

HAMILTON-WAIKATO METRO AREA MODE SHIFT PLAN

A balanced transport system - delivering growth



New Zealand Government



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Waka Kotahi NZ Transport Agency

This mode shift plan was endorsed by the Regional Connections Committee on the 14th August 2020.

It was then endorsed by the Hamilton City Council Infrastructure Operations Committee on the 26th August 2020.

It has been agreed that the partners will update this document on a regular basis.

1.0 CONTEXT

BACKGROUND

Waka Kotahi NZ Transport Agency has recently framed the requirement for mode shift in our rapidly growing cities through both Arataki (Waka Kotahi's 10 year plan) and through Keeping Cities Moving. Mode shift plans for the fastest growing cities were part of the Keeping Cities Moving Action Plan. The primary goal of these plans is to 'increase the share of travel by public transport, walking and cycling'¹.

This mode shift plan is intended to align and supplement the Urban Growth Agenda, the longer term transport planning and spatial planning for the Hamilton Waikato Metro Area. This reflects the National Policy Statement on Urban Development 2020² which 'aims to ensure that New Zealand's towns and cities are well-functioning urban environments that meet the changing needs of our diverse communities'.

The geographical focus of this plan is Hamilton City and the main towns of Te Awamutu and Cambridge in Waipa and Ngaruawahia in Waikato District. This aligns with the Metro Spatial Plan and reflects the local travel-to-work patterns³. This is also the area where higher travel demands are being forecasted which this plan is intended to address.

Longer term spatial planning confirms the need to use appropriate public transport and walking/cycling investment to deliver affordable growth in employment and housing. This acknowledges that reduced and dispersed density development results in high servicing costs in terms of transport but more importantly loss of habitat and other associated poor environmental outcomes.

Keeping Cities Moving set out the case for change:

Over the past 70 years New Zealanders have become increasingly reliant on private vehicles to meet their travel needs. While private vehicles are well suited to many transport tasks due to their flexibility and speed, such a high level of reliance in cities where space is constrained, and the population is growing, is not sustainable.

Current reliance on private vehicles also means that owning and regularly using a car has become a pre-requisite to fully participating in society. This is contributing to a number of problems like congestion, poor quality urban environments, pollution and carbon emissions, poor public health and high travel costs.

Growth in our population and economy means we need to work now to develop a modern transport system that addresses these issues and supports our cities to be thriving places with great quality of life.

Increasing the share of travel by public transport, walking and cycling in New Zealand's cities (what is known as 'mode shift') has a critical role to play in improving the wellbeing of New Zealanders by shaping a more accessible, safe and sustainable transport system.

It's not possible to accommodate more and more private vehicles within limited street space. They are a relatively inefficient means of moving people. And adding road capacity without providing alternative travel options tends to encourage more vehicle travel, often negating any initial congestion relief over time. The 'space efficiency' of public transport and active modes means that we can help people move around more easily without reducing their quality of life.⁴

¹ Keeping Cities Moving, Waka Kotahi, 2019 pg 5

² <https://www.hud.govt.nz/urban-development/national-policy-statement-on-urban-development-nps-ud/>

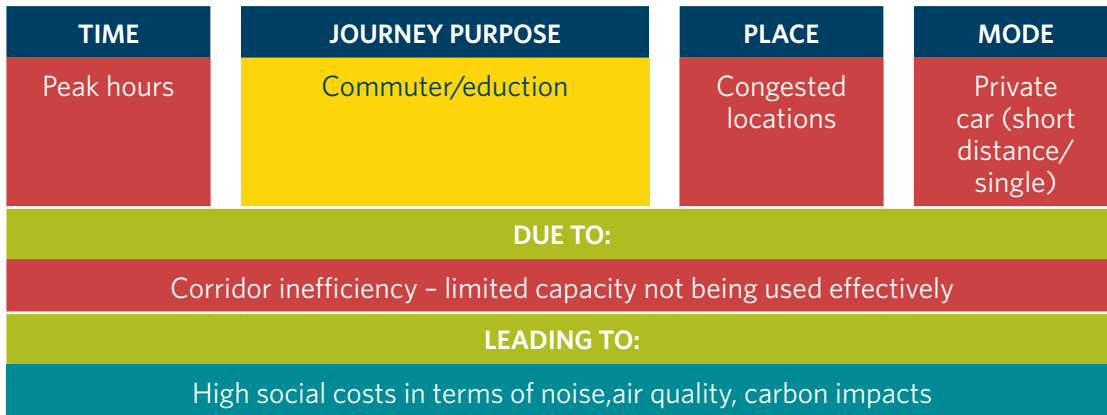
³ Morrinsville is now moving into the Metro Spatial Plan but is not currently in the Mode Shift Plan as this document covers a much short timespan.

⁴ Keeping Cities Moving, Waka Kotahi 2019 pg 5

Focus of mode shift

Keeping Cities Moving identified the priority journey purposes and time periods that are the focus of mode shift and why. Figure 1 below shows the key priority, trips, modes and times for mode shift and why these have been chosen.

FIGURE 1: THE FOCUS AREAS FOR MODE SHIFT



Keeping Cities Moving also provided guidance on three main focus areas for delivering mode shift:

- **Shaping urban form** - Encouraging good quality, compact, mixed-use urban development will result in densities that can support rapid/frequent transit (and vice versa), shorter trips between home and work/education/leisure, and safe, healthy and attractive urban environments to encourage more walking and cycling.
- **Making shared and active modes more attractive** - Improving the quality, quantity and performance of public transport facilities and services, and walking and cycling facilities will make more people want to use them. This can involve both optimising the existing system (eg. through reallocating road space) and investment in new infrastructure and services, and providing better connections between modes.
- **Influencing travel demand and transport choices** - Changing behaviour may also require a mix of incentives and disincentives (or 'push' and 'pull' factors) to either discourage use of private vehicles (by making them less attractive relative to other options) or making people more aware of their options and incentivising them to try something new. This may include parking policies, road pricing, travel planning and education.

PURPOSE

The purpose of the mode shift plan in Hamilton and surrounds is to set out the 'why' and 'what' to achieve mode shift over the next 0-6 years. This document sets out:

- **The trends that are influencing the demand for travel and mode choice in Hamilton and surrounds.**
- **The relative scale of these travel demands within the City, within the towns and between these locations.**
- **The barriers to achieving mode shift and therefore where investment should focus by each mode.**
- **The key locations for investment based on the above travel demands, congestion points and future growth plans.**

The development of mode shift plans is a central government requirement with the projects identified intended to be prioritised in the Regional Land Transport Plan and through the Waka Kotahi Investment Decision Making Framework. This document sets out the Strategic Case behind the investments in the document. It is also likely that projects that can demonstrate a high alignment with the parameters outlined in this plan will be given high alignment scores through the investment process.

Updates to this plan, particularly the implementation section, will be considered as part of annual reviews and Long Term Plan updates. It may also be necessary to amend the document if the drivers of the challenges and opportunities change.

The mode shift plan is also well aligned to the Ministry of Transport Outcomes Framework, this alignment is discussed towards the back of this document.

IMPORTANCE OF MODE SHIFT TO THE PARTNERS

Waka Kotahi has a remit to develop mode shift plans and assist in the delivery of mode shift across the high growth cities. In the Waikato, the partners have long recognised the need for mode shift through their plans and strategies.

Hamilton City Council developed the Access Hamilton Strategy of 2010; the aims of the strategy are to:

- Support Hamilton's economic, social, environmental and cultural well-being.
- Support the land use, sustainability and economic development objectives for a compact city with consolidation and intensification around key nodes and a vibrant city centre.
- Manage incremental change in the transport and land use system necessary to achieve Hamilton's strategic objectives.
- Position infrastructure and land development to meet the city's long term needs.

Hamilton City Council (HCC), Waikato Regional Council (WRC) and Waka Kotahi jointly developed the Access Hamilton Programme 2018 which was adopted by HCC and the strategic direction endorsed by WRC and Waka Kotahi. The Access Hamilton Programme has a strong alignment with the prioritisation of mode shift and provides mode shift targets for the city.

Waipa District Council has an Integrated Transport Strategy that set out the following vision:

'People and freight in Waipa have access to an affordable, integrated, safe, responsive and sustainable transport system that supports community aspirations'.

Waikato District Council has completed a community consultation process through 'Blueprint' this identified a vision of:

'Liveable, Thriving and Connected Communities/He noohanga aahuru, he iwi whai ora, he hapori tuuhono tahi'. For many communities this was also linked to improved walking, cycling and public transport.

Waikato Regional Council has identified the need for mode shift in the Regional Land Transport Plan:

'[Encourage] mode shift from private vehicle trips to walking, cycling and public transport by providing more transport choice (enhancing public transport services and cycling networks, particularly in Hamilton but also for our regional towns, and advocating for an interregional passenger rail option between Hamilton and Auckland) and focusing on providing transport choice for people with less or limited access to transport.'

Waikato Tainui also recognise the need to improve travel choice. In the Waikato Tainui Environmental Plan – Tai Tumu Tai Pari Tai Ao there is an identified need to ensure: 'Sustainable transport options should be incorporated into subdivisions and developments including options for public transport, carpooling, walking, and cycling'.

Overall therefore all the partners have identified the following desirable outcomes in relation to mode shift:

- Supporting sustainable growth through mode shift
- Improving affordability and choice of transport for all
- Improving safety
- Integration of transport modes

These elements specifically relate to the local context of the area which is described below.

Climate Change Response (Zero Carbon) Act

It is noted that both Waka Kotahi and the partners to this plan are also fully aware of the increasing pressure to reduce carbon emissions from transport. This is legislated within the Climate Change Response (Zero Carbon) Act. Mode shift plans are a critical component in the response to this Act and delivery of a change in carbon use associated with transport. Mode shift achieves this in two key ways:

- Through creating the right conditions for people to use less carbon intensive transport modes
- Through assisting in controlling and reducing congestion in cities

Hamilton City Council has committed to a developing a Climate Change Accord with Waikato-Tainui and the Regional Council supporting this. Reports undertaken by the Council have identified that 62% of carbon emissions in the city relate to land transport and have identified significant funding within the LTP for cycling to reduce these emissions⁵.

⁵ <https://www.hamilton.govt.nz/our-city/climate-change/Pages/default.aspx>

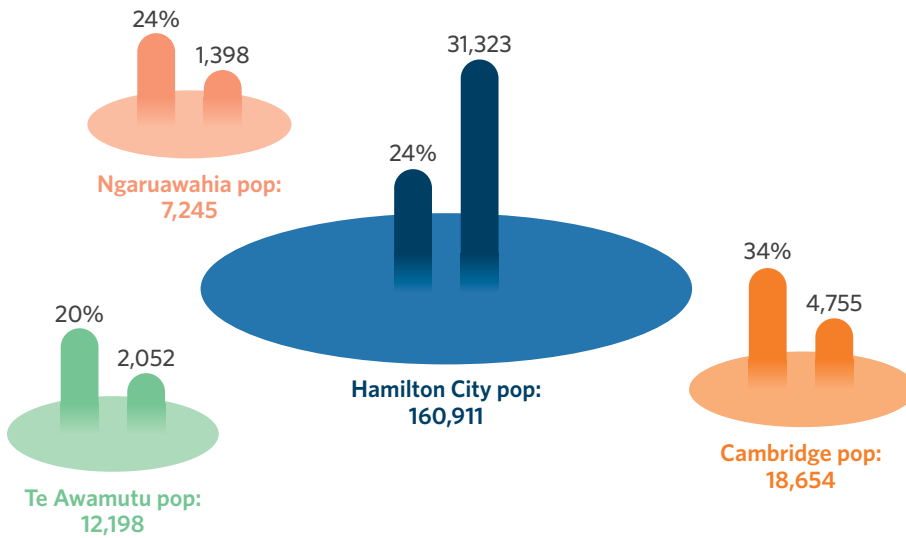
2.0 CURRENT SITUATION: CHALLENGES, OPPORTUNITIES AND BARRIERS

CHALLENGES

Population growth

Hamilton City and surrounds are growing quickly. Population and growth between 2006 and 2018 in each of the main centres is shown in Figure 2 below.

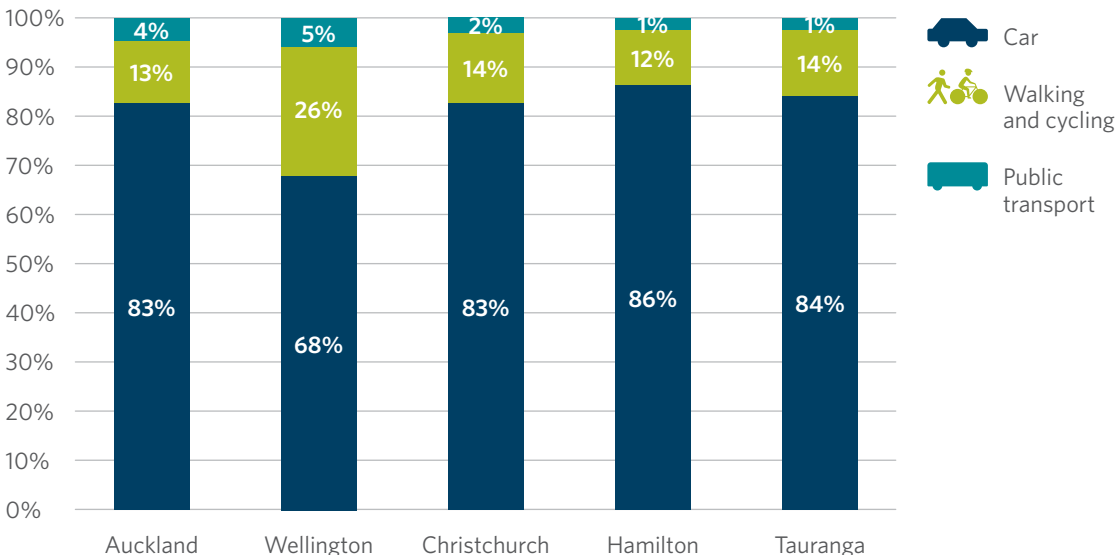
FIGURE 2: POPULATION GROWTH (PERCENTAGE AND ABSOLUTE) IN HAMILTON CITY AND SURROUNDING TOWNS BETWEEN 2006-2018⁶.



Challenge: High car use facilitated by high roading investment

Hamilton currently has some of the highest car use rates for trip making in the country. This is likely to reflect the high levels of roading investment within the city, such as the delivery of the Waikato Expressway and SH1 around the west of the City. This investment has supported the growing importance of Hamilton as part of the Upper North Island freight system and also as a centre for manufacturing. However, many of these strategic roads have also enabled short distance vehicular movement within the city and result in additional separation of communities making it preferable to drive.

FIGURE 3: MODE SHARE OF TOTAL TRIP⁷ LEGS IN NZ (2014-18)



⁶ Population data taken from Stats NZ - Place Summaries This includes latest data from selected urban Statistical Areas (SAs). Pop data: <https://www.stats.govt.nz/tools/2018-census-place-summaries/>

⁷ A trip is one journey to or from a location, so for example a journey that starts at home, stops at a school and then finishes at work is made up of two trip legs, the first leg from home to school then a second leg from school to work.

Local spending on roading is documented through predicted RLTP spending (based on the 2018 RLTP). This sees 94% of all transport spending on roads. Looking at the areas associated with Hamilton, Ngaruawahia, Cambridge and Te Awamutu (the wider metro area) the per person spending by mode is estimated at:

- \$2,400 per person on roading;
- \$100 per person on public transport; and
- \$40 per person on walking and cycling⁸

Whilst roading spend might incorporate some of those other modes (e.g. a new road might be constructed with a bus or cycle lane). The level of spending on public transport and walking and cycling schemes is extremely low. The funding for walking and cycling is only a sixtieth of what is being spent on roading.

Continued growth and high car use creates congestion and reduces productivity

This population growth is resulting in increasing traffic congestion on key roads in the City and towns. Figure 4 below shows an extract from Google Maps illustrating the relative levels of congestion on a typical weekday evening peak. The orange colour represents the lowest level of speed change with red representing the highest levels. At around 5.20pm on a typical weekday there are a number of hotspots around the bridges and the hospital. By 6pm most roads have returned to largely free-flowing conditions (see Figure 5). It should be noted that though orange areas are shown in this figure these exist at 12 noon (and in the middle of the night in some cases) these are therefore likely to reflect free flowing conditions when a trip between the Hamilton CBD and Te Rapa takes only 15 minutes.

Whilst congestion tends to currently be restricted to key roads and a one-hour period, peak spreading can be expected if the current car use trends shown in Figure 4 continue. This congestion creates issues with poor air quality, high carbon emissions, journey time reliability and significantly reduced amenity for walking and cycling. In the long term it creates demand for further urban sprawl.

⁸ Figures provided by Waikato Regional Council

FIGURE 4: TRAFFIC SPEEDS ON KEY ROUTES 5.20PM (MAP DATA ©2020 GOOGLE)
NOTE ORANGE LINES REPRESENT THE LOWEST LEVEL OF DELAY RED THE HIGHEST

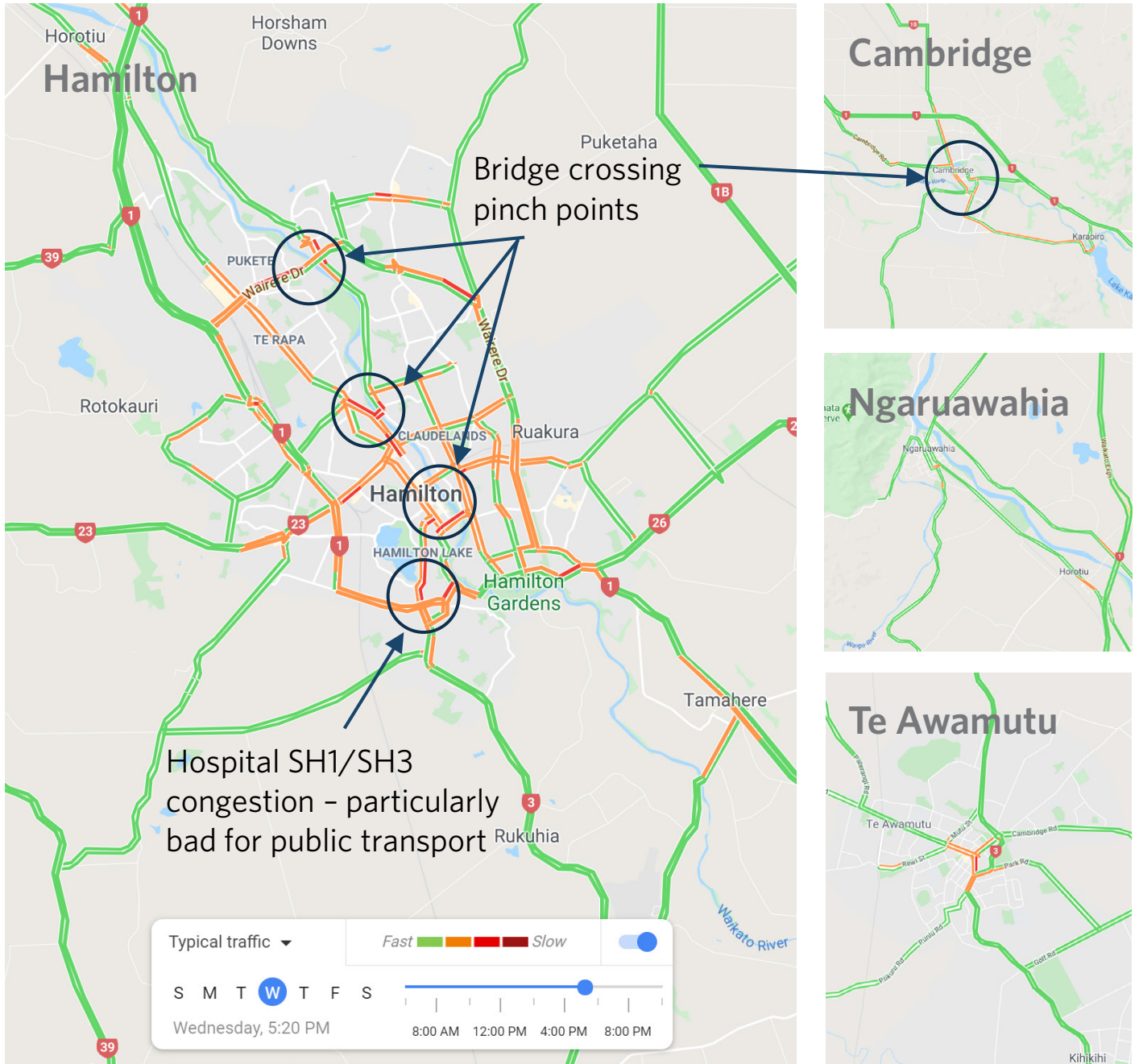
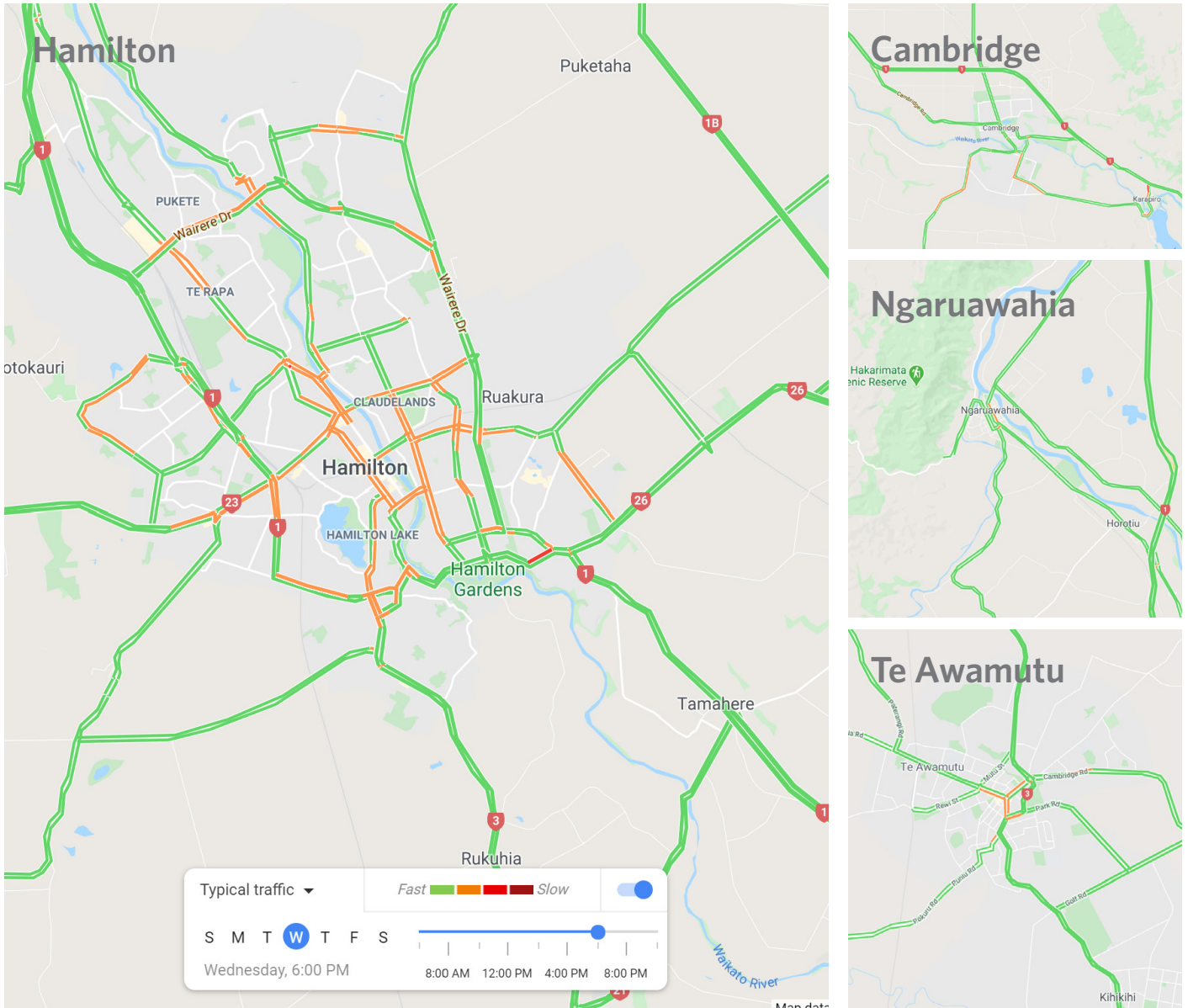


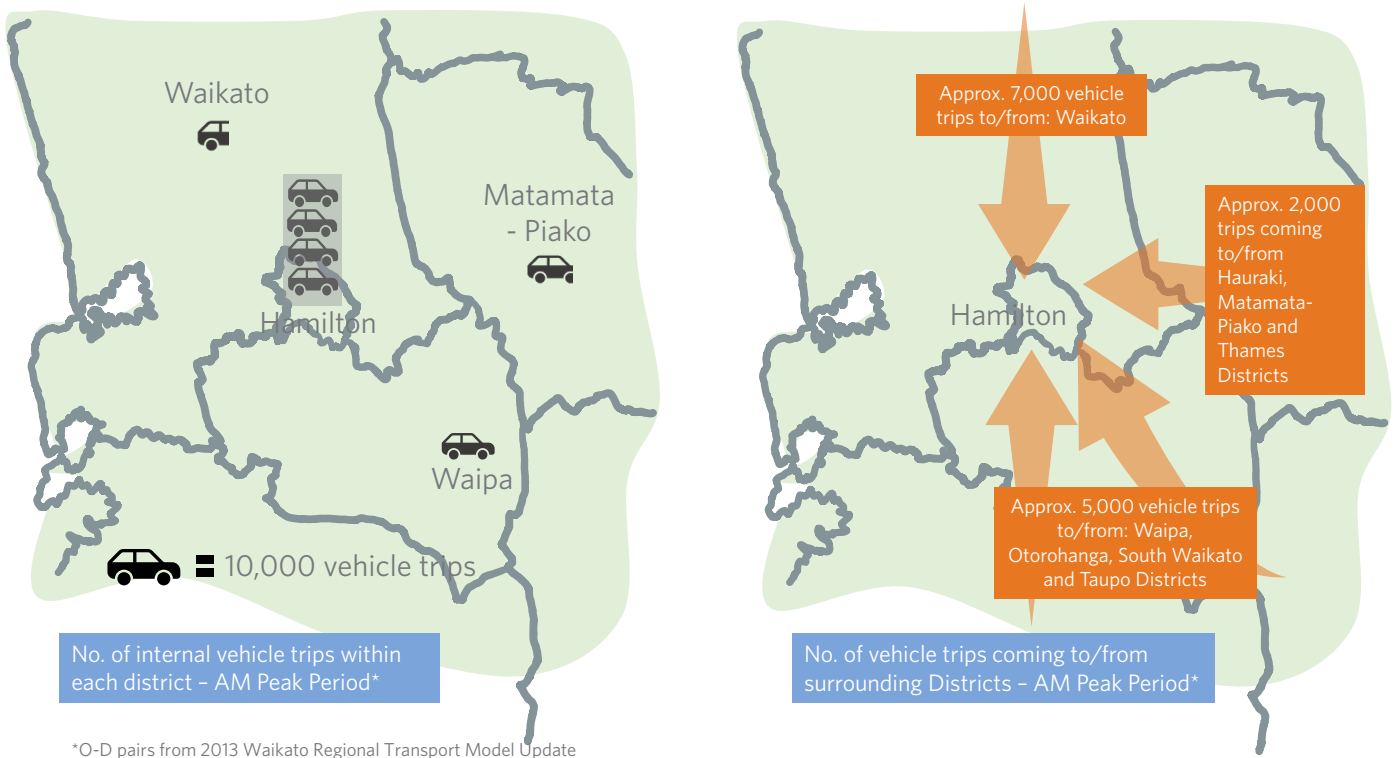
FIGURE 5: TRAFFIC SPEEDS ON KEY ROUTES 6.00PM (MAP DATA © 2020 GOOGLE)
NOTE ORANGE LINES REPRESENT THE LOWEST LEVEL OF DELAY, RED THE HIGHEST



Movement in the city and surrounding towns

Figure 6 below shows the modelled car journeys between the key Districts in the Waikato in the morning peak period. The figure below illustrates that Hamilton City internal trips dominate peak hour travel in the region, making up approximately 73% of all trips. Internal journey demands by car in Waipa are a larger share of journeys for this District than external trip making between Waipa and Hamilton, this is likely to reflect the relatively high employment/residential ratios in the towns of Cambridge and Te Awamutu, reflecting a longer-term heritage of these locations serving a wider local hinterland. Waikato District currently shows the reverse, with higher car journeys coming into Hamilton City than internal to the District. These travel patterns support the investment being made in considering improved walking and cycling in these towns and the demand patterns into Hamilton suggest there is a potential for a gradual increase in bus mode share moving forward, with a focus on the northern routes.

FIGURE 6: MODELLED TRAFFIC DEMAND WITHIN AND BETWEEN THE DISTRICTS



*O-D pairs from 2013 Waikato Regional Transport Model Update

The greatest gains through investment in alternative modes is both where high congestion and high travel demand exists. The data on the previous page indicates that:

- Internal trip making within Hamilton City is the highest and is matched with more congested locations.
- That travel demand between Waikato District and areas to the north is currently modelled as higher than from the south.
- Travel demand to the east is significantly lower which is likely to reflect historic interaction between these Districts and Hamilton.

Current geographic features and land use has a high influence on where people are travelling and where congestion occurs.

Travel demand within Hamilton and each town is driven by a number of key land use and geographic features. Figure 7 below shows key current land use patterns. Key features to note are:

Hamilton City

- The largest employment areas and the hospital are mostly located to the western side of the Waikato River with mainly residential areas on the eastern side of the River.
- Major roading and the railways also represent significant severance in some locations within the city impeding local east west movements by modes other than the private car.
- This drives high demand over the main bridges (approximately 44% of all traffic⁹), most of these bridges are not well designed for all modes, every existing bridge in the city is deficient for walking and cycling.
- There are a large number of schools that are accessed using one main corridor in the Eastern residential areas.
- The employment on the west largely follows the SH1/North Island Main Trunk rail line.
- The city has a number of growth cells open on the edges of the city, this combined with intensification in the existing urban core means that the transport network needs to be improved. Greenfield sites present the opportunity to get things right first time for walking and cycling and public transport. However, without linking improvements to employment and schools mode shift will be minimal.

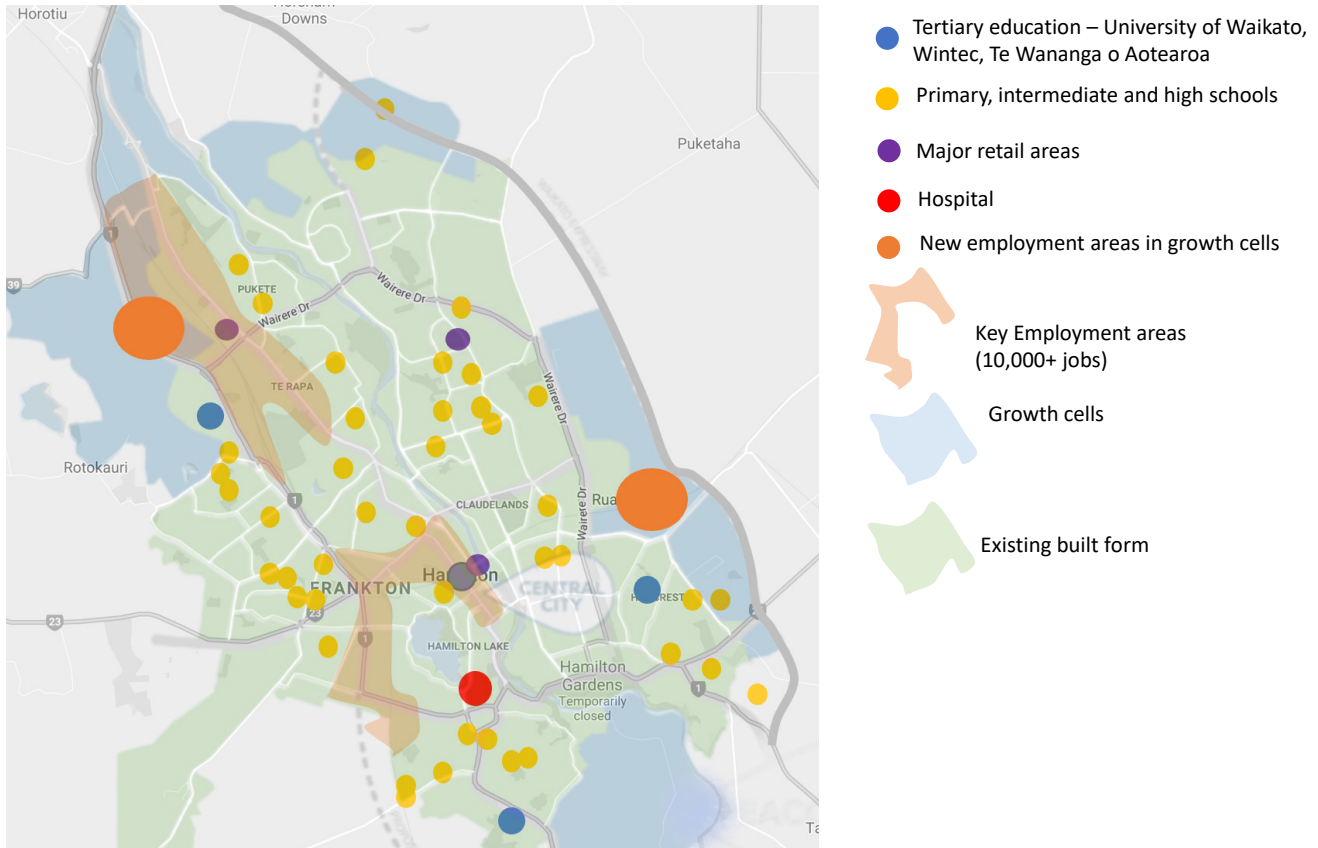
Cambridge, Ngaruawahia, Te Awamutu

- Cambridge has some similar issues around bridge crossings with the main link into the CBD being across an old bridge with limited space for walking and cycling, only to one side and less than 2m wide. The town is also developing a large area to the north of the city at Hatupu, connecting these new industrial areas will be important to reducing traffic on strategic roading corridors.
- Ngaruawahia has similar issues with the severance as a result of the river, with one bridge crossing linking the settlements to the east of the main town centre and another bridge to the west. Both of these bridges only contain a narrow footway to one side. Ngaruawahia has tended to grow to the south, moving the urban form down towards Horotui. Currently the state highway network here is limited for other modes with the river path being used.
- Te Awamutu has less obvious geographic constraints but has SH3 running through the town resulting in conflict between walkers and cyclists and trucks. This is highlighted by the District Council with respect to the Cambridge Road/Sh3 roundabout in the centre of Te Awamutu.

⁹ Figures provided by Waikato Regional Council based on SCATS data

These geographic features – particularly the rivers represent an opportunity. If we want other modes to compete, they need to be comparable in terms of journey times. New infrastructure that provides walk and cycle links can help to create a competitive environment for these modes, thereby helping to reduce vehicular pressures on road bridges and other roading.

FIGURE 7: HAMILTON CITY EMPLOYMENT AREAS, SCHOOLS, HOSPITAL AND GROWTH CELLS



SUMMARY OF CHALLENGES

The current situation of high growth, high car use is leading to increased congestion that results in:

- reduced efficiency of infrastructure: high car use is not an efficient use of what is a finite resource – land and bridges (see information box below)
- increased car ownership¹⁰: this appears to be a continuing trend in NZ and if combined with increased density can lead to increased pressure for on-street parking. This makes it more difficult to use this space to deliver cycling and bus lanes, protection of valuable street space will be critical in cities and towns which want to reallocate space in the future
- poorer air quality, increased noise, reduced amenity for walking, cycling and public transport
- an environment under which those without a car cannot participate fully in society
- high carbon use for travel: single occupancy vehicle travel by car is very carbon intensive
- increasingly unaffordable infrastructure: delivering and maintaining the built infrastructure is increasingly costly
- increasing operational costs (fuel/wear and tear/parking) of transport both to individuals and providers.

¹⁰'For every one thousand New Zealanders (including children) there are 792 light vehicles (cars, vans, SUVs and utility vehicles). This is a 23 percent increase over the past decade.' Ministry of Transport 2018 <https://www.transport.govt.nz/news/land/we-are-driving-further-and-more-than-ever-before/>

If alternative modes are not able to be brought into dense employment locations like the CBD, there will be increasing demands for commercial space outside the centre as people choose to go to places where it is 'easier' to access.

Corridor efficiency – best use of scarce resource

People carrying potential

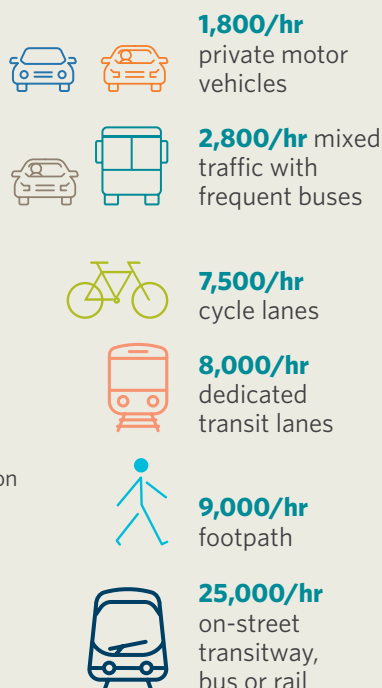
Road corridor space is a scarce resource, particularly in existing urban areas. Making best use of this resource to move people is a key feature of urban and transport planning. Recent planning documents and local spatial planning exercises have identified a desire to increase jobs and housing density in key locations. This requires a change in how we use the existing transport space to deliver this growth.

The first figure to the right shows the person carrying capacity of a single lane (3.5m) for various modes. This illustrates that car modes are the least efficient for carrying people.

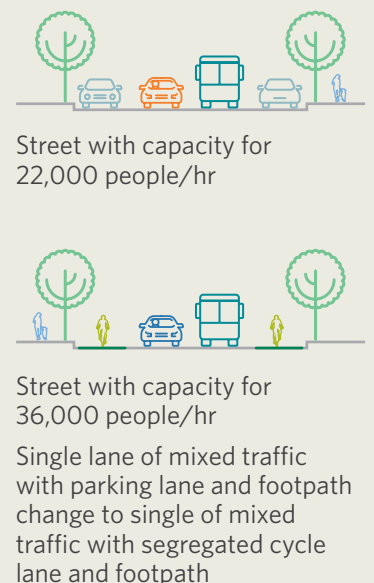
The next figure shows the change in person carrying capacity of a corridor if a parking lane is switched to provide a cycle lane.

Most cities have only limited levels of pedestrianisation but many have consciously removed through traffic; instead focussing on serving the needs of people who need to access the urban core. Understanding that interventions that improve access for other modes can very often assist in naturally reducing through movements without significant impacts on access for private cars.

CARRYING CAPACITY OF A SINGLE LANE ROAD



APPLICATION OF ONE CHANGE – CAR PARKS TO CYCLE LANE



The mode shift plan therefore seeks to de-couple economic growth from its unwanted negative effects, creating affordable growth that does not jeopardise the environmental and liveable future that people desire.

It should be stressed that the aim is not to force people onto other modes for every trip but instead to create the optimal conditions for the majority of trips to be made via the most efficient modes. This does not mean that there will not be traffic or delays, it is normal that trips moved to other modes will be replaced, by those who cannot easily switch modes (for example freight movements or longer distance journeys). However, if mode shift is working then it should control peak spreading and ensure that congestion is limited to main network routes.

THE OPPORTUNITIES

Lots of short distance trips that could move to active modes

Hamilton City Council has identified that 60% of all car trips are under 5km long (a 20 minute bike ride or 45 minute walk) and just over a third are under 2km (10 minutes by bike or 20 minutes walk). The geography of the city (approximately 7km at its widest and 13km at its longest) means that this assessment is likely to be correct.

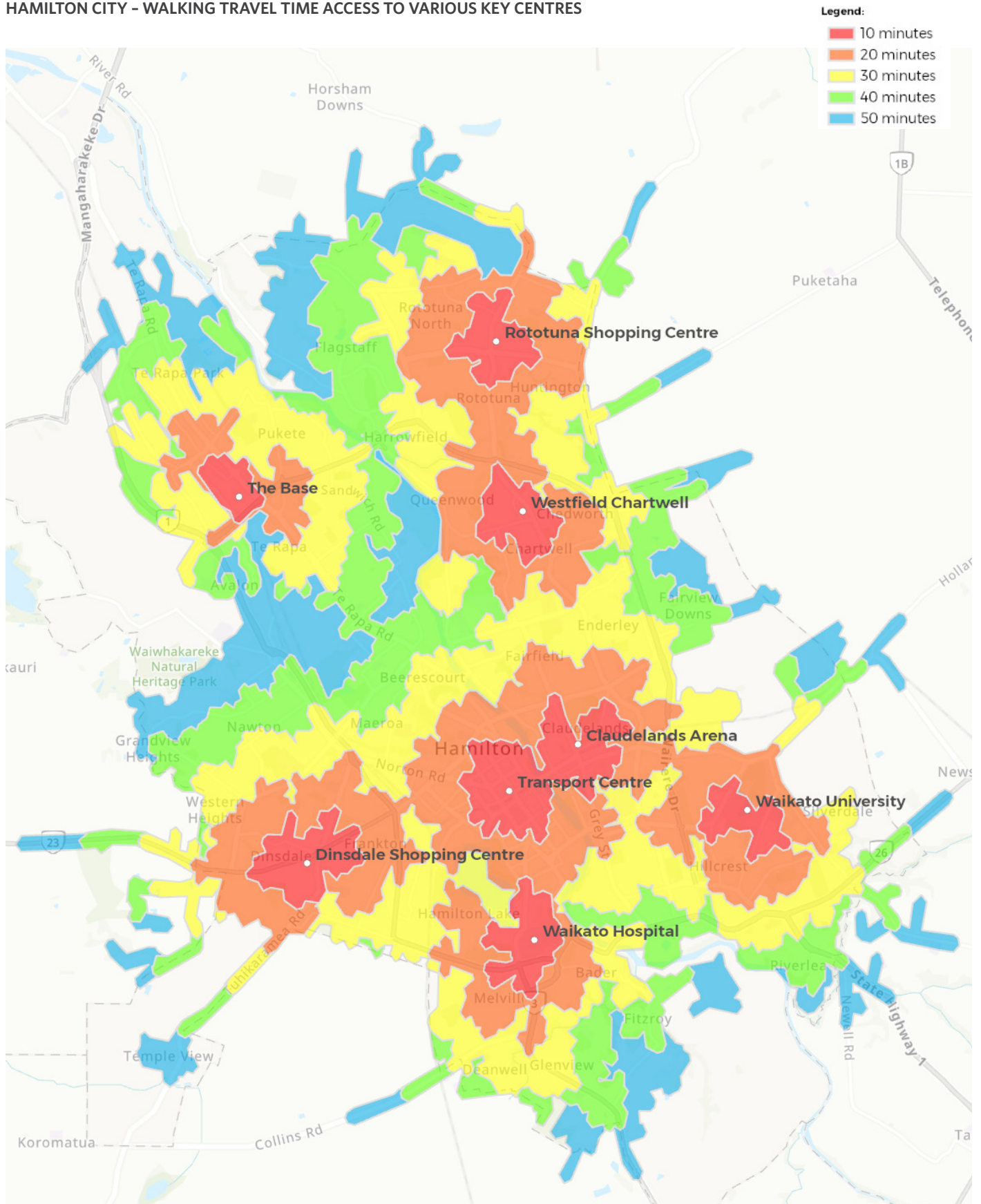
In the surrounding towns, travel to work data indicates that in the main areas comprising Cambridge 38% of people live and work in town, at Ngaruawahia approximately 19% work in the town (with 15% working at Te Rapa/Rotokauri) and in the urban parts of Te Awamutu approximately 45% of people travel to work within the town itself. Given that these towns are all relatively small, this indicates huge potential for transfer of trips to cycling¹¹, noting that this is can be comparable to driving and parking journey times in some locations.

The walking and cycling isochrones on the maps that appear on the following pages, show the areas that can be accessed in various walk and cycle times from places in Hamilton and the town centres of the surrounding towns. The terrain in this area is relatively flat, with fairly modest climbs in Hamilton with few locations where there are daunting hills.

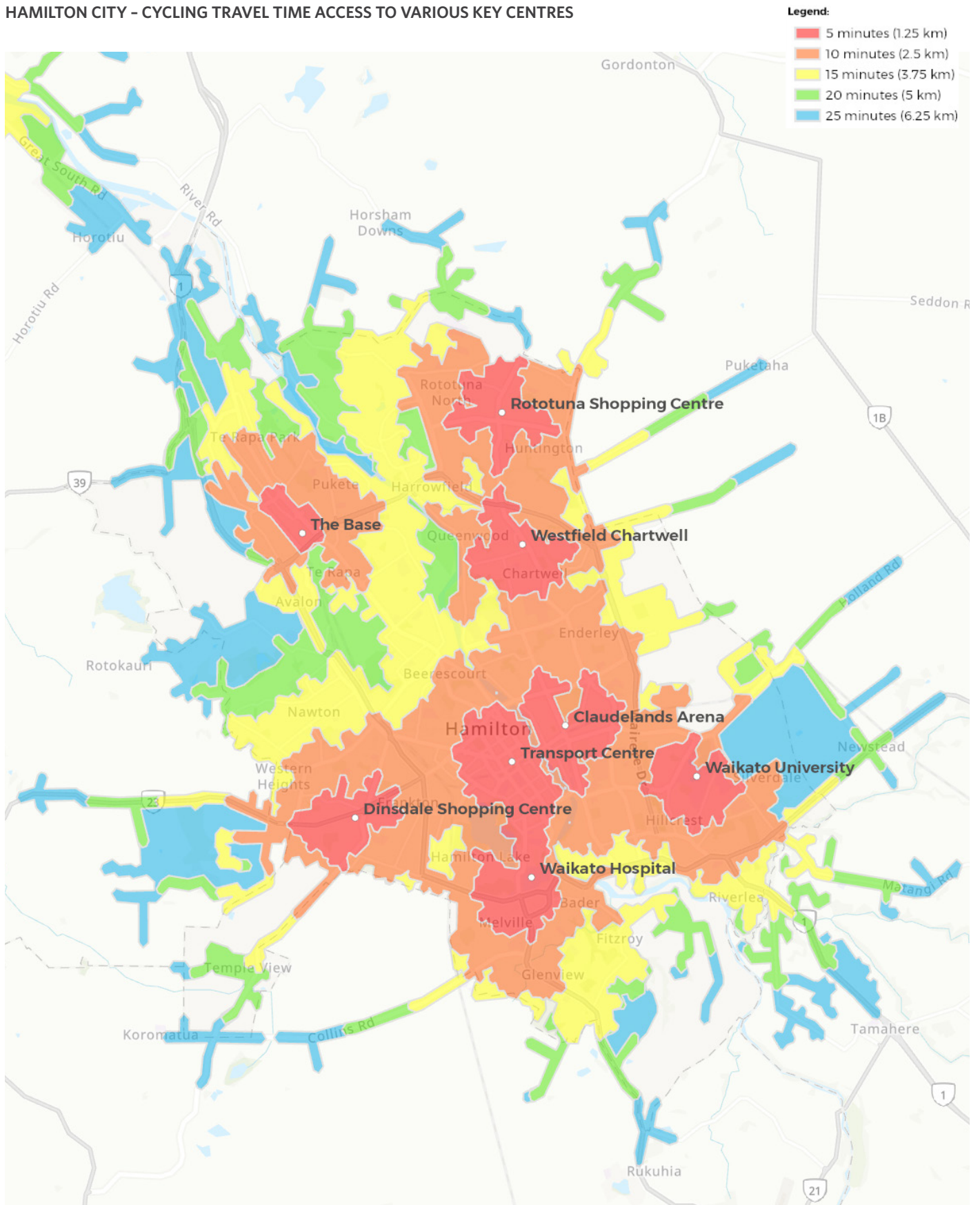
These maps show that large parts of the urban form of Hamilton, Cambridge, Te Awamutu and Ngaruawahia can be accessed within 10-15 minutes by bike.

¹¹ Cycling is referenced throughout this document but is assumed to encompass a range of smaller powered and non powered 'micro transit' options e.g. scooters and electric bikes.

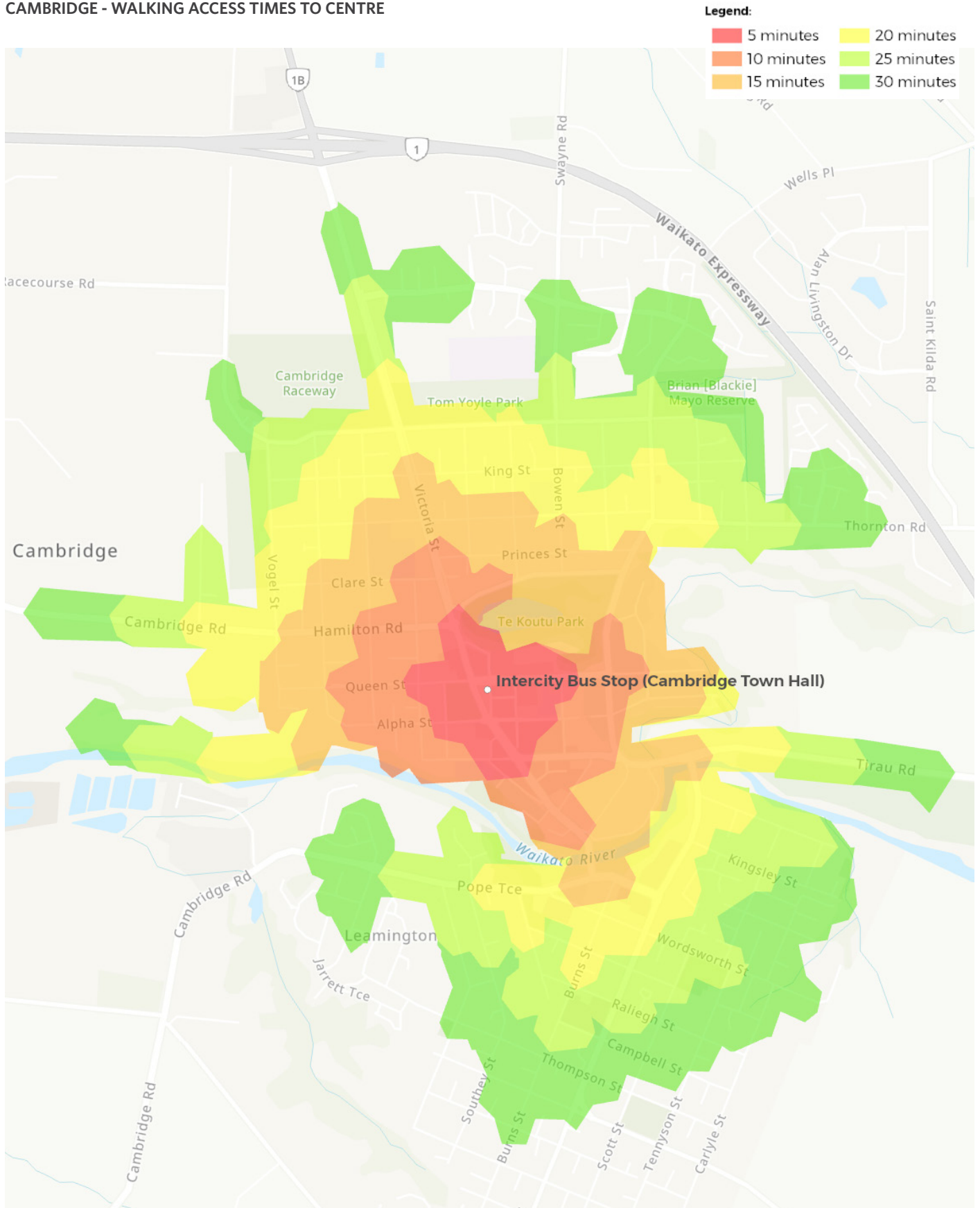
HAMILTON CITY - WALKING TRAVEL TIME ACCESS TO VARIOUS KEY CENTRES



HAMILTON CITY - CYCLING TRAVEL TIME ACCESS TO VARIOUS KEY CENTRES



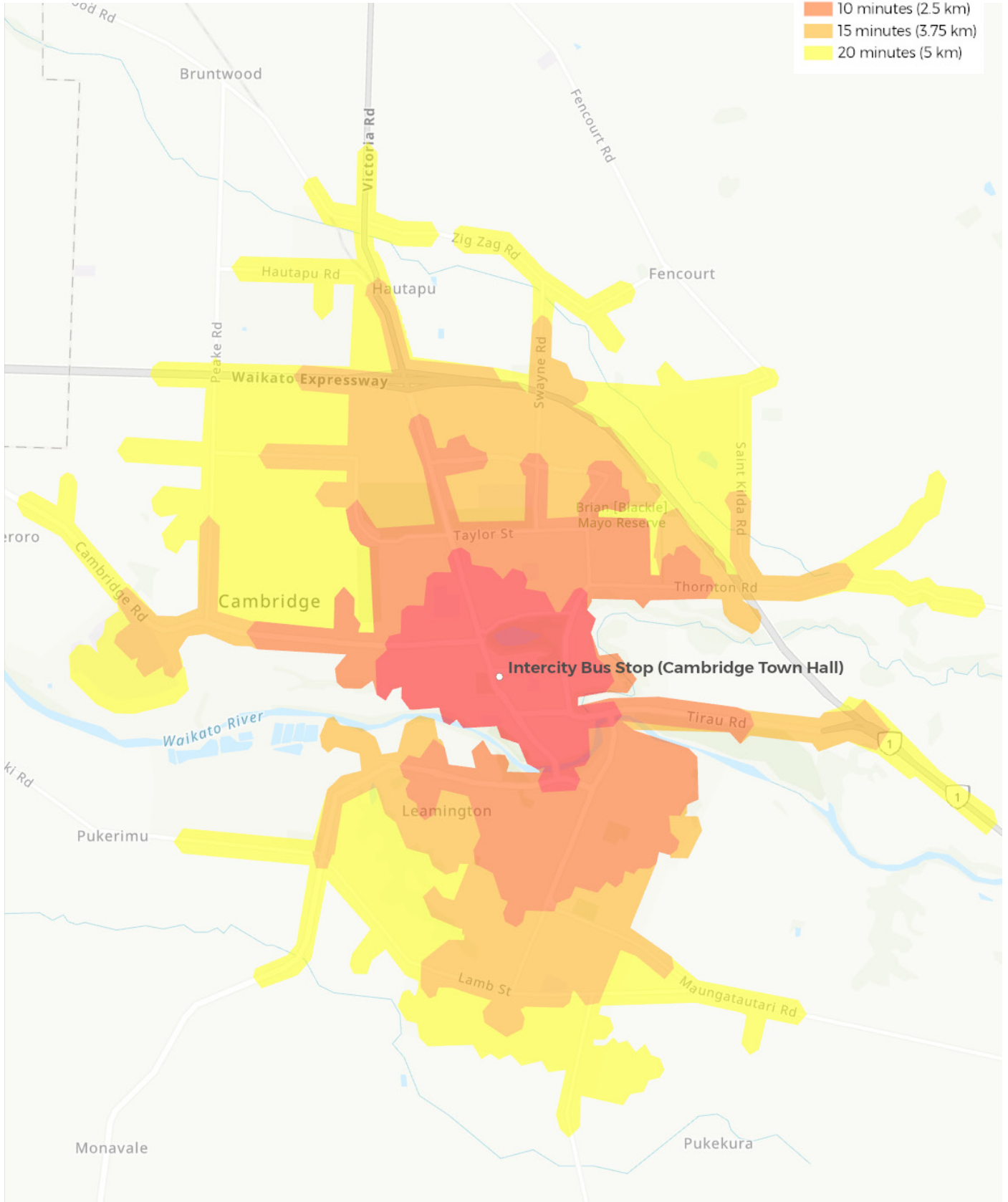
CAMBRIDGE - WALKING ACCESS TIMES TO CENTRE



CAMBRIDGE - CYCLING ACCESS TIMES TO CENTRE

Legend:

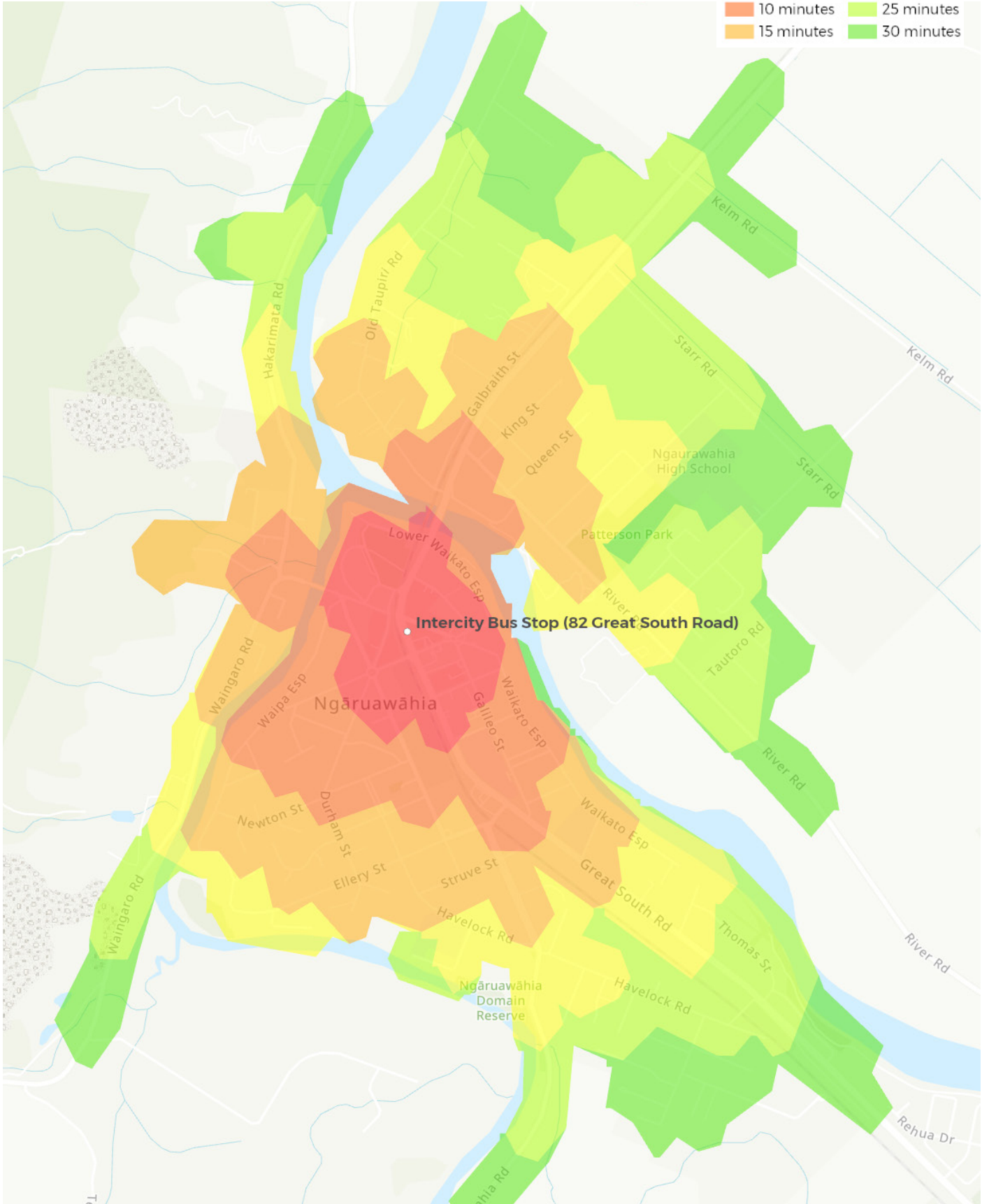
- 5 minutes (1.25 km)
- 10 minutes (2.5 km)
- 15 minutes (3.75 km)
- 20 minutes (5 km)



NGARUAWAHIA - WALKING ACCESS TIMES TO CENTRE

Legend:

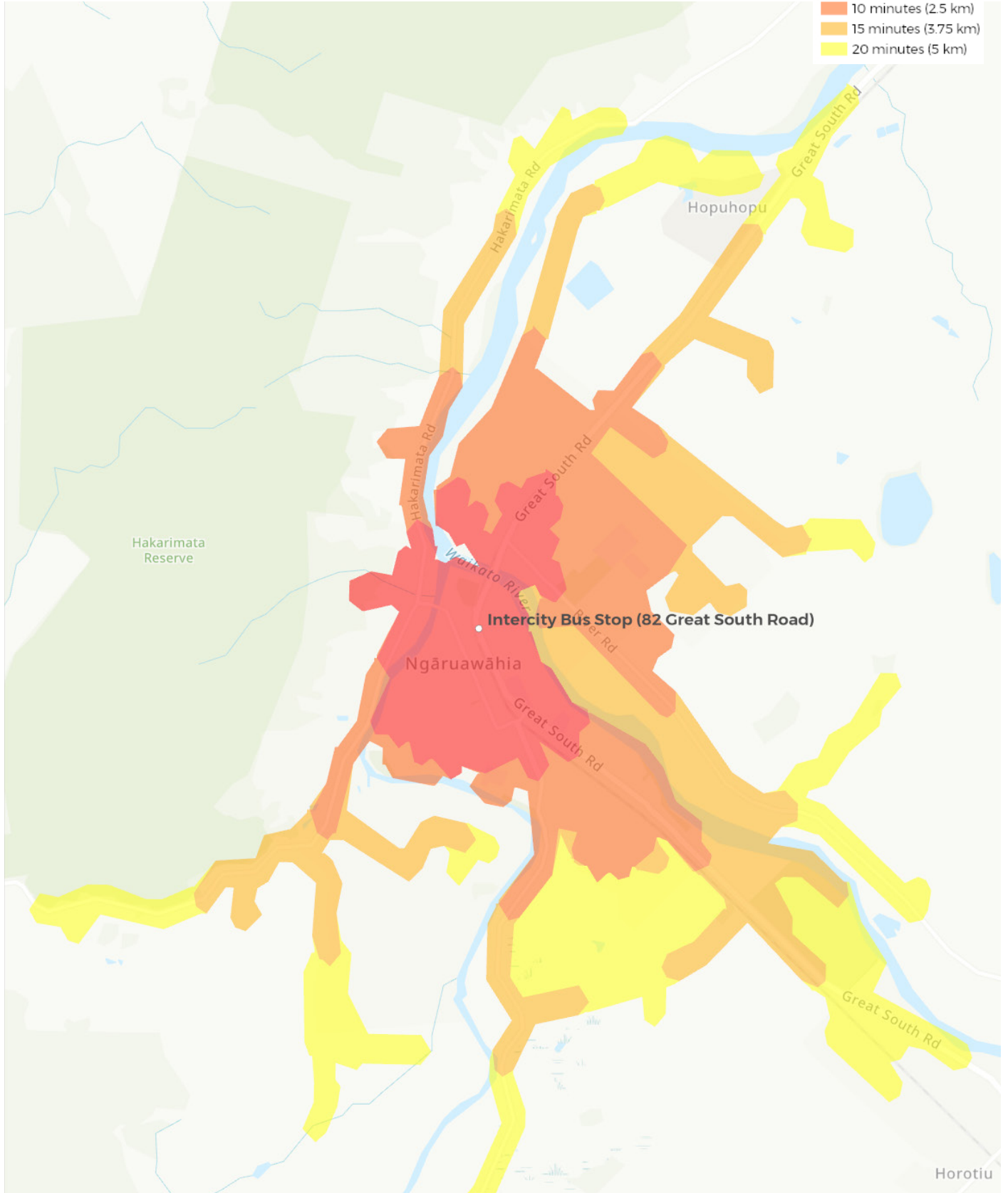
- 5 minutes
- 10 minutes
- 15 minutes
- 20 minutes
- 25 minutes
- 30 minutes



NGARUAWAHIA - CYCLING ACCESS TIMES TO CENTRE

Legend:

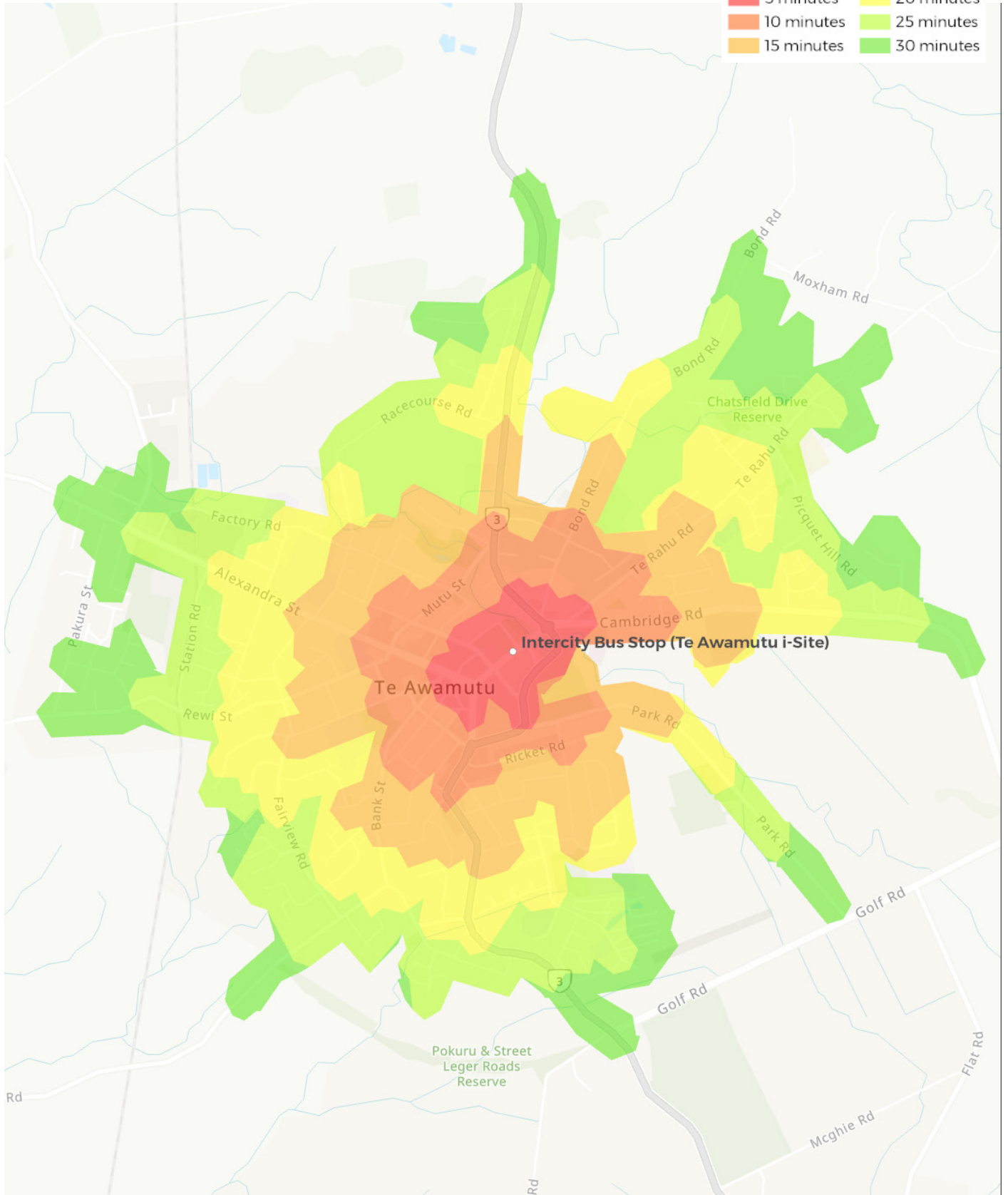
- 5 minutes (1.25 km)
- 10 minutes (2.5 km)
- 15 minutes (3.75 km)
- 20 minutes (5 km)



TE AWAMUTU - WALKING ACCESS TIME TO CENTRE

Legend:

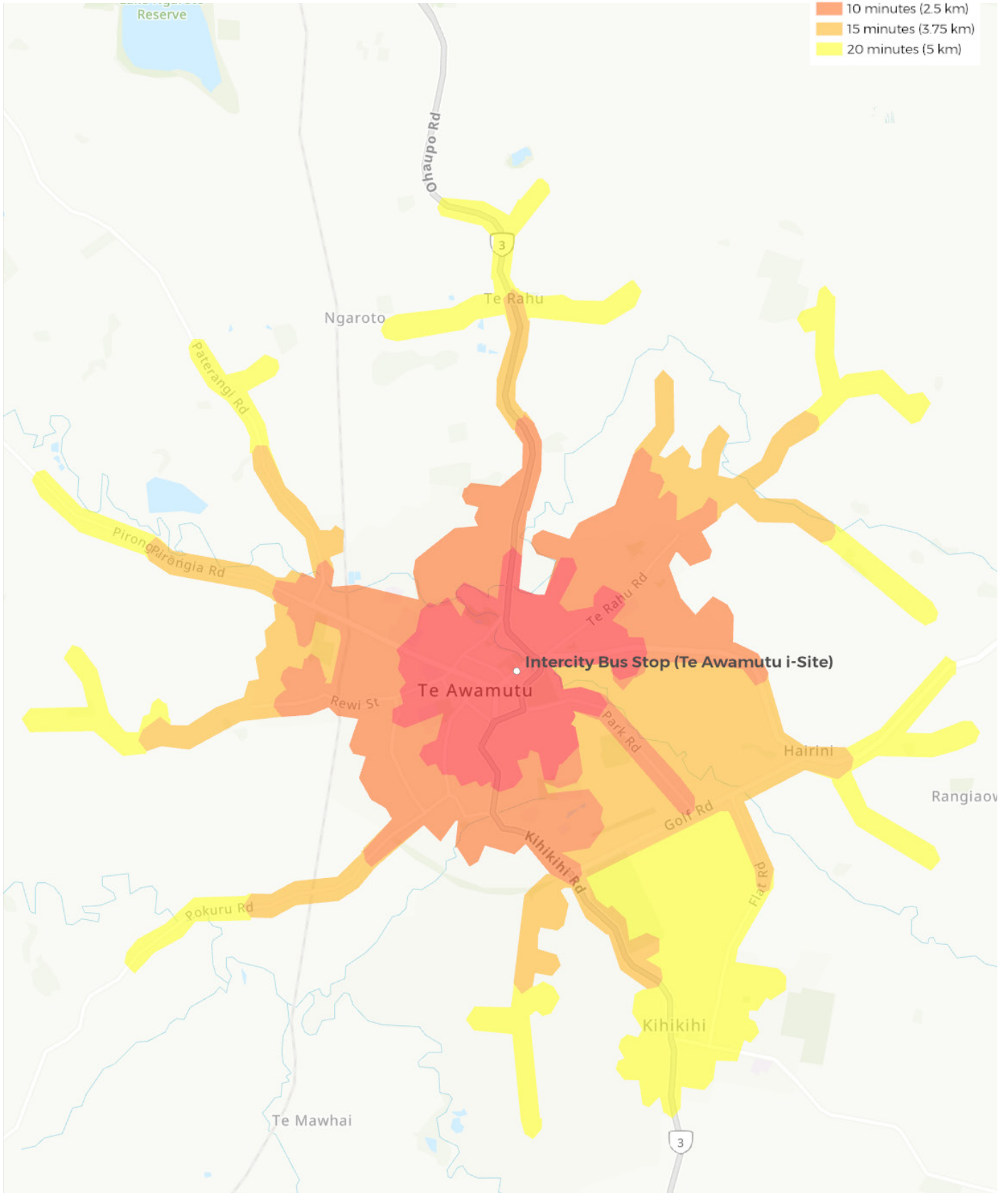
- 5 minutes
- 10 minutes
- 15 minutes
- 20 minutes
- 25 minutes
- 30 minutes



TE AWAMUTU - CYCLING ACCESS TIME TO CENTRE

Legend:

- 5 minutes (1.25 km)
- 10 minutes (2.5 km)
- 15 minutes (3.75 km)
- 20 minutes (5 km)



Demonstrated success of high frequency public transport routes

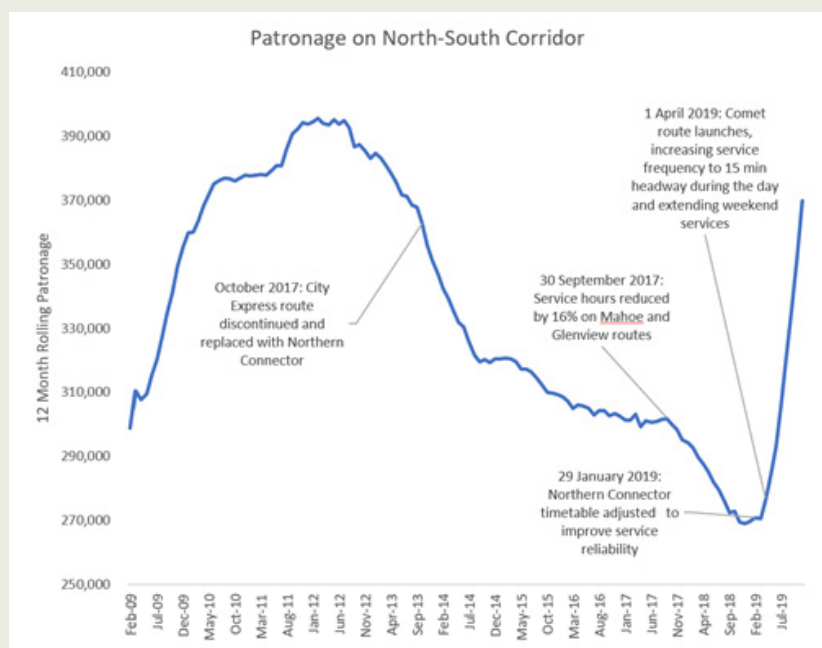
Public transport is a key element in any city network, whilst walking and cycling offers huge opportunity in the City and the towns, sustaining these modes requires access to a reliable transport system for when the weather or the journey isn't suitable for active travel.

The city of Hamilton invested heavily in buses in the early 90s creating, over the intervening years, a coverage network to try and ensure that most people were not more than 400m from a bus service. Declining patronage, and surveys undertaken to explain the decline, informed the 2018 Regional Public Transport Plan. This identified the need to move towards 'high capacity, rapid and frequent bus corridors within Hamilton' and to move towards 'rapid and frequent public transport service between Hamilton and Cambridge, Huntly to Hamilton, and Te Awamutu to Hamilton'. The work to consider these is underway. It is worth highlighting a recent success which rationalised existing services to provide a faster and higher frequency cross city service in Hamilton.

FIGURE 8: FALL AND RISE; BUS INVESTMENT DELIVERS RESULTS (INFORMATION PROVIDED BY WRC)

The Comet

- North-South Hamilton corridor previously serviced by Mahoe, Glenview and City Express/ Northern Connector routes, with passengers transferring in the CBD
- A lack of service improvements lead to waning patronage over time, with service reduction in September 2017 resulting in more dramatic decline
- Services replaced by the Comet in April 2019, which provides a direct route through the CBD and increases service frequency
- 60% increase in patronage measured for October and November 2019



Moving to this frequent and fast network also means moving away from the current coverage network and this will raise different challenges moving forward, managing these will rely on more innovative solutions over the long term.

BARRIERS

Current situation - What are the barriers?

There is a large amount of existing research that explains why people travel the way they do. The amount of time required and the cost of the journey are generally the key factors. However, it is well established that peoples perception of cost and time in relation to different modes is not always particularly clear and that other factors can dominate why people will not choose a particular transport mode.

In early 2019 Waka Kotahi undertook primary research to understand why people used (or didn't use) particular modes to travel in Hamilton and surrounding areas. This work highlighted the following key challenges and issues:

- Car users in Hamilton are all or nothing – they do not consider mixing modes or only using the car on days when they really need to.
- Car users are aware of growing congestion but are comforted that its not as bad as Auckland, this might actually prevent consideration of other, faster and cheaper modes.
- Mode decision is mostly judged based on 'in vehicle' travel time vs other modes. Car users do not factor in time required to find a car park and walk to their destination in choosing the car.
- Car mode choice is most likely to be reconsidered as a result of changes to parking, specifically cost: 'Paying for parking daily or a sizeable amount weekly/monthly means drivers see it, feel it and keep an eye on it'. However, most drivers are using other work arounds to avoid charges, such as: parking further away, arriving earlier, moving cars during the day.
- The key elements of the bus service for potential users was frequency and reliability.
- Existing car drivers in Hamilton had very little knowledge of the current bus services and viewed buses with a degree of disdain.
- Those who used buses highlighted problems with information; unreliability of the Transit app and with at stop timetables.
- Those who were on frequent routes generally found the services cheap and good quality. Some users raised issues with morning peak overcrowding as a result of schoolchildren.
- For cycling and walking, the key issue is perception that it is not safe.
- This is a particularly big issue for parents who would like to allow their children to walk or cycle to school but are fearful of their children's safety.

*Hamilton is a driving city.
It's what people do.*

CHRIS, SOV

*Everyone want to get their license
and drive to school but there's
no parking.*

AMY, SOV

*I'm the only person I know who
takes the bus but it is getting
better. Before it was only people
who didn't have cars. Now you
see some corporate people. I
think there might have been some
council initiatives that have helped.
And there are also incentives for
uni and Wintec students.*

ALICE, BUS USER

Ahil took the bus for
a week when he first
started his studies
He then carpooled
with a friend.

Finally he bought a
car and pays \$60
per semester for the
option to use the
university car park.

While parking is not
guaranteed, he always
finds a park.

The trip is significantly
quick in the car,
because he doesn't
have to wait for the
bus (which runs every
20-30 minutes) and
it's such a short trip in
the car (3-4km). The
bus journey is much
longer.

*I've never thought to take a bus. I just put
up with it. Funny, because I walk or bus
when I am in Auckland. And in Wellington
it's normal to take a bus.*

MATTHEW, SOV

*You do see a
lot of buses
around. School
children. The
older population.
I think a few
work colleagues
do commute by
bus. Sure, there's
stigma. Those
who own a car
do not think past
taking the car.*

TIM, CYCLIST

*Who takes the
bus? Noisy,
giggling school
kids and the 'less
desirable'.*

MATT, SOV

*Most people are
used to driving
so it's the first
option you take.*

CHAD, BUS USER

Sabrina's four children were regularly biking to school, but her son got knocked off his bike – the driver clipped his back wheel – so that put an end to any of the kids cycling.

Now they are all 3-4 years older and at high school, she has thought about them going back on the bikes, but their new school is on a main highway. There is a bike lane but she's seen people driving on it.

She would prefer them to get to school on their own.

'If I don't have to drop them off, it takes the pressure off, one less thing to do before going to work, it gives me a little more time.'

She also believes the cost of them taking the bus is too high *'It's \$50 per kid a week, so \$200 for all four, so it's cheaper driving'*.

*I used to cycle all the time, it was heaps cheaper, free parking
and good incidental fitness. But Hamilton is only half set up for
cycling. Bike lanes get used by cars as a second lane for driving
or as parking. So the bike lane gets clogged up with traffic. I've
been clipped by wing mirrors. It's not safe. It's better to go on the
footpaths.*

CHRIS, SOV, EX CYCLIST

*Hamilton is a small, compact centre, the
creation of cycleways – I've seen the way
people drive around cyclists, I wouldn't
want to be a cyclist. But if you create safe
pathways maybe you encourage more
people to take that option.*

SARAH, SOV

Trip tours – the educational opportunity for mode shift

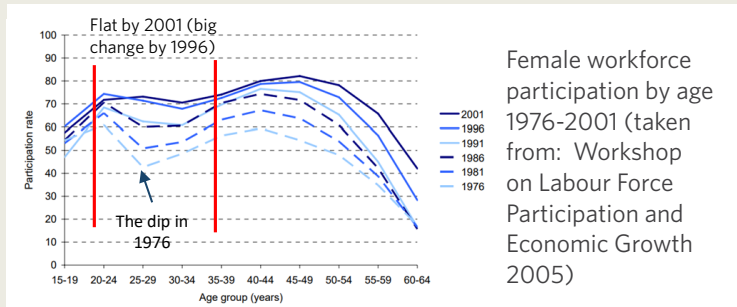
Societal trends – female workforce participation

The graph to the right shows that over the past 40 years there has been growing participation in the workforce by women. The graph also shows that women no longer take significant breaks from the workforce to raise a family as they did in the 1970s.

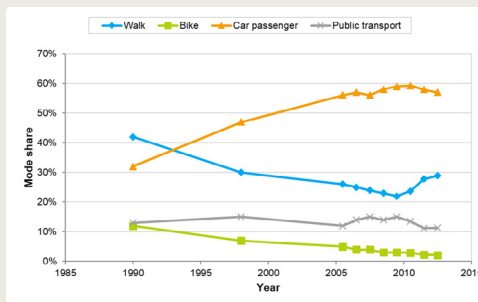
This change is likely to have links to changes seen in the amount of children walking and biking to school. There is a wealth of anecdotal evidence indicating that parents (and particularly women) have combined the school drop off and pick up with their wider journeys to work.

This societal change combined with parental concerns about the safety of children travelling alone on foot or by bike is likely to be behind the falling of children walking and cycling to school.

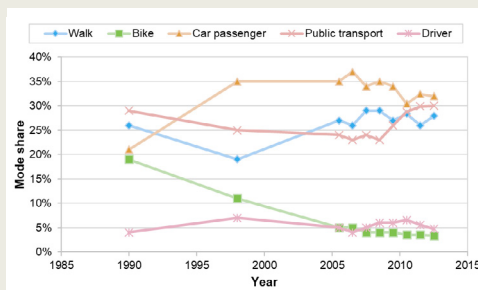
Many parents would like to allow their older children to have more independence. If safer walking and cycling is provided this offers the potential to deliver improved transport choice for children and parents. This underscores the need to tackle safety for education trips.



Female workforce participation by age 1976-2001 (taken from: Workshop on Labour Force Participation and Economic Growth 2005)



Travel to school (1990-2015) mode share – ages 5-12 years (taken from MOT Household Travel Survey)



Travel to school (1990-2015)- mode share – ages 13-17 years (taken from MOT Household Travel Survey)

Linked to the above observations in relation to children cycling, there is a growing trip tour association, for families with children there is a kind of chain reaction under which – if the parents think the journey on foot or by cycle is unsafe, they will accompany the children. However, over the past 40 years there have been big changes in labour participation by women and this is likely to have created the environment under which increasing numbers of children are ‘dropped off’ by parents by car.

As a result, projects that can create safe access for children to education that is to a high standard (a route you would be content to put a 10 year-old on) releases both parent and child from the need to travel by car. If the child can travel unaccompanied then the parent does not have to factor accompanying into their journey and as such can then look at other modes. As a result improving education mode share can also assist in reducing commuting car mode share.

In addition to this specific example these tours are then sometimes extended to include the weekly shop, visiting family and so on. This can lead to an increasingly complex journey pattern which can be difficult to serve by public transport if services/employment and retail are not well clustered.

SUMMARY OF BARRIERS

- Car use seen as the only real mode and it is all or nothing; this likely to be linked to high profile investment in roading making driving highly convenient.
- The above issue is strengthened by access to free parking, with most people finding ways to avoid or significantly lower parking costs.
- Car drivers do not really understand and would not actively seek alternative modes of transport.
- For buses, service frequency, reliability and information availability are critical to making the shift. Once people started using the services, satisfaction levels are generally high.
- For walking and cycling, its perceived and real safety concerns, particularly around sharing road space, is impeding the shift. In Hamilton, trips to school are considered to be a particular area of opportunity to reduce car use. Urban cycle networks should be designed to be suitable for users of all ages and capability.

3.0 DEVELOPING THE PLAN

The focus areas for achieving mode shift are set out in Keeping Cities Moving. The areas are:

- **Shaping urban form** – Encouraging good quality, compact, mixed-use urban development will result in densities that can support rapid/frequent transit (and vice versa), shorter trips between home and work/education/leisure, and safe, healthy and attractive urban environments to encourage more walking and cycling.
- **Making shared and active modes more attractive** – Improving the quality, quantity and performance of public transport facilities and services, and walking and cycling facilities will make more people want to use them. This can involve both optimising the existing system (e.g. through reallocating road space) and investment in new infrastructure and services, and providing better connections between modes.
- **Influencing travel demand and transport choices** – Changing behaviour may also require a mix of incentives and disincentives (or ‘push’ and ‘pull’ factors) to either discourage use of private vehicles (by making them less attractive relative to other options) or making people more aware of their options and incentivising them to try something new. This may include parking policies, road pricing, travel planning and education.

The challenges and opportunities section above identified that the city and towns covered by this plan should:

- move towards a frequent and fast bus network to create a public transport network that is competitive to making the same trip using private car.
- improve passenger information at stops to create consumer confidence in bus services and to create the right environment for further frequency increases
- allocate bus infrastructure in accordance with bus service frequencies, with investment in frequency dovetailed with infrastructure delivery.
- for active modes, create high quality and inclusive infrastructure that is suitable for use by all ages and builds a network of safe routes.
- focus on creating great pedestrian environments in City and Town Centres and provide priority for active modes over general traffic.

In addition, the primary locations for investment are below:

Hamilton City

Improvements along the key corridors for employment - the L, namely the route between Rotokauri and the University as shown in Figure 9 below. These helping to set the city up for longer term proposed investment in density increases and rapid transit. This should build upon the experience derived from the Comet regarding the reduction of the need to change buses. Concentrated efforts to maximise walking and cycling links into the CBD and across the river.

To the east of the city, in residential areas, identification of improvements to encourage mode shift related to high volumes of travel associated with education (schools and university) and other centres which attract high volumes of traffic (eg shopping centres).

Planning of new walking and cycling connections across the river and in other key locations that can create a competitive advantage over driving. The development and delivery of a network of safe and inclusive cycleways.

Waikato District

In the short term, work with Waikato Regional Council to continue to deliver improvements to bus services that connect Ngaruawahia with Horotui, Te Rapa and Hamilton Central (along the L). This to include bus shelters and real time information.

Where development occurs on this corridor, begin to develop green networks to support long term walking and cycling connections away from the state highway network where feasible.

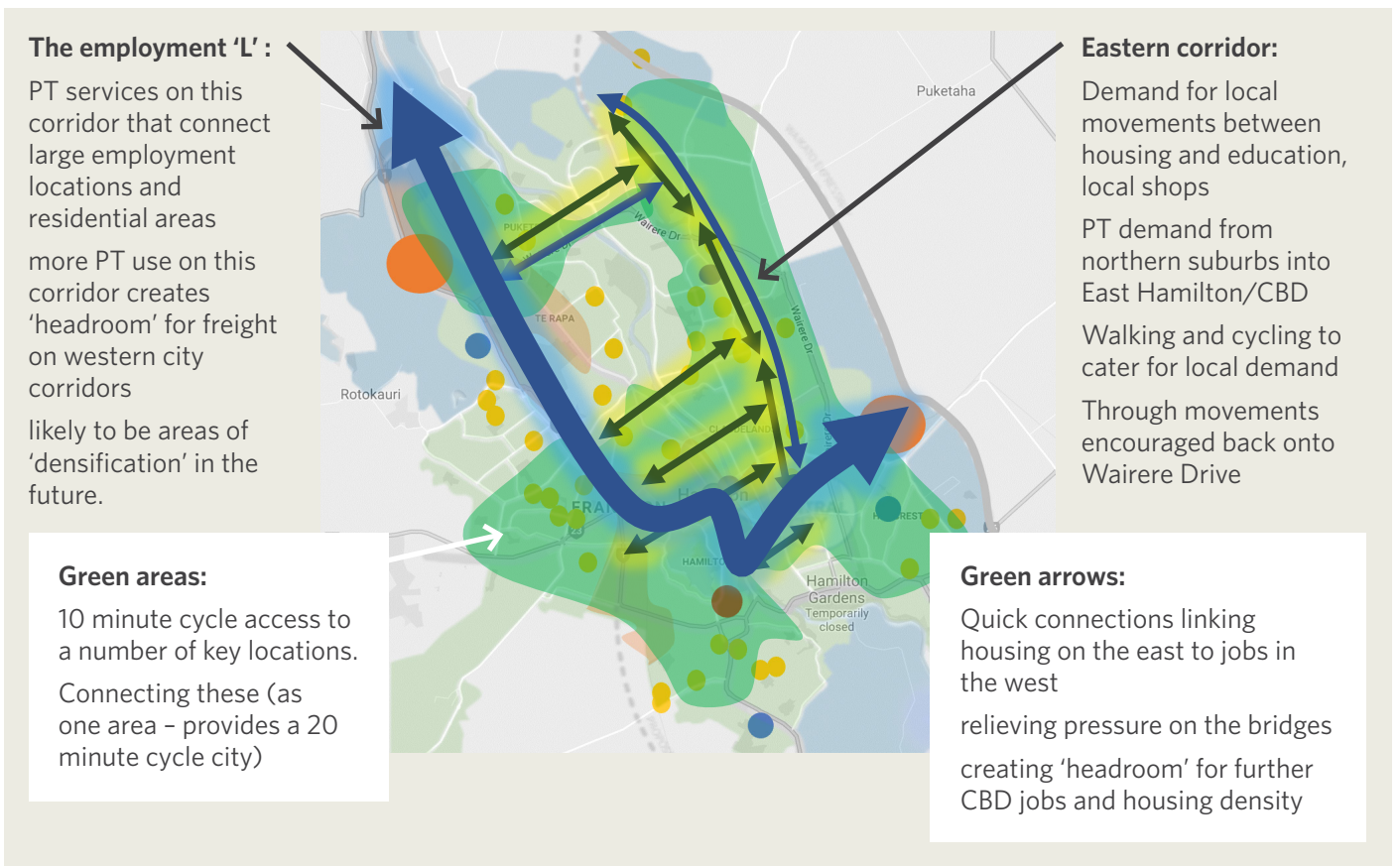
Waipa District

Continue to work on the development and delivery of comprehensive walking and cycling networks within Te Awamutu and Cambridge, capitalising on the current relatively small urban areas (that can be cycled in 15 minutes in some cases). Particular regard to be had to future growth locations and locations of high conflict with vehicles.

Improve access to bus as a mode choice through gradual increase in peak hour services to Hamilton City.

In keeping with Hamilton City, look to promote walking and cycling competitiveness through creating new links across landscape features such as at the river crossings.

FIGURE 9: MODE SHIFT PLAN AREAS OF FOCUS AND KEY COMMUTER CONNECTIONS



THE IMPORTANCE OF WALKING IN MODE SHIFT PLANS

This mode shift plan emphasises the need to grasp the opportunity that cycling offers in the urban areas of Hamilton, Ngaruawahia, Te Awamutu and Cambridge. This emphasis is based on the distances that can be travelled on a bike – noting that in some cases travel by this mode is as fast and convenient as travel by car. The average person can cycle around 5km in 20 minutes compared to 2km on foot. However, there is also a real benefit in investing in walking, in particular getting the walking infrastructure right in key destinations and making sure that walking desire lines are identified and met.

In new growth areas care should be taken to avoid long ‘blocks’ where people have to make long detours to reach local facilities or bus stops, the World Bank recommends street grids at 150m between intersections and super blocks split with appropriate walking and cycling connections. In existing town centres and residential areas maintenance of footways, accessibility measures such as dropped kerbs and tactile paving should be seen as a standard feature. The development of an appropriate walking strategy that identifies current deficits and undertakes to identify the priority of walking should be undertaken to provide clear guidance to developers and urban planners regarding the standard that should be met to encourage and sustain walking habits.

LONGER-TERM MODE SHIFT PLANNING

This mode shift plan has also been developed against a longer-term planning process for the Metro Area. The Hamilton Waikato Metro Spatial Plan considers a long-term future growth scenario that accommodates a doubling of the current population in the Metro area and identifies key transport networks that would be used to support growth and intensification.

Much of the proposed intensification is around the ‘L’ shape in the above diagram, namely the corridor linking Rotokauri, the CBD and Ruakura/University. The envisaged future network sees this ‘L’ expanded further to the north to capture Ngaruawahia. The ‘L’ is also complimented by proposed frequent networks that connect the surrounding towns and create the networks to support further growth and land use intensification on the eastern side of the city. The proposed investment areas above align with this long-term planning exercise which seeks to ensure that growth nodes are all connected to frequent or rapid services¹² in the future.

¹² Definitions: Rapid transit: A quick, frequent, reliable and high-capacity public transport service that operates on a permanent route (road or rail) that is largely separated from other traffic. Frequent: A public transport service that operates every 15 minutes or less (or every 30 minutes or less for a ferry) from Monday to Friday during the morning peak (7am-9am).

4.0 THE PROJECTS

The projects that are included in the mode shift plan are listed in the tables overleaf and are shown (where possible) in the Figure below. The plan represents an investment of around \$350m¹³ in total and represents the first step in a longer term plan to co-ordinate walking, cycling and public transport to make it a real and attractive choice for people living and working in the area. This follows the following key principles for investment in each mode and the geographic focus areas noted above.

These projects and implementation will be reviewed on a regular annual basis to reflect work completed and the available budgets of the relevant parties. It should also be noted that other funding streams and projects will not be represented in this plan. Examples include safety projects being delivered as part of the Safer Networks Programme and minor works under the current \$1m threshold.

SHAPING URBAN FORM

INTERVENTION TYPE	SUB TYPE	COUNCIL/LEAD ORGANISATION	INTERVENTION
Shaping urban form	Place shaping: Ensuring layout and design of new urban areas supports the use of public transport, walking and cycling	All Councils and Waka Kotahi	Structure Plans generally should ensure good public transport penetration, direct walking routes with suitable natural surveillance and protected cycleways are provided. In addition, the long-term planning has identified further density increases in some areas Structure Plans in the following locations may require adjustment to achieve these aims: <ul style="list-style-type: none"> ▪ Rotokauri ▪ Rototuna TC ▪ Ruakura ▪ Peacocke ▪ Hautapu ▪ Hamilton Airport
Shaping urban form	Place shaping: Ensuring layout and design of new urban areas supports the use of public transport, walking and cycling	All Councils and Waka Kotahi	Identification of new street design guidance that sets out how to make streets suitable for all users. The focus of this guidance to be upon urban and potentially peri-urban settings. May or may not be linked to cycle and walk design guide as part of a 'nested series' of guidance. Consideration of whether this should be developed to be consistent across the metro area to be discussed with Waka Kotahi and District Councils. Potential to use RATA structure to develop common guidance and fund expert advice.

¹³ This figure is based on high level estimates only

INTERVENTION TYPE	SUB TYPE	COUNCIL/LEAD ORGANISATION	INTERVENTION
Shaping urban form	Place shaping: Ensuring layout and design of new urban areas supports the use of public transport, walking and cycling	All Councils and Waka Kotahi	There is a need to make provision in the city and towns for charging or refuelling infrastructure for new forms of bus power; Waikato Regional Council is exploring movements to improve bus fleets to electric or hydrogen fuel and new charging locations to serve these fleets will be required and should be considered as part of structure plans.
Shaping urban form	Place shaping: Identify locations where accessibility can be improved for walking and cycling.	Hamilton City Council	<p>There are a number of locations within the city where walking and cycling could be promoted through the creation of new links over natural features. There are lots of gullies throughout the city that could either be breached or be used to support fast access.</p> <p>In addition there are a number of laneways and other links within the city that could be identified for improvement to increase usage by pedestrians. Care to be taken to consider natural surveillance and safety of routes at all times of the day and evening.</p>
Shaping urban form	Place shaping: Identify locations where accessibility can be improved for walking and cycling.	Hamilton City Council	<p>In addition there is a significant deficit in fully mode enabled river crossings in the city. Every existing bridge has constraints with respect to delivering a high quality walking or cycling environment. The Ferrybank Crossing could provide a improved service and significant time savings to East Hamilton. There may also be scope for consideration of additional walk cycle bridge river crossings in the city - these could potentially offer a competitive advantage for these modes.</p>
Shaping urban form	Place shaping: Identify locations where accessibility can be improved for walking and cycling.	Waipa District Council	<p>Early thought has been given to creation of a separate walking and cycling link across the river in Cambridge to improve accessibility - this is in early stages but should be potentially identified for further work/POE</p>

INTERVENTION TYPE	SUB TYPE	COUNCIL/LEAD ORGANISATION	INTERVENTION
Shaping urban form	Place shaping: Ensuring layout and design of new urban areas supports the use of public transport, walking and cycling	All Councils and Waka Kotahi	Ensure that District Plans enable greater density on key public transport/major walk and cycle connections coming through the various business cases/spatial planning. Discuss creation of additional mixed use density in city and towns. Examples might include mixed office/residential and retail blocks, increased building height allowances, reduce car parking requirements in town centres to support moving towards a more balanced transport system and efficient networks.
Shaping urban form	Place shaping: Ensuring layout and design of new urban areas supports the use of public transport, walking and cycling		District Plans to be strengthened to ensure that new developments are enabled for future increases in active and shared modes. Additional guidance around cycling parking standards, clothing drying facilities, lockers and covered cycle parking to be included.
Shaping urban form	Place shaping: Protection of freight corridors through limiting access and providing mode choice on appropriate networks	All Councils and Waka Kotahi	Protection of freight corridors through limiting access and ensuring that District Plans recognise the appropriate land uses for these major national movement corridors. Waka Kotahi to provide further guidance on this with respect to Waikato Expressway. A revised Network Plan to be produced and guidance on text for the RPS to be produced.
Shaping urban form	Place shaping: Ensuring layout and design of new urban areas supports the use of public transport, walking and cycling	Hamilton City Council	Interventions in the CBD to provide additional public realm to support growing numbers of residents in the CBD. Tactical urbanism projects that provide low cost trials for changes to public space/parking and roading providing insights into the desire for and use of new spaces for people to enjoy.

MAKING SHARED AND ACTIVE MODES MORE ATTRACTIVE

The public transport network that supports Hamilton and the key towns identified as part of this plan is currently transitioning from a coverage network to a frequent and fast network. This reflects the growing need for alternative modes to make better use of existing infrastructure.

The key issues associated with use of these modes have been identified as:

- For shared modes (public transport): frequency and reliability of services
- For active modes: safety, both real and perceived

In terms of public transport greater investment in frequency also requires investment in priority, this is based on the issue known to transport planners as the 'three bus problem'.

Frequency and bus priority – the three bus problem

A commonly experienced problem with bus networks running high frequency services is that unanticipated delays on the route can result in bus platooning (three buses turning up at once). This occurs because once a bus is delayed, more passengers build up at stops, this means a longer boarding time for the first bus, which then gets delayed at each stop. The bus behind isn't collecting as many passengers and so speeds up, and the bus behind that also picks up fewer passengers and before long, three buses arrive at once.

This why ensuring reliability is part of the key to increasing frequency to ensure that buses do not incur delays and can stay on timetable. This can be achieved through: providing good bus priority to reduce unreliability of services due to congestion, ensuring integrated ticketing reduces delays getting people on board, step free access to achieve rapid boarding, multiple doors to allow access and egress simultaneously and good at-stop information to reduce the need for passengers to query drivers. In addition, real time information at stops can reassure passengers that if the first bus doesn't stop (because it needs to make up time) the bus behind is not far away. In Hamilton, as the move is made towards a consolidated frequent network, investment in these other measures becomes increasingly key to avoiding bus platooning and creating reliable bus services.

In terms of active modes, both Hamilton City and Waipa are developing detailed plans to deliver networks for cycling. These projects are expected to result in significant investment programmes with Hamilton allocating around \$50m in their Long Term Plan towards these schemes.

INTERVENTION TYPE	SUB TYPE	COUNCIL/LEAD ORGANISATION	INTERVENTION
Making shared and active modes more attractive	Making other modes attractive: Continue the transition to a 'frequent and fast' public transport network	Waikato Regional Council	Implementation of service enhancements on the Comet to achieve increased frequency
Making shared and active modes more attractive	Making other modes attractive: Continue the transition to a 'frequent and fast' public transport network	Waikato Regional Council	Implementation of new bus service linking Rotokauri with the CBD and the University (the East-West)
Making shared and active modes more attractive	Making other modes attractive: Continue the transition to a 'frequent and fast' public transport network	Waikato Regional Council	Continue to undertake and deliver network reviews to transition to a frequent and fast network
Making shared and active modes more attractive	Making other modes attractive: Continue the transition to a 'frequent and fast' public transport network	Waikato Regional Council	Deliver complimentary 'demand responsive' services to provide high quality and affordable travel choice to people who cannot access the fast and frequent network
Making shared and active modes more attractive	Making other modes attractive: Continue the transition to a 'frequent and fast' public transport network	Waikato Regional Council	In addition to the above 'gap filling' role, deploy demand responsive services to support early stages of new growth cells. To support positive mode shift habits
Making shared and active modes more attractive	Making other modes attractive: Continue the transition to a 'frequent and fast' public transport network	Waikato Regional Council	Finalise business case around increased Public transport to Cambridge and Te Awamutu and recommended new bus service to link Pirongia - Te Awamutu - Cambridge - Karapiro village
Making shared and active modes more attractive	Making other modes attractive: Continue the transition to a 'frequent and fast' public transport network	All Councils and Waka Kotahi	Bus priority to be introduced at reliability hotspots, SH3/SH1 hotspot at the Hospital already identified, further roll out may be required

INTERVENTION TYPE	SUB TYPE	COUNCIL/LEAD ORGANISATION	INTERVENTION
Making shared and active modes more attractive	Making other modes attractive: Support public transport through investment in complimentary infrastructure	Waikato Regional Council	Undertake an urban bus infrastructure review in Hamilton, Waipa and Waikato to provide asset database and identify suitability of stop infrastructure and access to stops
Making shared and active modes more attractive	Making other modes attractive: Support public transport through investment in complimentary infrastructure	All councils and Waikato Regional Council	Following on from the above project: Work with partners to define levels of infrastructure service required to support different network provision, ie the identification of routes with high frequency services that should be matched with high quality infrastructure
Making shared and active modes more attractive	Making other modes attractive: Support public transport through investment in complimentary infrastructure	Waka Kotahi	Glenview bus hub on SH3
Making shared and active modes more attractive	Making other modes attractive: Support public transport through investment in complimentary infrastructure	Hamilton City Council	Rototuna Transport Hub
Making shared and active modes more attractive	Making other modes attractive: Support public transport through investment in complimentary infrastructure	Waikato Regional Council	Increase peak hour bus services on the Northern Connector (noting higher demand flows from the north than the south) and strong connection between those living in Ngaruawahia and working in Te Rapa/Rotokauri
Making shared and active modes more attractive	Making other modes attractive: Continue the transition to a 'frequent and fast' public transport network	Waikato District Council	Potential station location at Ngaruawahia (depending upon determined next stage of H2A rail service) and consideration of walking and cycling links to existing and future PT services
Making shared and active modes more attractive	Making other modes attractive: Support public transport through investment in complimentary infrastructure	Hamilton City Council	Consider further walking and cycling improvements at Frankton station to link to employment areas (note: linked to Frankton Neighbourhood Plan and improved accessibility - not easy to get from the station to employment located around Elis Street or to Frankton High Street) - again - linked to H2A rail service longer term planning

INTERVENTION TYPE	SUB TYPE	COUNCIL/LEAD ORGANISATION	INTERVENTION
Making shared and active modes more attractive	Making other modes attractive: Support public transport through investment in complimentary infrastructure	Waikato Regional Council	The Hamilton Transport Centre rejuvenation project is looking to improve passenger comfort and information over the coming years, this business case should result in infrastructure improvements for CBD passengers
Making shared and active modes more attractive	Making other modes attractive: Accelerate delivery of the walking and cycling network through delivering infrastructure for these modes	All Councils and Waka Kotahi	Waipa's Urban Mobility business case will look at the integration of walking/cycling facilities with the bus services - considering cycle lane and footpath connections to a formal bus stop which has decent shelters, good lighting, live bus info system, wifi, bike rack and rubbish bin. Also a safe crossing point across to a similar bus stop across the road
Making shared and active modes more attractive	Making other modes attractive: Accelerate delivery of the walking and cycling network through delivering infrastructure for these modes	Hamilton City Council	Undertake a review of international design guides for cycling infrastructure and determine suitable design guide for application in the area. Consider setting up a design panel that will ultimately make decisions where designs need to diverge from best practice. Similar guidance for promotion of walking that should identify locations where additional walking investment is required and how walking will be prioritised over other modes. In keeping with street design guide - consideration of whether this should be developed over the metro area
Making shared and active modes more attractive	Making other modes attractive: Accelerate delivery of the walking and cycling network through delivering infrastructure for these modes	Hamilton City Council	Delivery of micro-mobility business cases in Hamilton which will determine key routes and desired future primary, secondary and supporting networks. Once determined set up a 5 year programme for delivery of the networks at pace and scale - noting the isochrone data within this report
Making shared and active modes more attractive	Making other modes attractive: Accelerate delivery of the walking and cycling network through delivering infrastructure for these modes	Hamilton City Council	Delivery of University and Schools link projects. Noting that these cover both cycling and PT enhancements

INTERVENTION TYPE	SUB TYPE	COUNCIL/LEAD ORGANISATION	INTERVENTION
Making shared and active modes more attractive	Making other modes attractive: Accelerate delivery of the walking and cycling network through delivering infrastructure for these modes	All Councils and Waka Kotahi	Increase cycle parking in key locations in the city and (in line with the above) improve design of cycle parking. Improve cycle parking requirements in District Plans to encompass covered and secure parking for residents and workers in new developments
Making shared and active modes more attractive	Making other modes attractive: Accelerate delivery of the walking and cycling network through delivering infrastructure for these modes	All Councils and Waka Kotahi	As part of walking strategy - increase opportunities for pedestrians to cross busier roads. Many streets operate with relatively high traffic volumes and road widths that make it hard for children and seniors to cross the road. Increasing suitable refuge locations would assist pedestrians and help to decrease vehicle speeds through regular road narrowing features
Making shared and active modes more attractive	Making other modes attractive: Accelerate delivery of the walking and cycling network through delivering infrastructure for these modes	Waipa District Council	Improvements to SH3/Cambridge Road Roundabout in Te Awamutu to improve pedestrian and cycle safety
Making shared and active modes more attractive	Making other modes attractive: Accelerate delivery of the walking and cycling network through delivering infrastructure for these modes	All Councils and Waka Kotahi	Undertake detailed assessment of current and future multi-modal demand in key locations in the District, examples would include the CBDs, around schools or high trip attraction locations (offices, malls etc). Work towards reflecting the desired future state (ie place over movement/pedestrian over car) through delivery of street changes
Making shared and active modes more attractive	Making other modes attractive: Accelerate delivery of the walking and cycling network through delivering infrastructure for these modes	All Councils and Waka Kotahi	General safety interventions to reduce speeds in line with the Speed Management Plans
Making shared and active modes more attractive	Making other modes attractive: Accelerate delivery of the walking and cycling network through delivering infrastructure for these modes	All Councils and Waka Kotahi	All projects should be funded to ensure that post delivery monitoring and evaluation takes place such that there is a growing understanding of what has and has not been successful.

INFLUENCING TRAVEL DEMAND

Influencing travel demand should be thought of as the method under which investment in infrastructure or service provision can be 'boosted' by undertaking smaller additional 'soft' measures. In Keeping Cities Moving these are split into three key areas:

- Make it safe, easy and intuitive for people to change the way they travel
- Combine policy, service and infrastructure initiatives to target areas to maximise mode shift
- Ensure financial incentives and disincentives support mode shift

It is also sometimes useful to undertake Travel Plans in locations where there are a lot of movements all taking place at the same time – eg schools. Care should be taken that these travel plans are undertaken where there is a real chance of shifting people onto other modes. For example telling people to use the bus if the bus service isn't particularly good won't result in change. Similarly, while Travel Plans can be excellent for gathering information on why people don't use particular modes, unless something can be done to tackle these issues it can be difficult to recommend alternatives.

It should be noted that many of the measures implemented under demand management are not a replacement for real investment in alternative modes. Travel demand cannot be imposed in isolation and is typically best deployed either as a complimentary measure or where there are good existing alternatives.

One of the most critical measures for increasing mode share is to set controls around commuter parking, particularly as investment in alternative measures grows and alternatives are delivered. This requires good data on the amount of parks available, how they are being used and who is using them. Enforcement of parking is a critical factor in ensuring that those who do need a park can get one and those who don't (or who could park elsewhere) are encouraged to change travel.

INTERVENTION TYPE	SUB TYPE	COUNCIL/LEAD ORGANISATION	INTERVENTION
Influencing travel demand and travel choices	TDM: Make it safe, easy and intuitive for people to change the way they travel	Waikato Regional Council	Introduction of the new ticketing system in the Waikato should assist in allowing passengers to quickly and easily travel and top up fares. Moving forward systems that use contactless credit cards or mobile based payment should be pursued
Influencing travel demand and travel choices	TDM: Combine policy, service and infrastructure initiatives to target areas to maximise mode shift	All Councils and Waka Kotahi	<p>There is scope to introduce complimentary marketing and workplace travel planning along bus/cycle corridors where there are proposed service/infrastructure enhancements. Examples would include:</p> <hr/> <p>Marketing and travel planning along the Comet and East-West bus routes. This would include major employers/institutions on the route including: University of Waikato, Hamilton City Council, Waka Kotahi, Waikato Regional Council, Inland Revenue, Waikato Hospital</p> <hr/> <p>Along cycle link corridors early engagement with schools and employers to deliver other infrastructure such as covered and secure cycle/scooter parking with cycling lessons provided</p> <hr/> <p>Community opening days where people who come along to cycle get free high-visibility vests, lights</p> <hr/> <p>Identification of locations in the city where cycling might be faster than driving. Target these locations with marketing or personalised travel planning with free adult cycling classes</p>
Influencing travel demand and travel choices	TDM: Combine policy, service and infrastructure initiatives to target areas to maximise mode shift	All Councils and Waka Kotahi	<p>In policy terms, items that could be considered moving forward are:</p> <hr/> <p>Potential for District Plan changes to cross sections/or parking policies where significant investment in public transport or cycling has been undertaken</p> <hr/> <p>Policy changes that seek to reduce on-street car parking over time to increase footway/cycleway penetration into CBD areas</p> <hr/> <p>Policies to gradually increase priority of cyclists /pedestrians and public transport into dense activity areas over cars. This may include gradual expansion of shared streets or providing routes for access only (rather than through movement) for cars</p>

INTERVENTION TYPE	SUB TYPE	COUNCIL/LEAD ORGANISATION	INTERVENTION
Influencing travel demand and travel choices	TDM: Combine policy, service and infrastructure initiatives to target areas to maximise mode shift	All Councils and Waka Kotahi	School and Workplace Travel Plans
Influencing travel demand and travel choices	TDM: Combine policy, service and infrastructure initiatives to target areas to maximise mode shift	All Councils and Waka Kotahi	Travel planning in growth cells: provide information to newly occupied areas on the availability of on demand/public transport services, stop locations and fares. Ensure maps are available that show walking and cycling routes to key destinations. Provide suitable wayfinding in growth areas. Travel Packs for new residents that include taster tickets and local cycle maps
Influencing travel demand and travel choices	TDM: Combine policy, service and infrastructure initiatives to target areas to maximise mode shift	All Councils and Waka Kotahi	In line with travel planning, consider offering grants for businesses to provide improved active modes infrastructure and adult cycle training
Influencing travel demand and travel choices	TDM: Ensure financial incentives and disincentives support mode shift	All Councils and Waka Kotahi	The main lever for all major cities and towns worldwide to boost or undermine investment in other modes is through parking policy. This requires close attention to parking demand and charging appropriately. The use of parking control and charges is a delicate process of evaluating demand, investment made in alternatives (and the suitability of these) and the required economic function of parking in different areas. Most cities take at least 10 years to deliver parking policies: charges, availability and investment change over time. However, it is important to set the direction of parking policy and how it will be monitored reviewed and adjusted over time to reflect investment made in other modes
Influencing travel demand and travel choices	TDM: Ensure financial incentives and disincentives support mode shift	All Councils and Waka Kotahi	There should be scope to consider whether offering 'taster' discounted tickets or financial rewards to those who use active or shared modes. In some cities those who have a public transport pass get discounted coffee

5.0 IMPLEMENTATION

NEXT STEPS

This plan will inform the investment approach of Waka Kotahi over the coming years and it is expected that the projects recommended by this plan will be prioritised in the relevant Long Term Plans, Regional Land Transport Plan and through the Waka Kotahi Investment Decision Making Framework.

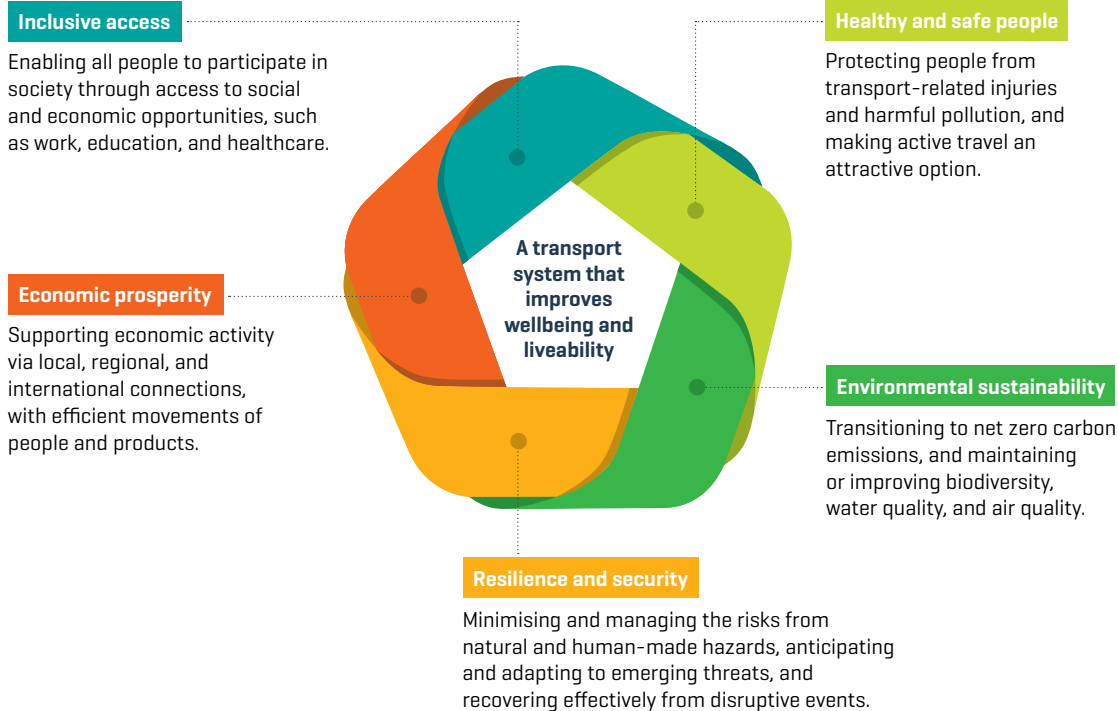
At this stage the relevant Councils and Waka Kotahi are not able to finalise funding and therefore implementation as a result of delays to budget confirmation caused by COVID-19. However, it is expected that an implementation plan will be developed by all parties once the RLTP process is finalised.

It should be noted that the mode shift plan does not include all the projects that parties are undertaking, a number of projects will be delivered as part of other programmes such as the Safer Networks Programme.

This plan has been anchored in line with the draft GPS and with the Ministry of Transport (MOT) outcomes framework.

THE MOT OUTCOMES FRAMEWORK

This framework has been developed by the MOT to recognise the enabling role that transport investment makes in our society. Transport is not a means by itself but is a way of delivering jobs and housing. How the transport system is developed impacts upon the relative access by people of differing incomes and results in different environmental outcomes.



The table below shows the alignment with the MOT outcomes.

OUTCOME	THIS PLAN
Inclusive access	<p>This mode shift plan has an emphasis on the creation of inclusive walking and particularly cycling networks. These networks are noted as needing to be inclusive to allow for young/old/new or experienced cyclist and should accommodate trikes and other cycling forms other than the standard. Cycling and walking is the cheapest form of transportation</p> <p>This plan also identifies the need to transition the public transport network to frequent and fast services ensuring that those on lower incomes have access to public transport services that are comparable to the private car to access key employment/leisure/community facilities. Of particular note is the proposed increase in frequency of the Comet service which links more deprived wards with the CBD and Hospital within Hamilton</p> <p>This plan has identified the requirement to deliver design and service standards to ensure that walking, cycling and public transport infrastructure investment is well aligned and inclusive</p>
Economic prosperity	<p>This plan identifies growing congestion over the bridges in the urban areas and this is a function of both high population growth but also high car use. This Plan will assist in unlocking other modes, reducing the need for people to travel by car by offering competitive alternatives. This will create headroom for further jobs growth and jobs density increases</p> <p>The mode shift plan, if delivered should also help to reduce trip making on key freight corridors</p>
Resilience and security	<p>The delivery of alternative bridge crossings and creating new connections through the city and towns should ensure that there is greater route choice. This assists in the event of major incidents that may close key connections – particularly river crossings.</p>
Environmental sustainability	<p>The projects identified in this plan all seek to increase the people carrying efficiency of existing roading corridors through diversifying the modes carried. This creates two main benefits in terms of carbon emissions:</p> <ul style="list-style-type: none"> ▪ The first is that greater take up of public transport and walking and cycling means that carbon emissions from transport per head will be reduced across these urban areas ▪ Through this diversification the need for further roading expansion should also be avoided noting that road widening and construction is carbon intensive <p>The move to reduce car use in the urban areas will also reduce air pollution. The Regional Council has also identified the need to transition to electric or hydrogen buses and these will also assist in significantly reducing air pollutants and noise on key bus corridors</p>
Healthy and safe people	<p>This plan has a greater emphasis on walking and cycling than any other mode. Active travel has known health benefits. The plan also identifies the need to support these modes will speed management interventions and with appropriate segregated infrastructure. As a result, this emphasis on active modes that are well segregated should improve the transport system</p>