the following sections and have been assumed to continue as part of the Do Minimum, irrespective of whether or not any of the short list options are taken forward.

##### 4.2.1.1. ROAD SAFETY PROMOTION

Council will continue to encourage culture change towards alternative modes of transport through promotional and educational activities. Council receives Waka Kotahi funding for road safety promotion activities and has spent approximately \$450k in the 2018-2021 period that included funding from ACC for the national cycling education system. This level of funding is forecast to continue through the 2021-2024 NLTP period.

Topics such as Speed, Alcohol and Drugs and Fatigue are all targeted through educational promotion, while training programmes such as motorcycle rider training aims to improve the riding skills of riders to potentially help reduce accidents. Other programmes specifically target young drivers (15- 24 years) or is specific to a traffic situation (eg urban intersections) where high crash rates are prevalent.

##### 4.2.1.2. FOOTPATH AND CYCLEWAY MAINTENANCE AND RENEWALS

From a service provision perspective, the asset condition of footpaths in the Waipā 2018/19 is on target. This condition assessment is based on visual inspection in 2017. Another condition survey is being done in early 2022.



Figure 16 – Asset Condition Targets (source 2018-19 RCA Report)

Council had not obtained funding from Waka Kotahi for major walking and cycling projects until the Te Awa cycleway extension in 2020. Council continues to maintain and improve walking and cycling infrastructure from funding allocated through minor works and the capital works budget. The programme is often reactive as it is generally driven by feedback from residents and road users.

#### 4.2.1.3. PEDESTRIAN LCLR ACTIVITIES

The current three year NLTP programme for pedestrian focused activities in the “Low-Cost Low-Risk” activity class includes work to a total of around \$2m split across the two townships. The typical activities include the upgrade of crossings, road improvements for pedestrian protection, lighting, traffic calming and CCTV installations. The activities are focused around the main centres (Te Awamutu and Cambridge), schools and other areas where the highest level of danger exists to the users.

#### 4.2.1.4. CYCLING LCLR ACTIVITIES

Cycling focused improvements and progress within the LCLR programme are currently dedicated to Cambridge, with the Hamilton Road Cycleway being the top priority (stage 1 Grey Street to Town belt completed 2021). The activities undertaken include new infrastructure that will extend the total length of urban cycleway available to road users. The paths provided will be dedicated walking and separate cycling paths which will improve safety while providing increased accessibility to the Middle school, medical centre, retirement villages, new residential growth areas and then link to key facilities including surrounding the velodrome and high school.

Other activities include works on the Hanlin Road (Cambridge) roundabout cycle path and on road speed management to further support speed limits that have already been introduced to encourage the use of alternative modes of transport. The improvements and infrastructure should improve the safety of cyclists in the area, which should translate into increased use as cyclists feel safer while using the facilities.

#### 4.2.2. LONG LIST OPTIONS IDENTIFICATION

The ILM suggested that both infrastructure and non-infrastructure investments were needed to achieve the investment outcomes stakeholders want from this programme, and therefore we needed to cast a wide net to consider all the possible responses to achieve the potential benefits.

Two approaches were used to identify the long list of alternatives and options, ‘bottom up’ and ‘top down’. ‘Bottom up’ ideas were collated via workshops with stakeholders, schools, New Zealand Police and a community biking group to get their views on barriers to walking and cycling and opportunities to improve them.

The long list options were “brainstormed” as ideas and then categorised into more generalised options, grouped into alternatives and aligned with the Waka Kotahi NZTA intervention hierarchy, shown in Figure 17.

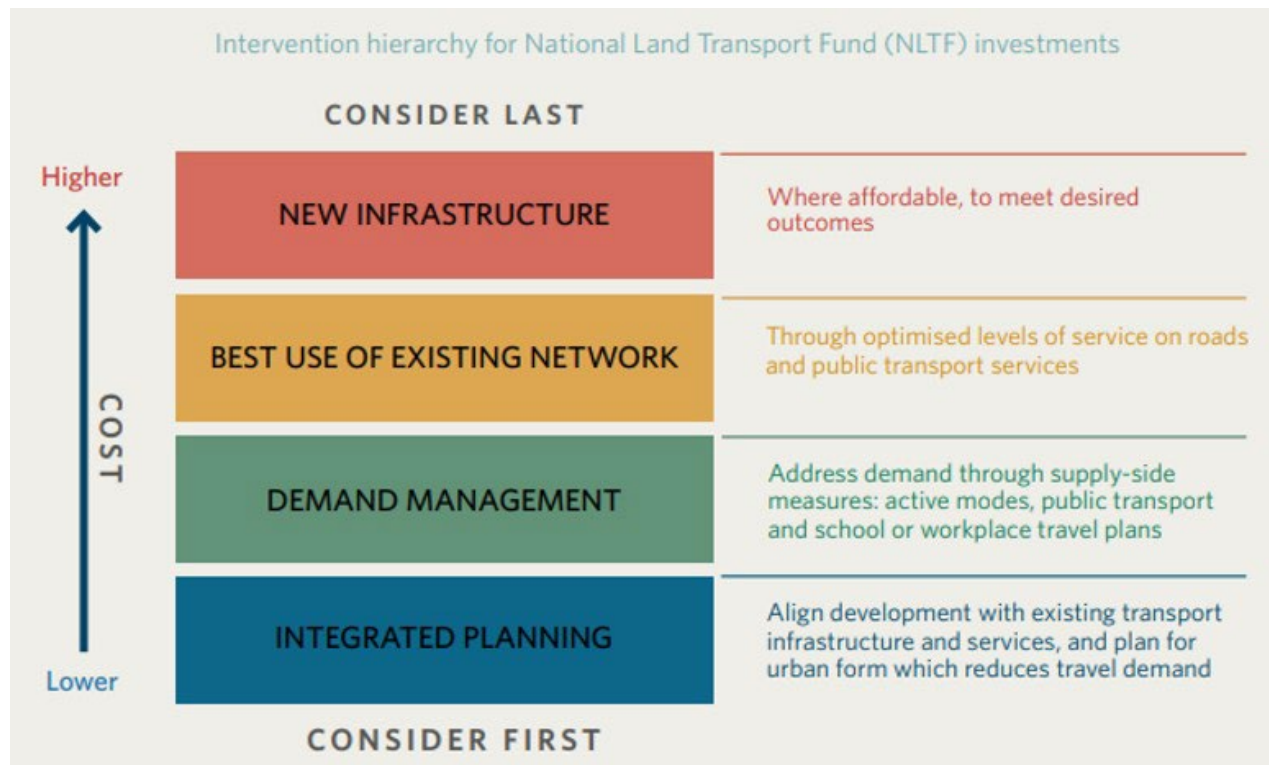


Figure 17 – NLTF Intervention hierarchy

The experience of the project team was used, to make sure all logical alternatives and options were included in the final list of options for assessment. This was reviewed and confirmed at the long list workshop.

#### 4.3. LONG LIST ASSESSMENT

A long list assessment workshop was held with stakeholders on 2 November 2020. The aim of the assessment workshop was to establish a ‘toolkit’ of the most effective and implementable options that could be taken forward and combined to develop short list programme options.

Options that were inconsistent with the overarching strategy or outside the scope of the project were discounted. The remaining options were then scored against the three investment objectives to arrive at the most effective options to take forward to the short list. The options were scored qualitatively on a scale of 0 to 3 where 0 is “neutral” and 3 is “Major Positive”.

- |                       |                  |    |
|-----------------------|------------------|----|
| ▪ Improved Safety     | – Neutral        | 0  |
| ▪ Improved Mode Share | – Minor positive | +1 |
| ▪ Improved Health     | – Positive       | +2 |
|                       | – Major positive | +3 |

Table D shows the long list scores following the assessment workshop with stakeholders.

| Intervention Hierarchy       | Alternatives               | Long list Options                           | IO1: Improved Safety | IO2: Improved Mode Share | IO3: Improved Health | Total |
|------------------------------|----------------------------|---------------------------------------------|----------------------|--------------------------|----------------------|-------|
| Integrated planning          | Land use                   | Urban form / Community Plan                 | 1                    | 3                        | 2                    | 6     |
|                              | Monitoring                 | Story telling                               | 0                    | 1                        | 0                    | 1     |
|                              | Strategy                   | Integrated modes                            | 2                    | 3                        | 2                    | 7     |
|                              |                            | Transport / Land use Integration            | 2                    | 3                        | 2                    | 7     |
|                              | Policy                     | Design standards / Guidelines               | 2                    | 2                        | 2                    | 6     |
|                              |                            | District plan                               | 1                    | 1                        | 1                    | 3     |
| Demand management            | Regulation                 | By-law / restrictions                       | 2                    | 3                        | 2                    | 7     |
|                              |                            | Law Amendments                              | 2                    | 3                        | 2                    | 7     |
|                              | Education                  | Educational programme                       | 2                    | 1                        | 2                    | 5     |
|                              |                            | Community events                            | 1                    | 1                        | 1                    | 3     |
|                              | Policy                     | Parking                                     | 2                    | 3                        | 2                    | 7     |
|                              |                            | Road pricing                                | 3                    | 3                        | 3                    | 9     |
|                              |                            | Speed management                            | 3                    | 2                        | 2                    | 7     |
|                              |                            | Vehicle and fuel tax                        | 0                    | 2                        | 2                    | 4     |
|                              |                            | Mode integration                            | 1                    | 2                        | 1                    | 4     |
|                              | Finance                    | Finance                                     | 1                    | 2                        | 1                    | 4     |
|                              | Support                    | Staff                                       | 1                    | 1                        | 1                    | 3     |
| Best use of existing network | Enhancement / modification | Intersection improvements                   | 3                    | 1                        | 0                    | 4     |
|                              |                            | Crossings                                   | 3                    | 1                        | 0                    | 4     |
|                              |                            | Traffic calming / speed segregation         | 3                    | 2                        | 2                    | 7     |
|                              |                            | Space reallocation                          | 3                    | 3                        | 2                    | 8     |
|                              |                            | User experience (character & amenity)       | 0                    | 2                        | 1                    | 3     |
|                              |                            | Wayfinding information / journey planning   | 1                    | 3                        | 0                    | 4     |
|                              | Maintenance                | Renewals                                    | 1                    | 1                        | 0                    | 2     |
|                              |                            | Maintenance                                 | 1                    | 1                        | 0                    | 2     |
| New Infrastructure           | Infrastructure             | Biking network / corridors                  | 3                    | 3                        | 3                    | 9     |
|                              |                            | New / upgraded pedestrian paths / crossings | 3                    | 2                        | 2                    | 7     |
|                              |                            | State Highway / River crossings             | 3                    | 3                        | 3                    | 9     |
|                              |                            | Lighting / Surveillance and Security        | 1                    | 1                        | 0                    | 2     |
|                              |                            | End user facilities                         | 1                    | 2                        | 0                    | 3     |
|                              |                            | Recreational / fun facilities               | 0                    | 1                        | 2                    | 3     |

Table D – Long list options assessment results

#### 4.3.1. DISCARDED LONG LIST OPTIONS

Several long list options, irrespective of their scoring in the long list assessment, were discarded based on their implementability within the scope of this business case.

Options that were initially discussed or deemed for inclusion were further investigated through the development of the themes to ensure that all of the “ideas” were dutifully considered; in cases where the ideas were not in line with the scope of the project or Council’s existing policy, the options were removed or reduced in its inclusion.

#### 4.3.1.1. URBAN FORM / SPATIAL PLAN CHANGE

The Waipā Community Spatial Plan (Community Plan) is currently under development and should be complete by late 2022. It is likely that the core walking and cycling networks of this business case will be incorporated into the Community Plan. Future implementation phases of this business case should respond to any changed land use and travel patterns, as set out in the Community Plan. This can be done at the next LTP review.

#### 4.3.1.2. DESIGN STANDARDS

WDC will adopt design standards from elsewhere including the United Kingdom Department for Transport's Infrastructure Design Guidelines, the Dutch 'fietsberaad' CROW document, as well as the Auckland Transport Urban Street and Road Design Guide. In terms of walking and cycling design guidance, the Regional Infrastructure Transport Specifications used by Waipā District Council for new subdivision development currently reference Austroads Guide to Road Design, Part 6a: Pedestrian and Cycle Paths and the NZTA Cycling Network Guidance. It does, however, make allowance for standards/specifications that meet or exceed these to be adopted.

#### 4.3.1.3. BYLAWS / REGULATIONS

The project team took into consideration that vehicle bans/restrictions and traffic flow restrictions could force the use of alternative modes of transport, but bylaw vehicle bans or restrictions are difficult to develop and get through a bylaw process, are often challenged and difficult to enforce unless nationally consistent. Council has used its existing Public Places Bylaw to ban certain movements at intersections to restrict traffic flows and create more pedestrian and cycle friendly streets, and this approach is likely to continue in appropriate locations.

The business case would be expected to influence the bylaws in the future, but changes are not proposed as part of the options.

#### 4.3.1.4. LAW AMENDMENTS

Law amendments are set at a national level and therefore outside of the scope of the business case. The Ministry of Transport has consulted on law and regulation change to provide consistency across New Zealand to issues such as shared path use and controls, pedestrian and cyclist priority at intersections, recognition of micro-mobility devices and guidance for use in different settings.

Waipā District Council would implement any subsequent national law changes through the urban mobility programme.

#### 4.3.1.5. ROAD PRICING

Road pricing was excluded on the basis that it would not be feasible to implement; WDC has a low level of influence to make change and implementation timeframes are too long to be effective.

Road pricing provides a very effective means of travel demand management, which would encourage transport users to think more widely about their travel choices where the costs are more transparent. Waka Kotahi guidance states that “Road pricing is a tool with two main objectives: reducing congestion and raising revenue. The revenue it raises can be hypothecated and used to support other modes such as public transport, to price users off the road (thus reducing congestion) and enforce a behaviour change. It seeks to charge for the full economic, environmental and social costs of road use, and places more of the true cost of driving back onto road users.”

However, the legislation to enable road pricing requires government to agree to enact an Order in Council to toll or to introduce regional fuel tax. These are the only two methods available through New Zealand Legislation currently.

## 4.4. SHORT LIST OPTIONS

### 4.4.1. SHORT LIST THEMES

As part of the long list workshop, participants agreed to use three short list Themes based around the Intervention Hierarchy, incorporating intervention options from the long list assessment.

The three Themes were initially named “Culture Change”, “Targeted Investment” and “Go big”. While Culture Change was assessed as a stand-alone option, the elements included in this theme were also assumed to be included, albeit to a lower degree, in the other two themes. The three themes shown were further developed into solutions that then became the short list options. When considering the Themes against the Intervention Hierarchy, Theme 1 leans more towards integrated planning and Theme 3 more towards new infrastructure.

The three themes were assessed by their contribution towards achieving the investment objectives:

1. **Improved safety and perception of safety for active mode users**
2. **Increased active mode use**
3. **Improved health**

and against the cost/affordability of each option.

The three themes were developed to create a clear message that could be easily communicated during public consultation and facilitate option development. Along with the “Do Minimum – Status Quo” option, the three themes are summarised to cover both localities, but the details are tailored to each locality where necessary.

The initial short list theme names were changed for clarity during public consultation:

- “Culture Change”: naming retained
- “Targeted Investment” renamed as “Tactical Improvements”
- “Go Big”: renamed as “Crosstown Cycleways”

While there was a standalone theme titled **Culture Change**, both the other two themes include elements of culture change as it was identified that a level of behaviour change is required to maximise the outcomes of investing in walking and cycling infrastructure.

Table E provides an overview of the make-up of the short list options, and the logic for the inclusion/exclusion of the long list options within each of respective short list options.

Table E – Short list option inclusions

| Intervention Hierarchy       | Alternatives               | Options                                    | Theme 3 - Cross Town Cycleways                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Theme 2 - Tactical Improvements                                                                                                                                    | Theme 1 - Culture Change                                                                                               |
|------------------------------|----------------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Integrated planning          | Monitoring                 | Story telling                              | Monitoring and 'storytelling' should be a fundamental part of all options to communicate the expected and actual impacts of theproposed interventions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                    |                                                                                                                        |
|                              | Strategy                   | Integrated modes                           | The options that include infrastructure provisions should integrate with PT facilities in keyplaces (ie. bike racks at bus stops, seating etc).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                    | No change from the Do Minimum.                                                                                         |
|                              |                            | Transport / Land use Integration           | This is a consequence of investing in biking and walking facilities to cater for existing and future land use.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                    | No infrastructure changes assumed for thisoption.                                                                      |
| Demand Management            | Education                  | Educational programmes                     | Culture change and educational programmes are proposed for all options but more pronounced in the non-infrastructure option (±2X). This includes bike maintenance/repair and skills training for children and adults.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                    |                                                                                                                        |
|                              |                            | Community events                           | Included but mainly as a presence at other events as opposed to hosting new events focused on the business case outcomes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                    |                                                                                                                        |
|                              |                            | Speed management                           | Speed management will be integral to treatment where facilities integrate with the wider network.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Universal speed management across the network.                                                                                                                     |                                                                                                                        |
|                              |                            | Mode integration                           | Mode integration is proposed through the implementation of bike racks at bus stops, on buses, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                    | No changes assumed for this option.                                                                                    |
|                              | Finance                    | Finance                                    | The bike access scheme is proposed for all options. This involves creating a programme with a local community group (eg, Lions) to refurbish donated bikes and provide them to students in need at local schools.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                    |                                                                                                                        |
|                              | Support                    | Staff                                      | All options assume the programme can be implemented with existing staffing and management arrangements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                    |                                                                                                                        |
| Best use of existing network | Enhancement / modification | Intersection improvements                  | Safety and LoS improvements commensurate with the mid-block facilities proposed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                    | No infrastructure changes assumed for thisoption.                                                                      |
|                              |                            | Crossings                                  | Safety and LoS improvements commensurate with the mid-block facilities proposed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                    | No infrastructure changes assumed for thisoption.                                                                      |
|                              |                            | Traffic calming / speed segregation        | Traffic calming and speed segregation are treatments of cycle friendly streets.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                    | No physical measures proposed to reducetraffic speeds. Rather at the policy level tobring speeds down across the area. |
|                              |                            | Space reallocation                         | Space reallocation will involve reallocating parking space to protected bike lanes without altering the location of kerbs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No reallocation of existing road space to walking and cycling with these options.                                                                                  |                                                                                                                        |
|                              |                            | User experience (character &amenity)       | User experience is proposed to be included across all options, however, the level of user experience provided will be commensurate with the level of treatment of the network. Bike lanes will include the integration of urban design elements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                    |                                                                                                                        |
|                              |                            | Wayfinding information / journey planning  | Included in all options to make non-motor modes simpler to navigate the towns.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                    |                                                                                                                        |
|                              | Maintenance                | Renewals                                   | This option involves introducing new infrastructure instead of renewal of existing (eg, wider shared paths, better kerb crossings).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Targeted Investment will require the upgrade of existing infrastructure; when existing footpaths require replacement, they will be provided with widened new ones. | No infrastructure changes assumed for this option.                                                                     |
|                              |                            | Maintenance                                | Any new infrastructure will require maintenance as the existing infrastructure does.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                    | No change from the Do Minimum.                                                                                         |
| New Infrastructure           | Infrastructure             | Biking network / corridors                 | This is one of the main focus areas of the option. New corridors will include repurposed use of existing footpaths and road shoulder space to create safe shared or separated paths.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | There are no new corridors included under these options.                                                                                                           |                                                                                                                        |
|                              |                            | New / upgraded pedestrian paths /crossings | Included in association with the proposed network.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                    | No change from the Do Minimum.                                                                                         |
|                              |                            | State Highway / River crossings            | SH3 passes through Te Awamutu and Kihikihi, and several active mode crossing points will be required, including a likely transformation of the SH3 / Cambridge Road roundabout to enable active mode use. A separate business case is required to develop these works.<br><br>The Waikato River flows through Cambridge and is a major obstacle for the full connectivity of the town. A new active mode only bridge may be required; however the issue is complex in terms of the existing bridge resilience, catering for predicted higher traffic flows and a political desire for an additional traffic bridge. This business case does not require the resolution of this but needs to highlight this as a medium term issue. | No change from the Do Minimum.                                                                                                                                     |                                                                                                                        |
|                              |                            | Lighting / Surveillance and Security       | Lighting, surveillance and security applies to the infrastructure being proposed per option.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                    | No change from the Do Minimum.                                                                                         |
|                              |                            | End of trip facilities                     | Includes the provision of bike parking facilities at key locations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                    | No change from the Do Minimum.                                                                                         |
|                              |                            | Recreational / fun facilities              | Recreational/fun facilities already exist across the network.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                    |                                                                                                                        |

#### 4.4.2. DESIGN PRINCIPLES

The design principles identified in the CROW Design Manual for Bicycle Traffic, which have been universally adopted as principles to aspire to, were assumed to apply to both cycling and walking facilities.

- Directness
- Safety
- Comfort
- Attractiveness
- Cohesion

Another overarching design principle identified through stakeholder and Elected Member engagement was the need to design for all ages and abilities, which reaffirmed the previously identified interest of the Cambridge school communities in travelling to and from school by active modes.

As identified through the long list assessment, WDC expects to adopt design standards from elsewhere including the UK Department of Transport (DfT) Cycle Infrastructure Design, CROW from the Netherlands, and the Auckland Transport Urban Street and Road Design Guide.

It also proposed that the District Plan changes should provide for adopting elements of these design standards to facilitate a coherent design standard throughout the towns, including walking and cycling provisions within developer led growth areas.

#### 4.4.3. PROMOTION ACTIVITY

The following activities that aim to complement the use of the proposed walking and cycling infrastructure, were considered part of all options:

- Community hire schemes including cargo bikes
- Community cycling fund to provide financial assistance to active groups that promote and facilitate cycling activities
- Subsidised cycling training and maintenance courses
- Facilitate second-hand markets where no longer used bikes collected, repaired, and sold at a reasonable price.

#### 4.4.4. STRATEGIC NETWORK DEVELOPMENT

Strategic walking and cycling networks were developed for Cambridge and Te Awamutu to have a common basis of comparison for each of the short list options and to quantify the likely cost and accessibility, that is, proximity of facilities to population.

The network, existing land use, key destinations (shown as points of interest on the maps) and future growth areas were overlaid to identify which locations were logical candidates to connect.

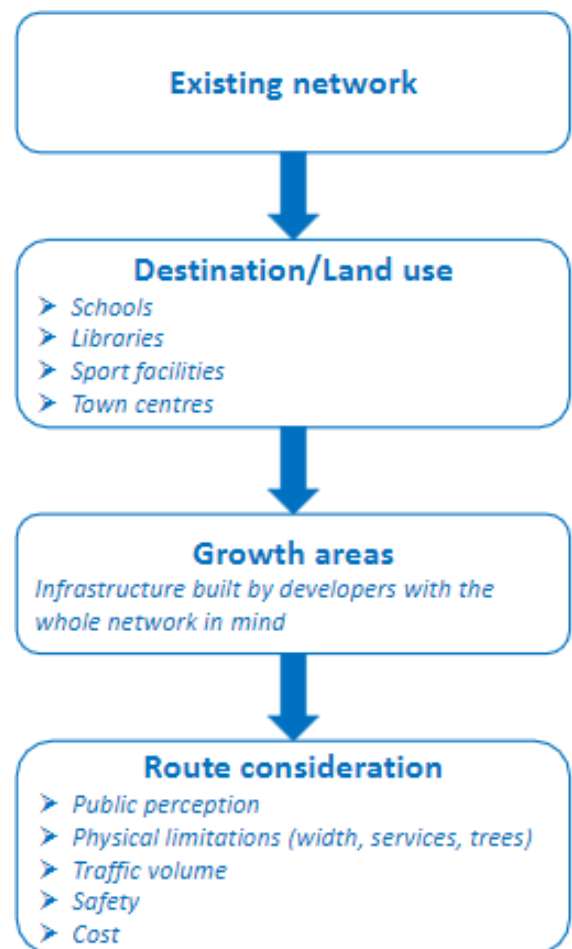
Key destinations included:

- Schools
- Libraries
- Sports facilities
- Town centres
- Bus stops

Routes that best connected these destinations were considered from the perspectives of:

- Public perception/disruption
- Alignment with design principles
- Physical geometry and constraints
- Traffic volumes and safety
- Implementation cost

Figure 18 and Figure 19 show the proposed strategic networks developed for Cambridge and Te Awamutu.



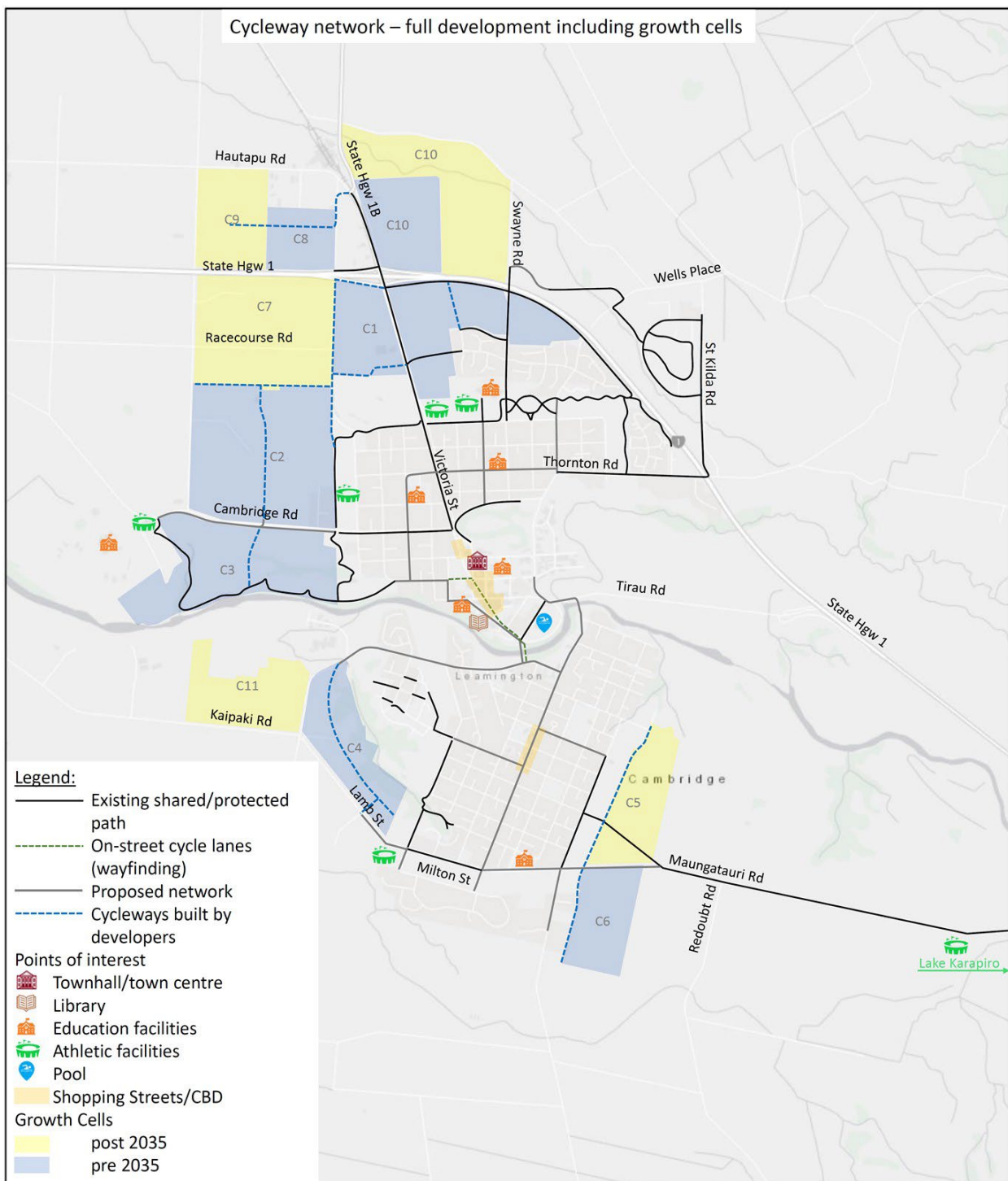


Figure 18 – Cambridge strategic walking<sup>11</sup> and cycling network

<sup>11</sup> While the map title is for cycleways, this strategic network will be the focus for both walking and cycling.

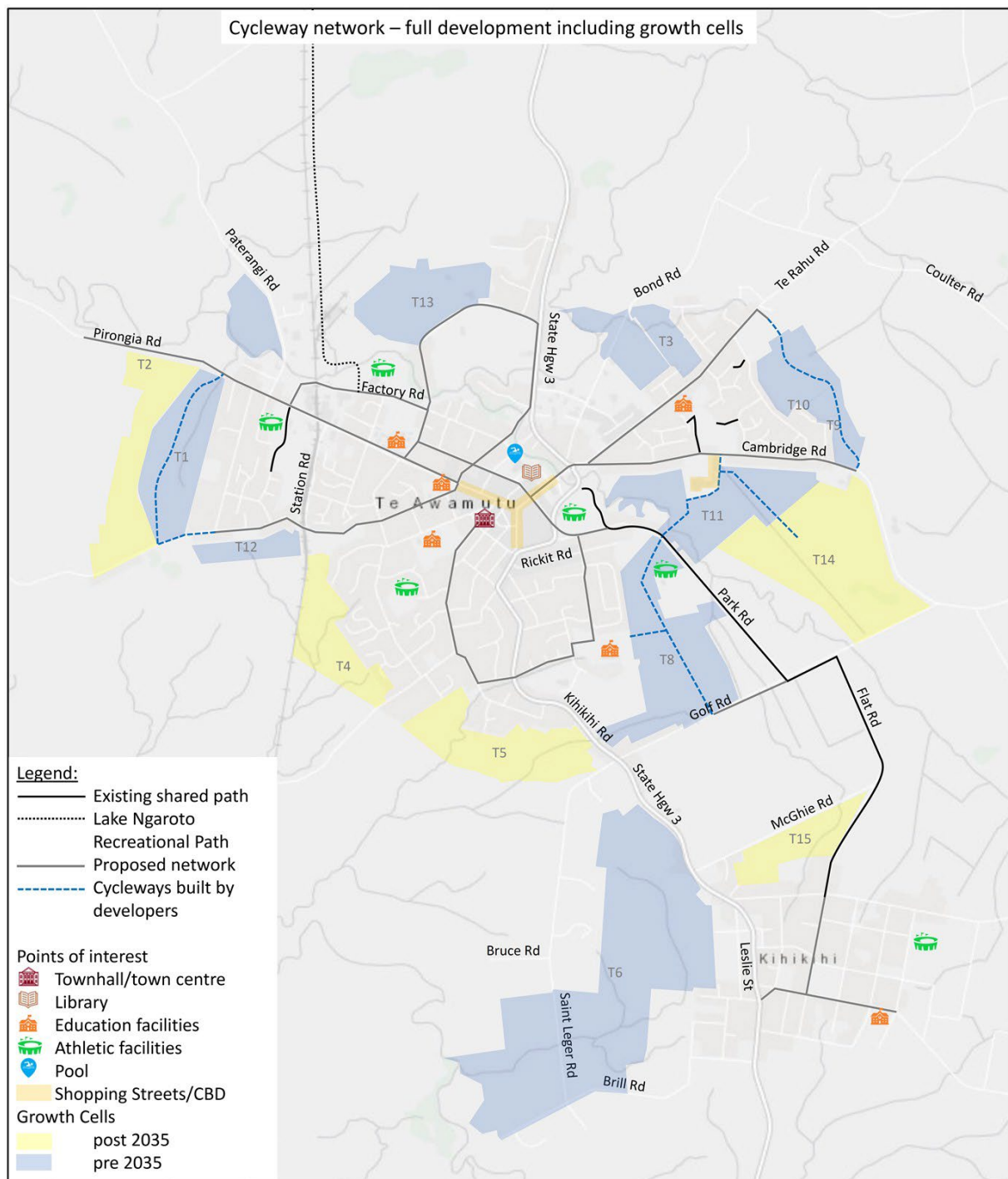


Figure 19 – Te Awamutu strategic walking and cycling network

#### 4.4.5. THEME 1 – CULTURE CHANGE

##### **Overview**

Theme 1 focuses on delivering a culture change that is driven by education for road, footpath, public transport and cycleway users, as well as higher level planning that includes school travel plans and a bike access scheme.

The main activities are:

- Bike skills training for adults and youth
- Provision of school travel plans
- Bike maintenance workshops
- Bike/scooter access scheme (donated bikes, volunteer resource to repair).

The theme also looks at enhanced street lighting and visibility. The below flyer (in section 4.5) was used during community consultation to introduce the theme to the public. It uses a simple “tick” system to evaluate and compare the theme to the other two.

Theme 1 considers the following main points as part of the culture change strategy:

- **Bike Access Scheme**
  - 10 bicycles per year each to Cambridge Middle School and Te Awamutu Intermediate for their distribution
  - Option A – free distribution via schools
  - Option B - means tested and fully managed programme
- **Education for cyclists**
  - Professionally run bike skills course to schools
  - Each school once a year
- **Education for drivers**
  - Best education is for drivers to see lots of cyclists
  - Promotional schemes to get lots of people out on bikes
- **School travel plans**
  - Facilitate schools to develop plans
- **Enhanced lighting and visibility**
  - Business as usual under LCLR programme
- **Promote better legislation and regulation, ie. accessible streets package**
  - Lobby/support central government to make national changes
  - Waipā DC to be early adopters of new/improved legislation, enabling better active use opportunities.

#### 4.4.6. THEME 2 – TACTICAL IMPROVEMENTS

##### Overview

Theme 2 focuses on making tactical improvements to the network where needed most, as well as the activities presented in the Culture Change theme. It looks at linking popular areas with shared paths and safer crossings along some key routes to schools and town centres to improve safety and useability.

In addition to culture change and making tactical infrastructure improvements, speed management is proposed to reduce the severity of incidents.

##### Te Awamutu

- The Infrastructure focus: through upgrading footpaths to shared paths and providing safe crossings
- Key routes: linking popular areas of town such as town centres and schools
- Investment will provide limited additional walking and cycling capacity, but targets increased use through improvements to perceived safety and security
- Speed management of local roads all to 40km/hr or below to improve safety for walking and cycling

##### Cambridge

- The Infrastructure focus: through upgrading footpaths to shared paths and safe crossings
- Key routes: linking popular areas of town
- Investment will provide only very limited additional walking and cycling capacity, but targets increased use through improvements to perceived safety and security
- Speed management of local roads all to 40km/hr or below to improve safety for walking and cycling
- Integration of existing town belt pathways

Figure 20 and Figure 21 show the networks for the Tactical Improvements theme for Te Awamutu and Cambridge respectively.

For Tactical Improvements, shared paths are developed through upgrading footpaths to formal shared paths and providing safe crossings.

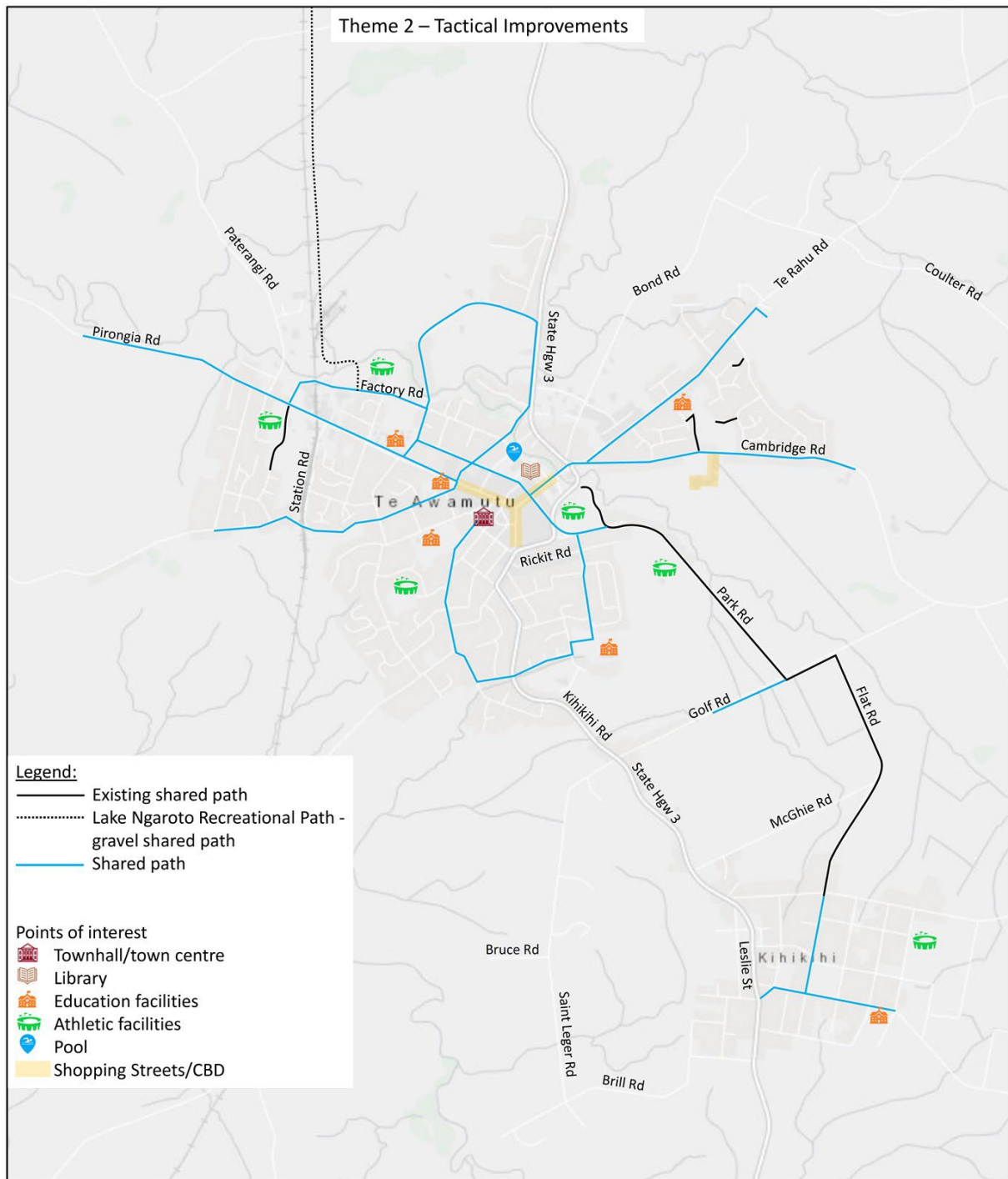


Figure 20 – Proposed Network Te Awamutu (Tactical Improvements)

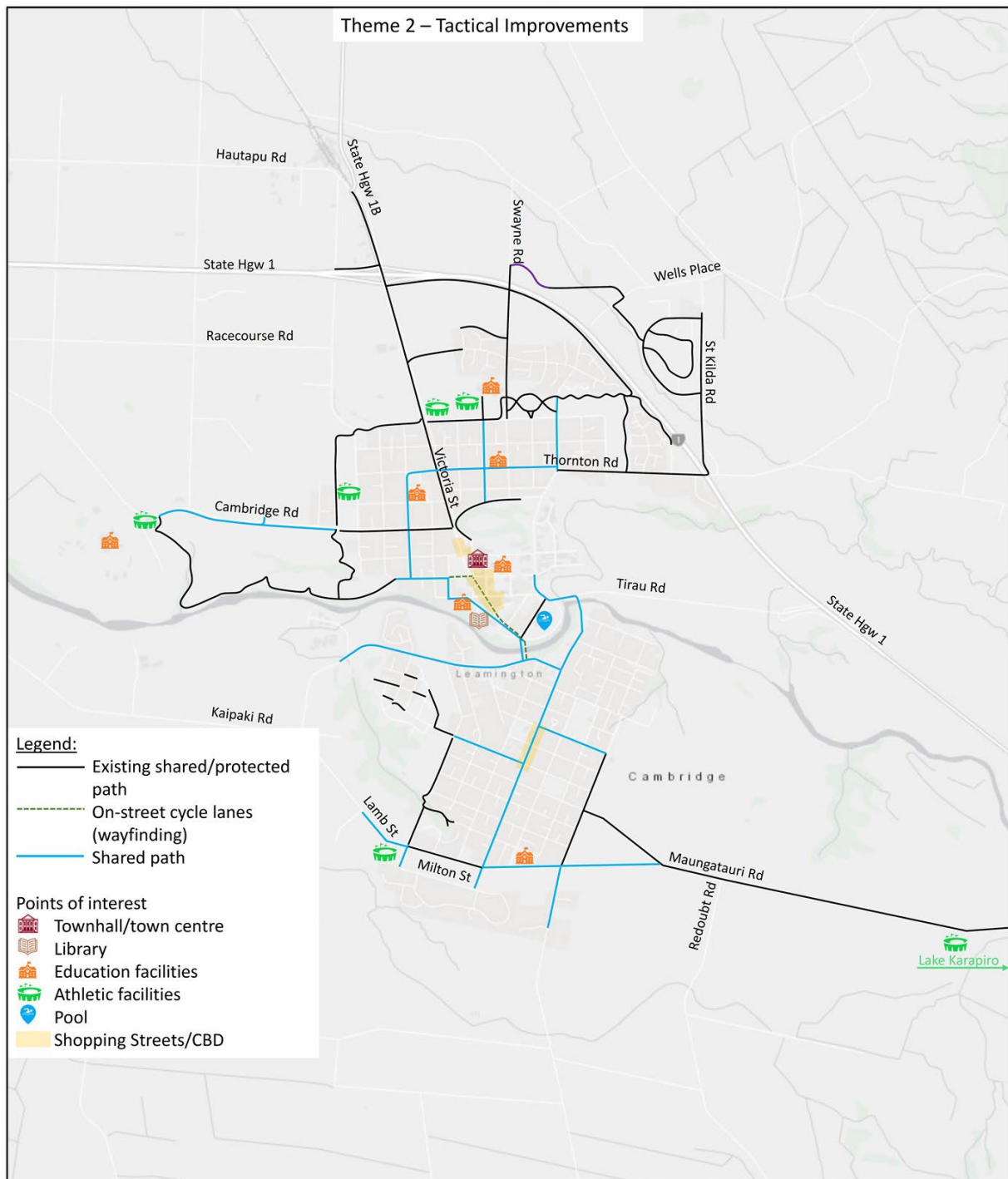


Figure 21 – Proposed Network Cambridge (Tactical Improvement)

#### 4.4.7. THEME 3 – CROSS-TOWN CYCLEWAYS

##### Overview

Theme 3 looks to remove most of the conflict points by physically separating cycleways from the roads and footpaths, as well as delivering the activities presented in the Culture Change theme. It aims to provide three modes of transport in the safest possible way along key routes. It looks to increase separated cycle path capacity and decrease cycle journey times to encourage cycling, especially at peak times. Refer to the Flyer in section 4.5 for examples. Keeping cycles and mobility vehicles separated will provide safer use of footpaths for pedestrians, to encourage an increase in walking.

The strategy uses a speed management aspect to further enhance the safety of pedestrians and cyclists, placing a higher priority on non-vehicular traffic. In addition to this, the activities presented in the Culture Change theme are included with this theme to encourage use of these facilities and communicate the increased safety and attractiveness of walking and cycling as preferred modes of transport.

##### Te Awamutu

- **Infrastructure focus:** protected cycleways, shared paths and safe crossings
- **Key routes:** between points of interest such as schools, town centres, athletic facilities, bus stops and existing pathways, and catering for future growth areas
- **Fast cycle journey times:** quicker than, or equivalent to, journeys by car at peak times
- Speed management of local roads all to 40km/hr or below

##### Cambridge

- **Infrastructure focus:** protected cycleways (separated paths), shared paths and safe crossings
- **Key routes:** between points of interest such as schools, town centres, athletic facilities and existing pathways, and catering for future growth areas
- **Fast cycle journey times:** quicker than, or equivalent to, by car at peak times
- Speed management of local roads all to 40km/hr or below
- Integration of town belt pathways
- Dedicated walking and cycling bridge across the Waikato River

Figure 22 and Figure 23 show the networks for the Cross-town Cycleways theme for Te Awamutu and Cambridge respectively.

For Cross-Town Cycleways, protected cycleways are developed within the existing road corridor through repurposing road shoulders/road space to provide a separated cycleway. This ensures cyclists and pedestrians are separated from each other, as well as from vehicular traffic. Low-cost treatments will be utilised as much as possible.

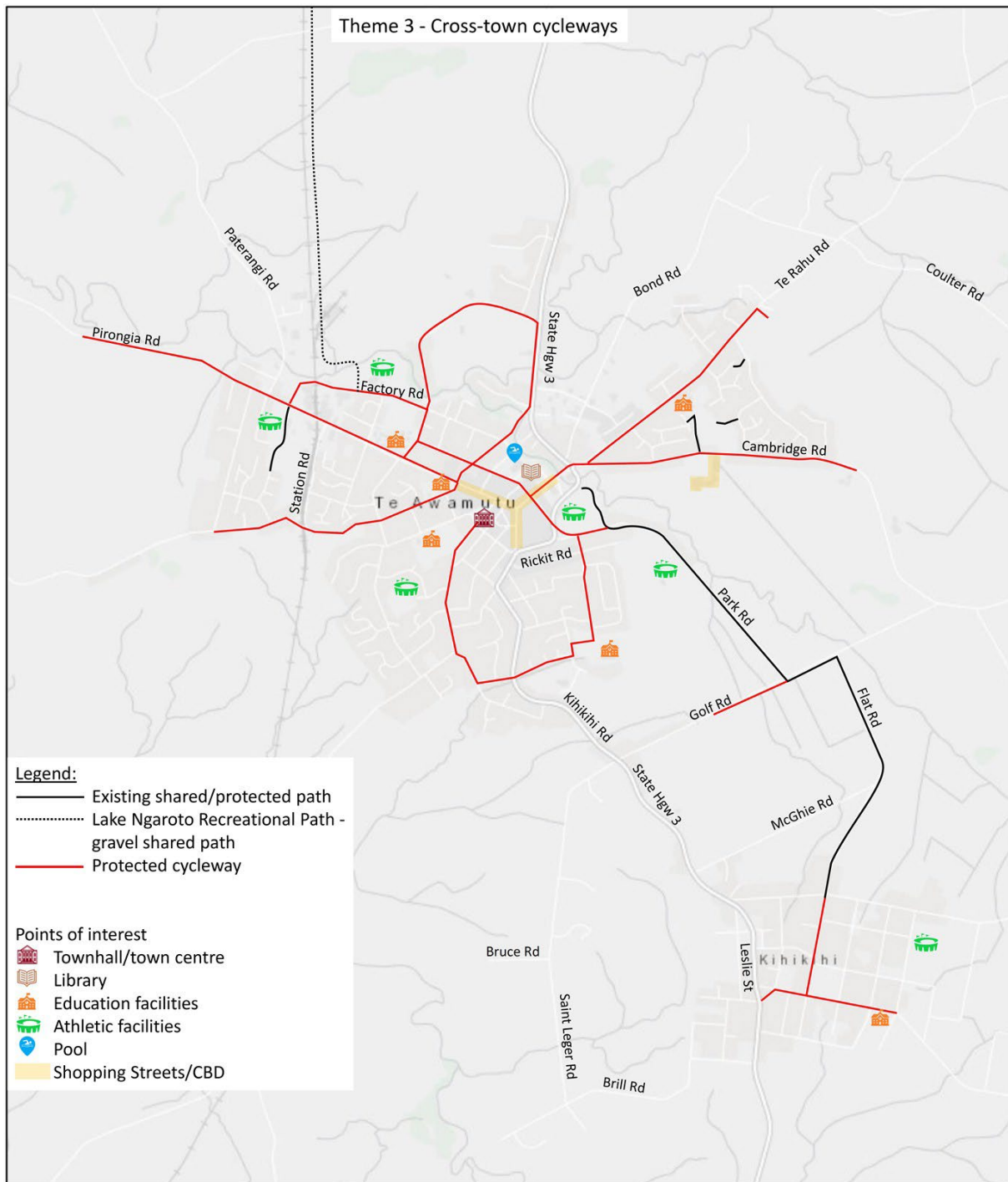


Figure 22 – Proposed Network Te Awamutu (Cross-town Cycleways)

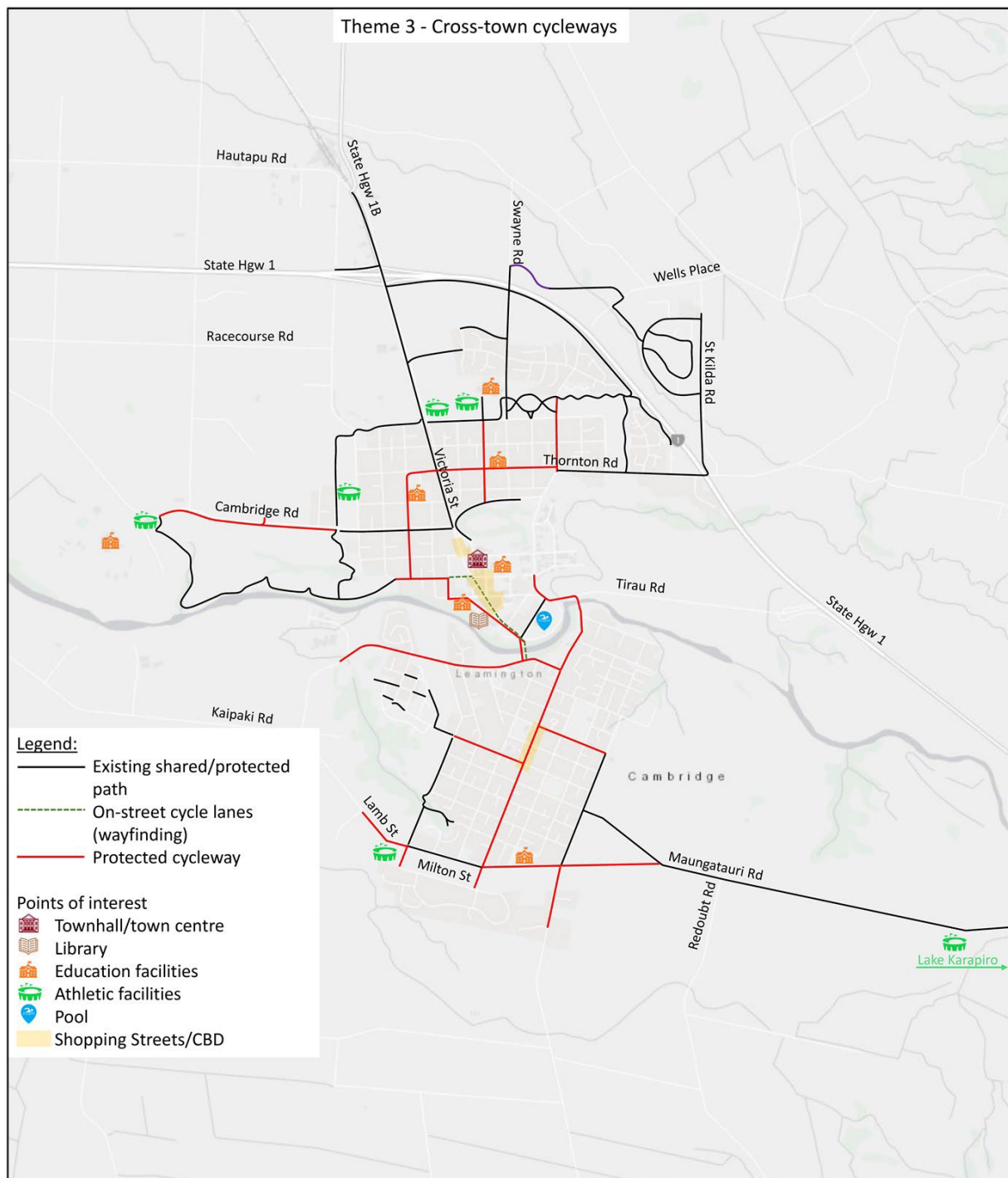


Figure 23 – Proposed Network Cambridge (Cross-town Cycleways)

#### 4.4.8. SHORT LIST ENGAGEMENT

Both the Te Awamutu and Cambridge communities were engaged to better understand the sentiment in relation to urban mobility and the three themes:



Cyclists share the road to get around town.

### Theme 1

#### Culture change

**Education is the top priority**

This theme focuses on:

- Providing education for cyclists,
- Providing education for drivers,
- Helping schools to create travel plans,
- Providing better access to bikes and bike skills training,
- Enhancing lighting and visibility on our streets.

**How does it stack up?**  
One tick low, two ticks medium, three ticks high.

| More people walking & cycling | A safer network | Healthier communities | Implement and cost |
|-------------------------------|-----------------|-----------------------|--------------------|
| ✓                             | ✓               | ✓                     | ✓✓✓                |



Shared pathways for both walkers and cyclists.

### Theme 2

#### Tactical improvements

**Creating safer spaces for walking and cycling**

This theme focuses on:

- Creating shared paths for walkers and cyclists,
- Linking popular areas in town,
- Managing the speed of vehicles on our roads,
- Providing safe places to cross the road.

**How does it stack up?**  
One tick low, two ticks medium, three ticks high.

| More people walking & cycling | A safer network | Healthier communities | Implement and cost |
|-------------------------------|-----------------|-----------------------|--------------------|
| ✓✓                            | ✓✓              | ✓✓                    | ✓                  |



Separated cycleways and footpaths.

### Theme 3

#### Cross-town cycleways

**Walking and cycling becomes the most convenient mode of transport**

This theme focuses on:

- Creating protected and separated cycleways on key routes,
- Providing safe road crossings for both walkers and cyclists,
- Cyclists are given higher priority over traffic.

**How does it stack up?**  
One tick low, two ticks medium, three ticks high.

| More people walking & cycling | A safer network | Healthier communities | Implement and cost |
|-------------------------------|-----------------|-----------------------|--------------------|
| ✓✓✓                           | ✓✓✓             | ✓✓✓                   | ✓                  |

#### 4.4.9. TE AWAMUTU ENGAGEMENT FEEDBACK

Council collected feedback from the community to better understand the community sentiment in relation to the overall issues of urban mobility, and more specifically the three themes. The collated results are summarised below:

##### **Walking**

- Footpath provision – extensions and completion of missing sections
- Existing path upgrades and reallocation of space
- Recreational paths – through reserves
- Pedestrian crossings – State Highway 3 severance

##### **Cycling**

- Improved links and crossings – potential routes identified
- Provision of shared paths and dedicated cycleways

The theme preference score is shown in the graph below. Respondents were asked to rank the themes on a scale of one to three before the results were collated.

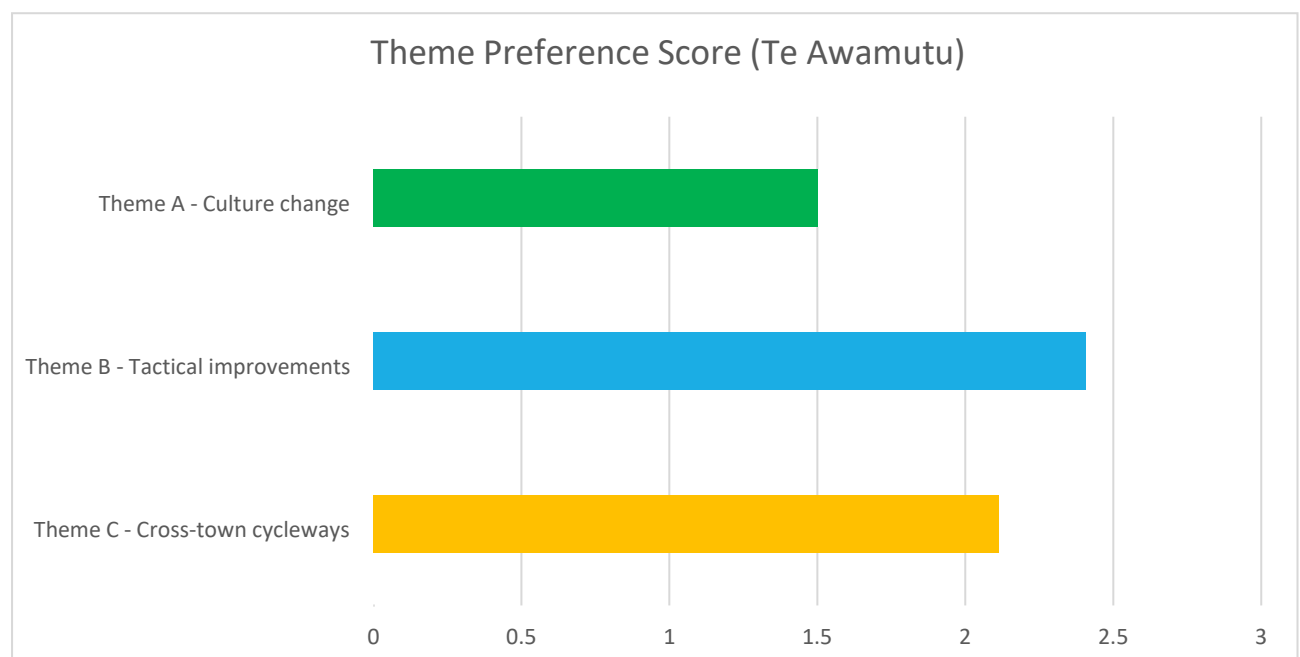


Figure 24 – Theme Preference Score (Te Awamutu)

#### 4.4.10. CAMBRIDGE ENGAGEMENT FEEDBACK

The town of Cambridge’s feedback focused on existing programmes such as the “Cambridge Town Concept Plan” refresh and the “Safe Ways to School” programme.

##### **Cambridge Town Concept Plan Refresh**

- Cycling Network Plan and projects

- Mobility spine Victoria Street – Shakespeare Street

### Strong School Focus

- Safe ways to school Cambridge

Respondents were asked to rank the themes on a scale of one to three with the theme preference score results for Cambridge shown below.

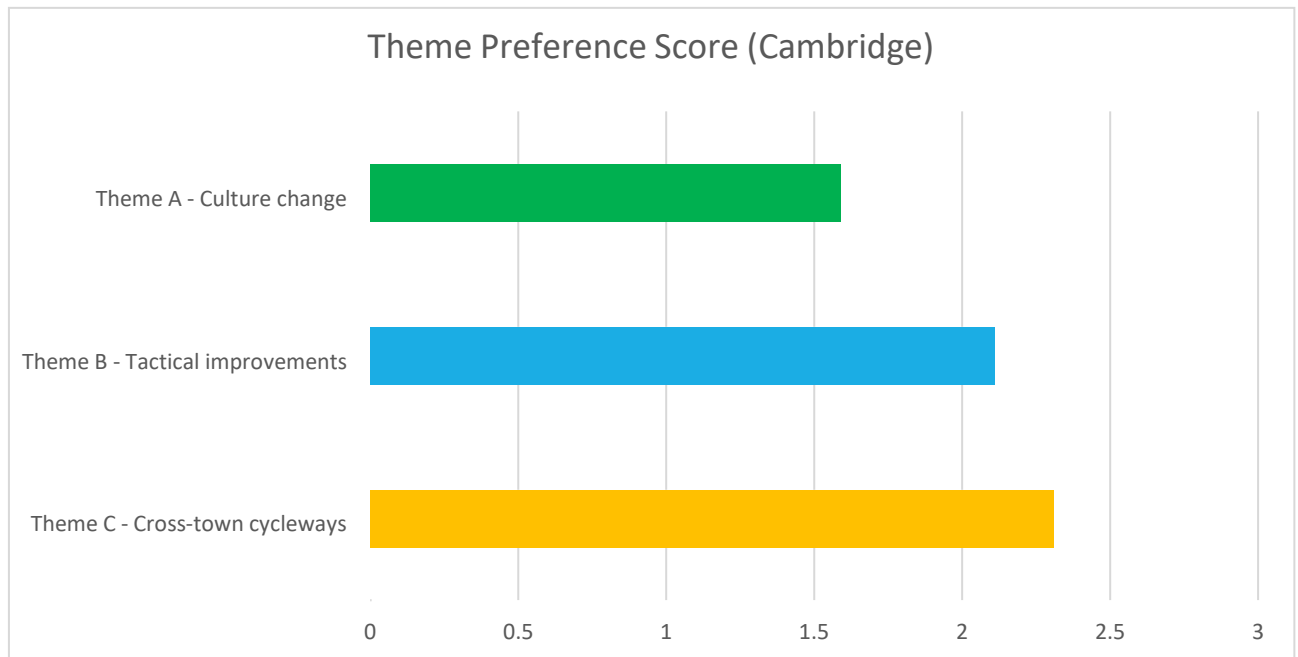


Figure 25 – Theme Preference Score (Cambridge)

## 4.5. SHORT LIST ASSESSMENT

### 4.5.1. ASSESSMENT CRITERIA

A combined short list assessment workshop was hosted on 4 December 2020, where participants scored the themes in a multi-criteria assessment (MCA) against the Investment, Implementability and Assessment of Effects criteria in line with Waka Kotahi guidance, as shown in Table F.

| Category                            | Criteria                                                      | Description                                                                                                                                                         |
|-------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Investment Objectives <sup>12</sup> | Improve safety and perception of safety for active mode users | <ul style="list-style-type: none"> <li>Improved safety through reducing deaths and serious injuries</li> <li>Improved perceptions of safety and security</li> </ul> |
|                                     | Increase active mode use                                      | <ul style="list-style-type: none"> <li>Improved active mode share</li> <li>Improved accessibility through safe and high quality facilities</li> </ul>               |

<sup>12</sup> The KPIs listed in section 2.4 have been updated since this MCA analysis workshop to incorporate measures from Waka Kotahi's recently published Land Transport Benefits Framework. Measures are included to measure the same outcomes as the above descriptions, but some wording may differ slightly.

| Category              | Criteria                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Improving health outcomes | <ul style="list-style-type: none"> <li>Improving physical health</li> <li>Improving attitudes and perceptions</li> </ul>                                                                                                                                                                                                                                                                                                                        |
| Implementable         | Feasibility               | <ul style="list-style-type: none"> <li>Technical / constructability – technical risk in developing or implementing the option</li> <li>Designation and consenting risk – the relative level of complexity in gaining statutory approvals, extent of designation, considering any non-complying and prohibited activities</li> <li>Safety in design / zero harm – Health and safety risk in construction, operations, and maintenance</li> </ul> |
|                       | Affordability             | <ul style="list-style-type: none"> <li>Capital cost</li> <li>Annual operational and maintenance costs</li> <li>Benefit / cost ratio</li> <li>Financial – is it funded in the NLTP</li> </ul>                                                                                                                                                                                                                                                    |
|                       | Stakeholder / customer    | <ul style="list-style-type: none"> <li>How acceptable is this to the stakeholders and customers?</li> </ul>                                                                                                                                                                                                                                                                                                                                     |
| Assessment of effects | Cultural                  | <ul style="list-style-type: none"> <li>How does this impact on Mana Whenua values?</li> </ul>                                                                                                                                                                                                                                                                                                                                                   |
|                       | Environment               | <ul style="list-style-type: none"> <li>How does this impact on the environment and / or landscape?</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
|                       | Community                 | <ul style="list-style-type: none"> <li>How will the community be affected?</li> </ul>                                                                                                                                                                                                                                                                                                                                                           |

Table F – Short list assessment criteria

#### 4.5.2. SHORT LIST ASSESSMENT WORKSHOP

The theme network maps for each town shown in Sections 0 and 4.4.7 for the Tactical Improvements and Cross-town cycleways themes were presented at the short list assessment workshop to show where the physical changes would be implemented, and to help better understand the envisaged transport connectivity.

All criteria were scored by workshop participants relative to the Do Minimum option using a seven-point scale as detailed in Table G.

| -3                                   | -2                                | -1                             | 0       | +1             | +2                | +3                   |
|--------------------------------------|-----------------------------------|--------------------------------|---------|----------------|-------------------|----------------------|
| Significant Adverse - Impact or Risk | Moderate Adverse - Impact or Risk | Minor Adverse - Impact or Risk | Neutral | Minor Positive | Moderate Positive | Significant Positive |

Table G – MCA scoring scale

Table H and Table I show the assessment summary of the short list options for Te Awamutu and Cambridge against the assessment criteria.

| Criteria              | Do Minimum | Culture Change | Tactical Improvements | Cross-town Cycleways |
|-----------------------|------------|----------------|-----------------------|----------------------|
| Investment            | 0          | 3              | 15                    | 17                   |
| Implementability      | 0          | -3             | -3                    | -5                   |
| Assessment of Effects | 0          | 2              | 5                     | 7                    |
| <b>Total</b>          | <b>0</b>   | <b>2</b>       | <b>17</b>             | <b>19</b>            |

Table H - Reviewed Scores Te Awamutu

| Criteria              | Do Minimum | Culture Change | Tactical Improvements | Cross-town Cycleways |
|-----------------------|------------|----------------|-----------------------|----------------------|
| Investment            | 0          | 3              | 14                    | 16                   |
| Implementability      | 0          | -2             | -3                    | -6                   |
| Assessment of Effects | 0          | 2              | 5                     | 7                    |
| <b>Total</b>          | <b>0</b>   | <b>3</b>       | <b>16</b>             | <b>17</b>            |

Table I – Reviewed Scores Cambridge

Table J and Table K provide the combined scoring from the short list MCA workshop for Te Awamutu and Cambridge respectively.

Table J – Short List MCA scores Te Awamutu

| Criteria   | Investment Objective                       | KPI                                        | Measure / Description                                      |
|------------|--------------------------------------------|--------------------------------------------|------------------------------------------------------------|
| INVESTMENT | To improve safety for active mode users by | Reducing deaths and serious injuries       | Deaths and serious injuries per year                       |
|            |                                            | Improving perception of safety             | Perception of safety and ease                              |
|            | To increase active mode use by             | Improving access                           | Mode share - Journey to work and education by active modes |
|            |                                            | Providing safe and high quality facilities | Network coverage of proposed cycling network at LoS A/B    |
|            | To improve health outcomes by              | Improving physical health                  | Number of new cycling users                                |
|            |                                            | Improving attitudes and perceptions        | Personal satisfaction and liveability surveys              |

|                  |                          |                                 |                                                                                                                                                         |
|------------------|--------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMPLEMENTABILITY | Feasibility              | Technical / constructability    | Technical risk in developing or implementing the option                                                                                                 |
|                  |                          | Designation and consenting risk | Relative level of complexity in gaining statutory approvals, extent of designation, considering any non-complying activities - no prohibited activities |
|                  |                          | Safety in design / zero harm    | H&S Risk in construction, operations and maintenance                                                                                                    |
|                  | Affordability            | Capital cost                    | Capital cost                                                                                                                                            |
|                  |                          | Operational / maintenance costs | Annual operational and maintenance costs                                                                                                                |
|                  |                          | Benefit / cost ratio            | NPV benefits / costs                                                                                                                                    |
|                  |                          | Financial                       | Is this funded in the NLTP?                                                                                                                             |
|                  | Stakeholders / customers | Stakeholders / customers        | How acceptable is this to stakeholders and customers?                                                                                                   |

|                       |             |                   |                                                      |
|-----------------------|-------------|-------------------|------------------------------------------------------|
| ASSESSMENT OF EFFECTS | Cultural    | Mana Whenua       | How does this impact on Mana Whenua values?          |
|                       | Environment | Built environment | How does this impact on the environment / landscape? |
|                       | Community   | Social            | How will this affect the community?                  |

|         |                         |                      |                                     |
|---------|-------------------------|----------------------|-------------------------------------|
| METRICS | Value for money metrics | \$m per DSI saved    | Cost effectiveness per DSI          |
|         |                         | \$m per % mode shift | Cost effectiveness per % mode shift |

| 2050 Forecast Baseline                   | Do Minimum        | Culture Change  | Tactical Improvements                               | Cross-town Cycleways |
|------------------------------------------|-------------------|-----------------|-----------------------------------------------------|----------------------|
| 22 DSIs forecast between 2018 and 2051   | 22 (no change)    | 15 (30% saving) | 11 (50% saving)                                     | 8 (63%)              |
|                                          | 0                 | 1               | 3                                                   | 3                    |
|                                          |                   |                 | Crossing point improvements will assist with safety | Separated paths      |
|                                          | 0                 | 0               | 2                                                   | 3                    |
| 12.6% by walking and cycling             | 12.6% (no change) | 13.7% (+1.1%)   | 14.9% (+2.3%)                                       | 15.8% (+3.2%)        |
|                                          | 0                 | 1               | 2                                                   | 3                    |
| 0% of proposed biking network at LoS A/B |                   |                 |                                                     |                      |
|                                          | 0                 | 0               | 3                                                   | 3                    |
| 1165 daily bike trips                    | +0 (no change)    | +266 (+23%)     | +672 (+58%)                                         | +896 (+77%)          |
|                                          | 0                 | 0               | 2                                                   | 2                    |
|                                          | 0                 | 1               | 3                                                   | 3                    |
| Total                                    | 0                 | 3               | 15                                                  | 17                   |

|       |                                                                                             |                                                 |                                                        |
|-------|---------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------|
| N/A   |                                                                                             | Shared paths are not technically difficult      |                                                        |
| 0     | -1                                                                                          | -1                                              | -2                                                     |
| N/A   |                                                                                             |                                                 |                                                        |
| 0     | 0                                                                                           | -1                                              | -2                                                     |
| N/A   | Risk for programmes such as cycle training                                                  |                                                 | Maintenance issues for separated cycleways to consider |
| 0     | -1                                                                                          | -1                                              | -2                                                     |
| N/A   | \$5,425,000                                                                                 | \$29,393,952                                    | \$29,393,952                                           |
| 0     | -1                                                                                          | -2                                              | -2                                                     |
| N/A   | \$0                                                                                         | \$55,776                                        | \$55,776                                               |
| 0     | 0                                                                                           | -1                                              | -1                                                     |
| N/A   | Medium                                                                                      | Low                                             | Low                                                    |
| 0     | 2                                                                                           | 1                                               | 1                                                      |
| N/A   | Not funded                                                                                  | Not funded                                      | Not funded                                             |
| 0     | 0                                                                                           | 0                                               | 0                                                      |
| N/A   | Stakeholder feedback/expectations from community that network not complete, no safe network | Visible improvements for positive for community | Completion of safe network                             |
| 0     | -2                                                                                          | 2                                               | 3                                                      |
| Total | 0                                                                                           | -3                                              | -5                                                     |

|       |   |   |                                                              |   |
|-------|---|---|--------------------------------------------------------------|---|
| N/A   |   |   | Ensuring iwi engagement as part of cycleway planning process |   |
| 0     | 1 | 2 | 2                                                            |   |
| N/A   |   |   | Less parking traffic on street                               |   |
| 0     | 0 | 1 | 2                                                            |   |
| N/A   |   |   |                                                              |   |
| 0     | 1 | 2 | 3                                                            |   |
| Total | 0 | 2 | 5                                                            | 7 |

|     |             |              |             |
|-----|-------------|--------------|-------------|
| N/A | \$775,000   | \$2,672,177  | \$2,099,568 |
| N/A | \$4,931,818 | \$12,779,979 | \$9,185,610 |

Table K – Short List MCA scores Te Awamutu

| Criteria   | Investment Objective                       | KPI                                        | Measure / Description                                      |
|------------|--------------------------------------------|--------------------------------------------|------------------------------------------------------------|
| INVESTMENT | To improve safety for active mode users by | Reducing deaths and serious injuries       | Deaths and serious injuries per year                       |
|            |                                            | Improving perception of safety             | Perception of safety and ease                              |
|            | To increase active mode use by             | Improving access                           | Mode share - Journey to work and education by active modes |
|            |                                            | Providing safe and high quality facilities | Network coverage of proposed cycling network at LoS A/B    |
|            | To improve health outcomes by              | Improving physical health                  | Number of new cycling users                                |
|            |                                            | Improving attitudes and perceptions        | Personal satisfaction and liveability surveys              |

|                  |                          |                                 |                                                                                                                                                         |
|------------------|--------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMPLEMENTABILITY | Feasibility              | Technical / constructability    | Technical risk in developing or implementing the option                                                                                                 |
|                  |                          | Designation and consenting risk | Relative level of complexity in gaining statutory approvals, extent of designation, considering any non-complying activities - no prohibited activities |
|                  |                          | Safety in design / zero harm    | H&S Risk in construction, operations and maintenance                                                                                                    |
|                  | Affordability            | Capital cost                    | Capital cost                                                                                                                                            |
|                  |                          | Operational / maintenance costs | Annual operational and maintenance costs                                                                                                                |
|                  |                          | Benefit / cost ratio            | NPV benefits / costs                                                                                                                                    |
|                  |                          | Financial                       | Is this funded in the NLTP?                                                                                                                             |
|                  | Stakeholders / customers | Stakeholders / customers        | How acceptable is this to stakeholders and customers?                                                                                                   |

|                       |             |                   |                                                      |
|-----------------------|-------------|-------------------|------------------------------------------------------|
| ASSESSMENT OF EFFECTS | Cultural    | Mana Whenua       | How does this impact on Mana Whenua values?          |
|                       | Environment | Built environment | How does this impact on the environment / landscape? |
|                       | Community   | Social            | How will this affect the community?                  |

|         |                         |                      |                                     |
|---------|-------------------------|----------------------|-------------------------------------|
| METRICS | Value for money metrics | \$m per DSI saved    | Cost effectiveness per DSI          |
|         |                         | \$m per % mode shift | Cost effectiveness per % mode shift |

| 2051 Forecast Baseline                   | Do Minimum        | Culture Change                           | Tactical Improvements                          | Cross-town Cycleways                                          |
|------------------------------------------|-------------------|------------------------------------------|------------------------------------------------|---------------------------------------------------------------|
| 69 DSIs forecast between 2018 and 2051   | 69 (no change)    | 48 (30% saving)                          | 37 (47% saving)                                | 34 (50% saving)                                               |
|                                          | 0                 | 1                                        | 1                                              | 1                                                             |
|                                          |                   | Mass education programme to teach safety | Physical changes; off-road; improved crossings | Positive separation of speed, likely to reduce school traffic |
|                                          | 0                 | 1                                        | 2                                              | 3                                                             |
| 10.6% by walking and cycling             | 10.6% (no change) | 11.3% (+0.7)                             | 15.5% (+4.9%)                                  | 16.6% (+6.0)                                                  |
|                                          | 0                 | 0                                        | 3                                              | 3                                                             |
| 0% of proposed biking network at LoS A/B |                   |                                          |                                                |                                                               |
|                                          | 0                 | 0                                        | 3                                              | 3                                                             |
| 1703 daily bike trips                    | +0 (no change)    | +320 (+19%)                              | +1589 (+93%)                                   | +2118 (+124%)                                                 |
|                                          | 0                 | 0                                        | 3                                              | 3                                                             |
|                                          |                   | Town belt and river                      | Some user groups may not support shared paths  | High quality and town amenity                                 |
|                                          | 0                 | 1                                        | 2                                              | 3                                                             |
| Total                                    | 0                 | 3                                        | 14                                             | 16                                                            |

|       |                                                                                             |                                                 |                                                                                            |
|-------|---------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------|
| N/A   | Requires management of resources                                                            | Trees - some trade-offs in existing town centre | Need for a connection across river                                                         |
| 0     | -1                                                                                          | -1                                              | -2                                                                                         |
| N/A   | No infrastructure                                                                           | Trees                                           | River with bridge. May require purchase of land, may not be supported by the community     |
| 0     | 0                                                                                           | -1                                              | -3                                                                                         |
| N/A   |                                                                                             |                                                 | River with Bridge                                                                          |
| 0     | -1                                                                                          | -1                                              | -2                                                                                         |
| N/A   | \$5,425,000                                                                                 | \$20,436,912                                    | \$25,502,838                                                                               |
| 0     | -1                                                                                          | -2                                              | -2                                                                                         |
| N/A   | \$0                                                                                         | \$38,780                                        | \$41,166                                                                                   |
| 0     | 0                                                                                           | -1                                              | -1                                                                                         |
| N/A   | High                                                                                        | Low                                             | Low                                                                                        |
| 0     | 3                                                                                           | 1                                               | 1                                                                                          |
| N/A   | Not funded                                                                                  | Not funded                                      | Not funded                                                                                 |
| 0     | 0                                                                                           | 0                                               | 0                                                                                          |
| N/A   | Stakeholder feedback/expectations from community that network not complete, no safe network |                                                 | Completion of network. Bridge crossing may need separate business case resulting in delays |
| 0     | -2                                                                                          | 2                                               | 3                                                                                          |
| Total | 0                                                                                           | -3                                              | -6                                                                                         |

|       |     |   |   |                                                              |
|-------|-----|---|---|--------------------------------------------------------------|
|       | N/A |   |   | Ensuring iwi engagement as part of cycleway planning process |
|       | 0   | 1 | 2 | 2                                                            |
|       | N/A |   |   |                                                              |
|       | 0   | 0 | 1 | 2                                                            |
|       | N/A |   |   |                                                              |
|       | 0   | 1 | 2 | 3                                                            |
| Total | 0   | 2 | 5 | 7                                                            |

|     |             |             |             |
|-----|-------------|-------------|-------------|
| N/A | \$258,333   | \$638,654   | \$728,653   |
| N/A | \$7,750,000 | \$4,170,798 | \$4,250,473 |

These tables show that the workshop participants scored the Cross-town Cycleways option most favourably against the MCA criteria for both Te Awamutu and Cambridge, with the investment objectives clearly achieving a better result from delivery of the protected cycleways, separating cycles from pedestrians and vehicular traffics. As a result, the Cross-town Cycleways Theme was the preferred programme option.

Since the workshop, affordability, effectiveness of the programme outcomes, and the customer feedback from the community engagement have been further considered to determine if a refined Cross-town Cycleways option is more affordable and achievable for Council. The margins between the Cross-town Cycleways and the Tactical Improvements options were small for both towns, confirming the need to develop a consolidated preferred option consisting of elements of each of the short list themes. This was also identified through the short list option engagement with the public where responses indicated a relatively similar preference for Tactical Improvements and Cross-town Cycleways in both towns.

The Refined Cross-town Cycleways option was therefore developed and assessed as a fourth option against the Multi-criteria analysis, confirming that the overall score is 19 and 21 for Cambridge and Te Awamutu respectively, compared with highest score for the previous options being 17 and 19. This indicates that overall there will be greater value for money and benefits through this combined preferred option.

| Category                            | Criteria                            | Description                                  | Te Awamutu | Cambridge |
|-------------------------------------|-------------------------------------|----------------------------------------------|------------|-----------|
| Investment Objectives <sup>13</sup> | Improve safety for activemode users | • reducing deaths and serious injuries       | 3          | 1         |
|                                     |                                     | • Improved perceptions of safety             | 3          | 3         |
|                                     | Increase active mode use            | • Improved access                            | 3          | 3         |
|                                     |                                     | • Providing safe and high quality facilities | 3          | 3         |
|                                     | Improving health outcomes           | • Improving physical health                  | 3          | 3         |
|                                     |                                     | • Improving attitudes and perceptions        | 3          | 3         |
| Total                               |                                     |                                              | 18         | 16        |
| Implementable                       | Feasibility                         | • Technical/ constructability                | -2         | -2        |
|                                     |                                     | • Designation and consenting risk            | -2         | -3        |
|                                     |                                     | • Safety in design / zero harm               | -2         | -2        |
|                                     | Affordability                       | • Capital cost                               | -2         | -2        |
|                                     |                                     | • Annual operational and maintenance costs   | -1         | -1        |
|                                     |                                     | • Benefit / cost ratio                       | 1          | 2         |
|                                     |                                     | • Financial – is it funded in the            | 0          | 0         |

<sup>13</sup> The KPIs listed in section 2.4 have been updated since this MCA analysis workshop to incorporate measures from Waka Kotahi's recently published Land Transport Benefits Framework. Measures are included to measure the same outcomes as the above descriptions, but some wording may differ slightly.

| Category              | Criteria               | Description                                                                                                 | Te Awamutu | Cambridge |
|-----------------------|------------------------|-------------------------------------------------------------------------------------------------------------|------------|-----------|
|                       |                        | NLTP?                                                                                                       |            |           |
|                       | Stakeholder / customer | <ul style="list-style-type: none"> <li>How acceptable is this to the stakeholders and customers?</li> </ul> | 3          | 3         |
| <b>Total</b>          |                        |                                                                                                             | <b>-5</b>  | <b>-5</b> |
| Assessment of effects | Cultural               | <ul style="list-style-type: none"> <li>How does this impact on Mana Whenua values?</li> </ul>               | 2          | 2         |
|                       | Environment            | <ul style="list-style-type: none"> <li>How does this impact on the environment and/or landscape?</li> </ul> | 3          | 3         |
|                       | Community              | <ul style="list-style-type: none"> <li>How will the community be affected?</li> </ul>                       | 3          | 3         |
| <b>Total</b>          |                        |                                                                                                             | <b>8</b>   | <b>8</b>  |
| <b>Grand Total</b>    |                        |                                                                                                             | <b>21</b>  | <b>19</b> |

Table L – Workshop participant scores

## 4.6. PREFERRED OPTION

### 4.6.1. SELECTION OF PREFERRED OPTION

On the basis of the short list assessment and consideration of long-term vision, Elected Members, and community and stakeholder engagement feedback, Cross-town Cycleways was identified as the preferred option, with refinement to combine with some elements of the Tactical Improvements theme for more effective value for money delivery. The following section provides further detail of the components to be developed under the Refined Cross-town Cycleways option.

### 4.6.2. DETAILS

#### 4.6.2.1. INFRASTRUCTURE

The preferred option for each locality from the short list workshop is Cross-town Cycleways, however during the workshop it was reaffirmed that Cross-town Cycleways was not a complete solution and needed aspects from the other two options to comprise the best consolidated option for each town.

In both cases Cross-town Cycleways has been adopted as the spine of the solution, with some parts of Tactical Improvements and elements of Culture Change added in to complete the package. For each town the preferred option was refined incorporating the following key points:

Key Infrastructure – focus on the following four types:

1. Protected cycleways – uni-directional or bi-directional on spine routes.
2. Cycle friendly streets – on low volume roads with speeds 30km/h or lower.
3. Shared paths – walking and cycling on widened paths within neighbourhoods.
4. Pedestrian priority area – mixed use footpaths (shared path) in the existing shopping/town centre areas where pedestrians have right of way over cyclists.

Note that in all instances above, where possible, preference will be given to **reallocate current road space** before using “greenfields” space to create new infrastructure. This is for the reasons of reducing cost and barriers to delivery, while making best use of available infrastructure.

“Pedestrian Priority Areas”, where pedestrians have right of way over cyclists, are not so much new infrastructure as these spaces are where cyclists can use the existing infrastructure which will see minor tweaks to make it more comfortable for the two modes to co-exist. These links/areas are not envisaged to be used as through routes by cyclists, but that their destination is within the designated area. Cyclists are therefore expected to travel at low speeds or dismount and walk.

Tactical improvements will involve mainly road crossing upgrades in key locations and widening of existing footpaths where they are deemed too narrow to serve as shared paths.

Other investment will include landscaping, education and promotion activities to encourage appropriate behaviours of use in these areas.

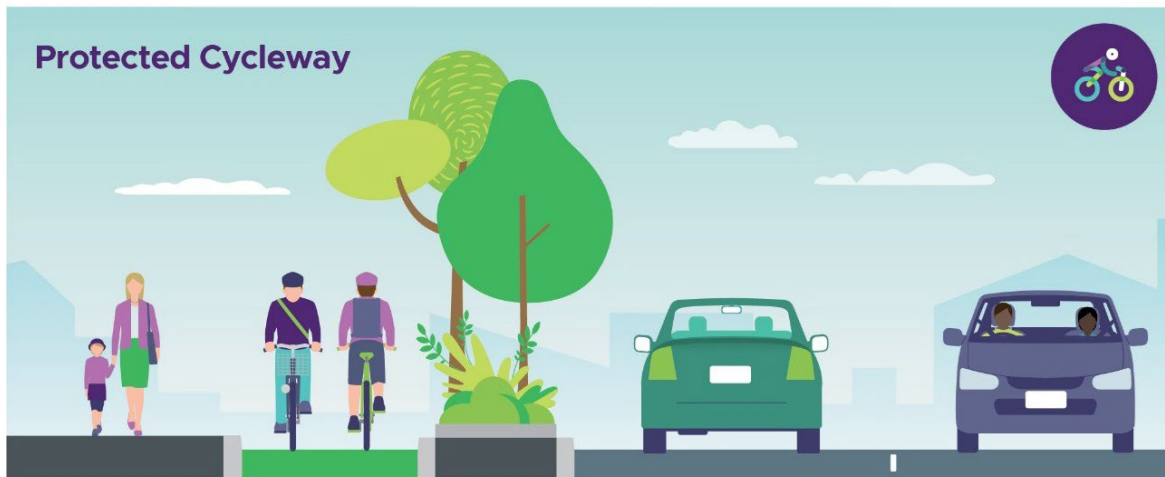


Figure 26 – Protected cycleway (either one way or two way)

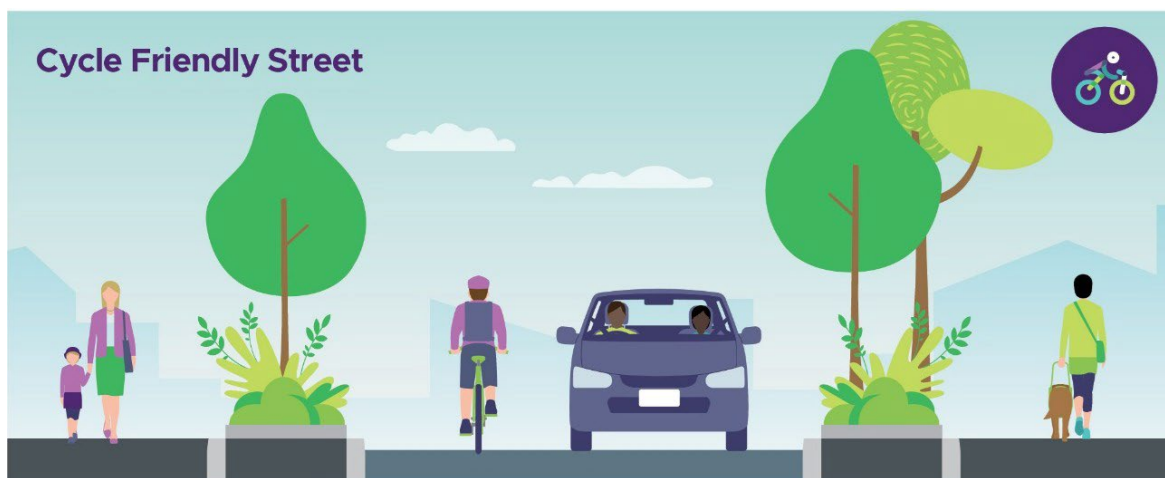


Figure 27 – Cycle friendly streets (traffic less than 30km/hr and low volume)

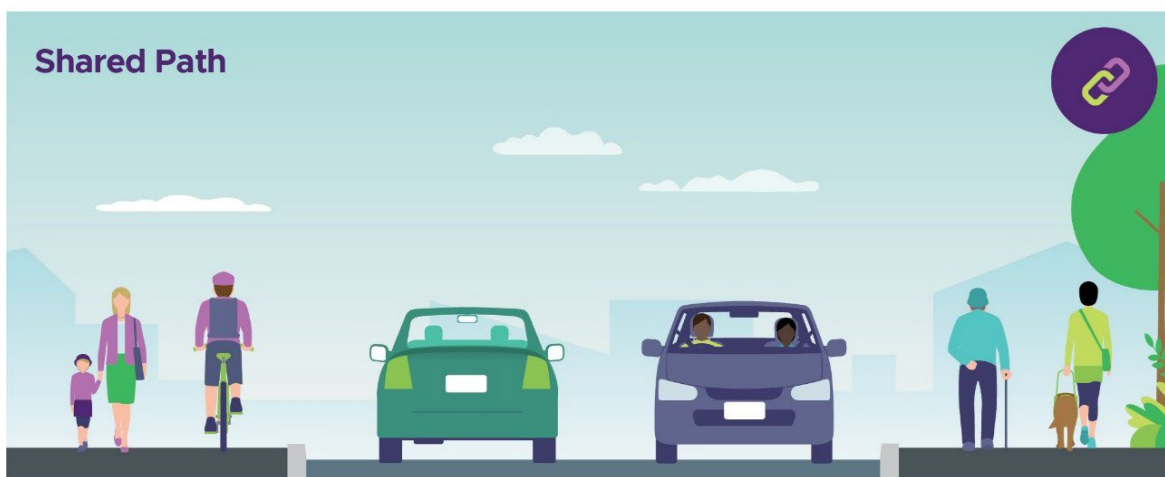


Figure 28 – Shared paths (where ped/ cycle flows are low)

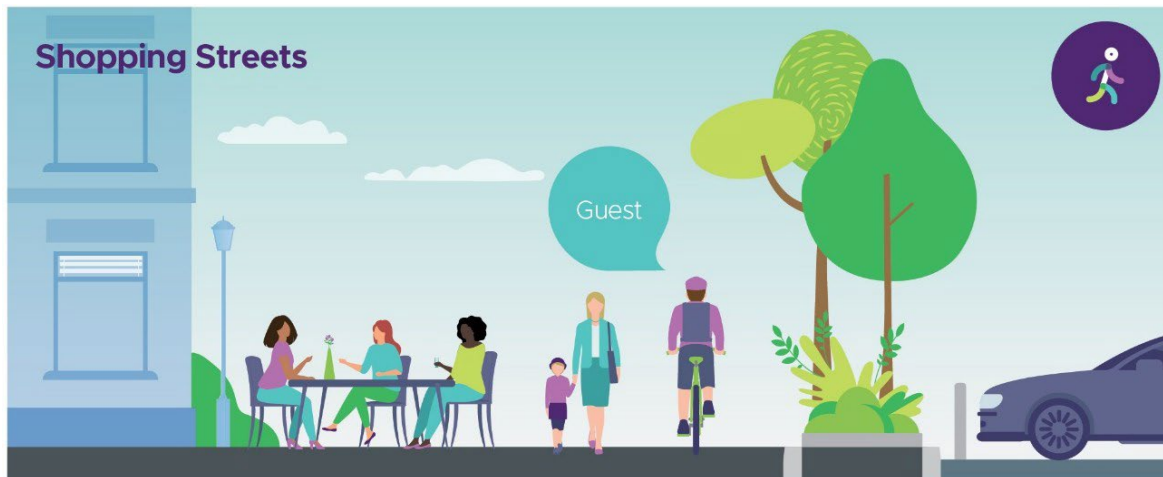


Figure 29 – Pedestrian Priority Area – pedestrian priority shared paths (picture shows a shopping street location as an example).

The fundamental goal of this Refined Cross-town Cycleways programme is to enable people to easily move around using public and active transport in Cambridge and Te Awamutu, through the provision of quality infrastructure that will be well used by people of all ages and all abilities.

We are targeting a total transport mode share of 15% for all active transport mode users by 2051.

A key requirement for the successful implementation of this infrastructure programme and the cycling mode share uptake is to adhere to the design principles as described in CROW Fietsberaad “Design Manual for Bicycle Traffic”. These principles, while stated as for cyclists below, can equally be applied to walking, scootering and mobility aid users. Adhering to these principles aims to achieve five main requirements that cycle-friendly infrastructure must satisfy:

- Cohesion – the cycle infrastructure forms a cohesive whole and links all origins and destinations that cyclists may have
- Directness – the cycle infrastructure always offers the cyclist as direct a route as possible (detours kept to a minimum)
- Attractiveness – the cycle infrastructure has been designed and fitted in with its surroundings in such a way that it is appealing or attractive
- Safety – the cycle infrastructure guarantees the road safety and health (minimum exposure to harmful substances) of cyclists and other road users
- Comfort – the cycle infrastructure ensures that cyclists experience minimal nuisance (vibrations, extra exertion due to height differences, trouble from other traffic) and delay (stops).

#### 4.6.2.2. CULTURE CHANGE

Culture change will focus on school biking training, access to bikes and education for drivers:

- Bike skills training for 50 students per year targeting the middle school / intermediate school (bike skills level one and level two)
- School travel plans for six schools
- Bike skills training for 20 adults per year
- Bike maintenance training workshops - four per year
- Project management (Road Safety Co-Ordinator)
- Car driver behaviour education (billboards, newspaper, social media)
- Bike / scooter access scheme – 20 bikes per year distributed via the middle school / intermediate school.

The combined cost of this is forecast to be \$30,000 per year additional to existing road safety promotion activities, and will roll out as incremental additions to the existing road safety promotion activities as funding is made available through the LTP.

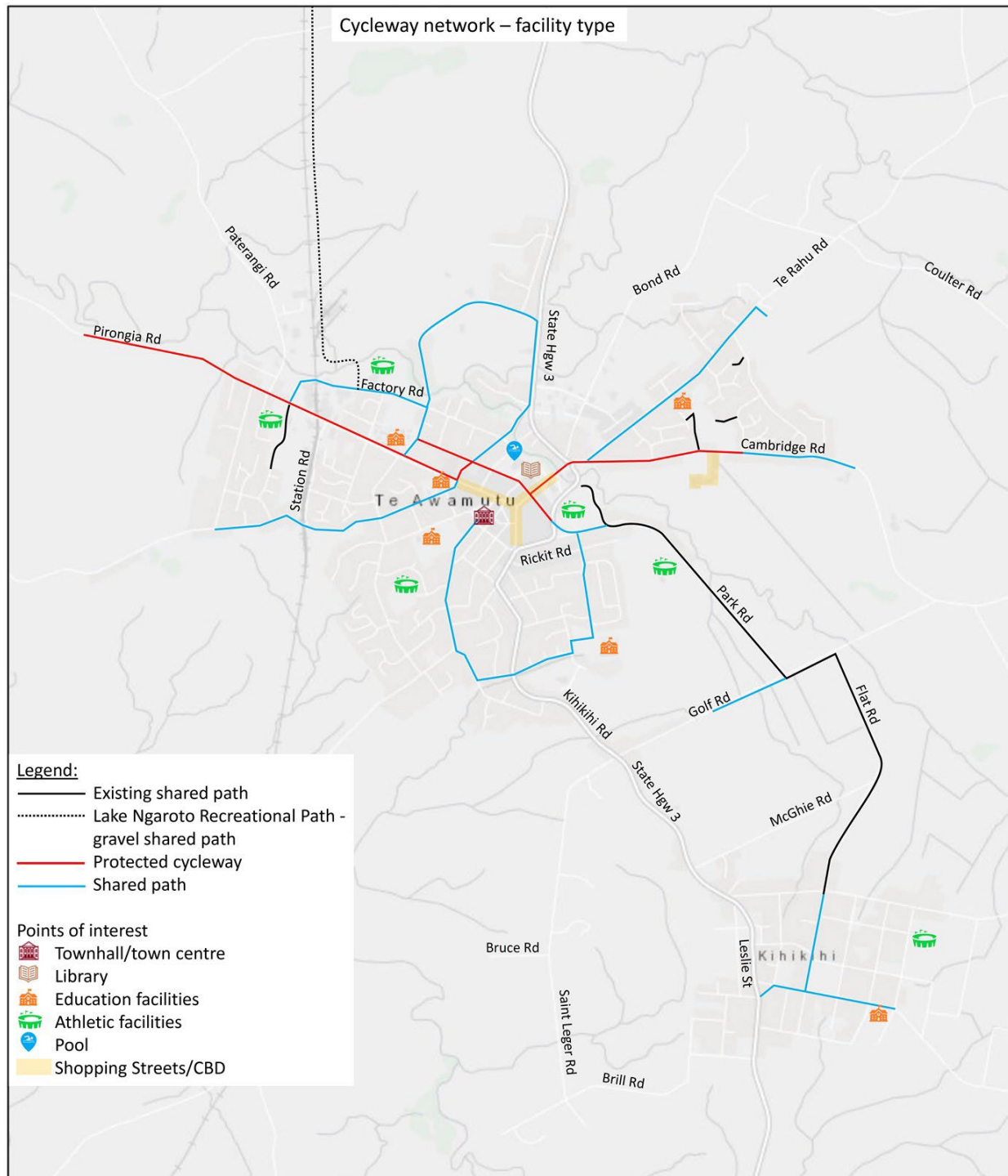
#### 4.6.3. PREFERRED OPTION NETWORK – TE AWAMUTU

The proposed network for Te Awamutu focuses on the extension of the Kihikihi pathway further into the CBD and then linking to the events centre / library / playground area, through to Te Awamutu College and further along Alexandra Street / Pirongia Road. It also provides separated facilities along Cambridge Road, linking the Mitre 10/Pak n Save shopping area and Mahoe Medical Centre to the town centre.

Further shared paths are provided within Kihikihi, linking to the existing shared paths through to the town centre and shared paths in Te Awamutu linking the Te Awamutu Medical Centre, Te Wananga O Aotearoa and other points of interest and key destinations to the separated facilities and the town centre.

This network provides an additional 5km of protected cycleway and 14km of shared paths adding to the existing 5km of shared paths. This full programme is expected to be delivered over the next 30 years. We have identified a prioritised programme in section 4.9.1 below, which anticipates that 3km of new paths are to be delivered in the next 10 years, funding permitting.

Figure 30 – Preferred Network – Te Awamutu



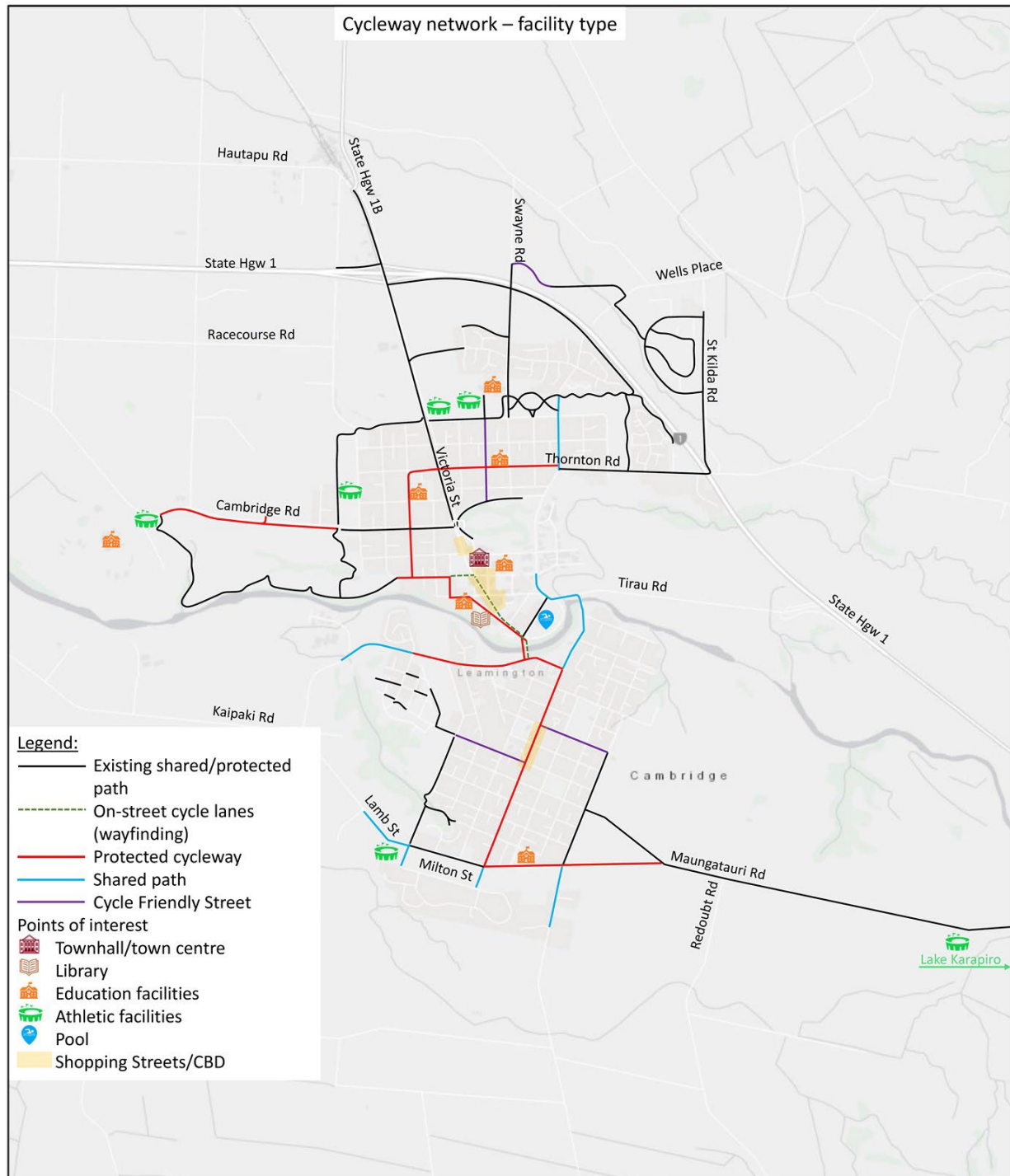
#### 4.6.4. PREFERRED OPTION NETWORK – CAMBRIDGE

The Cambridge preferred network focus is on:

- Implementing routes that connect to the newly constructed Hamilton Road Cycleway, as well as the Te Awa River Ride, and several kilometres of existing shared paths.
- Cambridge East School, Cambridge Middle School, Cambridge Primary School and CBD are close to the above and are planned to be linked as a priority to this network.

The preferred network adds 9.8km of protected cycleways, 4.3km of shared paths and 2.7km of cycle friendly streets. It is expected to be delivered over the next 30 years. We have identified a prioritised programme in section 4.9.1 below, which anticipates that 4km of new paths are to be delivered in the next 10 years, funding permitting.

Figure 31 – Preferred Network Cambridge



#### 4.6.5. PREFERRED OPTION OUTCOMES

Table M provides details on the expected outcomes as assessed against the programme's investment objectives.

| KPI                                        | Measure                                                                                  | 2021                                                                                               | Baseline – Do Minimum (2031)                       | 2031                                                         | Baseline – Do Minimum (2051)                       | 2051                                                         |
|--------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------|
| Improved safety                            | DSIs per year (involving pedestrians and cyclists)                                       | 1..11 Death and Serious Injury crashes per 10,000 residents per year average for 3 years 2018-2020 | 1.11 death and injury crashes per 10,000 residents | <0.78 death and injury crashes per 10,000 residents per year | 1.11 death and injury crashes per 10,000 residents | <0.22 death and injury crashes per 10,000 residents per year |
| Improved perception of safety              | % students using active transport modes to go to school                                  | 36.5%                                                                                              | 36.5%                                              | 41.5%                                                        | 36.5%                                              | 51.5%                                                        |
| Improving active mode share                | Mode share - % of active mode users                                                      | 3-6%                                                                                               | 3-6%                                               | 11-14%                                                       | 3-6%                                               | 15-16%                                                       |
| Providing safe and high-quality facilities | Percentage travel on cycle network classified as complying with defined level of service | Will complete LoS analysis during concept plan phase                                               | As for 2021                                        | 12% and 25% of cycleway network at LoS A or B                | As for 2021                                        | 24% and 37% of cycleway network at LoS A or B                |
|                                            | Spatial coverage – number of houses within 500m of a high-quality cycleway               | 10,000                                                                                             | 10,000                                             | 12,000                                                       | 10,000                                             | 14,000                                                       |
| Improving physical health                  | Number of daily active mode users                                                        | Counts to be completed – counter installation underway                                             | As for 2021                                        | 5% increase                                                  | As for 2021                                        | 15% increase                                                 |

Table M – Preferred option outcome

Note that while Stage 1 of investment is planned to be delivered in the next 10 years, this business case supports a continuing programme of projects for the next two 10-year LTP programmes. Additionally, the benefits from this programme are expected to be accrued further into the future as the benefit of the new paths relies on uptake of users. For this reason, educational activities are required into the future once more capacity in the walking and cycling network is available to promote a greater shift to active mode use.

#### 4.6.5.1. IMPROVED SAFETY

Table M shows that the Refined Cross-town Cycleways programme is expected to reduce the DSIs overall within Te Awamutu and Cambridge urban areas per annum. This result assumes that many of the measures will support safer outcomes for both active modes and vehicles due to the changes to mode share, improvements to intersections and some safer speed treatments. In 2051, the total reduction across the two towns is forecast to be reduced by 80% overall when compared to the Baseline (Do Minimum), with a target of reaching zero deaths in accordance with the government's Road to Zero target.

#### 4.6.5.2. IMPROVED PERCEPTION OF SAFETY

Perception of safety is measured through the percent of school trips taken by active mode. This measure is influenced by the provision of protected/separated cycleways and safe crossing points for pedestrians. Currently only 22% and 4% of the networks in Cambridge and Te Awamutu respectively have protected/separated cycleways, whereas the proposed networks are forecast to increase this to 37% and 24% in 2051.

#### 4.6.5.3. IMPROVED ACTIVE MODE SHARE

Currently the mode share of active modes of travel are only 2.9% and 5.8% in Te Awamutu and Cambridge respectively.

This is directly related to the proportion of the network that is considered high level of service (shared path or protected cycleway) being 5.4 km and 42.6 km in Te Awamutu and Cambridge respectively.

The target for the Refined Cross-town Cycleways programme is to increase mode share to 15-16% in Te Awamutu and Cambridge respectively by 2051. Note, the mode of active transport is not separated in this target since our aim is to give the community the choice between the two options, that is, no one option is preferred, we encourage both.

#### 4.6.5.4. IMPROVED ACCESSIBILITY THROUGH PROVIDING QUALITY FACILITIES

Currently there are 10,000 houses across Te Awamutu and Cambridge within 500m of a protected/separated cycleway. This is directly influenced by the length of cycleway that provides protection to cyclists from the traffic and from pedestrians.

Investment in the preferred programme is forecast to improve the number of houses within 500m of a cycleway through an increase of 20% by 2031.

Additionally, the investment in the preferred programme is forecast to improve the proportion of network at LoS A or B to 24% and 37% in Te Awamutu and Cambridge respectively, which is expected to contribute towards increasing the mode share.

#### 4.6.5.5. IMPROVED HEALTH OUTCOMES

To measure health outcomes for Te Awamutu and Cambridge, it is difficult to isolate these figures from the wider Waikato health figures, therefore we have identified that achieving a greater use of active mode travel is an indicator of people choosing a travel mode that will contribute to improving health outcomes. A very conservative<sup>14</sup> methodology was applied to estimate the number of new daily users – which is expressed in the moderate increase in mode share highlighted in 4.7.5.31.

The increase in number of pedestrians was estimated according to the current annual population growth, and therefore this approach can be considered conservative. This estimated there to be an additional 100 pedestrians per day.

The Waka Kotahi Monetised Benefits and Cost Manual, Simplified Procedure (SP11), estimates the likelihood of a person taking up cycling, given the introduction of a facility in the vicinity of their residence and the observed mode share of cycling in the area. This was based on Census 2018 journey to work (JTW) and journey to education (JTE) data.

This method estimates that by the year 2031, 250 new daily cyclists, in addition to the existing daily cyclists, would use the network if the preferred programme was implemented in Cambridge and Te Awamutu respectively.

#### 4.7. EXTERNAL FACTORS

It warrants noting that external factors, including some of the long list options that were discarded, are likely to have a significant impact on travel behaviour, and therefore expected outcomes of the preferred programme in the future.

| Lever                   | Impact | Effect                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Land use                | +ve    | Changes in land use patterns that are likely to be implemented within walkable catchments of the town centres would have a positive impact in further raising the mode share of active modes of transport.                                                                                                                                                    |
| Parking policy          | +ve    | WDC's parking management strategy aims to increase the use of non-motor vehicle modes for easy trips to the town centre and commuter trips by encouraging higher parking turnover. This was not considered in the demand assessment and, as populations grow and land use changes are implemented, the demand for active modes is likely to increase further. |
| By-laws / restrictions  | +ve    | Changes to bylaws and the implications of where motor traffic can go will have an uplifting impact on walking and cycling demand. While no changes are proposed as part of this business case, future changes as populations grow are likely and this will reduce reliance on car travel.                                                                     |
| Climate change response | +ve    | Fuel prices and cost of ownership of vehicles are likely to increase in the future in response to climate change. These measures are likely to make travelling by bicycle a more attractive mode.                                                                                                                                                             |

<sup>14</sup> We do consider these forecasts conservative and it is more likely than not that a higher number of people will choose to walk and cycle instead of driving in the future if the preferred programme is implemented.

This creates an important driver for this business case to deliver more suitable infrastructure for the likely increasing number of active mode and public transport users within the next 30 years. It aligns well with the fundamental goal of this programme being to enable people to easily move around using public and active transport in Cambridge and Te Awamutu, through the provision of quality infrastructure that will be well used by people of all ages and all abilities.

#### 4.8. PREFERRED OPTION PROGRAMME AND IMPLEMENTATION

Table N shows the type of work and length of facilities proposed to be implemented in the 2021 – 2031 LTP period in the two towns.

| Type | Description           | Te Awamutu        | Cambridge         |
|------|-----------------------|-------------------|-------------------|
| A    | Protected cycleway    | 2.7km             | 4km               |
| B    | Shared path           | 0.3km             | -                 |
| C    | Cycle Friendly Street | Included in A & B | Included in A & B |

Table N – Programme Work Type and length proposed (2021-2031)

Table O shows the proposed long term (30 year outlook) programme facility lengths (including the works proposed during the 2021-31 period).

| Type | Description           | Te Awamutu        | Cambridge                                              |
|------|-----------------------|-------------------|--------------------------------------------------------|
| A    | Protected cycleway    | 5km               | 9.8km                                                  |
| B    | Shared path           | 14.2km            | 4.3km                                                  |
| C    | Cycle Friendly Street | Included in A & B | 2.7km in Leamington, plus additional included in A & B |

Table O – Programme Work Type and length proposed (beyond 2031)

These tables do not include the facilities that are envisaged to be constructed in the growth cell developments by the developer. Significant lengths of shared path and cycle friendly streets are being planned for in the new growth cells expected to be delivered over the period to 2031.

The key principle for the selection of which routes to do first and in what order, is ensuring cohesiveness with the existing network. There is therefore a preference to extend current routes or link new routes to existing infrastructure. This focuses on achieving the principles of the CROW Design Manual to achieve the requirements of:

- Directness
- Safety
- Comfort
- Attractiveness
- Cohesion

The result will be a cohesive network of cycle routes, that can be logically expanded as funding allows in the future. The initial implementation would start with the below considerations for each town considering current network use and destinations on the route.

With the footpath network already largely complete, more separated and protected cycleway provision will have a positive impact on the use of footpaths by pedestrians, creating safer spaces with less need to share footpaths with cyclists. These separated cycleways provide the spine routes that are also most likely to contribute to a rapid uptake in active mode use. New shared path infrastructure provides for better quality, wider paths that can be safely shared.

Cycle-friendly street facilities are included within individual projects to be delivered as part of completing sections of the cohesive network of cycleway. An example of where this has happened to date is on the Hamilton Road cycleway where Hall Street and Grey Street were closed off at the end to create a more cycle friendly environment. So although we haven't included specific lengths in the above table, these facilities will be encouraged as part of the programme.

In addition to the facility programmes, the preferred programme also allows provision for delivering the Culture Change programming, at a proposed cost of \$105,000 for the 2021-2031 period, and a total programme cost of \$308,500 from 2021 to completion of the programme, beyond 2031.

#### 4.8.1. TE AWAMUTU

Table P – Te Awamutu Delivery Programme

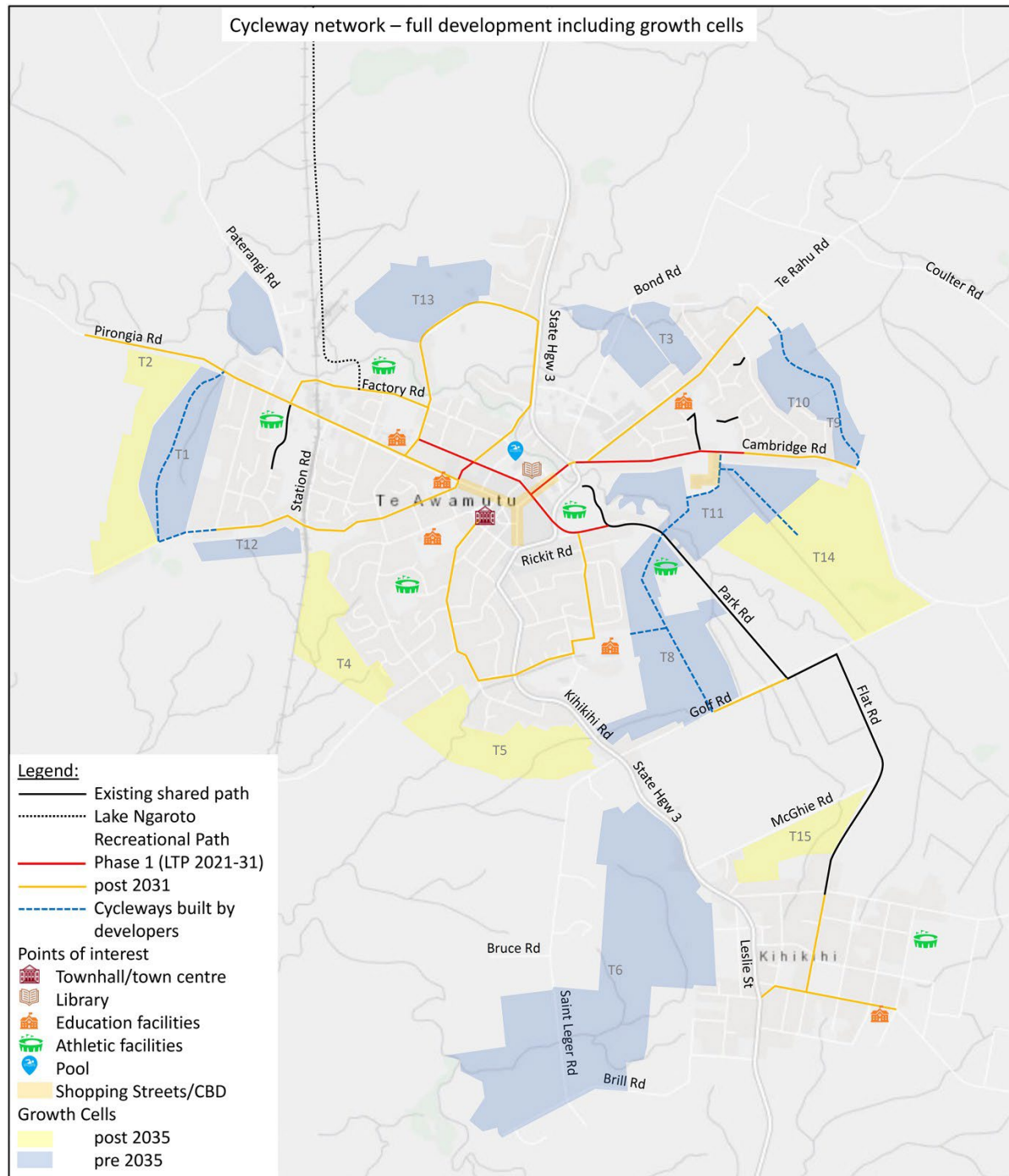
| Number | Street                                                                                            | Type | Length (m) | LTP Cycle               |
|--------|---------------------------------------------------------------------------------------------------|------|------------|-------------------------|
| TA-1   | Mutu Street, Ōhaupō Road, Racecourse Road                                                         | B    | 2590       | <b>Beyond LTP 21-31</b> |
| TA-2   | Factory Road                                                                                      | B    | 1080       |                         |
| TA-3   | Tawhiao Street                                                                                    | B    | 420        |                         |
| TA-4   | Mahoe Street, George Street                                                                       | A    | 1054       | <b>LTP 21-31</b>        |
| TA-5   | Arawata Street                                                                                    | A    | 383        | <b>LTP 21-31</b>        |
| TA-6   | Mutu Street                                                                                       | A    | 128        | <b>LTP 21-31</b>        |
| TA-7   | Alexandra Street                                                                                  | A    | 2295       | <b>Beyond LTP 21-31</b> |
| TA-8   | Rewi Street                                                                                       | B    | 1760       |                         |
| TA-9   | Bank Street, Bridgeman Road, Sinclair Terrace, Swarbrick Drive, Raikes Avenue, Hazelmere Crescent | B    | 2900       |                         |
| TA-10  | Park Road                                                                                         | B    | 344        | <b>LTP 21-31</b>        |
| TA-11  | Te Rahu Road                                                                                      | B    | 1620       | <b>Beyond LTP 21-31</b> |
| TA-12  | Te Aranui Drive                                                                                   | B    | 240        |                         |
| TA-13  | Cambridge Road                                                                                    | A    | 1119       | <b>LTP 21-31</b>        |
| TA-14  | Cambridge Road                                                                                    | B    | 820        | <b>Beyond LTP 21-31</b> |
| TA-15  | Golf Road                                                                                         | B    | 580        |                         |
| TA-16  | Rolleston Street                                                                                  | B    | 742        |                         |
| TA-17  | Whitmore Street                                                                                   | B    | 407        |                         |
| TA-18  | Whitmore Street                                                                                   | B    | 678        |                         |

|              |                                                         |              |              |                  |
|--------------|---------------------------------------------------------|--------------|--------------|------------------|
| <b>TA-19</b> | <b>SH3 / Cambridge Road intersection transformation</b> | <b>*</b>     |              | <b>LTP 21-31</b> |
|              |                                                         | <b>Total</b> | <b>19160</b> |                  |

\* Note that the **TA-19** is regarded as a separate sub project which impacts on a major highway intersection and will therefore require a separate business case in conjunction with Waka Kotahi.

The below map shows the roll out of the Te Awamutu programme over the life of the programme including several kilometres of developer led infrastructure which we envisage to be designed in accordance with the District Plan recommended design standards (see Section 4.4.2).

Figure 32 – Te Awamutu preferred network implementation staging



#### 4.8.2. CAMBRIDGE

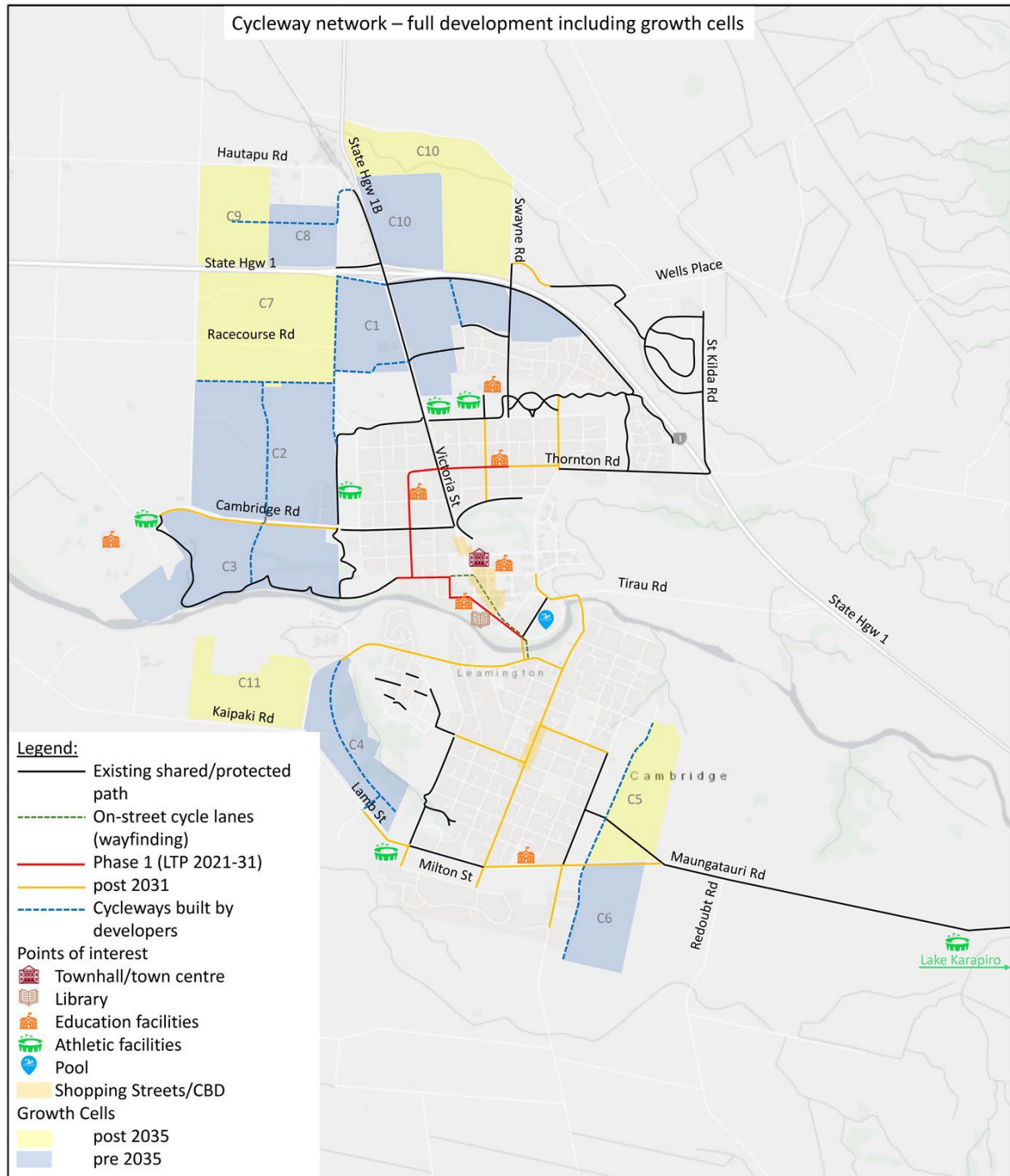
Table Q – Cambridge Delivery Programme

| Number       | Street                                       | Type         | Length (m)   | LTP Cycle                                 |
|--------------|----------------------------------------------|--------------|--------------|-------------------------------------------|
| <b>CB-1</b>  | Appleby Road                                 | C            | 493          | <b>Beyond LTP<br/>21-31</b>               |
| <b>CB-2</b>  | Robinson Street                              | B            | 715          |                                           |
| <b>CB-3</b>  | Grosvenor Street                             | C            | 790          |                                           |
| <b>CB-4</b>  | Williams Street                              | A            | 1092<br>288  | <b>LTP 21-31<br/>Beyond LTP<br/>21-31</b> |
| <b>CB-5</b>  | Grey Street                                  | A            | 1051         | <b>LTP 21-31</b>                          |
| <b>CB-6</b>  | Hamilton Road                                | A            | 400          | <b>Beyond LTP<br/>21-31</b>               |
| <b>CB-7</b>  | Alpha Street, Dick Street, Wilson Street     | A            | 1901         | <b>LTP 21-31</b>                          |
| <b>CB-8</b>  | Walking and cycling bridge Te Awa<br>Waikato | *            |              | <b>Beyond LTP<br/>21-31</b>               |
| <b>CB-9</b>  | Albert Street                                | B            | 240          |                                           |
| <b>CB-10</b> | Achilles Avenue, Shakespeare Street          | B            | 1030         |                                           |
| <b>CB-11</b> | Pope Terrace                                 | A            | 1400         |                                           |
| <b>CB-12</b> | Cambridge Road                               | B            | 620          |                                           |
| <b>CB-13</b> | Shakespeare Street                           | A            | 1940         |                                           |
| <b>CB-14</b> | Thompson Street                              | C            | 690          |                                           |
| <b>CB-15</b> | Raleigh Street                               | C            | 695          |                                           |
| <b>CB-16</b> | Lamb Street                                  | A            | 1700         |                                           |
| <b>CB-17</b> | Lamb Street                                  | B            | 640          |                                           |
| <b>CB-18</b> | Milton Street                                | B            | 240          |                                           |
| <b>CB-19</b> | Shakespeare Street                           | B            | 255          |                                           |
| <b>CB-20</b> | Roto-O-Rangi Road                            | B            | 580          |                                           |
|              |                                              | <b>Total</b> | <b>16760</b> |                                           |

\*Note that **CB-8** is regarded as a separate sub project and will require a separate business case. The Victoria Bridge is used as a shared path and accommodates vehicles, pedestrians and cyclists in a less than ideal set-up. Further investigation and analysis is needed to arrive at the best practical solution. This is not included in the cost summary below as the form of business case has not yet been identified.

The below map shows the proposed roll out of the Cambridge programme over the life of the programme including several kilometres of developer led infrastructure which we envisage to be designed in accordance with the District Plan recommended design standards (see Section 4.4.2).

Figure 33 – Cambridge preferred network implementation staging



#### 4.9. PROGRAMME COSTS

The total costs of the works proposed for the 2021-2031 LTP period are shown in Table R.

Table R – 10-year programme costs (2021-31)

| Type | Description               | Te Awamutu          | Cambridge           |
|------|---------------------------|---------------------|---------------------|
| A    | Protected cycleway        | \$ 3,970,978        | \$ 5,983,098        |
| B    | Shared path               | \$ 519,440          | \$ -                |
| C    | Cycle Friendly Street     | \$ -                | \$ -                |
| D    | Pedestrian Priority Areas |                     |                     |
|      | Further Business Cases    | \$ 236,604          | \$ -                |
|      | Culture Change Activities | \$ 105,000          | \$ 105,000          |
|      | <b>Total</b>              | <b>\$ 4,832,022</b> | <b>\$ 6,088,098</b> |

Table S shows the total costs of the programme including the projects proposed during the 2021-2031 LTP cycle and the projects to be delivered after 2031.

Table S – Total programme costs (2021 to beyond 2031)

| Type | Description               | Te Awamutu           | Cambridge            |
|------|---------------------------|----------------------|----------------------|
| A    | Protected cycleway        | \$ 7,366,431         | \$ 14,457,674        |
| B    | Shared path               | \$ 21,413,310        | \$ 6,523,200         |
| C    | Cycle Friendly Street     | \$ -                 | \$ 1,346,006         |
| D    | Pedestrian Priority Areas |                      |                      |
|      | Further Business Cases    | \$ 236,604           | \$ -                 |
|      | Culture Change Activities | \$ 308,500           | \$ 308,500           |
|      | <b>Total</b>              | <b>\$ 29,324,845</b> | <b>\$ 22,635,380</b> |

The details around the cost estimates are included in Appendix P to T.

Note that the Cambridge walking and cycling bridge is not included in this cost summary as a business case has yet to be developed to identify likely costs. The Cambridge strategic network and bridge business case is planned for 2022/23 at a value of approximately \$300k. While this does not currently specifically include provision of a separate walking and cycling bridge, it will look at the consideration of retirement of the Victoria Bridge from vehicle traffic which would then leave it available for dedicated walking and cycling if that was a desirable option.

#### 4.10. ECONOMIC ANALYSIS OF THE PREFERRED OPTION

This section summarises the economic appraisal of the preferred programme undertaken in accordance with the latest revision of the Waka Kotahi Monetised Benefits and Costs Manual (MBCM) and has been reviewed by WSP Consultancy. For more details refer to Appendix M.

While a total length of 35.9km of facilities is proposed in the two towns over the long term, the economic evaluation has been carried out for the 7km of cycle network proposed for the 2021-2031 LTP period.

Table T shows the breakdown of facility lengths (Cambridge + Te Awamutu) for the 2021 – 2031 period and the total programme beyond 2031.

Table T – Length of proposed facilities

| Type  | Description               | Length of facility (2021-31)           | Total       |
|-------|---------------------------|----------------------------------------|-------------|
| A     | Protected cycleway        | 6.7                                    | 14.8        |
| B     | Shared path               | 0.3                                    | 18.5        |
| C     | Cycle friendly Street     | Included in projects for A and B above | 2.7         |
| D     | Pedestrian priority areas | +                                      | +           |
| Total |                           | <b>7.0</b>                             | <b>35.9</b> |

+ Not costed as sits under the education and maintenance programme budgets as an annual operating issue.

The economic cost benefit analysis was carried out based on the costs and benefits of the infrastructure proposed for the 2021 – 2031 decade.

The total anticipated network capital cost for the full programme as outlined in table S is \$52.0m.

The anticipated network capital cost for the LTP 2021 to 2031 works as outlined in table R is \$10.9m.

This leaves a total of \$41.1m of capital investment in the urban mobility network to be delivered between 2031 and 2051, which at this stage can be estimated at \$2m per year.

The results of the combined economic benefits assessment for Cambridge and Te Awamutu are summarised below for the Phase 1 works.

|              |                     | Te Awamutu  | Cambridge    | Total        | BCR         |
|--------------|---------------------|-------------|--------------|--------------|-------------|
| <b>BCR N</b> | PV NET Benefits     | \$8,585,495 | \$14,338,466 | \$22,923,961 | <b>5.09</b> |
|              | PV Economic Costs   | \$1,930,630 | \$2,572,400  | \$4,503,030  |             |
| <b>FYRR</b>  | First Year Benefits | \$300,702   | \$501,839    | \$802,541    | <b>18%</b>  |
|              | PV Economic Costs   | \$1,930,630 | \$2,572,400  | \$4,503,030  |             |

#### 4.11. INVESTMENT PRIORITISATION METHOD (IPM) ASSESSMENT

The following prioritisation assessment has been determined in accordance with Waka Kotahi's prioritisation assessment methodology:

##### GPS alignment

Under the **Safety** GPS alignment criteria, this Refined Cross-town Cycleways Programme is considered to achieve the following rating:

- This is not a medium high or high collective risk corridor or intersection, as there have been few serious accidents in the last five years. This issue relates to a **perceived risk**, not a **predicted risk** which would be supported by evidence. It could be assigned a **Medium** rating using the criterion "Investment to support behaviour change (e.g. changing perceptions of safety or road safety promotion) to improve road safety outcomes."
  - The levels of concerns ratings are drawn from the 'All deaths and serious casualties' table in the most recent version of the Communities at Risk Register. High Concern is assigned to communities with personal risk profiles greater than one standard deviation from the mean (1 STDEV). For this example, the area has a personal risk profile 0.5 STDEV to 1 STDEV greater from the mean for cyclists and pedestrians. A Medium Concern is assigned, and this only fits in the **Medium** GPS alignment rating.

Under the **Better Travel Options** and **Climate Change** GPS alignment criteria.

- The investment objective for this programmes relates to >7% shift from private passenger vehicle-based trips to other modes and fits a **VERY HIGH** GPS alignment rating.

##### Scheduling

Under the **Scheduling** criteria, interdependency and criticality are assessed.

- This proposal is a standalone activity. It is scheduled as a priority in the Waipā LTP 2021-31, however non-delivery of the proposed activity in the 2021-24 NLTP does not have significant nor moderate impact on realising the estimated benefits of a programme, package or another investment. Therefore this fits a **LOW Interdependency** rating.
- Under the Criticality criteria, this proposal is not necessary in order to deliver/prepare the remainder of a programme/package. If there is an unplanned loss of service, best alternative of using private passenger vehicle is very unlikely to take over one-hour extra travel time. We can see that this fits a **LOW Criticality** rating.
- The overall **Scheduling rating** is **LOW** for this proposal.

##### Efficiency

Under the **Efficiency** criteria, as identified previously this programme delivers on a BCR outcome of **5.09**.

## PART C. COMMERCIAL CASE

### 5. COMMERCIAL CASE

#### 5.1. SCALE AND PROCUREMENT

Construction procurement will be based on Waipā District Council procurement policies and guidelines and will be delivered in accordance with Waipā's Transport Procurement Strategy which was approved by Waka Kotahi in 2021. As Waka Kotahi is assisting with project funding, we will ensure that all relevant elements of Waka Kotahi's procurement approach are adhered to.

We intend to develop the necessary street upgrades on a route-by-route basis. This means that individual projects will generally be under \$2 to \$3 million and have low complexity and low risk. Procurement is likely to be carried using the Lowest Price Conforming tender evaluation method, and public tenders invited. There is a very good local market of suitably experienced and skilled contractors that are capable of carrying out this work.

#### 5.2. RISK

As we develop each route, a detailed risk assessment and comprehensive risk register will be developed, and risks actively managed throughout the project life-cycle.

The following risks have been identified during business case and implementations stages:

| Stage                                     | Risk                                                            | Threat level | Consequence                                                                                   | Risk treatment                                                                       |
|-------------------------------------------|-----------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| SSBC                                      | Unavailable Waka Kotahi financial assistance                    | Extreme risk | Programme doesn't proceed, or proceeds with only local funding and at slower development rate | Proceed with local share funding only. Seek new funding sources.                     |
| Implementation<br>(Design & Construction) | Design to the appropriate standard.                             | Medium risk  | Poor uptake of active mode users.                                                             | Adherence to the best practice design guidelines.                                    |
|                                           | Community acceptance of the design.                             |              | Project delayed and reputational risk.                                                        | Implement strong communication plan.                                                 |
|                                           | Prioritisation of work leading to the community dissatisfaction |              |                                                                                               |                                                                                      |
| Deliverability                            | Cost escalation                                                 | Medium risk  | Programme becomes unaffordable                                                                | Review benefit of proceeding with reduced number of projects within the total budget |

| Stage | Risk                              | Threat level | Consequence                                                               | Risk treatment                                                                         |
|-------|-----------------------------------|--------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|       | Disruption to Business Continuity | Medium risk  | Covid or other related business disruption results in delay to programme. | Review benefit of proceeding with reduced number of projects within resource capacity. |

### 5.3. CONSENTING

As all the works will have minor earthworks only and are to be carried on existing road reserve, we do not anticipate consents or other similar approvals being required.

**Stormwater** - It is envisioned that all the proposed works are within the Waipā Comprehensive Consent requirements. Low impact stormwater treatment and disposal will be used where appropriate to meet existing consent conditions.

**Utilities** – Any improvement works in relation to underground utilities should fall within a permitted activity so that no consent is required.

The abovementioned assumptions will be checked and confirmed during the implementation stage of the project.

### 5.4. PROPERTY

All the works will be on existing road reserve, therefore there are no property acquisition or other similar matters required.

## PART D. FINANCIAL CASE

### 6. FINANCIAL CASE

#### 6.1. PROGRAMME DELIVERY COSTS

The following section outlines the complete project programme and the associated costs for both townships. The type of infrastructure improvement with the assumed average cost is shown in the below table.

Table U – Length of proposed facilities

| Type | Description           | Cost (\$) per km |
|------|-----------------------|------------------|
| A    | Protected cycleway    | \$1,479,500      |
| B    | Shared path           | \$1,510,000      |
| C    | Cycle Friendly Street | \$504,500        |
| D    | Pedestrian Priority   | +                |

+ Not costed as sits under education programme budget as an annual operating issue

The programme is realistically structured around Council's funding review cycle and is expected to be completed within two decades.

##### 6.1.1. FORECAST PROGRAMME FOR 2021-2031 (STAGE 1 DELIVERY)

The works programme for Cambridge is structured in a logical way to ensure that the connection of current routes, high demand destinations and incomplete routes are prioritised to create usability through connectivity. The initial works are aimed at connecting Cambridge Middle School to the existing network via upgrades on Williams Street from Grey Street to Robinson Street, and on Grey Street from Williams Street to Alpha Street. In addition, a protected cycleway is proposed on Bryce or Alpha, Dick and Wilson Streets to connect the school to the Victoria Street Bridge.

The school is being prioritised as the students are an ideal target user for alternative forms of transport. There is also a belief that the students are at an age where walking and cycling can become a habit that they may well continue into the future.

The works programme for Te Awamutu follows the same logic as Cambridge using the parameters for Te Awamutu. The area around the Middle School, Te Awamutu Events Centre and Albert Park are targeted as the facilities are frequently used for sports, and other events frequented by the likely users of alternative transport.

\* Note that the **TA-19** is regarded as a separate sub project and will require a separate business case.

The project priorities are shown in the below tables and the visual route information can be found in map format in Appendix O.

Table V – Programme Priorities – Te Awamutu

| Number | Street                                                                                            | Type | Length (m) | Stage 1<br>2021-2031 LTP |          | Stage 2<br>2031-2041 LTP | Stage 3<br>2041-2051 LTP |
|--------|---------------------------------------------------------------------------------------------------|------|------------|--------------------------|----------|--------------------------|--------------------------|
|        |                                                                                                   |      |            | Yrs 1-3                  | Yrs 4-10 |                          |                          |
| TA-1   | Mutu Street, Ōhaupō Road, Racecourse Road                                                         | B    | 2590       |                          |          |                          |                          |
| TA-2   | Factory Road                                                                                      | B    | 1080       |                          |          |                          |                          |
| TA-3   | Tawhiao Street                                                                                    | B    | 420        |                          |          |                          |                          |
| TA-4   | Mahoe Street, George Street                                                                       | A    | 1054       |                          |          |                          |                          |
| TA-5   | Arawata Street                                                                                    | A    | 383        |                          |          |                          |                          |
| TA-6   | Mutu Street                                                                                       | A    | 128        |                          |          |                          |                          |
| TA-7   | Alexandra Street                                                                                  | A    | 2295       |                          |          |                          |                          |
| TA-8   | Rewi Street                                                                                       | B    | 1760       |                          |          |                          |                          |
| TA-9   | Bank Street, Bridgeman Road, Sinclair Terrace, Swarbrick Drive, Raikes Avenue, Hazelmere Crescent | B    | 2900       |                          |          |                          |                          |
| TA-10  | Park Road                                                                                         | B    | 344        |                          |          |                          |                          |
| TA-11  | Te Rahu Road                                                                                      | B    | 1620       |                          |          |                          |                          |
| TA-12  | Te Aranui Drive                                                                                   | B    | 240        |                          |          |                          |                          |
| TA-13  | Cambridge Road                                                                                    | A    | 1119       |                          |          |                          |                          |
| TA-14  | Cambridge Road                                                                                    | B    | 820        |                          |          |                          |                          |
| TA-15  | Golf Road                                                                                         | B    | 580        |                          |          |                          |                          |
| TA-16  | Rolleston Street                                                                                  | B    | 742        |                          |          |                          |                          |
| TA-17  | Whitmore Street                                                                                   | B    | 407        |                          |          |                          |                          |
| TA-18  | Whitmore Street                                                                                   | B    | 678        |                          |          |                          |                          |
|        | <b>Culture Change</b>                                                                             |      |            |                          |          |                          |                          |

Table W – Programme Priorities – Cambridge

| Number | Street                                    | Type | Length (m) | Stage 1<br>2021-2031 LTP |          | Stage 2<br>2031-2041 LTP | Stage 3<br>2041-2051 LTP |
|--------|-------------------------------------------|------|------------|--------------------------|----------|--------------------------|--------------------------|
|        |                                           |      |            | Yrs 1-3                  | Yrs 4-10 |                          |                          |
| CB-1   | Appleby Road                              | C    | 493        |                          |          |                          |                          |
| CB-2   | Robinson Street                           | B    | 715        |                          |          |                          |                          |
| CB-3   | Grosvenor Street                          | C    | 790        |                          |          |                          |                          |
| CB-4   | Williams Street                           | A    | 1092       |                          |          |                          |                          |
|        |                                           |      | 288        |                          |          |                          |                          |
| CB-5   | Grey Street                               | A    | 1051       |                          |          |                          |                          |
| CB-6   | Hamilton Road                             | A    | 400        |                          |          |                          |                          |
| CB-7   | Alpha Street, Dick Street, Wilson Street  | A    | 1901       |                          |          |                          |                          |
| CB-8   | Walking and cycling bridge Te Awa Waikato | *    |            |                          |          |                          |                          |
| CB-9   | Albert Street                             | B    | 240        |                          |          |                          |                          |
| CB-10  | Achilles Avenue, Shakespeare Street       | B    | 1030       |                          |          |                          |                          |
| CB-11  | Pope Terrace                              | A    | 1400       |                          |          |                          |                          |
| CB-12  | Cambridge Road                            | B    | 620        |                          |          |                          |                          |
| CB-13  | Shakespeare Street                        | A    | 1940       |                          |          |                          |                          |
| CB-14  | Thompson Street                           | C    | 690        |                          |          |                          |                          |
| CB-15  | Raleigh Street                            | C    | 695        |                          |          |                          |                          |
| CB-16  | Lamb Street                               | A    | 1700       |                          |          |                          |                          |
| CB-17  | Lamb Street                               | B    | 640        |                          |          |                          |                          |
| CB-18  | Milton Street                             | B    | 240        |                          |          |                          |                          |
| CB-19  | Shakespeare Street                        | B    | 255        |                          |          |                          |                          |
| CB-20  | Roto-O-Rangi Road                         | B    | 580        |                          |          |                          |                          |
|        | Culture Change                            |      |            |                          |          |                          |                          |

### 6.1.2. FINANCIAL STRATEGY FOR STAGE 1 DELIVERY

Currently Council have allocated \$10.9M within the 2021-31 LTP, including 51% subsidy from Waka Kotahi, to deliver the first stage of the new cycleways programme. The remainder of the programme for new cycleways is forecast to be completed when funding is available, beyond 2031. The Cultural Change programme will begin as soon as possible to enhance the benefits of the new cycleways and to encourage use of the expanded cycleway network.

The Council's support for this programme is noted in the Long-term Plan 2021-31 as follows:

*The community provided strong support for Council to roll out an urban mobility network in Cambridge and Te Awamutu to better connect places like schools, shops and workplaces for cyclists, pedestrians and scooter users. While there are many benefits to safer cycling, walking and scootering through an urban mobility network, such as less traffic congestion, reduced vehicle emissions, better safety, less demand on parking, and more vibrant towns, Council did acknowledge that a willingness to change our behaviours to benefit wellbeing can be difficult for some residents. So an independent committee or community working group will be established for the project to work in the best interests of delivering good community outcomes.*

*The Urban Mobility Network will cost \$10,920,120 with \$5,569,261 in funding from Waka Kotahi (NZTA).*

Through the NLTP process, this programme has been listed as "possible" for investment priority, meaning that for the first three year period from 2021 to 2024 there is no subsidy available. Due to the high priority that Waipā District Council has placed on the delivery of this programme in their LTP, they are currently considering the affordability of progressing part of this programme unsubsidised to enable progress in the 2021-2024 period. Therefore, two investment scenarios have been developed to deliver this programme, in order of preference they are:

- the **Optimised Subsidy Programme** – progresses designs of the highest priority projects to be ready to construct when subsidy is available from year 4 onwards.
- the **Early Delivery of High Priority Projects Programme** – spends all of the unsubsidised budget that Council has available in Years 1-3 to progress construction of TA-4 and TA10 in Te Awamutu and prepare design for delivery of CB-7 in Cambridge, with the remaining programme delivered from year 4 onwards;

The benefit of identifying these scenarios now is to enable a reallocation of funding if additional funds become available earlier than expected. Council consideration of budget allocation is underway, and the Urban Mobility Governance Group will provide input to inform decisions on which projects to progress. The scenarios proposed are as follows:

### 6.1.3. PREFERRED FUNDING SCENERIO – OPTIMISED SUBSIDY PROGRAMME

|                                                        | Current LTP Period 2021-31 |           |             |             |             |             |             |             |           |           | Total        |
|--------------------------------------------------------|----------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|-----------|--------------|
|                                                        | Yr1*                       | Yr2*      | Yr3*        | Yr4         | Yr5         | Yr6         | Yr7         | Yr8         | Yr9       | Yr10      |              |
| Cambridge Programme Priorities                         |                            |           |             |             |             |             |             |             |           |           |              |
| CB-4 Williams Street                                   |                            | -         |             |             | -           | -           | \$155,495   | \$1,460,119 | -         | -         | \$1,615,614  |
| CB-5 Grey Street                                       |                            |           | \$100,000   | \$55,554    | \$1,399,401 | -           | -           | -           | -         | -         | \$1,554,955  |
| CB-7 Alpha Street, Dick Street, Wilson Street          |                            |           | \$140,626   | \$140,626   | \$1,000,000 | \$1,531,277 | -           | -           | -         | -         | \$2,812,529  |
| Cultural Change                                        | -                          | -         | \$15,000    | \$15,000    | \$15,000    | \$15,000    | \$15,000    | \$15,000    | \$15,000  | \$-       | \$105,000    |
| Total for Cambridge                                    | \$0                        | \$0       | \$255,626   | \$211,180   | \$2,414,401 | \$1,546,277 | \$170,495   | \$1,475,119 | \$15,000  | \$0       | \$6,088,098  |
| Te Awamutu Programme Priorities                        |                            |           |             |             |             |             |             |             |           |           |              |
| TA-4 Mahoe Street, George Street                       |                            | \$77,970  | \$77,970    | \$1,000,000 | \$403,454   | -           | -           | -           | -         | -         | \$1,559,394  |
| TA-5 Arawata Street                                    |                            |           |             |             |             |             |             | -           | \$56,665  | \$509,984 | \$566,649    |
| TA-6 Mutu Street                                       |                            |           |             |             |             |             |             | \$18,909    | \$170,183 | -         | \$189,092    |
| TA-10 Park Road                                        |                            | \$51,944  | \$467,496   | -           | -           | -           | -           | -           | -         | -         | \$519,440    |
| TA-13 Cambridge Road                                   |                            |           |             |             | -           | \$165,556   | \$1,490,004 | -           | -         | -         | \$1,655,560  |
| TA-19 SH3 / Cambridge Road intersection transformation |                            |           | \$236,604   | -           | -           | -           | -           | -           | -         | -         | \$236,604    |
| Cultural Change                                        | -                          | \$15,000  | \$15,000    | \$15,000    | \$15,000    | \$15,000    | \$15,000    | \$15,000    |           | -         | \$105,000    |
| Total for Te Awamutu                                   | \$0                        | \$144,914 | \$797,070   | \$1,015,000 | \$418,454   | \$180,556   | \$1,505,004 | \$33,909    | \$226,848 | \$509,984 | \$4,831,739  |
| Programme Total                                        | \$0                        | \$144,914 | \$1,052,696 | \$1,226,180 | \$2,832,855 | \$1,726,833 | \$1,675,499 | \$1,509,028 | \$241,848 | \$509,984 | \$10,919,837 |

#### 6.1.4. ALTERNATIVE FUNDING SCENERIO – EARLY DELIVERY OF HIGH PRIORITY PREOJECTS PROGRAMME

|                                                                | Current LTP Period 2021-31 |           |             |             |             |           |             |             |           |           | Total        |
|----------------------------------------------------------------|----------------------------|-----------|-------------|-------------|-------------|-----------|-------------|-------------|-----------|-----------|--------------|
|                                                                | Yr1*                       | Yr2*      | Yr3*        | Yr4         | Yr5         | Yr6       | Yr7         | Yr8         | Yr9       | Yr10      |              |
| <b>Cambridge Programme Priorities</b>                          |                            |           |             |             |             |           |             |             |           |           |              |
| <b>CB-4</b> Williams Street*                                   |                            |           |             |             | -           | -         | \$155,495   | \$1,460,119 |           |           | \$1,615,614  |
| <b>CB-5</b> Grey Street*                                       |                            |           |             | \$155,554   | \$1,399,401 | -         |             |             |           |           | \$1,554,955  |
| <b>CB-7</b> Alpha Street, Dick Street, Wilson Street           |                            | \$140,626 | \$140,626   | \$1,000,000 | \$1,531,277 | -         | -           | -           | -         | -         | \$2,812,529  |
| <b>Cultural Change</b>                                         | -                          | \$15,000  | \$15,000    | \$15,000    | \$15,000    | \$15,000  | \$15,000    | \$15,000    | \$15,000  | \$15,000  | \$135,000    |
| <b>Total for Cambridge</b>                                     | \$0                        | \$155,626 | \$155,626   | \$1,170,554 | \$2,945,678 | \$15,000  | \$170,495   | \$1,475,119 | \$15,000  | \$15,000  | \$6,118,098  |
| <b>Te Awamutu Programme Priorities</b>                         |                            |           |             |             |             |           |             |             |           |           |              |
| <b>TA-4</b> Mahoe Street, George Street                        | \$77,970                   | \$77,970  | \$1,403,454 | -           | -           | -         | -           | -           | -         | -         | \$1,559,394  |
| <b>TA-5</b> Arawata Street*                                    |                            |           |             |             |             |           |             | -           | \$56,665  | \$509,984 | \$566,649    |
| <b>TA-6</b> Mutu Street*                                       |                            |           |             |             |             |           |             | \$18,909    | \$170,183 | -         | \$189,092    |
| <b>TA-10</b> Park Road                                         | \$51,944                   | \$467,496 | -           | -           | -           | -         | -           | -           | -         | -         | \$519,440    |
| <b>TA-13</b> Cambridge Road*                                   |                            |           |             |             | -           | \$165,556 | \$1,490,004 | -           | -         | -         | \$1,655,560  |
| <b>TA-19</b> SH3 / Cambridge Road intersection transformation* |                            | \$236,604 | -           | -           | -           | -         | -           | -           | -         | -         | \$236,604    |
| <b>Cultural Change</b>                                         | -                          | \$15,000  | \$15,000    | \$15,000    | \$15,000    | \$15,000  | \$15,000    | \$15,000    | \$15,000  | \$15,000  | \$135,000    |
| <b>Total for Te Awamutu</b>                                    | \$129,914                  | \$797,070 | \$1,418,454 | \$15,000    | \$15,000    | \$180,556 | \$1,505,004 | \$33,909    | \$241,848 | \$524,984 | \$4,861,739  |
| <b>Programme Total</b>                                         | \$129,914                  | \$952,696 | \$1,574,080 | \$1,185,554 | \$2,960,678 | \$195,556 | \$1,675,499 | \$1,509,028 | \$256,848 | \$539,984 | \$10,979,837 |

The costings in this business case are based on in-house knowledge, experience and the recent Hamilton Road Cycleway project. We believe that we are able to deliver this project very economically due to the below factors:

- We are developing solutions using CROW and other manuals as a guideline saving on consultancy fees. These methods are proven to be successful.
- We are leveraging development works in residential growth cells providing for significant savings.
- Our solutions are focused on the top 200mm of the existing ground level, almost completely removing the need for services relocation and significant stormwater works.

Budget affordability will be managed through staging and careful planning of each project and monitoring of budget expenses and availability. Further detail is provided in the Management Plan below. At this stage the first 3 year programme is forecast to be delivered at a cost of \$1,197,610 unsubsidised under the Optimised Subsidy Programme. Council has not yet formally committed to this scenario but has established the governance group and is working to establish priorities, selected route costs and timing to be able to make a decision in 2022.

As noted above, affordability will be carefully managed through seeking economic solutions to delivering in accordance with CROW principles. Also leveraging of development works in residential growth cells will provide for significant savings and opportunities to ensure that new developments are well connected to the walking and cycling pathway networks.

## 6.2. ONGOING MAINTENANCE AND OPERATION COSTS

The infrastructure required will require a higher level of effort to maintain than the current situation. This is due to cycleways requiring regular leaf and detritus sweeping, in situations where a standard road sweeper cannot reach. Initially this will be maintained manually, but over time we will structure our road maintenance work procedures to include the use of motorised path sweepers.

We will also need to install several signalised pedestrian crossings. These are maintained under contract with Hamilton City Council.

Our road maintenance Long Term Plan costings have anticipated these minor increased maintenance costs.

## 6.3. FINANCIAL RISK

The cost estimates in this business case are based on concept designs<sup>15</sup>.

Basic quantities of the required works are reasonably well known, however there is always the risk of service relocations being required as part of the work.

A contingency has been allowed for at this stage. It is expected that financial risk will reduce as the individual routes are designed and constructed.

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<sup>15</sup> Relates to the cross-section drawings and costs for similar cycleways and treatments carried out recently

## PART E. MANAGEMENT CASE

### 7. MANAGEMENT CASE

#### 7.1. PROJECT MANAGEMENT PLANNING

The individual projects from this business case will be delivered by Waipā District Council. Projects will be delivered in accordance with our Project Management Framework Policy. The objectives of the Project Management Policy are:

- Projects are effectively managed within the scope, quality, time, budget, risk and benefits
- Appropriate governance and control is established
- Appropriate authorisation and acceptance is established throughout the life of a project
- Stakeholder communication is inclusive
- Post implementation reviews are conducted and actively used to improve the effectiveness of project delivery.

This Project Management Policy ensures that project deliverables are identified and managed effectively and project objectives are met.

In addition to the requirements of this policy, all projects will be subject to a Stage 3: detailed design and a Stage 4: post-construction safety audit.

##### 7.1.1. DELIVERY PROGRAMME

The indicative programme for the Waipā Urban Mobility Business Case – Refined Cross-town Cycleways Programme is provided in table V and W above.

Details of specific timing will be confirmed once the budget availability is confirmed.

#### Activity plan for delivery of Stage 1

| Activity                                                                              | Timeframe                                                                            |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| SSBC                                                                                  | Approved by Council - September 2021<br>Targeting approval by Waka Kotahi – mid 2022 |
| Communication, Engagement and Design confirmation                                     | From February 2022 to June 2023 – beginning with establishment of the Working Group  |
| Planning of individual projects – including development of business cases if required | From July 2021 to 2026                                                               |
| Construction                                                                          | From July 2022 to June 2027                                                          |

##### 7.1.2. RISK MANAGEMENT AND PLANNING

Project risks will be managed in accordance with our Risk Management Policy. The objectives of this Risk Management Policy include, to:

- Support the achievement of Council's vision, purpose, strategic goals and objectives, and strategies

- Safeguard assets, people, finances, property and reputation of the Council
- Integrate and align risk management with our strategic, operational and project planning approaches
- Provide an organization wide systematic, structured and timely approach enabling all staff to identify, and appropriately manage, monitor, report on and respond to risks
- Create a culture and provide the tools and support required for all staff to take responsibility for managing risks
- Ensure a common and consistent understanding of risks, risk management process and risk related concepts and terminology.

A risk register has been created and is being managed and reported to the Governance Group since January 2022.



### Risk Management Process

## 7.2. COMMUNICATIONS AND ENGAGEMENT MANAGEMENT

Communications and engagement will be carried in accordance with our Significance and Engagement Policy.

### Purpose & Scope

- To enable Council, Māori and communities to identify the degree of significance attached to particular issues, proposals, assets, decisions and activities
- To provide clarity about how and when communities can expect to be engaged in decisions made by Council

- To inform Council from the beginning of a decision-making process about the extent, form and type of engagement.

## Management

Council has consulted on the Urban Mobility business case through the 2021-31 Long Term Plan public consultation process. There was significant community support for the preferred option, as outlined in this business case. The implementation will be reviewed at each three year LTP preparation.

During implementation the Council is working with a broad reference group to communicate and engage with the community and key stakeholders. Regular newsletters, email updates, meetings and opportunities to input to the programme could be provided in this way. Potential key stakeholders could include:

- |                               |                                                          |
|-------------------------------|----------------------------------------------------------|
| ▪ CCS Disability              | ▪ Waka Kotahi (NZTA) for programmes that impact highways |
| ▪ Iwi                         | ▪ Locality based users like schools, retirement villages |
| ▪ Aged user groups/Grey Power | ▪ Emergency Services                                     |
| ▪ Bike Waikato                | ▪ Business community                                     |
| ▪ Youth user group – students | ▪ Heavy vehicle operators                                |
| ▪ Local bicycle clubs         |                                                          |
| ▪ Community Boards            |                                                          |

## NEXT STEPS

This business case has been endorsed by Waipā District Council and is included as a priority for delivery in its Long-term Plan 2021-31.

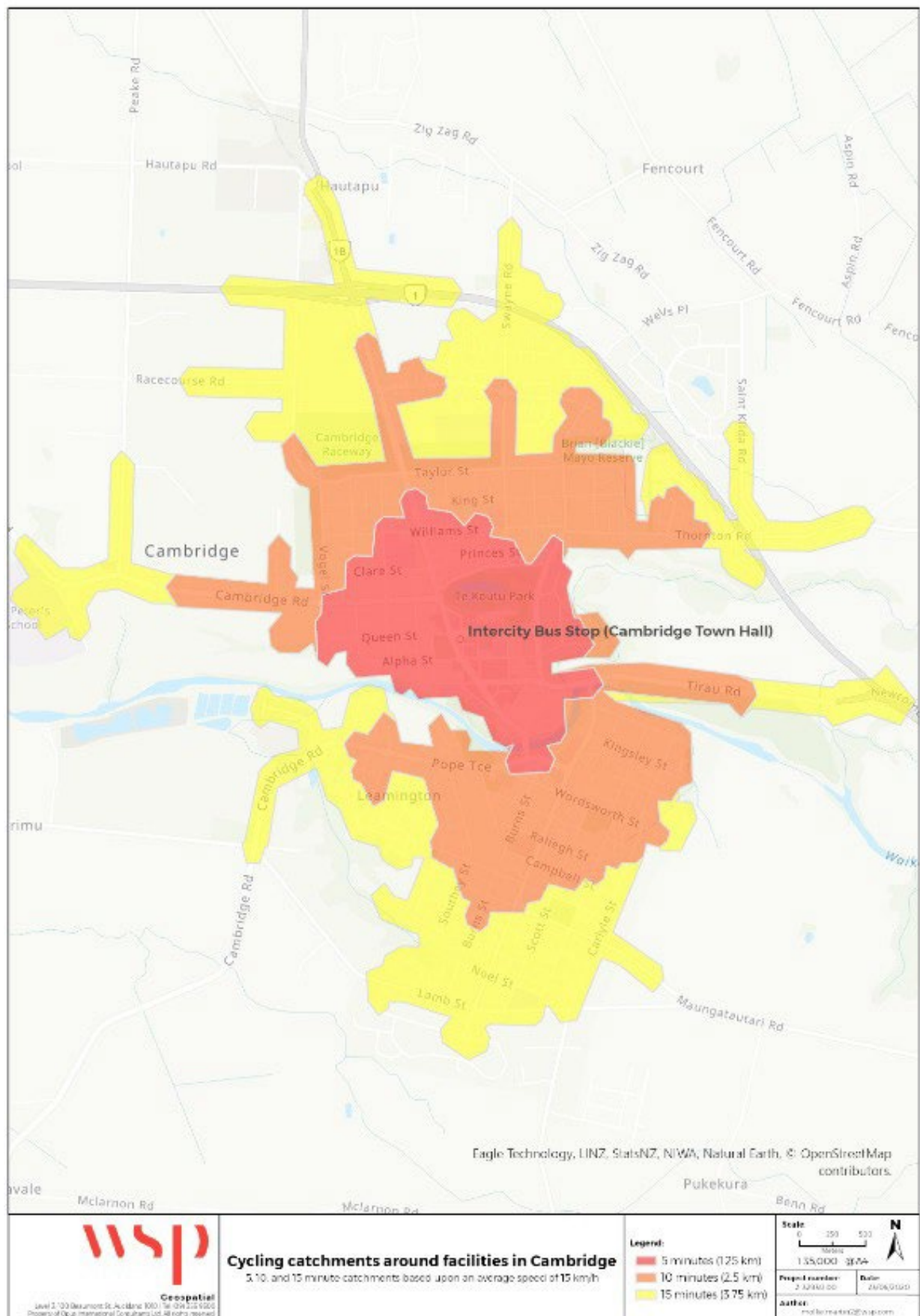
The completion of this business case in response to feedback and recommendations from Waka Kotahi has taken place over recent months to prepare for seeking Waka Kotahi approval. Stage 1 of this programme has been included in the National Land Transport Plan as a project for possible investment, meaning it is not expected to receive funding in the first three-year period from 2021-2024.

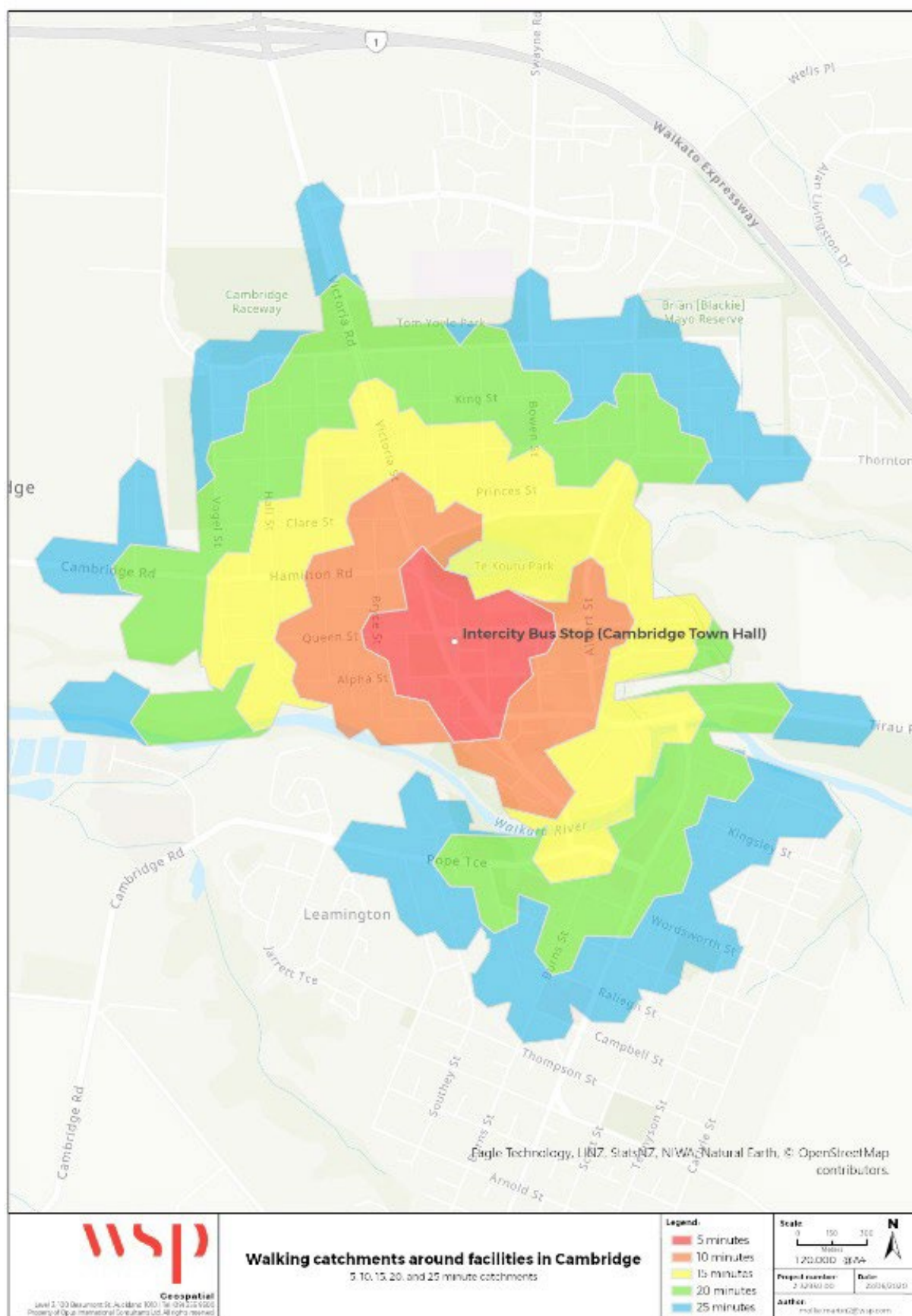
Therefore, the next step for this business case is to seek Waka Kotahi endorsement and recommendation for subsidised funding as soon as possible within the funding priorities of the NLTP. Confirmation is also required from Waipā on the level of unsubsidised budget that is to be provided to progress projects in the first three years.

Once funding is secured the Stage 1 programme of works will be implemented with the proposed routes-based approach, and with input from the Working Group in the development and delivery of the projects.

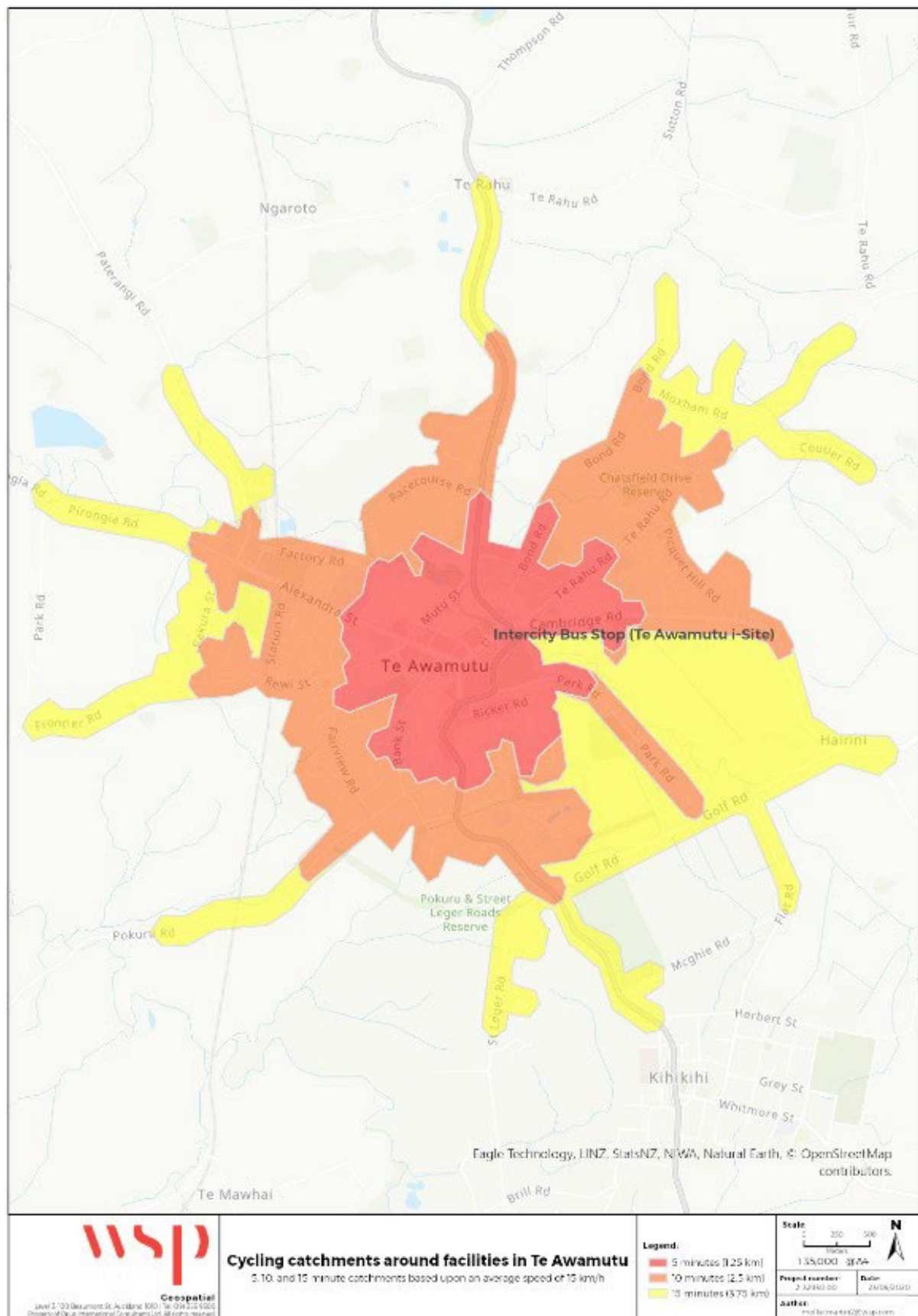
The remaining stages of this business case will require inclusion in the next two 10-year Long Term Plans to confirm funding commitment. The business case provides the case for investment and prioritisation of projects for delivery to support this next stage.

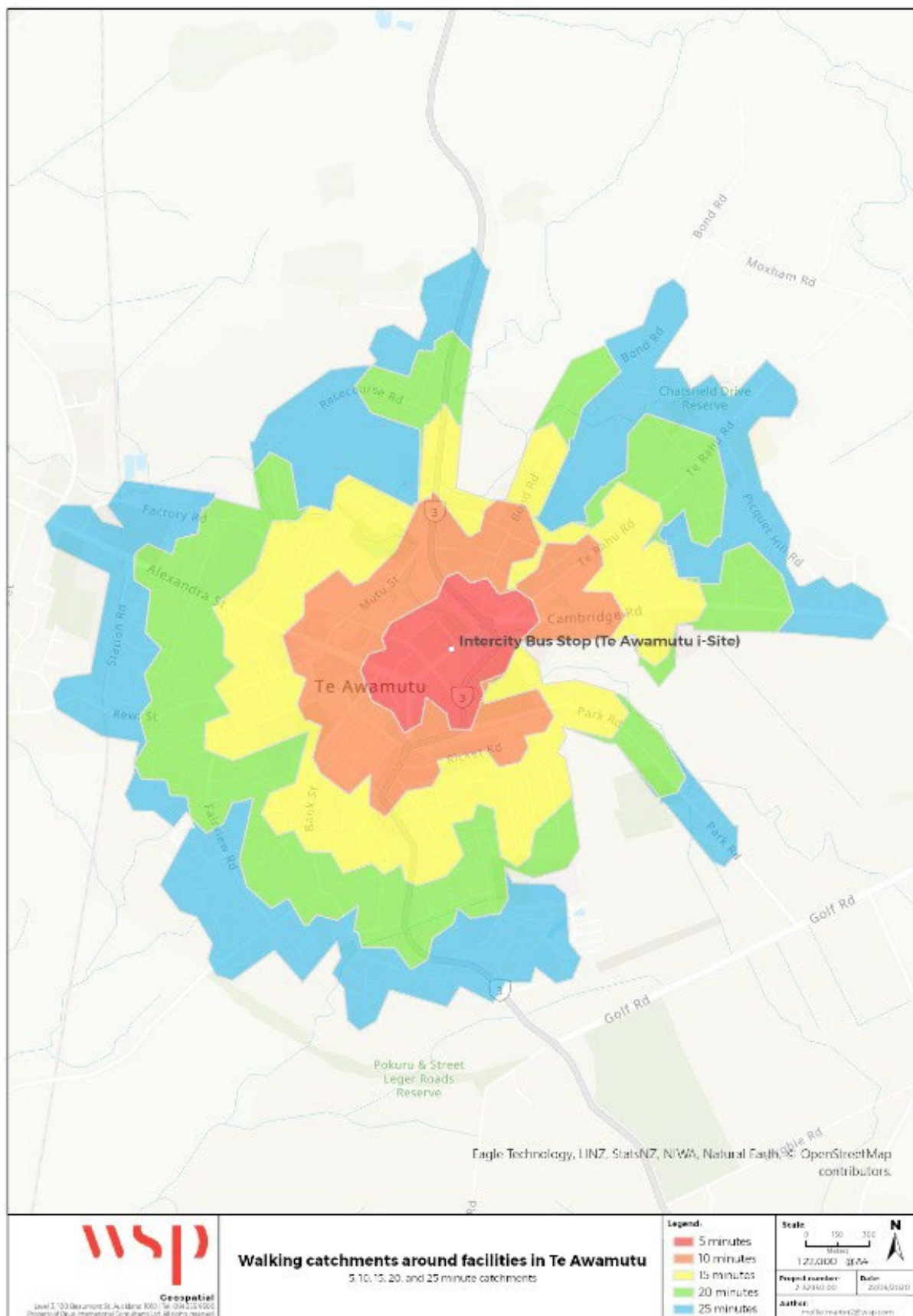
## Appendix A - CAMBRIDGE WALKING AND CYCLING CATCHMENT MAP



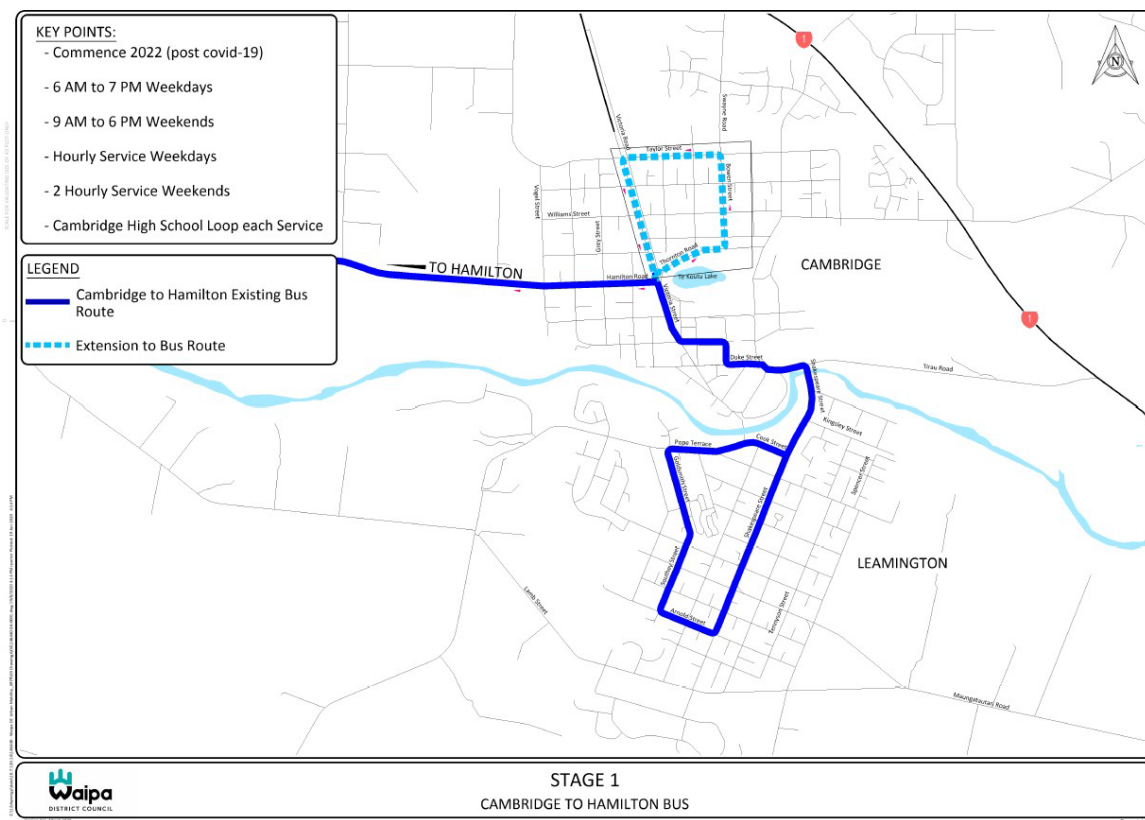


## Appendix B - TE AWAMUTU WALKING AND CYCLING CATCHMENT MAP

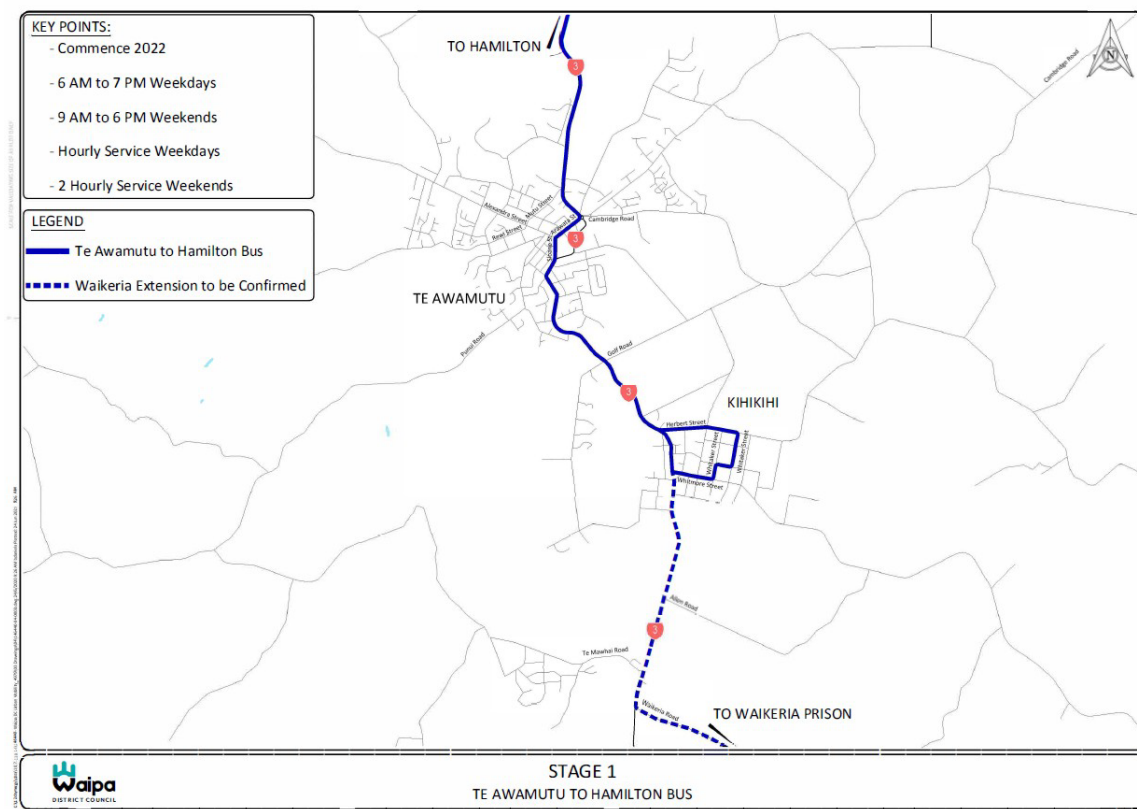




## Appendix C - CAMBRIDGE BUS ROUTE



## Appendix D - TE AWAMUTU BUS ROUTE



## Appendix E - INVESTMENT LOGIC MAP

WAIPA DISTRICT COUNCIL

### Increasing Urban Mobility in Cambridge and Te Awamutu

#### INVESTMENT LOGIC MAP

##### PROBLEM



##### BENEFIT

Increasing conflicts  
are causing active  
mode users to be  
over-represented in  
crashes  
50%

Improved safety and  
perception of safety  
for active mode users  
40%  
KPI 1: Improved safety  
KPI 2: Improved  
perception of safety

A disjointed, poor  
quality and  
incomplete network  
is causing low active  
mode uptake and  
poor health  
outcomes  
30%

Increased active  
mode use  
40%  
KPI 3: Improved active  
mode share  
KPI 4: Improved  
accessibility

A car dominated  
transport system  
results in poor and  
unequal transport  
choices  
20%

Improved health  
outcomes  
20%  
KPI 5: Improved health  
KPI 6: Improved attitudes  
and perceptions

Investor: Bryan Hudson  
Facilitator: Nathan Harper  
Accredited Facilitator: No

Version no: 0.3  
Initial Workshop: 25/06/2020  
Last modified by: Nathan Harper 16/07/2020  
Template version: 6.0

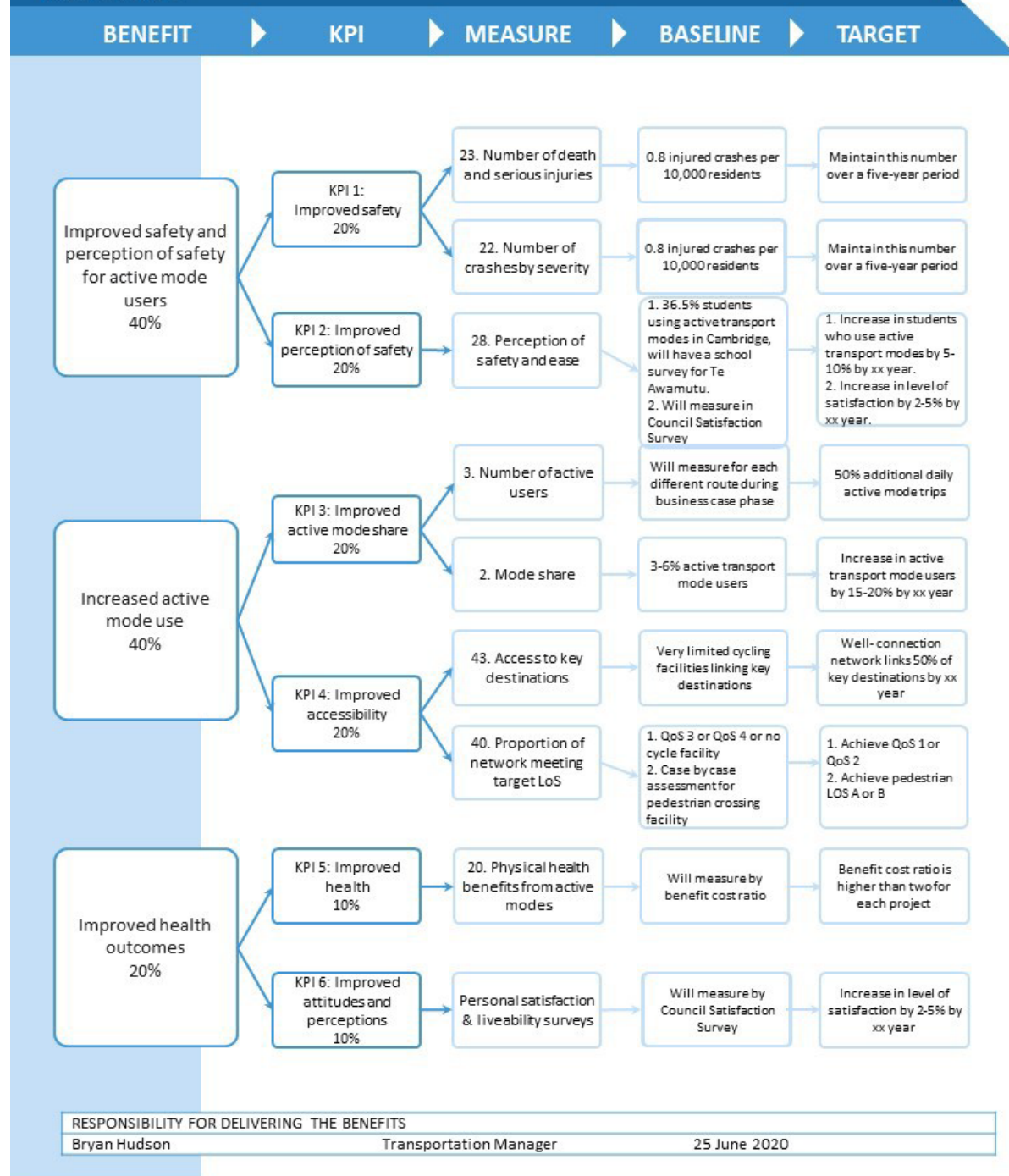
## Appendix F - BENEFIT MAP

WAIPA DISTRICT COUNCIL

### Increasing Urban Mobility in Cambridge and Te Awamutu

#### BENEFIT MANAGEMENT PLAN

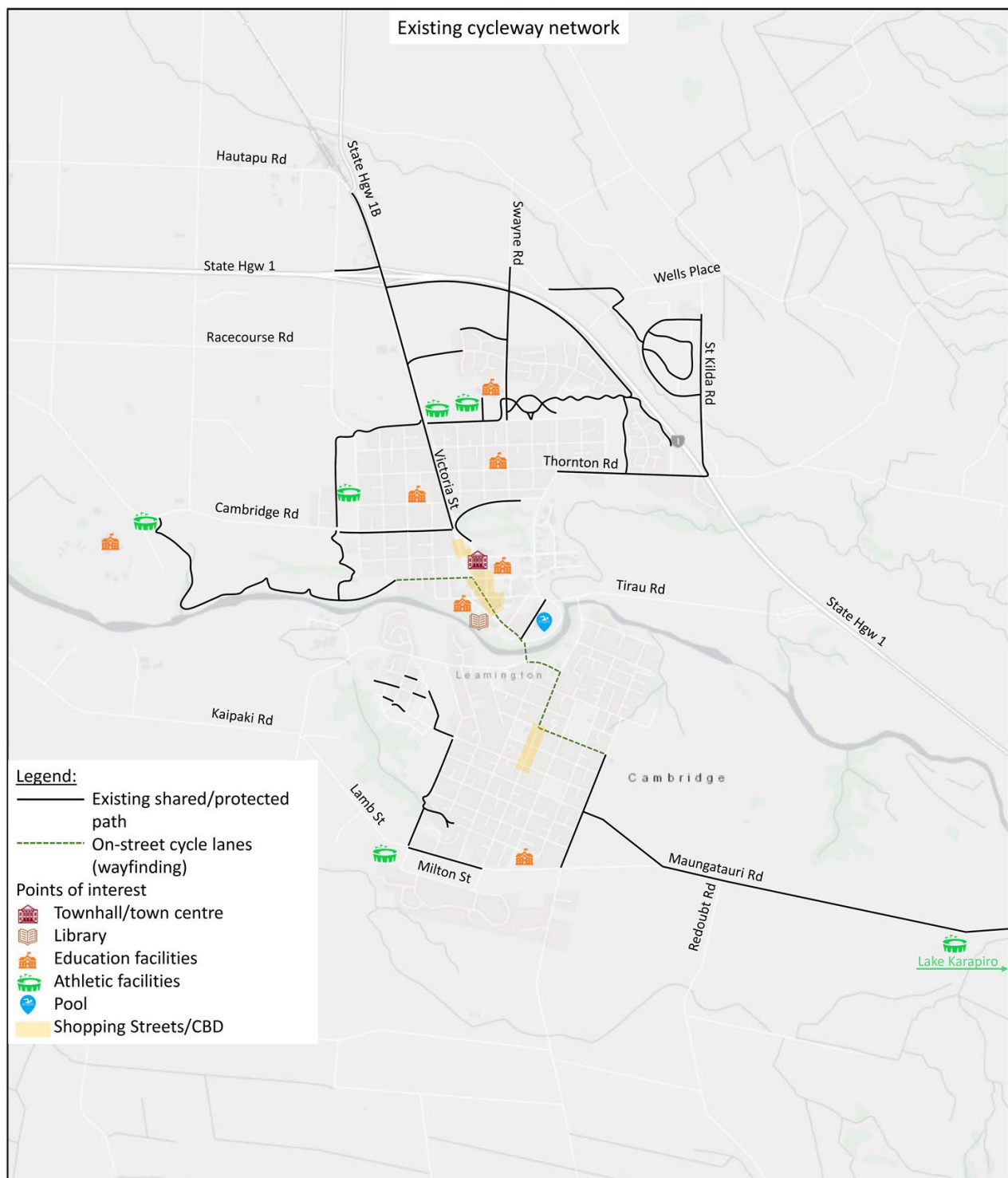
##### Part 1: Benefit Map



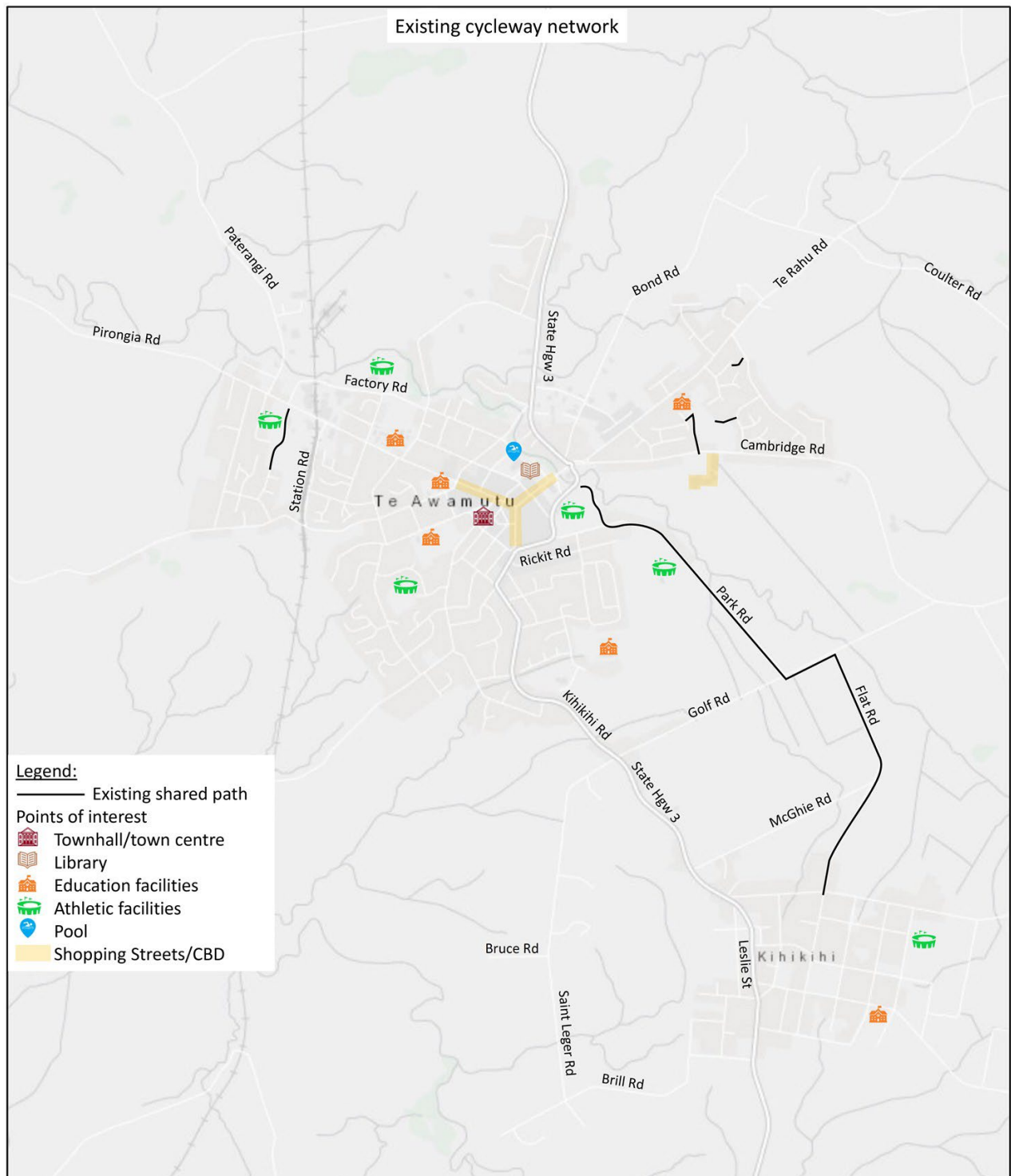
Investor: Bryan Hudson  
Facilitator: Nathan Harper  
Accredited Facilitator: No

Version no: 0.3  
Initial Workshop: 25/06/2020  
Last modified by: Nathan Harper 16/07/2020  
Template version: 6.0

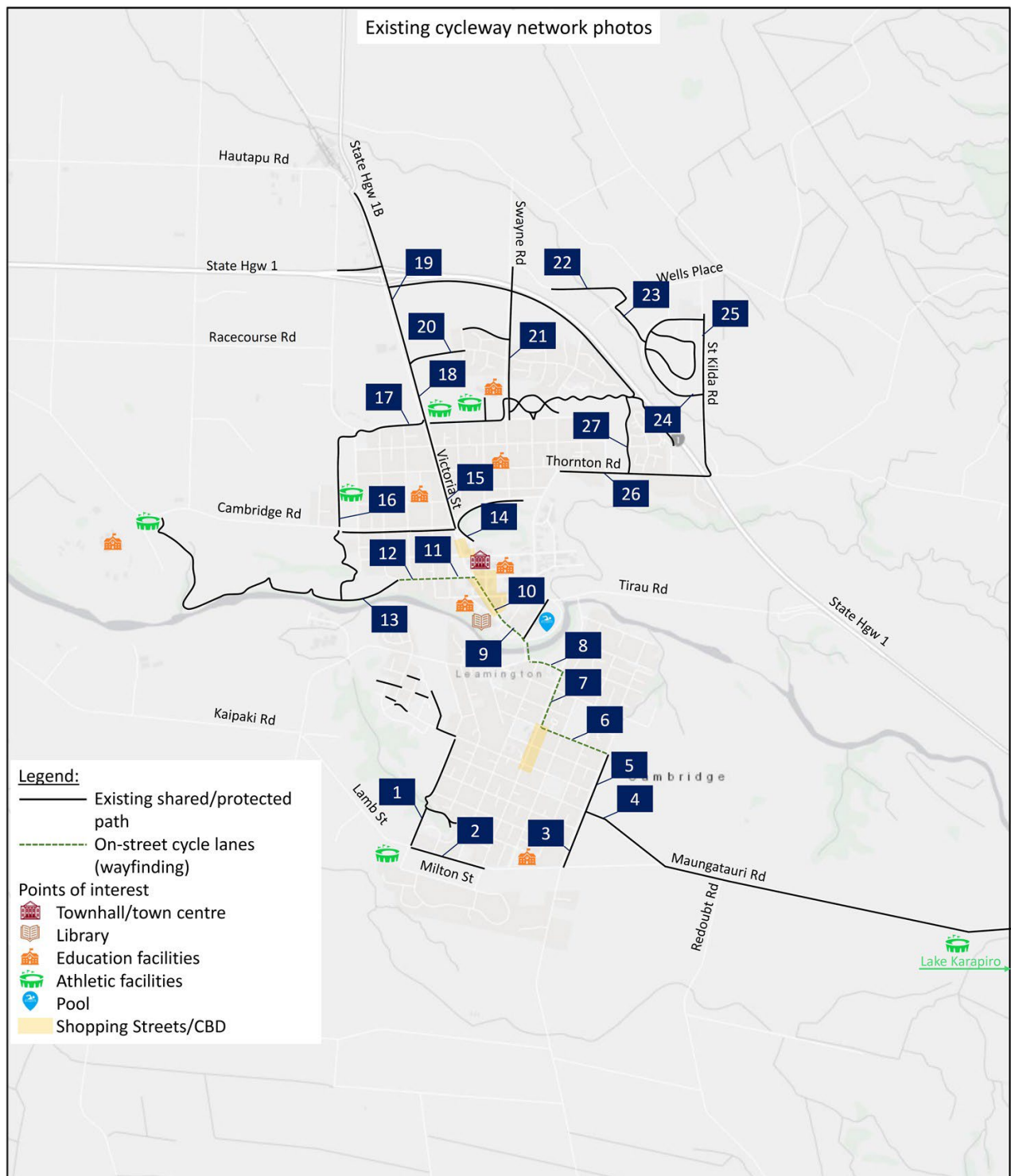
## Appendix G - CAMBRIDGE CYCLING MAP



## Appendix H - TE AWAMUTU CYCLING MAP



## Appendix I - CYCLEWAYS PHOTOS





1



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3



4



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6



7



8



9



10



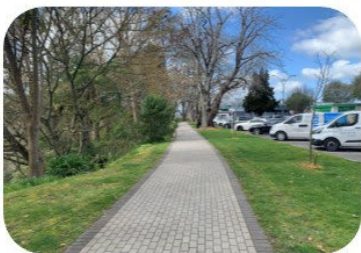
11



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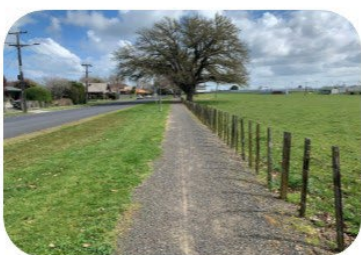
14



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17



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19



20



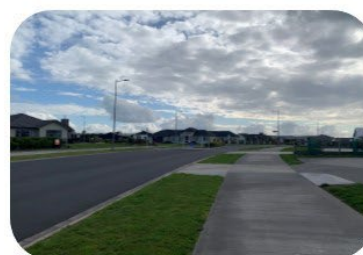
21



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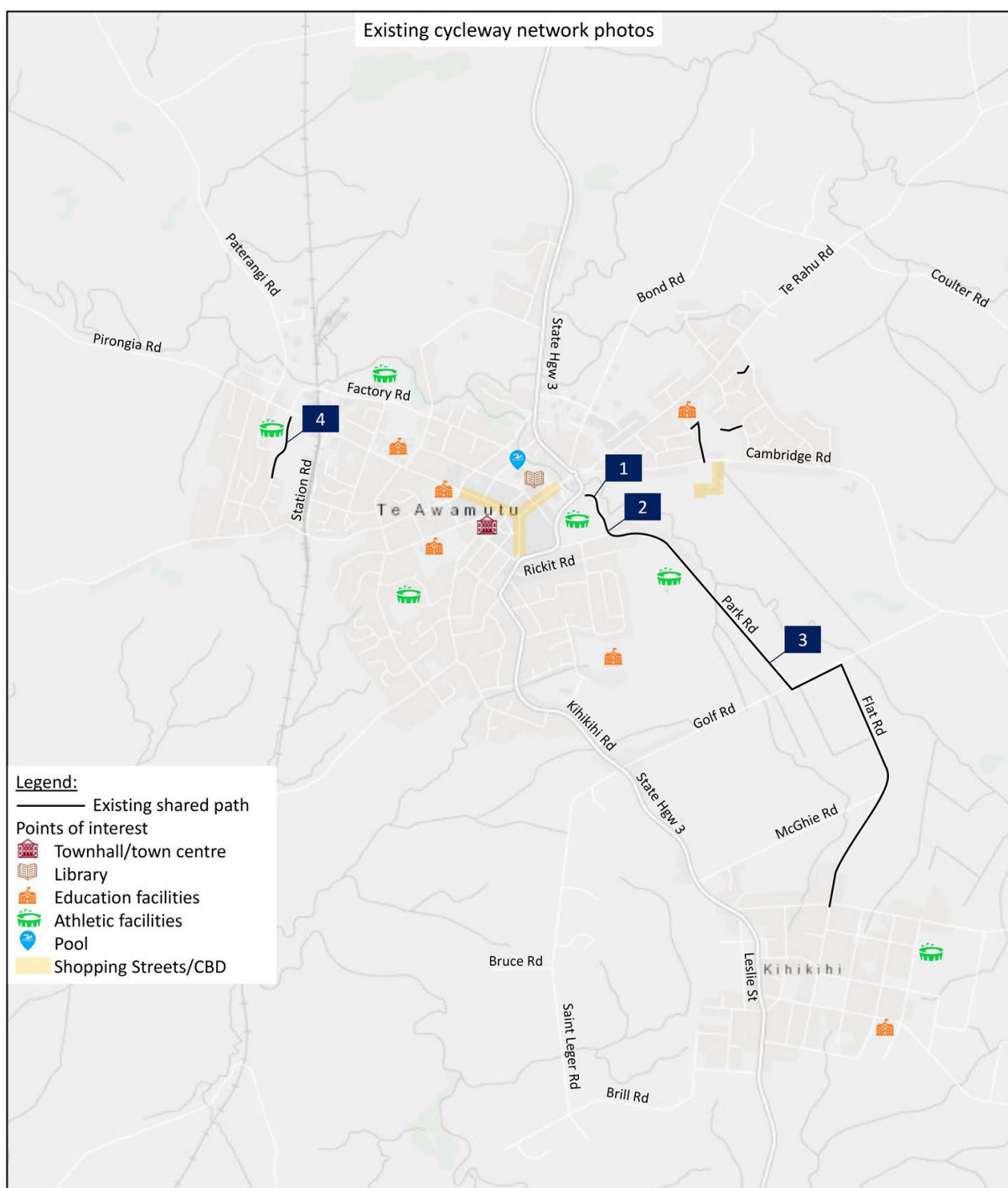
25



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1



2

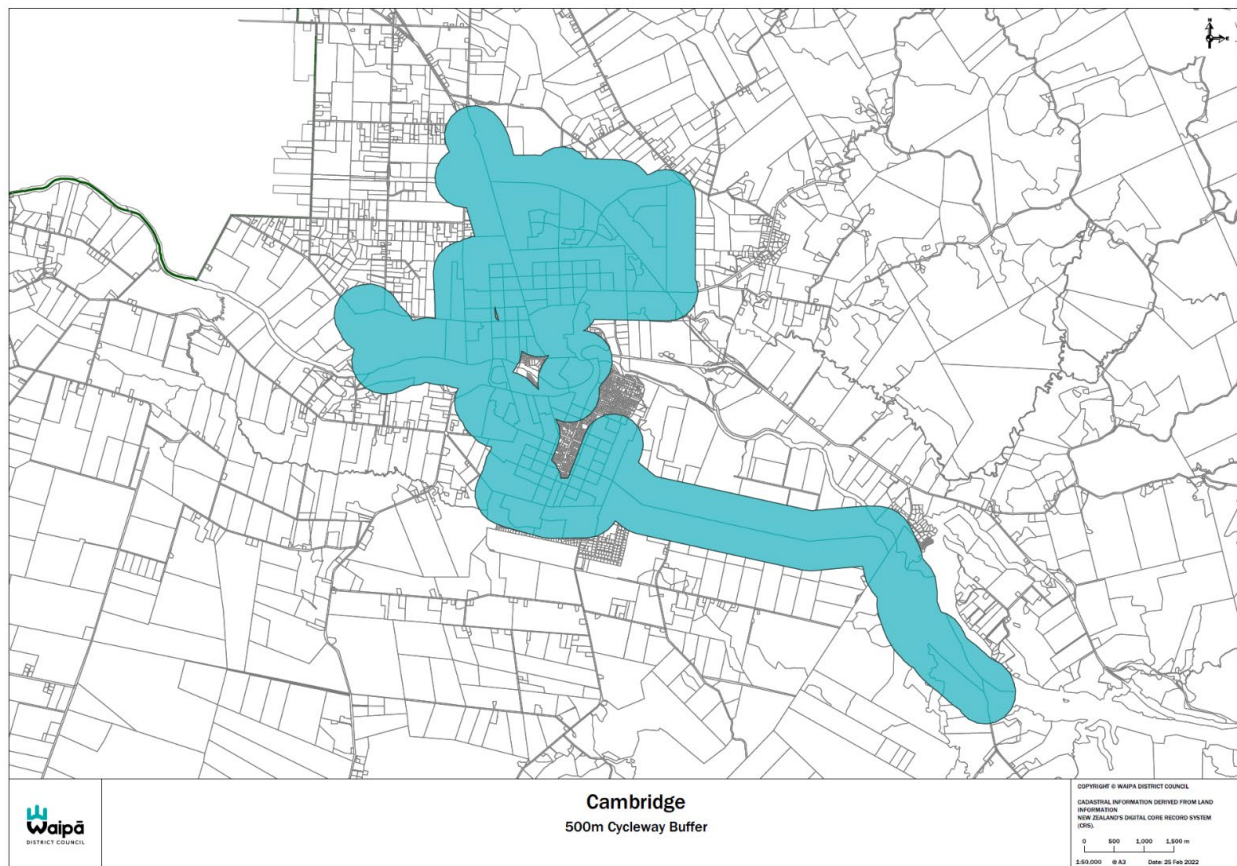


3



4

## Appendix J - SEPERATED CYCLEWAY MAPS SHOWING 500m BUFFER 2022



## Appendix K - WDC PARKING MANAGEMENT IMPROVEMENT PLAN



**To:** The Chairperson and Members of the Service Delivery Committee  
**From:** Manager Transportation  
**Subject:** PARKING MANAGEMENT IMPROVEMENT PLAN  
**Meeting Date:** 21 July 2020

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### 1 EXECUTIVE SUMMARY

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Up until the Covid-19 pandemic, growth in private vehicle travel had continued to put pressure on town centre parking in Cambridge and Te Awamutu. A parking use survey in November 2019 showed some on-street and off-street parking was heavily used in peak times and would warrant the introduction of changes to time limits, and increased enforcement to make sure that high value parking is providing the level of service desired. This approach is supported by stakeholder groups consulted to date and our Transportation Strategy guiding principles which include:

- Issue: High dependence on vehicles and dispersed urban growth
- The need to balance parking supply and travel demand
- The need to monitor parking demand change in town centres
- The need to offer more transport choices

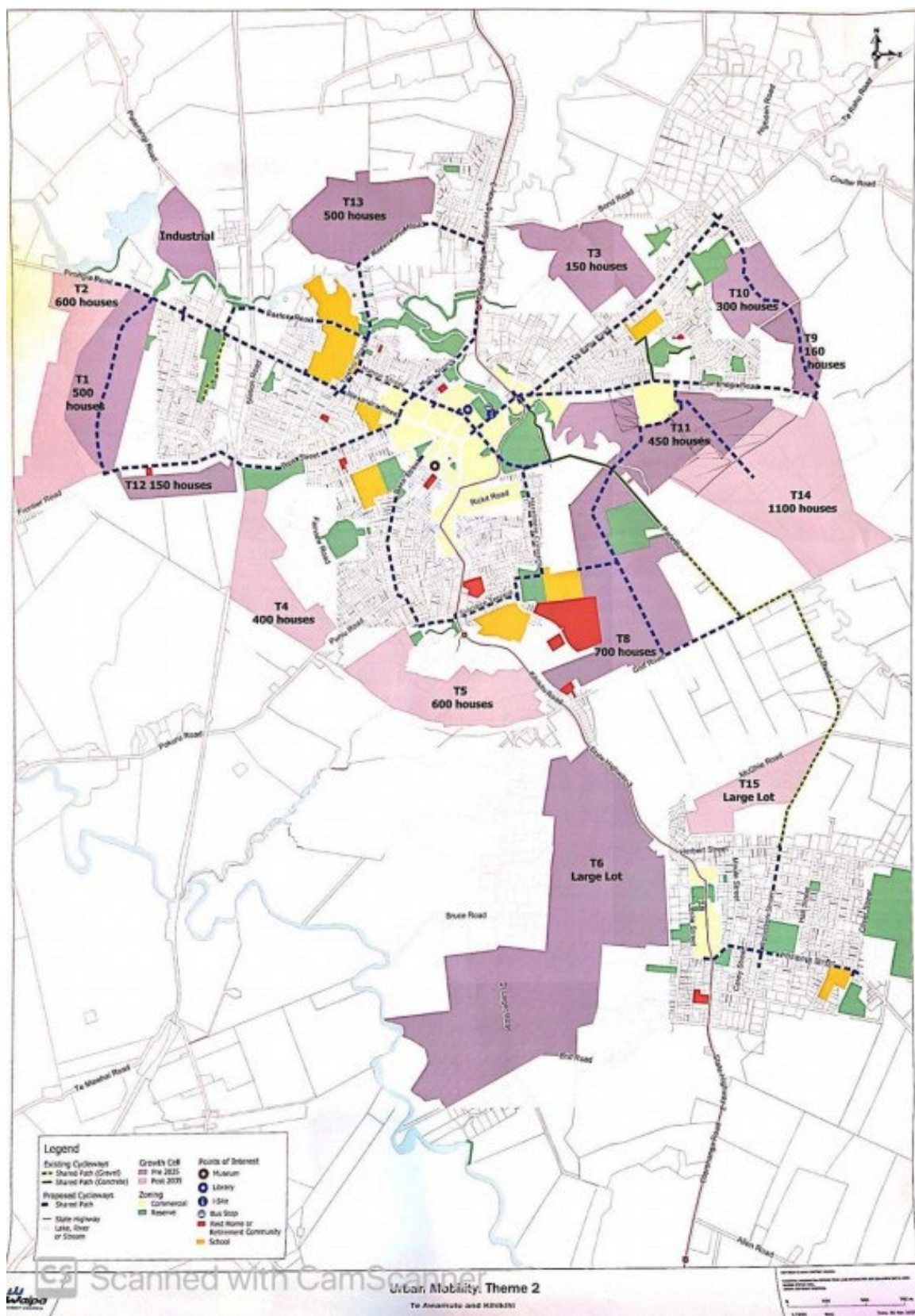
And the Cambridge Town Concept Plan Refresh 2019 lists the following desirable parking outcomes:

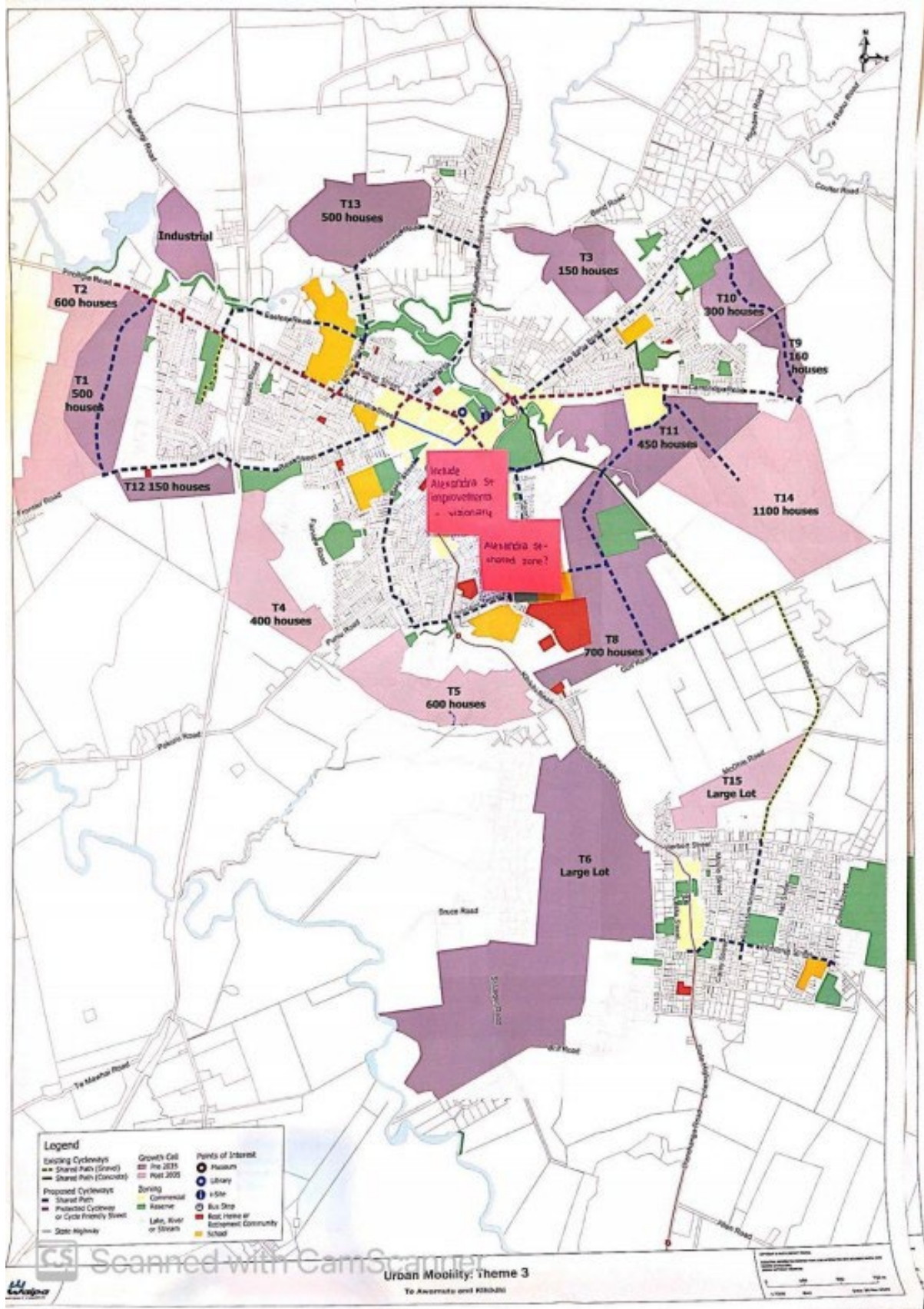
- Encourage higher turnover of vehicle parking
- Spread peak parking demand over a wider area
- Encourage non-motor vehicle modes for easy trips to the town centre

The parking use survey noted that overall the parking provision in the towns still had capacity to be used more efficiently and this is a matter of setting appropriate time limits, and encouraging long stay parking into more appropriate locations.

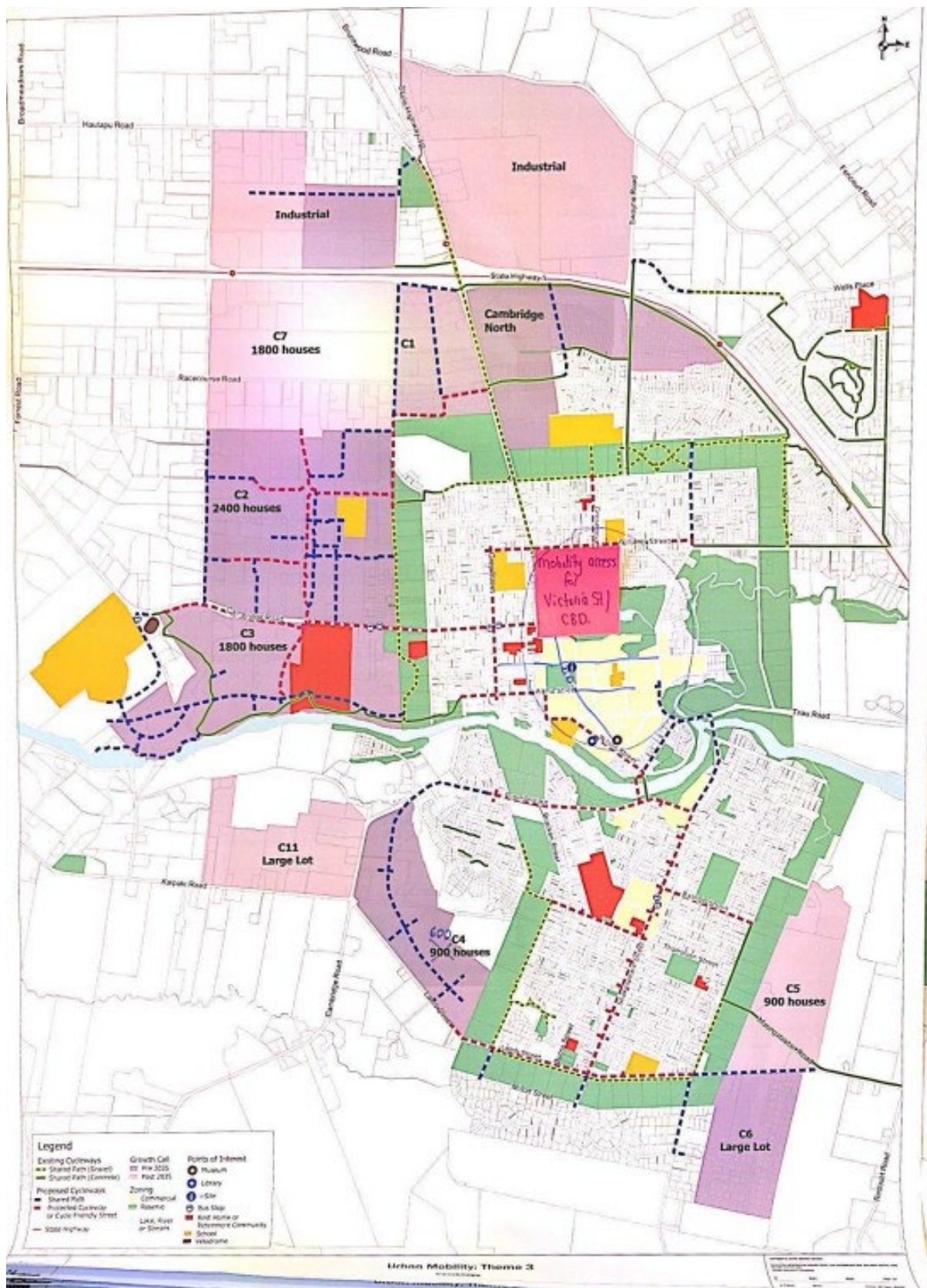
It is recommended that further standardisation of parking time limits is made along with increased enforcement. Implementation of these measures will be dependent on available budget as funding for the parking activity has been severely reduced in the 20120/2021 Annual Plan due to Covid-19 impacts.

## Appendix L - THEME MAPS

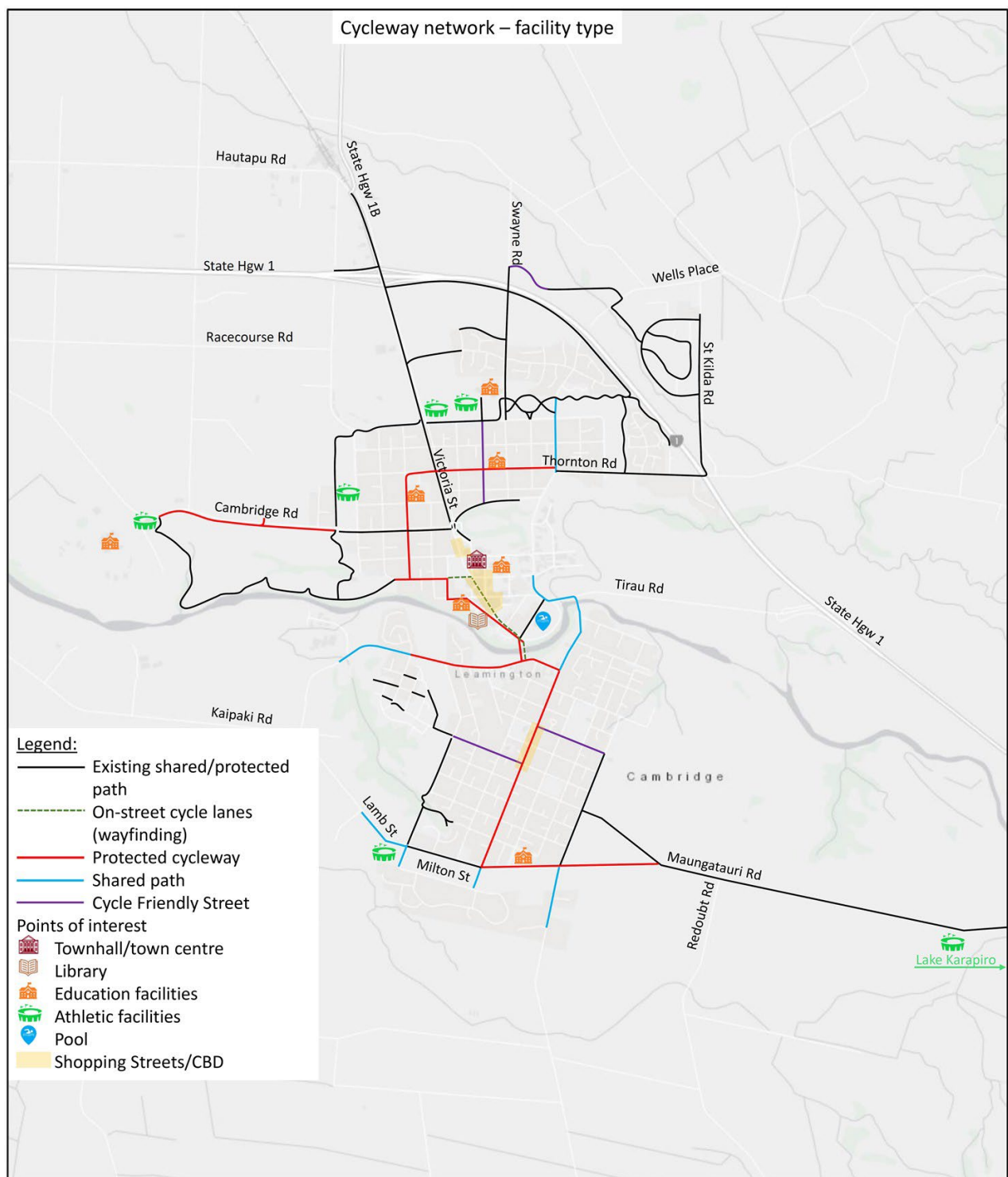


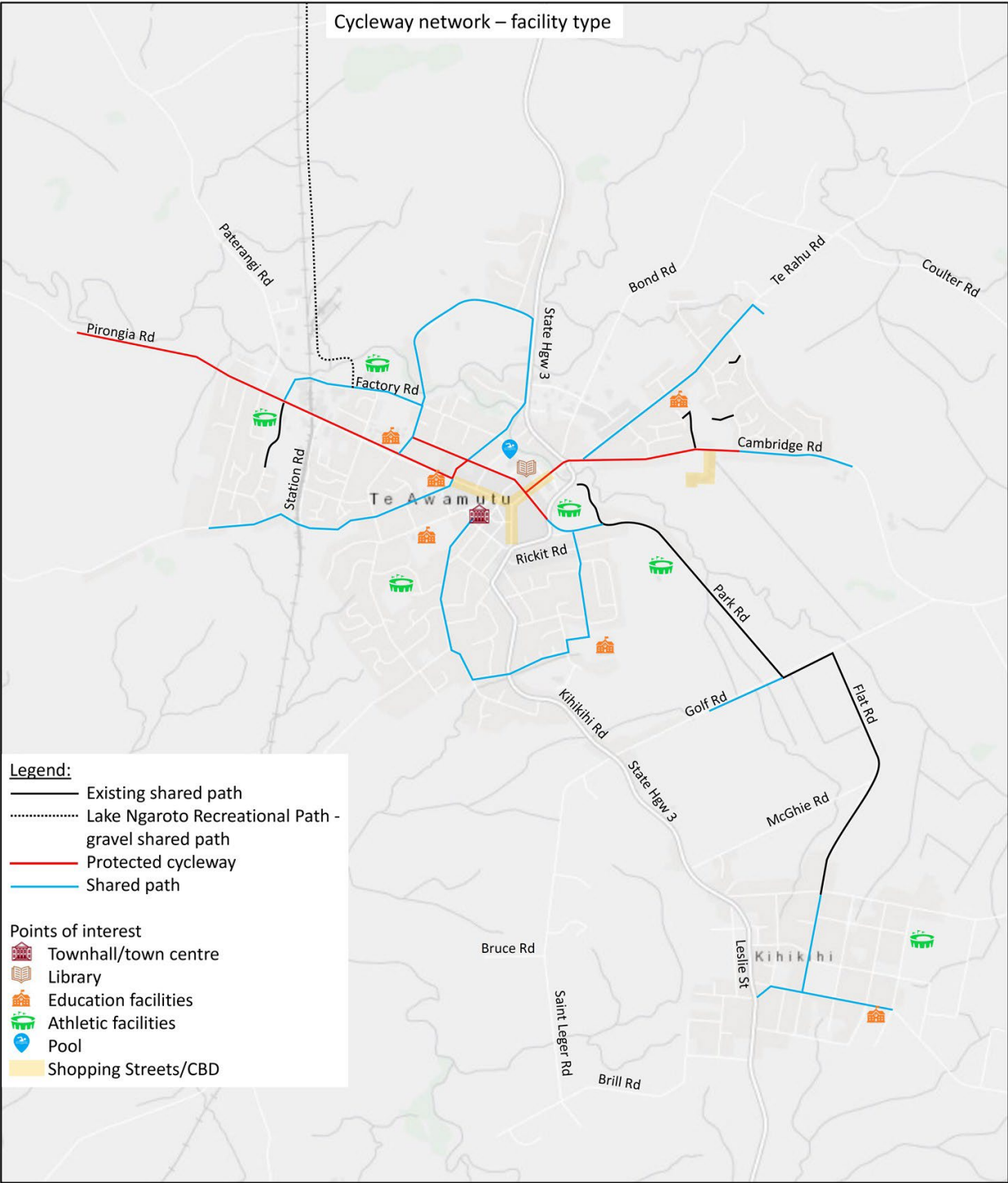






## Appendix M – PREFERRED OPTION





# Appendix N – ECONOMIC ANALYSIS

sp11-walking-and-cycling CB V4.1 Draft

SP11-1

## SP11 Walking and cycling facilities

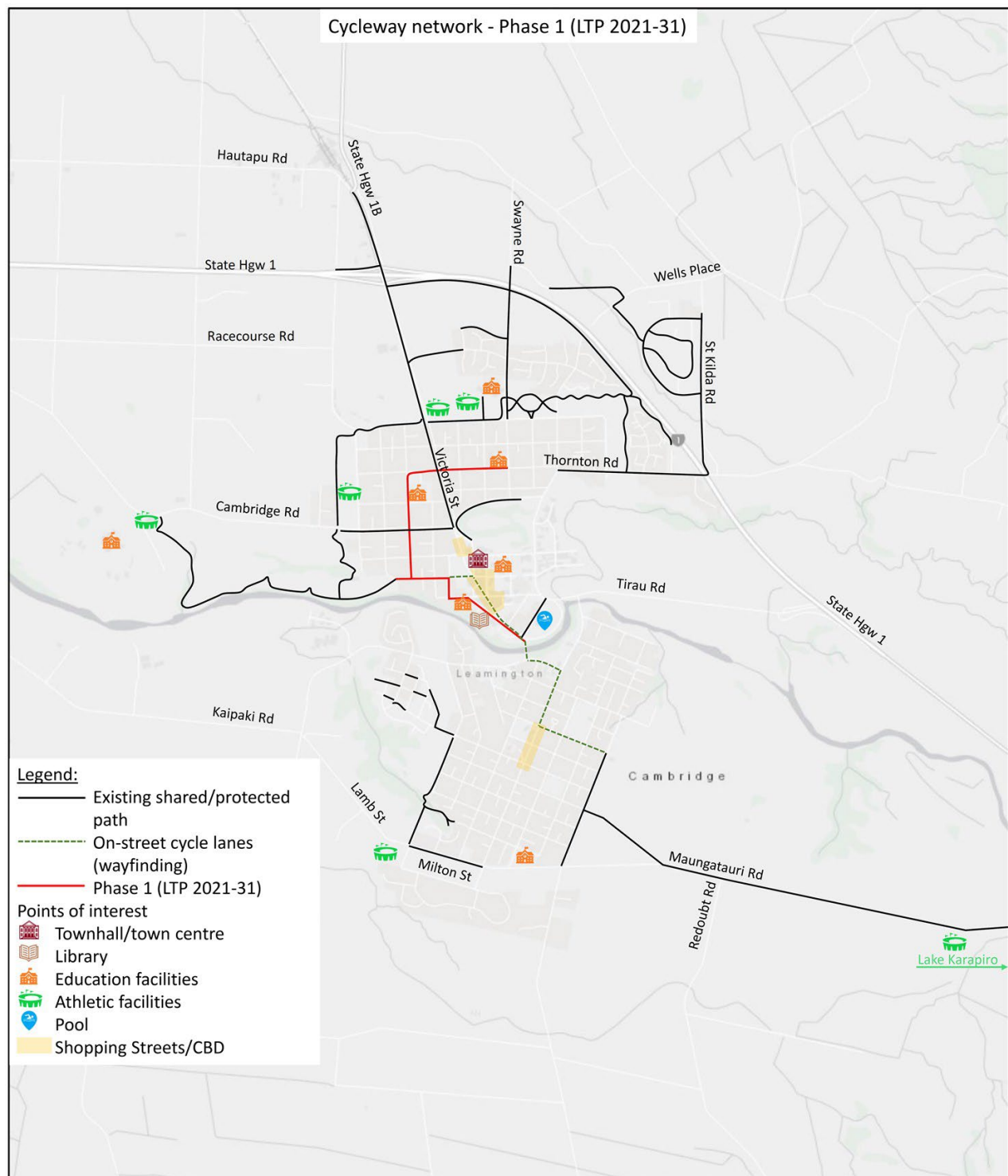
Spreadsheet v9.1 (21-Oct-20)

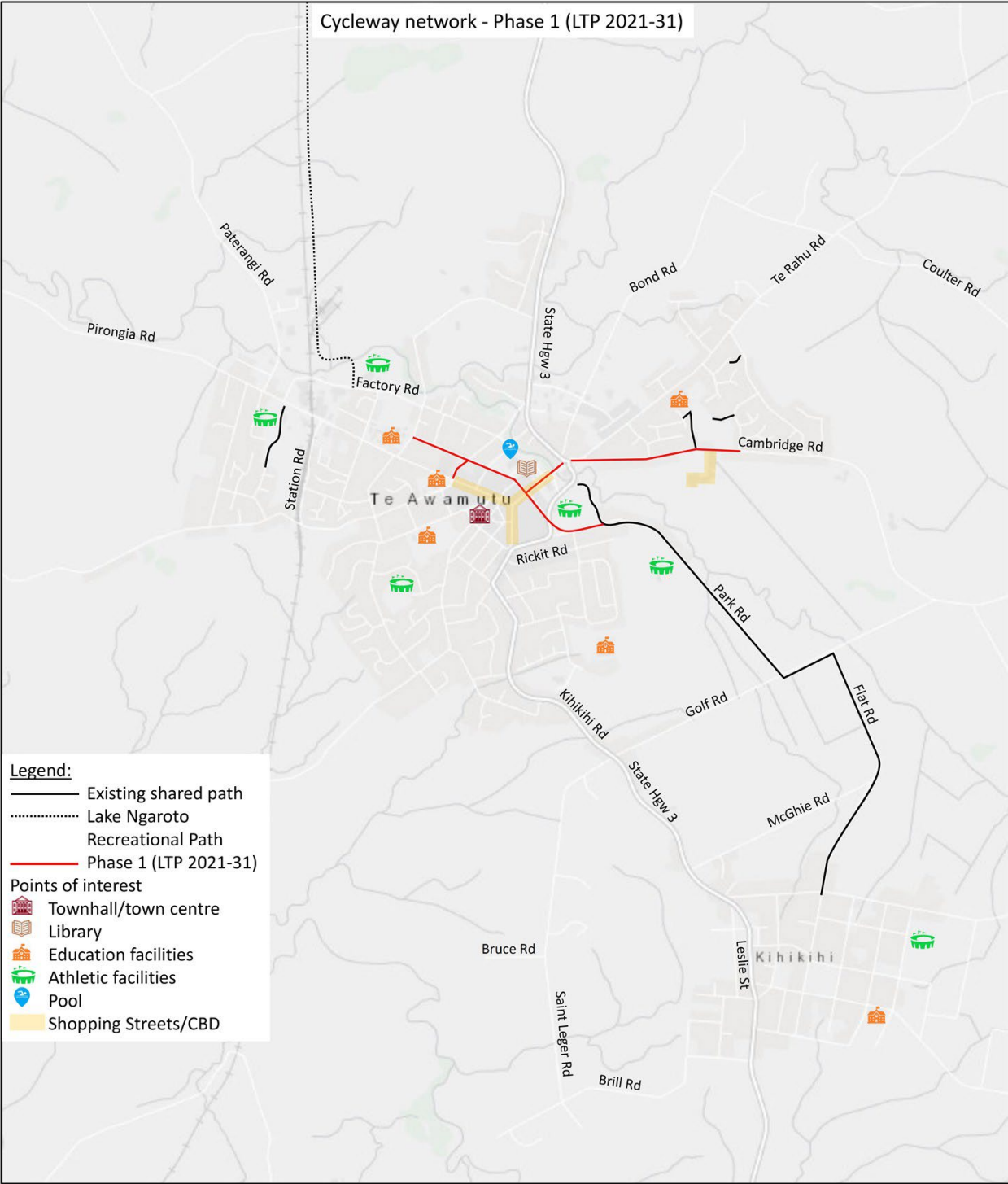
### Worksheet 1 - Evaluation summary

Worksheet 1 provides a summary of the general data used for the evaluation as well as the results of the analysis. The information required is a subset of the information required for assessment in terms of the NZTA's *Planning and Investment Knowledge Base*.

|           |                                              |                                                                                                                                                                       |                         |                                                                       |
|-----------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------|
| <b>1</b>  | Evaluator(s)                                 | Xinghao Chen / Tony Richardson, Titus Consulting Engineers, Hamilton, tonyr@tituscivil.co.nz                                                                          |                         |                                                                       |
|           | Reviewer(s)                                  | WSP                                                                                                                                                                   |                         |                                                                       |
| <b>2</b>  | Activity details                             |                                                                                                                                                                       |                         |                                                                       |
|           | Approved organisation name                   | Waipa District Council                                                                                                                                                |                         |                                                                       |
|           | Activity name                                | Urban Mobility                                                                                                                                                        |                         |                                                                       |
|           | Your reference                               |                                                                                                                                                                       |                         |                                                                       |
|           | Activity description                         | Walking and Cycleway Development in Cambridge                                                                                                                         |                         |                                                                       |
|           | Describe the issues to be addressed          | 1. Active mode users over-represented in crashes; 2. Low active mode uptake + poor health outcomes; 3. Poor + unequal transport choices                               |                         |                                                                       |
| <b>3</b>  | Location                                     |                                                                                                                                                                       |                         |                                                                       |
|           | Brief description of location                | Selected Streets / Routes in Cambridge                                                                                                                                |                         |                                                                       |
| <b>4</b>  | Alternatives and options                     |                                                                                                                                                                       |                         |                                                                       |
|           | Describe the do-minimum                      | Business as usual                                                                                                                                                     |                         |                                                                       |
|           | Summarise the options assessed               | 3,628m cycleway in Cambridge                                                                                                                                          |                         |                                                                       |
| <b>5</b>  | Timing                                       |                                                                                                                                                                       |                         |                                                                       |
|           | Time zero (assumed construction start date)  | 1 July                                                                                                                                                                | 2021                    |                                                                       |
|           | Expected duration of construction (months)   |                                                                                                                                                                       | 12                      |                                                                       |
|           | Period of analysis                           |                                                                                                                                                                       |                         |                                                                       |
| <b>6</b>  | Economic efficiency                          |                                                                                                                                                                       | Discount rate           |                                                                       |
|           | Date economic evaluation completed (mm/yyyy) |                                                                                                                                                                       | Apr-21 4%               |                                                                       |
|           | Base date for costs and benefits             | 1 July                                                                                                                                                                | 2021 Eval. Period (yrs) |                                                                       |
|           | Land designation required                    |                                                                                                                                                                       | no 40                   |                                                                       |
| <b>7</b>  | Data (only fill the applicable data)         |                                                                                                                                                                       |                         |                                                                       |
|           | Existing pedestrian/cycling volumes          | 268                                                                                                                                                                   | AADT in year            | 2021                                                                  |
|           | Estimated new pedestrian/cyclist volume      | 66 / 143                                                                                                                                                              | per day                 |                                                                       |
|           | Estimated motor vehicle volumes              |                                                                                                                                                                       | AADT                    |                                                                       |
|           | Estimated motor vehicle speed                |                                                                                                                                                                       | km/h                    |                                                                       |
|           | Pedestrian/cyclist growth rate               | 2.60                                                                                                                                                                  | %                       |                                                                       |
|           | Width available for walking/cycling before   | 0.00                                                                                                                                                                  | m                       |                                                                       |
|           | Width available for walking/cycling after    | 3.00                                                                                                                                                                  | m                       |                                                                       |
|           | Length walked/cycled after works             | 4.04                                                                                                                                                                  | km                      |                                                                       |
|           | Length walked/cycled before works            | 4.04                                                                                                                                                                  | km                      |                                                                       |
|           | Expected reduction in private vehicle travel | 4.04                                                                                                                                                                  | km per year             |                                                                       |
| <b>8</b>  | PV cost of do-minimum                        | \$                                                                                                                                                                    | 3,649,711               | <b>A</b>                                                              |
| <b>9</b>  | PV cost of the preferred option              | \$                                                                                                                                                                    | 6,222,111               | <b>B</b>                                                              |
| <b>10</b> | Benefit values from worksheet 4, 5, 6        |                                                                                                                                                                       |                         |                                                                       |
|           | PV travel time cost savings                  | \$                                                                                                                                                                    | 1,312,856               | <b>C</b> x Update factor <sup>TT</sup> 1.57 = \$ 2,061,183 <b>X</b>   |
|           | PV facility benefits                         | \$                                                                                                                                                                    | 10,905,549              | <b>D</b> x Update factor <sup>WCB</sup> 1.04 = \$ 11,341,771 <b>Y</b> |
|           | PV crash cost savings                        | \$                                                                                                                                                                    | 820,624                 | <b>E</b> x Update factor <sup>ACC</sup> 1.14 = \$ 935,511 <b>Z</b>    |
| <b>11</b> | BCR <sub>N</sub> =                           | $\frac{\text{PV net benefits}}{\text{PV economic costs}} = \frac{\text{X} + \text{Y} + \text{Z}}{\text{B} - \text{A}} = \frac{14,338,466}{2,572,400} = \mathbf{5.57}$ |                         |                                                                       |

## Appendix O – 2021 – 2031 IMPLEMENTATION





# Project Estimate – Form C

# DBE

Project Name: Shared path typical per  
km cost

## Detailed Business Case Estimate

| Item     | Description                               | Base Estimate    | Contingency    | Funding Risk Contingency |
|----------|-------------------------------------------|------------------|----------------|--------------------------|
| <b>A</b> | <b>Nett Project Property Cost</b>         | <b>0</b>         | <b>0</b>       | <b>0</b>                 |
| <b>B</b> | <b>Project Development Phase</b>          |                  |                |                          |
|          | <b>Fees</b>                               | 0                | 0              | 0                        |
|          | <b>Costs</b>                              | Nil              | Nil            | Nil                      |
|          | <b>Total Project Development</b>          | <b>0</b>         | <b>0</b>       | <b>0</b>                 |
| <b>C</b> | <b>Pre-implementation Phase</b>           |                  |                |                          |
|          | <b>Fees</b>                               | 145000           | 10,000         | 50,000                   |
|          | <b>Managed Costs</b>                      |                  |                |                          |
|          | <b>Total Pre-implementation</b>           | <b>145000</b>    | <b>10000</b>   | <b>50000</b>             |
| <b>D</b> | <b>Implementation Phase</b>               |                  |                |                          |
|          | <b>Implementation Fees</b>                |                  |                |                          |
|          | – Consultancy Fees                        |                  |                | 20,000                   |
|          | – NZTA Managed Costs                      |                  |                |                          |
|          | – Construction Monitoring Fees            | 45,000           | 10,000         | 20,000                   |
|          | <b>Sub Total Base Implementation Fees</b> | <b>45000</b>     | <b>10000</b>   | <b>40000</b>             |
|          | <b>Physical Works</b>                     |                  |                |                          |
|          | 1 Environmental Compliance                | 0                |                | 10,000                   |
|          | 2 Earthworks                              | 80,000           | 5,000          | 10,000                   |
|          | 3 Ground Improvements                     | 0                |                |                          |
|          | 4 Drainage                                | 165,000          | 20,000         | 20,000                   |
|          | 5 Pavement and Surfacing                  | 65,000           | 5,000          | 20,000                   |
|          | 6 Bridges                                 | 0                |                |                          |
|          | 7 Retaining Walls                         | 0                |                | 10,000                   |
|          | 8 Traffic Services                        | 45,000           | 5,000          |                          |
|          | 9 Service Relocations                     | 50,000           | 100,000        |                          |
|          | 1 Landscaping                             | 585,000          | 50,000         |                          |
|          | 1 Traffic Management and Temporary Works  | 30,000           | 5,000          | 5,000                    |
|          | 1 Preliminary and General                 | 80,000           | 10,000         | 10,000                   |
|          | 2 Extraordinary Construction Costs        | 0                |                |                          |
|          | 3                                         |                  |                |                          |
|          | <b>Sub Total Base Physical works</b>      | <b>1,100,000</b> | <b>200,000</b> | <b>85,000</b>            |
|          | <b>Total for Implementation Phase</b>     | <b>1145000</b>   | <b>210000</b>  | <b>125000</b>            |
| <b>E</b> | <b>Project Base Estimate(A+C+D)</b>       | <b>1,290,000</b> |                |                          |

|                                                     |                                                             |                                           |
|-----------------------------------------------------|-------------------------------------------------------------|-------------------------------------------|
|                                                     |                                                             |                                           |
| <b>F</b>                                            | <b>Contingency (Assessed/Analysed) (A+C+D)</b>              | <b>220,000</b>                            |
| <b>G</b>                                            | <b>Project Expected Estimate (E+F)</b>                      | <b>1,510,000</b>                          |
| Nett Project Property Cost Expected Estimate        |                                                             | Nil                                       |
| Project Development Phase Expected Estimate         |                                                             | Nil                                       |
| Pre-implementation Phase Expected Estimate          |                                                             | 155,000                                   |
| Implementation Phase Expected Estimate              |                                                             | 1<br>,<br>3<br>5<br>5<br>,<br>0<br>0<br>0 |
|                                                     |                                                             |                                           |
| <b>H</b>                                            | <b>Funding Risk Contingency (Assessed/Analysed) (A+C+D)</b> | <b>175,000</b>                            |
| <b>I</b>                                            | <b>95th percentile Project Estimate (G+H)</b>               | <b>1,685,000</b>                          |
| Nett Project Property Cost 95th percentile Estimate |                                                             | Nil                                       |
| Project Development Phase 95th percentile Estimate  |                                                             | Nil                                       |
| Pre-implementation Phase 95th percentile Estimate   |                                                             | 50,000                                    |
| Implementation Phase 95th percentile Estimate       |                                                             | 125,000                                   |

|                                                                                                                     |                                                           |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <b>Date of Estimate</b>                                                                                             | <b>Cost Index August 2021</b>                             |
| Estimate prepared by             | <i>Erik Van Der Wel</i> (Waipā District Council) Aug 2021 |
| Estimate internal peerreview by  | <i>Bishow Tripathy</i> (Waipā District Council) Sept2021  |
| Estimate external peer review by                                                                                    | N/A                                                       |
| Estimate accepted by NZTA                                                                                           |                                                           |

*Note:*

- (1) *These estimates are exclusive of escalation and GST.*
- (2) *Project Development Phase Estimates are set to Nil as these are now sunk costs.*

# Project Estimate – Form C

# DBE

Project Name: Cycle friendly street typical per km  
cost

## Detailed Business Case Estimate

| Item | Description                              | Base Estimate | Contingency | Funding Risk Contingency |
|------|------------------------------------------|---------------|-------------|--------------------------|
| A    | Nett Project Property Cost               | 0             |             |                          |
| B    | Project Development Phase                |               |             |                          |
|      | – Consultancy Fees                       |               | Nil         | Nil                      |
|      | – NZTA Managed Costs                     | Nil           | Nil         | Nil                      |
|      | Total Project Development                | 0             | Nil         | Nil                      |
| C    | Pre-implementation Phase                 |               |             |                          |
|      | – Consultancy Fees                       | 85000         | 10,000      | 10,000                   |
|      | – NZTA Managed Costs                     |               |             |                          |
|      | Total Pre-implementation                 | 85000         | 10000       | 10000                    |
| D    | Implementation Phase                     |               |             |                          |
|      | Implementation Fees                      |               |             |                          |
|      | – Consultancy Fees                       |               |             | 5,000                    |
|      | – NZTA Managed Costs                     |               |             |                          |
|      | – Construction Monitoring Fees           | 25,000        | 10,000      | 10,000                   |
|      | Sub Total Base Implementation Fees       | 25000         | 10000       | 15000                    |
|      | Physical Works                           |               |             |                          |
|      | 1 Environmental Compliance               | 0             |             |                          |
|      | 2 Earthworks                             | 20,000        | 5,000       | 10,000                   |
|      | 3 Ground Improvements                    | 0             |             |                          |
|      | 4 Drainage                               | 52,500        | 25,000      | 50,000                   |
|      | 5 Pavement and Surfacing                 | 25,000        | 10,000      | 50,000                   |
|      | 6 Bridges                                | 0             |             |                          |
|      | 7 Retaining Walls                        | 0             |             |                          |
|      | 8 Traffic Services                       | 17,000        |             |                          |
|      | 9 Service Relocations                    | 25,000        | 25,000      | 25,000                   |
|      | 1 Landscaping                            | 85,000        | 10,000      | 25,000                   |
|      | 1 Traffic Management and Temporary Works | 15,000        | 5,000       | 5,000                    |
|      | 1 Preliminary and General                | 55,000        |             |                          |
|      | 2 Extraordinary Construction Costs       | 0             |             |                          |
|      | 3 Sub Total Base Physical works          | 294,500       | 80,000      | 165,000                  |
| D    | Total for Implementation Phase           | 319500        | 90000       | 180000                   |
| E    | Project Base Estimate(A+C+D)             | 404,500       |             |                          |

|                                                     |                                                             |                |
|-----------------------------------------------------|-------------------------------------------------------------|----------------|
|                                                     |                                                             |                |
| <b>F</b>                                            | <b>Contingency (Assessed/Analysed) (A+C+D)</b>              | <b>100,000</b> |
| <b>G</b>                                            | <b>Project Expected Estimate (E+F)</b>                      | <b>504,500</b> |
| Nett Project Property Cost Expected Estimate        |                                                             | <b>Nil</b>     |
| Project Development Phase Expected Estimate         |                                                             | <b>Nil</b>     |
| Pre-implementation Phase Expected Estimate          |                                                             | <b>95,000</b>  |
| Implementation Phase Expected Estimate              |                                                             | <b>409,500</b> |
|                                                     |                                                             |                |
| <b>H</b>                                            | <b>Funding Risk Contingency (Assessed/Analysed) (A+C+D)</b> | <b>190,000</b> |
| <b>I</b>                                            | <b>95th percentile Project Estimate (G+H)</b>               | <b>694,500</b> |
| Nett Project Property Cost 95th percentile Estimate |                                                             | <b>Nil</b>     |
| Project Development Phase 95th percentile Estimate  |                                                             | <b>Nil</b>     |
| Pre-implementation Phase 95th percentile Estimate   |                                                             | <b>10,000</b>  |
| Implementation Phase 95th percentile Estimate       |                                                             | <b>180,000</b> |

|                                                                                                                     |                                                          |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| <b>Date of Estimate</b>                                                                                             | <b>Cost Index August 2021</b>                            |
| Estimate prepared by               | <b>Erik Van Der Wel</b> (Waipā District Council) Aug2021 |
| Estimate internal peerreview by  | <b>Bishow Tripathi</b> (Waipā District Council) Sept2021 |
| Estimate external peer review by                                                                                    | N/A                                                      |
| Estimate accepted by NZTA                                                                                           |                                                          |

*Note:*

- (1) *These estimates are exclusive of escalation and GST.*
- (2) *Project Development Phase Estimates are set to Nil as these are now sunk costs.*

## Project Estimate – Form C

DBE

Project Name: culture change typical  
annual cost

Detailed Business Case Estimate

| Item | Description                              | Base Estimate | Contingency | Funding Risk Contingency |
|------|------------------------------------------|---------------|-------------|--------------------------|
| A    | Nett Project Property Cost               | 0             | 0           | 0                        |
| B    | Project Development Phase                |               |             |                          |
|      | – Consultancy Fees                       | 0             | 0           | 0                        |
|      | – NZTA Managed Costs                     | Nil           | Nil         | Nil                      |
|      | Total Project Development                | 0             | 0           | 0                        |
| C    | Pre-implementation Phase                 |               |             |                          |
|      | – Consultancy Fees                       |               |             |                          |
|      | – NZTA Managed Costs                     |               |             |                          |
|      | Total Pre-implementation                 | 0             | 0           | 0                        |
| D    | Implementation Phase                     |               |             |                          |
|      | Implementation Fees                      |               |             |                          |
|      | – Consultancy Fees                       | 30,000        | 3,500       | 5,000                    |
|      | – NZTA Managed Costs                     |               |             |                          |
|      | – Construction Monitoring Fees           |               |             |                          |
|      | Sub Total Base Implementation Fees       | 30000         | 3500        | 5000                     |
|      | Physical Works                           |               |             |                          |
|      | 1 Environmental Compliance               |               |             |                          |
|      | 2 Earthworks                             |               |             |                          |
|      | 3 Ground Improvements                    |               |             |                          |
|      | 4 Drainage                               |               |             |                          |
|      | 5 Pavement and Surfacing                 |               |             |                          |
|      | 6 Bridges                                |               |             |                          |
|      | 7 Retaining Walls                        |               |             |                          |
|      | 8 Traffic Services                       |               |             |                          |
|      | 9 Service Relocations                    |               |             |                          |
|      | 1 Landscaping                            |               |             |                          |
|      | 0                                        |               |             |                          |
|      | 1 Traffic Management and Temporary Works |               |             |                          |
|      | 1 Preliminary and General                |               |             |                          |
|      | 2                                        |               |             |                          |
|      | 1 Extraordinary Construction Costs       |               |             |                          |
|      | 3                                        |               |             |                          |
|      | Sub Total Base Physical works            | 0             | 0           | 0                        |
|      | Total for Implementation Phase           | 30000         | 3500        | 5000                     |
| E    | Project Base Estimate(A+C+D)             | 30,000        |             |                          |

|                                                     |                                                     |                |               |
|-----------------------------------------------------|-----------------------------------------------------|----------------|---------------|
|                                                     |                                                     |                |               |
| <b>F</b>                                            | <b>Contingency (Assessed/Analysed)</b>              | <b>(A+C+D)</b> | <b>3,500</b>  |
| <b>G</b>                                            | <b>Project Expected Estimate</b>                    | <b>(E+F)</b>   | <b>33,500</b> |
| Nett Project Property Cost Expected Estimate        |                                                     |                | <b>Nil</b>    |
| Project Development Phase Expected Estimate         |                                                     |                | <b>Nil</b>    |
| Pre-implementation Phase Expected Estimate          |                                                     |                | <b>0</b>      |
| Implementation Phase Expected Estimate              |                                                     |                | <b>33,500</b> |
| <b>H</b>                                            | <b>Funding Risk Contingency (Assessed/Analysed)</b> | <b>(A+C+D)</b> | <b>5,000</b>  |
| <b>I</b>                                            | <b>95th percentile Project Estimate</b>             | <b>(G+H)</b>   | <b>38,500</b> |
| Nett Project Property Cost 95th percentile Estimate |                                                     |                | <b>Nil</b>    |
| Project Development Phase 95th percentile Estimate  |                                                     |                | <b>Nil</b>    |
| Pre-implementation Phase 95th percentile Estimate   |                                                     |                | <b>0</b>      |
| Implementation Phase 95th percentile Estimate       |                                                     |                | <b>5,000</b>  |

|                                                                                                                     |                                                           |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <b>Date of Estimate</b>                                                                                             | <b>Cost Index August 2021</b>                             |
| Estimate prepared by               | <i>Erik Van Der Wel</i> (Waipā District Council) Aug 2021 |
| Estimate internal peerreview by  | <i>Bishow Tripathy</i> (Waipā District Council) Sept2021  |
| Estimate external peer review by                                                                                    | N/A                                                       |
| Estimate accepted by NZTA                                                                                           |                                                           |

*Note:*

- (1) *These estimates are exclusive of escalation and GST.*
- (2) *Project Development Phase Estimates are set to Nil as these are now sunk costs.*

# Appendix S – COST ESTIMATE – PEDESTRIAN PRIORITY AREA

## Project Estimate – Form C

# DBE

Project Name: pedestrian priority areas typical per km cost

### Detailed Business Case Estimate

| Item | Description                              | Base Estimate | Contingency | Funding Risk Contingency |
|------|------------------------------------------|---------------|-------------|--------------------------|
| A    | Nett Project Property Cost               | 0             | 0           | 0                        |
| B    | Project Development Phase                |               |             |                          |
|      | – Consultancy Fees                       |               |             |                          |
|      | – NZTA Managed                           |               |             |                          |
|      | Costs                                    | Nil           | Nil         | Nil                      |
|      | Total Project Development                |               |             |                          |
| C    | Pre-implementation Phase                 |               |             |                          |
|      | – Consultancy Fees                       | 32500         | 5,000       | 10,000                   |
|      | – NZTA Managed                           |               |             |                          |
|      | Costs                                    | 32500         | 5000        | 10000                    |
|      | Total Pre-implementation                 |               |             |                          |
|      | Implementation Phase                     |               |             |                          |
|      | Implementation Fees                      |               |             |                          |
|      | – Consultancy Fees                       |               |             | 10,000                   |
|      | – NZTA Managed Costs                     |               |             |                          |
|      | – Construction Monitoring Fees           | 20,000        | 5,000       | 10,000                   |
|      | Sub Total Base Implementation Fees       | 20000         | 5000        | 20000                    |
|      | Physical Works                           |               |             |                          |
|      | 1 Environmental Compliance               | 0             |             |                          |
|      | 2 Earthworks                             | 0             |             |                          |
|      | 3 Ground Improvements                    | 0             |             |                          |
|      | 4 Drainage                               | 0             |             |                          |
|      | 5 Pavement and Surfacing                 | 0             |             |                          |
|      | 6 Bridges                                | 0             |             |                          |
|      | 7 Retaining Walls                        | 0             |             |                          |
|      | 8 Traffic Services                       | 12,500        | 5,000       | 5,000                    |
|      | 9 Service Relocations                    | 0             |             |                          |
|      | 1 Landscaping                            | 22,000        | 2,500       | 5,000                    |
|      | 1 Traffic Management and Temporary Works | 2,500         | 500         | 1,000                    |
|      | 1 Preliminary and General                | 2,500         | 2,500       | 2,500                    |
|      | 2 Extraordinary Construction Costs       | 0             |             |                          |
|      | 3 Sub Total Base Physical works          | 39,500        | 10,500      | 13,500                   |

|                                                     |                                                             |                |               |                |
|-----------------------------------------------------|-------------------------------------------------------------|----------------|---------------|----------------|
| <b>D</b>                                            | <b>Total for Implementation Phase</b>                       | <b>59500</b>   | <b>15500</b>  | <b>33500</b>   |
| <b>E</b>                                            | <b>Project Base Estimate (A+C+D)</b>                        | <b>92,000</b>  |               |                |
| <b>F</b>                                            | <b>Contingency (Assessed/Analysed) (A+C+D)</b>              | <b>20,500</b>  |               |                |
| <b>G</b>                                            | <b>Project Expected Estimate (E+F)</b>                      | <b>112,500</b> |               |                |
| Nett Project Property Cost Expected Estimate        |                                                             |                | <b>Nil</b>    |                |
| Project Development Phase Expected Estimate         |                                                             |                | <b>Nil</b>    |                |
| Pre-implementation Phase Expected Estimate          |                                                             |                | <b>37,500</b> |                |
| Implementation Phase Expected Estimate              |                                                             |                | <b>75,000</b> |                |
| <b>H</b>                                            | <b>Funding Risk Contingency (Assessed/Analysed) (A+C+D)</b> |                |               | <b>43,500</b>  |
| <b>I</b>                                            | <b>95th percentile Project Estimate (G+H)</b>               |                |               | <b>156,000</b> |
| Nett Project Property Cost 95th percentile Estimate |                                                             |                |               | <b>Nil</b>     |
| Project Development Phase 95th percentile Estimate  |                                                             |                |               | <b>Nil</b>     |
| Pre-implementation Phase 95th percentile Estimate   |                                                             |                |               | <b>10,000</b>  |
| Implementation Phase 95th percentile Estimate       |                                                             |                |               | <b>33,500</b>  |

|                                                                                                                            |                                                           |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <b>Date of Estimate</b>                                                                                                    | <b>Cost Index August 2021</b>                             |
| <b>Estimate prepared by</b>             | <b>Erik Van Der Wel (Waipā District Council) Aug 2021</b> |
| <b>Estimate internal peerreview by</b>  | <b>Bishow Tripathy (Waipā District Council) Sept2021</b>  |
| <b>Estimate external peer review by</b>                                                                                    | <b>N/A</b>                                                |
| <b>Estimate accepted by NZTA</b>                                                                                           |                                                           |

*Note:*

- (1) *These estimates are exclusive of escalation and GST.*
- (2) *Project Development Phase Estimates are set to Nil as these are now sunk costs.*

## Appendix T – COST ESTIMATE – PROTECTED CYCLEWAY

# Project Estimate – Form C

# DBE

Project Name: Protected cycleway typical per km cost

## Detailed Business Case Estimate

| Item                                         | Description                                    | Base Estimate    | Contingency      | Funding Risk Contingency |
|----------------------------------------------|------------------------------------------------|------------------|------------------|--------------------------|
| <b>A</b>                                     | <b>Nett Project Property Cost</b>              | <b>0</b>         |                  |                          |
| <b>B</b>                                     | <b>Project Development Phase</b>               |                  |                  |                          |
|                                              | Consultancy Fees – NZTA                        | Nil              | Nil              | Nil                      |
|                                              | Managed Costs                                  | Nil              | Nil              | Nil                      |
|                                              | <b>Total Project Development</b>               | <b>Nil</b>       | <b>Nil</b>       | <b>Nil</b>               |
| <b>C</b>                                     | <b>Pre-implementation Phase</b>                |                  |                  |                          |
|                                              | Consultancy Fees – NZTA                        | 145000           | 10,000           | 50,000                   |
|                                              | Managed Costs                                  |                  |                  |                          |
|                                              | <b>Total Pre-implementation</b>                | <b>145000</b>    | <b>10000</b>     | <b>50000</b>             |
| <b>D</b>                                     | <b>Implementation Phase</b>                    |                  |                  |                          |
|                                              | <b>Implementation Fees</b>                     |                  |                  |                          |
|                                              | – Consultancy Fees                             |                  |                  | 20,000                   |
|                                              | – NZTA Managed Costs                           |                  |                  |                          |
|                                              | – Construction Monitoring Fees                 | 45,000           | 10,000           | 200,000                  |
|                                              | <b>Sub Total Base Implementation Fees</b>      | <b>45000</b>     | <b>10000</b>     | <b>220000</b>            |
|                                              | <b>Physical Works</b>                          |                  |                  |                          |
|                                              | 1 Environmental Compliance                     | 0                |                  |                          |
|                                              | 2 Earthworks                                   | 80,000           | 10,000           | 20,000                   |
|                                              | 3 Ground Improvements                          | 0                |                  |                          |
|                                              | 4 Drainage                                     | 165,000          | 20,000           | 50,000                   |
|                                              | 5 Pavement and Surfacing                       | 157,000          | 20,000           | 50,000                   |
|                                              | 6 Bridges                                      | 0                |                  |                          |
|                                              | 7 Retaining Walls                              | 0                |                  |                          |
|                                              | 8 Traffic Services                             | 177,500          | 10,000           | 50,000                   |
|                                              | 9 Service Relocations                          | 50,000           | 150,000          | 150,000                  |
|                                              | 10 Landscaping                                 | 260,000          | 50,000           | 50,000                   |
|                                              | 11 Traffic Management and Temporary Works      | 30,000           | 5,000            | 10,000                   |
|                                              | 12 Preliminary and General                     | 80,000           | 5,000            | 10,000                   |
|                                              | 13 Extraordinary Construction Costs            | 0                |                  |                          |
|                                              | <b>Sub Total Base Physical works</b>           | <b>999,500</b>   | <b>270,000</b>   | <b>390,000</b>           |
| <b>D</b>                                     | <b>Total for Implementation Phase</b>          | <b>1044500</b>   | <b>280000</b>    | <b>610000</b>            |
| <b>E</b>                                     | <b>Project Base Estimate (A+C+D)</b>           | <b>1,189,500</b> |                  |                          |
| <b>F</b>                                     | <b>Contingency (Assessed/Analysed) (A+C+D)</b> |                  | <b>290,000</b>   |                          |
| <b>G</b>                                     | <b>Project Expected Estimate (E+F)</b>         |                  | <b>1,479,500</b> |                          |
| Nett Project Property Cost Expected Estimate |                                                |                  | <b>Nil</b>       |                          |

|                                                     |                                                                |                  |
|-----------------------------------------------------|----------------------------------------------------------------|------------------|
| Project Development Phase Expected Estimate         |                                                                | Nil              |
| Pre-implementation Phase Expected Estimate          |                                                                | 155,000          |
| Implementation Phase Expected Estimate              |                                                                | 1,324,500        |
|                                                     |                                                                |                  |
| <b>H</b>                                            | <b>Funding Risk Contingency</b><br>(Assessed/Analysed) (A+C+D) | <b>660,000</b>   |
| <b>I</b>                                            | <b>95th percentile Project Estimate</b> (G+H)                  | <b>2,139,500</b> |
| Nett Project Property Cost 95th percentile Estimate |                                                                | Nil              |
| Project Development Phase 95th percentile Estimate  |                                                                | Nil              |
| Pre-implementation Phase 95th percentile Estimate   |                                                                | 50,000           |
| Implementation Phase 95th percentile Estimate       |                                                                | 610,000          |

|                                                                                                                    |                                                            |
|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| <b>Date of Estimate</b>                                                                                            | <b>Cost Index August 2021</b>                              |
| Estimate prepared by              | <i>Erik Van Der Wel</i> (Waipā District Council) Aug2021   |
| Estimate internal peer review by  | <i>Bishow Tripathee</i> (Waipā District Council) Sept 2021 |
| Estimate external peer review by                                                                                   | N/A                                                        |
| Estimate accepted by NZTA                                                                                          |                                                            |

*Note:*

- (1) *These estimates are exclusive of escalation and GST.*
- (2) *Project Development Phase Estimates are set to Nil as these are now sunk costs.*