

Metadata: Road traffic injury mortality in New Zealand

Information topic	Details
Indicator name	Road traffic injury mortality in New Zealand
Domain	Transport domain
Rationale	<p>Traffic-related deaths and injuries are the main health impact of road transport in New Zealand (Briggs et al 2016). Each year 200–400 people die on New Zealand roads.</p> <p>This indicator focuses on the road traffic injury deaths, by mode of transport, including active forms of transport (walking and cycling). Pedestrians and cyclists can be described as ‘vulnerable road users’, as they tend to suffer more severe injuries from collisions, due to lack of personal protection (by comparison, vehicle occupants are protected by the vehicle and safety features such as seatbelts).</p> <p>This indicator includes two sources of data on road traffic injury mortalities. Data are firstly presented for the annual road toll statistics, from the Ministry of Transport. More in-depth data are then presented from the New Zealand Mortality Collection. We have pooled data from the mortality collection across years to enable us to examine pedestrian and cyclist deaths (which have small numbers).</p> <p>The data are presented by mode of transport, to show how users of different forms of transport are affected. The rates are presented per capita, as well as by time spent travelling, which takes into account the different amounts of time spent travelling by different modes of transport.</p>
Indicator definition and units	The number and rate of road traffic injury mortality, by mode of transport.
Data source	<p>New Zealand Road Toll, Ministry of Transport</p> <p>New Zealand Mortality Collection, Ministry of Health</p> <p>New Zealand Household Travel Survey, Ministry of Transport.</p> <p>Population estimates and projections, Statistics New Zealand.</p> <p>NZDep2013 Index of Deprivation, University of Otago.</p>
Numerator	<p>Numerator for mortality rate:</p> <p>Number of road traffic injury deaths, including pedestrian, cyclist, motorcyclist and vehicle occupant (injury of driver or passenger of three or four-wheeled motor vehicles) injury deaths. ‘All traffic injuries’ included vehicle occupant injury, motorcyclist injury, pedestrian injury, cyclist injury, other injury and unspecified injury.</p> <p>The indicator includes deaths due to road traffic injuries. The following ICD–10AM codes were used:</p> <ul style="list-style-type: none"> • Occupant: [V30–V79](.4–.9), [V83–V86](.0–.3) • Motorcyclist: [V20–V28](.3–.9), V29(.4–.9) • Pedal cyclist: [V12–V14](.3–.9), V19(.4–.6) • Pedestrian: [V02–V04](.1,.9), V09.2

	<ul style="list-style-type: none"> • Other: V80(.3–.5), V81.1, V82.1 • Unspecified: V87(.0–.8), V89.2 <p>These ICD codes are consistent with the classification of external cause of injury used by the Centers for Disease Control and Prevention (2002).</p> <p>Numerator for injury mortality risk per ten million hours travelled per year: Number of road traffic injury deaths for different modes of transport (as above), 3-year moving average.</p>
Denominator	<p>Denominator:</p> <ul style="list-style-type: none"> • Mortality rate: population estimates (2013 and prior) and projections (after 2013). • Mortality rate by NZDep: NZDep2013 Index of Deprivation (University of Otago) • Injury mortality risk per ten million hours travelled per year – number of hours travelled, by mode of transport, 3-year moving average (Ministry of Transport).
Time periods covered:	<ul style="list-style-type: none"> • Traffic injury deaths: from 2000 onward. Data is available on an annual basis. We have pooled data across years due to small counts. • Injury mortality risk per ten million hours travelled: three-year moving average from 2004-2006 onward.
Population coverage:	New Zealand usually resident population of all ages.
Reporting variables	Results are presented by travel mode, year, gender, age group, ethnicity, NZDep, and DHB.
Confidence intervals	95% confidence intervals were calculated based on the methodology outlined in APHO (2008). Confidence intervals are presented as error bars on graphs.
Limitations of indicator and data source	<p>This data relates to the deaths due to road traffic injury by different modes of travel. Limitations include the following.</p> <ul style="list-style-type: none"> • The indicator covers deaths that were directly caused by road traffic injury, not all deaths that were related to road traffic injury. • Spatial analysis was based on residential address and not the site of crash. • The reported year was the year of death registration, not the year of deaths.
Related indicators	<p>Number of motor vehicles Main means of travel to work on Census day Active transport to and from school Household travel by mode of transport Unmet need for GP services due to a lack of transport</p>
For more information	See references
References	<p>APHO. 2008. <i>Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i>. York, UK: Association of Public Health Observatories.</p> <p>Briggs, D., Mason, K., Borman, B. 2016. Rapid assessment of environmental</p>

health impacts for policy support: The example of road transport in New Zealand. *International Journal of Environmental Research and Public Health* 13: 61.

Centers for Disease Control and Prevention. (2002). *ICD Framework: External Cause of Injury Mortality Matrix*. Retrieved 18/03, 2015, from <http://www.cdc.gov/nchs/injury/ice/matrix10.htm>

Ministry of Health (2006) *Hospital Throughput for DHBs and their Hospitals*. Retrieved 18/03 2015, from <http://www.health.govt.nz/system/files/documents/publications/hospital-throughout-0304.pdf>