

Information topic	Details
Indicator name	Road traffic injury mortality
Domain and topic	Transport
Indicator definition and units	The number and rate of road traffic deaths, by mode of transport
Data sources	New Zealand Mortality Collection (Ministry of Health) Annual Road Tool (Ministry of Transport) New Zealand Household Travel Survey (Ministry of Transport)
Numerator	<p>Mortality rate calculations include deaths of NZ residents due to road traffic injuries from the New Zealand Mortality Collection. 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 • 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>Road toll: Number of deaths from Ministry of Transport</p>
Denominator	<p>-Mortality rate: population estimates for the usually resident population (Statistics New Zealand)</p> <p>- Mortality rate by NZDep: NZDep2018 Index of Deprivation (University of Otago)</p> <p>- Mortality risk per million hours / kilometres travelled per year: number of hours/kilometres travelled, by mode of transport (Ministry of Transport).</p>
Time period and time scale	<p>Mortality data from 2001 onwards. Data is available on an annual basis. For some analyses, we have pooled data across multiple years due to small counts.</p> <p>Road Toll data from 1990 onwards.</p>
Population coverage	Mortality rates use the New Zealand usually resident population of all ages
Spatial Coverage	National, with rates also presented by district (areas formerly referred to as District Health Boards).
Measures of frequency	<p>Mortality rate calculations are presented by travel mode, year, age group, sex, ethnic group, NZDep2018 quintile, urban/rural classification and district.</p> <p>Counts from the New Zealand Mortality Collection numbers are also presented for overseas residents.</p> <p>Road toll numbers are presented by travel mode.</p>

<p>Methodology</p>	<p>95% confidence intervals were calculated based on the methodology outlined in APHO (2008). Confidence intervals are presented as error bars on graphs.</p> <p>Suppression was applied to some rates due to the unreliability of estimates with small numbers. Age-standardised rates were suppressed for counts less than 20 or populations less than 30. Crude rates were suppressed for counts less than 5 or populations less than 30.</p>
<p>Limitations of indicator</p>	<ul style="list-style-type: none"> • Spatial analysis was based on residential address and not the site of crash. • The reported year of death was the year of death registration, not necessarily the year in which the death occurred. • The New Zealand Mortality Collection generally has a long time lag due to waiting for coroners reports to be completed.
<p>References</p>	<p>Ahmad O B, et al. 2001. <i>Age Standardization of Rates: A New WHO Standard (Technical Report)</i>. GPE Discussion Paper Series: No. 31. Geneva: World Health Organization.</p> <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>Centers for Disease Control and Prevention. 2002. <i>ICD Framework: External Cause of Injury Mortality Matrix</i>. Retrieved 18/03, 2015, from http://www.cdc.gov/nchs/injury/ice/matrix10.htm</p> <p>Langley J, Stephenson S, Cryer C, & Borman B. 2002. Traps for the unwary in estimating person-based injury incidence using hospital discharge data. <i>Injury Prevention</i>, 8(4), 332-337.</p> <p>Ministry of Health. 2006. <i>Hospital Throughput for DHBs and their Hospitals</i>. Retrieved 18/03 2015, from http://www.health.govt.nz/system/files/documents/publications/hospital-throughout0304.pdf</p>