

Information topic	Details
Indicator name	Road traffic injury hospitalisations
Domain and topic	Transport
Indicator definition and units	The number and rate of road traffic injury hospitalisations, by mode of transport
Data source	National Minimum Dataset
Numerator	Number of road transport injury hospitalisations
Denominator	<ul style="list-style-type: none"> • Hospitalisation rate: population estimates (Statistics New Zealand) • Hospitalisation rate by NZDep: NZDep2018 Index of Deprivation (Atkinson, Salmond, & Crampton, 2020) • Injury hospitalisation risk per million hours / kilometres travelled per year: number of hours/kilometres travelled, by mode of transport, 3-year moving average (Ministry of Transport).
Methodology	<p>The indicator includes all injury hospital discharges (ie, those with a principal diagnosis of ICD-10AM S00-T78), with the following external cause of injuries:</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>The following hospital records were excluded from analysis:</p> <ul style="list-style-type: none"> • Transfers (within or between hospitals) • Emergency Department short stays (where the person was seen in ED and discharged on the same or next day, without admission as an inpatient) • Day cases • Deaths • Readmissions for the same injury date, +/- 1 day (Langley et al 2002, Ministry of Health 2006) • Readmissions for the same individual, within 1 day (Langley et al 2002, Ministry of Health 2006) • Overseas residents
Time period and time scale	Injury Hospitalisations: 2001 onwards. Data is available on an annual basis. For some analyses, we have pooled data across multiple years due to small counts (for instance, injury rates by ethnic group).
Population coverage	New Zealand usually resident population of all ages.

Metadata

Spatial Coverage	National, with rates also presented by district (formerly District Health Boards) and Territorial Authority.
Measures of frequency	Results are presented by travel mode, year, age group, sex, ethnic group, NZDep2018 quintile, urban/rural classification and district (formerly district health boards).
Confidence interval methodology	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	<p>This data relates to the traffic injury hospitalisations by different modes of travel. Limitations include the following:</p> <ul style="list-style-type: none"> • The indicator only covers injuries that resulted in hospital admissions. • Spatial analysis was based on residential address (not the site of crash). • The indicator will only present the number/rate of hospitalisations and not the number of people affected. • The indicator excludes some minor injuries through the exclusion criteria (see above). This means that the indicator focuses more on moderate to severe injuries.
Related indicators	<p>Road transport injury mortality</p> <p>Number of motor vehicles</p> <p>Active transport to and from school</p> <p>Unmet need for GP services due to lack of transport</p> <p>Main mode of transport to work</p> <p>Household travel time by mode of transport</p>
References	<p>Atkinson, J., Salmond, C., & Crampton, P. (2020). <i>NZDep2018 Index of Deprivation: Final research report, December 2020</i>. Wellington: University of Otago.</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>