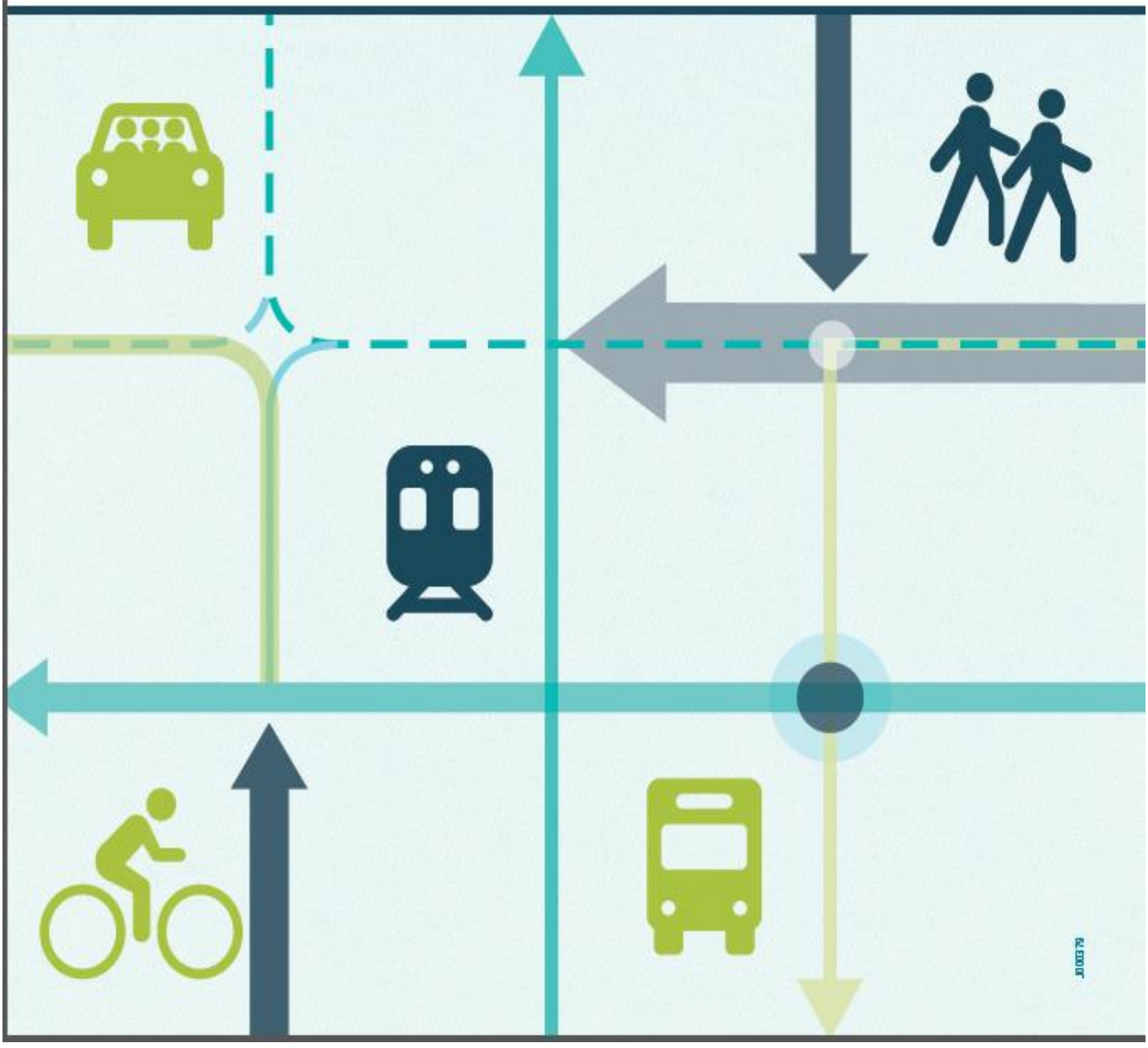
2017/18 ANNUAL MONITORING REPORT ON THE REGIONAL LAND TRANSPORT PLAN

OCTOBER 2018

greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao



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Executive Summary

The Wellington Regional Land Transport Plan (RLTP) sets out the strategic direction for the region's land transport network. It includes a policy framework comprising eight strategic objectives and 20 outcomes to guide land transport planning and investment for the region. The strategic objectives and outcomes in the RLTP have been developed in response to the major transport challenges and issues facing the region.

This Annual Monitoring Report (AMR) has been prepared to measure progress against the RLTP outcomes and associated targets. It covers the 2017/18 financial year and represents the fourth year of monitoring since the RLTP was adopted in April 2015. This report presents data and information on the 20 RLTP outcomes, each with at least one measure and target. Some measures can only be updated when census data becomes available (2018 Census data is due to be released from March 2019 onwards and will be included in the 2019 AMR).

The available information tells us that more people are using public transport in the region, particularly for trips to Wellington City CBD. Customer satisfaction with public transport has fluctuated over the last five years but overall the satisfaction rating has increased. More people are cycling in urban areas; however measures indicate a reduction in the perceived level of service for cycling.

The short term trend shows a small increase in transport emissions per person and absolute emissions. The trend in public transport vehicle fleet emissions was neutral, but changes from July 2018 onwards with the new bus contracts and the introduction of low emission buses are expected to result in a positive trend in future. Any changes resulting from the new bus contracts from July 2018 will be reported in the 2019 AMR.

Table 1 lists each outcome with the RLTP 2025 target and 2013/14 baseline for each measure. The results for each measure for 2017/18 are shown (if available) and progress is indicated by colour and symbols according to short term or 5 year trend – defined in the legend below.

Table 1 legend

General Progress for each measure is summarised in the table:				*Observed progress in relation to RLTP Target*
2017/18 data	The latest results on the measure - if data is available			The general direction of the data trend is toward the target
Short term trend	The trend is based on 2 to 4 years of results so trend is likely to change		↔	Neutral trend
5 year trend	Where the measure has at least five years of data, the long term trend is determined, and colour coding and arrows indicate the progress of the trend in relation to the RLTP and direction of results			The general direction of the data trend is away from the target
				A new data series or no information at this time
			↑	Results are increasing
			↓	Results are decreasing
			✓	RLTP Target achieved

Table 1: Summary of RLTP measures for each strategic objective and outcome

Objective: A high quality, reliable public transport network

Outcome	Measure	2025 target	Baseline	2017/18 data	Short term trend	5 year trend	Comment
Increased public transport use	Annual public transport boardings per capita	Increase to at least 76 boardings	72 boardings in 2013	73.7 per capita	↑	↑	1.3% increase in the last five years.
	Public transport mode share of journey-to-work trips (census)	Increase to at least 17.8%	16.6% in 2013	-	↑		An update using the 2018 Census data will be in the 2019 AMR.
	Public transport mode share of trips crossing Wellington City CBD cordon (AM peak)	Increase to at least 34.7%	33.1% in 2013	36.9%	↑	↑	Mode share exceeds the RLTP target for second year.
Improved public transport accessibility for all	Population living within 500m of a core bus service or 1km of a railway station (census)	Improvement toward at least 50%	41.6% in 2013	-	↑		An update using the 2018 Census data will be in the 2019 AMR.
	Population living within 500m of any bus stop or 1km of a railway station.	Improvement toward at least 88%	87.6% in 2013	-	↑		An update using the 2018 Census data will be in the 2019 AMR.
	Accessibility to public transport network for all users	Continual improvement in physical accessibility and standards of vehicles, parking and facilities.	A comprehensive range of bus and rail facilities for customers.	17 new bus stops installed	↑	↑	New and upgraded bus shelters, bus stops, and additional park & ride spaces.
Improved quality of public transport	Public transport vehicle fleet emissions	At least a 50% reduction in emissions (average 15 g/km per bus)	2014[1] emissions 29.6 g/km[3]	28.2 g/km[3]	↔	↔	The bus fleet had a mix of newer and older vehicles. Going forward new Low emission buses will replace the older fleet.
	Overall satisfaction with the Wellington region's public transport system (all modes)	At least 90%	83% (2014)	85%	↔	↑	Level of satisfaction with PT has fluctuated over the last five years but overall satisfaction rating has increased.
Improved public transport reliability and journey times	Peak period public transport travel times on core routes	A continuous improvement on core routes	bus travel times: 41 min AM & 40 min PM (2014)	37.7 mins AM 37.1 mins PM	↓	↓	Average bus travel times slowly decrease over five years.
	Peak period bus travel time variability on core routes	A continuous improvement in variability along core routes	Ave lateness: 3.8 minutes AM 3.2 minutes PM (2014)	3.0 mins AM 2.8 mins PM	↓	↓	Some fluctuation in the last five years but overall downward trend in travel time variability.
	Rail service punctuality	At least 96% of services reach destination within 5 mins of timetabled time	88% in 2017	88.3%	↔		Second year for this data series, punctuality rating is unchanged from last year.

[1] The RLTP baseline has changed, the revised baseline (2014) now includes the regional bus fleet using information not available previously. The 2013 baseline was taken from a PwC study about Wellington city buses. The PwC report can be located here: http://www.gw.govt.nz/assets/Transport/Regional-transport/RPTP/GWRC-Bus-Fleet-Configurations-Final-version.pdf

Outcome	Measure	2025 target	Baseline	2017/18 data	Short term trend	5 year trend	Comment
Objective: A reliable & effective strategic road network							
Reduced severe road congestion	Rolling average peak period travel speeds on selected strategic routes	A 10% increase in 3 year rolling average travel speed (40 km/hr AM, 45 km/hr PM)	36 km/hr AM 41 km/hr PM (2016)	35 km/hr AM 40 km/hr PM	↔		Short term trend only because this is the third year for this data series. Results show a slight decrease in travel speed.
Improved reliability of the strategic road network	Average peak travel time predictability on selected strategic routes	A 10% increase in the 3 year rolling average predictability (71% AM, 73% PM)	64% AM 66% PM (2016)	62% AM 62% PM	↓		Short term trend only because this is the third year for this data series. Results show a small decrease in travel time predictability.
Objective: An effective network for the movement of freight							
Improved freight efficiency	Rolling average all-day travel speeds on important regional freight routes	A 10% increase in average travel speed (68 km/hr inbound, 66 km/hr outbound)	62 km/hr inbound, 60 km/hr outbound (2016)	62 km/hr Inbound 61 km/hr Outbound	↔		Small to no change in average travel speed for freight. No enough data yet for five year trend.
	Average all-day travel speed predictability on important regional freight routes	A 10% increase in travel time predictability (95% inbound, 93% outbound)	86% inbound 85% outbound (2016)	91% inbound 91% outbound	↑		Five percentage point Increase in predictability over the last three years. No enough data yet for five year trend.
Increased proportion of freight moved by rail	Percentage of long distance freight volumes moved by rail	An increasing proportion of freight moved by rail	18.3 million tonnes (2012)	-	↑		Rail freight volumes moving in and out of the region have increased by 43% from 2012 to 2017.Next freight demand study to be run in 2019.
Objective: A safer system for all users of our regional road network							
Improved regional road safety	Killed and seriously injured totals, measured on an annual basis against a 5-year rolling average (CAS data)	At least a 50% reduction in 5 year average (total below 92 seriously injured or killed)	183 killed or seriously injured people (2013)	179 deaths or seriously injured	↑	↔	The number of people seriously injured has increased by7% in the last two years.
	Total casualties on an annual basis against a 5-year rolling average (CAS data)	At least a 50% reduction in 5 year average (below 540 casualties)	1,080 casualties (2013)	954 casualties	↑	↓	In the last year a 4% increase in number of casualties.
Increased safety for pedestrians and cyclists	The number of vulnerable road users (cyclists and pedestrians) killed and seriously injured annually against a 5-year rolling average (CAS data)	At least a 50% reduction in 5 year average (below 28 killed or seriously injured)	53 killed or seriously injured (2013)	48 killed or seriously injured	↓	↓	The total killed or injured is below the baseline but people seriously injured rises for the last two years.

An increasingly resilient transport network							
Outcome	**Measure**	**2025 target**	**Baseline**	**2017/18 data**	**Short term trend**	**5 year trend**	**Comment**
Improved transport infrastructure resilience to disruption from unplanned events	Proportion of region covered by an adopted regional risk register	100% - risk register by 2017 and agreed prioritisation methodology by 2019	No risk register	Up-to-date regional risk register produced	✓	✓	The risk register provides a list of regional network priorities. This will be updated as work is completed.
A transport network that supports the restoration of access and regional recovery after a major event	Estimated time to reopen key road connections to and within the region and to key recovery facilities.	Continuous reduction in number of days to reopen the transport network	Existing emergency plan estimates (2014)	-	↓	↓	Transport network projects that are planned or under construction will help to improve resilience and reduce the recovery time.
Reduced regional economic risk	Proportion of region covered by an adopted and comprehensive regional restoration and emergency plan	100%	Existing regional restoration emergency plans(2014)	-	↑	↑	Progress is ongoing on emergency and recovery planning for the region.
Objective: A well planned, connected and integrated transport network							
Improved land use and transport integration	Population living within 500m of any bus stop or 1km of a railway station	Continual improvement towards 88%	87.6% in 2013	-	↑		Estimates indicate that is a small increase in accessibility, an update using the 2018 census data will be in the 2019 AMR.
Improved integration between transport modes	Number of secure cycle parking spaces at railway stations	Increase by 50% (441 cycle spaces)	294 cycles spaces (2013)	361 cycle spaces	↔	↑	No new cycle parking spaces this year – but plans for additional cycle spaces next year.
Objective: An attractive and safe walking and cycling network							
Increased mode share for pedestrians and cyclists	Proportion of journey to work trips by walking	13.6% of journey to work trips	11.6% in 2013	-	↑		A slow upward trend from 2001 & 2013 census results
	Proportion of journey to work trips by bike	4.6% of journey to work	2.9% in 2013	-	↑		A slow upward trend from 2001 & 2013 census results.
	Proportion of urban trips by walking	20.1% of trips crossing the CBD cordon	18.4% in 2013	18.5%	↑	↓	Pedestrian mode share is increasing in the short term alongside steady increase in PT mode share
	Proportion of urban trips by bike	4.6% of trips crossing Wellington CBD cordon	2.6% in 2013	2.8%	↑	↑	Cycling mode share has increased this year
Improved level of service for pedestrians and cyclists	Perception of level of service for cyclists and pedestrians	95% and 60% level of service (walking & cycling)	Walking 90% Cycling 50% (2013)	2015 results: Walking 85% Cycling 44%	↓	↓	The perceived level of service for cyclists and pedestrians are both showing a downward trend up to 2015.
Increased use of active modes for journeys to school	Use of active modes in journeys to school for those participating in the School Travel Plan programme.	Continually increasing use of active modes	27% walking, 13% cycle, scooter or skateboard (2013).	2014 results: 26% walking 14.5% cycle or scooter	↔		The online reporting tool for schools to record student travel is being rebuilt. School data will be available in 2019.

Objective: An efficient and optimised transport system that minimises the impact on the environment							
Outcome	**Measure**	**2025 target**	**Baseline**	**2017/18 data**	Short term trend	5 year trend	**Comment**
Reduced harmful emissions from transport	Transport generated emissions (per capita)	15% reduction in annual per capita CO_2 emissions (1.86 tonnes per capita)	2.18 tonnes per capita (2013)	2.28 tonnes per capita	↑	↑	A small increase in emissions per capita of 4.7% since baseline year.
	Transport generated emissions (absolute)	10% reduction in total annual CO_2 emissions (956 kilotonnes)	1,062 kilotonnes (2013)	1,191 kilotonnes	↑	↑	A 12% increase in emissions in the last 5 years.
	Concentrations of harmful transport-generated pollutants	A reduction in the average concentration of harmful transport pollutants (20.2 µg/m^3)	22.4 µg/m^3 (2013)	20.9 µg/m^3	↔	↓	Since 2013, pollutant levels have dropped by 7%.
Increased private vehicle occupancy	Peak period private vehicle occupancy	Gradual increase in private vehicle occupancy to 1.45	1.39 people per vehicle (2013)	1.37	↑	↔	Small increase in occupancy since last year.

Project highlights of 2017/18

A number of major projects and milestones occurred during the 2017/18 financial year:

- In April 2018, the rollout of the Public Transport Transformation Programme (PTTP) began in Wairarapa with the first 'Go-Live' date
- In June 2018, the RLTP mid-term review was completed and approved by the Regional Council. The associated RLTP variation and updated programme for the 2018-21 period was forwarded to NZTA for their consideration when developing the National Land Transport Programme
- The Let's Get Welly Moving (LGWM) short list evaluation was completed in May 2018, followed by development of a draft recommended programme of investment (RPI). The RPI will lay out LGWM's approach for Wellington's transport over the next decade or more.

A high quality reliable public transport network

This section focuses on public transport: on increasing patronage, reliability and accessibility.

MEASURE + Five year trend	
Annual public transport boardings per capita	↑
Public transport mode share of trips crossing Wellington City CBD cordon (AM peak)	↑
Accessibility to public transport network for all users	↑
Public transport vehicle fleet emissions	↔
Overall satisfaction with the Wellington region's public transport system (all modes)	↑
Peak period public transport travel times on core routes	↓
Peak period bus travel time variability on core routes	↓

Note: Only measures with enough data to indicate a five year trend are included.

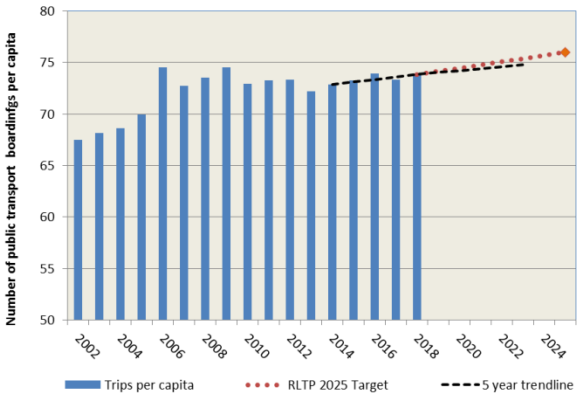
Increased public transport use

The Wellington region has a high quality, well used public transport network of bus, train and harbour ferry services. Wellington residents are high users of public transport with New Zealand's highest number of public transport boardings per capita and high mode share compared to other regions. Figure 1 shows the annual number of public transport trips per capita taken by train, bus and ferry. It is calculated using annual public transport patronage and regional population.

In 2018, approximately 38.5 million public transport annual trips were made, equating to:

- 73.8 public boardings per capita
- This is an increase of 1.3% in the last five years.
- The RLTP target is 76 boardings per capita by 2025 (indicated by the orange marker in **Figure 1**).

Figure 1: Annual public transport boardings per capita (2002-2018)



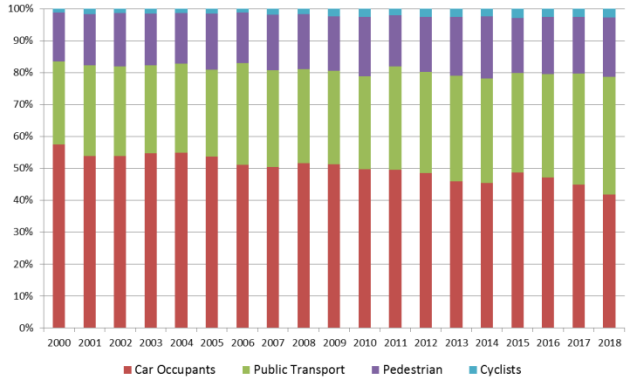
DATA SOURCE: METLINK, GWRC

The second measure for increased public transport participation comes from the journey to work data from the Census. Public transport mode share was 16.6% in the region in 2013 and the RLTP target is at least 17.8% mode share in 2025. An update on this measure (from the 2018 census) will be available in the next AMR.

Public transport mode share is also measured using the annual March cordon survey. This is a count of the people entering the Wellington City CBD by public transport during morning peak travel times. In the same month Wellington City Council (WCC) commissions a survey that counts vehicles, pedestrians and cyclists crossing into the Wellington City CBD cordon during morning peak.

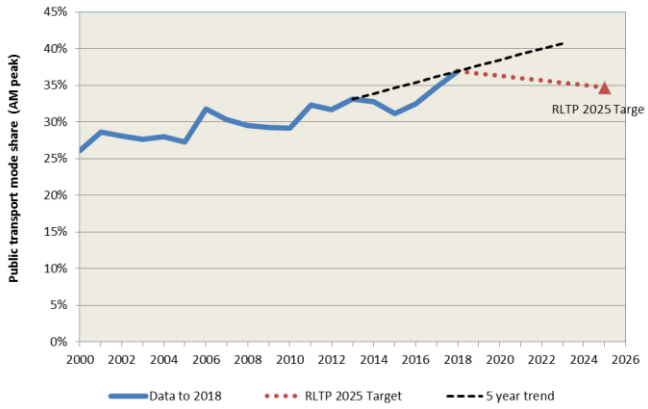
The mode counts from the two surveys are used to work out mode share for the Wellington CBD. The time series for main transport modes is shown in **Figure 2**. Vehicle mode share has been shrinking as PT mode share increases (since 2001)[2].

Figure 2: Wellington City cordon mode share – all modes



[2] Other traffic monitoring shows that motor vehicle volumes are not declining but there is an increase in number of vehicles travelling into the city before morning peak periods.

Figure 3: Public transport cordon mode share (2000-2018)



Data source: GWRC

Figure 3 shows public transport trips crossing the Wellington City CBD cordon during peak hour. In 2018 the mode share for public transport is 36.9%; this is a 10% increase over the last five years. This year's mode share has exceeded the RLTP target of 34.7% for the second year in a row.

Improved public transport accessibility for all

Access to public transport is monitored using three outcomes: two that measure the proportion of the population living in the vicinity of public transport and the third measures accessibility to the public transport in terms of infrastructure, information and facilities.

The first measure looks at those residents within 500m of core bus route and 1km from any railway station; in 2013 this was 42%, the same result in 2006. Secondly those residents living 500m within any bus stop and 1 km from a rail service; in 2013 this was 87.6%. This is a small drop from 89% in 2006.

The next update for this measure (using 2018 census results) will be available in the 2019 AMR. Population growth will affect this measure; recent population growth particularly in Wellington CBD has increased the proportion of people living in the vicinity of public transport.

Accessibility to the public transport network is evaluated by looking at the investment in transport infrastructure in the region. There is ongoing work on bus and rail facilities, examples of this are:

- 17 new and 29 upgraded bus shelters have been installed
- 50+ new and modified bus stops.
- 32 new Park & Ride spaces at Pomare station.

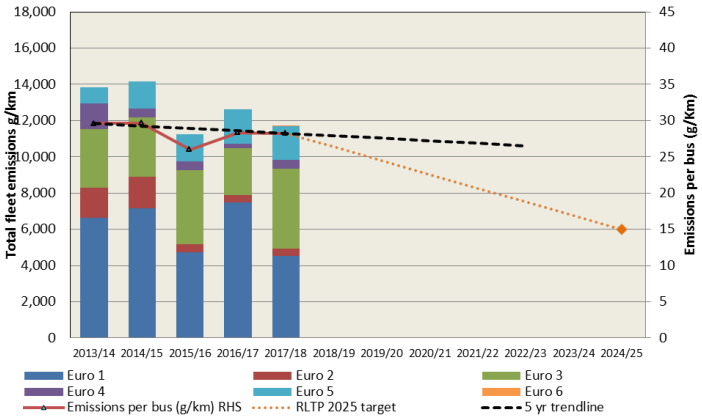
Improved quality of public transport

There are two measures used in the RLTP to assess the quality of public transport in the Wellington region. These are: public transport vehicle fleet emissions[3] and overall satisfaction with the region's public transport system.

Figure 4 shows bus fleet emissions for Euro type buses 1-5. The composition of the vehicle fleet[4] varies during the year, some of the changes are permanent others are to do with available supply in the region. In the year to July 2018 there was a drop in the number of Euro 1 type and increase in Euro 3 and new Euro 6 buses. The percentage of the fleet that was type Euro 4 or above was 40%; this will increase each year as the fleet transitions to new vehicles.

The red line in **Figure 4** shows the average emissions per bus; in 2018 this was 28.2 g/km (units are on the right-hand side of figure). Average emissions per bus have decreased by 5% from 2014 to 2018. The trend line (black dotted line) is almost flat and therefore a neutral trend. Since 2014, the fleet was mainly Euro three or older. This will change from July 2018 onwards with the new bus contracts and the introduction of low emission buses. The RLTP target is for a 50% reduction in fleet emissions.

Figure 4: Bus fleet emissions and RLTP target (2014-2018)



Data source: GWRC

The second measure designed to recognise public transport quality is customer satisfaction. The Metlink annual customer satisfaction survey asks passengers to rate overall satisfaction for the region's public transport network. This covers fleet,

[3] Bus emissions are the sum of CO, HC, NO_X and PM_{10} emissions.

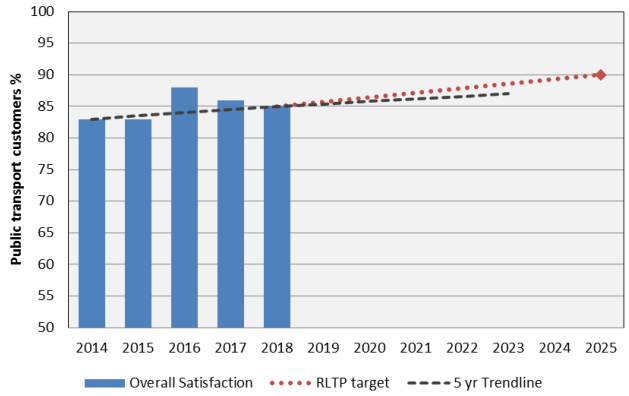
[4] The bus fleet also includes a range of pre-1995 makes/models referred to as non-euro; these buses are excluded from fleet emission calculations because emission rates for these vehicles are not available.

transport facilities, on-time performance and customer service.

Figure 5 shows the results of the customer satisfaction survey from 2014-2018[5]. The 2018 Metlink survey found that 85% of customers were generally satisfied with the public transport service; this is a 1 percentage point drop compared to the previous year but overall customer satisfaction has been trending upwards toward the target.

The RLTP target for this outcome is to achieve at least 90% overall satisfaction with the public transport for the region.

Figure 5: Customer satisfaction with public transport (2014-2018)



Data source: Metlink

Improved public transport reliability and journey times

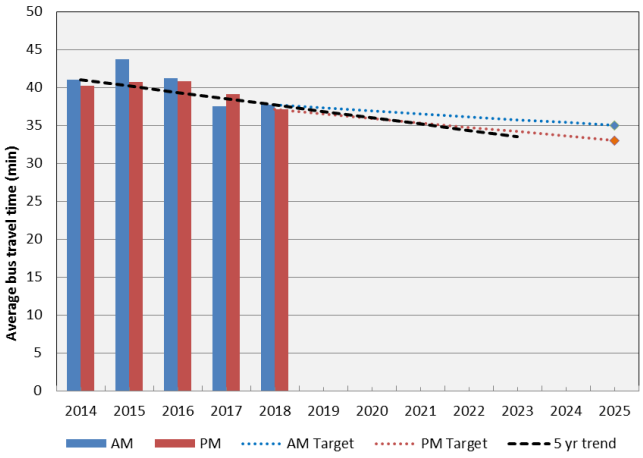
There are three measures used in the RLTP to assess public transport reliability and journey times in the Wellington region. These are: peak period public transport travel times on core routes, peak period bus travel time variability on core routes and rail service punctuality.

The Metlink network consists of three layers: core routes, local routes and targeted services. The **core routes** are the urban rail network and frequent bus services that form the network's backbone, linking areas of high demand with high-capacity, direct services with extensive operating hours[6].

Figure 6 shows results for bus travel time on core routes during peak AM and PM hours (2014-2018). The data series began in 2014 due to a change to the methodology. In 2018 results show:

- Travel times during the AM peak average 37.7 minutes and
- PM peak average 37.1 minutes each.
- Bus travel times have fallen by approximately 3 minutes (average time) in AM and PM peak since 2014.
- The RLTP target is for continuous improvement in PT travel times to 2025.

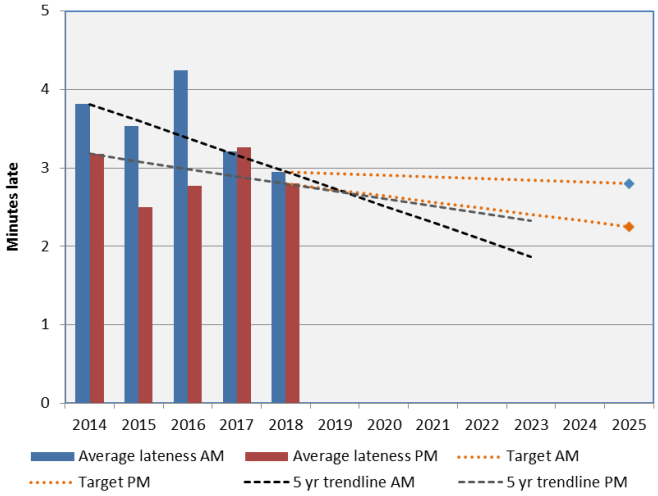
Figure 6: Average bus travel times on core routes at AM and PM peak. (2014-2018)



Data source: GWRC

Figure 7 shows the second measure for this outcome: average lateness which represents variability of bus times on core routes. Comparing the results for variability between 2014 and 2018 there are minor changes; a decrease in variability in AM peak from 3.8 minutes to 3.0 minutes and from 3.2 minutes to 2.8 minutes in the PM peak.

Figure 7: Average lateness along core bus core routes during AM and PM peak. (2014-2018)



Data source: GWRC

Figure 8 shows the percentage of passenger rail services in the region which run to time. The punctuality rating refers to trains arriving at key

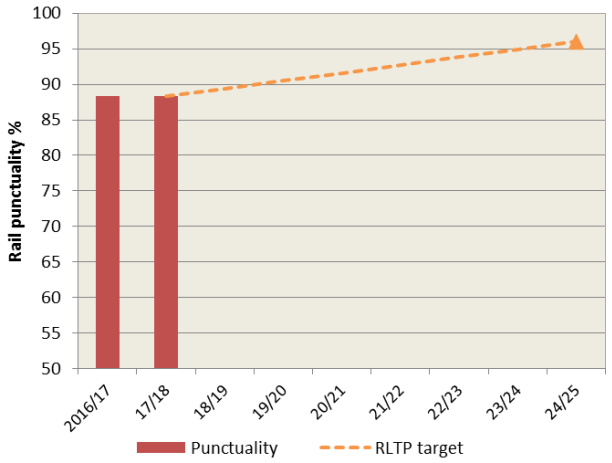
[5] The Metlink survey has undergone changes to the methodology, so earlier survey results on customer satisfaction are not compatible with surveys for 2014 onwards.

[6] The Core bus routes used to measure travel time & lateness are routes: 1,3,11,110,120 and 130

stations[7] at the scheduled time and less than five minutes late.[8]

In 2016 the methodology for measuring rail service punctuality was broadened to include all key stations[9] (previously it was just Wellington station). Two years into the new methodology the punctuality rating is 88% for 2017/18. The 2025 target is at least 96% punctuality.

Figure 8: Percentage of rail services arriving on time (2016-2018)



Data source: GWRC

[7] Key stations are: Porirua, Waterloo, Upper Hutt, Featherston and Wellington

[8] This punctuality target was reached in 2016/17 using the methodology for rail service punctuality initially agreed on in the RLTP.

[9] Under the new operating contracts (with Transdev) revised performance measures were introduced in 2016.

A reliable and effective strategic road network

This section discusses transport outcomes that relate to the strategic road network, including road congestion and travel times.

	MEASURE + Short-term trend
Rolling average peak period travel speeds on selected strategic routes	↔
Average peak travel time predictability on selected strategic routes	↓

Reduced severe road congestion and improved reliability of strategic road network

Strategic routes consist of state highways and high volume regional roads[10]. The strategic network serves an important role for both inter-regional long distance trips and short to medium distance trips within the region. It provides access and connectivity for people and goods to key regional destinations.

This indicator uses GPS data obtained from commercial vehicles (including a mix of light, medium and heavy). The performance measures are based on March weekday average travel time and speeds for inbound AM peak and outbound PM peak vehicles on the six routes in the region.

The travel time data is used to calculate the average vehicle speed for the road network which is used to indicate levels of congestion - as increasing travel speed over time implies that traffic is less congested.

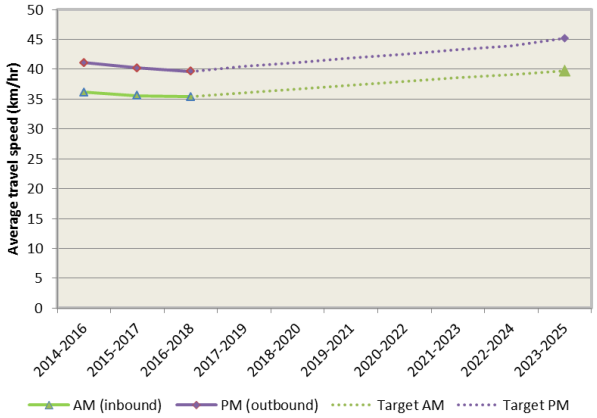
Average travel speed on strategic routes

Figure 9 shows the average travel speed and RLTP target for the six strategic routes. The target is to increase the baseline travel speed by 10%. In 2018 the AM inbound and PM outbound travel speed is 35.4 and 39.7 km/hr respectively.

The travel speed for inbound and outbound travel has been decreasing since the beginning of this series. Initial findings indicate that traffic congestion on these routes is not improving, driven by increasing population and employment and a growing economy leading to increased travel demand.

[10] Six strategic routes: Wellington Airport to Waikanae (SH1), Wellington CBD to Upper Hutt (SH2), SH58 Haywards road to Paremata, Bowen St to Karori, Wellington Railway Station to Island Bay, Petone to Wainuiomata.

Figure 9: Three year rolling average travel speed and 2025 targets (rolling average 2014-2018)



Data source: BECA

Travel time predictability

Travel predictability (previously variability) is the second measure for this RLTP objective and is averaged over the six strategic routes. The measure indicates how well customers can predict their journeys based on typical historic performance.

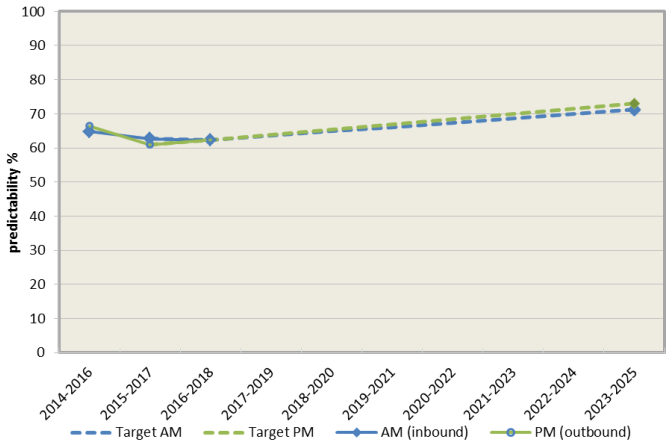
Predictability measures the travel times against the baseline to determine how consistent or reliable the travel time is for each route. The higher the predictability rating the more consistent the travel time is for the route.

For calculating this measure, a baseline target is created for each part of the road, for every 15 minutes of the day, and this baseline is compared against the targets every 15 minutes, every weekday. A high percentage represents a high level of consistency of customer experience. A low percentage means the customer will have difficultly estimating how long the journey will take.

Figure 10 shows the average peak travel time predictability. The results for 2018 show:

- 62% inbound (AM peak) and 62% outbound (PM peak).
- Predictability has decreased by 2-4 percentage points since 2016 for AM and PM times, a result of increased travel demand.
- The target is a 10% increase on the baseline result, this is 71.2% (AM inbound) and 73% (PM outbound) predictability.

Figure 10: Predictability for strategic routes (2014-2018)



Data source: BECA

An effective network for the movement of freight

This section refers to the transport outcomes for the movement of freight, including improving freight efficiency and freight volumes.

MEASURE + Short term trend	
Rolling average all-day travel speeds on important regional freight routes	↔
Average peak travel time predictability on selected strategic routes	↑
Percentage of long distance freight volumes moved by rail	↑

Improved freight efficiency

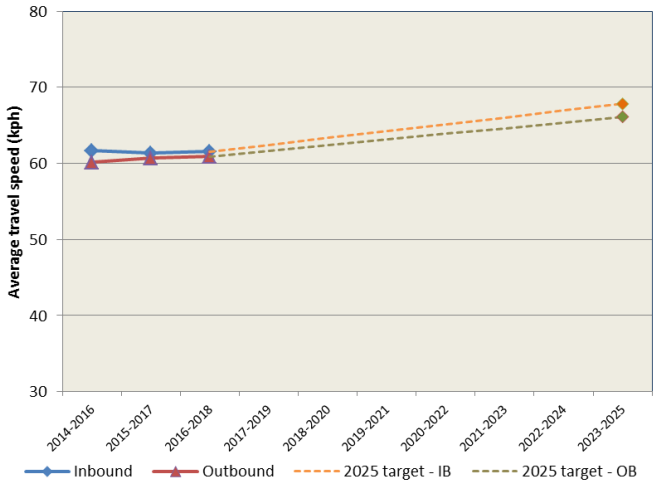
The region's freight network consists of roads, rail and port infrastructure. Road and rail are the two primary modes for freight in the region. Wellington is a key gateway for freight travelling between the north and south islands.

The three key freight routes[11] represent typical road freight movement across the region. The average all day travel speeds for freight transport provide a measure of efficiency for freight movement. New methodology has been introduced for this outcome - outlined in section 3.1.

Figure 11 shows the three year rolling average travel speed over the three key freight routes. The 2018 results show:

- Inbound travel speed is 61.6 km/hr and
- Outbound travel speed is 60.9 km/hr averaged over the three key routes.
- Little to no change in travel speed in the last three years.
- The 2025 target is 67.8 km/hr (inbound) and 66.1 km/hr (outbound).

Figure 11: Average travel speed on freight route & 2025 RLTP target (2014-2018)

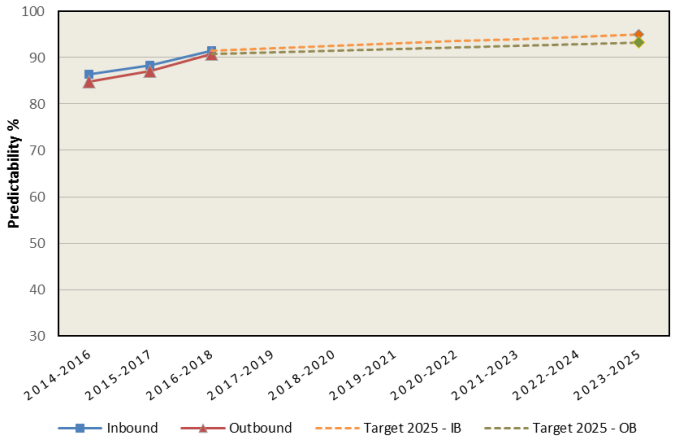


Data source: BECA

The second measure for improved freight efficiency monitors the predictability of the journey time for freight. Predictability measures the consistency of travel time by testing how predictable the journey time is over 15 min periods. Fluctuating travel times mean low predictability and vice versa.

Figure 12 shows the rolling average predictability rating from 2016-2018 and the RLTP target. In 2018, predictability for freight was 91% for both inbound and outbound travel. This is the third year that predictability has improved. The targets for 2025 are 95% & 93% for inbound and outbound predictability respectively.

Figure 12: Average all day freight travel speed predictability (2014-18)



Data source: BECA

[11] Paremata to Seaview (via SH58), Paremata to Seaview (via Ngauranga gorge), Seaview to Centreport.

Increased proportion of freight moved by rail

The data associated with freight volumes transported by rail and used for this measure is provided by the Ministry of Transport (MoT) National Freight Demand study.

The freight study was last completed in 2013 and the next one is planned for 2019. The baseline total for this measure is 18.3 million tonnes for the region (rail, shipping, and road freight).

The Freight Information Gathering system (FIGS, Ministry of Transport) provides information on trends in rail freight movement national wide. Rail freight (tonnes) has increased by 43% from 2012 to 2017 in the Wellington region.

Rail is an effective mode of transport for high volume and heavy freight and carries approximately 15 percent of freight moved in New Zealand (when measured in tonne-kilometres).

Rail freight uses at most 25% of the energy required by road transport to move freight. The rail system also reduces the pressure on New Zealand's roads and can provide safety, health and environmental benefits.[12]

A safer system for all users of our regional road network

This section discusses the transport outcomes that are related to regional road safety which includes road crash fatalities and casualties.

MEASURE + Five year trend	
Killed and seriously injured totals (CAS data)	↔
Total casualties on an annual basis against a 5-year rolling average (CAS data)	↓
The number of vulnerable road users (cyclists and pedestrians) killed and seriously injured (CAS data).	↓

Improved regional road safety

A system wide approach is used to address safety issues. Safer Journeys, the national strategy guiding road safety improvements, seeks to establish the safe system approach within New Zealand.

Figure 13 shows the number of fatal[13] and serious[14] injury casualties for all vehicle types in the Wellington region according to NZTA's Crash Analysis System (CAS). A five-year rolling average is used for this measure as it smooths out annual fluctuations and highlights long-term trends.

In 2017 the number of people seriously injured on the region's roads (247) was above the five year (2013-2017) average (179) for the second year running. In 2017 there were 14 deaths and 233 serious injury casualties.

Figure 13 shows the five year rolling average trend-line to be almost a flat line, indicating that the previous downward trend for casualties has now reversed, in the short term.

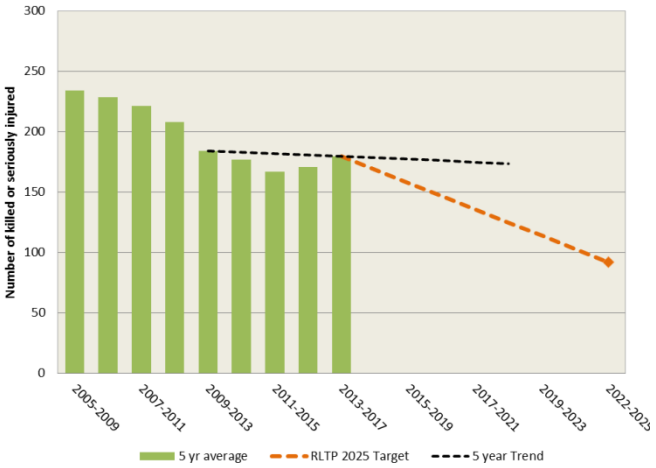
At a national level, serious and fatal road casualties have followed a similar trend with a downward movement in casualties from 2005 to 2015 then an increase in the last two years (up by 9.7%). The main causes of serious road crashes are poor observation, failing to give way, speed, alcohol and poor handling.

[12] Ministry of Transport; https://www.transport.govt.nz/rail/

[13] Injuries that result in death within 30 days of a crash

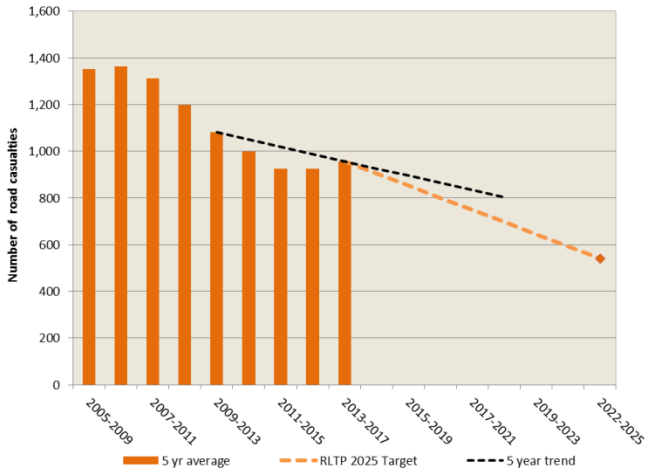
[14] Serious is defined as fractures, concussion, internal injuries, severe cuts and lacerations, severe shock requiring medical treatment, and any injury involving admittance to hospital.

Figure 13: People killed or seriously injured on region's roads (2005-2017).



Data source: CAS, NZTA

Figure 14: Total casualties on the region's roads (5 year rolling average 2005-2017)



Data source: CAS, NZTA

Figure 14 shows the total road casualties for the region to 2017 and RLTP targets to 2025. The total casualties for 2017 were 1,158 and the five year rolling average (2013-17) is 957 casualties. This year represents the first increase in the rolling average since 2010. The five year trend-line shows a decrease in total casualties overall but this may change if annual casualties continue to rise.

Increased safety for pedestrians and cyclists (vulnerable road users)

This measure assesses the safety of the road network for pedestrians and cyclists by examining CAS data over time.

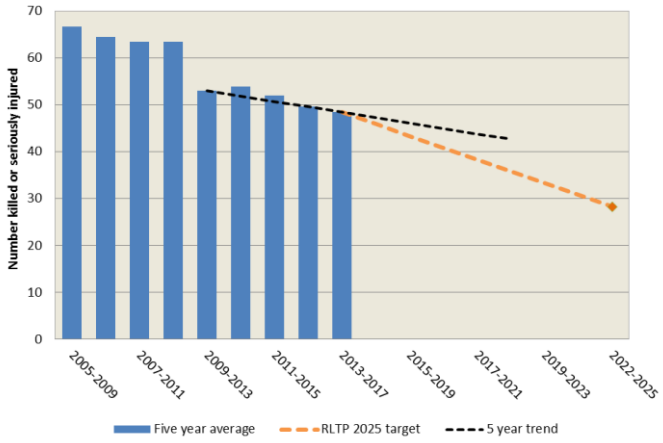
Figure 15 shows the number of pedestrians and cyclists killed or seriously injured on the region's roads. In 2017 CAS data showed:

- The number killed or seriously injured was 66 (including 7 fatalities),
- Results were above the five year rolling average of 48.
- The 2025 target is below 29 seriously injured.

The rolling average trend-line (dotted black line) shows a downward trend but the line is beginning to flatten out because casualties have increased in the last two years.

There were 29 seriously injured and one fatally injured cyclists and 30 seriously injured and 6 fatally injured pedestrians during 2017 in the Wellington region.

Figure 15 Cyclists & pedestrians seriously injured on the regions roads (2005-2017)



Data source: CAS, NZTA

Local authorities and NZTA are investing heavily in cycling and pedestrian infrastructure which is focused on targeting casualty blackspots and providing a cycling network.

The 2025 RLTP target is at least a 50% reduction in the baseline (57 casualties), for vulnerable road user casualties on the region's road network. The 5 year trend line is currently not aligned to the target.

An increasingly resilient transport network

This section discusses outcomes concerned with the resilience of the transport network, including the regional risk register, restoration and recovery timeline for the network and regional emergency plan.

MEASURE + 5 year trend	
Proportion of region covered by an adopted regional risk register	✓
Estimated time to reopen key road connections to and within the region and to key recovery facilities.	↑
Proportion of region covered by an adopted and comprehensive regional restoration and emergency plan	↑

A transport network that supports the restoration of access and regional recovery after a major event

A resilient network is one that is designed, developed and maintained to recover quickly from unplanned events. The region's road network is vulnerable to disruption or closure given an extreme event. This is because Wellington's topography and relatively narrow corridors of development, infrastructure and transport across the region make it relatively susceptible to disruption from natural hazards events and traffic crashes.

Planning and investment are needed in preparation of an extreme event to improve the resilience of existing key transport corridors and infrastructure and to identify alternative access points.

To improve the regional response to resilience, a Regional Transport Network Resilience Programme Business Case (PBC) was finalised at the end of 2016.

The PBC produced a list and a set of maps that set out locations where the transport network is vulnerable, what it is vulnerable to and how critical that location is in relation to other parts of the region's transport network. This is the regional risk register. The register will be updated as new information becomes available and work is completed.

The second resilience measure addresses the importance of access to key routes and infrastructure after an event. The restoration plans include the estimated time to reopen key supply lines and road connections to and within the region[15]. Future improvements to the regional network to improve resilience, using the regional risk register to guide the prioritisation of this work, will reduce the number of days to restore key recovery facilities. This work is ongoing.

The third resilience measure is about the adoption of a comprehensive regional emergency plan.

The Wellington Region Civil Defence Emergency Management Group (the CDEM Group) is made up of various agencies who work together to provide civil defence and emergency management to the region. Examples of progress toward this measure (from the group) in the last year include the following:

- Amendment to the Group plan to include Strategic Recovery Planning requirements[16].
- Wellington Region Earthquake plan (draft).
- Group Resilience Framework for the region.
- Regional CDEM Training strategy – i.e. to manage the training of EOC and ECC staff.

[15] Wellington Lifelines Group/WREMO[15]: Restoring Wellington transport links after a major earthquake-Initial project report, 2013

[16] In 2016 amendments to the Civil Defence Emergency Management (CDEM) Act created new requirements for CDEM Groups to engage in strategic recovery planning.

A well planned, connected and integrated transport network

This section discusses transport outcomes that are concerned with an integrated network, including improving land use and transport integration.

MEASURE + five year trend	
Population living within 500m of any bus stop or 1km of a railway station (short term trend)	
Number of secure cycle parking spaces at railway stations	↑

Improved land use and transport

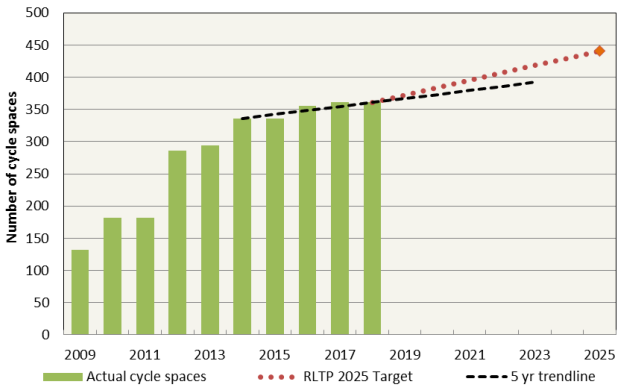
Ensuring the residents have good access to public transport services is a desirable outcome for the region. This means that people have choices about how they travel. There are economic and health benefits to investing in public transport i.e. increasing public transport patronage reduces congestion on the roads, is more energy efficient than single car use and is beneficial to the environment by reducing emissions and contributes to active travel use.

Improved integration between transport modes

The provision of cycle facilities at railway stations consists of a mix of secure cycle racks, cages, and lockers.

Figure 16 shows the 5 year trend and targets for cycle parking facilities at railway stations. In 2018 there were no additional cycle spaces available to commuters at railway stations across the region. The regional total is 361 cycle storage spaces. Additional facilities are planned for the 2018/19 year. The trend line for cycle spaces shows an increasing line generally toward the target.

Figure 16: The number of cycle parking spaces at railway stations and RLTP target (2009-2018)



Data source: GWRC

An attractive and safe walking and cycling network

This section discusses transport outcomes that promote active mode use; focusing on trips made by cyclists and pedestrians to work and study as well as cyclist/pedestrian level of service (LoS).

MEASURE + five year trend	
Proportion of urban trips by walking	↓
Proportion of urban trips by bike	↑
Perception of level of service for cyclists and pedestrians	↓
Use of active modes in journeys to school for those participating in the School Travel Plan programme.	

Increased mode share for pedestrians and cyclists

From a transport network perspective, walking and cycling are the most efficient mode choice particularly for short trips. Both modes integrate well with other modes such as public transport and are essential for connecting modes for trips.

The Census journey to work data is summarised for the RLTP as mode share[17] which includes walking and cycling. Walking mode share for the region was 11.6% in 2013 up from 9.8% in 2001. Cycling mode share was 2.9% in 2013 up from 2.3% in 2001. The 2018 census results will be included in the 2018/19 AMR.

The Wellington City CBD cordon survey is undertaken annually in March and captures all trips by pedestrians, cyclists, public transport, and motor vehicles that cross a notional cordon around Wellington City CBD. This dataset can be used to determine changes in travel patterns, mode share and patronage through time.

Figure 17 shows the mode share for pedestrians in the cordon count morning peak. Survey results for pedestrians crossing the cordon show the following:

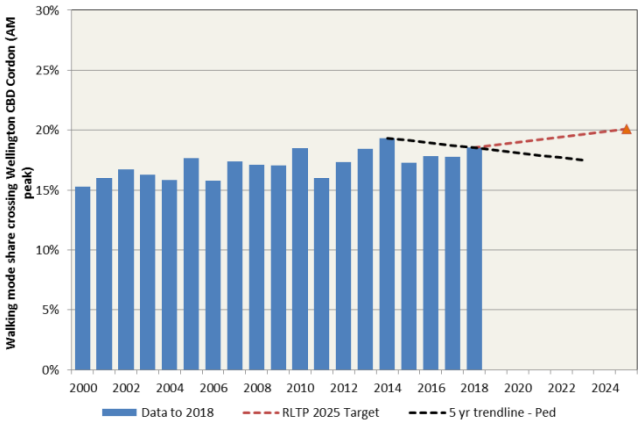
- Mode share has fluctuated from 16% to 19% since 2001
- Five year trend indicates a slight decrease in pedestrian mode share.
- In 2018, 18.5% of those people crossing the cordon were walking.

[17] Mode share is the proportion of trips to work completed by a specific mode, modes are typically motor vehicle, bus, rail, cycle, walk, motorcycle.

- The 2025 RLTP target is 20.1% mode share for pedestrians.

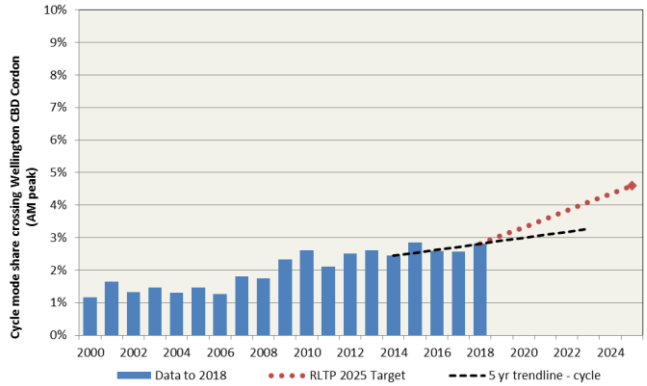
The cordon count survey is taken over one week in March; some of the annual variability can be attributed to the short time frame of the survey which can be influenced by weather conditions.

Figure 17: Mode share for Pedestrian crossing the CBD cordon (2000-2018)



Data source: Wellington CBD cordon survey, WCC

Figure 18: Mode share for cyclist crossing the cordon (2000-2018)



Data source: Wellington CBD Cordon survey

Figure 18 shows mode share for cyclists crossing the cordon. The cordon survey results reveal the following:

- The average number of cyclists has increased by 12.7% in the last five years, (250 cyclists).
- Mode share for cyclists is 2.8% for 2018.
- The five year trend is a positive trend line.
- The 2025 RLTP target for this measure is 4.6% of trips crossing the cordon are cyclists.

Improved level of service for pedestrians and cyclists

The levels of service for the walking and cycling networks are drawn from the GWRC Transport Perceptions Survey (TPS) through the following response: 'the proportion of respondents that rated the level of service for pedestrians and cyclists as good or neither good nor bad'. This survey was last run in 2015 and occurs every two or three years.

The percentage of respondents who rated the level of service for pedestrians as good was 85% in 2015 down from the 2012 high point of 90%. The five year trend line also showing a decline in perceived level of service mainly due to the 2015 result. Upper Hutt respondents rated pedestrian service higher than other TAs at 89% and Porirua's rating was the lowest at 76%.

In the same survey, people were asked to rate the level of service for cyclists. Those that rated the service as either good or neither good nor bad have declined since 2007, from 53% in 2007 down to 44% in 2015.

Increased use of active modes for journeys to school

The School Travel Plan (STP) programme within the Wellington region began in 2006. It is a joint partnership between GWRC, local councils and the schools. The aim is to increase the number of journeys to school made by active modes. The latest survey data available for STP is 2014.

In 2014, 74 schools (with 22,000 children) were included in the STP programme. Across the region, participation rates for school children varied from Kapiti (80% of children participated in the programme) to Upper Hutt (32%) and Porirua (9%). Across the region, approximately 25% of school children participated in the programme (2014).

Currently under development is *The Track our Travel online tool.* This tool replaces the paper classroom surveys that were part of the Wellington Region STP Programme.

GWRC is working with the Privacy Commissioner, NZTA and the Ministry of Education to collect up-to-date data about how children travel to school around the region. Our current focus is to ensure data is appropriately managed and stored. A pilot is expected to be underway towards the end of the 2018/19 financial year.

An efficient and optimised transport system that minimises the impact on the environment

This section discusses transport outcomes connected to environmental impacts specifically transport generated emissions and vehicle occupancy.

	MEASURE + Five year trend
Transport generated emissions (per capita)	↑
Transport generated emissions (absolute)	↑
Concentrations of harmful transport-generated pollutants	↓
Peak period private vehicle occupancy	↔

Reduced harmful emissions from transport

Carbon dioxide (CO_2) accounts for the bulk of transport-generated emissions and is therefore a suitable proxy for total transport-generated greenhouse gas emissions. This measure has been calculated from fuel consumption information[18]. The RLTP target is for 15% reduction in annual per capita CO_2 emissions by 2025.

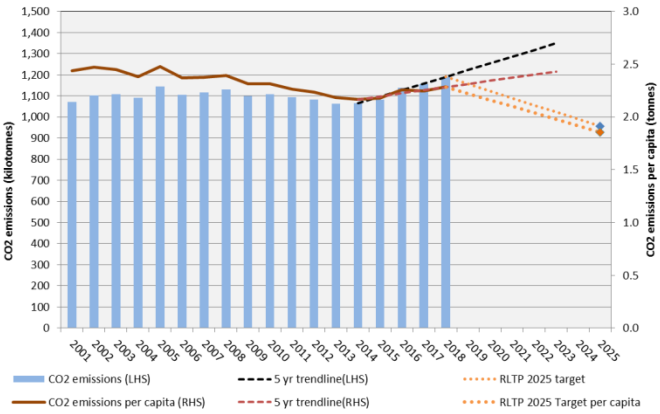
This measure provides an indication of whether the transport system is becoming more efficient, in relation to emissions, by producing fewer emissions on a per person basis.

Figure 19 represents both measures associated with transport generated CO_2 emissions. These are CO_2 kilotonnes (LHS) and CO_2 emissions per capita (RHS). Recent and current results for this measure show:

- CO_2 kilotonnes (shown as blue bars below) have increased by 11.9% in the last five years.
- Due mainly to increases in diesel consumption[19]
- Diesel sales rise by 28% and petrol sales increase by 1.0% in the last five years.
- In 2018, CO_2 emissions were 1,191 kilotonnes and 2.28 tonnes per capita.

Both the CO_2 emissions per capita trend-line (red dotted line) and total emissions (black line) show an upward trend as fuel sales increase; a result of increased travel driven by a growing economy.

Figure 19 Transport generated CO_2 emissions per capita and total emissions (2000-2018)



Data source: GWRC

Regional monitoring network

The current measure for concentrations of harmful transport-generated pollutants is based on levels of nitrogen dioxide (NO2), a harmful pollutant arising from vehicle emissions. The data currently used to track trends in traffic-related air pollutants is from NZTA's national NO2 monitoring network and is collected by passive samplers20 at multiple sites across the region (except the Wairarapa). The NZTA sites are mostly along the state highways, but include a small number of local roads.

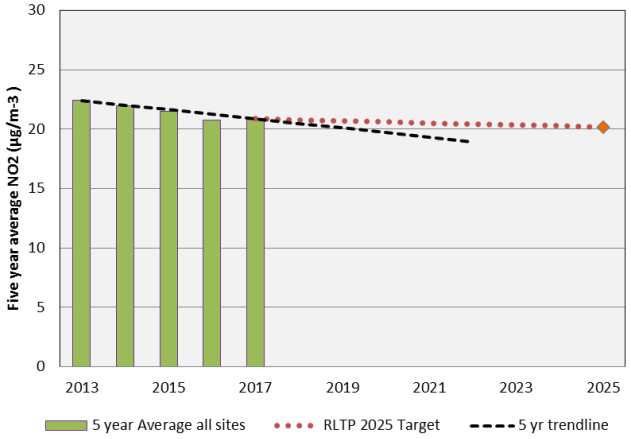
Figure 20 shows the results from NO_2 monitoring sites, the level is calculated using a five year moving average. From 2013 to 2017 there has been a downward trend in the level of nitrogen dioxide; overall there has been a 7% reduction in NO_2 during this time.

[18] Carbon dioxide emission levels have been calculated using production rates from the Ministry of Economic development greenhouse gas emissions report (2010). The factors are 2.33 Kg/L of CO2 per litre of petrol and 2.65 kg/L for diesel.

[19] Diesel fuel is used for many non-transport uses in the economy e.g. agricultural, mining, fishing, industrial and electricity generation.

[20] NZTA Ambient Air Quality (Nitrogen Dioxide) Monitoring Programme – Operating Manual 2013/14: Passive sampling techniques are 'screening' methods and are useful for spatial and temporal assessments. Pg. 24.

Figure 20: NO_2 monitoring using a five year average (2013-2017)



Data source: NZTA

One of the aims of this RLTP objective is to improve the long term reporting and monitoring framework to inform a regional indicator of trends in traffic-related air pollutants which can be linked to trends in traffic intensity and changes in the vehicle fleet.

As trends in traffic emissions and impacts on air quality are likely to differ quite strongly across the region, this requires monitoring at a number of representative "peak", "roadside" and "urban background" sites. To address this information gap, a more regionally representative NO_2 passive nitrogen dioxide monitoring network has now been established for future RLTP reporting.

Over time and as resources permit, other traffic-related air pollution indicators, such as black carbon, and particle monitoring will be added to key sites in the network.

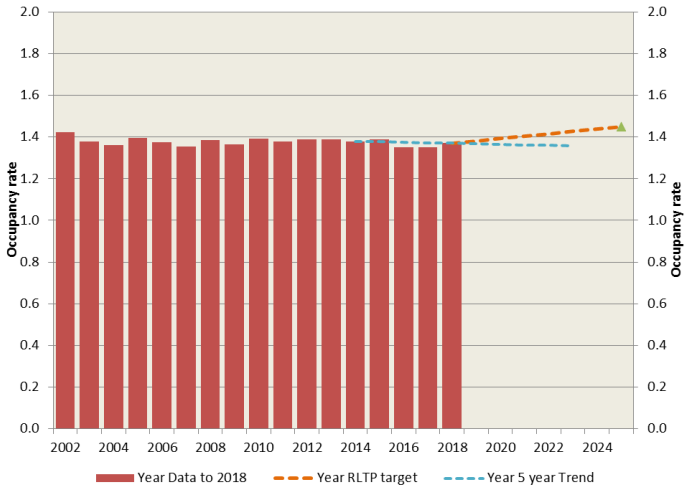
Increased private vehicle occupancy

Multiple occupancy vehicle trips (including buses) contribute to the efficient usage of the region's roads, as they raise the average number of people per vehicle, which in turn reduces the number of vehicles on the road. Given that capacity on the road network is limited, increasing average vehicle occupancy levels is a means of transporting more people, more efficiently across the network.

The Wellington City Council cordon survey measures vehicle occupancy crossing the Wellington City CBD between 7am and 9am. This survey data is used as a basis for developing future vehicle occupancy targets.

Figure 21 shows vehicle occupancy has fluctuated from 1.35 to 1.42 since 2002. In 2018, vehicle occupancy was 1.37. The 2025 RLTP target is to increase the occupancy rate to 1.45 people per vehicle. Due to the small change from year to year the trend line is neutral.

Figure 21: Private vehicle occupancy rate (2002-2018)



Data source: Wellington CBD Cordon survey

RLTP implementation

The RLTP implementation for 2015-2025 consists of the projects and activities that make up the Regional Programme. The progress of the RLTP implementation will be reported on to the Regional Transport Committee every 6 months by a separate reporting mechanism: the RLTP Progress Report.

The purpose of the half yearly progress report is to update the Committee on the status and progress of significant projects and programmes of regional interest in the Regional Land Transport Plan 2015.

The RLTP progress reports can be found on the GWRC website under Regional Transport Committee (RTC) meeting documents. The two reports that cover 2017/18 year are:

The first progress report for 2017/18 on projects in the RLTP (July to December 2017), RTC meeting March 2018 publication ref: 18.45.

March RLTP Progress report.pdf

The second progress report for 2017/18 on the RLTP projects (January to June 2018), RTC meeting August 2018 publication ref: 18.313.

August RLTP Progress report.pdf

Table 2: RLTP 2015 Strategic objectives & outcomes

	Strategic Objectives	Outcomes
Chapter 2	**A high quality, reliable public transport network**	Increased public transport use
		Improved public transport accessibility for all
		Improved quality of public transport
		Improved PT reliability and journey times
Chapter 3	**A reliable and effective strategic road network**	Reduced severe road congestion
		Improved reliability of the strategic road network
Chapter 4	**An effective network for the movement of freight**	Improved freight efficiency
		Increased proportion of freight moved by rail
Chapter 5	**A safer system for all users of our regional road network**	Improved regional road safety
		Increased safety for pedestrians and cyclists
Chapter 6	**An increasingly resilient transport network**	Improved transport infrastructure resilience to disruption from unplanned events
		A transport network that supports the restoration of access and regional recovery after a major event
		Reduced regional economic risk
Chapter 7	**A well planned, connected and integrated transport network**	Improved land use and transport integration
		Improved integration between transport modes
Chapter 8	**An attractive and safe walking and cycling network**	Increased mode share for pedestrians and cyclists
		Improved level of service for pedestrians and cyclists
		Increased use of active modes for journey to school
Chapter 9	**An efficient and optimised transport system that minimises the impact on the environment'**	Reduced harmful emissions from transport
		Increased private vehicle occupancy

Glossary

AM	Morning peak period
AMR	Annual Monitoring Report
BERL	Business and Economic Research Limited
CARD	Communications and Resource Deployment system
CAS	Crash Analysis System
CBD	Central Business District
CO_2	Carbon dioxide
FAR	Funding Assistance Rates
GPS	Government Policy Statement
GWRC	Greater Wellington Regional Council
IP	Inter Peak
Km	Kilometres
Km/hr	Kilometres per hour
Mins	Minutes
NITIS	National Integrated Ticketing Interoperability Standard
NLTP	National Land Transport Programme
NZTA	NZ Transport Agency
PM	Afternoon peak period
Police	New Zealand Police
RHS	Right hand side
RoNS	Roads of National Significance
RLTP	Regional Land Transport Plan
RTC	Regional Transport Committee
SH	State highway
TMIF	Transport Monitoring Indicator Framework
VKT	Vehicle kilometres travelled