



ROAD SAFETY ANNUAL REPORT 2019

NEW ZEALAND

NEW ZEALAND

Since the record low fatalities total in 2013, New Zealand faced four consecutive annual increases in road deaths until 2017. In 2018, New Zealand recorded 377 road fatalities in 2018, one less than in 2017. The mortality rate is 7.7 deaths per 100 000 population. "Safer Journeys" is New Zealand's Road Safety Strategy for the period 2010-20. The strategy's vision introduces the Safe System approach to New Zealand. The New Zealand Ministry of Transport is soliciting public input on the adoption of the "Vision Zero" philosophy for its Road Safety Strategy 2020-30.

Trends

New Zealand registered 377 road deaths in 2018, one less than in 2017. In 2017, 378 persons lost their lives in traffic crashes in New Zealand. This represents a 15.9% increase on 2016.

The **longer-term trend for road deaths** in New Zealand has been inconsistent. Between 2000 and 2018, the number of annual road fatalities fell by 18%. Greatest reduction was achieved in the 2000-2013 period when road fatalities fell 45%. Since, much of those road

safety improvements have been wiped out as road deaths increased by 49% between 2013 and 2018.

The number of **traffic deaths per 100 000 inhabitants** in New Zealand has fallen by 36% between 2000 and 2018. In 2018, 7.7 traffic deaths per 100 000 inhabitants were recorded, compared to 12.1 in 2000. By way of comparison the average in the European Union is 4.9 deaths per 100 000 inhabitants in 2018.

Measured as **traffic deaths per billion vehicle-kilometres** (vkm) driven, the fatality risk of New Zealand showed an encouraging longer-term trend. In 2017 this metric stood at 7.8, 43% lower than in 2000.

New Zealand recorded 0.9 **road fatality per 10 000 registered vehicles** in 2018. This represents a decrease of 47% compared to the year 2000, when the rate of deaths to registered vehicles stood at 1.8.

Country Profile

Population in 2018: 4.9 million

GDP per capita in 2018: 42 249

Cost of road crashes: 1.8% of GDP (2018)

Road network in 2018: 95 278 kilometres

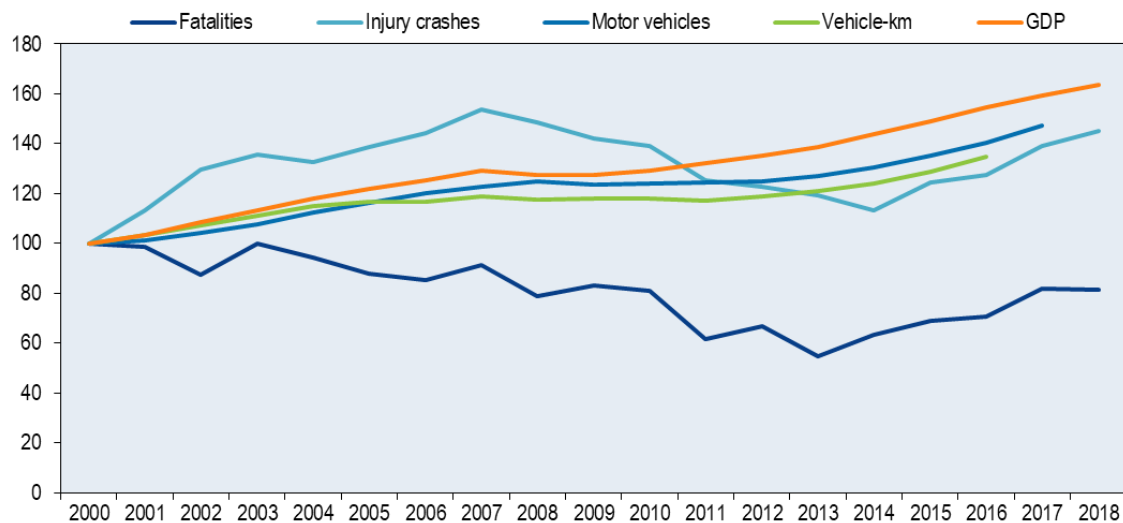
Registered motor vehicles in 2018: 4 million
(cars 80%; goods vehicles 16%; motorcycles 3%)

Volume of traffic : +32% between 2001 and 2017

Speed limits: 50 km/h on urban roads;
100 km/h on rural roads; 100 km/h on motorways

Limits on Blood Alcohol Content: 0.5 g/l for general drivers, 0.0 g/l for professional drivers and novice drivers

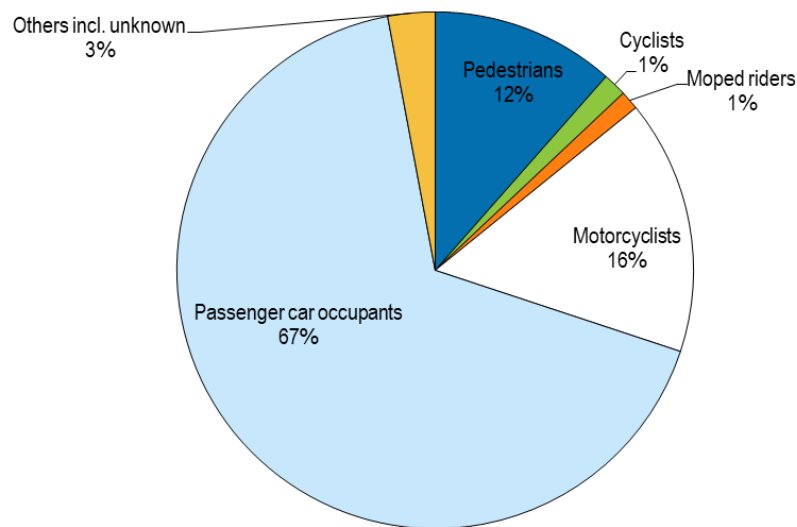
Figure 1. Road Safety, vehicle stock, traffic and GDP trends
Index 2000 = 100



The graph for **fatalities by road user groups** shows that passenger car occupants continue to be the group the most affected by road crashes. In 2018, passenger car occupants accounted for the largest share of road deaths with 60% of the total. They were followed by motorcyclists (14%), pedestrians (10%) and cyclists (1%).

The largest increase in 2018 was registered among motorcyclists who suffered 6 more deaths than in 2017 – an increase of 13.6%. They were followed by moped riders with 2 more deaths. In 2018, passenger car occupants experienced a decrease of 10.6% compared to 2017 and cyclists came back to the level of 5 deaths as in 2016. The number of pedestrians killed in injury crashes remained stable at the level of 2017.

The long-term trend shows that road safety improvements in New Zealand are unequally distributed among road user groups. Passenger car occupants saw road deaths fall 37% since 2000, whereas motorcyclists (+67%) and pedestrians (+11%) saw increases in road fatalities over this time. Except from 2017 when there was a high level of cycling fatalities, cyclists saw road deaths fall 74% since 2000.

Figure 2. Road fatalities by road user group in percentage of total, 2018

Road deaths by age group in 2018 show a small decrease for the people aged 21 to 64, and a small increase for the other age groups.

Looking at the longer-term trend, since 2000, the number of road deaths decreased for all groups, with the exception those older than 75 (+27%). The strongest reduction in fatalities over this period occurred among young people with those aged 0-14 (-66%) and 15-17 (-56%) seeing significant road safety improvements.

More recently, since 2010, the number of annual road deaths has increased overall (+1%). Despite this, the situation improved markedly for children and young people up to 20 years of age with fatality reductions of greater than 20%.

Despite these gains, young people continue to be the age group at highest risk in traffic with 18-20 and 21-24 year olds sporting mortality rates in 2017 of 13 and 15 per 100 000 persons, respectively (the average mortality rate in New Zealand is 7.9 per 100 000). Senior citizens are at similarly high risk, however, with the elderly above 75 years of age experiencing traffic fatalities at a rate of 12 per 100 000 persons in 2017. Unlike many other countries where senior citizens are particularly vulnerable as pedestrians; in New Zealand, older people are primarily at risk as car occupants.

Figure 3. Road fatality rates by age group, 2000-2017
Deaths per 100 000 population in a given age group

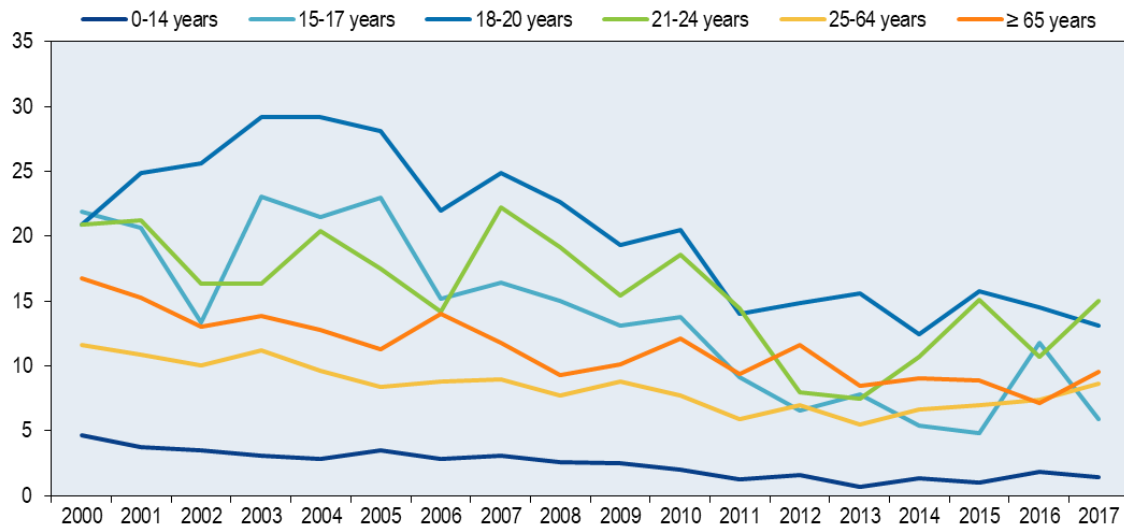
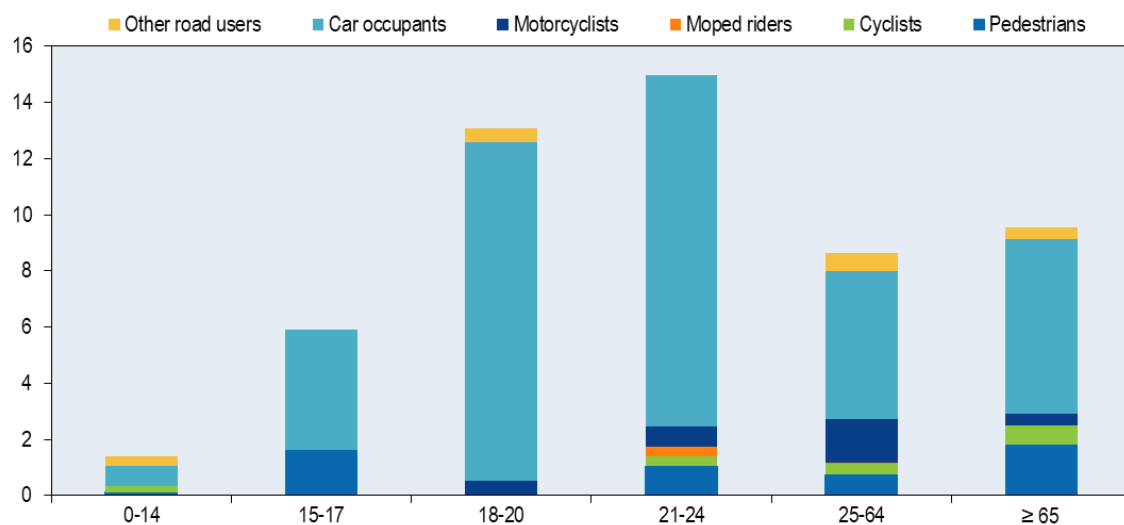


Figure 4. Road fatality rate by age and road user group, 2017
Fatalities per 100 000 population in a given age group



Analysis of **fatalities by road type** shows that the rural network is the deadliest. In 2018, 64% of deaths occurred on rural roads, 36% on urban roads and 2% on motorways. This repartition has remained relatively stable in recent years.

In 2018, in comparison to 2017, urban roads saw 29 more deaths for a year-on-year increase of 27.1%. Rural roads saw 30 less road fatalities in 2018 than in 2017 - a decrease of 11.1%. Motorways saw 3 more road deaths, the double with respect to 2017.

Since 2000, fatalities in rural areas have decreased by 30% while motorways saw a drop from 18 road fatalities at the turn of the century to 6 in 2018 (-67%). Urban roads have

seen the number of annual road fatalities increase 33% between 2000 and 2018 from 102 to 136. More recently, since 2010, the number of road deaths increased on urban roads while it decreased on motorways and rural roads.

Figure 5. Road fatalities by road type

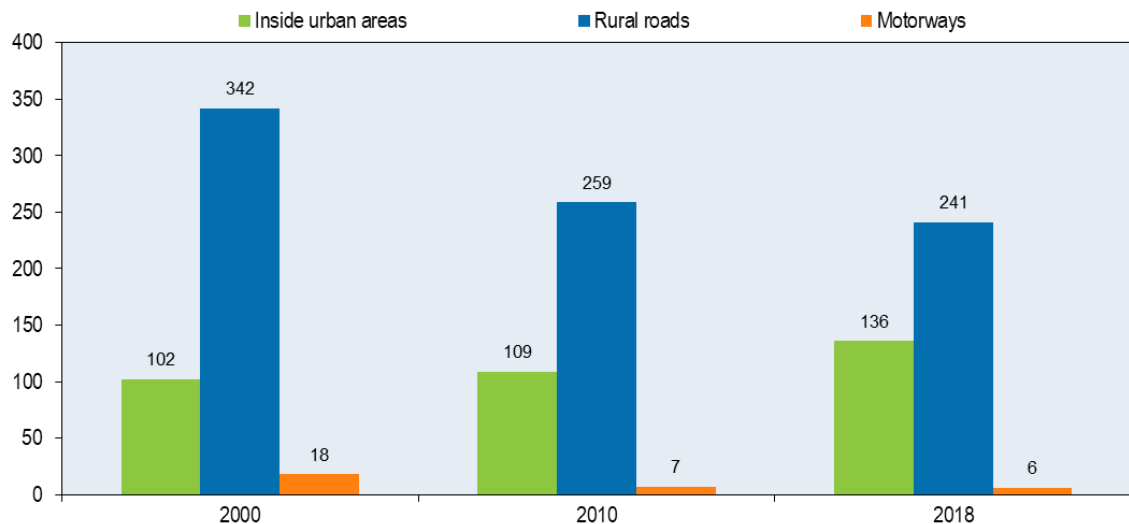
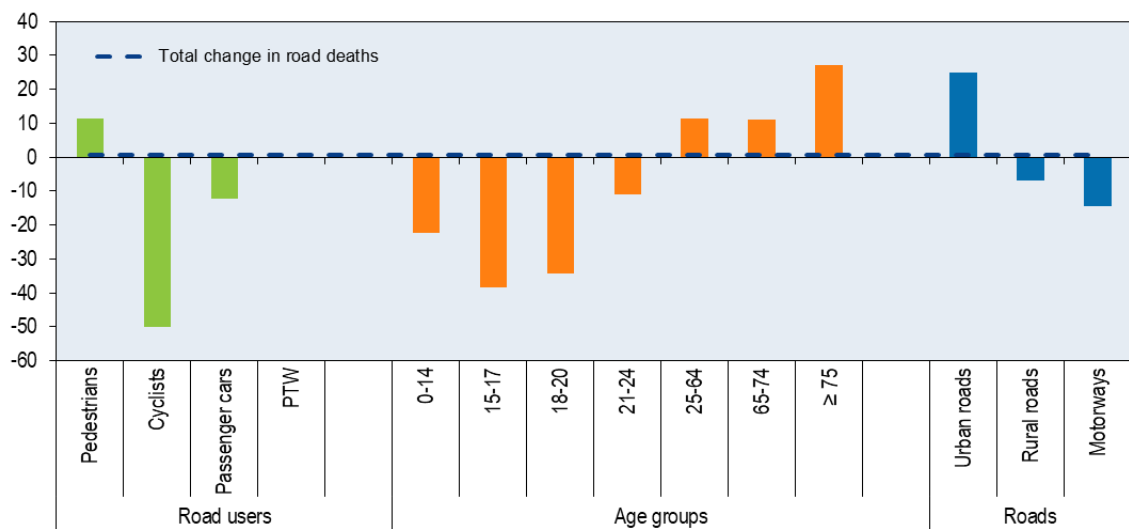


Figure 6. Evolution of road deaths by user category, age group and road type, 2010-2018



Fatality data are essential to understand road safety issues, but hardly sufficient. Information on **serious injuries from crashes** is also critically important. Yet injury data are much more difficult to obtain, validate and - where available - compare. In New Zealand, similar to road deaths, serious injuries from road traffic crashes had been

declining but have begun to increase again from 2013. In 2017 serious injuries have decreased by 36% since 1990 but increased by 39% since their lowest point in 2013.

In 2017, occupants of passenger cars accounted for the largest share of serious injuries with 61% of the total. They were followed by motorcyclists (18%), pedestrians (10%) and cyclists (7%). The largest increase in 2017 was registered among car occupants with 181 more seriously injured compared to 2016. These were followed by motorcyclists with 30 more seriously injured, cyclists (21 more seriously injured) and pedestrians (10 more people seriously injured) (Ministry of Transport, 2018).

Economic costs of road crashes

In New Zealand, the social cost of a road crash or a road injury includes the following components:

- loss of quality life
- loss of output due to temporary incapacitation
- medical costs
- legal costs
- vehicle damage costs.

Social cost components are either measurable or can be estimated in dollar terms. A “willingness-to-pay” valuation technique is used to express pain and suffering from loss of life or life quality in dollar terms. Various methodologies have been developed to estimate the value of other social cost components.

The total social cost of motor vehicle injury crashes in 2017 is estimated at NZD 4.8 billion, at June 2018 prices. This represents an increase of NZD 0.6 billion (or 15%) compared to the previous year, due to large increases in the number of crashes for all severity types (fatal +20%, serious +13% and minor +11%).

Loss of life and/or life quality due to permanent impairment accounted for approximately 91% of the total social cost of injury crashes. Vehicle damage accounted for around 5%, and other cost components made up the remaining 4%.

There are also an estimated 25 000 non-injury crashes, valued at NZD 0.8 billion. The total social cost of all motor vehicle crashes in 2017 is estimated at NZD 5.6 billion and covers all injuries recorded by NZ Police, hospitals and ACC.

Table 1. Costs of road crashes, 2017

	Unit cost [NZD] ¹	Total [NZD] ²
Fatal crashes	5.071 million	
Serious injury crashes	525 600	
Slight injuries crashes	29 900	
Total cost of injury crashes		4.8 billion
Property damage crashes	3 100	0.8 billion
Total		5.6 billion
Total as % of GDP		1.8%

1. The unit costs for injury crashes include the cost of associated property damage.
2. The total costs include an allowance for under reporting of crashes.

Table 2. Unit costs of road crash injuries

	Unit cost [NZD] ¹
Fatalities	4.37 million
Serious injuries	458 400
Slight injuries	24 700

1. The unit costs for injury crashes include the cost of associated property damage.
- Source: Ministry of Transport (2019)

Behaviour

The behaviour of road users is an important determinant of a country's road safety performance. **Inappropriate speed** in particular is one of the main causes of road crashes. In 2018, speeding was a contributing factor in 102 fatal crashes out of a total 310 (33%), 417 serious injury crashes, and 1 521 minor injury crashes. Drivers in speed-related crashes are less likely to wear safety belts than drivers in crashes in which speed is not a factor. Between 2014 and 2016, at least 37% of the car and van drivers who died in speed-related crashes were not restrained at the time of the crash. This compares with 21% for drivers who died in crashes that did not involve speed.

The table below summarises speed limits for passenger cars.

Table 3. Passenger car speed limits by road type, 2019

	General speed limit	Comments
Urban roads	50 km/h	The general urban limit is 50 km/h but specific sections may have higher or lower limits
Rural roads	100 km/h	The general urban limit is 100 km/h but specific sections may have higher or lower limits
Motorways	100 km/h	

In 2014, New Zealand lowered the blood alcohol content (BAC) level from 0.8 g/l to 0.5 g/l. Drivers with a BAC over 0.8 g/l must appear in court; a BAC between 0.5 g/l and 0.8 g/l results in a fine and demerit points. In 2011, a zero drink-drive limit was introduced for drivers under 20 years of age. The earlier limit had been 0.3 g/l.

Alcohol/drugs-related road deaths are those in which any motor vehicle driver was found with a BAC above the legal limit and/or drugs are proved to be in the driver's blood. In 2018, alcohol or drugs were a contributing factor in 133 fatal crashes out of a total 310 (43%), 318 serious injury crashes, and 1 168 minor injury crashes.

Distraction includes a range of activities where drivers' attention is directed away from safe driving, towards competing events, objects or people, inside or outside the vehicle. In 2018, driver distraction was a contributing factor in 12 fatal crashes out of a total 310 (4%), 155 serious injury crashes, and 956 minor injury crashes.

The Land Transport Road User Rule was amended in August 2009 to include a ban on the use of hand-held mobile phones while driving. Based on police records, fatal crashes due to the use of cell phones are not frequent. Mobile phone use continues to be a problem with 60% of New Zealand drivers admitting to using their phone while driving. Publicity campaigns addressing the problem were introduced in 2015. Launched in June 2019, the "Let Driving Distract You" campaign targets young drivers and encourages them to use the driving seat as a place to de-connect from their mobile devices.

Fatigue is tiredness, weariness or exhaustion. In 2018, fatigue was a factor in 22 fatal crashes out of a total 310 (7%) and 99 serious injury crashes in New Zealand.

Seat belt use has been compulsory in front seats since 1972 and in rear seats since 1979.

In November 2013, the mandatory use of child restraints in vehicles was extended by two years, with all children required to be correctly secured in an approved restraint until they reach the age of seven.

Based on the most recent roadside surveys, the rate of seat belt use is about 96.5% in front seats (2016), 92% for adults in rear seats (2014), 93% for children aged 0-5 in appropriate child restraints (2016) and 95% for children aged 5-9 (2015).

Wearing a safety belt reduces the risk of being killed or seriously injured in a road crash by about 40%. Each year, approximately 90 people are killed on New Zealand roads because they didn't wear a seatbelt. As mentioned in the speed section drivers in speed-related crashes are less likely to wear safety belts than drivers in crashes in which speed is not a factor.

The New Zealand Transport Agency launched renewed seat-belt wearing campaigns targeting rural males aged 20-40 years in February 2019. In partnership with a media company popular among the target audience, the NZTA used survivor stories to emphasize the risk of failing to wear seatbelts.

Table 4. Seat belt wearing rates
Percentages

	2000	2010	2016
Front seats			
Driver	89	96	97
Passenger	87	96	96
Urban roads (driver)	88	95	96
Rural roads (driver)	92	97	97
Rear seats			
General	76	88	..
Child restraint – under 5 years	79	93	..

Helmet wearing has been compulsory on motorcycles since 1956 if travelling over 50 km/h and since 1973 at all speeds. Compliance is virtually 100%. Helmet wearing has been compulsory on mopeds (up to 50 cc, maximum speed 45 km/h) since 1973.

Helmet wearing has been compulsory on bicycles since 1994. In 2015, the national cycle helmet wearing rate across all age groups was 94%.

Road safety management and strategies

There are several **factors of influence on New Zealand's road safety performance** as captured by the above indicators. In 2013 New Zealand recorded the lowest level of road fatalities. This was possible because New Zealand has made substantial changes to its land transport policy since 1990 in order to reduce road trauma. Main measures include:

- graduated driving licence system (GDLS) (1987);
- compulsory breathing testing carried out through road side testing (1992);
- speed cameras (1993);
- new drug driving laws (1998);
- GDLS improvements including the introduction of a photo on the driver licence (1999);
- increased penalties for serious offences (2006);
- increased minimum driving age from 15 to 16 years (2011);
- development of a speed management programme (2013);
- lowered blood alcohol concentration (BAC) – to zero for drivers less than 20 years of age (2011) and to 0.5 g/l for drivers aged 20 and over (2014);

- introduction of alcohol interlocks as part of the penalty regime (2016).

The development and subsequent implementation of the “Safer Journeys” strategy adopted in 2010 and based on the Safe System approach has been a major change in the way New Zealand addresses road safety.

However since 2013, New Zealand has struggled to contain the growing number of annual road deaths.

Responsibility for the organisation of road safety in New Zealand lies with five transport partners. The Ministry of Transport is the government’s principal transport policy adviser and has a dedicated team focused on road safety policy. The Ministry is the lead agency for road safety.

The New Zealand Transport Agency is a Crown agency responsible for the planning and funding of land transport. It produces road safety campaigns and implements road safety policy, integrating road safety aspects into road design and maintenance. It is responsible for developing, constructing, maintaining and operating the state highway network.

The New Zealand Police are responsible for road policing and enforcement. The Accident Compensation Corporation provides “no fault” cover for anyone in New Zealand who is injured in or by a motor vehicle on a public road. It has a major role in accident prevention activities.

Local government is responsible for developing, maintaining and operating the network of local roads, including setting of speed limits and delivering public transport infrastructure and services. Decisions on construction, maintenance and management of the road networks must take into account road safety.

The Accident Compensation Corporation (ACC) is a Crown entity responsible to the Minister for ACC that works to help prevent injuries and helps pay for the costs of accident recovery.

In 1993, road safety policy development was separated from delivery with the creation of a new entity called the Land Transport Safety Authority, now called the New Zealand Transport Agency (from 2007). In 1992, traffic policing was absorbed into the New Zealand Police.

“Safer Journeys” is New Zealand’s **Road Safety Strategy** 2010-20, which was released in March 2010. The strategy’s vision is a safe road system increasingly free of death and serious injury, and introduces the Safe System approach to New Zealand. The Road Safety Strategy 2010-20 does not include a general fatality target, but has several sub-targets and performance indicators.

The government released a 2011-12 Action Plan outlining actions to help achieve the Safer Journey’s objectives. A second action plan for 2013-15 was completed in 2015 and

a third action plan for 2016-20 was released in May 2016. An interim evaluation was undertaken in 2015. While the evaluation concluded that “Safer Journeys” was a professionally developed, well regarded, sound road safety strategy, it highlighted the lack of measurable targets and the need for improved co-ordination across road safety agencies.

The Government has announced the development of a new road safety strategy for the period 2020-2030. The Government will investigate adopting the “Vision Zero” approach to road safety philosophy, which would set a long-term objective of eliminating road deaths. The strategy will include measurable targets, outcomes and performance measures and be developed alongside an action plan that considers interventions from across the road safety system. The development of the new strategy will take until September 2019.

Measures

Several measures to improve road safety management have recently been put into place.

Road Safety Management

- Safer Speeds is New Zealand’s new approach to speed management under the Safer Journeys strategy. Safer Speeds recognises that for some roads, where current travel speed or speed limits may be too high, changes should be made – either to the road design or to the speed limit. It also recognises that some speed limits could be increased without compromising safety. For example, New Zealand’s newest highways are being built to very high standards and may be able to support a 110 km/h speed limit provided that other conditions are met.
- As part of Safer Speeds, a review of speed limit rules was completed. The review found that the existing speed setting methodology is out of date. Following the review, a package of measures was agreed by the Government to:
 - update the speed setting methodology contained in the rules;
 - increase national consistency in setting and managing speed limits
 - target speed management efforts where there is greatest potential to reduce deaths and serious injuries, and improve economic productivity
 - increase public understanding of what travelling at a safe and appropriate speed means, including the role of speed in determining the impact and outcomes of crashes.

The rule changes to support Safer Speeds came into force on 21 September 2017.

Road users

- In mid-2017, changes to a range of legislative settings were made through amendments to the Land Transport Act 1998. The changes included:
 - enabling innovative small passenger services to operate and deliver benefits to consumers while managing safety risks
 - creating opportunities to increase the productivity of heavy freight and passenger vehicles while managing safety risks
 - introducing mandatory alcohol interlock sentences for repeat offenders and first time drink-drive offenders with high alcohol levels
 - creating more effective deterrents to reduce the numbers of drivers who flee law enforcement
- The “Let Driving Distract You” campaign launched in June 2019 targeting drivers in their 20s and 30s who use their phones while driving. It encourages drivers to put down their mobile phone and create a place of sanctuary from an increasingly hectic and constantly connected life. Strong focus was made on digital video channels (social media, YouTube, On-Demand).
- The “Life Lines” and “Belted Survivors” campaigns were launched in February 2019 targeting rural males aged 20-40 years old. In partnership with Vice media group, crash survivors from the target group were recruited and advertisements were made using their stories. Customised billboards were situated in the car parks of pubs and bars around New Zealand in addition to the use of targeted television, cinema, and social media content.

Infrastructure

- The Safe Roads and Roadsides Programme is investing NZD 600 million over six years to make around 1 500 km of state highways safer through measures such as rumble strips, shoulder widening, safety barriers and better signage.
- The Safety Boost Programme, announced in December 2017, provides a further NZD 22.5 million to add a range of low-cost safety improvements to make 30 regional highways safer. Upgrades include rumble strips, better signage, safety barriers and Intersection Speed Zones.
- The Government Policy Statement on Land Transport 2018, which sets out the government’s priorities for transport expenditures, establishes a safe transport system free of death and injury as a key priority. It increases funding for local road improvements and maintenance, road safety promotion and road policing.

Definition, methodology, data collection

- Road fatality: a person who died immediately or within 30 days of a crash.
- Serious injuries: fractures, concussion, internal injuries, crushing, sever cuts and lacerations, severe general shock necessitating medical treatment, and any other injury involving removal to and detention in hospital, as recorded in police records.
- Minor injuries: injuries such as sprains and bruises.

New Zealand does not collected data based on the Maximum Abbreviated Injury Score (MAIS).

New Zealand's road crashes are usually attended by the police officers. Police complete traffic crash reports, which are forwarded to the New Zealand Transport Agency to be coded and the information entered into the Crash Analysis System.

Fatal crashes are all reported. When a traffic crash results in injuries, the law requires that the crash be reported, but comparisons with hospital data indicate that only about two-thirds of such crashes are reported to the New Zealand Transport Agency.

Statistical linking is done to derive reporting rates needed to calculate social costs of crashes.

Resources

Recent research

Deloitte (2017), *Qualitative and Quantitative Analysis of the New Zealand Road Toll*, <https://www.transport.govt.nz/assets/Uploads/Research/Documents/Deloitte-Analysis-of-NZ-Road-Toll-Report.pdf>

De Pont, J. (2017), *Why do people die in road crashes?*, report prepared for the Ministry of Transport by TERNZ and Mackie Research & Consulting, <https://www.transport.govt.nz/assets/Uploads/Research/Documents/TERNZ-Report-Why-people-die-in-crashes.pdf>

Hirsch, L., G. Waters, H. Mackie and J .de Pont (2017), *Vehicle occupants not wearing a seat belt: an analysis of fatalities and traffic offences in New Zealand*, report prepared for the AA Research Foundation by Mackie Research, RIDNZ and TERNZ, <https://www.transport.govt.nz/assets/Uploads/Research/Documents/Mackie-Seat-belt-fatality-report-FINAL.pdf>

Small, M., E. Howard and R. Moore (2015), *Safer Journeys Interim Evaluation*, report prepared by Martin Small Consulting, <https://www.transport.govt.nz/assets/Uploads/Our-Work/Documents/7-Safer-Journeys-Interim-Evaluation-Final.pdf>

Websites

Ministry of Transport: <https://www.transport.govt.nz/>

New Zealand Transport Agency (NZTA): <https://www.nzta.govt.nz/>

New Zealand's road safety strategy to 2020: <http://www.saferjourneys.govt.nz/>

New Zealand's "Road to Zero" road safety strategy to 2030:
<https://www.transport.govt.nz/multi-modal/keystrategiesandplans/road-safety-strategy/>

New Zealand Road Assessment Programme KIWRAP: <http://www.kiwrp.org.nz/>

References

Ministry of Transport (2019), *Social cost of road crashes and injuries 2018 update*, <https://www.transport.govt.nz/assets/Import/Uploads/Research/Documents/b67f729bf5/Social-cost-of-road-crashes-and-injuries-2018-update.pdf>

Ministry of Transport (2018), *Annual crash statistics and fact sheets – Headline statistics for calendar years 1990-2017*, <https://www.transport.govt.nz/mot-resources/new-road-safety-resources/>

Road safety and traffic data

							2018 % change over			
	1990	2000	2010	2016	2017	2018	2017	2010	2000	1990
Reported safety data										
Fatalities	729	462	375	327	378	377	-0.3%	0.5%	-18.4%	-48.3%
Injury crashes	12 818	7 830	10 886	9 968	10 907	11 359	4.1%	4.3%	45.1%	-11.4%
Injured persons hospitalised	5 718	3 054	2 881	3 026	..	..	..	..	..	..
Deaths per 100,000 population	21.4	12.1	8.6	7.0	7.9	7.7	-2.4%	-10.1%	-36.2%	-63.9%
Deaths per 10,000 registered vehicles	3.3	1.8	1.2	0.9	1.0	0.9	-4.1%	-18.2%	-46.5%	-71.4%
Deaths per billion vehicle kilometres	..	13.6	9.4	7.2	7.8	..	..	..	..	..
Fatalities by road user										
Pedestrians	104	35	35	25	39	39	0.0%	11.4%	11.4%	-62.5%
Cyclists	27	19	10	5	18	5	-72.2%	-50.0%	-73.7%	-81.5%
Moped riders	0	1	0	0	2	4	100.0%	..	300.0%	..
Motorcyclists	114	30	50	52	44	54	22.7%	8.0%	80.0%	-52.6%
Passenger car occupants	465	358	259	224	254	227	-10.6%	-12.4%	-36.6%	-51.2%
Other road users	19	19	21	21	19	10	-47.4%	-52.4%	-47.4%	-47.4%
Fatalities by age group										
0-14 years	52	41	18	17	13	14	7.7%	-22.2%	-65.9%	-73.1%
15-17 years	65	36	26	22	11	16	45.5%	-38.5%	-55.6%	-75.4%
18-20 years	108	34	41	29	26	27	3.8%	-34.1%	-20.6%	-75.0%
21-24 years	130	42	46	30	43	41	-4.7%	-10.9%	-2.4%	-68.5%
25-64 years	290	232	175	177	213	195	-8.5%	11.4%	-15.9%	-32.8%
65-74 years	25	43	36	23	33	40	21.2%	11.1%	-7.0%	60.0%
≥ 75 years	41	33	33	27	36	42	16.7%	27.3%	27.3%	2.4%
Fatalities by road type										
Urban roads	258	102	109	75	107	136	27.1%	24.8%	33.3%	-47.3%
Rural roads	449	342	259	249	271	241	-11.1%	-6.9%	-29.5%	-46.3%
Motorways	22	18	7	3	3	6	100.0%	-14.3%	-66.7%	-72.7%
Traffic data										
Registered vehicles (thousands)	2 198	2 602	3 231	3 656	3 827	..	..	..	..	..
Vehicle kilometres (millions)	..	33 856	39 980	45 564	..	..	..	..	..	..
Registered vehicles per 1,000 population	644.6	674.5	739.6	779.1	798.4	..	..	..	..	..