



ICELAND

ICELAND

Iceland recorded six road fatalities in 2019, one of its lowest tolls. Its road mortality in 2019 was the lowest among IRTAD countries, with 1.7 road deaths per 100 000 inhabitants.

Impact of Covid-19

In response to the Covid-19 pandemic, Iceland introduced some restrictions on 13 March 2020, which affected the movement of people on the road and in turn the exposure to road crashes. Road traffic decreased 32% in April 2020 when compared to the average for 2017-19, while the number of people killed and seriously injured decreased 13%.

Table 1. Road fatalities and serious injuries by month

| | Average 2017-2019 | 2020 | % change |
|-----------|-------------------|------|----------|
| January | 16 | 16 | 0.0 |
| February | 14 | 10 | -28.6 |
| March | 12 | 4 | -66.7 |
| April | 8 | 7 | -12.5 |
| May | 20 | 11 | -45.0 |
| June | 20 | 19 | -23.8 |
| July | 21 | 16 | -23.8 |
| August | 23 | 24 | 4.3 |
| September | 15 | 16 | 6.7 |
| October | 12 | 11 | -8.3 |

Table 2. Change in vehicle traffic by month

| | % change in 2020 compared with the average for 2017-19 |
|-----------|--|
| January | -1.4 |
| February | 9.8 |
| March | -23.2 |
| April | -32.2 |
| May | -5.3 |
| June | -5.0 |
| July | -1.7 |
| August | -10.6 |
| September | -15.5 |
| October | -20.5 |
| November | -18.2 |
| December | -7.7 |

Note: Data are based on 16 key traffic counters around the country.

Trends

Iceland registered an important decrease **in the number of road deaths in 2019**. Six persons lost their lives in traffic crashes in Iceland in 2019 – 12 less fatalities than in 2018. The figure for 2018 was particularly high, with 18 road deaths.

The **longer-term trend for road deaths** in Iceland is one of less and less fatalities. There are, however, important yearly fluctuations due to the low absolute numbers. For example, the number of annual road fatalities fell 81% from 32 to six between 2000 and 2019.

Country Profile

Population in 2019: 357 000

GDP per capita in 2019: USD 67 755 US

Cost of road crashes: 1.3% of GDP (2019)

Registered motor vehicles in 2019: 342 000 (cars 79%; good vehicles 12%, motorcycles 4%, buses 1%)

Volume of traffic : +73% between 2000 and 2019

Speed limits: 50 km/h on urban roads; 90 km/h on rural roads with paved surfaces; 80 km/h on rural roads with gravel

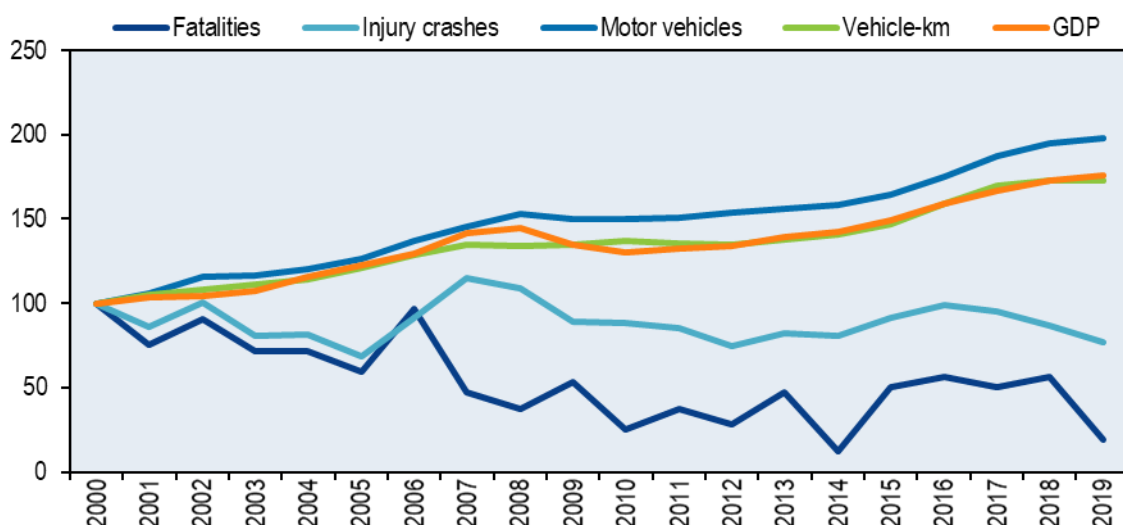
Limits on Blood Alcohol Content (BAC): 0.5 g/l

The number of **traffic deaths per 100 000 inhabitants** in Iceland fell 85% between 2000 and 2019. In 2019, 1.7 road deaths per 100 000 inhabitants were recorded, compared to 11.5 in 2000. This is the lowest rate among IRTAD countries. By way of comparison, the average in the European Union (EU) was 5.1 deaths per 100 000 inhabitants in 2019.

Measured as **traffic deaths per billion vehicle-kilometres (vkm)** driven, the road safety risk of Iceland reached 1.5 in 2019, compared to 13.8 in 2000.

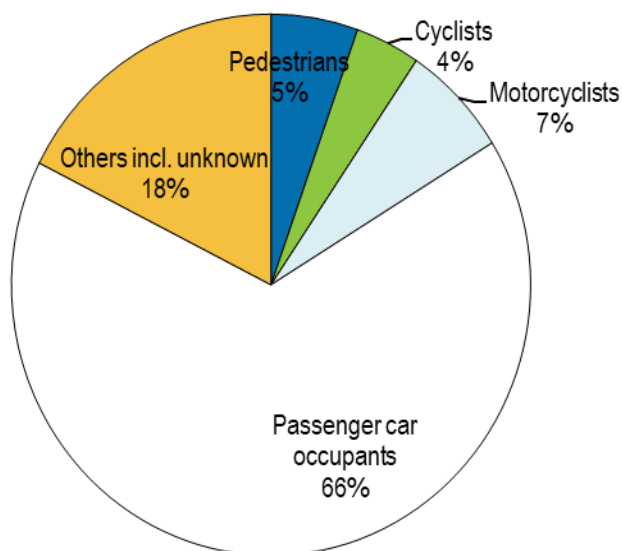
Iceland recorded 0.2 **road fatalities per 10 000 registered vehicles** in 2019.

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



In terms of the **road deaths according to road users** in 2019, of the six killed three were car occupants, one a motorcyclist, one a pedestrian and one a driver of a maintenance vehicle. Car occupants represent two third of the road deaths from 2015-19.

Figure 2. Road fatalities by road user group, average 2015-19



Four of the fatalities in 2019 were in the 25-64 age group, one in the 15-17 age group and one over 75.

Analysis of **data by road type** shows that the large majority of injury crashes occur on roads inside urban areas. A total of 60% of injury crashes occurred on urban roads from 2015-19. The most severe crashes do, however, happen on the rural network. Of the 74 road deaths from 2015-19, 57 (77%) were killed on roads outside urban areas.

Many traffic crashes occur along Iceland's ring road (Route 1), which connects many of the most populated areas of the country. The route traverses many sparsely populated areas and can be subject to poor weather conditions, including snow, frigid temperatures, high winds and rain. In addition, single lane bridges constructed of wood or steel, blind curves, and gravel road surfaces in some areas can pose additional hazardous conditions for travellers.

Figure 3. Injury crashes by road type

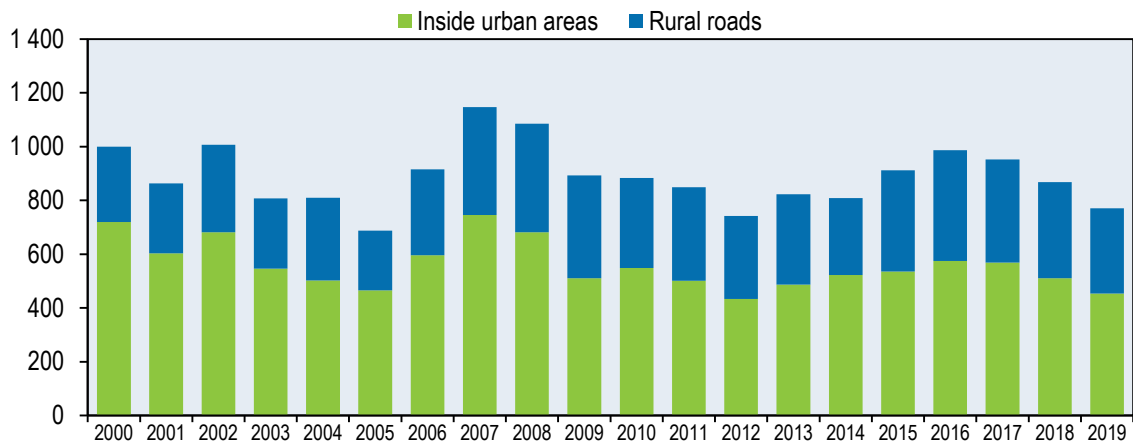
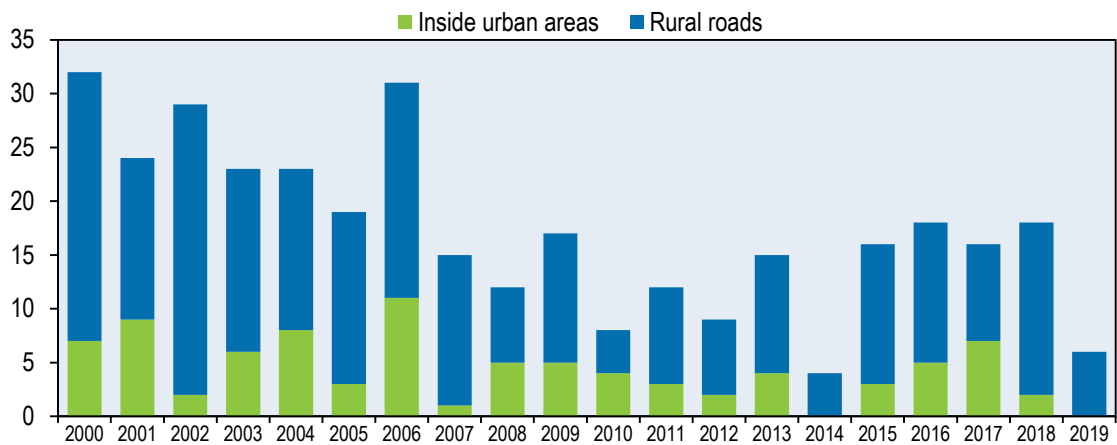


Figure 4. Road fatalities by road type



Economic costs of crashes

A 2014 report (Sigthorsson and Hilmarrsson, 2014) on the economic costs of traffic crashes in Iceland reviewed the history of cost estimation of traffic crashes and presented an overview of methodologies used in other countries.

Based on this report, it was estimated that road crash costs amounted to EUR 254 million, or 2% of Iceland's GDP, in 2019.

Table 3. Costs of road crashes, 2019

| | Unit cost [EUR] | Total [EUR] |
|--|-----------------|--------------------|
| Injury or fatal crashes | ≈ 280 000 | 215 600 000 |
| Property damage only crashes | ≈ 10 000 | 58 490 000 |
| Total | | 274 090 000 |
| Total as % of GDP (constant prices) | | 1.3% |

Behaviour

The behaviour of road users is an important determinant of a country's road safety performance. **Inappropriate speed** has been a major problem on Icelandic roads. However, from 2004 Iceland recorded a positive trend, with a decrease and then stabilisation in the mean speed. The average free flow speed on the ring road during summertime was 0.6 km/h lower in 2019 than in 2018 (Vegagerdin, 2020). Iceland has increased enforcement with both traditional and automatic speed controls, but budgets have limited the ability to increase the number of automatic speed cameras more rapidly.

Table 4. Passenger car speed limits by road type, 2020

| Road Type | Speed Limits |
|-------------|------------------|
| Urban Areas | 50 km/h |
| Rural Roads | 90 km/h (paved) |
| | 80 km/h (gravel) |

The maximum authorised BAC is 0.5 g/l. The new traffic law, which took effect on 1 January 2020, stipulates that a driver is not able to control a vehicle in a safe way with a BAC of 0.2 g/l or above. Despite this, the maximum authorised BAC was not changed.

On average 11% of those killed and 7% of those seriously injured from 2015-19 were involved in road crashes where one of the drivers had a BAC above the limit or had taken drugs. While drink-driving has declined steadily over the last decade, driving under the influence of drugs has risen.

Television commercials are broadcast almost every year to combat drink-driving. The police also occasionally receive special funding to enforce drink-driving laws.

Traffic regulations in Iceland prohibit **driving under the influence of drugs**. The penalties are the suspension of the driving licence for 3 to 24 months for a first offence and 2 to 5 years for a repeated offence.

During the 2015-19 period, 6.0% of fatal crashes and 3.5% of crashes with people seriously injured involved a driver under the **influence of drugs**. There were no fatal crashes involving drivers under the influence of drugs from 2018-20. However, there were

13 serious crashes (8.3% of all serious crashes) in 2018 that involved driving under the influence of drugs.

According to the law, it is illegal to drive with a hand-held **mobile phone**. The use of hands-free devices is authorised.

From 2015-19 about 2.6% of fatal and injury crashes involved a driver who was drowsy or almost falling asleep while driving.

In Iceland, it is compulsory to wear **seat belts** in both front and rear seats. Dedicated child restraint use is compulsory for children under 135 cm. A survey on child restraint use is conducted every year at preschool establishments. The child seat usage rate for preschool children (three to six years old) has gone up from 21% to 95% since 1985.

From 2015-19 an average of 45% of car occupants killed were not wearing a seat belt.

Table 5. Seat belt wearing rate by car occupancy and road type

| | 2010 | 2015 | 2018 | 2019 |
|----------------------|------|------|------|------|
| Front seats | | | | |
| Driver | 86 | .. | .. | 90 |
| Passenger | 88 | 85 | .. | 93 |
| Urban roads (driver) | 77 | 78 | 87 | 89 |
| Rural roads (driver) | 95 | 94 | 95 | 92 |
| Rear seats | | | | |
| General | 73 | 69 | 84 | 86 |
| Child restraint | .. | .. | .. | 95 |

Helmet wearing is mandatory for all powered two-wheelers and is compulsory for cyclists under 16. Helmet wearing rates for motorcyclists are 100% on rural roads and 83% on urban roads.

Road safety management and strategies

There are several **factors of influence on Iceland's road safety performance** as captured by the above indicators. Iceland has seen consistent improvement in its road safety record over recent years. However, there were many road deaths from 2015-18 due in part to a greater number of foreign tourists driving rental cars. Improving road safety for foreign tourists has become a priority in Iceland.

The current transport plan promotes the use of alternatives to cars, such as public transport, cycling and walking. In recent years, Iceland has improved the infrastructure for cyclists in its capital Reykjavik and has provided special lanes for buses.

An important feature of the Icelandic road network is that no year-round connections are available across the country. The connections across the highland interior are only open

during the short Arctic summer and are primarily used for tourism and recreational purposes. Most of these roads are only suited for off-road vehicles (RHA, 2012).

Responsibility for the organisation of road safety in Iceland lies with three organisations under the supervision of the Ministry of Transport and local government. The Icelandic Road and Coastal Administration (*Vegagerðin – IRCA*) handles the infrastructure and the actual road improvements. The Icelandic Transport Authority (*Samgöngustofa*) is responsible for educating the public, and the National Commissioner of the Icelandic Police monitors speed and alcohol and drug abuse.

In June 2020, the Icelandic parliament agreed on the third multi-modal transportation plan, covering the period 2020-34. It sets the target of having the number of traffic fatalities per 100 000 inhabitants equivalent to the rate of the five European countries with the best traffic safety records by 2034. It also aims to lower the number of killed and seriously injured by 5% per year until 2034.

The target-setting process for the first indicator seeks to put Iceland’s road safety record on par with countries with which it regularly benchmarks in other sectors. The second target was selected because it is believed to be achievable with current strategies and the available funding. This is equivalent to a 58% decrease over the 15-year period of the strategy. The baseline for the second target is the average per year for 2013-17 (201 persons killed or seriously injured).

To assist in achieving this target, eleven sub-targets have been set to guide the strategy and monitor progress. These sub-targets include: a 5% yearly decrease in fatal and serious crashes involving young drivers aged 17-20, the elimination of fatalities due to lack of seat belt wearing, a 5% decrease in killed or seriously injured tourists per 100 000 tourists and a 5% yearly decrease in killed or seriously injured pedestrians, cyclists and motorcyclists.

Performance indicators related to speeding, driving under the influence of alcohol or drugs, seat belt use and the usage of phones or other electronic devices while driving have been introduced.

Crash data are monitored monthly, and this short-term analysis influences decisions on safety measures. Annual reviews focus in particular on the sub-targets.

Table 6. Trends in road fatalities towards national targets

| Type | Targets | Base year | Target year | Base year figure | Current results (2019 figure) |
|------------------------------------|---|-----------------|-------------|------------------|-------------------------------|
| Fatalities per 100 000 inhabitants | Comparable to the five best performing European countries | Average 2013-17 | 2034 | 4.2 | 1.7 |
| Killed and seriously injured | -5% per year (less than 84 in 2034) | Average 2013-17 | 2034 | 201 | 188 |

Measures

Infrastructure: Following a fatal crash in 2018 at a single lane bridge in which three people were killed, it was decided to reduce the maximum speed limit to 50 km/h on all single lane bridges on roads with annual average daily traffic of more than 300 vehicles per day. Some changes in signs and signage were also introduced at these bridges, as well as the installation of flashing warning lights. In addition, new two-lane bridges will replace some of the single lane bridges in the near future.

Because the majority of crashes in rural areas are run-off-road crashes, there are important projects to improve roads and roadsides to make less dangerous. These include measures such as making the road embankment less steep, filling ditches or moving them further from the roadway and installing safety barriers.

Large projects on the separation of driving directions have recently been finished. Others are underway or planned in the near future.

New roundabouts have been built or are being built at intersections with bad crash records.

New bicycle paths that are at least partially funded by the state must be subject to a road safety audit.

Road users: Icelandic road safety authorities have launched a campaign entitled Driving with Elfis to educate foreign drivers on the dangers of Icelandic roads.

Various campaigns are being conducted on topics like mobile phone usage when driving, speeding, driving under the influence of alcohol and/or drugs and fatigue.

Road safety education is proposed at all school levels.

There is a dedicated information programme informing foreign drivers of the specificities of driving in Iceland, including sheep on the road, gravel roads, narrow bridges, etc. Road safety information is attached to the steering wheel of rental cars, highlighting the specificities of driving in wintertime and summertime.

Section speed control has been in a preparation phase since 2017. The equipment has been installed on two road sections.

Definition, methodology, data collection

A road fatality is defined as a person who dies immediately or within 30 days of a crash.

A seriously injured person is someone who suffers fractures, a concussion, internal lesions, crushing, severe cuts and laceration, severe general shock requiring medical treatment and any other serious lesions entailing hospitalisation.

Iceland is working towards using the Maximum Abbreviated Injury Scale (MAIS) of 3+ to define a serious injury. A central accident database with a MAIS score for each accident, including non-traffic ones, is being developed for the healthcare system.

Crash data is based on police reports. Reports are made by police on site and sent to the Icelandic Transport Authority. Information on the cause and type of crash is recorded, along with detailed information on location, vehicles and other factors.

All fatal crashes are recorded in the database. An in depth study is undertaken for each one. By law, every crash with injured individuals must be reported to the police and recorded in the database. In practice, some crash data on injuries are not reported and others may be misreported.

Crash forms have been transferred electronically since 1999, which has led to a much better reporting rate. Comparing recent crash data on injuries with that from years before 2000 is not recommended.

The Icelandic Transportation Safety Board studies all fatal crashes.

Resources

Recent research

Halldorsdottir K. (2018), *An in-depth study of collisions between cars and bicycles at intersections*,

[http://www.vegagerdin.is/vefur2.nsf/Files/nakvaem_greining_arekstra_bill_reidhjol_gatnamot/\\$file/N%C3%A1kv%C3%A6m%20greining%20%C3%A1rekstra%20bifrei%C3%B0a%20og%20rei%C3%B0hj%C3%B3la%20vi%C3%B0%20gatnam%C3%B3t.pdf](http://www.vegagerdin.is/vefur2.nsf/Files/nakvaem_greining_arekstra_bill_reidhjol_gatnamot/$file/N%C3%A1kv%C3%A6m%20greining%20%C3%A1rekstra%20bifrei%C3%B0a%20og%20rei%C3%B0hj%C3%B3la%20vi%C3%B0%20gatnam%C3%B3t.pdf).

Websites

Safe Travel: <https://safetravel.is/>.

Icelandic Transport Authority: <https://www.samgongustofa.is/>.

Iceland Road and Coastal Administration: <http://www.vegagerdin.is/>.

Icelandic Transportation Safety Board: <http://www.rnsa.is/>.

References

RHA (2012), *Icelandic Road Infrastructure and Policymaking*, RHA – University of Akureyri Research Centre,

https://www.rha.is/static/files/Rannsoknir/2012/R12038SAMTrans_tourism-skyrsla_RHA-final.pdf.

Sigthorsson, H. and V. Hilmarsson (2014), *Kostnadur umferdarslysa*, A research project for the Icelandic Road and Coastal Administration, [http://www.vegagerdin.is/Vefur2.nsf/Files/Kostnadur_umferdarslysa/\\$file/Kostna%C3%B0ur%20umfer%C3%B0arslysa.pdf](http://www.vegagerdin.is/Vefur2.nsf/Files/Kostnadur_umferdarslysa/$file/Kostna%C3%B0ur%20umfer%C3%B0arslysa.pdf).

Vegagerdin (2020), *Ökuhraði á þjóðvegum 2004-2019 (Driving speeds on highways 2004-2019)*, Icelandic Road and Coastal Administration, www.vegagerdin.is.

Road safety and traffic data

| | 1990 | 2000 | 2010 | 2017 | 2018 | 2019 | 2019 % change over | | | | |
|--|-------|-------|-------|-------|-------|-------|--|--------|--------|--------|--|
| | | | | | | | 2018 | 2010 | 2000 | 1990 | |
| Reported safety data | | | | | | | | | | | |
| Fatalities | 24 | 32 | 8 | 16 | 18 | 6 | -66.7% | -25.0% | -81.3% | -75.0% | |
| Injury crashes | 564 | 999 | 883 | 952 | 868 | 770 | -11.3% | -12.8% | -22.9% | 36.5% | |
| Deaths per 100,000 population | 9.5 | 11.5 | 2.5 | 4.7 | 5.2 | 1.7 | -67.5% | -33.3% | -85.3% | -82.2% | |
| Deaths per 10,000 registered vehicles | .. | 1.8 | 0.3 | 0.5 | 0.5 | 0.2 | -67.2% | -43.0% | -90.5% | .. | |
| Deaths per billion vehicle kilometres | 14.9 | 13.8 | 2.5 | 4.1 | 4.5 | 1.5 | -66.6% | -40.6% | -89.1% | -89.9% | |
| Fatalities by road user | | | | | | | | | | | |
| Pedestrians | 6 | 1 | 2 | 0 | 0 | 1 | figures too small for meaningful comparisons | | | | |
| Cyclists | 0 | 0 | 0 | 2 | 0 | 0 | | | | | |
| Moped riders | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Motorcyclists | 3 | 1 | 1 | 1 | 0 | 1 | | | | | |
| Passenger car occupants | 15 | 25 | 4 | 9 | 12 | 3 | | | | | |
| Other road users | 0 | 5 | 1 | 4 | 6 | 1 | | | | | |
| Fatalities by age group | | | | | | | | | | | |
| 0-14 years | 3 | 0 | 0 | 2 | 1 | 0 | figures too small for meaningful comparisons | | | | |
| 15-17 years | 2 | 5 | 0 | 0 | 0 | 1 | | | | | |
| 18-20 years | 4 | 4 | 2 | 1 | 0 | 0 | | | | | |
| 21-24 years | 3 | 1 | 1 | 2 | 4 | 0 | | | | | |
| 25-64 years | 9 | 13 | 3 | 8 | 10 | 4 | | | | | |
| 65-74 years | .. | .. | 0 | 1 | 2 | 0 | | | | | |
| ≥ 75 years | .. | .. | 2 | 2 | 1 | 1 | | | | | |
| Fatalities by road type | | | | | | | | | | | |
| Urban roads | 10 | 7 | 4 | 7 | 2 | 0 | figures too small for meaningful comparisons | | | | |
| Outside urban areas | 14 | 25 | 4 | 9 | 16 | 6 | | | | | |
| Traffic data | | | | | | | | | | | |
| Registered vehicles (thousands) | .. | 173 | 260 | 324 | 337 | 342 | 1.5% | 31.5% | 97.7% | .. | |
| Vehicle kilometres (millions) | 1 612 | 2 316 | 3 168 | 3 938 | 4 008 | 3 998 | -0.2% | 26.2% | 72.6% | 148.0% | |
| Registered vehicles per 1,000 population | .. | 620.0 | 818.6 | 957.6 | 967.1 | 958.0 | -0.9% | 17.0% | 54.5% | .. | |