



Rotorua

Urban Cycling Strategic Plan

2015 – 2018

&

Cycling Framework

ROTORUA
LAKES COUNCIL



Rotorua Urban Cycling Strategic Plan 2015 – 2018

A district in which people from all sectors of the community
can and do cycle safely for transport and enjoyment
SUSTAINABLE AND AFFORDABLE INFRASTRUCTURE

ROTORUA
LAKES COUNCIL

URBAN CYCLING STRATEGIC PLAN

TĀTAU TĀTAU - WE TOGETHER

Mayor's message



Rotorua's credentials as a great cycling city and district stretch beyond our award-winning forest trail networks.

Our cycling-friendly landscape provides easy riding throughout the city and surroundings.

As part of the council's Rotorua 2030 goal of providing 'Outstanding Places to Play', we're continuously looking at making recreation opportunities part of the community's lifestyle.

Fun events, such as Frocks on Bikes and the annual Rotorua Bike Festival, offer both novice and seasoned riders of all ages a chance to participate in a fun, non-threatening environment, while our new Green Corridor provides a safe and scenic cycle route through the inner city, and linking up with

other existing cycleways.

Rotorua's lakes and geothermal activity also provide a stunning backdrop to numerous world-class competitive cycling events, such as the UCI World Champs in 2006.

The benefits of cycling for individuals and the environment are immeasurable – it saves money, provides easy parking, reduces emissions, and promotes health and fitness.

I strongly encourage local people to get on their bikes and enjoy Rotorua.

Hon Steve Chadwick JP
Rotorua Mayor

Deputy Mayor's message



Rotorua is increasingly building a global reputation as a top cycling centre, with several thriving cycling

clubs. For two years in a row we've been accorded the title of Bike Wise New Zealand's 'Favourite Place to Cycle', we've secured rights to host the world's biggest mountain biking festival for three years - Crankworx, and we've succeeded in a joint bid with the Home of Cycling Trust that will see the National Mountain Biking Centre of Excellence based in Rotorua.

These accomplishments don't happen by chance. It takes amazing collaboration and community contribution to pull off such feats, and we certainly appreciate these

continued efforts to boost Rotorua's appeal as the world's premier all-year-round mountain biking resort.

Not only do these events and the accolades we've received support Rotorua's cycling status, but the ever-growing numbers of national and international visitors also boost our local economy by way of employment and by spending in our accommodation, retail businesses, cafes, restaurants, and visitor activities and attractions.

Dave Donaldson
Sustainable Economic Growth
Portfolio lead



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Rotorua 2030



Our Journey

We are immensely fortunate to live in Rotorua – a very special part of New Zealand / Aotearoa. It is a place that has captured the imaginations of generations of New Zealanders and literally millions of people from all over the world.

Cycling is one of the best ways to explore Rotorua. See our spectacular scenery and unique culture.

Our Mountain bike tracks provide a rich playground for locals and tourists with hectares of lush, ferny forest and catering for everyone – from beginners and family groups right through to the experts.

Our integrated Urban Cycleway Network is working towards providing links between schools, the CBD and major tourist cycling facilities.

Rotorua Lakes Council is embarking on a journey to take our district forward – to craft a positive tomorrow for all our residents.

The journey started with

determining where we want to be in the future – what we want Rotorua to be by 2030.

The Rotorua Urban Cycling Strategic Plan (RUCSP) has been developed to support the Rotorua 2030 goals and sits under the Rotorua Integrated Network Strategy and Rotorua Sport & Recreation Strategy.

This document is the updated version of the 2013 - 18 strategy, undertaken by Rotorua District Council in consultation with cycling stakeholders. It reviews and builds on the progress made by the previous two strategic plans and sets a new and ambitious direction for Rotorua's cycling programme for the future in response to the government prioritising cycling via the Urban Cycling Fund (UCF) 2015-2018.

The Rotorua Urban Cycling Strategic Plan 2015 acknowledges that all those involved in cycling need to work together to help our community to embrace and enjoy change.

When we all work together towards the same goal we are more likely to achieve desired outcomes. Emphasis is on connectivity of all things cycling in Rotorua.

This is our home. We are its people. We're connected to each other through our culture and communities. We're innovative and we share what we learn.

We're driving opportunity, enterprise and diversity. We're supporting a legacy of sustainability for our environment. Rotorua is a place for everyone.

Together we can achieve more – Tātau tātau – We together

Our Journey to Rotorua 2030 has begun...



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Section 1

Strategic Context

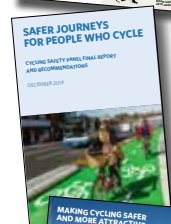
Contributing to our vision for cycling in Rotorua

National



Safer Journeys 2020

"Encouraging use of alternative modes of transport"



Transport Demand Management Strategy

"Reduce the demand for motorised vehicular transport. Walking and cycling is one of its key areas of focus"



Safer Journeys for People who Cycle 2014

"A safe road network with zero fatalities and reduced serious injuries for people who cycle"

NZ Transport Agency's Cycling Safety Action Plan

"Making cycling safer and more attractive"

Regional



Regional Land Transport Strategy (RLTS) 2011 - 2041

"Best transport systems for a growing economy and a safe and vibrant Bay lifestyle"

Local



Rotorua Integrated Network Strategy 2012 - 2014

"Increased active and public transport mode share and a more accessible city centre"

Rotorua Sport & Recreation Strategy



Rotorua 2030 - Tatou Tatou - WE TOGETHER

"Journey - where we want Rotorua to be by 2030
Outstanding place to play, vibrant city heart,
enhanced environment"

Grow Rotorua - Rotorua Biking Strategy 2014 - 2024

"To ensure Rotorua maximises cycle tourism growth, it is now time to set out and implement a strategy that delivers a wider offering, leverages other marketing programs and reaches more potential visitors"

RCA says...

*"think big
and invest
now in further
cycle strategy
development"*

*Rotorua Cycle Action
submission*



URBAN CYCLING STRATEGIC PLAN

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Why?

The development of a robust urban cycling strategic plan and network implementation plan will;

- Enhance and reinforce the district's brand and reputation as a key cycling destination for domestic and foreign tourism
- Contribute to improved health outcomes for our community by promoting active modes of transport and by reducing adverse impacts on our living environment
- Help address future demand on limited roading capacity by reducing the number of trips based on motor vehicles and increasing trips through active transport modes
- Contribute to achieving sustainable and affordable infrastructure thus reducing the funding burden on the community

How?

Key enablers in achieving the urban cycling strategic plan outcomes are;

- Completing an integrated cycling network connecting our recreational and urban destinations in a seamless and effortless manner
- Promotion and advocacy for the community to engage in active modes of transport including cycling and walking
- Incentivising all short and medium length trips to be made on cycle through the provision of effective local cycling routes and safe commuting cycling corridors
- Focussed education and encouragement of school aged children on the merits, advantages and benefits of active modes of transport

The opportunity to be addressed

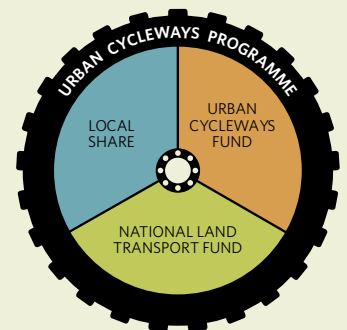
URBAN CYCLEWAYS PROGRAMME

The Urban Cycleways Programme, comprising shared investment from the Urban Cycleways Fund, the National Land Transport Fund and local councils, enables key, high-value urban cycling projects to get underway around the country over the next three years, while improving cycle safety and supporting more connected cycle networks.



For more information, visit our website

<http://beta.nzta.govt.nz/walking-cycling-and-public-transport/cycling/>



The UCF will accelerate and substantially complete the city's urban cycling network 'Cy-Way' by 2018. Rotorua was successful in their application to UCF and secured a total project cost of \$5.5 million to develop over 27kms of shared paths. The Cy-Way aims to be a catalyst for more people to choose to walk or cycle to work, school, shops as well as recreation.

Expected Benefits

The completion of Rotorua's primary cycling network will provide easier and safer access for people cycling to school, with almost 14,000 students within 500 metres of the primary cycling network.

The completed network is expected to increase cycling from the suburbs within 20 minutes of the CBD, aiming to achieve an increase in mode share for cycling to work and to school. The network will also have benefits for tourism and economic development by furthering Rotorua's reputation as a cycling destination and recreation-friendly city.



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Section 2

Vision

A district in which people from all sectors of the community can and do cycle safely for transport and enjoyment

Objectives	Delivery Themes*
• Increase participation in cycling	1. Increased active transport mode share
• Make urban cycling a safer and more attractive transport choice	2. Active approach to cycle safety 3. Focussed infrastructure
• Support economic growth through cycling	4. Economic growth
• Socialise cycling - help everyday people consider themselves as potential cyclists who choose to cycle for enjoyment	Achieved through delivery of 1 to 4

**Delivery themes are the programmes of work that will be delivered to achieve the objectives.*

Success measures

- 1 Mode share
 - 4% of people cycle to work by 2018
 - 4% decrease in car commuters by 2018
- 2 20% increase in schoolchildren cycling (or other wheeled modes) to school by 2018
- 3 10% increase in number of people participating in recreational cycling by 2018
- 4 20% reduction in cycling crashes involving another vehicle by 2018
- 5 80% of the community and visitors satisfied with cycling facilities by 2018
- 6 Submissions made annually to local, regional and national transport strategies and/or national legislation



URBAN CYCLING STRATEGIC PLAN

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1. Increased active transport mode share

Desired Outcomes

- More people in Rotorua District cycling to work
- More students in Rotorua District cycling to schools
- More people in Rotorua District participating in recreational cycling
- More people cycling for general errands and day-to-day business

What has already been achieved?

- Public Transport enhancement in collaboration with Regional Council – creation of a ring road, new bus shelters, bike racks on buses
- Built new cycleways – Ngongotaha and Fenton
- Bike racks installed around CBD

What can be done next?

- Complete the city's urban cycling network – The Cy-Way programme of work aims to be a catalyst for more people to choose to walk or cycle to work, shops and for recreation
- Active transport needs (cycling and walking) be accorded a greater priority in all transport planning and investment decisions
- Increase opportunities for people to try cycling. Remove barriers to make it easy to start
- Establishment of an ongoing monitoring mechanism for cycling



Comparing Travel Modes

NZ Household survey 2011 -2014 (March 2015)

New Zealand Household Travel Survey is an ongoing survey of household travel conducted for the Ministry of Transport.

Facts below look at the travel mode choices made by people in New Zealand as they relate to cycling.

For more information about the background to the survey see the Ministry of Transport website at www.transport.govt.nz/research/travelsurvey/

Key facts

The biggest users of non-car modes are children (5–14) and

young adults (15–24). Even these groups spend two-thirds of total travel time in a private vehicle.

Walking and cycling by children aged 5–14 has decreased from an average of 2 hours and ten minutes per week in 1989/90, to an hour and six minutes per week in 2011–14.

The number of primary school aged students being driven to school has increased significantly since 1989/90.

NZ Travel Survey 2009 -13

Key Facts

Males spend more time cycling than females for all age groups
67% of those aged 5-12 years old,

53% of those aged 13 -17 years old and 30% of those aged 18 years and over have cycled at some stage in the last year

69% of households of a family with children have one or more bicycles

77% of those living alone do not have a bicycle

Mode share by age group

Travel patterns for various age groups indicate that school aged children, young adults and older road users were the most likely to choose active travel modes (walking and cycling).

2.4% of people cycle to work in Rotorua compared to a national figure of 2.6%.



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Section 2

2. Active approach to cyclist safety

Desired Outcomes

- Increased cyclist safety – package of safe system measures
- Cultural shift between road users
- Reduction in cyclist crashes
- Help shape strategies and legislation to improve cyclist safety

What has already been achieved?

Road safety education campaigns –

- Aim to improve the road safety culture by educating motorists to better understand cyclists' needs and rights and motorists' road

safety obligations towards them

- Targeted at cyclists to remind them of their obligations as road users: wearing hi –visibility clothing and using lights
- Cycle skills Education – cycle skills training programmes designed to develop basic cycle skills and cycling road safety skills
- Signage and maps to make networks more obvious and user friendly

What can be done next?

- Continue to shape strategies/legislation to improve cyclist safety
- Ensure needs of cyclists are considered in the implementation of the Safer Speeds Programme.

Delivery of the ReCycle Rotorua Action Plan

- Greater scope for collaboration and engagement with community, utilise other agencies to create a bigger resource for education, skills training in schools and at community programmes/events
- Increase the safety of cycling to school through a package of Safe System measures – working with school communities
- Increase cyclists' safety around commercial vehicles: support delivery of road user workshops led by CAN and Safer Journeys for those who cycle led by Road Safety Trust
- Influence perceptions of safety eg. remove barriers preventing parents from allowing children to cycle
- Investigate delivery of the Bikes in Schools model

WISH LIST

Junior cycle park

A track designed to simulate "real world" conditions such as intersections, roundabouts and car parks to allow children to be trained to navigate safely.

Schools and families will be the main benefactors of a new cycle-skills track.

There is potential for bikes and a container on site to store the cycles, which would be available for schools.



WISH LIST

Bike Kitchen

The Bike Kitchen teaches people of all ages and backgrounds how to repair bicycles. The Bike Kitchen promotes personal development and provides leadership opportunities. Operating as a cooperative shop, it provide affordable ways to acquire and maintain a bike, encourage re-use and recycling, and work with community groups to get more people on bicycles

www.bikekitchen.org

www.mechanicaltempest.co.nz



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3. Focussed infrastructure

Desired Outcomes

- Improve the quality cycling infrastructure.
- Increase infrastructure for cyclists to increase average journey length.
- Accelerate the provision of consistent, convenient and complete cycle networks.
- Work with Engineers to capitalise/leverage on road improvements to ensure cycling is accommodated in future planning.



What has already been done?

Te Ara Ahi

Te Ara Ahi – Thermal by Bike offers a 47 -51 km cycling adventure that starts in the Urban Central Business District.



It begins beneath the arches of Government Gardens, then winds its way through urban Rotorua meeting a thermal wonderland: Whakarewarewa, Waimangu Volcanic Valley, Wai-O-tapu Thermal Wonderland, and Waikite Valley Thermal Springs. Each has its own unique geothermal features, including rare flora and fauna and is rich in Māori history and folklore.

An existing network of both on-road and off-road cycle trails exist and most of the geothermal areas are well established tourist attractions, with a wide range of amenities such as cafes, souvenir shops, toilets and bike storage facilities.

www.nzcycletrail.com/te-ara-ahi

Green corridor



An inner city revitalisation project that links existing urban cycleways to the east and west of the city through an inner city corridor that targets alternate modes of transport.

The Green Corridor has been designed to draw visitors from the parks in to the inner city.

It accommodates all types of users from young, families, the elderly to city centre visitors.

It creates a destination objective and puts another strong stamp in the ground for Rotorua as a cycle friendly city.

www.rotorualakescouncil.nz/our-city/Cityprojects/greencorridor

WISH LIST

Around the Lake Path

An additional attraction for our city as a preferred cycling destination.

Submission from the RCA



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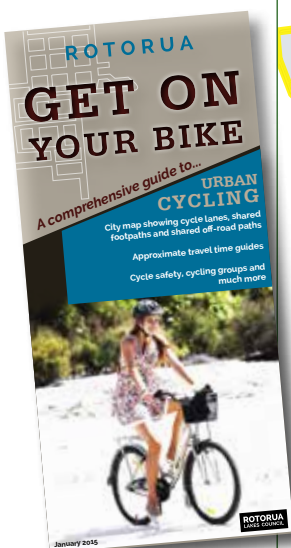
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Section 2

What can be done next?

- Increase cycling infrastructure consistent with national guidelines
- Completion of the "CyWay" programme 2015-2018. Continuous, convenient and complete cycle network
- Implement best practice intersection safety treatments
- Improve the quality and quantity of cycling infrastructure to increase average journey length
- Progressively address parking/ cycling balance on arterial routes to minimise safety risk

Identified corridors for potential future improvements



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4. Support economic growth through cycling

Desired Outcomes

- Build on platform of Rotorua as a cycling destination – favourite place to ride
- Showcase Rotorua as a cycling city
- Support all modes of cycling to grow
- Increase satisfaction with cycling facilities provided

What has already been achieved?

- Bike Festival – cycling encouragement campaigns and events – undertaken by tourism, health, retail, event organisers, cycling clubs, Sport BoP, Rotorua Cycle Action, Bay of Plenty Regional Council and Rotorua Lakes Council (RLC). Examples: Bike Month, Frocks on Bikes, Tikes on Trikes, Nervous Nellies
- Green Corridor: link that forms part of the proposed Cy Way programme. It is unique because it is geared towards the tourist/family market bringing more people into the CBD (inner city revitalisation project)
- Formation of The Trails Trust, May 2015. A key stakeholder of the urban network
- Cross over of key people between cycling stakeholders and community groups such as RCA, Trails Trust, RLC, Sport and Recreation, Destination Rotorua, Sport BoP etc

What can be done next?

- Showcase Rotorua as a cycling destination through a matrix approach between departments at RLC including stakeholders
- Support all modes of cycling to grow
- 'Bike Parking' at major and community events. Provide designated, visible bike parking opportunity at events
- Strengthen and streamline decision making to provide a safe road system for cyclists
- Connecting our city to the Mountain Bike Trails – building a network that enables ease of connectivity and provides greater likelihood of people choosing to cycle rather than drive between destinations



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Section 3

Evaluating and monitoring

The Safe System approach involves continuous improvement as lessons are learned about what works and what does not.

Rotorua Lakes Council is developing and will report on Key Performance Indicators and outcome measures for its cycling programme. These will include participation and perceptions of safety.

Rotorua's Urban Cycling Strategic Plan Key Performance Indicators

Safety outcomes	<ul style="list-style-type: none">• Reduced deaths and serious injuries from crashes involving cyclists• Perceived safety of cycling, eg percentage of people who feel safe/unsafe while cycling• Reduced percentage of parents who think it is too dangerous for their children to cycle to school• Establishment of on-going monitoring mechanism/advisory body• Encouragement/support via ReCycle Rotorua/Behaviour Change Action Plan
Safe roads and roadsides	<ul style="list-style-type: none">• Develop Cycling Framework Implementation Guidelines 2015
Safe speeds	<ul style="list-style-type: none">• Increased kilometres of roads, used regularly by cyclists, with lowered speed limits
Adoption of Safe System principles	<ul style="list-style-type: none">• Proactive recognition of cycling in planning and investment processes
Safe road use	<ul style="list-style-type: none">• Increased percentage of school children who receive cycling skills training to level 2• More positive attitudes from motorists to cyclists and vice versa (increasing mutual respect and understanding)
Safe vehicles	<ul style="list-style-type: none">• Percentage of bikes with lights that meet standards• Delivery of 'Share the Road' workshops.
Participation outcomes	<ul style="list-style-type: none">• Uptake cycling, e.g. kilometres cycled or time spend cycling (eg by age group, region), increased percentage of trip legs in the New Zealand Household Travel Survey. Increased participation is a sign that perceived fear has decreased• RCAs fully engaged with a CyWay programme• Increased percentage of commuters cycling to work (census data)• Increased percentage of children cycling to school



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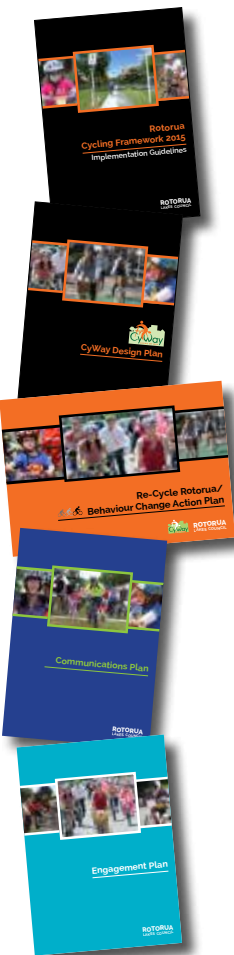
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An action plan

The action plans below have been developed to support the four delivery themes of the Rotorua Urban Cycling Strategic Plan.

Any future proposed programmes of work must contribute to the objectives, and they will be assessed accordingly to determine priorities.

Supporting Documents



- Rotorua Cycling Framework 2015 – Implementation Guidelines
- Infrastructure Action Plan
- Re-Cycle Rotorua/Behaviour Change Action Plan –includes Communications Plan
- Communications Plan
- Engagement Plan



1.	Increased active transport mode share
1.	Completion of the "CyWay" programme 2015-2018
2.	Active transport needs (cycling and walking) be accorded a greater priority in all transport planning and investment decisions
3.	Increase opportunities for people to try cycling. Remove barriers to make it easy to start
4.	Establishment of an ongoing monitoring mechanism for cycling
5.	Improve the quantity and quality of data collection for real and perceived cycling safety
6.	Plan, implement and evaluate investments in cycling
1.	Junior Cycle Park. Safe opportunity to cycle from a young age
2.	Around the lake path
3.	Bike kitchen - an affordable way to acquire and maintain a bike



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Section 3

2. Active approach to cyclist safety

1. Shape strategies/legislation to improve cyclist safety
2. Ensure needs of cyclists are considered in the implementation of the Safer Speeds Programme
3. Delivery of the ReCycle Rotorua Action Plan:
 - Increase the safety of cycling to school through a package of Safe System measures – working with school communities
 - Support Road User Workshops led by NZTA and CAN
 - Influence perceptions of safety
 - Improve road user attitudes and behaviours - *"sharing the road safely"*
 - Investigate delivery of Bikes in Schools model

1. An opportunity for schools to use as a safe off-road training facility.



3. Teaches people how to repair own bikes - bike WOF

3. Focussed infrastructure

1. Increase cycling infrastructure consistent with national guidelines
2. Completion of the "CyWay" programme 2015-2018. Continuous, convenient and complete cycle network
3. Implement best practice intersection safety treatments
4. Improve the quality and quantity of cycling infrastructure to increase average journey length
5. Progressively address parking/cycling balance on arterial routes to minimise safety risk

1. Work with our community to fund and build a Junior Cycle Park.



4. Support economic growth through cycling

1. Showcase Rotorua as a cycling destination through a matrix approach between departments at RLC including stakeholders
2. Support all modes of cycling to grow
3. Bike parking at major events. Provide designated visible bike parking opportunities at events
4. Strengthen and streamline decision making to provide a safe and more attractive road system for cyclists

1. An additional attraction for our city as a cycling destination

2. An additional attraction for our city as a cycling destination





Rotorua Cycling Framework

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Introduction

We're building a cycling network to grow Rotorua as a dedicated cycling destination and favourite place to ride

Rotorua's transport network plays an important role in the region's economy – helping people to connect with each other and bringing goods to market. An efficient transport network is also important for health, wellbeing and the environment. Investing in cycling makes good economic and environmental sense. Cycling is a cheap and healthy transport choice and it helps to reduce traffic congestion. Being able to get around by bike makes our city a more attractive place to live, work and visit.¹

Liveable city

Giving people better transport choices makes Rotorua a more liveable city – keeping the people who already live here happy, and attracting more people. Bringing more people into our city grows our economy.

Economic activity

Cycleways make it easier for residents and visitors to make short trips to attractions, restaurants and shopping. Rotorua already has significant commercial activity as a result of recreational cyclists at mountain biking events, and cycle facilities are heavily promoted as an attraction to the district. Further good cycleways can only improve this activity.

Efficient transport network

Making cycling a real transport choice means our roads run more efficiently for all users. When more commuters and students cycle to work and school there is less traffic on the road in the morning and evening peak hours. Supporting commuter cyclists is one of our strategic transport goals.

Wellbeing

Choosing active transport makes it easier to include exercise as a part of your daily routine. The Ministry of Health recommends 30 minutes a day to increase your quality of life and your sense of wellbeing.

Safety

Research in NZ is limited, however cyclist crash reductions of 10 to 30% can be achieved through good on road cycleway provision and reductions of up to 60% can be

¹ Wellington City cycling framework base document utilised with permission

made with shared paths, provided intersection conflict is well managed. Creating lower speed shared environments that are good for cyclists also has safety benefits for motorists and pedestrians.

We're building cycleways for you, your family, and your friends.

In a survey investigating barriers and motivators to cycling² the most common reason for people not cycling to work more often was 'traffic danger'. The most common barrier to cycling to school cited was 'road safety of the students'

We are creating a new network of routes for people who want to bike at their own pace and in their own way. We want to change how people view cycling and encourage more women, children, and older people to bike.

We're planning our network around motivating people to get out and have a go, so they can become more confident riders who can start biking recreationally, casually, and eventually to and from work and school.

Cycleways make it easier for everyone to share the road by ensuring there's enough space given to people on bikes, on foot, on mobility scooters or in cars or public transport.

We're looking at the best way to implement our cycling network.

We're investigating the best way to move forward, from what type of cycleway goes where to which cycleway will be built first.

The **cycling framework** outlines how decisions about the implementation of a cycling network will be made (what, where, when, how).

The **cycling network plan** will be developed based on the framework and will show where cycleways and infrastructure will be provided over the next 3 years and longer term. It will demonstrate how the network will connect across the city with the aim of increasing the number of people who choose to get around by bike.

² Research Project Investigating Barriers and Motivators to Cycling and Walking to Work and School in Rotorua, Opus 2007.

The Cycling Framework in action

Phase 1 – Cycling Network development

We are creating a cycling network to reduce barriers to cycling and to connect people with the places they want to go. The cycling network will be based on how many people can be reached in each area, and in a way that will reduce the barriers they currently face when it comes to cycling. This will mean the cycling network will help as many people as possible decide to ride their bikes recreationally, casually, or to and from work and school.

The aim of this framework is to clearly show how the network can be developed. It will provide clarity and consistency, and help us to decide the order in which we create different parts.

The framework outlines the following:

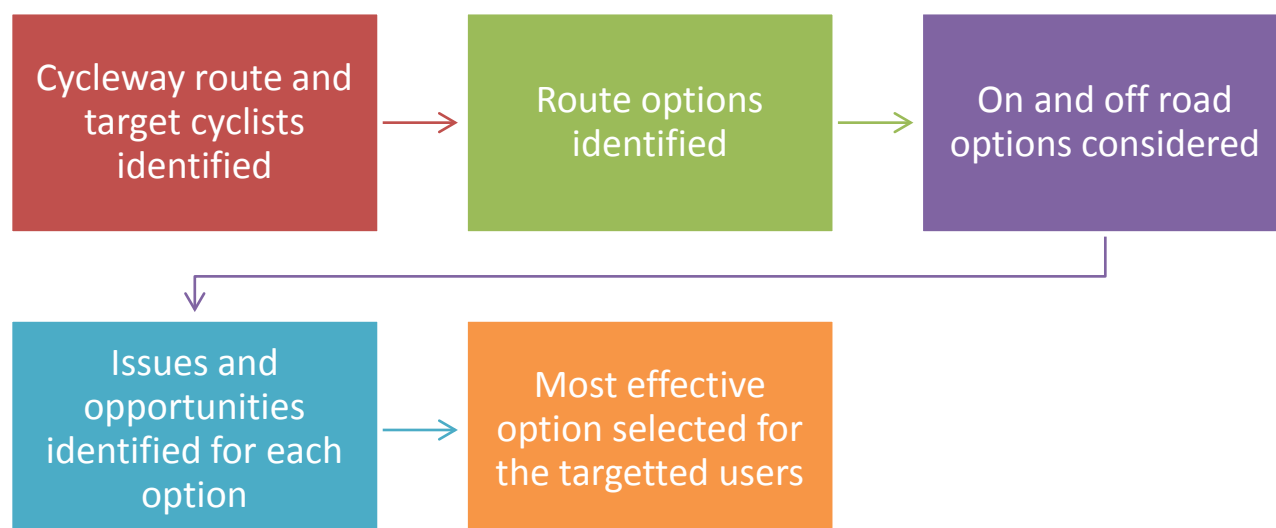
- overall network plan (what we are trying to connect from where)
- the types of cycleways we want to create
- who we are trying to attract (students, commuters, tourists, recreational riders)
- the design principles for the type of cycleway we choose to use
- the decision principles for how these are applied to real locations
- the limits for decisions that we will make within the scope of the policy and decisions that will require further Councillor input
- how we will sign cycleways to ensure good directions are available for cyclists, there is clarity on use and safety for all users.



Phase 2 – Optimisation and packaging

Following agreement to the Cycling Framework, officers will take the network plan and apply the cycleway types and framework principles to each of the routes. Each corridor (north, east, south, west and CBD) is made up of different routes – making a route package. These will form the basis for implementation. In most cases we will be able to find solutions by applying the framework principles. When we identify areas in a route where we can't find a way through using the principles, Council will decide how to proceed.

This is how cycleway facility decisions will be made:

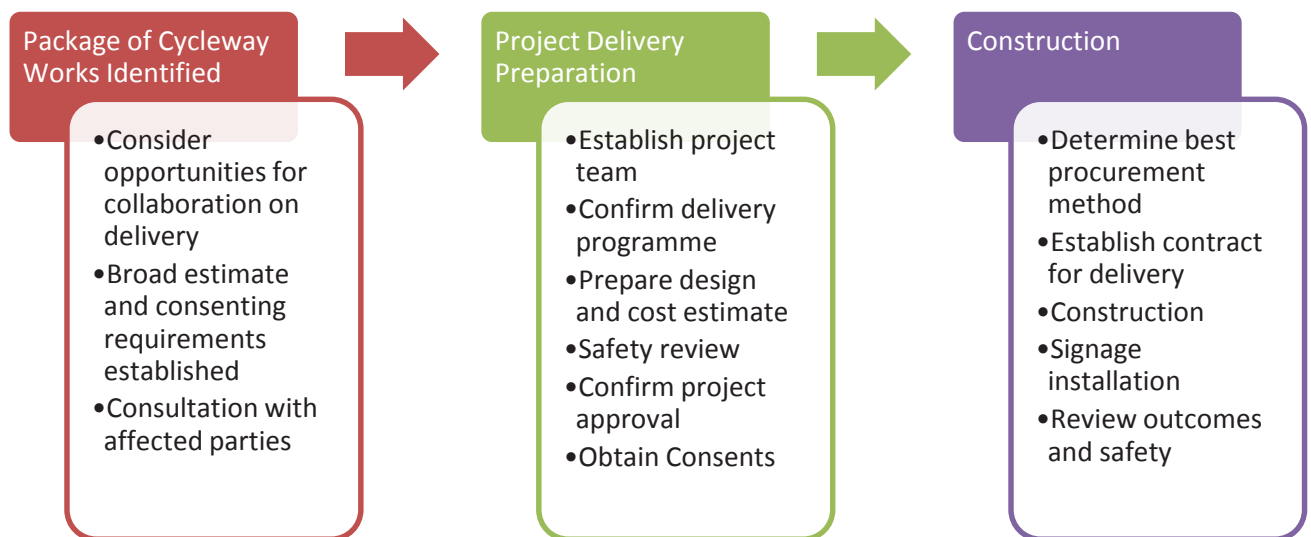


Part of the route selection process will be to consider the timing for cycleway development and whether it needs to be coordinated with other projects. For example an on road cycle lane may need to be done in conjunction with a planned intersection upgrade, or a shared pathway might be done after a planned water pipe installation so that the new path is not dug up in the short term for pipe laying.

Phase 3 – Design and delivery

After that, we will move into the delivery phase. We will decide on the best project delivery model to implement cycleways. The Cycling Framework and the route packages will determine the draft network delivery programme, on which the first round of project proposals will be based. We expect to be building cycleways from 2016 to 2018, and beyond this date as further funding is available.

Project proposals will outline the individual projects to be implemented. As part of the development of these they will be designed, priced and programmed accurately. The development of project proposals is outlined below:



Project proposals will be developed through standard delivery models that we have in place. By having the 'package' approach in place we will ensure benchmarking, improvement of cost and non-cost performance and efficiency of delivery increases over time.

We will monitor the performance of the cycleways we develop, noting cycle use before and after construction, the types of cyclist who are attracted and lessons learnt to apply to the delivery programme as a whole.

Network plan

We're building cycleways that work for Rotorua.

We're creating a plan for a connected cycling network that will cover the whole city over the next 10 years. It will join the dots by choosing routes that best connect the places that people want to go.

We have the opportunity to join up:

- 31 schools attended by 14,000 kids
- Visitors and residents to national recreation infrastructure such as the Redwoods Park, Skyline Rotorua and Te Ara Ahi Cycle Trail
- Existing cycling infrastructure
- Funding from various sources to provide efficient delivery.

Building cycleways in Rotorua has its challenges because we are retrofitting them into established streets and reserves. We have developed a range of solutions to address different requirements and circumstances.

Some of the routes will be major commuter routes and will require separated cycleways, some will be on the road. However, many of the routes will be quiet local routes that may result in a slightly longer travel time, but will still be convenient, reasonably direct and provide a more comfortable cycling experience. These alternative routes may go through Rotorua's parks, reserves and other spaces. Although the types of cycleway may vary, the safety of all road users will not be compromised.

We want to create a connected, safe, comprehensive network that caters for the experienced rider as well as those who lack confidence. We want to address existing concerns and barriers to cycling by investing in cycling infrastructure as and where needed.

The type of routes we create will have a positive impact on local shopping areas and quieter residential streets by calming traffic. They will be places that not only people on bikes will enjoy but the general public as well by making the spaces easier to move around.



An A3 Cycle Network plan is provided in Appendix A.

The types of cycleways we will create

Different cycleway types suit cyclists of different abilities. Different street classifications for traffic volume and function also require a varied approach to the type of cycleway that will be most appropriate. The following table provides an indication as to cyclists and cycleway type.

One Network Road Classification Cyclist Type	Arterial	Primary Collector	Secondary Collector	Access/ Low Volume
Strong and Fearless	Marked on road cycle lane	Marked on road cycle lane	Share traffic lanes	Share traffic lanes
Enthusied and Confident	Marked on road cycle lane	Marked on road cycle lane	Marked on road cycle lane	Share traffic lanes
Interested but Concerned	Dedicated/Shared Cycleway	Dedicated/Shared Cycleway	Marked on road cycle lane	Share traffic lanes on quiet routes
School Student	Dedicated/Shared Cycleway	Dedicated/Shared Cycleway	Dedicated/Shared Cycleway	Dedicated/Shared Cycleway

Table 1 One network road classification and cycleway types.

Quiet routes – Shared traffic lanes

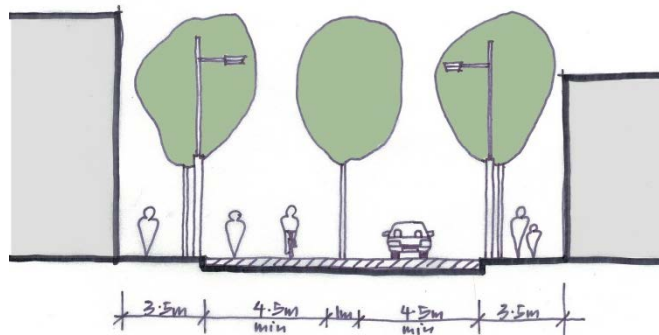


Description

These routes would be along access and low volume suburban streets rather than on main roads. It's likely some minor modifications will be needed to make them fit-for-purpose. They may pass through cul-de-sacs or existing pedestrian linkages. These would work in areas of low speed and low volume. People on bikes must take the traffic lane. There would need to be careful intersection and side-road design.

ROTORUA CYCLING FRAMEWORK

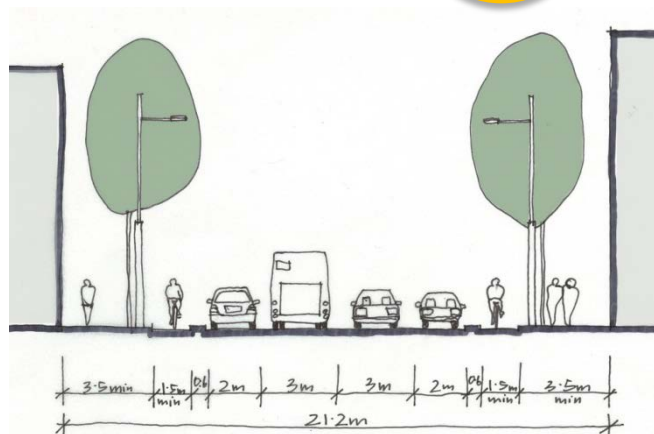
Shared vehicle/bike zones



Description

Shared zones would be used in busy commercial areas, where there is limited space and lots of people walking along and across the street. Businesses in these areas may need convenient parking for their customers. Because of the high volume of traffic, these zones will need low speed limits (30km/h or less). They are only appropriate over short lengths. People on bikes must take the traffic lane.

Protected bike lanes



Description

Protected bike lanes are along arterial and collector routes, where we would expect to see the most commuters. These are the routes where parking may need to be removed, with replacement or alternative parking being provided as appropriate. Parts of the Inner City Green corridor are an example of this type of path.

Protected bike lanes can be worked into overall streetscape upgrades like in the photograph above. They can also be used on routes where there are higher speed limits and heavy traffic.

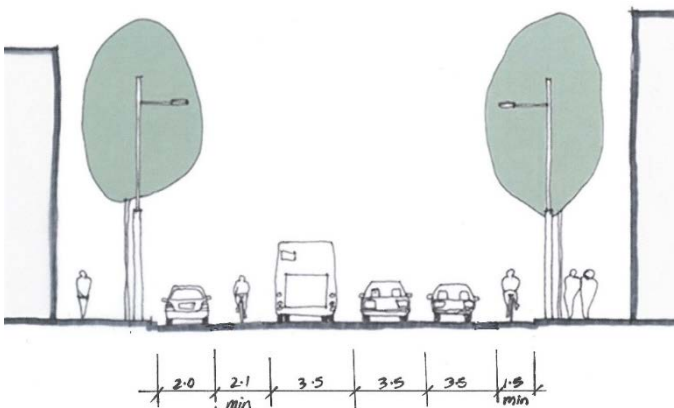
Alternative bike paths



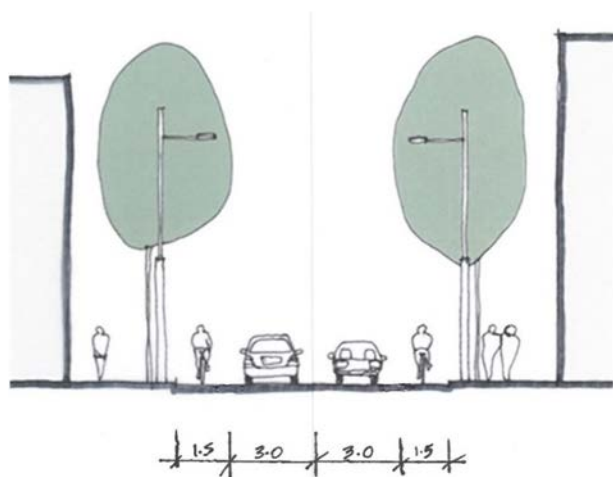
Description

Alternative bike paths would be placed through parks and reserve areas. They will mainly be used when space is constrained in the arterial and collector road corridors and there is an opportunity for use by commuters and recreational riders. These are off-road but related to the wider network. These are not mountain biking tracks, but high quality routes that will be designed to fit in with the natural environment around them. Issues that will need to be considered when designing these routes include personal safety and intersections with other routes. The Ngongotaha Railway path is an example of this type.

On Road Cycle Lanes



Above, Collector Street with parking one side.



Above, Access Street with cycle lanes and no parking.

Description

On road cycle lanes would be placed along some access and collector routes where we would expect to see significant numbers of commuters but it is not possible to construct protected cycle lanes on the road. These are routes where we might also have a shared cycle path on the berm for less confident riders, but we know that confident cyclists will continue to ride on the road so that they have right of way across side roads and can get to the front of the queue at traffic signals. Parking may need to be removed, with replacement or alternative parking being provided as appropriate. Parts of SH5 Old Taupo Road and Fair Springs Road are examples of where some on road cycle lanes are already provided.

To make on road cycle lanes as safe as possible when there are moderate to high flows of traffic, there needs to be good separation and plenty of width for the cycle lane. Protected bike lanes are a better choice where there are higher speed limits and heavy traffic.

Intersection Treatments

Different intersection treatments suit cyclists of different abilities. Skilled and confident cyclists are likely to stay within cycle lanes or share the traffic lanes with vehicles at intersections. Less confident cyclists want to remain within a protected space, bypass the intersection or ride onto a shared pathway and cross using the pedestrian phase at signals. Younger cyclists need to cross intersections where they are highly visibly or have right of way and where traffic is controlled to a low speed.

The NZ Transport Agency expects to publish a New Zealand cyclist facility design guide in 2016 and it is likely that this will augment or supersede treatment guidance provided in the following table.

Intersection Type Cyclist Type	Signals	Roundabout	Priority Control	Mid-Block Crossings
Strong and fearless	Marked cycle lanes and hold boxes	Provide bypass path on Arterial and Primary Collector Streets	Continue marked cycle lanes across intersections, use green surfacing, otherwise no specific provision	No specific provision
Enthusied and confident	Marked cycle lanes and hold boxes, protected cycleways.	Provide bypass path on Arterial and Primary Collector Streets. Control vehicle speeds through roundabouts.	Continue marked cycle lanes across intersections, use green surfacing, otherwise no specific provision	No specific provision
Interested but concerned	Protected cycle lanes or shared path where cyclist can use the pedestrian crossing phase.	Avoid other than in low speed shared environment	Protected cycle lanes and shared paths cross speed managed intersections. E.g by use of speed tables.	Signal controlled crossing on arterial street, central refuge island and or speed management on other streets
School Student	Shared path where cyclist uses the pedestrian crossing phase.	Avoid other than in low speed environment where cyclist can bypass the roundabout and cross on speed table.	Shared paths cross speed managed intersections. E.g by use of speed tables and alternative surfacing colour.	Signal controlled crossing on arterial street, Adult monitored Zebra or Kea crossing near schools, Speed management on other streets.

Table 2 Cyclist type and intersection treatments.

Where shared paths meet street intersections and at mid-block crossings the cyclist is often required to give way to approaching vehicles. In these locations one or more hold bars may be provided to allow cyclists to stay mounted and wait for a gap in traffic. Hold bars have the added benefit of highlighting the road crossing point to cyclists and approaching drivers. We will ensure that hold bars do not present an obstacle to pedestrians, mobility scooters or sight impaired people.

Target markets

We are creating a new network of routes for people who want to cycle slowly, in their everyday clothes, away from heavy traffic. We want to change the culture of cycling and encourage more women, children, and older people to cycle.

Our Cycling Demand Analysis research suggests that, given the right conditions, more people would consider cycling in and around Rotorua. Some 49,000 residents live within the city, with many living within 4km of the city centre.

We understand that within this broad group there are different concerns, skill levels, and needs. To motivate each of these groups to cycle more often, different interventions will be required.

Our plan is to develop a cycling network that allows the beginner rider to have a go on some of the safer recreational cycleways. This will help them become a more confident rider who may ultimately start using cycling as their primary mode of transport for getting to work or school.

The diagram below after Geller (2009) describes the four types of cyclists. We are aiming to provide facilities for the “Interested but Concerned” group, while also providing improvements for our regular riders.

Strong and Fearless	Enthusied and Confident	Interested but Concerned	No Way No How
<ul style="list-style-type: none">• Will cycle regardless of road and traffic conditions• Interact assertively with traffic• Particularly dislike delay	<ul style="list-style-type: none">• Require some space or their own lane on busy roads• Do not generally require physical separation	<ul style="list-style-type: none">• Willing to cycle, but wary of doing so• Prefer full separation from motor traffic at higher speeds and volumes	<ul style="list-style-type: none">• Will never chose to cycle regardless of infrastructure, traffic environment or training provided.

Cycling framework principles and thresholds

These principles provide clarity for the community, Councillors, and officers around how decisions about building a cycling network will be made. They will also outline what thresholds will be applied to projects to determine whether a matter needs to be referred back to Council for a decision.

Where any element in a proposal exceeds the agreed threshold, it will be referred to Councillors for a decision. Elements that do not go above the limits will not need to be referred. Where a proposal includes one or more elements that exceed agreed limits, only those elements will be referred for decision—not the entire proposal. For example if a project complies in every respect except that a lower speed limit is required, then the speed limit change would be referred to Councillors.

The framework includes principles for the design of the cycle network as well as space allocation within the network. It covers route selection as well as the impacts on pedestrians, public transport, private vehicles, parking (CBD and suburban), intersections and acquisition of property.

Typical thresholds that will be referred to Council include;

- Any cycleway proposal that affects significant trees, heritage buildings or objects as scheduled in the District Plan.
- Any off road cycleway proposal that is outside an established reserve management plan.
- Any property purchase proposal must be approved by Council.
- Any cycleway proposal with an expected cost that is outside the approved annual plan budget.
- Any cycleway proposal that requires removal of a traffic lane.
- Any proposal to change speed limits on a street.
- Any proposal to establish or change parking restrictions on a street
- Alteration to any Council bylaw.³

Cycle network design principles

The network design principles ensure any decisions made will make our transport network safer, more efficient, and sustainable for all modes.

³ Local Government Act 1974, Section 332 Cycle tracks (1) The council may on any road, or on any land vested in or under the control of the council, form a public cycle track, and may make bylaws under section 684 regulating and controlling the use of that cycle track.

The cycle network will be made up of key cycleways and local routes that “join the dots”, connect residential areas to other residential areas and the central city, and provide valuable links within communities to local centres, schools, and other facilities. The goal is to create a mix of routes across the network (including recreational routes) that cater for the varying levels of confidence and types of riders.

When considering route options we will give attention to cyclists’ needs-

- Coherence –routes are continuous and recognisable
- Directness –In space and time
- Attractiveness –Contributes to a pleasant experience
- Safety – Including personal security
- Comfort –Riding surfaces and manoeuvrability.

Where there are viable routes within the existing road space, protected cycle lanes will be preferred over unprotected lanes. We will aim to keep cycle lanes away from corridors that are already under considerable space pressure, particularly where there is an overlap with busy public transport routes. For constrained corridors on main routes, viable off-road or alternative routes will be sought in order to avoid changes in busy transport corridors and ensure a safer and more enjoyable cycling experience.

We will be innovative and adaptable in building a cycle network that best fits Rotorua. We will work with our transport partners such as the NZ Transport Agency to identify opportunities to collaborate on projects to get the best outcome for cyclists. Cycling will become part of a long-term corridor plan taking account of strategic aims and public transport developments.

When decisions about route selection are made, options will be presented that compare times, distances, and destinations between the proposed route and the most direct current legal route.

We will measure and report on how many people start biking and how often they use the improved cycle network in order to ascertain its value to the city, and to better understand which design types and routes work best for Rotorua.

Space allocation principles

The principles relating to space allocation will ensure decisions made will take into account other users of the corridor. These could include people on bikes, on foot, on mobility scooters, in private vehicles or on public transport, as well as parking in the suburbs and central city.

We will make sure that cycling infrastructure contributes to safe environments for pedestrians. There should be no significant negative impact on pedestrians as a result of implementing the cycle network and pedestrians will benefit from a reduction in the number of riders using footpaths or the additional space provided by a shared path.

There should be no adverse effect on core bus corridors and routes and no more than minor adverse effects on other bus services. Public transport journey times may increase slightly, due to traffic lights and reduced speed limits to accommodate people on bikes, but travel times will remain predictable on key city corridors. Through our corridor improvement proposals we will aim to improve public transport journey times and increase service reliability.

There should be no more than minor adverse effects on private vehicles. Travel times may increase but we will aim to ensure that travel time predictability is retained. Private vehicles include cars, trucks, vans, taxis, and motorcycles.

On-street parking will be removed in some locations to make space for the proposed cycle network. The loss of on-street parking is a common occurrence when new walking and cycling facilities are built. When determining how to use a transport corridor, the Rotorua Lakes Council gives priority to safety, pedestrians, cycling facilities, bus stops and traffic flow over other uses.

Where there is on-street parking that needs to be removed in order to implement network improvements, we will assess how current parking is used and the number of spaces available. We will seek to minimise the impact of cycleways on town centre businesses, with particular regard given to short-term parking supply for high transaction volume businesses (eg dairies) and businesses that are dependent on car parking. Streets in the central city will be made most effective for walking, cycling, public transport and moving traffic. The movement of traffic will take priority over on-street parking.

Intersection types may be altered to ensure the safety of people on bikes. For example large roundabouts are the least safe intersection type for cyclists. There may be some instances where property needs to be acquired so that network improvements can continue.

Signage principles

Principles relating to signage and pavement markings will ensure consistent standards for all cycleways and that signage and markings are effective and do not create adverse outcomes.

Signage will clearly mark routes and significant destinations for users. Signage and pavement markings are also provided to give important use and safety information to cyclists and other road users at conflict points.

Signs and pavement markings will follow NZ law and international best practice. Key types will include:

- Cy-Way – Design logo (graphic), indicates an important route and continuity of that route. It may be included as a logo on other signage but will generally stand alone.
- Destination signage stack– One or more signs in a stack at the intersection of important cycle routes or at the beginning or end of a route to direct cyclists. Place names and distances will generally be given for destinations.
- Way Finding Signs- Single way finding signs along a route that guide cyclists across intersections or other breaks in the route. Sign style to be determined but will be consistent and targeted so that they stand out to cyclists and can be easily followed.
- Regulatory and Safety signage – International standard signage consistent with the road code and compliant with the Traffic Control Devices Manual and the NZTA Manual of traffic signs and markings Volume 1, provided to clearly delineate types of cycleways and provide warning at potential conflict zones.

Examples include:

- Exclusive use (i.e. cycling is the main use)
- Shared (path is shared with pedestrians)
- Pavement Markings- International standard markings consistent with the road code and compliant with the NZTA Manual of traffic signs and markings Volume 2. Examples include:
 - Green on road cycle lane markings, lane is reserved for cyclists and cannot be parked on or driven in other than to cross the lane where necessary. Green markings are also used where cyclists are provided with a ramp from a road onto a shared path.
 - Centre lines and arrows to advise cyclists to keep left on shared paths



Example of an etched paver showing that this is a shared path and Cy-Way bollards.



Example of a shared path and street intersection with signage and grab rail.

Signage to key destinations will be provided with a distance and directional arrow. Destination examples include recreational facilities such as, Whakawerawera Forest, Skyline, Te Puia, and Te Ara Ahi. Key locations will be signed, such as, the Central Business District (City), Lake front and Ngongotaha. Destinations will be signed only on the most direct route. Way finding signs are located at junctions and locations where there may be a break in the route and where cyclists may be confused about the continued direction of the route.

Appendix B – Cycleway standard design guidelines and principles

Quiet routes

1. Level of Service

Level of Service	Number of vehicle movements/day	Operating speed
B	Up to 500	22 km/h
C	500 – 1000	30 km/h

2. We will use physical design elements to make sure that the maximum operating speed for vehicles on these streets is 30 km/h or less. This will include traffic calming measures and may include regulatory speed limits.
3. We will design intersections carefully to ensure that the Level of Service remains at junctions. This will be most important where a quiet route meets a busy route.
4. We will use single-lane roundabouts where traffic volumes are low.
5. We will avoid using angle parking.
6. We will make sure good visibility is available for busy driveways.
7. We will use signposting as one element to raise awareness. We will design these to encourage cyclists to ride in the middle of the lane.
8. We will keep streets similar in look and feel as they are now, with minor improvements to lighting and other elements.

Shared vehicle/bike zones

1. Level of Service

Level of Service	Number of vehicle movements/day	Operating speed
B	Up to 500	22 km/h
C	500 – 1000	30 km/h
D	1000 - 2000	30 km/h

2. We will use physical design elements to make sure that the maximum operating speed for vehicles on these streets is 30 km/h or less. This will include traffic calming measures and may include regulatory speed limits.
3. We will use design elements such as seating, lighting and trees.
4. We are likely to use signals at intersections. We will use single-lane roundabouts where traffic volumes are low.
5. We will use the principles for shared zones to provide safer merge zones for cyclists and cars.
6. We will make sure good visibility is available for busy driveways.

7. We will avoid using angle parking.
8. We will use signposting as one element to raise awareness. We will design these to encourage cyclists to ride in the middle of the lane.
9. We will make pedestrian footpaths by the shared zone.

Protected bike lanes and share paths

1. Level of Service – A-B depending on design.
2. We will provide a minimum of 1.5m wide for one direction, 2.2m wide is normally ideal.
3. For a two-directional lane, we will seek to provide a minimum width of 2.5m.
4. We will most likely locate protected bike lanes by the kerbside.
5. We will separate the bike lanes from moving traffic with some physical element (whether parking, planting, low kerb, hatched flush median with safe hit posts). This buffer space will be at least 0.6m wide and ideally 1.0-1.2m wide next to parking.
6. The operating speed for the adjacent road may vary.
7. We may consider the use of signals at busy intersections.
8. We will not use roundabouts on busy routes.
9. We will design side roads carefully to make sure people on bikes are safe from vehicle turning movements across protected lanes and shared paths.
10. We will make sure good visibility is available for busy driveways.
11. We will provide bus stop bypasses where there are more than 4-6 buses per hour.
12. For two-way protected bike lanes on hills, we will provide greater separation between the directional lanes.

Alternative bike paths

1. Level of Service – A-B depending on design.
2. We will build these to a high design standard (these will be surfaced paths not dirt tracks).
3. We will give priority at intersections (may change where quiet routes meet major routes).
4. Improvements depend on location and site context.
5. We will make it clear where pedestrians and cyclists are expected to be, marking spaces for each where appropriate.
6. We will consider personal security. If a path has a high expected use at night, we will consider whether there is a need for lighting.
7. We will use careful design where the path meets other routes.
8. We will consider gradients and safety as requiring key attention.
9. We will need to address any loss of amenity and vegetation.
10. We will consider pedestrian volumes when determining widths of paths.

Marked on road cycle lanes

1. Level of Service – A-B depending on design and location.
2. Design is to a high standard following AUSTROADS road design guidelines and NZ Government published guidelines.
3. Green cycle lane marking paint and cycle symbols are used at key locations to highlight the cycle lane space to other road users.
4. Cyclists operate under all normal road rules for on road cycling.
5. Cycle lanes have priority across side road intersections,
6. Traffic signals are preferred at busy intersections and if roundabouts are used then the design should encourage low traffic speeds. Alternative off road routes around roundabouts are desirable.
7. Consistent lane widths are necessary with a minimum 1.5m provided off the kerb and greater width provided where lanes run beside parked vehicles and between queues of traffic at signals.
8. We will avoid use behind angle parking.

