



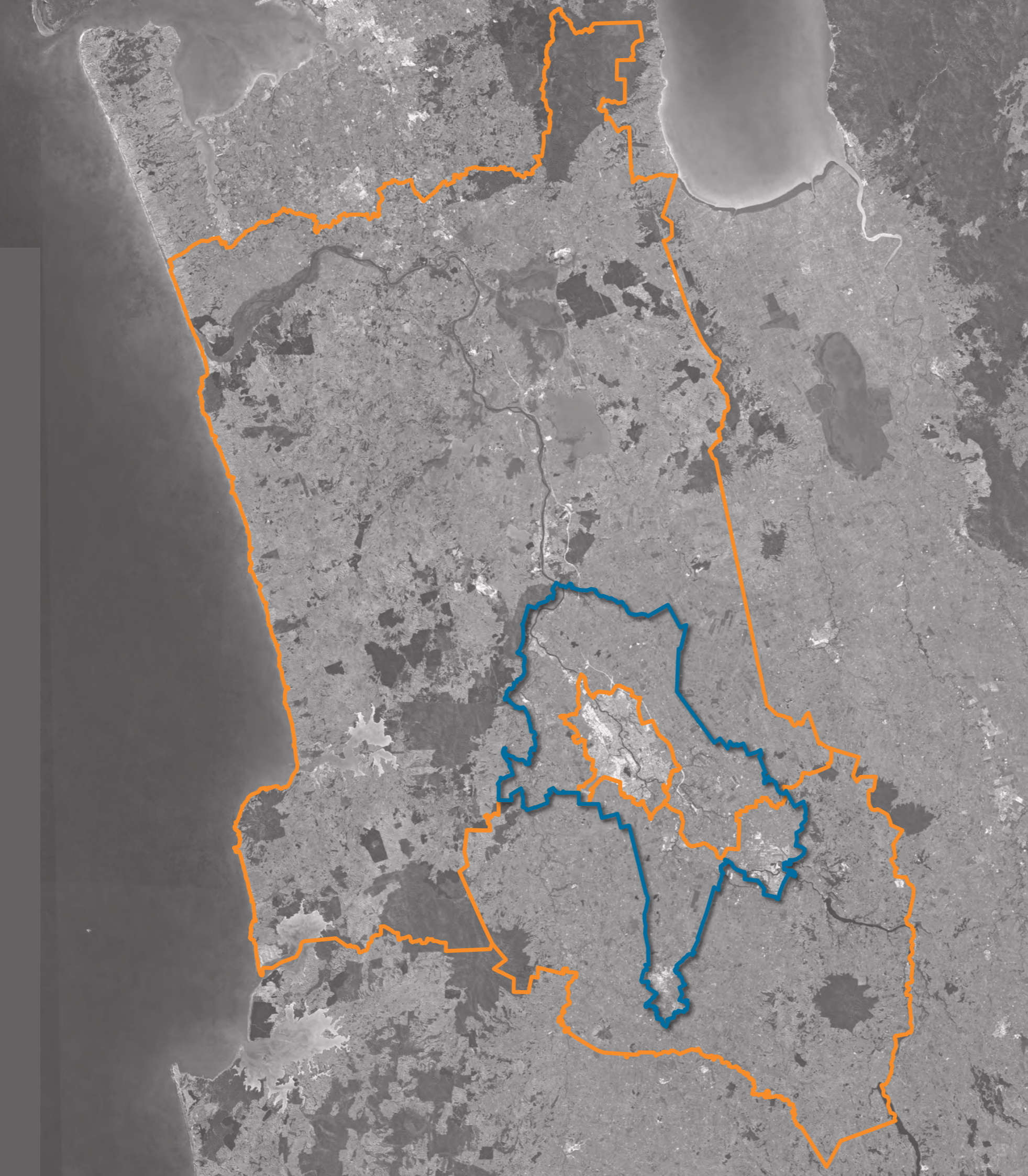
Future Proof  
Te Tau Tītiki



# A LIVEABLE METRO AREA



*Case for Change: Shaping  
the Future Hamilton-  
Waikato Metropolitan Area*



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# Executive summary



The Hamilton-Waikato Metropolitan Plan (MSP) is our chance to consider how we can best plan for our long-term future; to maintain and improve our liveability through the way we grow our sub-region and how we move around. We know our population will continue to increase and we can improve our urban outcomes if we manage growth differently. This Case for Change explores the need to think long-term and explains what the MSP can accomplish for our communities.

## Urban Growth Agenda

The Government's Urban Growth Agenda (UGA) was developed to remove barriers to growth, improve housing affordability and support thriving communities. The MSP was identified as part of the UGA and is a joint-initiative of the Future Proof sub-regional partnership. The partnership will also deliver the Hamilton to Auckland Corridor Plan (H2A) to support sustainable growth and increased connectivity between Hamilton and Auckland.

The MSP seeks to determine a shared 100+ year vision and spatial framework for Hamilton, parts of Waipaa and Waikato. The MSP will respond to the UGA and H2A Corridor Plan by setting out how city-shaping infrastructure and land use can support a preferred spatial form for our metro area to achieve in improved urban growth outcomes. By changing the way we grow and move around, we'll improve our liveability and ensure our people have safe, warm and affordable housing.

## Metro spatial plan vision

Our vision is for the Metro Area to be a highly liveable and sought-after place to live in New Zealand. In 100+ years we will be a metropolitan area where:

- The natural and built environment co-exist in harmony and we have a healthy Waikato River as the heart.

- We are well connected by walking, cycling, and public transport, making it easy to get around. Our connected, people-friendly urban neighbourhoods support a strong city core.
- We are a welcoming community providing choices in how we move around, and where we live and work.
- People can afford to live and move around and have opportunities to work and thrive as part of our community.

The Metro Area is connected by the Waikato River, the awa which has provided physical and spiritual sustenance for Maaori for the past 800 years. Te Ture Whaimana o Te Awa o Waikato – Vision and Strategy for the Waikato River has a key role in shaping the future of the area, and that of the wider region.

While wishing to develop land in a way that sustains their economic capacity and provides opportunities for iwi members, retaining their historical role as kaitiaki of the environment is a primary aspiration of tangata whenua in the area. Tangata whenua envision a collective approach to sustainable land use which allows the mauri of ancestral land, waters, cultural sites and taonga to be restored and enhanced.

## Opportunities for improved urban outcomes

The MSP enables a discussion about how city-shaping leading infrastructure can support a preferred form for our metro area that results in improved liveability and addresses the UGA objectives. Infrastructure can be a serious bottleneck in the supply of residential, commercial or industrial development capacity if its delivery is poorly timed or located. The MSP will focus on lead- investment in strategic infrastructure to purposefully shape our urban form and improve how liveable our communities become. We have three main opportunities to improve our urban outcomes by changing the way we grow.

### Waikato River and natural areas are our heart

We have an opportunity to further embrace the Waikato River and natural areas as the heart of the Metro Area, that fits with Te Ture Whaimana o Te Awa o Waikato - Vision and Strategy for the Waikato River.

We need to provide for growth in a way that protects and enhances valued water bodies; and restores and enhances ecological resources. If we cannot capture this opportunity, we face:

- Continued degradation of the Waikato River and depletion of valued ecological resources.
- Negative impact on community wellbeing as natural capital is lost and urbanisation continues.
- Loss of natural systems, plants, animals, land and waterways to urbanisation unnecessarily.

### Harnessing growth for greater liveability

We have an opportunity to harness growth to make our urban areas more affordable and attractive. We can provide for a quality, vibrant metro area where communities have choices and easy connections to jobs, affordable homes and recreational opportunities. If we cannot capture this opportunity, we face:

- Housing options in the metro area that continue to be unaffordable for many.
- Lack of choice of housing typology and location limits will affect affordable options.
- Poor access creating barriers to economic opportunities and imposing additional transport costs on households.

### Improving access and urban form

We have an opportunity to improve our transport choices and the success of our urban form. We need to deliver infrastructure, transport and services in a way that supports liveable neighbourhoods, community wellbeing, targeted increased density and high-quality urban environments. If we cannot capture this opportunity, we face:

- Delivery of infrastructure, transport and services that continues to follow market demand for growth, resulting in an inability to plan and direct growth in a way that supports infrastructure, density and high-quality urban form.
- Missed opportunities for economic productivity gains if growth is constrained due to infrastructure or land supply.

## Where we are now - current urban form

Without timely infrastructure delivery, communities suffer. This can manifest as less affordable housing, lost productivity opportunities, increased congestion and transport cost, crowded civic infrastructure, and environmental impacts. While the problem is more complex than infrastructure alone, we are seeing many of these effects today. The longer we wait to change the way we grow, the more exacerbated these impacts will become.

## Conclusion

Our current urban form and the way we grow comes with challenges, and opportunities. The decisions we make now will influence our long-term opportunities. With timely and well-planned infrastructure delivery we will provide for growth in a way that achieves the UGA objectives: protect land of significant environmental, cultural or heritage value; build resilience to natural hazards and climate change; deliver affordable housing; and, respect and improve the environment. The success of the Maaori economy can continue to be a pillar of our growth.

The sub-region has a history and willingness to work together in a collaborative way on growth management and strategic planning. There is significant potential within the metropolitan area and wider regional strength along the H2A Corridor to provide a better future for our communities. The MSP will build from the Case for Change to set out how we deliver on the UGA's objectives with a strategy for our sub-region's long-term success.

Our valued natural resources are being depleted

Water quality in the Waikato River is significantly degraded and does not meet expectations

Housing options are unaffordable for many

We have enough land capacity for the next 30 years, but infrastructure is a handbrake on growth.

Our economy is underproducing, impacting relative housing affordability

Transport choice and urban form can better improve wellbeing and add



# 1. A plan for liveability

The Hamilton Waikato Metropolitan Plan (MSP) is our chance to consider how we can best plan for our long-term future; to maintain and improve our liveability through the way we grow our sub-region and how we move around. We know our population will continue to increase and we can improve our urban outcomes if we manage growth differently.

The Government's Urban Growth Agenda (UGA) was developed to provide long-term changes in response to growth, to improve housing affordability and support thriving communities. The Metro Spatial Plan was identified as part of the UGA and is a joint-initiative of the Future Proof sub-regional partnership, delivering on the Hamilton to Auckland Corridor Plan. The Metro Spatial Plan seeks to determine a shared 100+ year vision and spatial framework for Hamilton, parts of Waipaa and Waikato.

The Metro Spatial Plan is about how city-shaping infrastructure and land use can support a preferred spatial form for our metro area that results in improved urban growth outcomes. This Case for Change explores the need to think long-term and explains what the Metro Spatial Plan can accomplish for our communities.

The decisions we make now will influence our long-term opportunities. Without timely infrastructure delivery, communities suffer. We can provide for growth in a way that achieves the UGA objectives: protect land of significant environmental, cultural or heritage value, build resilience to natural hazards and climate change, deliver affordable housing and respect and improve the environment. Mana whenua aspirations in the Metro Area are significant. The success of the Maori economy will be an integral part of how we grow.

## 1.1 Vision of a liveable future

Our vision is for the Metro Area to be a highly liveable and sought-after place to live in New Zealand. In 100+ years we will be a metropolitan area where:

- The natural and built environment co-exist in harmony and we have a healthy Waikato River as the heart.
- We are well connected by walking, cycling, and public transport, making it easy to get around. Our connected, people-friendly urban neighbourhoods support a strong city core.
- We are a welcoming community providing choices in how we move around, and where we live and work.
- People can afford to live and move around and have opportunities to work and thrive as part of our community.

The Metro Area is connected by the Waikato River, the awa which has provided physical and spiritual sustenance for Maaori for the past 800 years. Te Ture Whaimana o Te Awa o Waikato – Vision and Strategy for the Waikato River has a key role in shaping the future of the area, and that of the wider region. The vision for the river is a future where a healthy Waikato River sustains abundant life and prosperous communities.



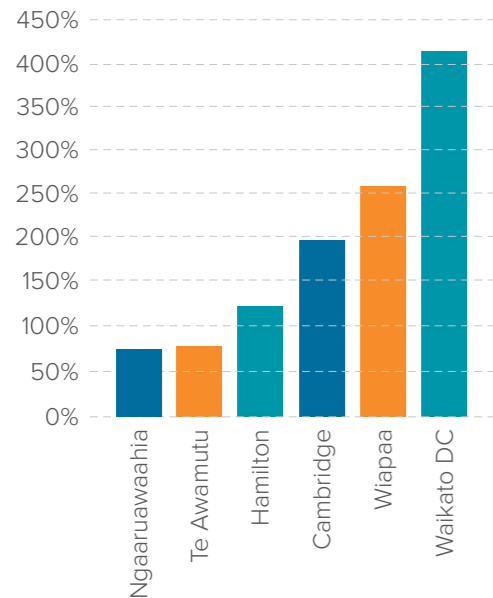
### Where is the vision from?

*The vision statement was initially developed in April 2019 at the Investment Logic Mapping workshop. Due to the scale of the projects and the long-term aspirations, participants were asked to share their vision. Representatives attended from Waka Kotahi NZ Transport Agency, Ministry of Housing and Urban Development (MHUD), Department of Treasury, Future Proof, Waikato Regional Council, Waipaa District Council, Waikato District Council, and Hamilton City Council. The vision was subsequently circulated to Future Proof Implementation Committee in November 2019.*

## 1.2 Our opportunities

The Metro Area presents strong growth on a national scale. Population growth can benefit us. We have the opportunity to make sure the Metro Area remains a great place to live, but also provides for housing and economic opportunity that meets the changing needs of our community.

**Figure 1** Change in population in past 48 years (1970-2018)



By changing the way we grow and move around to improve our liveability and ensure our people have safe, warm and affordable housing. As growth has occurred. We can better;

- Embrace the Waikato River and natural areas as the heart of the Metro Area.
- Harness growth to make our urban areas more affordable and attractive.
- Improve our transport choices and the success of our urban form.

To achieve these opportunities, we need to work hard to make changes to the way our city grows;

- Enable our infrastructure services and land use planning to accommodate long-term increased population. If we cannot successfully plan for growth, we will not be able to access the economic opportunities and prosperity we could otherwise achieve.

- Create more efficient growth patterns and reduce our high dependency on private vehicles. This can lift our community and environmental wellbeing and better connect people with economic opportunities.

These outcomes can come about by managing the growth of our metropolitan area and our infrastructure with a much longer-term timeframe than we currently do. We want to test how we can do things differently than we have in the past. A 'boundaryless' planning approach is one way we can do things differently.

As a Future Proof partnership, we already work towards liveability and our communities' wellbeing. Through the Metro Spatial Plan our focus has shifted to the metro area, a longer aspirational timeframe and within a national context.

### Why focus on liveability?

*Liveability expresses the idea of a place that is good to live, work and play-an urban environment where people enjoy a high quality of life. This is a term that speaks to how well our people are doing.*

## 1.3 Tangata Whenua

The Metro Spatial Plan provides opportunities to improve tangata whenua connections to waahi tapu, waahi tuupuna, papakaainga, whenua, education and economic prosperity.

While wishing to develop land in a way that sustains their economic capacity and provides opportunities for iwi members, retaining their historical role as kaitiaki of the environment is a primary aspiration of tangata whenua in the area. Tangata whenua envision a collective approach to sustainable land use which allows the mauri of ancestral land, waters, cultural sites and taonga to be restored and enhanced. This includes enhancing the environmental health of the Waikato River in accordance with the vision and strategy for the Waikato River, while supporting iwi access to social and economic opportunities.

*Four iwi practice ahi kaa within the Metro Area. Waikato-Tainui is the largest local iwi with a total of 75,500 members followed by Ngaati Hauaa (8,598 members), Raukawa (7,000 registered members, but the majority of the Metro Area), and Ngaati Koroki Kahukura (3,388 members)*

The Waikato region has been a desirable location for settlement since Maaori arrived in Aotearoa New Zealand. Offering an abundance of natural resources and fertile land, it has long been known as a food basket (rourou) to tangata whenua.

Tangata whenua within the Metro Area descended from the Tainui waka tracing their ancestry back 800 years. Over centuries Maaori have established various paa and kaainga predominantly near areas rich in natural resources and alongside rivers, notably their awa tupuna the Waikato River. When Europeans arrived, settlers developed towns and farms around these populous kaainga. The Kiatinga movement originated in the Waikato region under the first Maaori King Pootatau Te Wherowhero to unite iwi and halt land sales.

The Metro Spatial Plan includes approximately 658 hectares of land classified as Maaori Freehold Land. The largest clusters of this land are located in Pukemoremore and Te Kauwhata, and smaller ones in Taupiri, Ngaaruwaahia, Te Kowhai, Gordonton, Tamahere, Kihikihi and Hamilton City.

Marae are the cultural, social and political hubs that unify iwi, hapuu and whaanau. It is at marae that tangata whenua hold traditional ceremonies, have intertribal encounters, debate significant issues and commemorate the deceased. They are the heart of Maaori communities and therefore a waahi tapu. Today, marae is often used for civil defence purposes and serve as a place to care for those experiencing hardship. There are 13 marae in the Metro Area of which eight are located in the Waikato district, three in Hamilton city and two in the Waipaa district.



## 1.4 Shaping our future: the need to plan

The Government's UGA sets out a strategy to create the conditions for the market to respond to growth, bring down the cost of urban land, improve housing affordability and support thriving communities. The development of spatial plans for key growth areas is one pillar of the Urban Growth Agenda. The main objective of the UGA is to improve housing affordability underpinned by affordable urban land. This will be supported by wider objectives to:

### Urban Growth Agenda primary objectives



Improve choices for the location and type of housing



Improve access to employment, education and services



Assist emission reductions and build climate resilience; and



Enable quality-built environment, while avoiding unnecessary urban sprawl.

The Metro Spatial Plan enables a discussion about how city-shaping infrastructure can support a preferred form for our metro area that results in improved liveability and addresses the UGA objectives. Promoting quality built environments can help deliver urban forms with improved energy efficiency, less negative impact on the environment, a wider variety of low emission transport modes, with

environments that are accessible to all, and improved access to jobs, services (including social services such as education and health) and other amenities.

Now is the time to influence the type and location of land use and infrastructure to avoid some of the negative outcomes of growth experienced in other cities. We want to maintain and improve our liveability in the face of continued growth. We want to avoid the cost of retrofitting transport corridors into existing urban areas; congestion that stalls growth and economic productivity; and we want to understand where is the most appropriate areas for increased density and how best to deliver housing that meets our communities' needs.

Infrastructure can be a serious bottleneck in the supply of residential, commercial or industrial development capacity if its delivery is poorly timed or located. Our plan can focus on lead- investment in strategic infrastructure to shape our urban form and improve how liveable our communities become.

Without timely infrastructure delivery, communities suffer. This can manifest as less affordable housing, lost productivity opportunities, increased congestion and transport cost, crowded civic infrastructure (e.g. parks and libraries) and environmental impacts. While the problem is more complex than infrastructure alone, we are seeing many of these effects today. Some of the reasons we need a vision-based long-term plan focused on liveability are shown in Figure 2 (next page).

*“This Government has made housing and urban development a priority. Everyone on New Zealand deserves healthy, secure and affordable homes that provide access to jobs, education, amenities and services. When performing well-being of residents and raise living standards for all”*

From Planning for Successful Cities: A discussion documentation on a proposed National Policy Statement on Urban Development

Figure 2 Where we are now - current urban form



<sup>1</sup> Ministry of Housing and Urban Development. Cabinet Paper: Urban Growth Agenda proposed approach retrieved 2020-05-01 [www.hud.govt.nz/assets/Urban-Development/Urban-Growth-Agenda/62eeb57f4e/urban-growth-agenda-cabinet-paper.PDF](http://www.hud.govt.nz/assets/Urban-Development/Urban-Growth-Agenda/62eeb57f4e/urban-growth-agenda-cabinet-paper.PDF)

<sup>2</sup> New Zealand Productivity Commission (2017) Better urban planning: Final report

<sup>3</sup> Infrastructure Australia (2018) Planning Liveable Cities: A place-based approach to sequencing infrastructure and growth.

### 1.4.1 Hamilton to Auckland Corridor Plan

The Hamilton to Auckland (H2A) Corridor Plan is a high-level initiative to create communities that current and future residents want to live in. It's about our wellbeing. The plan's aim is to help deliver the UGA by supporting sustainable growth and increased connectivity between Hamilton and Auckland.

Nationally the H2A Corridor is a valued collection of green spaces, towns, marae and settlements that are connected by Aotearoa New Zealand's most significant river and the nationally significant parallel inter-city road and rail connections; no other corridor contains such a valuable flow of water, people and goods.

The H2A Corridor Plan seeks to plan for the communities of interest in a 'boundaryless' way. The Metro Spatial Plan is within the Waikato Region and encompasses Hamilton city and surrounding parts of Waipaa and Waikato districts, where the environment, economy and communities between the three authorities are very much linked<sup>4</sup>.

#### Hwi awarua ki te | Corridor for wellbeing

The Hamilton-Auckland Corridor is an initiative seeking to create communities that current and future residents want to live in. Its about our wellbeing. The plan's vision is to support sustainable growth and increase connectivity between Hamilton and Auckland by:

- Improving housing affordability and choices
- Enhancing the quality of the natural and built environments and the vitality of Auckland and Hamilton and the communities within the corridor
- Improving access to employment, public services and amenities creating employment opportunities in the corridor
- Piloting new finance and funding tools to pay for infrastructure
- Trailing new urban planning tools to coordinate growth development.

#### Hamilton to Auckland Corridor Plan Objectives

##### Wāhi Toitū, wāhi toiora

Places with enduring presence places to grow only with great care

To manage growth in a manner that...

- Protects and enhances the quality of the natural environments and cultural heritage
- Anticipates the transition to a low-carbon future and builds climate resilience, and
- Avoids increasing the impacts and residual risks of natural hazards.

##### Awarua

Key corridors

To strengthen corridor connections that...

- Shape and guide future urban growth towards sustainable, resilient and affordable settlement patterns, and
- Improve access to housing, employment, public services and amenities through, along and within the corridor.

##### Wāhi mahi, wāhi noho

Places to work and live

To grow urban settlements and places...

- Make efficient use of existing infrastructure and resources,
- Are transit-oriented and connected
- Provide affordable housing choices that respond to demand, including quality intensification, and
- Provide high quality live-work-play settlements.

<sup>4</sup> Rural-Urban Linkages – Literature Review for Waikato Spatial Plan, 16 March 2015 – Adrian Field and Tanya Perrott (Dovetail) Field, A., & Perrott, T. (2015). Rural-urban linkages: Literature review for Waikato

Spatial Plan. Dovetail. [waikatoplan.co.nz/assets/Waikato-Plan/About-the-plan/Our-connections-files/Urban-Rural-Linkages-Literature-Review-for-Waikato-Spatial-Plan.pdf](http://waikatoplan.co.nz/assets/Waikato-Plan/About-the-plan/Our-connections-files/Urban-Rural-Linkages-Literature-Review-for-Waikato-Spatial-Plan.pdf)



## 1.5 The Metro Spatial Plan

The Metro Spatial Plan is a joint project between the Future Proof sub-regional partnership involving regional and territorial authorities, central government agencies and iwi. It seeks to determine a shared 100+ year vision and spatial framework for the Metro Area, with a 30-year plan for priority development areas and enabling investments.

This document, A Case for Change, explores what the Metro Spatial Plan can accomplish for our communities. The long-term vision-based Metro Spatial Plan is ambitious in looking much further forward than current Council resource management or financial planning can do. It builds on existing planning work such as the current Future Proof Strategy and planning documents from Hamilton City, Waipaa and Waikato District Councils.

### 1.5.1 What it will include

The Metro Spatial Plan will include these main elements:

- Critical areas for protection and restoration, and areas to avoid developing
- Core transport corridors
- Blue-green networks and corridors
- Priority development areas, and,
- Leading and enabling social and network infrastructure.

#### Urban Growth Agenda

**Main objective: to improve housing affordability, underpinned by affordable urban land:**

- Improve choices for the location and type of housing
- Improve access to employment, education and services;
- Assist emission reductions and build climate resilience; and
- Enable quality-built environment, while avoiding unnecessary urban sprawl.

#### H2A Corridor Plan

**Hei awarua ki te oranga - Corridor for wellbeing**

The plan's vision is to support sustainable growth and increase connectivity between Hamilton and Auckland by:

- Improving housing affordability and choices
- Enhancing the quality of the natural and built environments and the vitality of Auckland and Hamilton and the communities within the corridor
- Improving access to employment, public services and amenities
- Creating employment opportunities in the corridor
- Piloting new finance and funding tools to pay for infrastructure
- Trialling new urban planning tools to coordinate growth development.

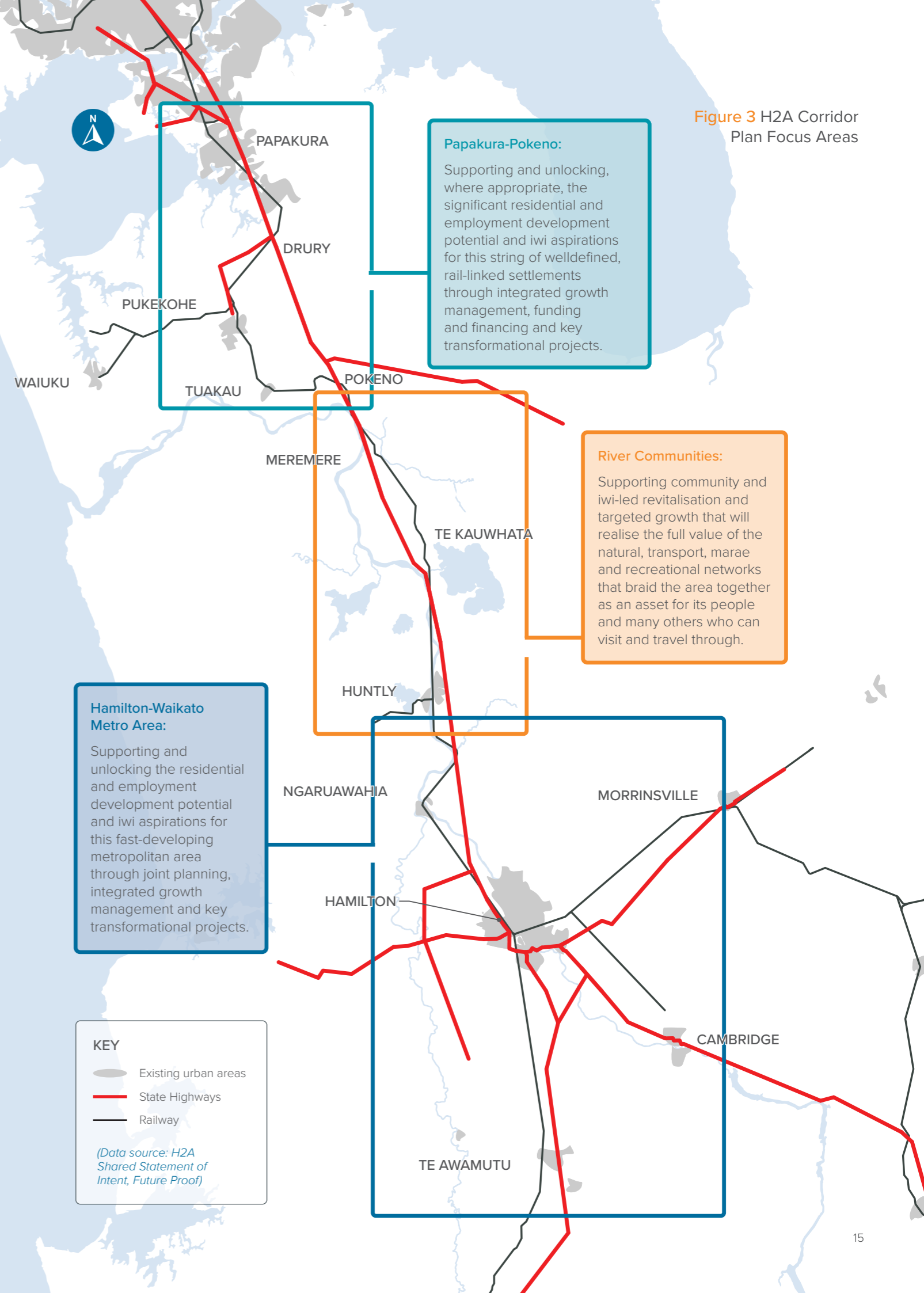
#### Metro Spatial Plan

**"The Hamilton-Waikato-Waipaa Metro Area will be a sought-after place to live in New Zealand"**

We are a metropolitan area where:

- The natural and built environment co-exist in harmony and we have a healthy Waikato River as the heart of the city.
- The area is well connected by public transport and easy to get around. Our connected people-friendly urban neighbourhoods support a strong city core.
- We are a welcoming community providing choices in how we move around, and where we live and work.
- People can afford to live and move around and have opportunities to work and thrive as part of our community.

We will achieve our vision by working in partnership to capitalise on our strengths.



#### Papakura-Pokeno:

Supporting and unlocking, where appropriate, the significant residential and employment development potential and iwi aspirations for this string of well-defined, rail-linked settlements through integrated growth management, funding and financing and key transformational projects.

#### River Communities:

Supporting community and iwi-led revitalisation and targeted growth that will realise the full value of the natural, transport, marae and recreational networks that braid the area together as an asset for its people and many others who can visit and travel through.

#### Hamilton-Waikato Metro Area:

Supporting and unlocking the residential and employment development potential and iwi aspirations for this fast-developing metropolitan area through joint planning, integrated growth management and key transformational projects.

#### KEY

- Existing urban areas
- State Highways
- Railway

(Data source: H2A Shared Statement of Intent, Future Proof)

Figure 3 H2A Corridor Plan Focus Areas



# 2. Waikato River and natural areas are our heart

## We have an opportunity to embrace the Waikato River and natural areas as the heart of the Metro Area

We need to provide for growth in a way that protects and enhances valued water bodies; and restores and enhances ecological resources.

What happens if we don't rise to the challenge?

- The Waikato River is already significantly degraded and valued ecological resources are being depleted.
- Failure to protect and restore the ecological assets will constrain growth and impact on community wellbeing.
- Our natural systems, plants, animals and waterways are being degraded and land lost to urbanisation unnecessarily. We can improve environmental outcomes, increase natural capital, and improve the health of the Waikato River.

A key process is the identification of Waahi toitu areas, which are places with enduring presence that should be protected. In addition there are other areas constrained by man made or natural features, potentially limiting future urban development.

## 2.1 Healthy Waikato River

Vision and Strategy for the Waikato River / Te Ture Whaimana o Te Awa Waikato

'Tooku awa koiora me oona pikonga he kura tangihia o te maataamuri-

("The river of life, each curve more beautiful than the last")

To achieve the Metro Spatial Plan's vision of a place where the natural and built environment co-exist in harmony and where the river is at the heart of our place, we need to plan in a way that proactively seeks to achieve better environmental outcomes than we are currently achieving. In the future, the healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the River, and all it embraces, for generations to come.

There is extensive evidence in western science and maatauranga Maaori that the River is degraded. Over time, human activities and land uses through its catchments have degraded the Waikato River and reduced the relationships and aspirations of communities towards the River. The natural processes of the Waikato River have been altered over time by physical intervention, land use and subsurface hydrological changes. The degradation of the Waikato River and its catchment has severely compromised iwi in their ability to exercise mana whakahaere or conduct their tikanga and kawa.

It will take commitment and time to restore and protect the health and wellbeing of the Waikato River. In biophysical terms, evidence shows that water quality deteriorates as the River flows from its source to the Tasman Sea. The Waipaa River, the largest tributary to the Waikato River, is also a significant source of sediment, nutrients and pathogens.

There are many causes of degradation. Water pollution, principally from land use, is a very significant source of pollutants entering the River systems. This has increased as land use in some parts of the catchment has intensified (for example conversions from forestry to dairy farming). Land use activities contributed 61% of the nitrogen, and 45% of the phosphorous found in the Waikato and Waipaa Rivers between 2003 and 2012.

Figure 4 Sources of nutrients, Waikato/ Waipaa Rivers (2003-2012)<sup>5</sup>

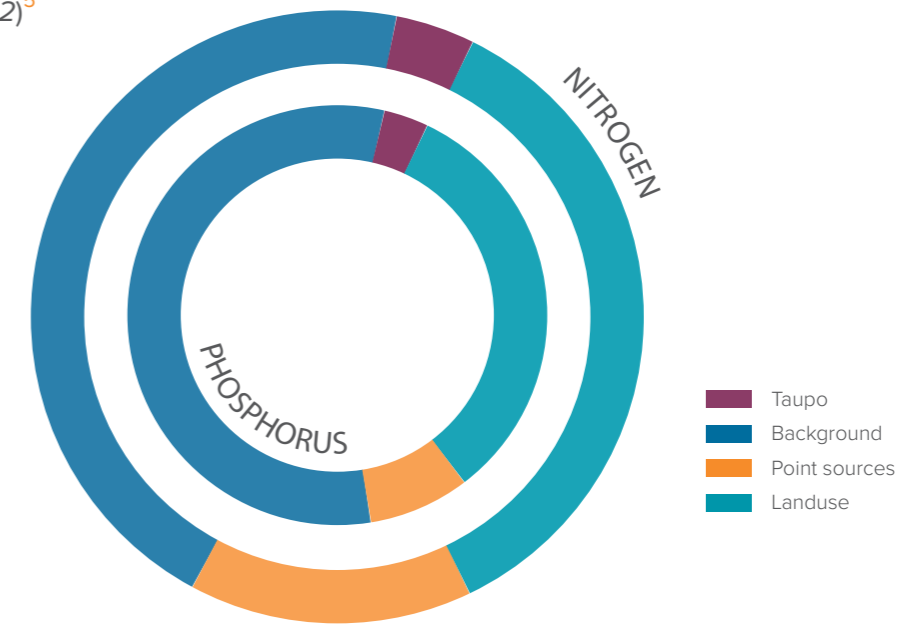
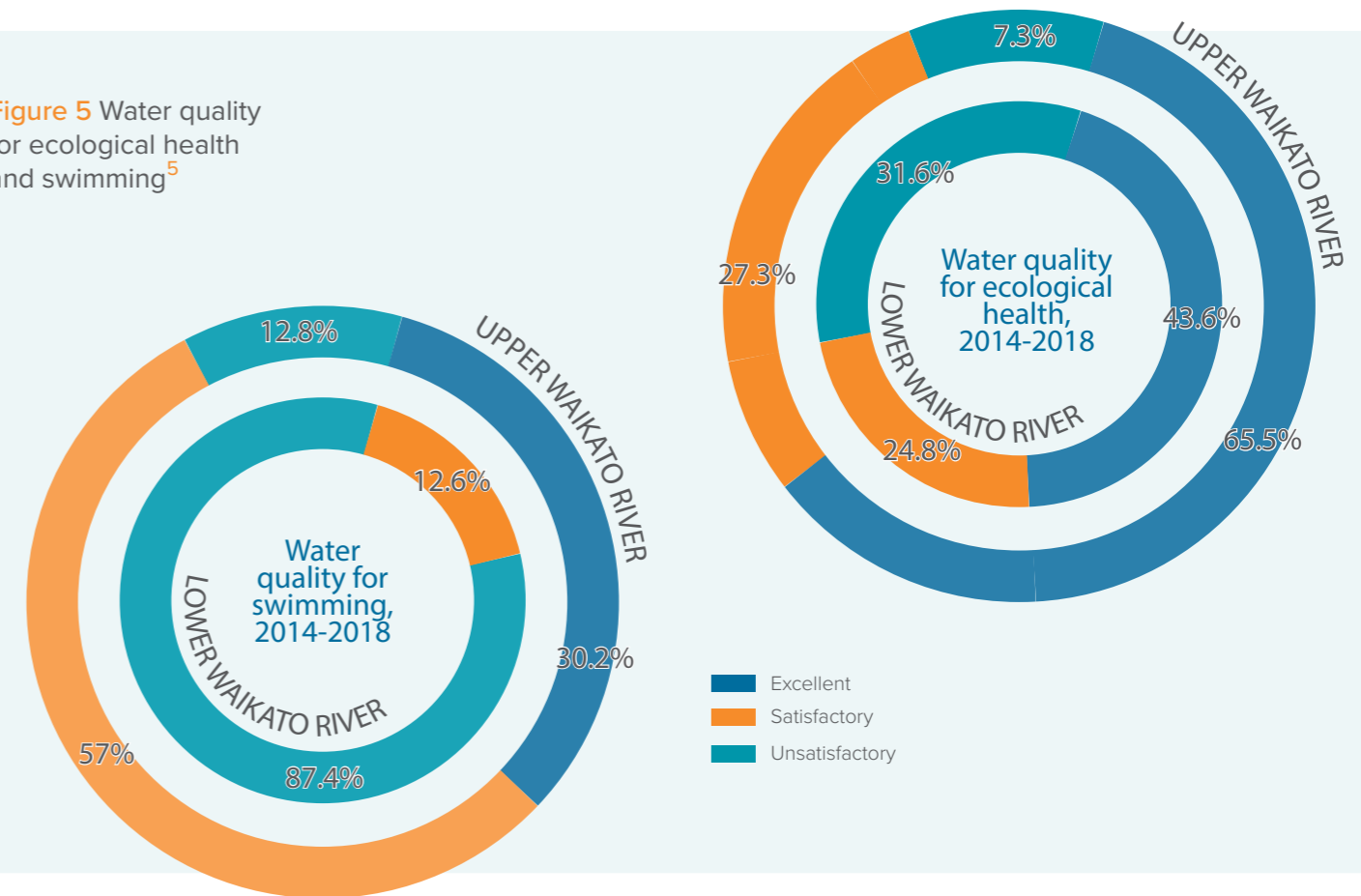


Figure 5 Water quality for ecological health and swimming<sup>5</sup>



<sup>5</sup> From Waikato Regional Council: <https://waikatoregion.govt.nz/environment/environmental-information/environmental-indicators/river-and-streams/indicator-river-water-quality-ecological-health/river-water-quality-ecological-health-results/>

## 2.2 Preserving natural capital

We need to change the way we plan to better preserve high quality soils, avoid development in sensitive environmental, cultural and heritage areas. 'Waahi toitu' (areas where we should avoid urban development) and 'waahi toiora' (areas where we should plan with care) will help us to plan carefully into the future.

The Metro Area is known as New Zealand's food bowl, surrounded by soils that are amongst the country's best. Current trends show that urban and rural-residential expansion is reducing the availability of some of our most versatile land (land use classifications 1-4).

The Waikato region has about a quarter of New Zealand's high-class soils (around 300,000 ha) with class one land making up only 1.9% of the region's total land area (about 45,000 ha).<sup>6</sup>

The creation of lifestyle blocks may pose a greater risk to the availability of high-quality soil resources for the primary sector than does urban expansion. While the outward growth of urban centres in New Zealand between 1990 and 2008 consumed 0.5 percent of high-class land (LUC 1–2), analysis in the same 2013 study shows that lifestyle blocks had already occupied 10 percent of high-class land (data to 2011).<sup>7</sup> In Waikato Region between 2001 and 2017, the area of total residential use on versatile land approximately doubled, with an average increase of 542 ha per year – an area equivalent to more than four average-sized dairy farms.<sup>8</sup>

The councils in the Metro Area have already started to change their planning so that 'infill development' (occurring inside existing urban areas rather than extending out into new-build or 'greenfield' areas) is enabled. This has had the effect of reducing the amount of new urban land, particularly in Hamilton where around 48% of development over the 10 years to 2016 occurred within existing city boundaries.<sup>9</sup>

However, greenfield development in the Metro Spatial Plan area is still occurring at relatively low densities, and development in Waipaa and Waikato is predominantly

focussed on low density greenfield development.<sup>10</sup> We will continue to need new urban land to develop onto, but we need to change the way we plan to better preserve high quality soils and avoid development in sensitive environmental, cultural and heritage areas. The Metro Area can develop in a way that will reduce the need to travel by private car by planning for more compact urban settlements with quality development and amenity levels.

When looking at expansion areas in which to grow, we have identified natural and man-made attributes (areas where we should avoid urban development, such as areas with elite soils, or significant natural areas). These areas will help us to plan carefully into the future.

Natural capital is the region's bank balance of mountains, forests, soils, rivers, air, habitats, birds, bees, cows and grass. The region's economy and people's wellbeing rely on an abundant and healthy natural capital. Natural capital provides many necessary services, often at no charge, such as water for drinking, lakes to swim in, soil to grow food, microbes to recycle nutrients and break down waste, climate regulatory features, locations to support cultural and spiritual wellbeing.

The Waikato Plan. (n.d.) <https://waikatoplan.co.nz/assets/Waikato-Plan/About-the-plan-/Our-environment-files/>

<sup>6</sup> Kettle, M. (2013). Waikato Spatial Plan: Environmental wellbeing working paper. Waikato Regional Council. <https://waikatoplan.co.nz/assets/Waikato-Plan/About-the-plan-/Our-environment-files/5-d-Environmental-Wellbeing-Report-December-2013.pdf>

<sup>7</sup> Statistics New Zealand. (2018). Land cover. [http://archive.stats.govt.nz/browse\\_for\\_stats/environment/environmental-reporting-series/environmental-indicators/Home/Land/land-cover.aspx](http://archive.stats.govt.nz/browse_for_stats/environment/environmental-reporting-series/environmental-indicators/Home/Land/land-cover.aspx)

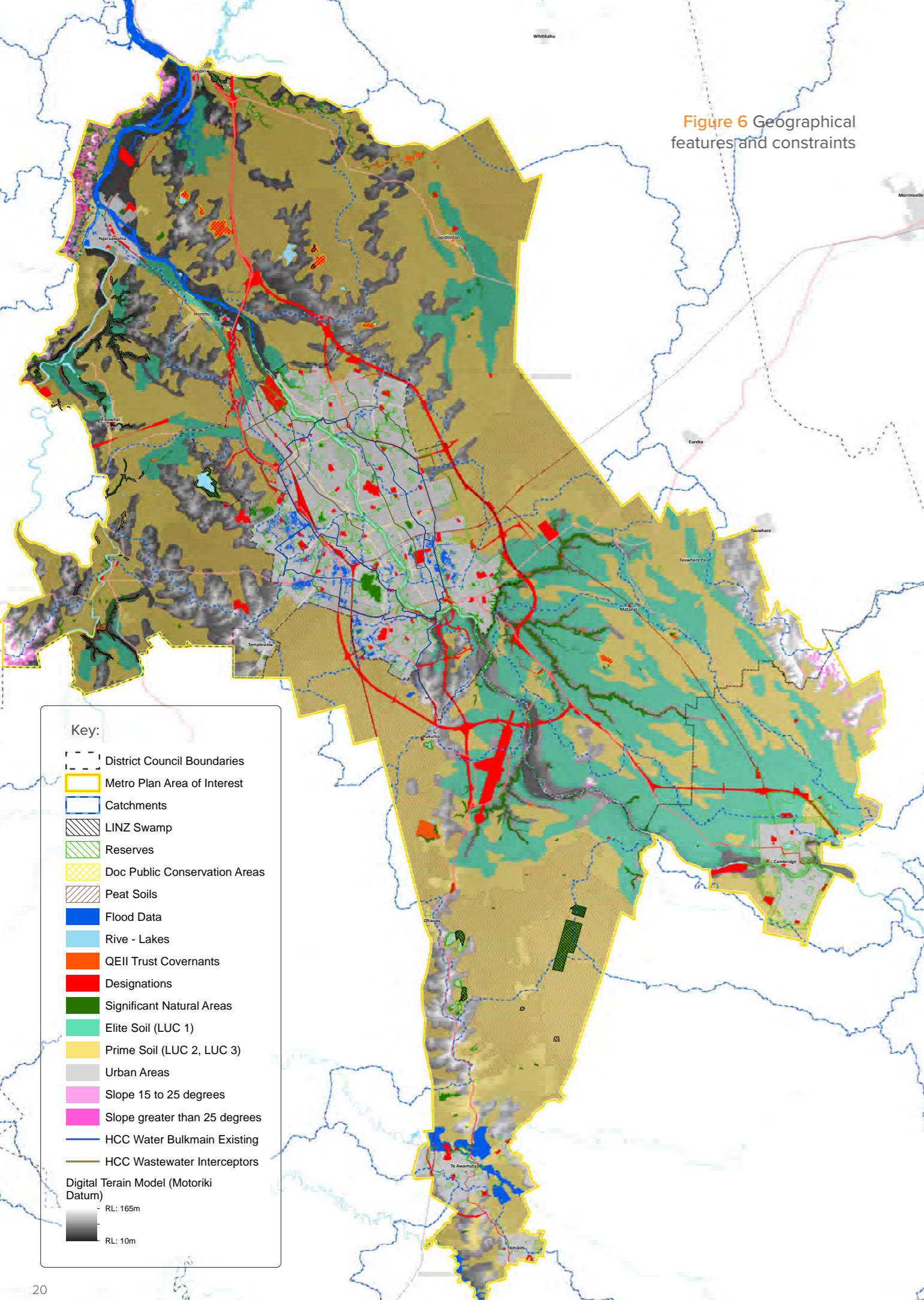
<sup>8</sup> Waikato Progress Indicators: residential expansion onto versatile land, retrieved 2020-05-01 from <https://www.waikatoregion.govt.nz/Community/Waikato-Progress-Indicators-Tupuranga-Waikato/Report-cards/Rural-subdivision/>

<sup>9</sup> Hamilton City Council. (2017). Hamilton City District Plan Monitoring Strategy. <https://www.hamilton.govt.nz/our-council/council-publications/districtplans/Monitoring%20Report%202017/mobile/index.html#p=18>

<sup>10</sup> White, M., & Future Proof Technical Implementation Group. (2015). Future Proof monitoring report 2015. Future Proof. <http://www.futureproof.org.nz/assets/FutureProof/Documents/15-future-proof-monitoring-report-april-2015-final.pdf>



Figure 6 Geographical features and constraints



## 2.2.1 Biodiversity

As rural and urban land uses have expanded and intensified in the Waikato region biodiversity has declined, largely due to ecosystem loss and fragmentation as well as degradation by contaminants and pest plants and animals. Wetlands have been reduced to around 2-3% of their estimated historic cover, while the forests of the basin floor have been reduced to less than 1% of their former extent and now survive only as small isolated fragments. Surrounding the Metro Spatial Plan area, the hill country forests have fared better, particularly on the steeper hill slopes. There are currently 305 species of native plants and animals threatened with extinction.<sup>11</sup>

Open space access is important for people's health and needs to be at the heart of our planning for our metropolitan future. Waikato-Tainui wish to see an approach to environmental management that goes beyond sustainability, towards an approach that enhances the environment.<sup>12</sup> In October 2018, Hamilton City Council's Community, Services and Environment Committee set a 10% biodiversity target.

The natural ecosystems of the rich alluvial floodplains, swamps and bogs of the lowlands have almost completely been cleared or drained across the Metro Area. Tawa and totara forests would once have covered most of the well-drained and moderately-drained sites across the floor of the basin, whereas tall kahikatea forests and peat bogs would have grown in the wetter areas. Now only tiny bush remnants remain scattered sparsely across the Metro Area. Wetlands have been similarly reduced with the only large remaining wetland being Moanatuatua on the peat lands between Cambridge and Te Awamutu.

In contrast, most of the peat lakes that formed on the margins of the domed peat bogs still remain, although their water quality is generally poor and the wetlands and bush around their margins have mostly been cleared or reduced to a narrow fringe. The peat lakes, their catchments and adjacent former peat bog areas offer valuable opportunities for enhancement. Of the 305 threatened species currently known to be present in the Waikato Region, 69 specialise in this sort of environment, preferring bogs, swamps, streams, rivers or lakes.

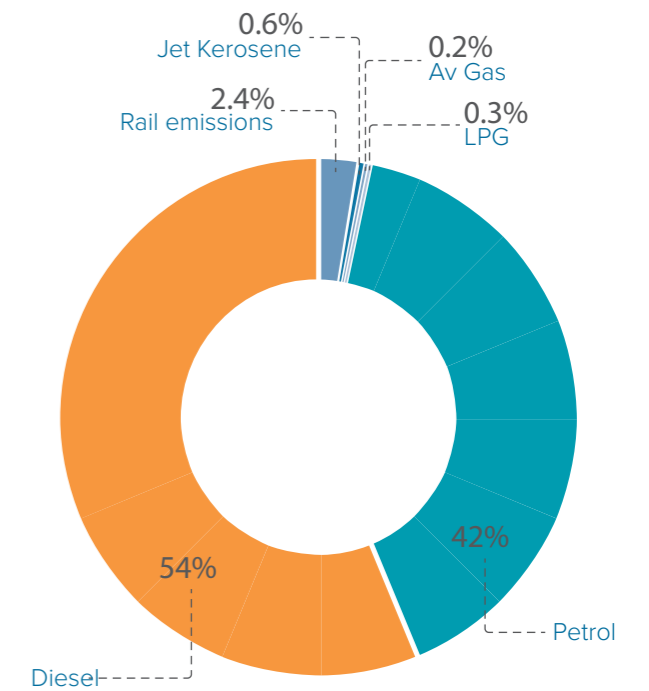
Many of the hills surrounding the basin floor are still forested as are the steeper gully banks of the rivers and the more incised streams. The banks of the Waikato and Waipaa Rivers are together the best current option for restoration of large-scale connectivity for forest birds requiring continuous forest across the Metro Area.

Open space access is important for people's health and needs to be at the heart of our planning for our metropolitan future. Waikato-Tainui wish to see an approach to environmental management that goes beyond sustainability, towards an approach that enhances the environment. In October 2018, Hamilton City Council's Community, Services and Environment Committee set a 10% indigenous biodiversity cover target which is anticipated to include the river corridor and gullies and the surrounds of peat lakes in the urban area.

## 2.3 Emissions and climate change

As we face a future where climate change will bring increased extremes in weather, including increased potential for flooding and for droughts, we need to plan for a low-carbon future and develop in a way that means even with a changed climate, we are resilient.

Figure 7 Waikato Region transport emissions (GHG inventory: 07-2015 to 06-2016)



<sup>11</sup> Leathwick, J., 2016. Opportunity for conservation of primary indigenous-dominated ecosystems in the Central Waikato Zone. Unpublished report to the Waikato Regional Council.

<sup>12</sup> Waikato-Tainui. (2013). Chapter 7: Towards environmental enhancement - Te Whakapakari i Te Taiao. In Waikato-Tainui Environmental Plan (pp. 56-57). <https://www.waikatotainui.com/services/taiao/tai-tumu-tai-pari/><sup>13</sup> Stancu, C., & Marquart, M. (2017). Waikato Region greenhouse gas inventory - July 2015 to June 2016. Waikato Regional Council. <https://www.waikatoregion.govt.nz/assets/WRC/WRC-2019/TR201731.pdf>

<sup>14</sup> Stancu, C., & Marquart, M. (2017). Waikato Region greenhouse gas inventory - July 2015 to June 2016. Waikato Regional Council. <https://www.waikatoregion.govt.nz/assets/WRC/WRC-2019/TR201731.pdf>

<sup>15</sup> 2018 Manaaki Whenua - Landcare Research report (LC3348) entitled 'Hamilton Halo Strategic Review: future options for Halo goals and implementation.'

## 2.4.1 Emission sources

Most greenhouse gas emissions in the Waikato region are from agriculture, accounting for 75% of the region's emissions. This includes carbon dioxide from the deep peat soils that form some of our best agricultural soils. When drained for agriculture, the peat is exposed to the atmosphere and it oxidises, causing the soil to subside at a rate of about one metre every 50 years.

Transport is the second highest contributor, at 12% of emissions. Most emissions from transportation sources are from on-road transport, contributing approximately 97% of the total (2015/16 data).<sup>13</sup>

The Waikato's transportation emissions per capita are higher than the New Zealand average (at 3.61 compared 3.27 with emissions per capita in metric tonnes of carbon dioxide equivalent, 2015/16).<sup>14</sup> The Metro Area is likely to be contributing higher transport emissions than the rest of the region due to the level of urbanisation in this part of the region

## 2.4.2 Mitigation

Reduction in greenhouse gas emissions will happen in the context of nation-wide central Government-led emissions initiatives, including land and resource uses that are outside of the focus of the Metro Spatial Plan. In the context of this Plan, we can aim to reduce emissions through approaches such as making sure urban development reduces the need to travel, providing improved travel choice to key destinations, and transitioning over time to lowering the need for car-based travel.

Carbon sequestration is another important element in mitigating greenhouse gas emissions. In the Metro Area, we have opportunities to consider the carbon sequestration role of peat soils. Peat lands store around 800 tonnes of carbon per hectare compared with mature indigenous forests which store around 250 tonnes of carbon per hectare across the region, peat soils have been estimated to store carbon equivalent to five years of New Zealand's net emissions (source: Waikato Regional Council). There are substantial opportunities for carbon sequestration that also delivers habitat restoration.<sup>15</sup>



### Potential effects of climate change on the Waikato region

Changes in weather patterns - differences in rainfall, temperature and microclimates could affect agriculture and horticulture. The location of some industries, agriculture, horticulture and tourism may change.

More turbulent weather - extreme weather can increase flooding, erosion, droughts and damage ecosystems.

Sea level rise - higher sea levels will affect coastal communities increasing coastal flooding and erosion.

Threats to biodiversity - species that are already under threat or at the limit of their climatic range may not be able to survive.

New diseases and pests may take hold. Tropical pests and tropical diseases like malaria may become established in areas where they currently do not exist.

Waikato Regional Council. (2019). Climate change. <https://www.waikatoregion.govt.nz/environment/natural-resources/air/weather-affects-air-quality/climate-change/>

# 3. Harnessing growth for greater liveability

We have an opportunity to harness growth to make our urban areas more affordable and attractive.

We need to provide for a quality, vibrant metro area where communities have choices and easy connections to jobs, affordable homes and recreational opportunities.

What happens if we don't rise to the challenge?

- Housing options in the metro area will continue to be unaffordable for many.
- Lack of choice of housing typology and location limits will affect affordable options.
- Poor access creates barriers to opportunities and imposes additional transport costs on households.

## 3.1 Housing affordability

We need to improve liveability, including affordable housing that meets our needs. Without change, housing options in the metro area will continue to be unaffordable for many and a lack of choice of housing typology and location will further affect affordable options.

Inefficient growth can lead to reduced community wellbeing and access to opportunities such as housing, jobs, education, health and recreation. These are all elements that affect liveability and quality of life.

There is the potential for Metro Area to emerge as a significant and thriving metropolitan area, but this will only work if there is a strong focus on creating a great place to live. This includes meeting housing needs, providing affordable housing choices, improving access to employment, education and services, addressing deprivation issues and enabling a high-quality built environment. We know that if we can do these things, we can significantly improve the quality of life for our people.

The growing gap between incomes and housing costs means more individuals and households are struggling. The shortage of quality and affordable housing and increasing household stress tends to have the worst impact on the most vulnerable people in the community, including Maaori, older people, solo parents, students, children and people with complex physical and psychological needs.

*“The liveability of urban areas stems from unique combinations of amenity values (open space, design features and urban vegetation); historic and cultural heritage; location; and intangibles such as character, landscape, and ‘sense of place.’”*

Parliamentary Commissioner for the Environment. (1998). The cities and their people: New Zealand's urban environment. (<https://www.pce.parliament.nz/media/pdfs/cities.pdf>)

The current state in terms of housing in the metropolitan area can be summarised as follows, by focusing on the main urban centre where we have to best information:

- Home ownership rates have been declining. In Hamilton, 43% of people owned their own home in 2016 compared to 55% in 2001. Maaori and Pacific peoples have lower household ownership relative to the general population.
- Hamilton is the third (after Auckland and Tauranga) least affordable housing market in New Zealand, with a median house price to median household income of 6.8 times (three times is considered affordable). Waikato and Waipaa districts have similar issues with house price to incomes sitting at between 4.5 and 5.5.
- Median house prices have risen significantly in all three territorial areas over the last five years at a rate of around 9% per annum. The median house price in Hamilton is \$597,000.

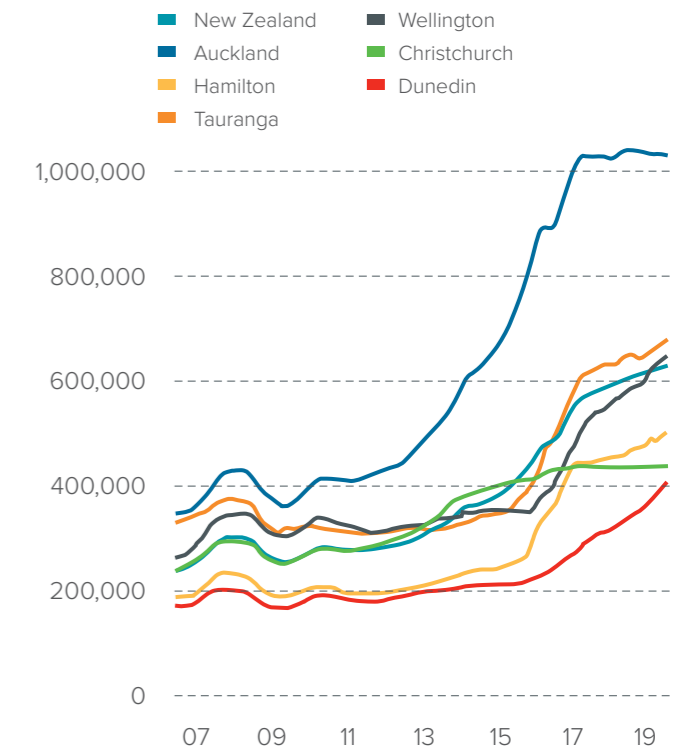
*“Quality affordable housing is important for healthy families. Families and communities can have better outcomes when suitable quality housing is available to all.”*

Waikato Region Housing Initiative – 2018 Housing

- Household incomes have not kept up with house price growth.
- Around 75% of Hamilton homeowners are spending more than 30% of their incomes on housing costs.
- Rents have also increased significantly. In Hamilton, rents increased by 19% between 2015 and 2018.
- Recent demand for the social housing register has grown dramatically in Hamilton, Waikato and Waipaa: from 255 in December 2017 to 1,210 in December 2019 (an increase of 375 per cent over 2 years).<sup>16</sup>
- There is an existing housing supply shortfall of around 4,000 houses in Hamilton. The majority of the shortfall is in community and social housing.<sup>17</sup>

If we can address our housing challenge it will have significant flow-on benefits in terms of health, social and cultural wellbeing, education and the economy.

Figure 8 Social Housing Register



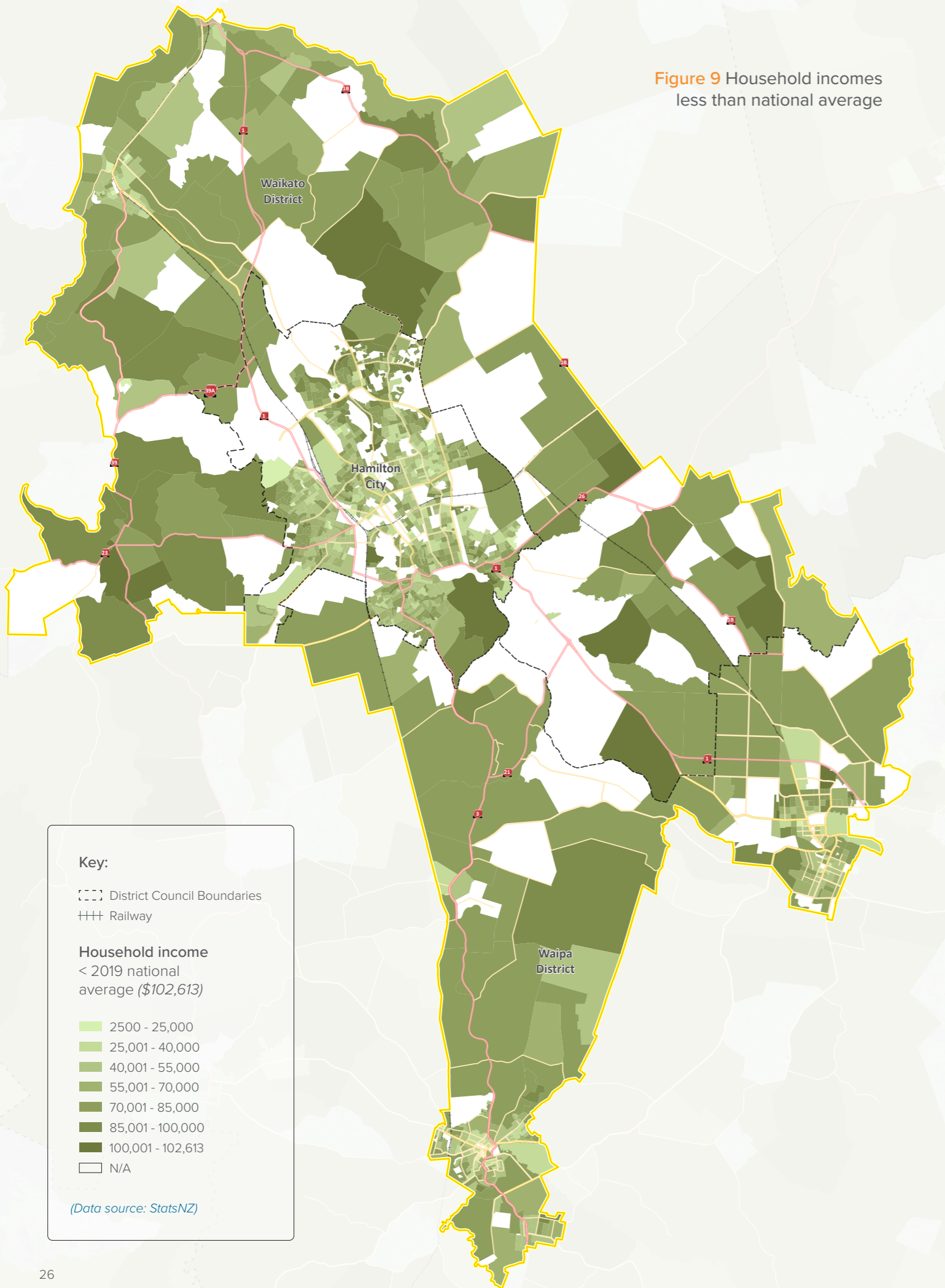
(Data source: The Housing Register, December 2019)

<sup>16</sup> The Housing Register, December 2019 version, from Ministry of Social Development at: <https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/statistics/housing/index.html#LatestresultsndashDecember2019>

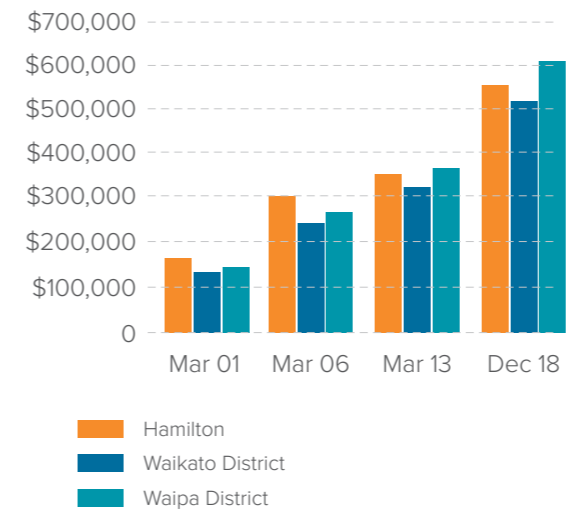
<sup>17</sup> Nifa Limited. (2019). Waikato region housing initiative – 2018 housing stocktake. The Waikato Plan. <https://waikatoplan.co.nz/assets/Waikato-Plan/Projects/Final-Housing-Stocktake-Report-minor-change-6-September-2019.pdf>

Momentum Waikato Community Foundation. (2016). Waikato Vital Signs. [https://momentumwaikato.nz/uploads/Waikato\\_Vital\\_Signs\\_Report\\_2016.pdf](https://momentumwaikato.nz/uploads/Waikato_Vital_Signs_Report_2016.pdf) (Statistics NZ)

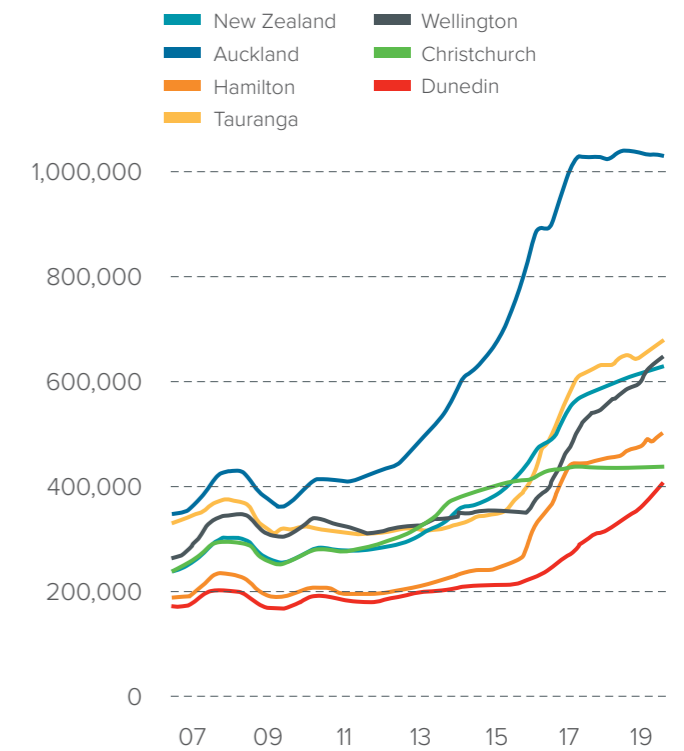
Figure 9 Household incomes less than national average



Median Houses Prices – Hamilton, Waikato & Waipaa, 2001-2018<sup>18</sup>



Average Dwelling Value, 2007-2019<sup>19</sup>



Within the next 25 years the Waikato regions population is expected to grow by around **89,000** people

**135%** increase in demand on the social housing register from December 2017 (361) to December 2018 (896) in the Waikato region.



In 2018, more than **8%** of the population in the Waikato needed financial top-ups from the Government to afford their rent or mortgage. Total \$9.8m.

Roughly **51,000** houses are needed in the Waikato region over the next 25 years including approximately 26,000 in Hamilton.



Source: "The Waikato Plan. (2019). Waikato region housing initiative: 2018 stocktake report summary

<sup>18</sup> The Waikato Plan. (2019). Waikato region housing initiative: 2018 stocktake report summary. [https://waikatoplan.co.nz/assets/Waikato-Plan/Projects/6320-Housing-Initiative-Summary-Report\\_WR.pdf](https://waikatoplan.co.nz/assets/Waikato-Plan/Projects/6320-Housing-Initiative-Summary-Report_WR.pdf)

<sup>19</sup> Data from CoreLogic Future Proof. (2019). Future Proof market indicators report. <https://www.futureproof.org.nz/assets/FutureProof/Documents/Housing-and-business-market-indicator-monitoring-report-May-2019.pdf>

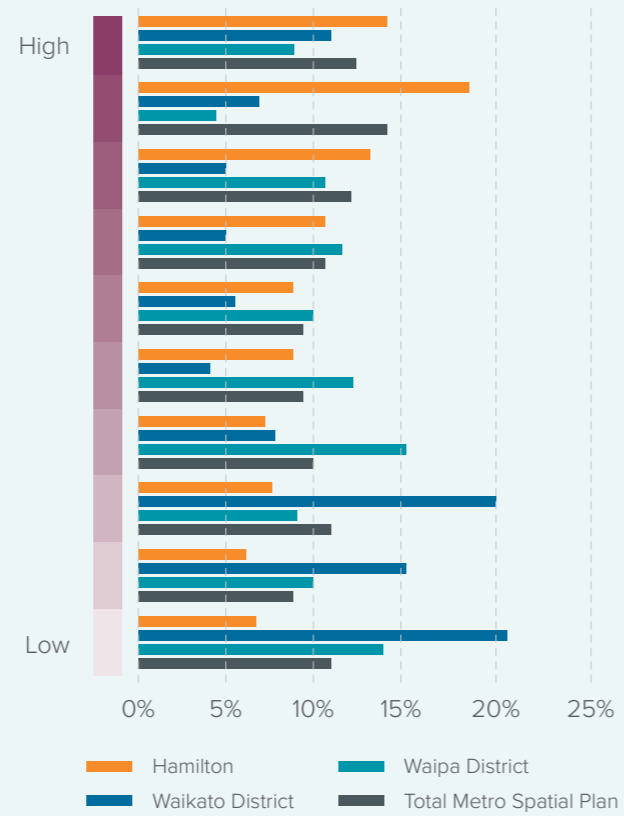


### 3.1.1 Socio-economic deprivation

The metropolitan area has widely varying levels of socio-economic deprivation. Those who are identified as deprived experience greater hardships and have insufficient access to resources such as education, housing and healthcare. This goes to the heart of liveability and quality of life and helps identify areas that stand to benefit most from investment into better affordable housing and access driven by improved transport choice.

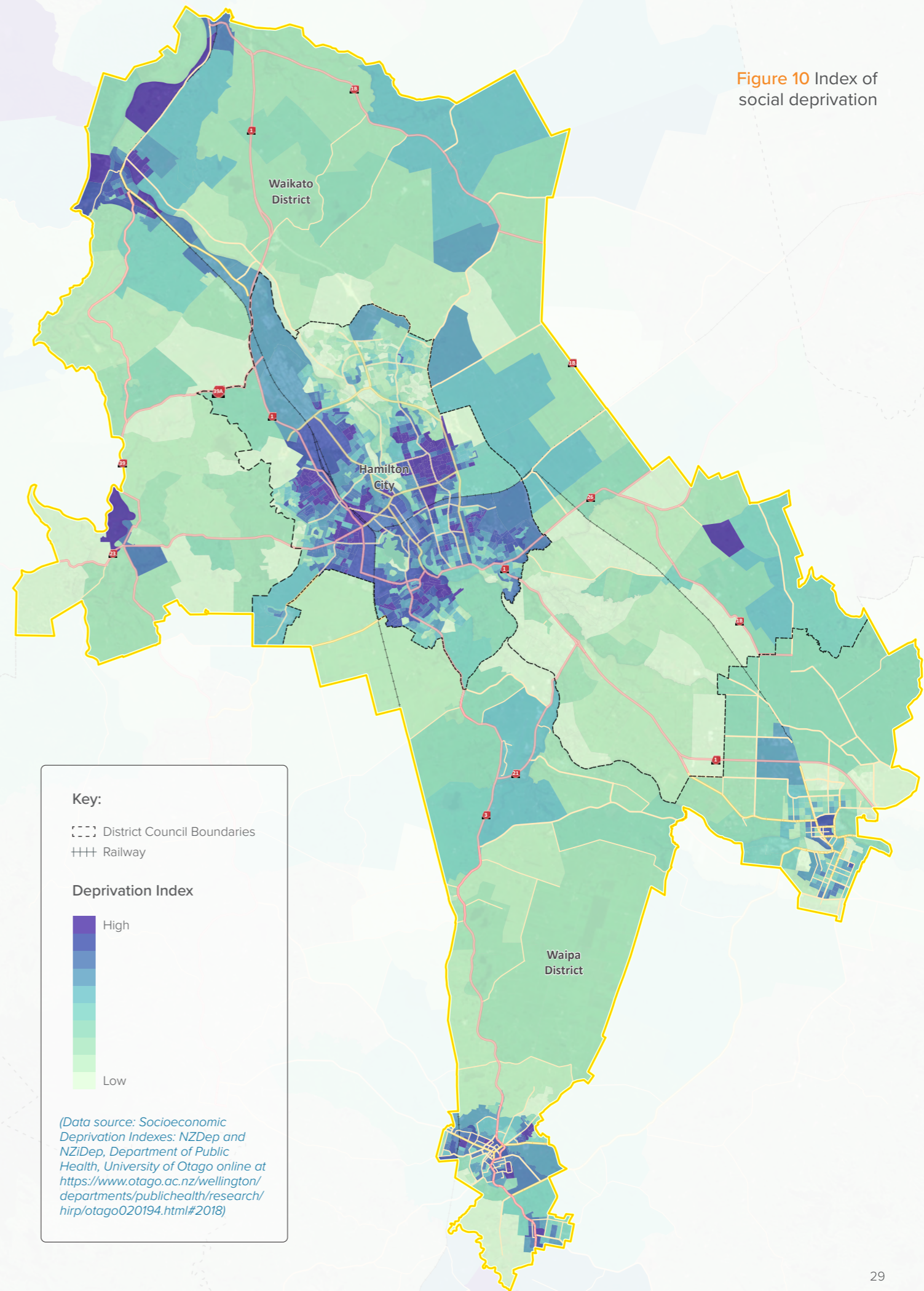
The New Zealand Index of Deprivation (2018) combines nine variables from the 2018 census which reflect nine dimensions of deprivation as a measure of relative socioeconomic deprivation.<sup>20</sup> Nearly half (47%) of the Metro Spatial Plan population lives in areas measured as amongst the 30% most deprived areas in the country. This is particularly acute in Hamilton where 56% of the population fall into this category. In Waikato District a large part of the population lives in areas of low deprivation and a large part of the population lives in areas of high deprivation with less in the middle. Waipaa has the lowest amount of population in deprived areas amongst the three.

Percentage of Population by Deprivation Index Area



<sup>20</sup> Socioeconomic Deprivation Indexes: NZDep and NZiDep, Department of Public Health, University of Otago online at <https://www.otago.ac.nz/wellington/departments/publichealth/research/hirp/otago020194.html#2018>

Figure 10 Index of social deprivation



**Key:**

- District Council Boundaries
- +++ Railway

**Deprivation Index**

- High
- Low

*(Data source: Socioeconomic Deprivation Indexes: NZDep and NZiDep, Department of Public Health, University of Otago online at <https://www.otago.ac.nz/wellington/departments/publichealth/research/hirp/otago020194.html#2018>)*

### 3.2 Economic performance

We want to increase economic productivity by the way our urban areas grow and perform. This can translate into higher wages, more and better jobs, and greater housing affordability for our people.

As a hub of agriculture, transport and trade our area offers diverse and growing opportunities for employment, education and investment. As part of the 'Golden Triangle' of economy and freight with Auckland and Tauranga, the Metro Area is well connected to major hubs and other regions. In addition to strong regional connections Hamilton's proximity to Auckland International Airport and the North Island's ports ensures the city is strongly linked to the rest of the world. Our sub-region can play an increasingly significant role in providing for growth in New Zealand - to the benefit of our people and our neighbours.

From a national perspective, a challenge facing New Zealand's economic structure is a relative lack of large population centres within which activities like the creative sector, research and development, logistics, marketing and sales and technology and innovation can thrive.<sup>21</sup> Larger cities with larger labour markets are generally

more productive than smaller cities. Broadly speaking, as the effective density of a city doubles, the productivity of its working population can increase by 3-8%.<sup>22</sup>

Another larger population centre can support a more robust national economy. The Metro Area can grow into this opportunity.

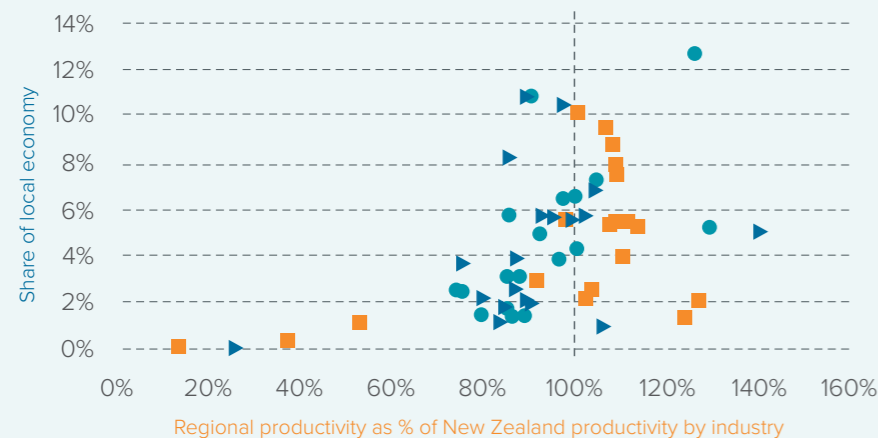
Urban places with the right mix of amenities and earning opportunities benefit the wellbeing of their people. Transport connections, social infrastructure and density can contribute positively to earning opportunities and amenities. If we continue to grow as a spread out, low-density city, it may not achieve the benefits of agglomeration and is less likely to reach the productivity opportunities available to a large city in New Zealand.<sup>23</sup>

There is room for increased productivity in the Metro Area. Growth of per capita Gross Domestic Product in the Waikato has lagged New Zealand growth, increasing only 2% in total over the last 10 years (to 2019), in comparison to GDP per capita for the whole of New Zealand which has increased by about 7% in that period.<sup>24,25</sup>

In Figure 10, Productivity vs importance to local economy the dark line represents the average New Zealand productivity for an industry. Markers show the relative importance of an industry to the local economy. Those to the right of the line are an industry that is more productive than the average, while those to the left are lower than average. Most markers in Auckland are higher than the average - they have a higher than average productivity. The Waikato region and Hamilton city, with a few notable exceptions, are typically to the left of the average line, showing room for improvement to GDP per capita.

Improving the participation rate in employment is an opportunity. There are areas of concentrated unemployment, particularly Hamilton and parts of Waikato. By fostering the development of Hamilton and the wider Metro Area and the wider Metro Area as a denser and better-connected metropolitan area we can support an increased amount of high-value economic and social activities. Growth done well has been shown to translate into higher wages, more and better jobs, and greater housing affordability.

Figure 10 Productivity vs importance to local economy



(Data source: Te Waka (2019 Quarterly Economic Update Q4; and Infometrics)

“A high-performing city balances the benefits and costs of agglomeration to provide opportunities for current and potential residents to achieve their goals. By doing so, a high-performing city effectively contributes to the wellbeing of its residents.”

Waikato Region Housing Initiative – 2018 Housing



<sup>21</sup> The Future Hamilton – Role, Function, Purpose, BERL

<sup>22</sup> Rosenthal, S., and Strange, W. (2004), 'Evidence on the nature and sources of agglomeration economies', pp. 2119-2171 in Cities and Geography, Volume 4, edited by V Henderson and J Thisse. Elsevier. 2 Maré, D. C., and Daniel, J. G. (2009), Agglomeration elasticities in New Zealand, NZ Transport Agency Research Report 376. Available at: <https://www.nzta.govt.nz/assets/resources/research/reports/376/docs/376.pdf>

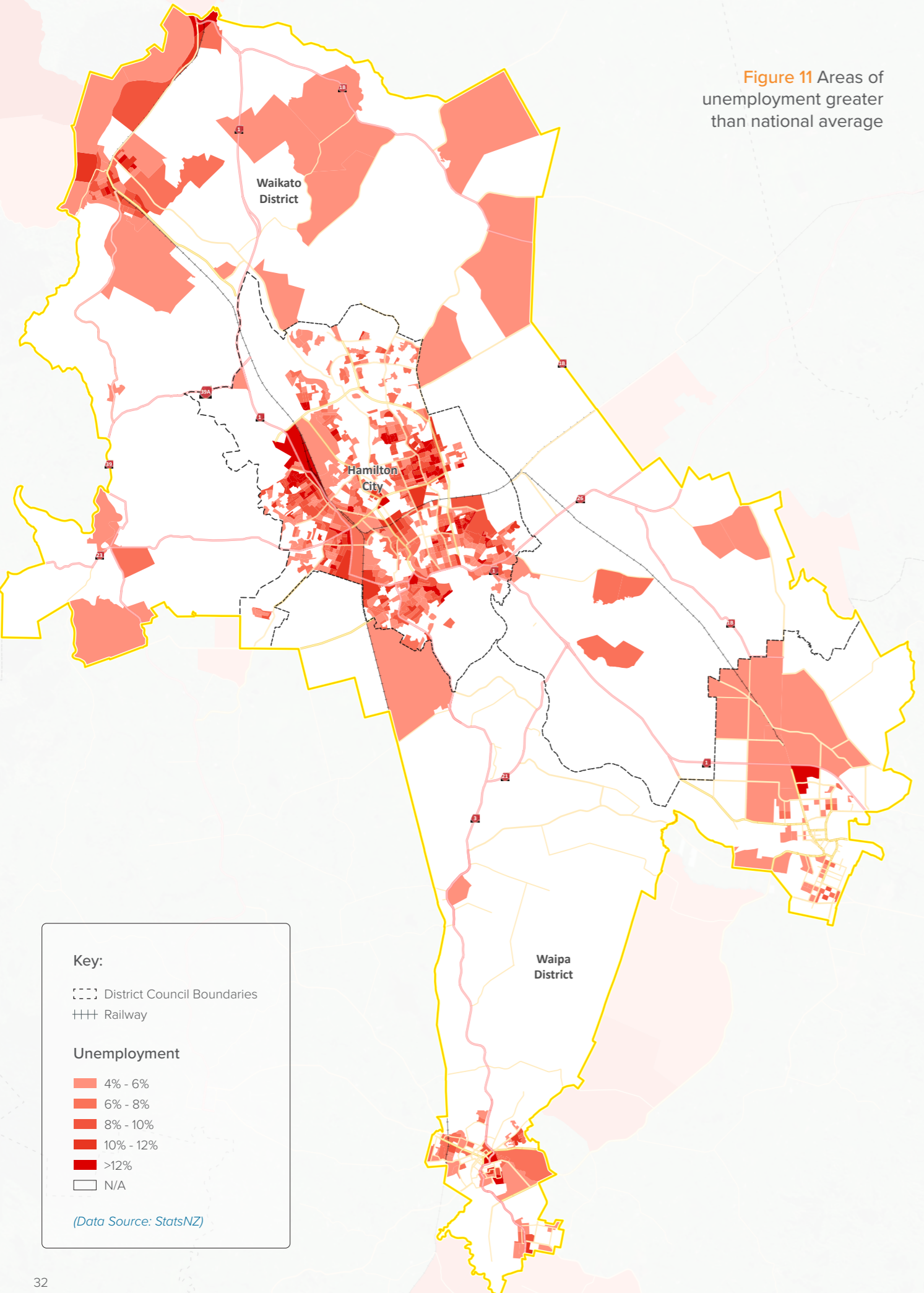
<sup>23</sup> The Future Hamilton – Role, Function, Purpose, BERL

<sup>24</sup> Te Waka. (2019). Quarterly economic update Q4: 2019. From: [https://www.tewaka.nz/site\\_files/18710/upload\\_files/TeWaka\\_QuarterlyEconomicUpdate\\_Q42019\\_A4\\_11-251119\\_final.pdf?dl=1/Infometrics](https://www.tewaka.nz/site_files/18710/upload_files/TeWaka_QuarterlyEconomicUpdate_Q42019_A4_11-251119_final.pdf?dl=1/Infometrics)

<sup>25</sup> Te Waka. (2019). The Waikato economy. From: [https://www.tewaka.nz/site\\_files/18710/upload\\_files/TeWaka\\_TheWaikatoEconomy\\_Jun19\\_A4\\_9-071019\\_final.pdf?dl=1/Infometrics](https://www.tewaka.nz/site_files/18710/upload_files/TeWaka_TheWaikatoEconomy_Jun19_A4_9-071019_final.pdf?dl=1/Infometrics)



Figure 11 Areas of unemployment greater than national average



# 4. Improving access and urban form

## We have an opportunity to improve our transport choices and the success of our urban form.

We need to deliver infrastructure, transport and services in a way that supports liveable neighbourhoods, community wellbeing, targeted increased density and high-quality urban environments.

What happens if we don't rise to the challenge?

- Delivery of infrastructure, transport and services currently follows the market demand for growth, resulting in an inability to plan and direct growth in a way that supports infrastructure, density and high-quality urban form.
- We will miss opportunities for economic productivity gains if growth is constrained due to infrastructure or land supply.

## 4.1 Infrastructure, urban form and land supply

While we have land, infrastructure is a hand brake on growth. We need to provide infrastructure and land development capacity that are ready when needed, enabling capacity for housing and the amenity of our growing communities (like parks) to reflect our needs, through a cost-effective approach to growth.

Located at the centre of the golden economic triangle, we have ready access to key national infrastructure routes (State Highway 1 and the eastern and northern main trunk railway lines) and are close to the ports of Auckland and Tauranga. This existing infrastructure from which we benefit is leading infrastructure in the sense that it influenced the form of our urban area and preceded demand. It helped maximise some of the locational advantages that our Metro Area has when compared to the rest of the country. Now, to capture opportunities derived from future growth we need a strategy to

establish the next city-shaping infrastructure requirements as we look ahead to the next century of growth.

If we successfully plan for long-term growth our transportation system can be safer and more efficient, we can better align serviced-land supply with demand, overcome three waters challenges, preserve our natural capital, and improve access to employment and the social infrastructure that support our lifestyles

### City-shaping lead infrastructure

*"... well-coordinated transport infrastructure that enables residents to get to work at a wide range of locations, at reasonable cost and in a reasonable time. It also means the land for public streets, infrastructure networks and public open spaces being planned and secured well before development begins. In this way infrastructure plays an important "city-shaping" role."*

New Zealand Productivity Commission (2017) Better urban

### 4.1.1 Residential land

Land supply, in terms of whether there is enough land, is not a problem we face. What we are uncertain about is whether this land capacity is in the right location or able to achieve densities that address our challenges. As well, development areas are constrained by the capability of land for development, the existence of natural features, and availability of supporting infrastructure. A key constraint on increased land supply is three waters infrastructure.

When looking at expansion areas in which to grow, there

are 'waahi toituu' (areas where we should avoid urban development) and 'waahi toiora' (areas where we should plan with care). Developing in the wrong places can be unnecessarily costly. These are explained further in 1.1 Preserving Natural Capital and in Figure 10 - waahi toituu and waahi toiora areas.

The Waikato Regional Policy Statement requires a 16 households per hectare average gross density for residential greenfield areas in Hamilton. It requires 12-15 households per hectare average gross density for Cambridge, Te Awamutu and Ngaruawahia. This is not enough density to support the outcomes we want, such as modal shift, and is not financially sustainable for territorial authorities providing infrastructure and services.

In Hamilton city, housing capacity is currently available via the sequence of greenfield growth cells around the edges of the city and a large amount of infill and redevelopment capacity within the existing urban area. In Waipaa district, most capacity is in and around the main urban centres of Cambridge and Te Awamutu. Within Waikato District part of the Metro Area, capacity is in Ngaaruawaahia and some smaller settlements and lifestyle block areas.

There is enough development capacity, under current market conditions, with the entirety of the Future Proof area to meet demand until 2027.<sup>26</sup> Assuming more housing development opportunities will become feasible through time, and further capacity will become enabled in the Waikato and Waipaa districts, there is also likely to be enough capacity to meet demand until 2047 according to Future Proof forecasts.

### 4.1.2 Three waters infrastructure<sup>27</sup>

The pressures on our water resources are evident globally, nationally and locally. They manifest in many ways, from degraded environmental quality and loss of biodiversity, through to constraints on water allocation. In New Zealand, local authorities, iwi, communities and industry face significant challenges in meeting their current and future three waters service needs.

- In the Waikato, there are few fully compliant municipal wastewater treatment plants and the majority of municipal wastewater discharge consents will expire in the next 10 years.
- The Waikato River is almost fully allocated as a water source during summer low flow conditions and it is clear we are not making best use of this precious resource.
- The impact of urban stormwater and drainage discharges on our waterways is acknowledged and needs solutions.

### Water capacity is already constraining growth.

The Waikato River is regarded as over-allocated in Hamilton during low flow conditions. In June 2019 Hamilton City Council approved a moratorium on further wet industry (high water use) requests.

In August 2019 there were 280 non-residential applications in the allocation queue for surface water takes in the Waikato region. These applications for water take are all on a 'first in, first served' wait list and are on hold as they will exceed the allocation limits for catchments in the region.

- These challenges are compounded by increasing growth pressures and the associated demands that this places on the environment, including our waterways.

While local authorities have budgeted for significant investment in their three waters services in their 2018-2028 long term plans, the level of funding currently in place is unlikely to satisfy regulatory obligations, or adequately respond to current and future growth pressures and long-term environmental expectations. As a result, concerns exist around the sustainability of local government funding related to funding three waters infrastructure. Without lead three waters infrastructure the Metro Spatial Plan will be unable to manage growth in a beneficial manner.

A Waikato Sub-Regional Three Waters Strategic Business Case sets out the case for change in municipal water, wastewater and stormwater management in the Waikato and Waipaa River catchment. The project seeks to identify the most innovative, responsive and timely infrastructure solutions, unconstrained by territorial boundaries, while creating better environmental outcomes, community benefits and overall efficiencies than can currently be achieved by individual councils.

<sup>26</sup> Future Proof. (2018). Housing and business development capacity assessment 2017: Summary report. [https://www.futureproof.org.nz/assets/FutureProof/Documents/4-future-proof-hba-summary-report-2017\\_10-august-2018-final.pdf](https://www.futureproof.org.nz/assets/FutureProof/Documents/4-future-proof-hba-summary-report-2017_10-august-2018-final.pdf)

<sup>27</sup> This section is sourced entirely from: Future Proof (2019) Waikato Sub-Regional Three Waters Strategic Business Case: A Compelling Case for Change (Draft version)

A sub-regional approach is viewed as essential to achieving economies of scale, supporting the adoption of new and emerging technologies, and securing a future state of water and overall environmental gains that individual local authorities will struggle to realise alone. Benefits of this approach include optimised financial investment, more integrated planning to meet current and future needs, more efficient resource use (including water, energy, carbon, nutrients), water quality improvement and ecological enhancement.

Currently Hamilton City, Waikato District, and Waipaa District Councils are individually responsible for three waters infrastructure and services in their respective communities. Despite best intentions and considerable work and expenditure on three waters infrastructure, decisions relating to this infrastructure and land development have contributed to a current state where:

- The water quality of the Waikato River is significantly degraded and does not meet current expectations or technical targets.
- In general, three waters infrastructure is inefficient and ageing, is no longer fit-for-purpose and there is with a significant legacy of under- investment.
- There is uncertainty around the abilities of individual councils to fund infrastructure, maintenance and operations for future growth and to achieve regulatory targets for freshwater quality.
- There is concern under existing funding arrangements ratepayers will not be able to afford appropriate three waters infrastructure in the future.
- Developers in some areas are providing their own site-specific infrastructure (e.g. wastewater package plants) leading to fragmented networks and services that are complex to manage and renew.

Future growth pressures, environmental expectations and increased regulatory requirements (such as Te Ture Whaimana and the National Policy Statement for Freshwater Management) are likely to exacerbate these issues. Without a coordinated solution to these problems, three waters infrastructure will be a hand brake on development in our metro area.

Addressing three waters challenges in the sub-region is key to unlocking the H2A Corridor and supporting significant investments, like the Waikato Expressway, already made in the region.

It is critical that spatial planning in the sub-region is integrated with three waters infrastructure to ensure that the overall health and wellbeing of the Waikato River is improved, and capacity is ready when required.



## 4.2 Access

Hamilton has the highest reliance on private motor vehicles of all large New Zealand cities. Throughout the Metro Area we can provide better transport access to opportunities and destinations, reduce transport costs for households, and reduce land consumed for development.

Within the Metro Area, and within New Zealand as a whole, there has been a tendency for inefficient growth patterns and a high dependency on private vehicles. Inefficient growth is land-hungry, affecting highly productive soils and our natural resources such as biodiversity, open space, and water quality. It also creates climate change impacts from use of private cars and lack of uptake or push for efficient and affordable alternatives to private vehicles such as walking, cycling and public transport.

Unless we move away from this type of development pattern, those with private vehicles will spend more time in them as congestion increases; those without vehicles will be further disadvantaged as public transport and other alternatives such as walking and cycling are not viable as our urban area continues to spread out. More compact development, as is already promoted through the Future Proof Strategy, is part of the solution to many of these problems.

By recognising the areas of land that we value and do not want to develop, we can encourage a more efficient consumption of land and resources. This leads to a desire to increase the productivity of existing resources including key pieces of infrastructure and volume of trips in existing transport corridors. Transport is widely considered to be an enabler of both national and personal economic benefit. It achieves this through:

- The creation of deep labour markets that make it easier to match the right employee to the right job and increases competition for both worker and employers.<sup>28</sup>
- The ability for those on lower incomes to access greater opportunity, both through a closer concentration of jobs that can be accessed at smaller cost but also access to tertiary educational establishments.
- There is also thought to be a benefit to clustering of some activities that can share the above deep labour markets and rely on existing transport networks.

### Car use is dominant in Hamilton

The number of cyclists over recent years has generally declined at around 4% per year. The decrease in school cyclists has been more significant. The number of cyclists surveyed in 2016 had increased from the previous year possibly due to recent investment in the Biking Plan and cycling projects. Projects such as the Western Rail Trail (opened April 2017) may contribute to the reverse in decline.

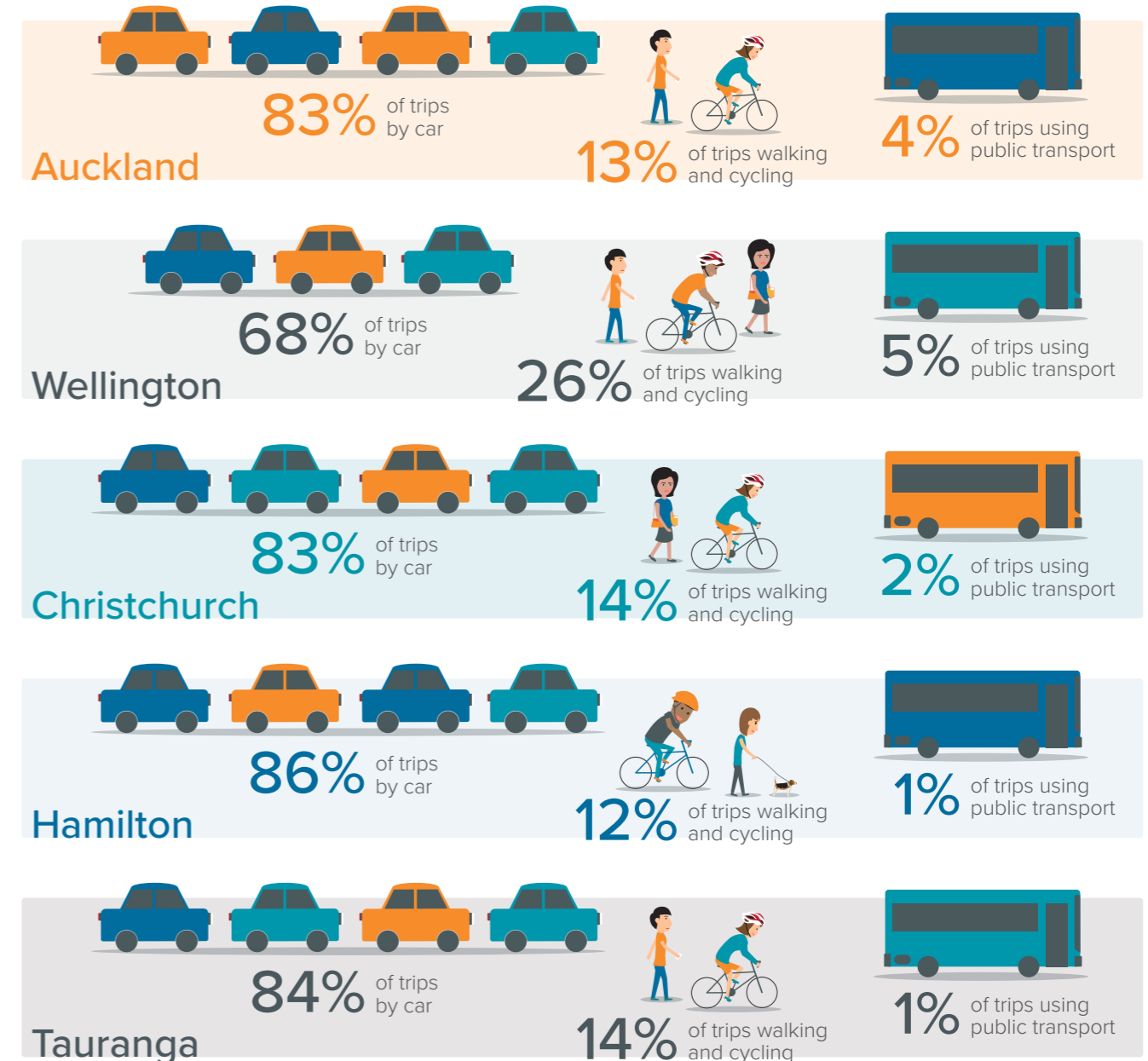
Access Hamilton Programme Business Case, September 2018

delivering evolved supply chains for freight. For some production the existence of the city is the reason for their location – to be close to the market.<sup>29</sup>

Because of the relation between transport and economic benefit, the Metro Spatial Plan has the potential to identify ways to:

- Increase transport productivity, by making better use of existing routes to support residential and employment intensification, and to continue to improve access of employers and labour.
- Deliver efficient networks for freight and business to support local employment and create stable or lower transport costs.
- Encourage more vibrant urban places.
- Reduce carbon dioxide emissions.

Figure 12 Mode Share in NZ<sup>31</sup>



<sup>28</sup> The Eddington Transport Study (2006) retrieved from: <https://webarchive.nationalarchives.gov.uk/20081230093524/http://www.dft.gov.uk/about/strategy/transportstrategy/eddingtontstudy/>

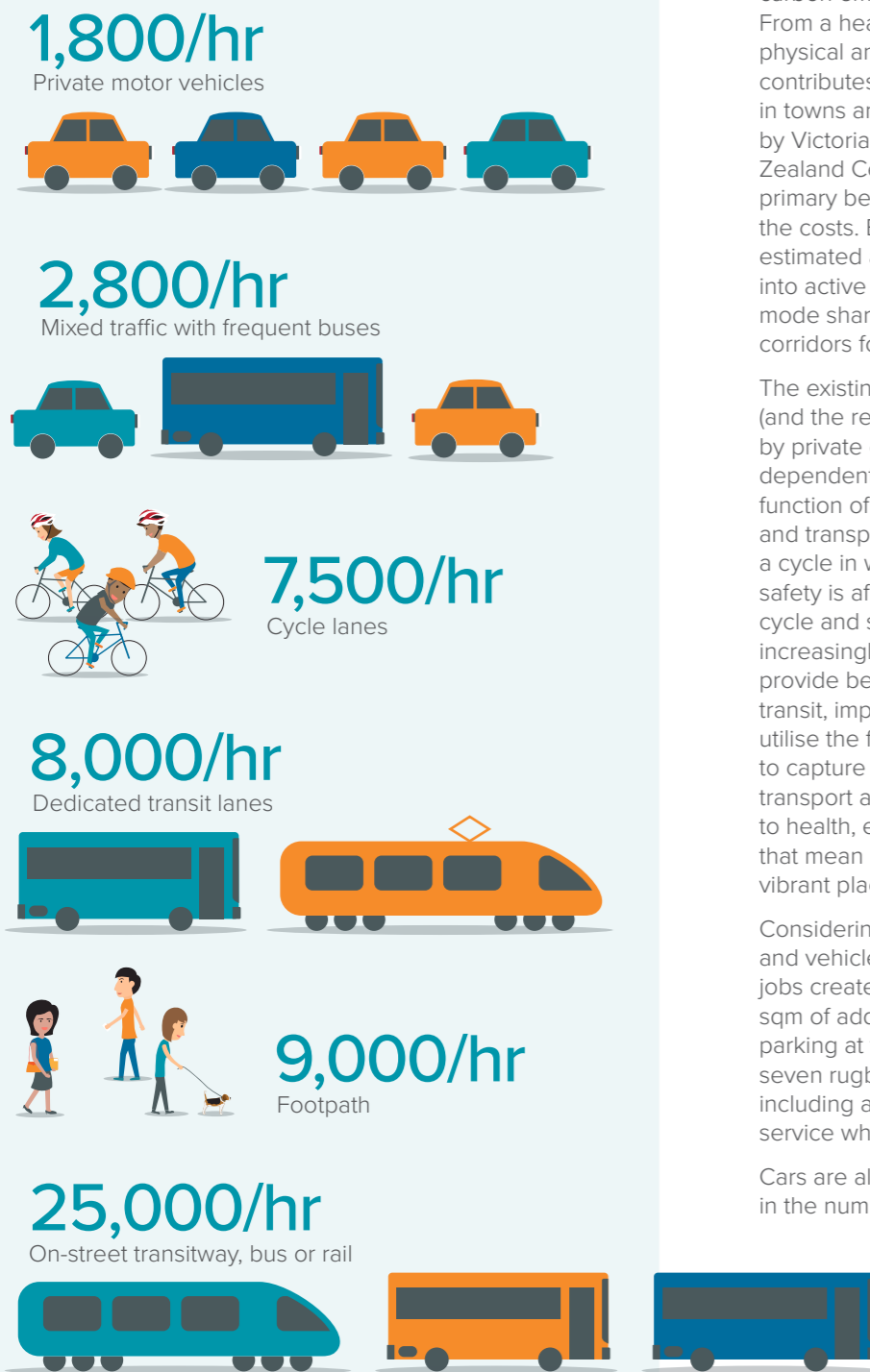
<sup>29</sup> NZTA, Feb 2017. The economic impacts of connectivity. Retrieved from: <https://nzta.govt.nz/assets/resources/research/reports/608/608-the-economic-impacts-of-connectivity.pdf>

<sup>30</sup> Chapman, R.; Keall, M.; Howden-Chapman, P.; Grams, M.; Witten, K.; Randal, E.; Woodward, A. A Cost Benefit Analysis of an Active Travel Intervention with Health and Carbon Emission Reduction Benefits. *Int. J. Environ. Res. Public Health* 2018, 15, 962.

<sup>31</sup> Waka Kotahi NZ Transport Agency, 2019. Keeping Cities Moving

**Figure 13** Travel lane person throughput

(The person capacity of a single travel lane by mode at peak conditions with normal operations)



#### 4.2.1 Existing mode share

Mode matters. Active travel (mainly walking and cycling) is beneficial for people's health, for reducing carbon emissions and the function of urban areas. From a health viewpoint, physical activity provides physical and mental health benefits. Active travel contributes to a sense of vitality and social cohesion in towns and cities. A cost-benefit study published by Victoria University of Wellington and the New Zealand Centre for Sustainable Cities indicates the primary benefits of walking and cycling far outweigh the costs. Based on case studies in New Zealand, it estimated a benefit/cost ratio of 10:1 for investment into active travel programs.<sup>30</sup> A balanced transport mode share enables better usage of transport corridors for all users.

The existing travel to work mode share in Hamilton (and the rest of the study area) is dominated by private car, placing it as one of the most car dependent cities in New Zealand. This has been a function of both the development of the urban form and transport infrastructure. This approach creates a cycle in which as congestion grows, amenity and safety is affected for those who want to walk or cycle and slow, unreliable bus journeys become increasingly unattractive. There is an opportunity to provide better transport choices (e.g. frequent public transit, improved walking and micro mobility) to better utilise the finite transport corridor space we have, and to capture some of the wider benefits of passenger transport and active modes. These benefits relate to health, economics and environment outcomes that mean our urban communities can become more vibrant places, full of healthier people.

Considering the previous travel to work mode share and vehicle occupancy rates, an additional 5,000 jobs created in the city would require around 70,000 sqm of additional car parking space (not including the parking at the home-end of the trip). This is just under seven rugby pitches of additional land required (not including additional roads or lanes for capacity) to service what is a small number of additional jobs.<sup>32</sup>

Cars are also a relatively inefficient form of transport in the number of people they can carry. This is demonstrated in Figure 13 which shows carrying capacity of a 3.5 metre carriageway per hour by mode.

Figure 14 starts to illustrate the potential opportunity for growth in the area to be supported by efficient use of existing infrastructure (and new corridors, where identified). For example, around Hamilton's CBD and other employment nodes, the addition of suitable cycleways and increased urban density to encourage walking could result in a big increase in number of people using these routes.

**Figure 14** Example of roadway capacity with/without cycle lane



*“There are too many places where it is too dangerous, especially at intersections and places where the road simply is not wide enough for cars to give a one metre distance when passing. I only use the [off street] bike paths and footpaths.”*

Respondent to the 2018 Hamilton City Biking survey

Figure 15 (next page) illustrates the potential catchment for different modes of travel from the centre of the CBD. Hamilton's scale and gentle topography underscore the potential for micro mobility and active modes. In some cities the installation of protected cycle lanes has been shown to result in improved mode share for cycling. In principle, approximately two thirds of Hamilton are within a 20-minute bike ride to/from the central CBD.

Figure 15 also indicates journey times by bus from the central CBD. This measurement includes dwell times and wait times at stops. The results demonstrate a need to improve the competitiveness of public transit relative to competing modes to make it a more effective and attractive alternative.

A key component of any future density increase will be to increase use of public transport (in whatever form) this requires a comparable general travel cost (typically made up of walking to stop, waiting for service, travel on service, walk at other end, plus the cost of the ticket). For private car the access times and travel times are typically lower (cars parked outside home, there may be a walk at the other end of the trip) however the cost may change depending on parking charges.

It is known that people tend to underestimate their car costs when compared against the cost of public transport because the cost of a car is hidden across several main bills a year (e.g. registration, WOF, and repairs) rather than a daily or per trip cost. This partially explains why, despite car costs being around \$21 per day<sup>33</sup> and three trips on the bus typically costing under \$10,<sup>34</sup> there is still a high reliance on cars even for those on lower incomes.

(Data Source: NACTO (2016) Transit Street Design Guide, from <https://nacto.org/>; Auckland Transport, Urban Street and Road Design Guide)

<sup>32</sup> Based on travel to work mode share 86% and typical occupancy in the peak hours of 1.2.

Sullivan, C., & O'Fallon, C. (2003). Vehicle occupancy in New Zealand's three largest urban areas. [https://www.pinnaclearsearch.co.nz/research/survey/vehicle\\_occupancy.pdf](https://www.pinnaclearsearch.co.nz/research/survey/vehicle_occupancy.pdf)

<sup>33</sup> AA Motoring. (2018). Vehicle ownership costs – more than just the purchase price. <https://www.aa.co.nz/cars/motoring-blog/vehicle-ownership-costs-more-than-just-the-purchase-price/>

<sup>34</sup> Based on Busit prices – cash fares rather than card (which are significantly lower)

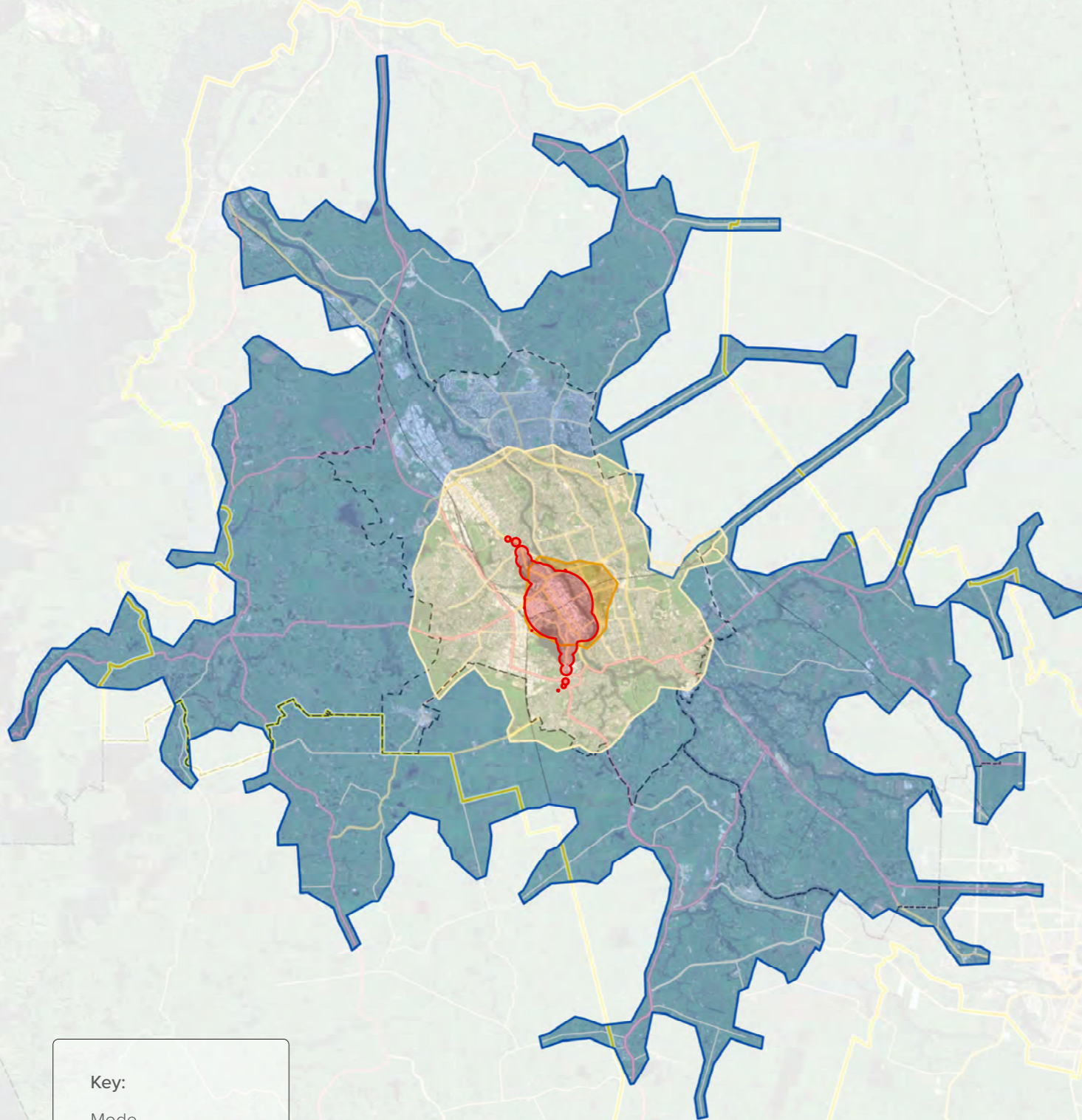
<sup>35</sup> Ministry of Transport. (2019) Draft 2021 Government Policy Statement on Land Transport, retrieved <https://www.transport.govt.nz/assets/Import/Uploads/Our-Work/Documents/draft-government-policy-statement-land-transport-2021.pdf>

<sup>36</sup> Waikato Region. 2018 RLTP update <https://www.waikatoregion.govt.nz/assets/WRC/Council/Policy-and-Plans/Transport/RLTP/2018-update/RLTP-WEB.pdf>

<sup>37</sup> Waikato Regional Council webpage Freight in the Waikato Region. Retrieved <https://www.waikatoregion.govt.nz/services/regional-services/transport/freight-in-the-waikato/>

<sup>38</sup> NZ Transport Agency. ( ) Waikato Expressway Network Plan. Retrieved <https://www.nzta.govt.nz/assets/projects/waikato-expressway/docs/waikato-expressway-network-plan.pdf>

Figure 15 20-minute journey times by walk, bus, bike, drive from CBD



**Key:**

Mode

- Bus
- Walking
- Bike
- Car

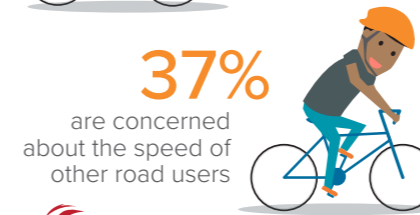
*(Data source: HCC and WRC)*

### 4.2.1.1 Improving perceptions of safety

For people to walk and bike they need to feel safe. Perceptions of safety for walking, cycling, driving and public transport are a way to understand why people do or do not use these modes of transportation.

Improving perceptions of transport safety would help people to be more open to using walking and cycling to move around the city. Coupled with infrastructure that matches people's ability and interest would encourage uptake of different transport modes.

#### Key barriers to cycling

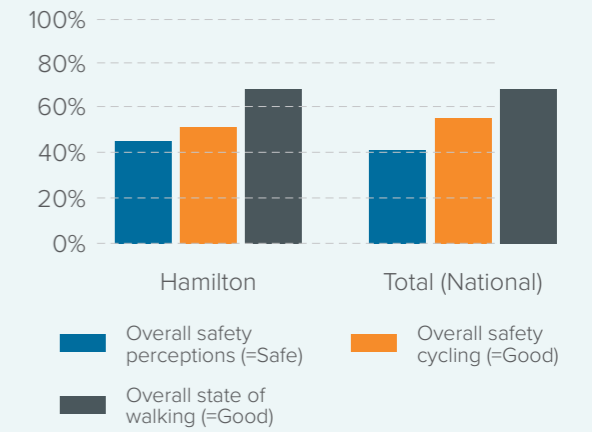


#### Key barriers to walking



*(Data source: NZTA. (2019) Understanding attitudes and perceptions of cycling & walking, from www.nzta.govt.nz)*

### Public perception of cycling and walking in Hamilton region



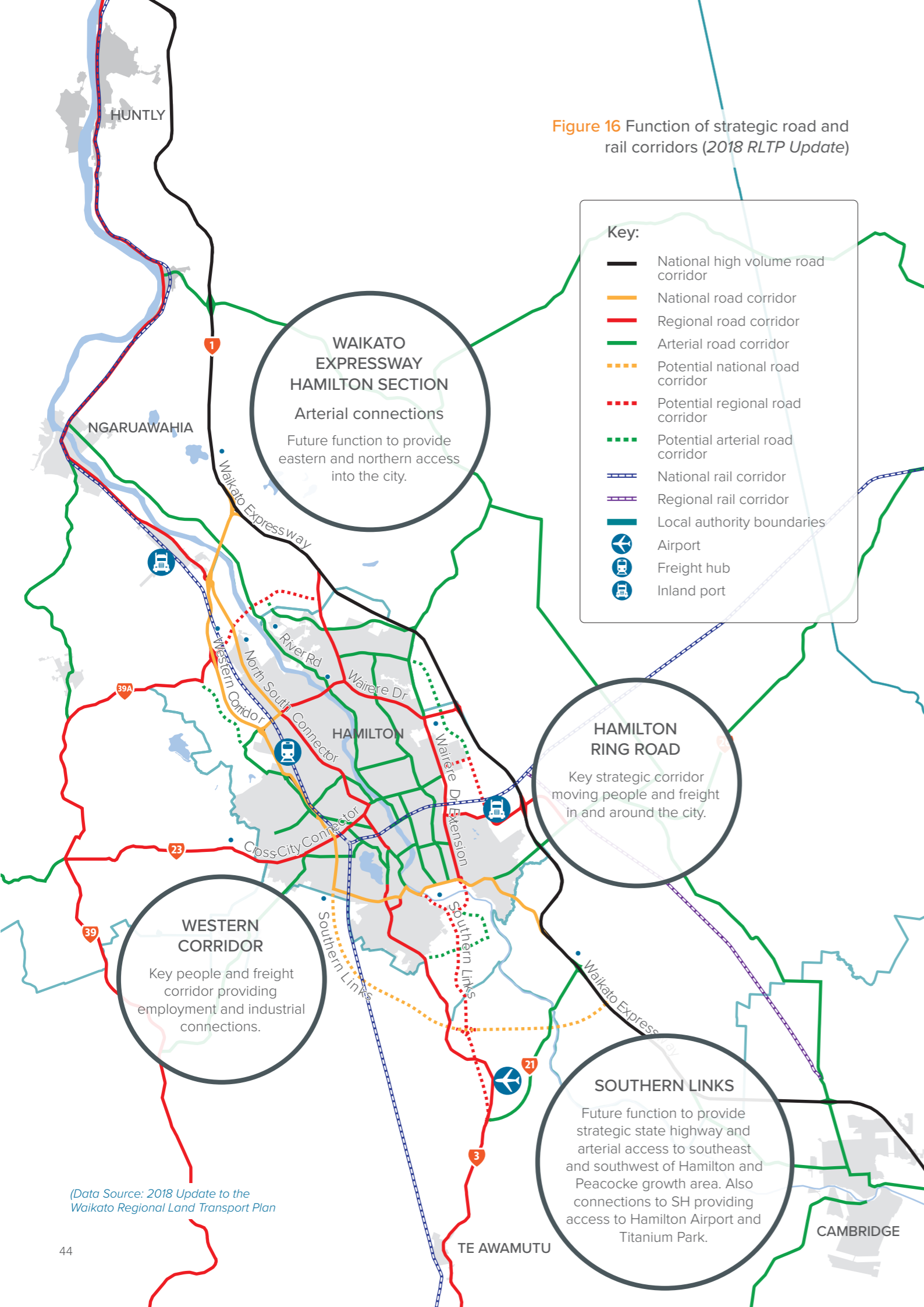
*(Data source: NZTA. (2019) Understanding attitudes and perceptions of cycling & walking, from www.nzta.govt.nz)*

### 4.2.2 Freight

Efficient, reliable, safe, mode-neutral and resilient freight transport – within cities, between regions and to ports - is vital for a thriving economy.<sup>35</sup> The Metro Spatial Plan area, and Hamilton in particular, is a component of the golden economic triangle. An area that has become a key location for freight movement and handling. The country's highest traffic volumes are found in and around these cities, and the road and rail freight routes between Tauranga and Auckland (via Hamilton) form the country's most significant freight corridor.<sup>36</sup> Freight travelling this corridor represents over half of New Zealand's freight movements, with freight moving to and from the Waikato projected to increase by more than 50 percent in the next 30 years.<sup>37</sup>

This freight and logistics specialisation has been developed and supported by considerable investment into suitable roading and rail networks. It is important that these nationally significant corridors remain efficient and safe over the long term and that they are protected from unnecessary traffic growth caused by poorly situated land use. Recent developments at Rotokauri for Ports of Auckland and at Ruakura by Ports of Tauranga illustrate the value and scale of these connections.

The Waikato Expressway is intended to supply efficient and safe travel for strategic trips well into 2040. One of the main objectives of the Waikato Expressway Road of National Significance project was to focus freight movement onto SH1 rather than require upgrades of alternative routes.<sup>38</sup> With a well-planned approach this corridor along with other strategic roads and rail corridors should deliver for freight needs well beyond this horizon.



(Data Source: 2018 Update to the Waikato Regional Land Transport Plan)

### 4.2.3 Safer journeys

Our roads need to be safer for everyone. We can improve real and perceived safety on the transport network and minimise costs of congestion. The Government's Road to Zero Action Plan 2020-2022 has a vision for a New Zealand where no one is killed or seriously injured in road crashes. By 2030 the aim is for a 40% reduction in death and serious injuries (from 2018 levels).

Growth creates pressure on our transport network, as does changing user expectations and mode shift as more people choose to bike or take an e-scooter. If we improve our transport infrastructure and change how we use it to meet changing demands, then we can improve user safety and avoid deaths and injuries. We want everyone who uses our transport network to be safe.

*A cyclist was around 15 times more likely to be killed or seriously injured than a person in a motor vehicle (on a per km travelled basis) in Hamilton during 2018 and 2019.*

**Hamilton in 2018 and 2019 average DSI**

**Cyclist: 1 per 1.30 million VKT**

**Motorist: 1 per 19.35 million VKT**

#### 4.2.3.1 Reducing deaths and serious injuries

Between 2015-2019, 79 people died and 3,156 were injured when using the transport network of the Metro Area. The loss of life is not acceptable to our communities. The social cost of the deaths and serious injuries (DSIs) over the last five years is estimated at \$775 million.<sup>39</sup>

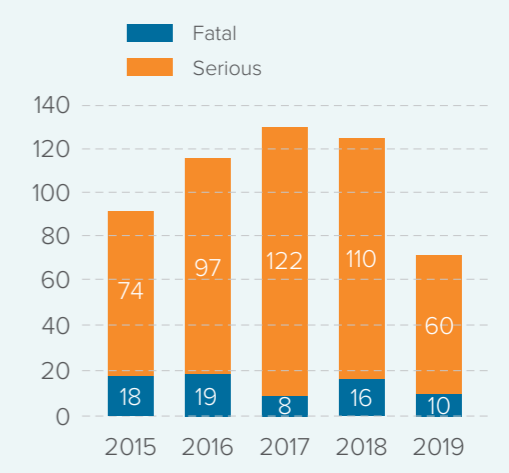
Figure 7 Deaths and Serious Injuries for All Modes illustrates the distribution of deaths and serious injuries that took place across the Metro Spatial Plan area over five years.

<sup>39</sup> 2019 Value of Statistical Life

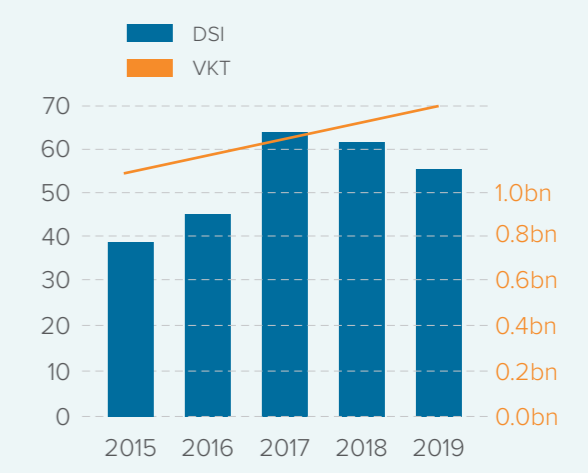
Ministry of Transport. (2019). Social cost of road crashes and injuries: Report overview. <https://www.transport.govt.nz/mot-resources/road-safety-resources/roadcrashstatistics/social-cost-of-road-crashes-and-injuries/report-overview/>

The way our urban form encourages people to travel impacts safety. By designing transport infrastructure to better protect vulnerable users and accommodate intended user demands we can help reduce DSIs. By developing an urban form where to encourage active modes and where it is safe to walk, cycle and use micro mobility we can reduce DSIs. By encouraging people to use public transport instead of driving we can reduce DSIs.

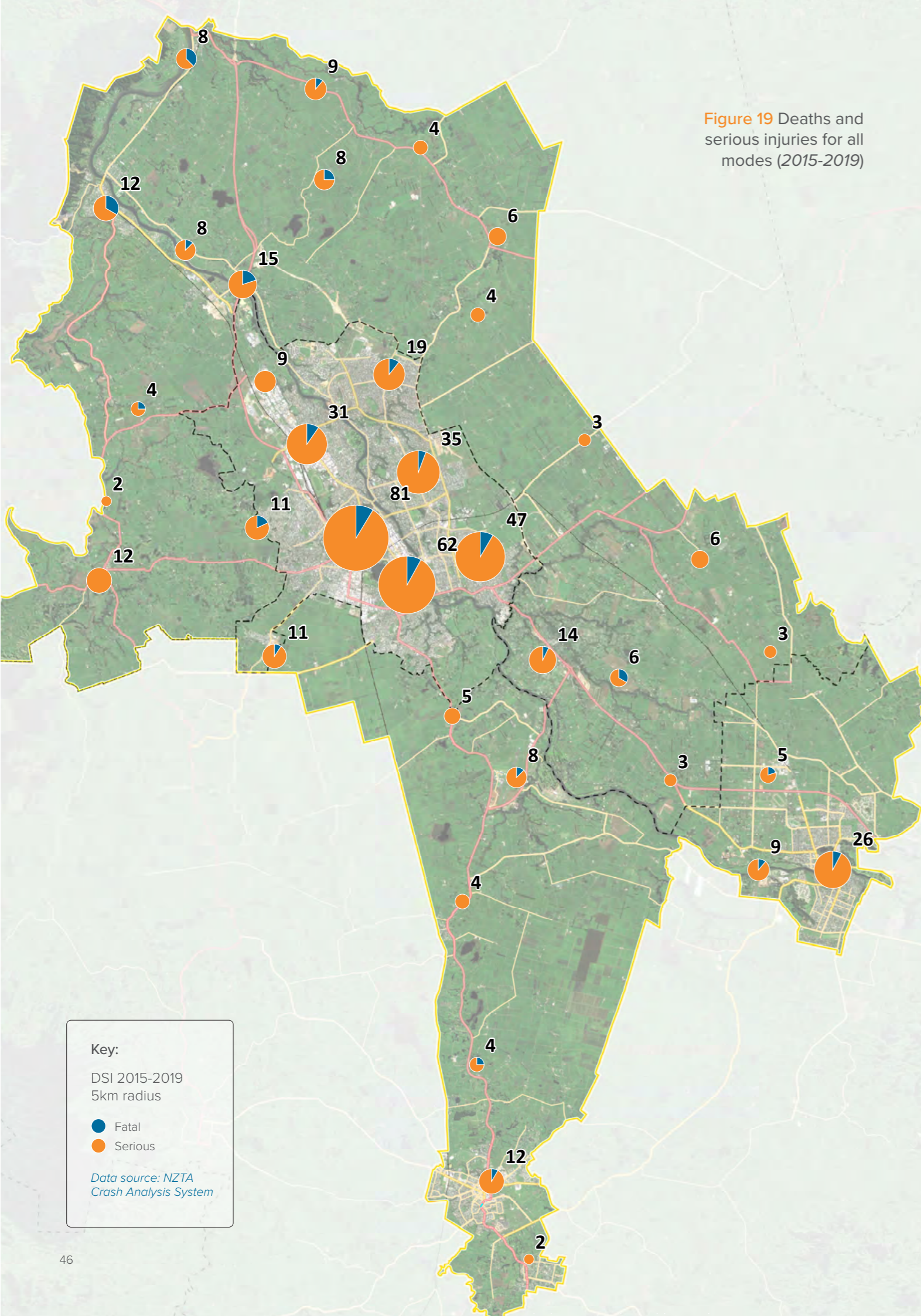
**Figure 17** DSIs by severity - all modes



**Figure 18** DSI compared to VKT - Hamilton, motor vehicles only



Data source: NZTA, HCC





# 5. Conclusion

“We will be more effective if we continue to collaborate and show leadership in the management of growth across territorial boundaries. The ongoing challenge for us all is to ensure we continue to talk and work together in deciding a coordinated future. Let us look forward, continue to work with our communities to create the kind of sub-region we all want to live, work, play, invest in and visit.”

*Bill Wasley, Future Proof Independent Chair, Future Proof Strategy 2017 (p. 2)*

Our vision is for the Metro Area to be a highly liveable and sought-after place to live in New Zealand. The Metro Area presents strong growth on a national scale. Population growth can benefit us if we change how we grow and move around to improve our liveability and ensure our people have safe, warm and affordable housing. Our region can contribute more to the national economy. By preparing a Metro Spatial Plan we expect to support our opportunities to:

- Embrace the Waikato River and ecological areas as the heart of the Metro Area.
- Harness growth to make our urban areas more affordable and attractive.
- Improve our transport choices and the success of our urban form.

These outcomes can come about by managing the growth of our metropolitan area and our infrastructure with a much longer-term timeframe than we currently do and in an even more integrated manner. We can do things differently than we have in the past by taking a ‘boundaryless’ planning approach.

The decisions we make now will influence our long-term opportunities. With timely and well-planned infrastructure delivery we will provide for growth in a way that achieves the UGA objectives: protect land of significant environmental, cultural or heritage value; build resilience to natural hazards and climate change; deliver affordable housing; and, respect and improve the environment. The success of the Maaori economy will be a pillar of our growth.

The sub-region has a history and willingness to work together in a collaborative way on growth management and strategic planning. There is significant potential within the metropolitan area and wider regional strength along the Hamilton to Auckland Corridor. The Metro Spatial Plan will build from the case for change to set out how we deliver on the UGA’s objectives with a strategy for our sub-region’s long-term success.



