



# State highway assessment for Wellington Region housing and business development capacity assessment

December 2022

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# Introduction

This report is the assessment of the state highway network for the Wellington Region Housing and Business Development Capacity Assessment (HBA), covering Wellington-Wairarapa-Horowhenua area.

This report has been produced to satisfy the requirements under clause 3.5 and 3.21 of the National Policy Statement on Urban Development 2020 (NPS UD). These clauses require local authorities to seek comment from infrastructure providers and be satisfied that infrastructure to service development capacity is likely to be available when producing the HBA.

Waka Kotahi NZ Transport Agency (Waka Kotahi) is the Crown entity responsible for the state highway network. Waka Kotahi also has a broad remit to ensure the transport system as a whole is integrated, safe, responsive, sustainable, and affordable.

The state highway network is a key component of the wider transport network which enables access to social and economic opportunities and the movement of goods.

Overall, the state highway network can service development capacity identified in the Wellington region and Horowhenua District, although site-specific assessments before the development stage are needed to ensure there are no adverse effects on safety or state highway functions.

While development capacity can be serviced, the transport system is expected to reduce its Vehicle Kilometres Travelled (VKT) in order to reduce carbon emissions. This will require mode shift, and changes in land-use and urban form to integrate public transport and active transport modes.

## Policy and strategy context for Waka Kotahi in Wellington

This section outlines the policy context and strategic drivers for Waka Kotahi. Other policies and strategic drivers also impact transport in the region such as the Regional Land Transport Plan (RLTP) and Regional Public Transport Plan (RPTP) from Greater Wellington Regional Council (GWRC) and Horizons Regional Council, and local roading plans, walking and cycling strategies, and parking policies. Waka Kotahi partners with councils to work across these to provide integrated transport outcomes.

### Land Transport Management Act 2003

The Land Transport Management Act 2003 (LTMA) establishes Waka Kotahi as a Crown entity with the objective to undertake its functions in a way that contributes to an effective, efficient, and safe land transport system in the public interest.

The functions of Waka Kotahi outlined in the LTMA include managing the state highway system, including planning, funding, designing, supervision, construction, maintenance, and operation.

To contribute to an effective efficient and safe land transport system, Waka Kotahi partners with local councils to integrate land-use and transport planning, using a whole-of-system approach encompassing all transport modes and system levers.

### Transport Outcomes Framework

The Transport Outcomes Framework is a framework developed by the Ministry of Transport to give long-term direction to the transport sector. The Framework sets a purpose for the transport system centred around improving the wellbeing of New Zealanders and the liveability of places.

It outlines five outcome areas to contribute to this purpose:

- Inclusive access
- Healthy and safe people
- Economic prosperity
- Environmental sustainability
- Resilience and security.

The Framework clarifies what the transport sector is aiming to achieve, why this is important, and how we will work together to achieve our goals. However, it does not set out specific interventions to deliver the outcomes. Rather it provides a framework for assessing the effectiveness of policy and ensures all forms of transport are considered when planning, investment and regulatory decisions are made.

### **Government Policy Statement on land transport**

The Government Policy Statement on land transport (GPS) sets the government's priorities for land transport investment over a 10-year period. Waka Kotahi must give effect to the GPS by planning and investing to align with the strategic priorities set by the GPS.

The current GPS identifies four priorities for the land transport system:

- Safety
- Better travel options
- Climate change
- Improving freight connections

### **Emissions Reduction Plan**

The Emissions Reduction Plan (ERP) is the government's plan to reduce carbon emissions in line with emissions budgets set to limit global temperature rise to 1.5°C above pre-industrial levels.

The ERP contains strategies, policies, targets, and actions by sector. The transport sector is named along with a list of actions with lead organisations and supporting organisations.

Key targets for the transport sector from the ERP include:

- Target 1 – Reduce total kilometres travelled by the light fleet by 20 per cent by 2035 through improved urban form and providing better travel options, particularly in our largest cities.
- Target 2 – Increase zero-emissions vehicles to 30 per cent of the light fleet by 2035.
- Target 3 – Reduce emissions from freight transport by 35 per cent by 2035
- Target 4 – Reduce the emissions intensity of transport fuel by 10 per cent by 2035.

Integrating land-use and transport is a key theme for the transport sector in the ERP, with several actions involving Waka Kotahi, councils, and other agencies such as:

- Better integrate transport planning and land use planning through the resource management reforms.
- Identify ways to incentivise developments that avoid/reduce the need to travel and encourage travel by public transport, walking and cycling.
- Assess spatial plans to understand emissions implications and key risks and opportunities for reducing emissions.
- Require new investments for transport projects to demonstrate how they will contribute to emissions-reduction objectives and set a high threshold for approving new investments for any transport projects if they are inconsistent with emissions-reduction objectives.

### **Arataki 30-Year Plan**

Arataki, the 30-year plan is a long-term view for Waka Kotahi. It details what the land transport system needs to look like in 30 years to support the wellbeing, growth, and economic prosperity of New Zealand. Arataki looks at what Waka Kotahi and its partners will do in response, both to deliver for the future and on the government’s long-term priorities for the transport system.

### Urban Development role and position

Waka Kotahi has recently confirmed its ‘role and position’ on urban form and development:

“We actively support, enable, and encourage quality, mixed-use, compact urban development that efficiently uses land, reduces travel distances, and lowers reliance on private vehicles to enhance people’s lives”

This position will help guide decision-making so that urban development better supports achieving the transport outcomes and priorities that have been set for us by the government.

## State highway network overview

This section provides an overview of the current state highway network in the Wellington-Wairarapa-Horowhenua region.

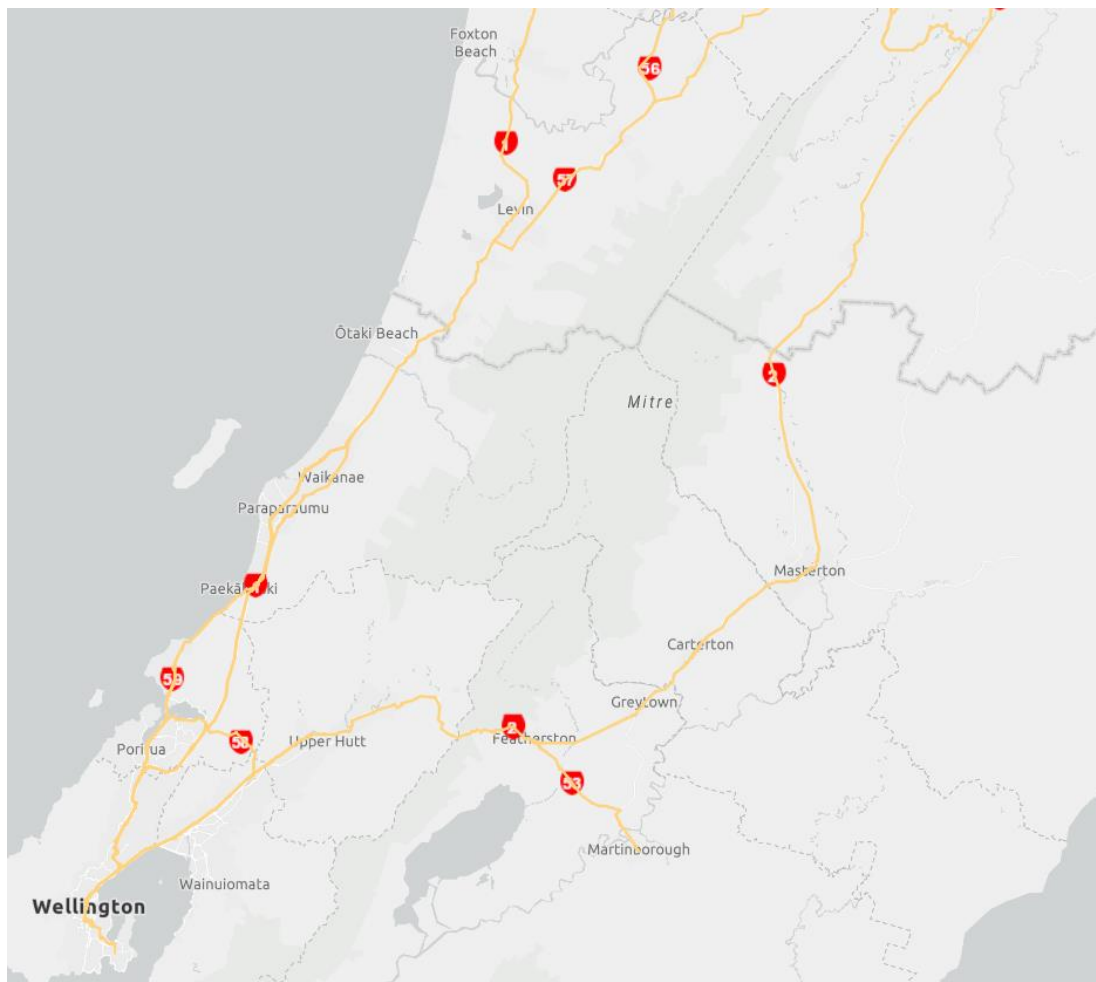


Figure 1 Extent of state highway network in Wellington-Wairarapa-Horowhenua region

Figure 1 above shows the extent of the state highway network across the region.

Figures 2 to 4 show the state highway network current state role and function using the One Network Framework (ONF). The ONF is a tool to help establish priority uses, performance measures and potential interventions for each road and street type. The ONF uses movement and place functions to categorise roads and streets. Table 1 provides a description of the state highway in each local authority using ONF categories. A brief explanation of each ONF category relevant to the state highway network is provided in appendix 1.

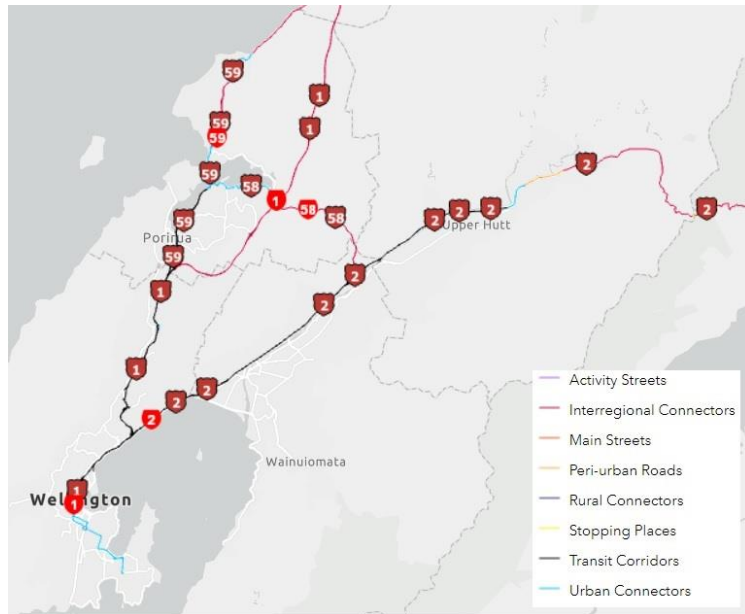


Figure 2 State highway network One Network Framework category for Wellington, Porirua, Lower Hutt and Upper Hutt

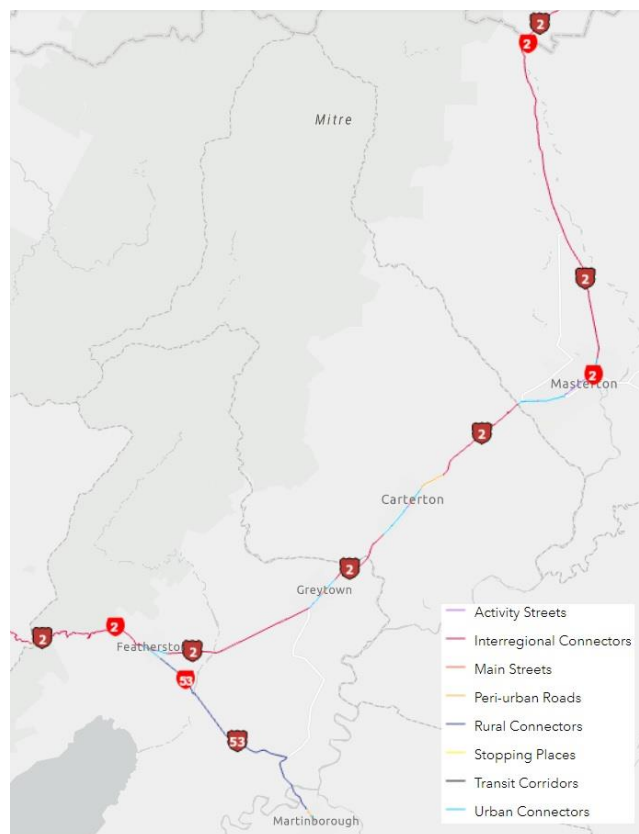


Figure 3 State highway network One Network Framework category for the Wairarapa

Table 1 Description of state highway network by council area

Council area	State highway description
Wellington City	The main extent of highway in Wellington is SH1, with SH2 running from Ngāuranga to Petone. SH1 extends from Wellington Airport to Tawa and Porirua. SH1 is mainly transit corridor from Tawa to the Terrace Tunnel. From the Terrace Tunnel to Wellington Airport, SH1 functions as an urban connector.
Porirua City	SH1 Transmission Gully and SH59 extend north to south through Porirua, while SH58 runs west to east connecting Porirua to the Hutt Valley. SH1 functions as an interregional connector. SH59 mainly functions as a transit corridor through the city, while from Paremata to Kāpiti it functions as an interregional connector or urban connector when passing through residential areas.
Lower Hutt City	SH2 extends the length of Hutt City from Petone to Upper Hutt, functioning as a transit corridor. SH58 also extends a short way through Haywards Hill to an interchange with SH2 at Manor Park.
Upper Hutt City	SH2 traverses Upper Hutt connecting to Hutt City and the Wairarapa. South from Hutt City to Māoribank, SH2 functions as a transit corridor. SH2 changes to an urban connector through to Timberlea, then a peri-urban road to Te Mārua, and from there to Remutaka hill an interregional connector.
South Wairarapa District	SH2 runs from Remutaka Hill to Featherston and Greytown and connects the Wairarapa together. SH2 mainly functions as an interregional connector between towns. However, within and near towns SH2 functions variably as an urban connector, main street, and activity street. SH53 functions as a rural connector and functions as a peri-urban road and main street near Martinborough.
Carterton District	SH2 connects Carterton to Greytown and Masterton. SH2 functions as an interregional connector outside of Carterton township, and an urban connector, peri-urban road, main street, and activity street at various points in and around Carterton.
Masterton District	SH2 connects Masterton to Carterton in the south and Tararua District to the north. In and around Masterton, SH2 functions as an urban connector or an activity street. North of Masterton, SH2 functions as an interregional connector.
Kāpiti District	SH1 Kāpiti Expressway traverses Kāpiti District north to south, functioning as an interregional connector. SH59 extends briefly into Kāpiti from Porirua before converging with SH1 at Mackays Crossing.
Horowhenua District	SH1, SH56, and SH57 connect Horowhenua north and south to the Central North Island and Wellington. SH1 and SH57 function as interregional connectors, or as urban connectors and activity streets through the district's townships. Through Levin, SH1 also functions as a main street. SH56 solely functions as a rural connector.

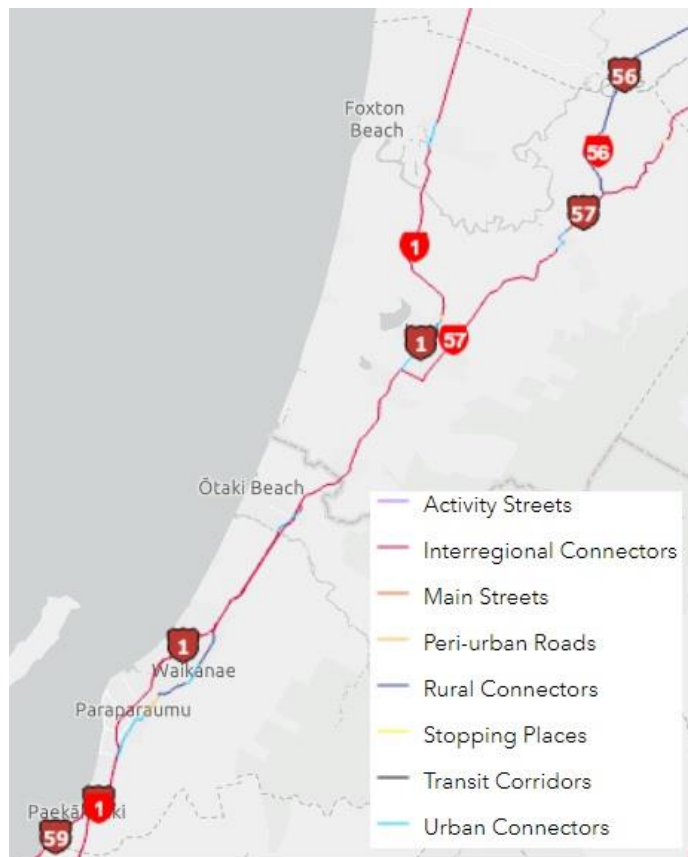


Figure 4 State highway network One Network Framework category for Kāpiti and Horowhenua

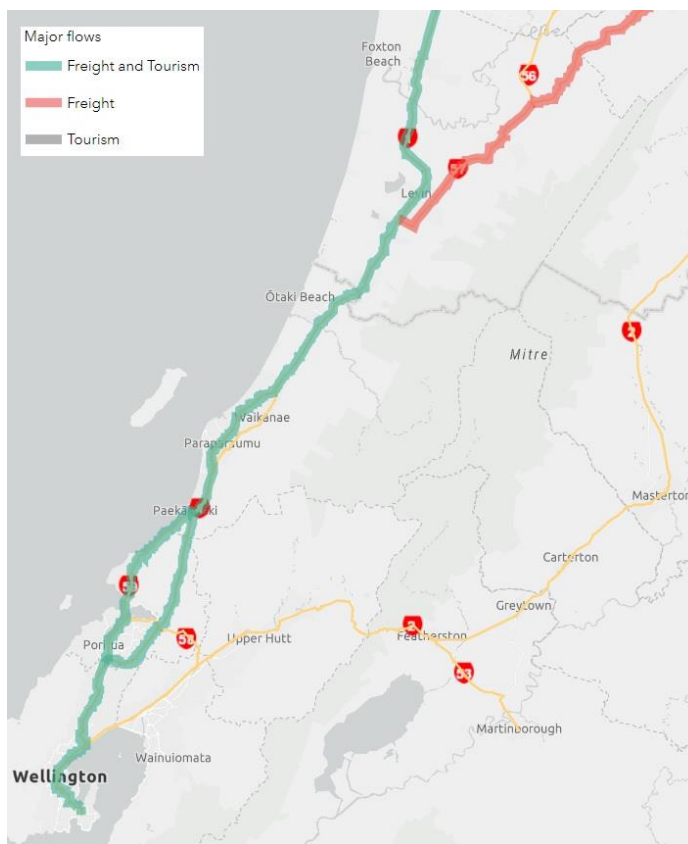


Figure 5 Nationally significant freight and tourism flows for state highway network travel



Figure 5 above shows the nationally significant freight and tourism flows for the state highway network in the region. The region relies heavily on SH1 and SH2 for moving people and freight, both to the Central North Island and to the South Island through ferry connections.

The freight task in Wellington in 2017/18 was 11.2 million tonnes, or around 4% of the New Zealand total. 95.5% of the freight task tonnage in Wellington was moved by road and 3.6% by rail. These figures do not include Horowhenua District.

## Network performance

This section will look at how the state highway network is performing with key metrics for safety and travel reliability.

### Safety

Safety performance data comes primarily from the Crash Analysis System. Due to availability of data, the figures are presented by region for the Wellington and Manawatū-Whanganui regions. This data covers crashes on both state highways and local roads.

Region	Q	Deaths and Serious Injuries	Deaths and Serious Injuries per 100k pop	Social cost of DSI (\$M)	DSI of Pedestrian	DSI of Pedestrian per 100k pop	DSI of Cyclists	DSI of Cyclists per 100k pop	DSI of Motorcyclists	DSI of Motorcyclists per 100k pop	DSI of occupants in light vehicles with 1 or 2 star (ANCAP, UCSR, CWR)
<b>Totals</b>		<b>433</b>	<b>53.9</b>	<b>\$647.6</b>	<b>46</b>	<b>5.7</b>	<b>43</b>	<b>5.4</b>	<b>81</b>	<b>10.1</b>	<b>132</b>
Manawatu-Whanganui		232	90.4	\$376.1	15	5.8	11	4.3	42	16.4	76
Greater Wellington		201	36.8	\$271.5	31	5.7	32	5.9	39	7.1	56

Figure 6 Deaths and Serious Injuries overview by travel mode for Manawatū-Whanganui and Greater Wellington regions in 2021

Region	Q	DSIs on state highways	DSIs per 100k pop on state highways	DSIs on local roads	DSIs per 100k pop on local roads	Younger population	Older Population	Total Population	VKT Local Road	Hospitalisations over one day	Hospitalisations over one day per 100k pop
<b>Totals</b>		<b>154</b>	<b>19.2</b>	<b>277</b>	<b>34.5</b>	<b>99,700</b>	<b>55,200</b>	<b>803,450</b>	<b>3,068,350,486</b>	<b>421</b>	<b>52.4</b>
Manawatu-Whanganui		101	39.3	131	51.0	29,600	20,800	256,750	1,118,238,000	201	78.3
Greater Wellington		53	9.7	146	26.7	70,100	34,400	546,700	1,950,112,486	220	40.2

Figure 7 Deaths and Serious Injuries overview by state highway and local road for Manawatū-Whanganui and Greater Wellington regions in 2021

Figures 6 and 7 provide an overview of Deaths and Serious Injuries (DSIs) by mode and for state highways and local roads.

Nationally, the rates of DSIs per 100,000 people in 2021 were 51.4 DSIs overall, 5.5 DSIs of pedestrians, 3.5 DSIs of cyclists, and 9.7 DSIs of motorcyclists. Overall rates of DSIs are higher than the national level in Manawatū-Whanganui and lower in Wellington region. DSIs for pedestrians and cyclists in both regions are higher than the national rate.

For state highways and local roads nationally in 2021, there were 18.1 DSIs per 100,000 people on state highways and 33.3 DSIs per 100,000 people on local roads. DSIs in Manawatū-Whanganui were above the national rates, and DSIs in Wellington were below the national rates. An important caveat is Horowhenua District figures are a subset of the Manawatū-Whanganui data.

## Journey predictability

The following figures refer to journey predictability which is a metric that shows the reliability of travel times along key routes. Due to data availability, this is presented as a regional summary.

Predictability is the percentage of journey times that performed better than the target journey time. For example, if a journey between two places was estimated to be 40 minutes, the percentage is the proportion of journeys which arrived at or sooner than the estimated journey time. The target is based on the travel times of the previous financial year.

Journey predictability has two supplementary comparisons. One comparison is the percentage change between the current month and the previous month. The second is the comparison between the current month with the same month from the previous year.

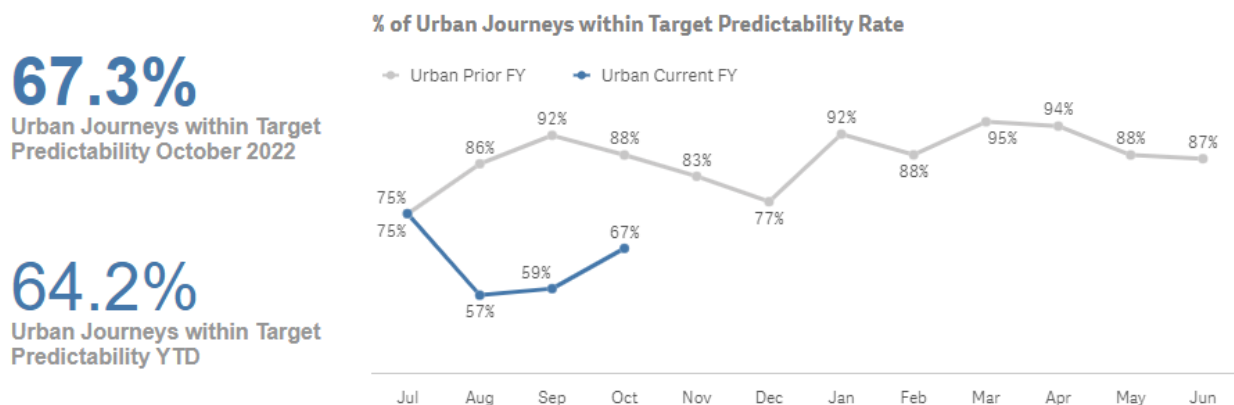


Figure 8 Urban journey predictability for trips on the state highway in the Wellington Region to October 2022.

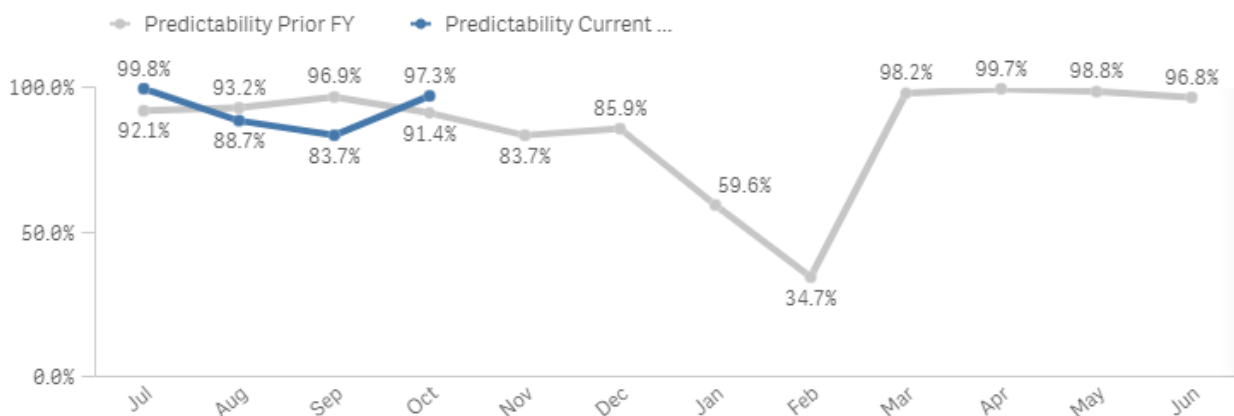


Figure 9 Interregional journey predictability for trips on the state highway in the Wellington Region to Levin to October 2022.

Figure 8 shows urban journeys on the state highway network in the Wellington region. The latest data for October 2022 shows that 67% of trips are within the predicted journey time compared to 88% in October 2021. Figure 9 shows interregional journeys on the state highway from Wellington City to Levin. 97% of trips are within the predicted journey time, higher than October 2021 at 91%.

Overall journeys are relatively predictable, meaning journeys on the state highway are consistent. One limitation of this data is the impact of covid reducing travel demand in 2021 resulting in lower target journey times.

# Challenges for the transport network

This section will outline key strategic challenges for the state highway network and the wider transport system in the region. While the state highway network can service development capacity, there are other priorities which must be addressed concurrently with urban development. Safety, resilience, and supporting the transition to a low-carbon economy are critical transport challenges facing the Wellington-Wairarapa-Horowhenua region.

## Safety

Efforts to improve road safety are guided by the Road to Zero: New Zealand's road safety strategy 2020–2030 and associated Action Plan 2020-22 and regional safety strategies. Waka Kotahi will continue to support implementation of Road to Zero, associated Action Plan 2020-22, and regional strategies.

An ongoing safety focus is needed in the greater Wellington region to address high-risk motorcycle routes and speed on rural roads and vulnerable users such as cyclists and pedestrians in the Wellington urban areas.

In the wider Manawatū-Whanganui region, head-on and run off road crashes, high-risk intersections and driver behaviour are primary contributors to poor road safety outcomes. Focus on safety improvements in the Levin urban area and rural links is needed.

There is a significant opportunity to improve safety in a way that supports several other key outcomes, especially environmental sustainability and inclusive access. Providing extensive networks of safe and attractive walking and cycling facilities will enable and encourage even more people to use these healthy and sustainable travel options alongside making these choices much safer than they are today. Similarly, a focus on reducing deaths and serious injuries for vulnerable road users will also encourage more people to travel by active modes, helping deliver important health, access, and sustainability benefits.

## Resilience and climate adaptation

The Wellington-Wairarapa-Horowhenua region is particularly vulnerable to seismic risk and other natural hazards, and sea level rise and more severe storms will increasingly impact on coastal communities, roads, and rail infrastructure.

Climate change will be one of the most significant drivers influencing the land transport system in the future. Increased rain and storm intensity, coastal and soil erosion, sea level rise, flooding, slips and storm surges are projected over the next 30 years, increasing the risk of damage to road and rail networks. Impacts of climate change, such as flooding, are expected to be felt strongly in low-lying areas including Lower Hutt, Petone, Wellington city centre and Kilbirnie.

The wider region faces significant seismic risks, with the impacts of a major event compounded by reliance on a limited number of key corridors (road and rail) to connect communities and key destinations.

To improve resilience, greater effort will be required to look after existing assets and maintain current levels of access and connectivity. There is a major opportunity to make progress on multiple outcomes from investment in maintenance and renewals, but this will require changes to current practice and increased investment levels.

## Urban development

Growth is putting pressure on the transport system and the need for housing. At the same time, the transport system needs to transform to reduce its carbon footprint, be safer, and enable new ways of mobility.

The ERP will set sub-national Vehicle Kilometres Travelled (VKT) reduction targets for light vehicles. Wellington as a main urban centre is required to develop an Urban VKT reduction programme outlining the pathways to deliver on those targets.

Reducing VKT will require more focus on the effective integration of land-use and transport to support mode shift and reductions in GHG emissions.

Urban centres already have a high level of public transport use and high rates of walking and cycling. Future growth needs to build on high levels of public transport use, walking and cycling to create stronger communities and connect people to employment, education, and essential services, including supporting social outcomes for lower income communities.

Agencies must work together to ensure developments are sequenced and staged appropriately so transport infrastructure, in particular public transport and walking and cycling facilities, are delivered to support one another. Urban form through higher densities and diversity of activities also needs to feature more throughout development to reduce the need to travel and reliance on private vehicles.

Identifying growth opportunities to align with transport investments is also critical to ensure funding and financing for infrastructure and services can keep pace with expected growth in the region.

The region will continue to play an important role in linking freight and people movements between the North and South Islands. Supporting decarbonisation of freight transport will also drive change in the transport system, through adoption of lower emitting fuels and increasing mode-share for rail and coastal shipping.

## Network improvements and programmes underway

This section will outline key projects and programmes underway that will deliver improvements to the state highway network.

*Table 2 Network improvements and programmes underway by council area*

Council area	Projects underway
Wellington City	<p>Let's Get Wellington Moving programme – partnership between Waka Kotahi, Wellington City Council, and Greater Wellington Regional Council. Projects underway on the state highway include the Cobham Drive crossing.</p> <p>Te Ara Tupua – providing a separated and safe cycling route between Wellington City and Lower Hutt parallel to SH2.</p> <p><a href="https://lgwm.nz/">https://lgwm.nz/</a></p> <p><a href="https://www.nzta.govt.nz/projects/te-ara-tupua/">https://www.nzta.govt.nz/projects/te-ara-tupua/</a></p>
Porirua City	<p>SH58 safety improvements – Planning the final stage of SH58 safety improvements (median and side barriers, and two new roundabouts) from Harris Road to SH1 Transmission Gully.</p> <p><a href="https://www.nzta.govt.nz/projects/sh58-safety-improvements/">https://www.nzta.govt.nz/projects/sh58-safety-improvements/</a></p>
Lower Hutt City	<p>RiverLink – as part of the RiverLink partnership, Waka Kotahi is planning the new SH2 Melling interchange. RiverLink will also include better public transport links, and a new pedestrian and cycle bridge that links the city centre to Melling Station. Construction of the interchange is expected to start in 2023.</p> <p>Te Ara Tupua – providing a separated and safe cycling route between Wellington City and Lower Hutt along SH2.</p>

	<p>SH2 Ngāūranga to Featherston safety improvements – work to improve safety along SH2 in the Hutt Valley includes intersection upgrades and speed reviews. Currently four intersection improvements are planned to be built in 2022-2023, while two more are planned for 2024 onwards.</p> <p><a href="https://www.riverlink.co.nz/">https://www.riverlink.co.nz/</a></p> <p><a href="https://www.nzta.govt.nz/planning-and-investment/nz-upgrade/wellington-and-manawatu-whanganui/melling-transport-improvements/">https://www.nzta.govt.nz/planning-and-investment/nz-upgrade/wellington-and-manawatu-whanganui/melling-transport-improvements/</a></p> <p><a href="https://www.nzta.govt.nz/projects/te-ara-tupua/">https://www.nzta.govt.nz/projects/te-ara-tupua/</a></p> <p><a href="https://www.nzta.govt.nz/projects/sh2-ngauranga-to-featherston/">https://www.nzta.govt.nz/projects/sh2-ngauranga-to-featherston/</a></p>
Upper Hutt City	<p>SH2 Ngāūranga to Featherston safety improvements – work to improve safety along SH2 in the Hutt Valley includes intersection upgrades and speed reviews. Six intersection improvements are planned for 2024 onwards. Design and build improvements are also planned for SH2 Remutaka Hill in 2023.</p> <p><a href="https://www.nzta.govt.nz/projects/sh2-ngauranga-to-featherston/">https://www.nzta.govt.nz/projects/sh2-ngauranga-to-featherston/</a></p>
Kāpiti District	<p>Kāpiti Expressway Peka Peka to Ōtaki (PP2Ō), Ōtaki to North of Levin (Ō2NL) – the Mackays to Peka Peka section of the Kāpiti Expressway was completed in 2017. The PP2Ō section of the expressway is expected to be completed in 2022. Detailed planning and design work is continuing for Ō2NL with construction estimated to begin in 2025.</p> <p><a href="https://www.nzta.govt.nz/projects/wellington-northern-corridor/peka-peka-to-otaki-expressway/">https://www.nzta.govt.nz/projects/wellington-northern-corridor/peka-peka-to-otaki-expressway/</a></p> <p><a href="https://www.nzta.govt.nz/projects/wellington-northern-corridor/otaki-to-north-of-levin/">https://www.nzta.govt.nz/projects/wellington-northern-corridor/otaki-to-north-of-levin/</a></p>
Horowhenua District	<p>Ōtaki to North of Levin - Detailed planning and design work is continuing for Ō2NL with construction estimated to begin in 2025.</p> <p><a href="https://www.nzta.govt.nz/projects/wellington-northern-corridor/otaki-to-north-of-levin/">https://www.nzta.govt.nz/projects/wellington-northern-corridor/otaki-to-north-of-levin/</a></p>
South Wairarapa District	<p>SH2 Wairarapa highway improvements – this involves three separate but complementary projects: a review of speed limits roundabouts and barriers at dangerous intersections, and twenty-one raised pedestrian crossings that will help pedestrians to safely cross a busy highway in Wairarapa Townships.</p> <p><a href="https://www.nzta.govt.nz/projects/sh2-wairarapa-highway-improvements/">https://www.nzta.govt.nz/projects/sh2-wairarapa-highway-improvements/</a></p>
Carterton District	<p>SH2 Wairarapa highway improvements – this involves three separate but complementary projects: a review of speed limits roundabouts and barriers at dangerous intersections, and twenty-one raised pedestrian crossings that will help pedestrians to safely cross a busy highway in Wairarapa Townships.</p> <p><a href="https://www.nzta.govt.nz/projects/sh2-wairarapa-highway-improvements/">https://www.nzta.govt.nz/projects/sh2-wairarapa-highway-improvements/</a></p>
Masterton District	<p>SH2 Wairarapa highway improvements – this involves three separate but complementary projects: a review of speed limits roundabouts and barriers at dangerous intersections, and twenty-one raised pedestrian crossings that will help pedestrians to safely cross a busy highway in Wairarapa Townships.</p> <p><a href="https://www.nzta.govt.nz/projects/sh2-wairarapa-highway-improvements/">https://www.nzta.govt.nz/projects/sh2-wairarapa-highway-improvements/</a></p>

Region wide	<p>Interim State Highway speed management plan - A new Land Transport Rule: Setting of Speed Limits 2022 came into effect in May 2022, requiring road controlling authorities to develop speed management plans with a whole-of-network approach every three years, aligning with the National Land Transport Programme (NLTP) cycle.</p> <p>As this legislation took effect during the current 2021-24 NLTP period, we're taking a step towards the new approach by developing an Interim State Highway Speed Management Plan which includes remaining speed-related activities within the current NLTP.</p> <p><a href="https://www.nzta.govt.nz/safety/what-waka-kotahi-is-doing/interim-state-highway-speed-management-plan/">https://www.nzta.govt.nz/safety/what-waka-kotahi-is-doing/interim-state-highway-speed-management-plan/</a></p> <p><a href="https://www.nzta.govt.nz/safety/what-waka-kotahi-is-doing/interim-state-highway-speed-management-plan/wellington/">https://www.nzta.govt.nz/safety/what-waka-kotahi-is-doing/interim-state-highway-speed-management-plan/wellington/</a></p> <p><a href="https://www.nzta.govt.nz/safety/what-waka-kotahi-is-doing/interim-state-highway-speed-management-plan/manawatu-whanganui/">https://www.nzta.govt.nz/safety/what-waka-kotahi-is-doing/interim-state-highway-speed-management-plan/manawatu-whanganui/</a></p>
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## Summary

Regarding the ability for development capacity to be serviced by infrastructure, the state highway network does not present any significant constraints. Based on current network performance, the expected level of population growth used in the HBA to around 730,000 people by 2050, and network improvements underway the state highway network can service development capacity.

This assessment is necessarily high-level at a regional scale. More specific site-scale impact assessments such as Transport Impact Assessment, safety assessment, or assessment of VKT implications would be needed prior to any development, and Waka Kotahi will continue to be involved in integrating transport and land-use planning.

Impacts of out of sequence development located in areas not anticipated, or outside of areas not accounted for in the HBA may lead to higher transport demand at a local level and have flow-on effects on the transport network which cannot be accounted for in this assessment.

An increased focus and improvements in urban form and better integration of development with public transport and active travel modes may reduce VKT and subsequently travel demand on the state highway network. Due to data limitations a reduction in vehicle travel demand was not assessed. However, Waka Kotahi will continue to collaborate with regional partners to enable developments that integrate good urban form with public transport and active travel modes.

# Appendix 1 – One Network Framework

Table 3 One Network Framework categories explanation

One Network Framework Category	Explanation
Activity Streets	Activity Streets provide access to shops, entertainment venues, community facilities and commercial, trades and industrial businesses for everyone. People spend a significant amount of time, working, shopping, eating, residing, and undertaking recreation. They support medium to high levels of people walking, cycling, using public transport, or driving through the area.
Interregional Connectors	These are national State Highways that make it safe, reliable, and efficient to move people and goods between and within regions. These roads run through farmland and natural areas so there are low levels of roadside activity. These roads carry significant levels of motor vehicle traffic, including freight
Main Streets	Main streets generate high levels of on-street pedestrian activity by people working, visiting shops, businesses, and entertainment venues. They aim to support this while making sure there are excellent connections with the wider transport network. Main streets need to balance the interaction between on-street activity and movement of people and goods. They accommodate medium to high levels of people walking, cycling, using public transport, or driving through.
Peri-urban Roads	Peri-urban roads provide access to residential property in rural settlements, lifestyle blocks, sub-divisions and on the edge of urban areas where the main surrounding land-use is residential, but at a lower level than that found in urban residential locations. There are low levels of local street activity with residents going about their daily lives. Levels of motor vehicle traffic and freight will range from very high to low, depending on whether the peri-urban road is connecting to an interregional connector or rural road.
Rural Connectors	Rural Connectors make it easy for people and goods to move between different parts of rural areas, and link Rural Roads with Interregional Connectors. They support an increased level of traffic moving through the area, while also providing access from the land they pass through. Land around rural connectors is usually farmland, and these roads may also run through national parks or other natural areas. There are low levels of roadside activity related to the way surrounding land is used.
Stopping Places	Stopping Places are rural destinations that increase activity on the roadside and directly uses the road for access. There are more people walking, cycling, and driving in these locations, including people often crossing the road.
Transit Corridors	Transit corridors make it fast and efficient for people and goods to move within urban areas. They are mass transit corridors for private motor vehicles, freight and public transport and include motorways and urban expressways. They are usually separated from surrounding land use so there are no people walking or cycling on these roads. Transit corridors also include heavy rail networks and busways.
Urban Connectors	Urban connectors make it safe, reliable, and efficient for people and goods to move between different parts of urban areas. There are high levels of motor vehicle traffic, including freight. They often support public transport and provide major routes for people cycling. There are low levels of pedestrian activity associated with people moving along the road.

This appendix only covers the ONF categories relevant for the state highway network in Wellington and Horowhenua. More information is available at <https://www.nzta.govt.nz/planning-and-investment/planning/one-network-framework/>

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