

Arataki

Regional direction
Waitaha – Canterbury
September 2023 v1.1

At a glance

Waitaha Canterbury is the largest geographic region in Aotearoa New Zealand. It dominates the South Island economy and is home to over half its population.

Christchurch International Airport is the main gateway to the South Island for international visitors. Ports in Ōhinehou Lyttelton and Te Tihi-o-Maru Timaru, and an inland port at Tauwharekākaho Rolleston, are the nucleus of the region’s freight system. State Highway 1 links to Waitohi Picton and the Interislander ferry to the north and Ōtākou Otago to the south. Waitaha provides critical lifelines, freight, and tourist routes to Te Tai o Poutini West Coast across the Southern Alps.

Most people in the region live in the Greater Christchurch area, which is also where most future growth is forecast. The region’s population is expected to grow from 650,000 to about 780,000 by 2048.¹ Following a series of major earthquakes, growth patterns in Greater Christchurch over the past decade have created several transport challenges.

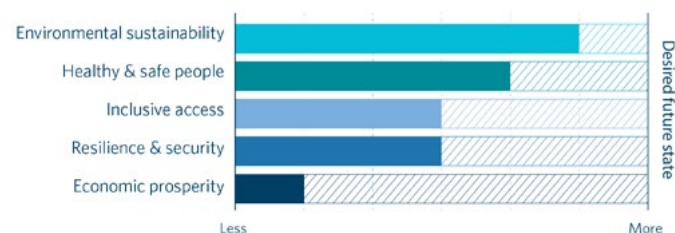
Despite high rates of cycling, the urban area remains car dependent. Three essential initiatives can help address this high-car reliance and enable Greater Christchurch to reduce transport emissions:

- joint spatial planning with local government and other partners
- continued rollout of high-quality cycling networks
- implementation of aspirational public transport plans.

Waitaha has work to do to improve a poor road safety record. Safety improvement efforts should focus around the urban area of Ōtautahi Christchurch and SH1 between Ōtautahi and Te Tihi-o-Maru, where there are high-risk rural roads and motorcycle routes.

Resilience is also a key focus, with Waitaha vulnerable to frequent and intense storms, sea level rise, flooding, and wild fires. Seismic risk is also considerable given the region’s proximity to the Alpine Fault.

Scale of effort to deliver outcomes in Waitaha – Canterbury



The regional ratings show how Waka Kotahi has assessed the potential scale of effort required in each region to achieve the future desired state for each outcome over the next 10 years. The ratings in each region indicate where effort can be best focused and inform conversations with partners about priority outcomes in each region.

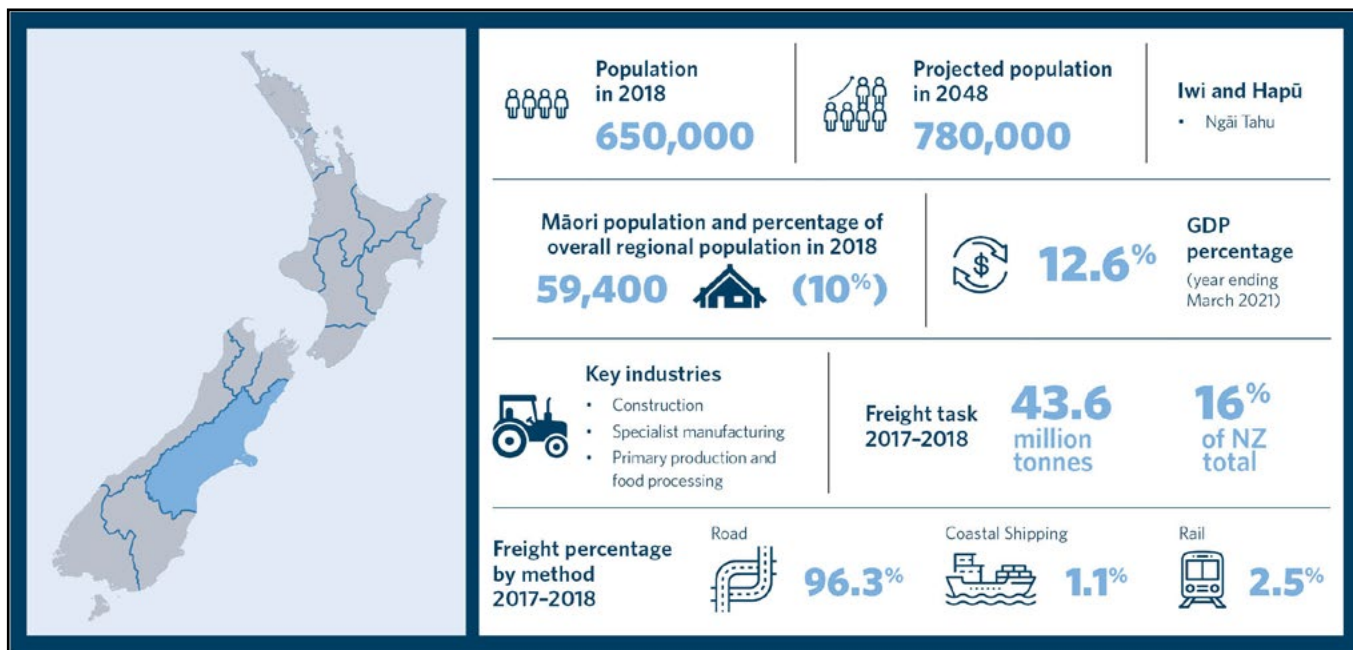
The rating assessments are based on evidence using system-levels metrics. Further details are captured in the methodology document.

The September 2023 v1.1 release of *Arataki* includes updates to reflect the severe weather events of 2023 and correct minor errors.

Context



Waitaha – Canterbury



The population of Waitaha Canterbury is projected to grow from 650,000 to 780,000 by 2048, or 13% of the country's population.² The highest growth is forecast in Greater Christchurch and the surrounding district townships of Herewini Selwyn and Waimakariri.

Those aged 65 years and over will make up 24% of the Waitaha population by 2048; this is slightly higher than the national average of 23%.³ Providing good access for these residents is important so they remain socially connected, active, and able to participate in their communities.

In 2018, 59,400 Māori lived in Waitaha, making up 10% of the region's population.⁴ This is lower than the national rate of 16.5%.⁵ Most Māori live in Ōtautahi Christchurch, where they make up 10% of the city's population.⁶ The iwi in the Waitaha region is Ngāi Tahu.⁷

Te Ōhanga Māori 2018 Māori Economy includes information for the Waitaha rohe, which relates to regions of Te Tai o Poutini West Coast, Waitaha, Ōtākou Otago, and Murihiku Southland. It notes the asset base in this rohe is valued at \$9.3 billion.⁸ The primary sector and property sectors are important.⁹

Waitaha produces 57% of the South Island's GDP.¹⁰ Key industries contributing to the economy of Waitaha include construction, specialist manufacturing, primary production, and food processing. Economic activity is focused in and around Greater Christchurch, which is a major manufacturing and freight distribution centre.

Before the COVID-19 pandemic, Waitaha had the third largest tourism spend in the country, with 40% coming from international visitors.¹¹ Although Greater Christchurch will remain the primary South Island freight hub, the port at Te Tihi-o-Marū Timaru is expected to play a greater role in the freight system over time. Maintaining strong freight connections to Te Tai o Poutini will be critical for the region's communities and economy.

Dairy, sheep, and crop farming, along with food processing, are likely to remain important contributors to the regional economy. However, the transition to a low-emissions economy may result in changes to how land is used and affect future freight patterns.

The freight task in Waitaha in 2017-2018 was 43.6 million tonnes, or around 16% of the country's total.¹² A total of 96.3% of the freight task tonnage in Waitaha was moved by road, 2.5% by rail, and 1.1% by coastal shipping.¹³

Waitaha - Canterbury: Outlook



Significant transformation to the transport system of Waitaha will be needed over the next 30 years. Greater Christchurch will see the largest changes in population growth, so improvements to access and safety, while reducing emissions, will be a priority. With the urban area's strategic road network now complete, travel patterns need to change as the population grows to avoid increasing congestion and emissions.

It will be challenging to fund the new infrastructure and services required to keep pace with expected growth in Greater Christchurch. Climate change will make this even harder and put pressure on existing network maintenance.

Steps to make progress towards transport outcomes in a more efficient and cost-effective way include:

- renewing the focus on small-scale projects and getting more from existing infrastructure
- encouraging active modes and public transport by reallocating existing road space and making temporary or low-cost improvements
- influencing travel behaviour and growth patterns.

Even with these steps, more investment from a wider range of finance and funding sources, is required to achieve key goals. New sources should be investigated, especially where these incentivise growth or transport outcomes. This includes exploring road pricing for vehicle kilometres travelled (VKT) reduction and demand management in Ōtautahi Christchurch.

This section uses the *Transport Outcomes Framework* from Te Manatū Waka Ministry of Transport to support a ‘decide and provide’ approach to proactively plan the desired future state we want to achieve. Key challenges and opportunities are identified and discussed. Then we highlight the most important actions to be taken to make progress on each outcome.

Environmental sustainability

Challenges and opportunities

Waitaha will need to make an important contribution to reducing transport emissions, to reach the 2035 targets set in the government’s *Emissions Reduction Plan* and net-zero emissions by 2050. This includes a target to reduce total vehicle kilometres travelled (VKT) by our light vehicle fleet by 20% by 2035.¹⁴

As the main urban centre, Greater Christchurch presents the greatest opportunity to support national emissions reductions by providing alternative transport options and reducing the need to travel. This will require significant change to how people travel in a district focused on private car usage. Improving transport options and reducing traffic are not just important for meeting our climate commitments. They are vital for reducing congestion and making our transport system more safe, healthy, and inclusive for people of all ages and abilities.

Care is required to ensure efforts to reduce VKT don’t unfairly impact specific communities or groups.

We need to reduce freight transport carbon through:

- adopting lower-emitting fuels
- increasing mode share for rail and coastal shipping.

We must also reduce the impact of the region’s transport system on the local environment, especially its impacts on air pollution, waterways, and ecological systems. Contaminated stormwater runoff from roads must be treated before entering waterways. The impact of new and improved transport infrastructure on the natural environment must be appropriately managed.

Making progress

As a Tier 1 urban environment, Greater Christchurch will need to do much of the heavy lifting for the region, to contribute towards national vehicle kilometres travelled (VKT) reduction. This work will inform future planning and investment decision-making.

Ōtautahi Christchurch, and the surrounding towns, will need to carefully manage how the transport system addresses population growth by:

- providing reliable public transport
- ensuring quality infrastructure for walking and cycling
- encouraging travel by alternative modes, like implementing parking restrictions.

Key actions over the next 10 years to make progress on this outcome are:

- completing and implementing the *Greater Christchurch Spatial Plan* to encourage growth and urban development that reduces trip length and car dependency
- planning what interventions, activities, and investment are needed to achieve VKT and emissions reduction
- enabling and increasing mode shift through rapid and extensive changes to the allocation of space on existing roads and streets to accelerate delivery of public transport plus walking and cycling networks
- completing walking and cycling networks, with a focus on access into, and within, the central city from surrounding suburbs to key activity centres
- enabling safe journeys to schools by ensuring safe speeds in low-traffic neighbourhoods
- developing existing infrastructure to provide connected networks
- improving the quality of public transport through the Public Transport Futures programme – this includes improving coverage of existing public transport, progressing rapid transit in the northern and southwestern corridors, and exploring opportunities to use technology to deliver better services at lower costs
- more actively managing carparking at major destinations and employment areas, to increase use of public transport, walking, and cycling
- ensuring appropriate standards, policies, and regulations are in place to reduce the impact of the region’s transport system on the local environment
- supporting the implementation of key policies, such as vehicle fleet transformation to lower emissions, and the investigation of pricing tools.

Healthy and safe people

Challenges and opportunities

Waitaha Christchurch has a poor road safety record. Over the past three years, there have been over 300 annual deaths and serious injuries on the region's roads.¹⁵

Safety improvements should be focused in the urban area of Ōtautahi Christchurch and surrounding townships, SH1 between Ōtautahi and Te Tihi-o-Maru Timaru, and high-risk rural roads. Issues to be addressed include:

- speeding on high-risk roads
- not wearing seatbelts
- crashes at intersections
- crashes involving people walking and cycling.¹⁶

Efforts to improve road safety are guided by the *Road to Zero: New Zealand's Road Safety Strategy 2020–2030* and associated *Action Plan 2020–2022*, plus regional safety strategies.¹⁷

Ōtautahi has relatively well-developed cycling networks and some of the highest levels of cycling in Aotearoa New Zealand.¹⁸ Despite this, walking and cycling rates have declined substantially over recent decades, contributing to a lack of physical activity and subsequent health problems. These health issues, like obesity and diabetes, disproportionately impact some demographics. The harmful impacts of vehicle tailpipe pollutants on health, especially on the respiratory systems of our youngest, oldest, and most vulnerable, are much greater than previously realised.¹⁹

Significant progress on the healthy and safe people outcome will support environmental sustainability and inclusive access. Providing extensive networks of safe walking and cycling facilities will encourage more people to use these healthy and sustainable travel options. Similarly, a focus on reducing deaths and serious injuries for vulnerable road users will also encourage more people to walk and cycle.

Making progress

Continuing to realise safety plans and supporting dramatic changes to encourage walking and cycling will help the urban areas of Waitaha Canterbury. New approaches to planning, design, and delivery, along with significant investment, are needed to accelerate progress.

Key actions over the next 10 years to make progress on this outcome are:

- continuing safety improvements that target high-risk intersections, run-off road crashes, high-volume roads, high-risk rural roads, and high-risk motorcycle routes
- rapidly rolling out a well-connected cycling network, often through reallocation of existing road space to accommodate a cycling lane
- requiring high-quality active mode infrastructure be part of new developments
- encouraging and implementing regulatory changes that reduce harmful vehicle emissions and encourage use of zero-emissions vehicles
- continuing to manage transport system noise through planning and mitigation
- targeting road policing and behaviour change programmes with a focus on alcohol and drug impairment, speeding, and people not wearing seatbelts
- managing safe and appropriate speeds on high-risk rural roads – this includes targeted use of safety cameras to reduce speeding
- advocating for robust mobile network coverage in rural and regional areas.

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Inclusive access

Challenges and opportunities

The region's transport system struggles to provide people of all ages, abilities, and income levels with safe, sustainable, and reliable access to a variety of social and economic opportunities.

High reliance on private vehicles in Waitaha Canterbury creates several access challenges, including:

- creating difficulties for those without easy access to, and use, of a private vehicle to fully participate in society
- placing significant pressure on household budgets to meet the high costs of car ownership and use
- limiting people's ability to travel in a way that best meets their needs because of poor travel choice.

As the residential edges of Ōtautahi Christchurch and surrounding areas grow, it will be harder for people to access quality public transport options, community facilities, and employment opportunities. This may lead to an increase in private-vehicle dependency.

Rural communities need to access the key centres of Ōtautahi, Hakatere Ashburton, and Te Tihi-o-Maru Timaru for education, employment, and essential services. As the population ages, people's travel needs will change; there will be greater reliance on accessing health services, while fewer people will access education and employment.

Emerging technologies, such as on-demand shuttles, could provide a shared-transport option. These shuttles could help people in smaller towns and rural communities get around and improve access to services in larger centres. However, there still needs to be reasonable housing density for these to operate efficiently.

Improved access to high-quality data and information will allow better management of the transport system to get the most out of existing infrastructure. The growing popularity of online purchasing and home delivery will impact on-demand travel, including the movement of freight.

Making progress

Improving inclusive access will often align with making progress on other outcomes, especially where travel choice is improved, and car dependency reduced. However, there may be challenging trade-offs to consider, such as balancing increased travel costs to reduce emissions while ensuring lower-income families aren't unfairly impacted.

Key actions over the next 10 years to make progress on this outcome are:

- shaping planning rules and urban development decision making, especially through the *Greater Christchurch Spatial Plan* and supporting the An Accessible City programme in Ōtautahi Christchurch, to improve existing connections and expand local services at key locations – this will encourage more people to live in areas with better access to social and economic opportunities²⁰
- improving public transport services by implementing the *Public Transport Futures* plan in Greater Christchurch, expanding on-demand services where appropriate²¹
- exploring ways to improve the costs of public transport for lower-income households
- expanding and improving walking and cycling facilities, especially the completion of cycling networks in Greater Christchurch
- improving active mode facilities in smaller towns, so these low-cost, sustainable, and healthy travel options are safely used for more journeys
- ensuring transport infrastructure and services are designed and provided to meet the needs of people of all ages and abilities
- improving access to opportunities for iwi Māori, including access to sites of cultural significance
- exploring opportunities to support the mobile or digital delivery of essential services.



Rural communities need to access the key centres of Ōtautahi Christchurch, Hakatere Ashburton, and Te Tihi-o-Maru Timaru for education, employment, and essential services.

Economic prosperity

Challenges and opportunities

The transition to a low-emissions economy may mean changes to land use, such as for dairying, with flow-on effects for freight movement. While Greater Christchurch will remain the primary South Island freight hub, the port at Te Tihi-o-Maru Timaru is expected to play a larger role. Maintaining strong freight connections to Te Tai o Poutini West Coast will be critical for its communities and economy.

In the coming decades, technological change will have significant impacts on travel demand and on the Waitaha Canterbury economy. The COVID-19 pandemic accelerated working from home, while future developments could impact the type and location of work people do. Emerging technologies can improve freight safety and efficiency, while better use of available data can improve freight efficiency and network management.

Transport planning will need to be flexible in response to these changes, recognising high levels of uncertainty around the nature and location of future jobs and the impact of this on travel patterns.



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Making progress

Economic productivity and business competitiveness in Waitaha Canterbury can be improved by a transport system that provides:

- a range of travel options with wide capacity
- reliable journey times
- safe and low-cost ways of getting around.

Key actions over the next 10 years to make progress on this outcome are:

- improving access to social and economic opportunities, especially by walking and cycling in Greater Christchurch and other regional towns
- supporting the ongoing renewal of the central area of Ōtautahi Christchurch as the South Island's largest employment hub, through ongoing investment in access and amenity improvements, including the progressive implementation of rapid transit
- supporting resilient, reliable, and efficient freight and business travel around key parts of the network, especially around interregional connections and to key freight and industrial hubs
- managing increased transport costs in a way that doesn't negatively impact economic activity
- supporting the continued development of key economic centres by improving access and amenity (attractiveness) for local residents
- supporting improved accessibility to local and town centres to better enable them to flourish and provide for the day-to-day needs of residents
- exploring opportunities to move to a multimodal freight system through greater use of rail and coastal shipping.

Resilience and security

Challenges and opportunities

The next 30 years will see a growing risk of damage to road and rail networks because of increased rain and storm intensity, coastal and soil erosion, sea level rise, flooding, slips, and storm surges.²²

The Waitaha Canterbury plains are already prone to flooding because of intense rainfall in the Southern Alps. There are only two road crossings over each of the region's three largest rivers - Waimakariri, Rakaia, and Rangitata. Closures of these bridge crossings result in long detours.

Hotter, drier summers will increase the risks of drought and wild fires. Recent history has clearly shown the region's significant seismic risk.

More extreme weather events and the need to make the transport system resilient to a variety of natural disasters will require a greater effort than ever to look after existing assets and maintain current levels of access and connectivity. There is a major opportunity to progress multiple outcomes by investing in maintenance and renewals, but this requires changes to current practices and increased funding.

To be resilient, the region's transport system must adapt to uncertainty and rapid change. For example, in recent years the popularity of e-scooters and then the need for social distancing during the COVID-19 pandemic highlighted:

- a need for more adaptable approaches to road space management
- unexpected benefits from past improvements to walking and cycling facilities.

Rapidly fluctuating fuel prices throughout 2022, caused by international events, also emphasised the need to reduce dependency on fossil fuel.


There is a strong dependency on private vehicles and road freight in the region. Encouraging and providing alternative travel modes can unlock vehicle reliance and boost resilience.

Making progress

To improve resilience in Waitaha Canterbury, the transport system needs an ongoing focus on maintaining existing assets along with targeted improvements to reduce risks. We also need to expand our understanding of resilience in a highly complex urban environment, to ensure planning work is flexible and adaptable to change.

Key actions over the next 10 years to make progress on this outcome are:

- continuing design and planning work to identify and prioritise responses to natural hazards in high-risk areas - this includes working with communities to identify plans for when to defend, accommodate, or retreat
- understanding road, rail, and shipping routes that provide critical connections, the condition of these, the pressures, and the level of investment needed to address impacts - this includes assessments to identify priorities for network resilience
- engaging in local planning processes to avoid infrastructure and development in areas at increased risk of natural hazards and climate change
- completing strategic road improvements to the north and south of Greater Christchurch to reduce conflicting movements and improve network resilience
- seeking continuous improvement in network resilience through maintenance, renewals, and 'low cost/low risk' investments
- improving operational responses to events to support quick recovery following disruption to the land transport system
- supporting phase two of the An Accessible City programme
- shifting to more adaptable 'scenarios-based' planning
- improving personal security for people using the region's transport system.



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Greater Christchurch : Urban focus



Greater Christchurch: South Island's largest centre

For the geographic area of Greater Christchurch, Arataki uses the Our Space definition.²³ This area includes the city of Ōtautahi Christchurch and the surrounding satellite towns from Rangiora in the north, to Tauwharekākaho Rolleston and Rikona Lincoln in the south.

The Greater Christchurch population is expected to grow from about 450,000 to more than 640,000 people by 2048, placing greater demand on the transport network.²⁴

Our Space – integrating land use and transport planning

The Greater Christchurch Partnership developed Our Space in 2019. It provides an integrated plan for the delivery of housing, business land, and infrastructure across Greater Christchurch through to 2048.

In the later decades of the plan, there will be a stronger focus on redevelopment and concentration of existing urban areas. This builds on renewal and initiatives to make places better (place-making) in central parts of Ōtautahi Christchurch and suburban centres.

During the next 30 years, 65% of forecast growth is expected to be in Ōtautahi, 20% in Selwyn District, and 15% in Waimakariri District. Our Place anticipates there will be 20,000 people living in the central city by 2028, up from 6,000 in 2018. A total of 67,000 more jobs are forecast by 2048, with 89% of these in Ōtautahi.

Most growth in the surrounding districts is mostly through greenfield expansion (development in undeveloped areas) in the towns of Tauwharekākaho Rolleston, Rangiora, and Kaiapoi. The aim is to make these areas more self-sufficient, by reducing travel to Ōtautahi to access jobs and essential services.

As the region's principal commercial hub, the central city will see ongoing development of business and activity centres for local communities.

Our Space anticipates a transformation of the land transport system to foster much higher rates of public and active transport usage (including rapid transit services) and reduced reliance on private vehicles.

Joint work is underway between local and central government and iwi on a spatial plan for the Greater Christchurch area. It will provide a future vision for the city and its communities, to realise the National Policy Statement on Urban Development 2020 (NPS-UD).

Key challenges

Regional earthquakes in 2010 and 2011 had a significant impact on the patterns of population and employment in Greater Christchurch. People and jobs migrated to the fringes of the central city, and to larger towns in the Selwyn and Waimakariri districts.

Recent years have seen businesses and workers return to central Ōtautahi Christchurch, helping to restore it as the region's principal commercial hub.

The key strategic challenges for Ōtautahi Christchurch are to:

- tackle climate change
- reshape the city's urban layout to increase housing supply and affordability in a way that supports other outcomes.



As the region's principal commercial hub, the central city will see ongoing development of business and activity centres for local communities.

Climate change

Transformational change is required to improve urban form, offer better transport options, and manage demand for travel by cars. These changes can also deliver benefits beyond reducing emissions, like:

- improved travel choice and accessibility
- better health and safety
- more network resilience
- reliable travel times.

While the proposed direction is ambitious, it comes with significant challenges. One percent of trips are made by public transport in Greater Christchurch.²⁵ The city isn't well positioned to grow public transport use because of a strong culture of car use combined with people and jobs that are geographically spread out.

However, Ōtautahi Christchurch is well positioned to support active mode use because of:

- flat terrain
- distribution of employment
- retail services and education
- high-quality connections into and within the city centre.

Significant investment in the Major Cycleway network continues to encourage active travel. Cycling makes up 3% of trips in Ōtautahi, which is double the average across all Tier 1 centres.²⁶

The impacts of climate change, such as seaside flooding, are expected to be felt in low-lying coastal areas and along the lower areas of the Styx, Avon, and Heathcote rivers.

Reshaping the urban form of Greater Christchurch

To reach its transport goals, Greater Christchurch must deliver high-density housing along the main public transport corridors, with a focus on rapid transit corridors, while encouraging a shift away from private vehicles. Changes in urban form, land use planning, and transport investment must happen faster to reduce emissions, achieve mode-shift goals, and make communities better places to live.

Transport contributes to making places better (placemaking), through tools like the One Network Framework. This work requires more collaboration and coordination between iwi, local government, and central government.

As part of the *Greater Christchurch Spatial Plan* process, several urban forms were evaluated.²⁷ The best form was a compact scenario, focused on greater concentration near centres and along transit corridors. However, this form still won't achieve the emission reduction targets. This means demand management measures, including transport pricing, must be considered.

Over half the jobs in Greater Christchurch are located along the corridor that runs from Hornby to the city centre. Our Space identifies a potential rapid transit connection from the city centre to Hornby, and on to Tauwharekākaho Rolleston, to make it easier for people to access jobs and services. A second potential rapid transit corridor extends from the city centre to Belfast (via Papanui) and continues to townships north of the Waimakariri River. If supported by transport demand management tools and high-density development along the high-demand corridors, investment in rapid transit could deliver:

- significant increases in public transport use
- improved access to jobs, services, and education
- reduced reliance on private vehicles.

Waitaha - Canterbury: Focusing our efforts



The transport challenges for Waitaha Canterbury need to be tackled in a cohesive way for efficient and effective progress.

The directions below identify the most important issues to be resolved over the next 10 years to make progress towards transport outcomes.

- Support, enable, and encourage growth and development in areas that have good travel choices and shorter average trip lengths through the Greater Christchurch Partnership and spatial planning work.
- Accelerate the delivery of walking and cycling networks predominantly through reshaping existing streets, to make these options safe and attractive.
- Implement the Public Transport Futures programme, starting with bus services and infrastructure improvements; confirm the design and timing of rapid transit along the corridors in the north and southwest of Greater Christchurch.
- Explore new and emerging technologies, such as on-demand services, to improve access to social and economic opportunities.
- Better understand the impact of future economic transformation on travel patterns and freight volumes
- Explore opportunities to move to a more multimodal freight system with greater use of rail and coastal shipping.
- Confirm how key resilience risks will be addressed over time, and work with communities to identify plans for when to defend, accommodate, or retreat.
- Continue to implement road safety plans and programmes including those focused for iwi Māori.
- Improve or maintain, as appropriate, physical access to marae, papakāinga, wāhi tapu and wāhi taonga.
- Reduce financial and other barriers to iwi Māori getting a driver's licence in areas not well served by public transport.

These will be updated over time to focus effort on the most critical matters.

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