

6 Road infrastructure

■ Summary

- › New Zealand does not score highly for its road infrastructure when compared to other developed nations. This may partly be due to geography and population size, which cannot support high levels of road investment.
- › The majority of land travel by tourists is via rental or owned cars. It is difficult to measure specific use of roads by tourists because they are generally dwarfed by local commuters, and there is no clear way of separating them from overall vehicle use. That said, there are some roads around the country that largely cater for tourists travelling between key tourism destinations.
- › One measure of the quality of road infrastructure is its safety, and areas with high numbers of tourist road crashes (such as Southland, Otago and the West Coast) have been targeted for improvement by government.

New Zealand does not score highly in road infrastructure when compared to other developed nations, according to the World Economic Forum's Global Competitiveness Report 2015–2016.²³ The New Zealand road quality is rated as 4.7 out of 7, which places New Zealand in position 43. The perceived comparatively poor quality of our infrastructure may partly be due to our geography and population size.

6.1 Road infrastructure demand

6.1.1 Road use

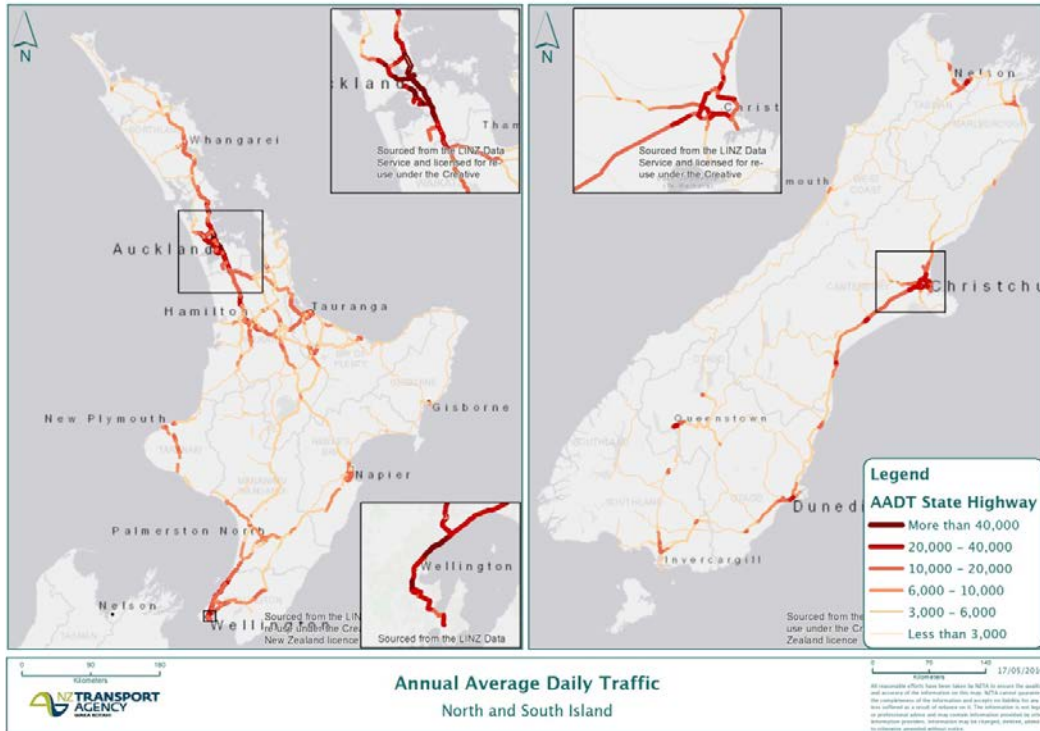
The majority of land travel by tourists is via rental or owned cars, which includes vans but not motorhomes. Less than 5 per cent of visitors use rental motorhomes. It is difficult to measure specific use of roads by tourists because there is no clear way of separating them from overall vehicle use. Tourism makes up a relatively small proportion of traffic using the network. That said, there are regional variations, with areas of Otago, Southland and the West Coast where tourist travel makes up a larger proportion of road users.

Figures 27, 28 and 29 show the average number of vehicles travelling across NZTA measuring sites by region. The NZTA measures traffic at 1,536 sites, of which 117 are permanent sites along state highways across the country. Because only certain points of the state highway network are measured, data is not available for all regions. In regions where data is available, this data may not reflect the total level of traffic because most of the road network is not measured. Also, no breakdown is available for the amount of purely tourist traffic. Nevertheless, this data gives an indication of how intensively road networks are being used across the country.

As expected, traffic volume is highest in the main centres: Auckland, Wellington and Christchurch. Waikato and Bay of Plenty also have significant traffic volumes. The regions which have lower traffic volume tend to be more rural and have smaller urban centres.

²³ World Economic Forum. (2016). *The global competitiveness report 2015–2016*. Retrieved from <http://reports.weforum.org/global-competitiveness-report-2015-2016/>

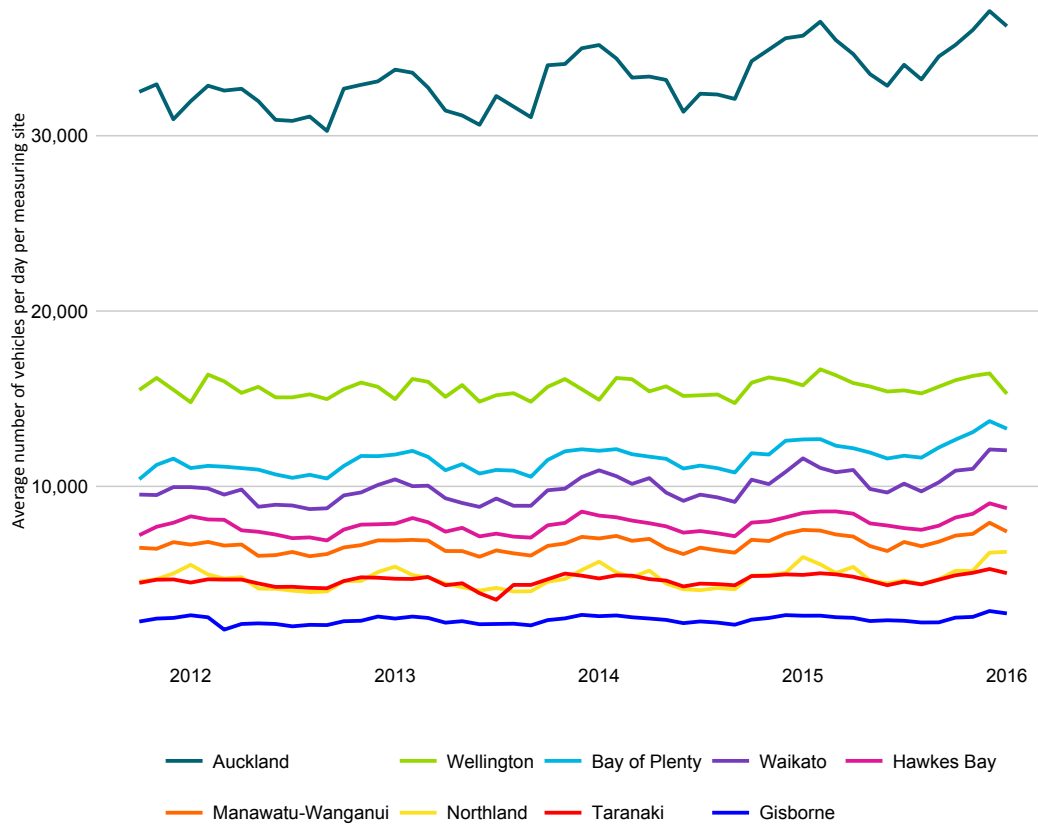
Figure 27: Annual average traffic volume, 2015



Source: NZTA

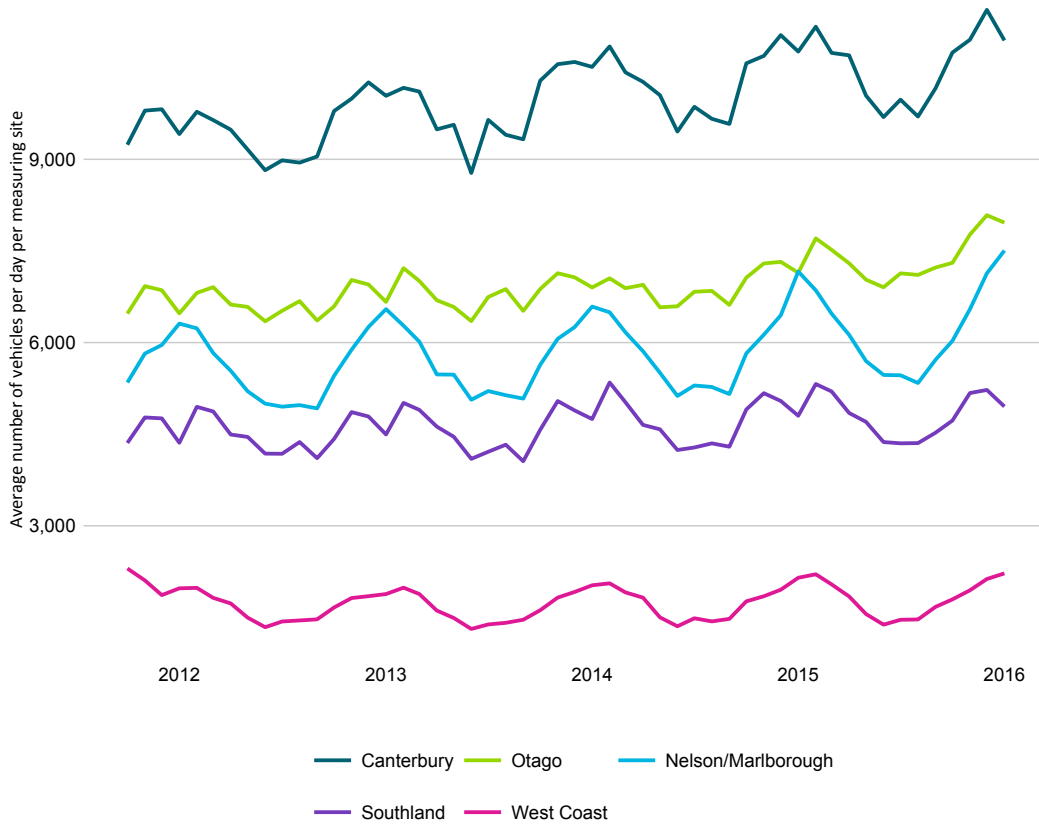
Over time, the average number of vehicles per day has a clear seasonal pattern. Auckland has seen steady growth in vehicles per day over the last three years, moving from a monthly average of 32,000 in 2013 to an average of 35,000 in 2015. This growth in vehicles has put pressure on Auckland’s road network. The Auckland region also has the most vehicle-intensive roads, and the greatest difference between the ‘low season’ in the middle of the year and the ‘high season’ at the Christmas/New Year period. Other areas that have seen significant growth in vehicles include Bay of Plenty and Waikato, two regions with close connections with Auckland.

Figure 28: Average number of vehicles per day travelling across NZTA measuring sites by region (North Island)



Source: NZTA

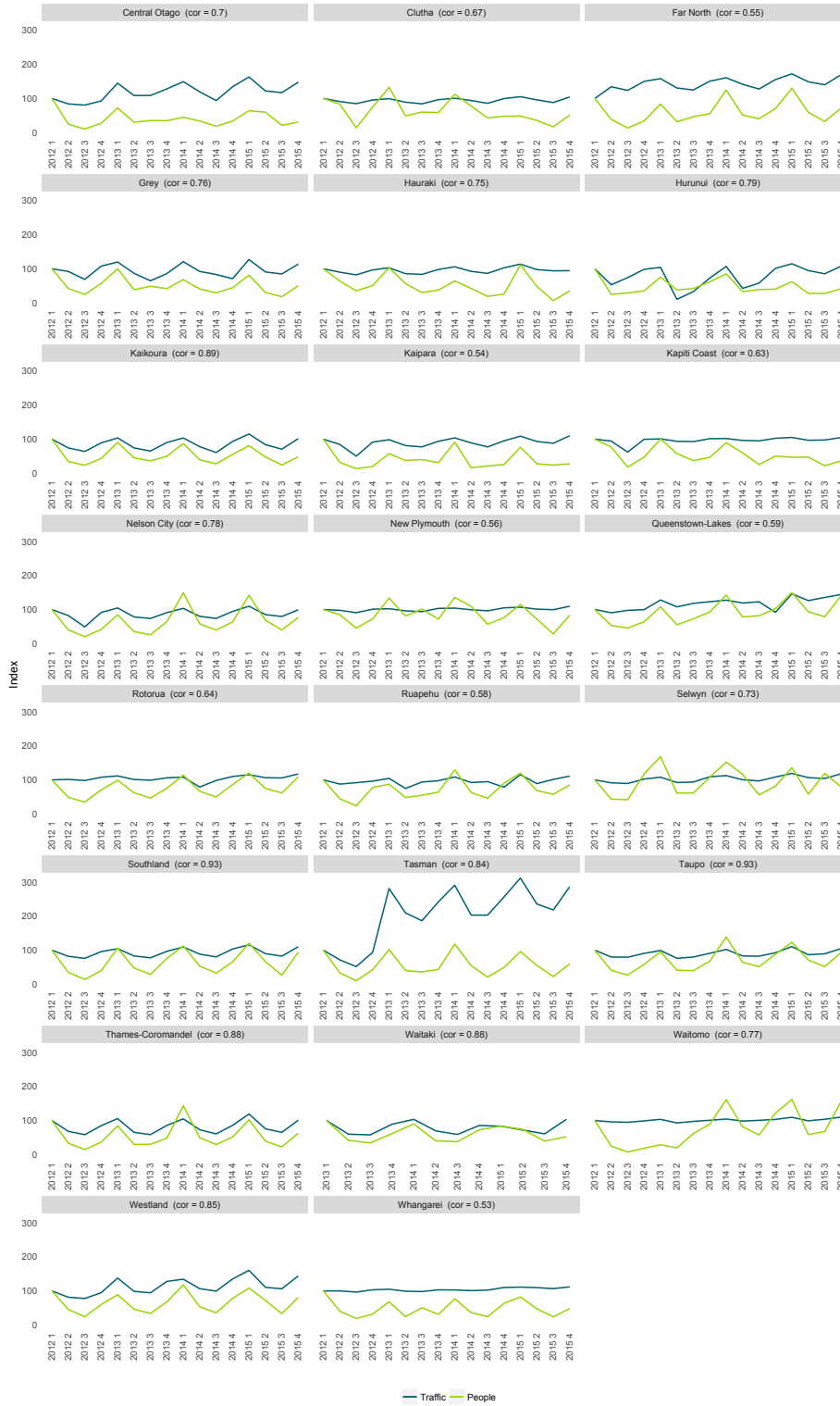
Figure 29: Average number of vehicles per day travelling across NZTA measuring sites by region (South Island)



Source: NZTA

One way to identify the areas where tourists' traffic volumes make a significant impact is to correlate the change in traffic with the volumes of people visiting over the year. Smaller regional areas with high levels of tourism (such as Kaikoura, Westland, Tasman, Southland and Thames-Coromandel) are highly correlated. In these areas, roads are quite clearly more heavily used during peak tourism season.

Figure 30: Correlation between change in traffic and the number of visitors, selected territorial authorities

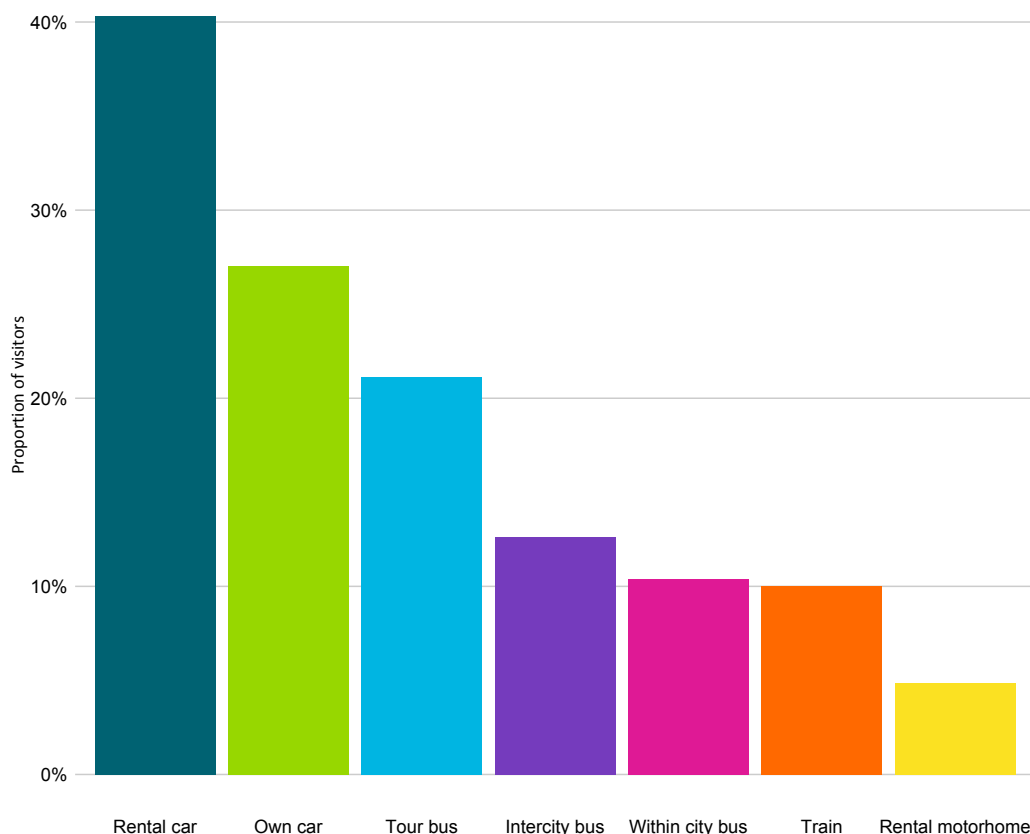


Source: NZTA, International Visitor Survey

6.1.2 Vehicle use

The International Visitor Survey provides a breakdown of vehicle types used by international visitors. Overall, around 40 per cent of visitors used rental cars, while another 27 per cent used their own car (whether bought during their trip or borrowed from friends or family). A fifth of international visitors travelled across New Zealand on tour buses. Just under five per cent of visitors used a rental motorhome.²⁴

Figure 31: Vehicle use by international visitors, 2015



Source: International Visitor Survey

6.2 Road infrastructure supply

New Zealand has approximately 63,000 kilometres of sealed and 32,000 kilometres of unsealed roads, owned by both local and central government.

The state highway network links New Zealand's towns and cities and provides access to key transport hubs such as ports and airports. It is managed by the NZTA and consists of 11,000 kilometres of state highways and over 4,000 bridges. The current state highway network is valued at approximately \$29.2 billion.

²⁴ Note that a single visitor may have used multiple forms of transport in their time in New Zealand, so the percentages do not sum to 100.

The local roading network consists of 66,000 kilometres of rural routes and 18,000 kilometres of urban routes. This network is valued at \$50 billion, excluding land values (based on an estimate by the Office of the Auditor General).

While the state highway network accounts for only 11.6 per cent of the total road network, almost half of all kilometres driven each year are on state highways. As state highways tend to connect areas of high tourism interest, a higher proportion of kilometres driven by tourists are likely to be on state highways.

6.2.1 Road capacity

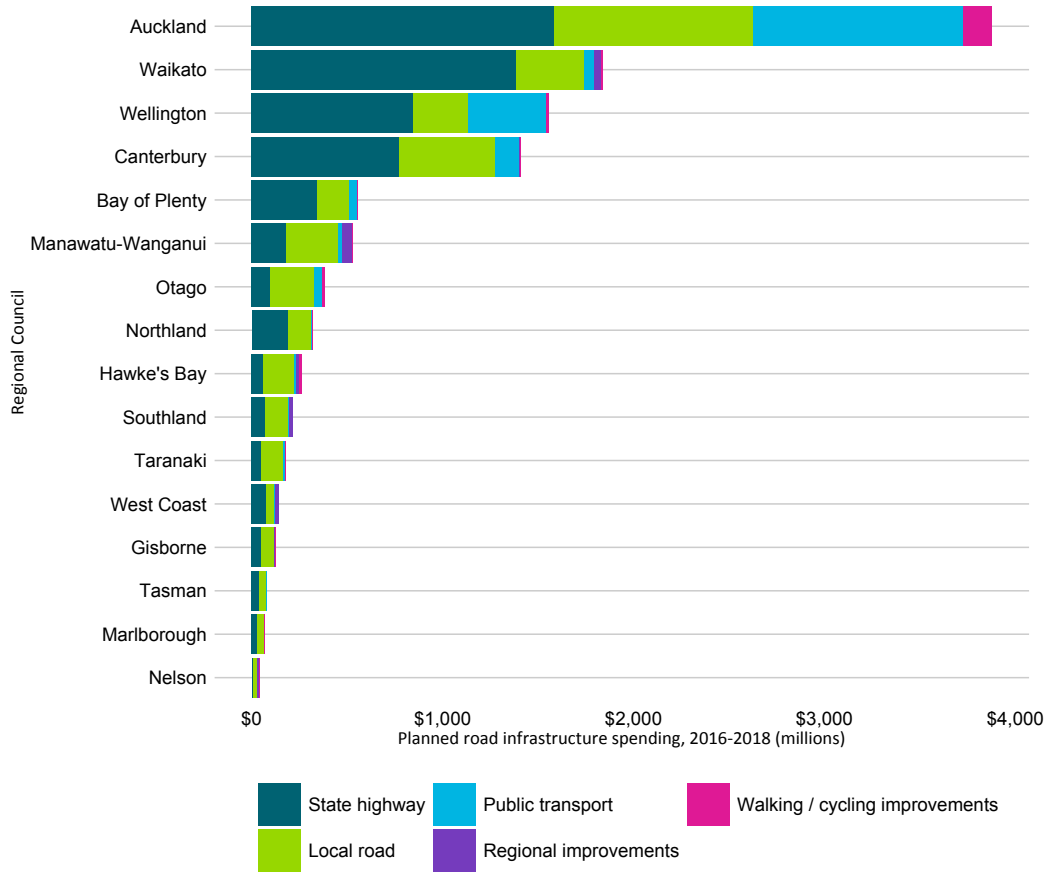
According to the NZTA, highway capacity is a function of lane width, lateral clearance, whether there is a median barrier or not, horizontal and vertical alignment, and number of side accesses. It also varies from location to location. Capacity of the national roading network is difficult to determine, with few objective measures available.

Anecdotally, many parts of the roading network are at capacity, according to the NZTA. It is, however, hard to attribute this to a single cause. There are many drivers of demand for roads – while tourism will be a factor, other factors such as a strong economy, migration, lower fuel prices and others will also play a part.

6.2.2 Road infrastructure spending

Spending on road infrastructure is planned as part of the National Land Transport Programme. Figure 32 presents planned spending over the 2016 to 2018 period, broken down by region. Due to its high population, Auckland is the region with the highest planned spend, with large shares being spent on local roads and public transport. The Wellington, Waikato and Canterbury regions also receive significant levels of investment. In Waikato, the majority of spending is on the state highway network, but in many other areas (such as Otago and Hawke's Bay) spending on local roads is larger. Auckland, Wellington and Christchurch are the main receivers of public transport expenditure, with \$1 billion spend planned in Auckland.

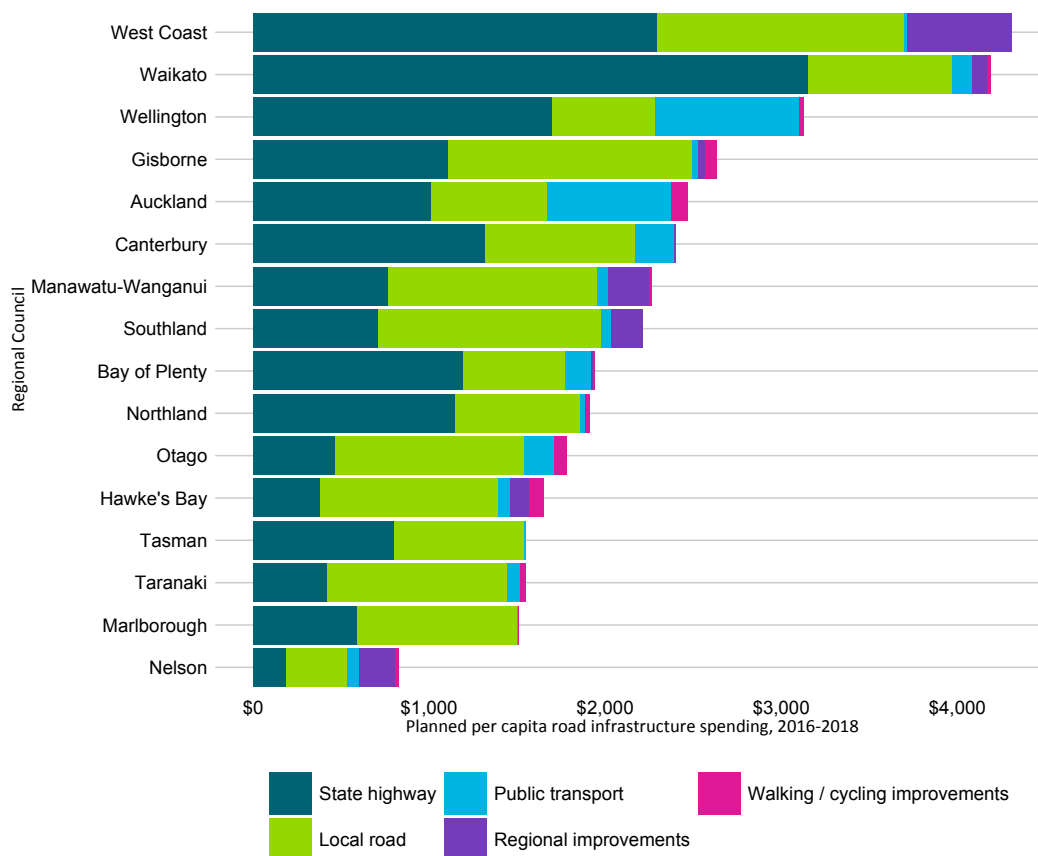
Figure 32: Planned road infrastructure spending, National Land Transport Programme, 2016–2018



Source: NZTA

On a per-capita basis, Auckland is no longer an outlier in road investment – suggesting that its higher level of investment mainly reflects its larger population. The West Coast, Waikato and Wellington regions have the highest per capita level of spend. In the case of the West Coast, this reflects its low population density. State highway and regional improvements may allow tourists to more easily visit the region. Similarly, state highway investment in the Waikato region should make it easier for tourists arriving in Auckland to travel south into other regions.

Figure 33: Planned road infrastructure spending per capita, National Land Transport Programme, 2016–2018



Source: NZTA

6.3 Road safety

One way to measure the quality of road infrastructure is to look at crash statistics. The NZTA (using data provided by NZ Police) has a database of crashes on New Zealand roads. Overseas licence holder crashes may be caused by a range of things, such as driver error or speeding, and may not necessarily have a direct correlation with the quality of the roading infrastructure. However, it is an indicator. Large numbers of tourist crashes could also suggest inadequate investment into new infrastructure, strain on existing infrastructure, inadequate information or training about New Zealand roads for visitors, or some other reason.

The Ministry of Transport produces a report on overseas licence holders involved in crashes.²⁵ Over the period of 2010 to 2014, 5.7 per cent of fatal and injury crashes involved an overseas licence holder. At the local level, the proportion of crashes involving an overseas licence holder varied markedly. In Southland and Queenstown-Lakes districts, around a quarter of all crashes involved an overseas driver. These areas are tourism centres and also have long roads across difficult terrain.

²⁵ Ministry of Transport. (2015). *Overseas driver crashes*. Retrieved from <http://www.transport.govt.nz/assets/Uploads/Research/Documents/Overseas-drivers2015-15Jun15.pdf>

Table 6: Top 22 local bodies by fatal and injury crashes involving overseas drivers (2010–2014)

LOCAL BODY	CRASHES INVOLVING OVERSEAS DRIVERS	PERCENTAGE OF CRASHES THAT INVOLVED AN OVERSEAS DRIVER
Westland	68	38%
Mackenzie	30	27%
Queenstown-Lakes	107	25%
Southland	153	24%
Kaikoura	22	21%
Central Otago	39	16%
Buller	26	15%
Hurunui	39	13%
Waitaki	47	12%
Ashburton	36	12%
Tasman	52	11%
Clutha	45	11%
Thames-Coromandel	40	11%
Waitomo	26	11%
Marlborough	51	10%
Ruapehu	31	10%
Far North	80	9%
Grey	20	9%
Selwyn	42	8%
Taupo	44	8%
Western Bay of Plenty	48	8%
Otorohanga	12	8%

Source: NZTA

The Visiting Drivers Project, led by the NZTA, aims to ensure all visitors have a safe and enjoyable visitor experience. The project involves a range of organisations including central and local government, the tourism industry, and others. A range of initiatives are in place to reach visitors at each stage of their holiday – planning, booking, in-flight, arriving in New Zealand, and when actually driving on the road.

The NZTA has made a \$25 million investment to improve safety for visiting drivers through the 2015–2018 National Land Transport Programme. The \$25 million has been targeted across three broad categories:

- › a road safety engineering programme on the state highway network targeting key visitor journeys in Otago, Southland and the West Coast – \$15 million
- › co-investment with local government to support initiatives for key visitor journeys on local roads in Otago, Southland and the West Coast – \$8.75 million
- › a marketing programme (through an education plan) targeted at providing information to visitors – \$1 million.

6.4 Visitor experience

International visitors are asked to rate their experience of commercial transportation in New Zealand as part of the International Visitor Survey. Commercial transportation includes rental cars and bus, rail and ferry services. Overall, New Zealand scores very highly on commercial transportation satisfaction. In 2015, 90 per cent of respondents had a satisfaction rating of 7 out of 10 or higher. Just two per cent had a rating of 4 or lower. This suggests that New Zealand commercial transportation is largely suiting the needs of tourists. However, there are no direct comparisons with other countries in order to determine how New Zealand may compare internationally.

Figure 34: International visitor experience: commercial transportation



Source: International Visitor Survey