Arataki

Regional direction
Murihiku – Southland
September 2023 v1.1

WAKA KOTAHI
NZ TRANSPORT
AGENCY

Te Kāwanatanga o Aotearoa
New Zealand Government

At a glance

Murihiku Southland is the southern-most region of Aotearoa New Zealand with just over 97,000 residents.[1] As the largest urban centre, Waihōpai Invercargill provides most core services for the wider region, including the main hospital and tertiary education.

Low population growth is projected for the whole region up to 2043. There's unlikely to be pressure on urban development in Waihōpai or the wider Murihiku region.

The region relies heavily on its extensive road networks to support rural production and tourist movement around the region.

There is good capacity on the existing network and opportunities for increased rail freight. In some areas, ageing infrastructure, especially bridges, may impact network efficiency and reliability.

The region will be increasingly affected by flooding and erosion along coastal roads and low-lying areas around Motupōhue Bluff. Inland routes, including the road to Piopiotahi Milford Sound, will be affected by extreme weather events like increased rainfall and rockfall from reduced snow falls. There are also significant natural hazards risks, such as the Alpine Fault.

There is a high reliance on private vehicles for most travel needs across the region. There is a significant opportunity to build on below average rates of walking and cycling in Waihōpai, supported by ongoing investment in safe and attractive facilities. Active modes are likely to be the primary way to reduce vehicle kilometres travelled (VKT). Increasing the share of freight moved by rail and coastal shipping will also have an important role to play in reducing emissions.

Other critical transport challenges facing the region over the next three decades include safety, resilience, and supporting the transition to a low-carbon economy.

Scale of effort to deliver outcomes in Murihiku – Southland
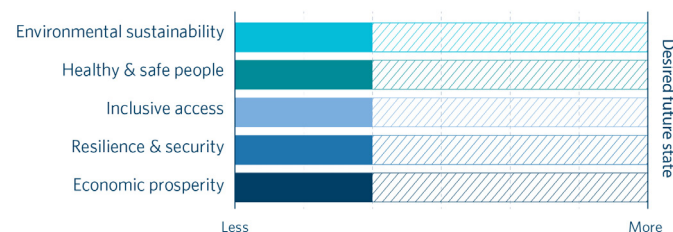
The regional ratings show how Waka Kotahi has assessed the potential scale of effort required in each region to achieve the future desired state for each outcome over the next 10 years. The ratings in each region indicate where effort can be best focused and inform conversations with partners about priority outcomes in each region.
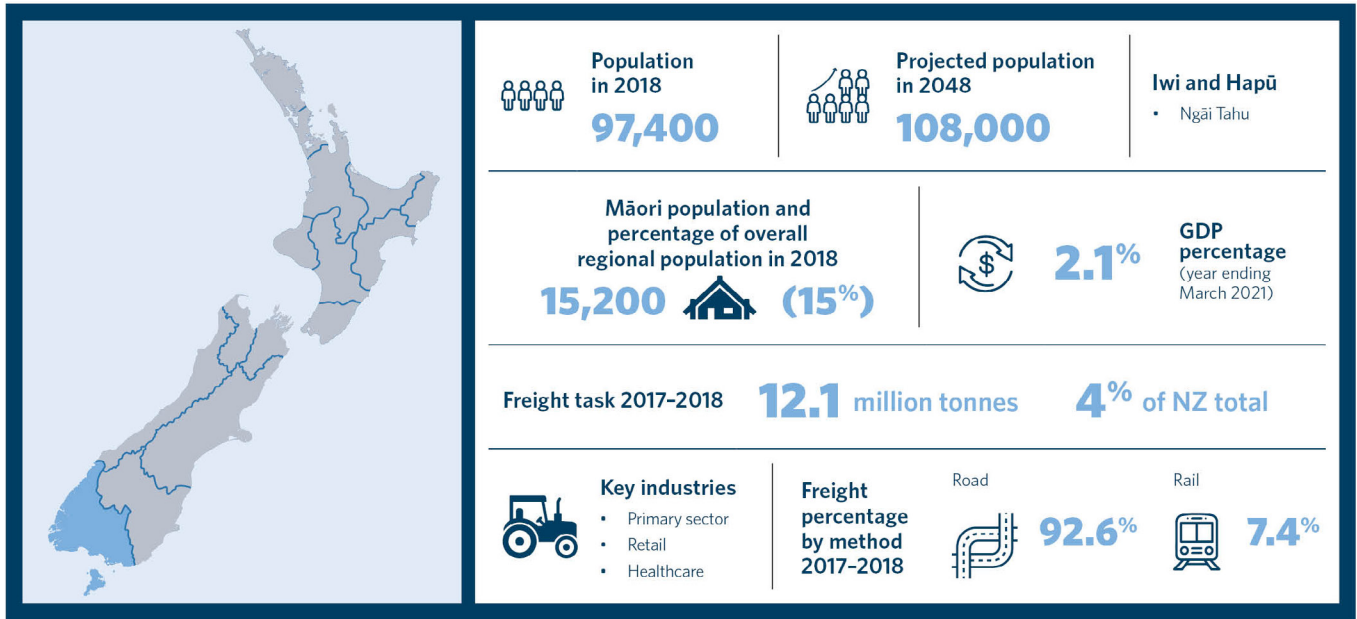
The rating assessments are based on evidence using system-levels metrics. Further details are captured in the methodology document.

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

Context

Murihiku – Southland

Population in 2018
97,400

Projected population in 2048
108,000

Iwi and Hapū
• Ngāi Tahu

Māori population and percentage of overall regional population in 2018
15,200 (15%)

GDP percentage (year ending March 2021)
2.1%

Freight task 2017–2018 12.1 million tonnes 4% of NZ total

Key industries
• Primary sector
• Retail
• Healthcare

Freight percentage by method 2017–2018
Road 92.6%
Rail 7.4%

The population of Murihiku Southland is projected to grow from 97,400 to about 108,000 by 2048, or 2% of the country's population.[2] Low population growth means there is unlikely to be urban development pressure in Waihōpai Invercargill or the wider Murihiku district.

By 2048, residents aged over 65 are projected to make up 27% of the Murihiku, higher than the national average of 23%.[3] Providing good access for residents over 65 will be important to ensure they remain socially connected, active, and able to participate in their communities.

In 2018, 15,200 Māori lived in Murihiku, making up 15% of the region's population.[4] This is lower than the national rate of 16.5%.[5] Most Māori live in Waihōpai, where they make up 18% of the city's population.[6] The iwi in the Murihiku region is Ngāi Tahu.[7]

Te Ōhanga Māori - The Māori Economy 2018 includes information for the Waitaha rohe, which relates to Ōtākou, Waitaha Canterbury, Te Tai o Poutini West Coast, and Murihiku Southland regions. It notes the asset base in this rohe is valued at $9.3 billion.[8] The primary sector and property are both important.[9] The Waitaha rohe has the highest number of Māori self-employed (13%) and employers (17%).[10]

Murihiku has an extensive network of state highways and local roads, as well as a rail freight connection linking Waihōpai and Ōtepoti Dunedin. As a rural-based economy, these networks are critical for moving goods to production centres and on to domestic and international markets.

Two key connections in and out of the region are the:
• freight movement north to Ōtepoti/Koputai Port Chalmers
• tourist connection to Tāhuna Queenstown.

The realignment of SH1 at Edendale in Murihiku provides safer and improved access for the community.

Employment growth in the region's core primary sectors is expected to continue through to 2030. Retail and healthcare are also expected to remain important employers. As a result, access for freight and the transport connection to South Port will continue to be important.

As the largest urban centre in the region, Waihōpai provides most of the core services for the wider region, including the main hospital and tertiary education. South Port in Motupōhue Bluff is the country's seventh largest port by volume, primarily handling bulk, non-containerised goods.[11] It also provides an important tourist gateway to Rakiura Stewart Island.

The freight task in Murihiku in 2017–2018 was 12.1 million tonnes, or around 4% of the country's total.[12] A total of 92.6% of the freight task tonnage in Murihiku was moved by road and 7.4% by rail.[13] Primary sector commodities produced in Murihiku, representing 5% of more of the country's total in 2017–2018, were:

• Coal – 571,300 tonnes, or 17.6% of the country's coal production
• Meat – 120,000 tonnes, or 10.5% of the country's meat and meat products production
• Milk – 2.7 billion litres, or 12.8% of the country's milk production
• Wool – 20,301 tonnes, or 14.5% of the country's wool production.[14]

Murihiku – Southland: Outlook

While there is expected to be little population growth in Murihiku Southland, its economy is likely to shift significantly as Aotearoa New Zealand transitions to a low-carbon future.

Over the next three decades, key changes to Murihiku are:

- supporting the country's economic transformation
- making improvements to safety
- maintaining journey reliability
- improving accessibility for an ageing population.

The ageing population and higher proportion of residents on fixed incomes is likely to put pressure on the region's ability to:

- maintain existing networks
- fund new infrastructure
- provide appropriate services.

Climate change will make this even harder.

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
- reallocating existing road space and making temporary or low-cost improvements
- applying a better understanding of climate adaptation to transport assets – this will help manage risks and uncertainty, and support communities to adapt.

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 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

Murihiku Southland will need to contribute to reducing transport emissions, to reach the 2035 targets set in the government's *Emissions Reduction Plan* and net-zero emissions by 2050.[15]

As the main urban centre, Murihiku presents the greatest opportunity to support national emissions reductions by providing alternative transport options and reducing the need to travel. This will require a significant change to how people travel in an urban centre with high levels of private vehicle use. This requires an increased focus on effective integration of land-use and transport to:

- reduce the need to travel
- shorten trip lengths
- support mode shift to reduce emissions.

Care is required to ensure efforts to reduce vehicle kilometres travelled (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

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

- ensuring appropriate standards, policies, and regulations are put in place to reduce the impact of the transport system on the local environment
- encouraging growth and development that supports compact, mixed-use urban form, reduces trip length, and lessens car dependency
- focusing transport planning towards interventions and investments that support emissions-reduction goals
- investigating changes to the allocation of space on existing roads and streets to enable and increase mode shift to public transport, walking, and cycling
- continuing to improve public transport services; this includes exploring the potential for on-demand services and ways technology can help 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 for trips to these locations
- identifying opportunities for smaller projects that can improve system outcomes, like getting the most from the existing network.

> **To minimise congestion and support national emissions targets, there will need to be significant change to how people travel in Murihiku.**

Healthy and safe people

Challenges and opportunities

Crashes in the region highlight the need to focus on Waihōpai Invercargill and surrounding areas and high-risk rural roads.[16] Murihiku Southland has safety issues around:

- run-off road and head-on crashes
- crashes at intersections
- speeding
- crashes involving vulnerable users, like people cycling or walking.[17]

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, and regional safety strategies.[18]

Murihiku has low rates of walking and cycling because of incomplete networks. Lack of physical activity contributes to many health problems, like obesity and diabetes. These problems 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 Murihiku. 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 targeting high-risk intersections, run-off road crashes, and head-on crashes on high-risk rural roads
- rapidly rolling out a well-connected, separated cycling network predominantly through the reallocation of existing street space
- requiring high-quality active mode infrastructure to be part of new developments
- encouraging and implementing regulatory changes that reduce harmful vehicle emissions and encourage the 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
- improving safety for visiting drivers, like improved signage and markings, and providing safe journeys through to Piopiotahi Milford Sound
- advocating for robust mobile network coverage in rural and regional areas.

Continuing to realise safety plans and supporting dramatic changes to encourage walking and cycling will help the urban areas of Murihiku.

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 wide variety of social and economic opportunities.

A high reliance on private vehicles 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.

Regional and rural communities need to access key centres, such as Waihōpai Invercargill and Ōtepoti Dunedin, for education, employment, and essential services. As the population of Murihiku Southland ages, travel needs will change; there will be a greater need to access health services, and less need to access education and employment.

Emerging technologies, such as on-demand shuttles, could provide a shared-transport option. These would help people get around smaller towns and rural communities, and improve access to services in Waihōpai and Ōtepoti.

Improved access to high-quality data and information will allow better management of the transport system to get the most out of existing infrastructure.

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 to enable and encourage more people to live in areas with better existing access to social and economic opportunities
- improving public transport services, and expanding on-demand services where appropriate
- exploring opportunities to improve the affordability of public transport for lower-income households
- expanding and improving walking and cycling facilities, so low cost, sustainable, healthy travel options are safe and attractive 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.

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

Economic prosperity

Challenges and opportunities

There is uncertainty regarding future trends, particularly the number of international visitors to the region. However, access to Piopiotahi Milford Sound and Tāhuna Queenstown will likely remain a focus.

The Milford Opportunities Project is a multi-agency approach to look at how future visitors are managed at Piopiotahi and along the Milford Road corridor.

Access for freight and the transport connections to South Port will continue to be important.

The *Southland Regional Development Strategy Action Plan* identifies where transport can support economic growth in the region with a focus on two key areas:

- supporting the tourist industry through enhanced visitor experiences, corridor improvements, and increased visitor information
- providing safe and reliable connections within the region, and north to Tāhuna and Ōtepoti Dunedin.[20]

Over the next three decades, the transition to a low-emissions economy in line with the Climate Change Response (Zero Carbon) Amendment Act will mean significant change to the region's economy. Transport has a role to support this change. It must also be flexible to the evolving nature and direction of freight movement.

The region's large network is important for freight, but its ability to afford this will depend to a degree on the performance of primary industries. There will be greater pressure on local government to maintain infrastructure and provide services because of projected slow regional growth and an increasing number of people living on fixed incomes. Looking to 2030, councils in the region will face increased maintenance and renewal of assets, such as ageing bridges. The increasing impacts of climate change will make this even harder.

Technological change will have significant impacts on demand for travel and on the economy of Murihiku Southland. The COVID-19 pandemic accelerated working from home, while future developments, like artificial intelligence and automation, could have an impact on the type and location of work people do.

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.

Making progress

Economic productivity and business competitiveness in the region 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 Waihōpai Invercargill and other regional towns
- 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
- exploring opportunities to move to a more multimodal freight system with greater use of rail and coastal shipping
- 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)
- supporting improved accessibility in local and town centres to allow these areas to flourish and better provide for the needs of residents.

> There is uncertainty regarding future trends, particularly the number of international visitors to the region. However, access to Piopiotahi Milford Sound and Tāhuna Queenstown will likely remain a focus.

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.[21] The region will see increased flooding and erosion along coastal roads and low-lying areas around Motupōhue Bluff. However, compared to other regions, Murihiku Southland only has a small number of significant resilience issues.

The biggest challenge relates to a coastal section of SH1 where flooding at high tide can result in traffic lanes submerged by over 70 millimetres; this affects all traffic, but especially freight access to South Port.

Inland routes, such as the road to Piopiotahi Milford Sound, will be affected by more extreme weather events like heavier rainfall, landslides, and increased rockfall from reduced snow falls. This is combined with significant natural hazard risks, including the Alpine Fault. The Milford Rockfall/Avalanche Protection Programme will investigate improved ways to reduce the risk of closure of one of the country's premier tourist corridors, SH94 between Te Anau and Piopiotahi Milford Sound.

More than ever, there must be a greater focus on maintaining existing assets at 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 be able to adapt to uncertainty and rapid change. For example, in recent years the popularity of e-bikes 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.

Making progress

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 urban environments, 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
- continuing work to better understand routes that provide critical connections, the conditions of these, the pressures, and the level of investment needed to address impacts – this includes identifying priorities for network resilience
- engaging in local planning processes to avoid infrastructure and development in areas at risk of natural hazards and climate change
- 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
- shifting to more adaptable 'scenarios-based' planning
- improving the safety and resilience of Homer Tunnel and investigating a long-term solution.

> Inland routes, such as the road to Piopiotahi Milford Sound, will be affected by more extreme weather events like heavier rainfall, landslides, and increased rockfall from reduced snow falls.

Murihiku – Southland: Focusing our efforts

For efficient and effective progress, transport challenges in the region must be tackled in a cohesive way. The directions below identify the most important issues to be resolved over the next 10 years to make progress towards transport outcomes.

- Begin to reduce vehicle kilometres travelled (VKT), focusing on Waihōpai Invercargill, in a way that's fair, equitable, and improves quality of life.
- Enable and support the transition to a low-carbon economy.
- Maintain and improve the resilience and efficiency of interregional connections to the north and south.
- Improve access to social and economic opportunities, especially by public transport, walking, and cycling.
- Significantly reduce the harm caused by the transport system, especially through improved road safety and reduced pollutants dangerous to health.
- Support, enable, and encourage growth and development in areas that already have good travel choices and shorter average trip lengths.
- Rapidly accelerate the delivery of walking and cycling networks, predominantly through reshaping existing streets, to make these options safe and attractive.
- Explore the potential for 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.
- Continue involvement in the Milford Opportunities Project to encourage resilience, tourism, safety, and mode shift for the Milford corridor, and surrounding region.
- Confirm how resilience risks will be addressed over time, and work with communities to plan 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.

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

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