Canada recorded 1,841 road fatalities in 2017, a 2.8% decrease on 2016. After two consecutive years of rising road deaths, 2017’s figure is Canada’s lowest road fatality count this decade. Estimated data for 2018 forecast a notable decrease. The mortality rate in 2017 was 5.0 deaths per 100,000 population. Canada has adopted the Vision Zero approach as an inspirational goal. The fourth national road safety plan, the Road Safety Strategy (RSS) 2025, was launched in 2016. This plan has a greater emphasis on vehicle technologies and roadway infrastructure.

**Trends**

Canada registered an overall decrease in the number of road deaths in 2017. According to the available IRTAD data, 1,841 persons lost their lives in traffic crashes in Canada in 2017. This represents a 2.8% decline on 2016. In 2016, 1,895 road deaths were reported equaling the death toll recorded in 2015. Estimated data for 2018 forecast 1,804 road fatalities, building on the progress booked in 2017.

The longer-term trend for road deaths in Canada has shown significant progress. Between 2000 and 2017, the number of annual road fatalities fell by 37%. Significant declines in the number of annual road fatalities were made in the period 2005–2011, when annual fatalities fell by 30%. Since 2012, however, the reduction in the number of road deaths has slowed with annual total fatalities dropping only 5.6% in the period 2013-2017 – an average of 2.3% per year.

The number of traffic deaths per 100,000 inhabitants in Canada has fallen by 47% between 2000 and 2017. In 2017, 5.0 traffic deaths per 100,000 inhabitants were recorded, compared to 9.5 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 Canada showed an encouraging longer-term trend. In 2017, this metric stood at 4.8, 49% lower than in 2000.
Canada recorded 0.7 road fatalities per 10 000 registered vehicles in 2017. This represents a more than halving of the year 2000, when the rate of deaths to registered vehicles stood at 1.6.

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 2017, passenger car occupants accounted for the largest share of road deaths with 61% of the total. They were followed by pedestrians (16%), motorcyclists (11%) and cyclists (3%).

The largest decrease in 2017 was registered among pedestrians, who suffered 13.3% fewer deaths compared to 2016, according to the preliminary 2017 data. They were followed by motorcyclists with a decrease of 4.8% on the year. Road fatalities for cyclists remained static at 48 in 2017 – the same total as in 2016. For passenger car occupants, 0.4% more road fatalities were recorded in 2017 – an increase of four from 1 118 in 2016 to 1 122 in 2017. Moped riders saw one fewer fatality than in 2016 with three deaths recorded in 2017.

The long-term perspective shows that traffic fatality trends in Canada have been somewhat inconsistent across road user groups. In the period 2000-2017, passenger car occupants, moped riders, and pedestrians saw road fatalities decrease by 45%, 40%, and 19%, respectively. Despite these improvements, cyclists (+20%) and motorcyclists (+19%) experienced an increase in annual road fatalities in the same time period.
Road deaths by age group in 2017 showed some changes compared to 2016. Canadians aged 65 and over recorded a 14.3% decrease in the number of annual road deaths. On the other hand, the number of fatal casualties increased by 25% year-on-year in 2017 for the youngest Canadians aged 0-14. Between these two poles, fatality figures remained largely consistent with the previous year’s numbers.

Looking at the longer-term trend, since 2000, the number of road deaths decreased for all groups. The strongest reduction fatalities over this period occurred among 15-17 year olds, who registered 129 fewer deaths (-71%). More broadly, young Canadians benefitted greatly from road safety improvements during this period with each age category up to 24 years of age seeing reductions of nearly 50% and above.

Despite these improvements, young people continue to be the age group at highest risk in traffic, with a mortality rate much above the average. In particular, 18-20 year olds and 21-24 year olds have mortality rates of 9.0 and 7.4, respectively, per 100 000 persons.

The elderly above 65 saw their mortality rate decrease by 17.1% from 7.3 in 2016 to 6.0 in 2017.
Analysis of fatalities by road type shows that the rural road network accounted for the highest number of deaths. In 2017, 33% of deaths occurred on rural roads, 31% on urban roads and 15% on motorways. This repartition has remained relatively stable in recent years. For about 20% of road deaths, the road category is not identified in the crash data system.

In 2017 - in comparison to 2016 - the number of road deaths decreased by 6.7% on urban roads and by 2.1% on motorways. On rural roads, road fatalities increased by 3.4%.
Since 2000, fatalities in urban areas decreased by 28%, on rural roads by 48% and 27% on motorways.

**Figure 5. Road fatalities by road type**

- Inside urban areas:
  - 2000: 1,163
  - 2010: 792
  - 2017: 570

- Rural roads:
  - 2000: 796
  - 2010: 640
  - 2017: 608

- Motorways:
  - 2000: 374
  - 2010: 343
  - 2017: 274

**Figure 6. Evolution of road deaths by user category, age group and road type, 2010-2017**

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 Canada, the number of people hospitalised or injured after a road crash decreased by 8.1% in 2017 compared to 2016. Since 2000, hospitalisations due to road crashes have decreased by 30%.
Economic costs of road crashes

For the purpose of this report, costs have been calculated using the willingness-to-pay approach. This means that the value of a statistical life (VSL) is used to value fatalities, and fractions of VSL are used to value injuries, based on quality-adjusted life years (QALYs) lost.

Traffic crashes represent a very significant cost for society at CAD 40.7 billion or 2.1% of GDP in 2017.

Table 1. Costs of road crashes, 2017

<table>
<thead>
<tr>
<th></th>
<th>Unit cost (2010 CAD)</th>
<th>Total (2010 CAD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatalities</td>
<td>9 071 157</td>
<td>16.7 million</td>
</tr>
<tr>
<td>Hospitalised</td>
<td>1 221 974</td>
<td>10.6 million</td>
</tr>
<tr>
<td>Slight injuries</td>
<td>37 868</td>
<td>5.2 million</td>
</tr>
<tr>
<td>Property damage costs</td>
<td>11 042</td>
<td>5.1 million</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>70 771</strong></td>
<td><strong>40.7 billion</strong></td>
</tr>
<tr>
<td><strong>Total as % of GDP</strong></td>
<td></td>
<td><strong>2.1%</strong></td>
</tr>
</tbody>
</table>

1. Total unit cost is per crash.
2. The total includes other costs of $5 390 per crash or $3.1 billion total.

Behaviour

The behaviour of road users is an important determinant of a country’s road safety performance. Speed, along with impaired and distracted driving, is a significant contributor to motor vehicle fatalities. In 2017, approximately 22% of fatal crashes involved speeding. Over the last decade, speed-related fatalities have declined significantly. Casualty data in 2017 indicated a 36% reduction in speed-related crashes compared to the 2006-2010 period.

The table below summarises the main speed limits in Canada.

Table 2. Passenger car speed limits by road type, 2019

<table>
<thead>
<tr>
<th>General speed limit</th>
<th>Urban roads</th>
<th>Rural roads</th>
<th>Motorways</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40-70 km/h</td>
<td>80-90 km/h</td>
<td>100-110 km/h</td>
</tr>
</tbody>
</table>

In 2017, National Collision Database statistics showed that approximately one-in-five fatal collisions were noted to have alcohol involvement as a contributing factor.

Information on the presence of alcohol is collected on police crash report forms, but as the data are not always reliable, a surrogate is used for instances of deaths of drivers and pedestrians involving alcohol and drugs. The percentage of fatally injured drivers
who were tested for alcohol and drugs is applied to all motor vehicle deaths to estimate the percentage of all deaths which were alcohol or drug related. With respect to injury crashes, any police report which indicates alcohol or any crashes that fit a surrogate model are identified as alcohol related (Mayhew et al., 1997).

Under the Criminal Code of Canada, the maximum permissible blood alcohol content (BAC) when driving is 0.8 g/l. However, in most provinces and territories, there is an administrative maximum level of 0.5 g/l (0.4 g/l in Saskatchewan, and in Quebec the 0.5 g/l limit only applies to commercial vehicles). In addition, most provincial/territorial jurisdictions have a zero BAC limit for young (under 21) and/or novice drivers.

Penalties under these administrative programmes are significant but do not match the seriousness of a full Criminal Code of Canada charge. Penalties in both situations increase for repeat offenders.

On October 17, 2018, cannabis became legalised in Canada and on December 18, 2018 new laws under the Criminal Code of Canada associated with drug impaired driving came into force. Provinces and territories have been updating their administrative sanctions in response to these changes. The Canadian Council of Motor Transport Administrators (CCMTA) recognizes that the legal changes brought forth by cannabis legalization will have far-reaching implications for jurisdictions. Legalization will have multiple impacts – from information and technology systems, to the training of personnel, to legislative, regulatory, enforcement and program changes – that will require changes so that they align with and support federal legislation.

There are two prohibited levels for THC, the primary psychoactive component of cannabis: it is a less serious offence to have between 0.002 g/l and 0.005 g/l of THC. It is a more serious offence to have 0.005 g/l of THC or more. In December of 2019, new regulation for the production and sale of edible and topical products comes into force.

The prohibited level of alcohol and cannabis, when found in combination, is 0.050 g/l or more of alcohol and 0.0025 g/l or more of THC.

Transport Canada, in cooperation with provincial and territorial jurisdictions, continues to conduct road side surveys to assess the rates of impaired driving by alcohol or drugs during night time periods. Some day time surveys have also taken place. The Traffic Injury Research Foundation continues to maintain the Fatality Database which tracks toxicology results on fatally injured pedestrians and drivers in motor vehicle collisions.

**Distracted driving** happens when a driver’s attention is taken away from the driving task because they are focused on something else. This could be, for example: texting, talking on the phone or to passengers, eating or drinking, and using the entertainment or navigation system.

The use of mobile phones or other electronic devices while driving is regulated by the individual provinces and territories. Penalties include fines, licence demerit points and the possibility of licence suspension.
According to data from Transport Canada’s National Collision Database, distracted driving contributed to an estimated 22% of fatal collisions and 29% of serious injury collisions in 2017. These statistics are part of an upward trend of distracted driving-related collisions, up from 17% of fatal collisions and 23% of serious injury collisions a decade earlier.

The Minister of Transport chaired a National Roundtable on Distracted Driving in Montreal on June 28, 2018. Presentations were made by the Canadian Vehicle Manufacturers Association, the Global Automakers of Canada and the Canadian Wireless Telecommunications Association. The meeting culminated in agreement to develop a national action plan, based on the foundational work of the CCMTA, emphasizing early deliverables with respect to research and data collection.

In addition, TC has worked with partners on the following deliverables:

- CCMTA conducted a survey of electronic device use by drivers across Canada (full findings are yet to be published);

- CCMTA, with the assistance of TC, is working on three key initiatives:
  - an on-road survey of electronic device use while driving;
  - estimating the impact of these devices on collisions;
  - an examination of distracting technologies currently available.

A summary report on the National Roundtable on Distracted Driving has been prepared and is awaiting approval to post on the Transport Canada website.

It is estimated that about 20% of fatal collisions involve driver fatigue, calculated by eliminating other possible causes such as alcohol impairment, speeding, unsafe passing, etc. (CCMTA, 2010). There are plans to re-visit and update the model used to make this estimations but this work remains to be done.

The North American Fatigue Management Program is a comprehensive educational website that provides motor carriers, their drivers, dispatchers and managers with all the necessary information to mitigate driver fatigue over and above Hours of Service Regulations.

Seat-belt use was made compulsory in Canadian jurisdictions between 1976 and 1988. The laws around the use of seat belts and child restraints are provincial or territorial. All provinces and territories have laws in place mandating the use of child restraints since the 1980s, and they are occasionally updated. In most cases, the driver is responsible for ensuring that a child is correctly restrained.

In Canada, child restraint use is promoted in four stages: rear facing; forward facing; booster seats; three-point seat belt in the rear seat. Graduation from one stage to another is based on the seat involved and the weight and height of the child. Use of
Stage 1 and Stage 2 seats is very high but only some provinces/territories have legislation requiring booster seats.

Seat belt use in Canada over the last several years was approximately 95%. A recent 2016 urban survey of front seat occupants in Canada indicates seat belt wearing rates held at 97.5%. However, more than 28% of occupants killed in 2017 were unbelted at the time of the crash. This represents a slight improvement since 2011, when 31% of occupants killed were unbelted.

A 2010 observational study of child restraint use in Canada indicates that incorrect use of child restraints increases with the age of the child. The most significant incorrect usage issue is premature graduation from one stage to another, which reduces safety for the child (Snowdon et al., 2011).

### Table 3. Seat belt wearing rates

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2010</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front seats</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driver</td>
<td>91</td>
<td>96</td>
<td>97.5</td>
</tr>
<tr>
<td>Urban roads (driver)</td>
<td>92</td>
<td>96</td>
<td></td>
</tr>
</tbody>
</table>

### Road safety management and strategies

There are several influencing factors on Canada’s road safety performance as captured by the above indicators. It is believed that increased efforts by key stakeholders in developing and implementing road safety strategies, plans and countermeasures that focused on key areas of concern, such as speeding, impaired driving and unbelted occupants, contributed to the overall progress. Other contributors include improvements in vehicle safety features and equipment.

The overall long-term progress was achieved despite ongoing growth over this period in the Canadian population, the number of licensed drivers, the number of registered vehicles and vehicle kilometres travelled.

In terms of progress made on national road safety plans, the progress that was achieved in the closing years of the Road Safety Vision 2010 has so far kept its momentum going over the course of Road Safety Strategy 2015 and into Road Safety Strategy 2025.

In Canada, the responsibility for road safety is divided among different levels of government and other road safety and private sector partners.

Federal, provincial and territorial departments responsible for transport and highway safety work together through various committees and associations that report to the Council of Ministers responsible for Transportation and Highway Safety. This council is assisted by the Council of Deputy Ministers responsible for Transportation and Highway Safety. Within this structure, four committees co-ordinate multi-jurisdictional views and efforts (Canadian Council of Motor Transport Administrators, Engineering and Research
Support Committee, Task Force on Vehicle Weights and Dimensions, and the Policy and Planning Support Committee). In addition, the Transportation Association of Canada, which also includes a number of municipal partners, addresses infrastructure issues.

This structure is designed to promote national consistency, provide a platform to share information and assist jurisdictions in addressing issues within their specific mandate. Ultimately, the responsibility for implementation remains with the appropriate jurisdictions.

The Federal Government is responsible for regulations and standards related to the manufacture and import of motor vehicles, tyres and child restraints. Provincial and territorial governments are responsible for licensing drivers, registering vehicles and administering justice and jurisdictional road safety programmes. They are also responsible for policy and regulations regarding the roadways. In many cases, the road authority responsible for the operations of the road may be regional or municipal governments, which must operate within the provincial guidelines.

Canada’s fourth national road safety plan, the Road Safety Strategy (RSS) 2025 was launched by the Council of Ministers responsible for Transportation and Highway Safety in early 2016. The goal remains to achieve downward trends in fatalities and serious injuries throughout a five-year duration, comparing multi-year rolling averages with the established baseline period.

The new plan has a greater emphasis on vehicle technologies and roadway infrastructure. Canada has adopted the Vision Zero approach as an inspirational goal. A database of proven and promising road safety initiatives is maintained as a part of the strategy and each jurisdiction is encouraged to develop their own road safety plan based on regional needs and conditions.

The aspirational goal of RSS 2025 is zero fatalities and serious injuries. The Canadian Council of Motor Transport Administrators with assistance from Transport Canada reports annually on progress toward the goals of fatality and injury reduction. A number of rate-based measures are used to focus on progress in specific areas such as impaired driving, speeding and unbelted occupants.

When comparing the 2017 figure (only the second year of RSS 2025) with the baseline period of 2011-15, fatalities were down 6%, while serious injuries were down by 8%.

**Measures**

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

**Road safety management**

- Vision Zero is being adopted by a number of safety partners such as municipalities and transportation departments.

- Transport Canada is working to develop Canada’s Safety Framework for Automated and Connected Vehicles (AV/CVs). The Framework establishes a stable policy
environment and provides a comprehensive overview of the current and planned legislative and regulatory landscape. Furthermore, it points to a range of flexible non-regulatory policy tools that together will serve to manage safety and security issues related to AV/CVs in the near to medium term. These non-regulatory tools include guidelines for trial organizations testing AV/CVs, as well as a Safety Assessment tool to assist new vehicle developers to review the safety of components that are not covered in existing regulations. [https://www.tc.gc.ca/en/services/road/safety-standards-vehicles-tires-child-car-seats/testing-highly-automated-vehicles-canada.html](https://www.tc.gc.ca/en/services/road/safety-standards-vehicles-tires-child-car-seats/testing-highly-automated-vehicles-canada.html)

**Road users**

- On July 12, 2019, the federal government mandated the use of electronic logging devices (ELDs) by federally-regulated motor carriers and their drivers to better track and monitor a driver’s hours of service in an effort to improve compliance, reduce risk of fatigue-related collisions and promote fairer competition between motor carriers. ELDs are tamper-resistant devices that will automatically record information such as driving time, odometer readings and engine power-up to improve the accuracy of the records, reduce the administrative burden on motor carriers and drivers and to make it easier for enforcement officers to verify the records. The requirement to use ELDs goes into effect on June 12, 2021.

- In January 2019, the Council of Ministers requested that a task force be created to examine school bus safety. While school buses remain the safest method for transporting children to and from school, enhancements are being examined to improve this impressive safety record. Three areas of investigation are assisting the driver, safety outside the bus and safety inside the bus.

- The Canadian Automobile Association (CAA) has produced a mobile online game available on most iOS and Android devices named “TXT U L8R: Drive Like Your Life Depends On It” in order to educate road users on the dangers of distracted driving.

- The creation of a task force in 2016 enabled a collaborative process with provinces, territories and stakeholders to consider measures that could improve the safety of the vulnerable road users around heavy vehicles. The resulting work produced the “Safety Measures for Cyclists and Pedestrians Around Heavy Vehicles Summary Report”. The second phase of the project is underway which includes collecting information on existing or new pilot projects, better assessment of existing collision data from multiple sources, examining legislative and regulatory change at all levels of government, promoting knowledge transfer and the possible creation of a web portal supporting pedestrian and cyclist safety.

- Transport Canada is investigating human performance and driver state in an effort to better understand their role in automated driving systems. This work is contributing to the development of scenarios and testing procedures to assess the safety of human interactions with automated driving systems.
Vehicles

- Transport Canada continues to evaluate the performance of a variety of new crash avoidance systems. Year-long field trials are underway across Canada to evaluate the performance of pedestrian detection and warning systems on heavy vehicles. TC is also evaluating the safety benefits of Automatic Emergency Breaking (AEB) systems for pedestrians using real-world collision data, injury risk functions, and speed reduction measurements to estimate the potential lives saved and serious injuries avoided for the vehicles tested at the Motor Vehicle Test Centre.

- An amendment addressing provisions for giving a notice of defect and notice of non-compliance was published on July 10, 2019 affecting all three regulations under the Motor Vehicle Safety Act (i.e. the Motor Vehicle Safety Regulations, the Motor Vehicle Tire Safety Regulations and the Motor Vehicle Restraint Systems and Booster Seat Safety Regulations). The amendment revises the notification process to address a non-compliance separately from a defect, and requires that companies share greater detail with the Minister, owners and retailers related to vehicle and equipment defects and non-compliances affecting safety. The new requirements also strengthen the existing reporting and oversight provisions, including standardizing requirements across the three regulations, requiring companies submit, to the Minister, copies of any subsequent communications to owners and retailers for a period of five years, and aligning submission dates for quarterly reports with the United States’ schedule.

- Vehicles driven in the dark, or in dim conditions, without lights, dubbed “phantom vehicles,” are a serious safety risk. Some drivers think a lit-up dashboard means their lights are on, which may not be true. It is also important to use proper lighting in all driving conditions. Transport Canada introduced a new lighting standard to help vehicles and drivers see, and be seen. As of September 1, 2021, the Canadian Vehicle Lighting Regulation will require that all new vehicles sold in Canada have one of the following: tail lights that come on automatically with daytime running lights; headlights, tail lights, and side marker lights that are automatically turned on in low-light conditions; or a dashboard that stays dark to alert the driver to turn on their lights. This standard will apply to all new vehicles (cars, trucks, SUVs, 3-wheeled vehicles, motorcycles and heavy trucks).

- Transport Canada has adopted a new standard to mandate Electronic Stability Control systems on most truck tractors and heavy buses with a full implementation date of August 2019.

- Transport Canada adopted a new requirement in an amendment published June 22, 2018 that will mandate the installation of seat belts on all large buses except transit and school buses. The amendment also brought in requirements for seat belts on school buses should operators choose to install them. The amendment becomes mandatory on September 1, 2020.
- Crash avoidance tests will be conducted on a test track to assess the performance of low-speed automated shuttles. Users will also be surveyed to measure their attitudes about these vehicles.

- Transport Canada is actively involved in promoting the safety aspects of automated and connected vehicles in Canada. In February 2019, Transport Canada published “Canada’s Safety Framework for Automated and Connected Vehicles”. The Safety Framework outlines a clear vision for how Transport Canada will work with partners to support the safe testing and deployment of automated and connected vehicles on public roads, and is supported by a number of tools and resources developed in collaboration with jurisdictions and stakeholders. This includes the “Safety Assessment for Automated Driving Systems in Canada” (published February 2019), a voluntary policy tool to help developers review the safety of new automated vehicles they intend to manufacture, import, operate and/or sell in Canada by addressing safety issues not covered under current regulations. This guidance complements “Testing Highly Automated Vehicles in Canada: Guidelines for Trial Organizations” (published June 2018), which helps ensure that trials are conducted in a safe, secure and consistent manner across Canada.

- Through the Canadian Council of Motor Transport Administrators (CCMTA), Transport Canada and provincial and territorial road transportation officials also developed the “Canadian Jurisdictional Guidelines for the Safe Testing and Deployment of Highly Automated Vehicles” (published October 2018). The Jurisdictional Guidelines advance a consistent approach to automated and connected vehicle policy across jurisdictions, and advises on policy, regulatory and administrative issues jurisdictions may need to consider as they support these technologies.

- In February 2019, the Government of Canada launched a new public-facing web presence (www.canada.ca/automatedvehicles) to educate the Canadian public on new vehicle technologies. The website offers information on automated and connected vehicle technologies, including on the safety aspects of advanced driver assistance systems that are currently available.

- Going forward, Transport Canada will continue to work with diverse stakeholders to develop non-regulatory tools to support the development of AV/CV regulations, including guidance on cyber security for AV/CVs, which will support industry in ensuring that cyber security practices are incorporated into the design, testing and deployment of these vehicles.

**Infrastructure**

• Complementary to the GDG is the Canadian Roundabout Design Guide (CRDG) which provides information and guidance related to the planning, design, construction, operation, maintenance and safety of roundabouts in Canada. The CRDG has been written and compiled based on review of national and international best practice documents and research, while considering the experience of Canadian jurisdictions with roundabouts already in service.

• The Transport Association of Canada (TAC) is commencing a project that will produce a report on study findings to help practitioners evaluate the safety performance of bicycle facilities within their jurisdiction.

• TAC has released the Canadian Guide to Traffic Calming (Second Edition), which presents traffic calming as a method to reduce the speed and/or volume of non-local traffic infiltrating into neighbourhoods. It explains principles and suggests a process for introducing and implementing traffic calming, and describes the applicability, effectiveness, and design principle for a wide range of traffic calming devices. The devices are categorized in terms of vertical deflection, horizontal deflection, roadway narrowing, surface treatment, pavement markings, access restriction, gateways, enforcement, education, shared space, and emerging technologies and measures.

**Definition, methodology, data collection**

• Road fatality: a person who died immediately or within 30 days of a crash.

• Seriously injured: a person admitted to hospital for treatment or observation.

• Slight injury: if “minimal” then no immediate medical attention was required, but would include minor abrasions, bruises and complaint of pain. If “minor” the person went to the hospital, was treated but not admitted.

Transport Canada has a well-established road safety data programme and has been reporting on motor vehicle crash statistics since the 1970s. Police-reported road traffic crash information is collected and processed by provinces and territories and is then sent to Transport Canada for final processing and for compilation of national crash statistics.

Transport Canada considers the motor vehicle crash data to be relevant, of good quality overall and reliable for most analytical purposes. However, there are areas for improvement, as some specific data variables are not provided by certain jurisdictions or consistently reported by all of them. In some cases, where data has not been received from all jurisdictions within Canada, methodologies are used to ensure that national estimates take into account any non-reporting.

Transport Canada is currently working with provincial and territorial road safety partners in the area of electronic data collection and other initiatives aimed at improving the timeliness and accuracy of motor vehicle crash data. A pilot project by a national police agency in Canada is being implemented and as a result, it is anticipated that approximately one-third of the national collision data will be collected.
Currently, serious injury data are collected through the same reporting mechanism as for all crash data. Transport Canada is in the initial stages of trying to improve the quality of the injury data, and is currently undertaking an environmental scan and consultation process as part of its efforts.

The National Collision Database online web application is a query tool that contains national level statistics on vehicle crashes occurring on public roads in Canada. Approximately 23 of the data elements in the National Collision Database are available to users, so that they can select and extract data of interest to them. A second version created for provinces and territories allows access to more detailed information.

**Resources**

**Recent research**

There are a number of research projects managed by various levels of government and/or safety associations.

There are some specific Transport Canada research activities in the areas of autonomous vehicles, distracted driving and vulnerable road users that are in progress.

Updates on road safety research and their findings/results can be found at:

Transport Canada: [https://www.tc.gc.ca/eng/motorvehiclesafety/menu.htm](https://www.tc.gc.ca/eng/motorvehiclesafety/menu.htm)

Canadian Association of Road Safety Professionals Conference: [http://www.carsp.ca/](http://www.carsp.ca/)

Road Safety driver and vehicle policy, regulations and research: [http://www.ccmta.ca/en/](http://www.ccmta.ca/en/)


Infrastructure projects: [https://www.tac-atc.ca/](https://www.tac-atc.ca/)


Council of Ministers Responsible for Transportation and Highway Safety: [https://comt.ca/Reports-e.htm](https://comt.ca/Reports-e.htm)


• The Future of Automated Vehicles in Canada (2018): [https://comt.ca/Reports/The%20Future%20of%20Automated%20Vehicles%20in%20Canada%202018.pdf](https://comt.ca/Reports/The%20Future%20of%20Automated%20Vehicles%20in%20Canada%202018.pdf)

• Active Transportation: A Survey of Policies, Programs and Experience (2018): [https://comt.ca/Reports/Active%20Transportation%202018.pdf](https://comt.ca/Reports/Active%20Transportation%202018.pdf)

Traffic Injury Research Foundation: [http://tirf.ca/](http://tirf.ca/)


Canadian Centre for Substance Abuse and Addiction:


Websites


Transport Association of Canada: [https://www.tac-atic.ca/](https://www.tac-atic.ca/)


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Canadian Automobile Association: [https://www.caa.ca/](https://www.caa.ca/)

Distracted Driving Laws: [https://www.caa.ca/distracted-driving/distracted-driving-laws-in-canada/](https://www.caa.ca/distracted-driving/distracted-driving-laws-in-canada/)

### References


### Road safety and traffic data

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<tr>
<th>Reported safety data</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2016</th>
<th>2017</th>
<th>2016 % change over</th>
<th>2010 % change over</th>
<th>2000 % change over</th>
<th>1990 % change over</th>
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<tr>
<td>Fatalities</td>
<td>3,963</td>
<td>2,904</td>
<td>2,238</td>
<td>1,895</td>
<td>1,841</td>
<td>-2.8%</td>
<td>-17.7%</td>
<td>-36.6%</td>
<td>-53.5%</td>
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<tr>
<td>Injury crashes</td>
<td>181,960</td>
<td>155,838</td>
<td>125,636</td>
<td>118,204</td>
<td>113,237</td>
<td>-4.2%</td>
<td>-9.9%</td>
<td>-27.3%</td>
<td>-37.8%</td>
</tr>
<tr>
<td>Injured persons hospitalised</td>
<td>25,020</td>
<td>13,439</td>
<td>11,290</td>
<td>10,235</td>
<td>9,403</td>
<td>-8.1%</td>
<td>-16.7%</td>
<td>-30.0%</td>
<td>-62.4%</td>
</tr>
<tr>
<td>Deaths per 100,000 population</td>
<td>14.3</td>
<td>9.5</td>
<td>6.6</td>
<td>5.2</td>
<td>5.0</td>
<td>-4.0%</td>
<td>-23.8%</td>
<td>-47.0%</td>
<td>-65.0%</td>
</tr>
<tr>
<td>Deaths per 10,000 registered vehicles</td>
<td>2.3</td>
<td>1.6</td>
<td>1.0</td>
<td>0.8</td>
<td>0.7</td>
<td>-10.3%</td>
<td>-31.7%</td>
<td>-56.9%</td>
<td>-70.0%</td>
</tr>
<tr>
<td>Deaths per billion vehicle kilometres</td>
<td>..</td>
<td>9.3</td>
<td>6.7</td>
<td>5.1</td>
<td>4.8</td>
<td>-5.1%</td>
<td>-28.0%</td>
<td>-48.5%</td>
<td>..</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fatalities by road user</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2016</th>
<th>2017</th>
<th>2016 % change over</th>
<th>2010 % change over</th>
<th>2000 % change over</th>
<th>1990 % change over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrians</td>
<td>584</td>
<td>373</td>
<td>306</td>
<td>345</td>
<td>299</td>
<td>-13.3%</td>
<td>-2.3%</td>
<td>-19.8%</td>
<td>-48.8%</td>
</tr>
<tr>
<td>Cyclists</td>
<td>106</td>
<td>40</td>
<td>61</td>
<td>48</td>
<td>48</td>
<td>0.0%</td>
<td>-21.3%</td>
<td>20.0%</td>
<td>-54.7%</td>
</tr>
<tr>
<td>Moped riders</td>
<td>8</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>-25.0%</td>
<td>-40.0%</td>
<td>-40.0%</td>
<td>-62.5%</td>
</tr>
<tr>
<td>Motorcyclists</td>
<td>252</td>
<td>166</td>
<td>188</td>
<td>207</td>
<td>197</td>
<td>-4.8%</td>
<td>4.8%</td>
<td>18.7%</td>
<td>-21.8%</td>
</tr>
<tr>
<td>Passenger car occupants</td>
<td>2,244</td>
<td>2,052</td>
<td>1,481</td>
<td>1,118</td>
<td>1,122</td>
<td>0.4%</td>
<td>-24.2%</td>
<td>-45.3%</td>
<td>-50.0%</td>
</tr>
<tr>
<td>Other road users</td>
<td>769</td>
<td>268</td>
<td>197</td>
<td>173</td>
<td>172</td>
<td>-0.6%</td>
<td>-12.7%</td>
<td>-35.8%</td>
<td>-77.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fatalities by age group</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2016</th>
<th>2017</th>
<th>2016 % change over</th>
<th>2010 % change over</th>
<th>2000 % change over</th>
<th>1990 % change over</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14 years</td>
<td>305</td>
<td>144</td>
<td>63</td>
<td>60</td>
<td>75</td>
<td>25.0%</td>
<td>19.0%</td>
<td>-47.9%</td>
<td>-75.4%</td>
</tr>
<tr>
<td>15-17 years</td>
<td>223</td>
<td>183</td>
<td>114</td>
<td>51</td>
<td>54</td>
<td>5.9%</td>
<td>-52.6%</td>
<td>-70.5%</td>
<td>-75.8%</td>
</tr>
<tr>
<td>18-20 years</td>
<td>392</td>
<td>293</td>
<td>193</td>
<td>127</td>
<td>121</td>
<td>-4.7%</td>
<td>-37.3%</td>
<td>-58.7%</td>
<td>-68.3%</td>
</tr>
<tr>
<td>21-24 years</td>
<td>444</td>
<td>294</td>
<td>211</td>
<td>147</td>
<td>149</td>
<td>1.4%</td>
<td>-29.4%</td>
<td>-49.3%</td>
<td>-66.4%</td>
</tr>
<tr>
<td>25-64 years</td>
<td>2,004</td>
<td>1,461</td>
<td>1,220</td>
<td>1,066</td>
<td>1,059</td>
<td>-0.7%</td>
<td>-13.2%</td>
<td>-27.5%</td>
<td>-47.2%</td>
</tr>
<tr>
<td>65-74 years</td>
<td>..</td>
<td>225</td>
<td>191</td>
<td>199</td>
<td>186</td>
<td>-6.5%</td>
<td>-2.6%</td>
<td>-17.3%</td>
<td>..</td>
</tr>
<tr>
<td>≥ 75 years</td>
<td>..</td>
<td>280</td>
<td>235</td>
<td>235</td>
<td>186</td>
<td>-20.9%</td>
<td>-20.9%</td>
<td>-33.6%</td>
<td>..</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fatalities by road type</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2016</th>
<th>2017</th>
<th>2016 % change over</th>
<th>2010 % change over</th>
<th>2000 % change over</th>
<th>1990 % change over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban roads</td>
<td>1,282</td>
<td>796</td>
<td>640</td>
<td>611</td>
<td>570</td>
<td>-6.7%</td>
<td>-10.9%</td>
<td>-28.4%</td>
<td>-55.5%</td>
</tr>
<tr>
<td>Rural roads</td>
<td>1,957</td>
<td>1,163</td>
<td>792</td>
<td>586</td>
<td>606</td>
<td>3.4%</td>
<td>-23.5%</td>
<td>-47.9%</td>
<td>-69.0%</td>
</tr>
<tr>
<td>Motorways</td>
<td>570</td>
<td>374</td>
<td>343</td>
<td>280</td>
<td>274</td>
<td>-2.1%</td>
<td>-20.1%</td>
<td>-26.7%</td>
<td>-51.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Traffic data</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2016</th>
<th>2017</th>
<th>2016 % change over</th>
<th>2010 % change over</th>
<th>2000 % change over</th>
<th>1990 % change over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered vehicles (thousands)</td>
<td>16,981</td>
<td>17,882</td>
<td>21,848</td>
<td>24,270</td>
<td>24,567</td>
<td>1.2%</td>
<td>12.4%</td>
<td>37.4%</td>
<td>44.7%</td>
</tr>
<tr>
<td>Vehicle kilometres (millions)</td>
<td>..</td>
<td>311,334</td>
<td>335,900</td>
<td>374,740</td>
<td>382,510</td>
<td>2.1%</td>
<td>13.9%</td>
<td>22.9%</td>
<td>..</td>
</tr>
<tr>
<td>Registered vehicles per 1,000 population</td>
<td>613.2</td>
<td>582.7</td>
<td>642.5</td>
<td>669.4</td>
<td>669.4</td>
<td>0.0%</td>
<td>4.2%</td>
<td>14.9%</td>
<td>9.2%</td>
</tr>
</tbody>
</table>