



ROAD SAFETY ANNUAL REPORT 2019

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Iceland recorded 18 road fatalities in 2018, a substantial increase on the 8 road fatalities registered in 2010. The uptake in traffic deaths coincides with a tourism boom that has swept the country. Of these 18 fatalities, 6 were attributed to tourists. The year 2017 was the first year in which more foreign nationals died on Icelandic roads than residents. Educational campaigns and increased messaging targeting foreign travellers aim to bring Iceland closer to its target of reaching a road mortality rate in line with the highest performing countries by 2033.

Trends

Iceland registered an overall **increase in the number of road deaths in 2018**. 18 persons lost their lives in traffic crashes in Iceland in 2018 - an increase of two fatalities on 2017. In 2017, 16 road deaths were reported, itself a two fatality decline on 2016.

The **longer-term trend for road deaths** in Iceland has been downward. Between 2000 and 2018, the number of annual road fatalities fell by 44%. The greatest reductions

were achieved in the 2000-2010 period in which annual road fatalities fell by 75%. Since 2010, annual road deaths have increased.

The number of **traffic deaths per 100 000 inhabitants** in Iceland has fallen by 55% between 2000 and 2018. In 2018, 5.2 traffic deaths per 100 000 inhabitants were recorded, compared to 11.5 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-kilometers** (vkm) driven, the road safety performance of Iceland showed a satisfactory longer-term trend. In 2018 this metric stood at 4.5, 68% lower than in 2000. However, this figure has increased 78% since 2010.

Iceland recorded 0.5 **road fatalities per 10 000 registered vehicles** in 2018. This represents a decrease of 68% compared to the year 2000, when the rate of deaths to registered vehicles stood at 1.8.

Country Profile

Population in 2018: 0.3 million

GDP per capita in 2018: 74 267 USD

Cost of road crashes: 2% of GDP (2013)

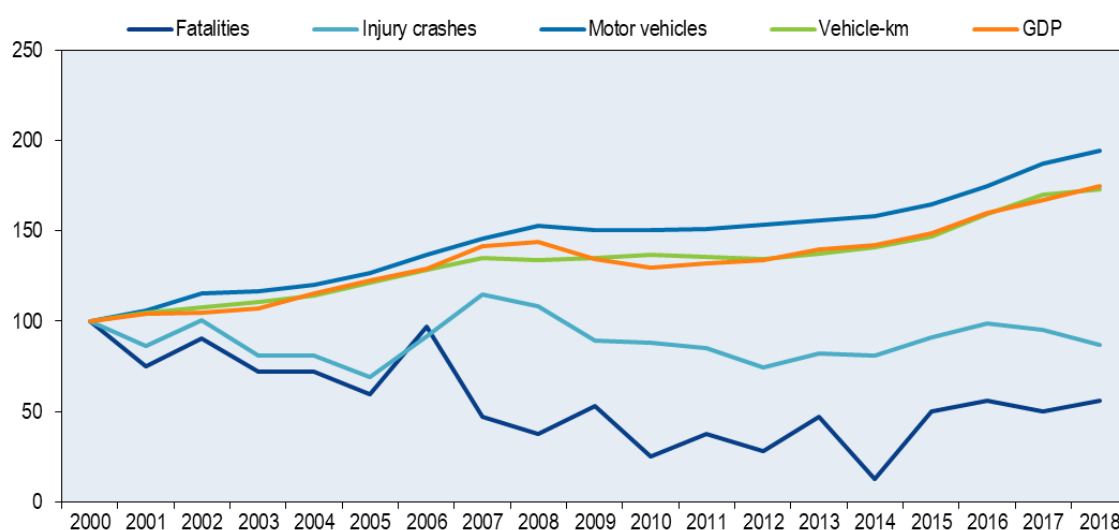
Registered motor vehicles in 2018: 0.3 million (cars 79.2%; good vehicles 11.9%, motorcycles 2.7%)

Volume of traffic : +73% between 2000 and 2018

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: 0.5 g/l

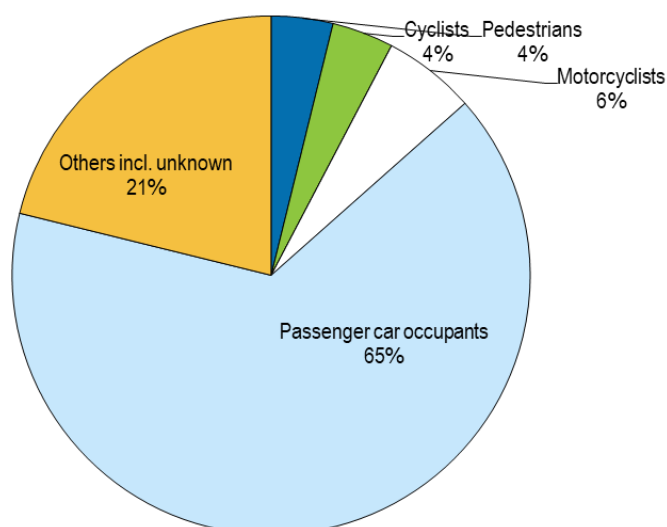
Figure 1. Road safety, vehicle stock, traffic and GDP trends
Index 2000 = 100



Road deaths by road user showed consistency with previous years. Of the 18 fatalities recorded in Iceland in 2018, 12 were passenger car occupants. For what concern the remaining 6 fatalities, 4 were occupants of vans, one was a bus driver and one was driving a six-wheel vehicle. Of the 18 fatalities recorded in 2018, 6 were attributed to tourists. The year 2017 was the first year in which more foreign nationals died on Icelandic roads than residents.

In the past five years, since 2013, passenger car occupants constituted 69% of a total of 87 recorded road fatalities. Over this time, motorised two-wheelers and pedestrians accounted for 5.7% and 3.5%, respectively, of total fatalities.

Figure 2. Road fatalities by road user group in percentage of total, average 2016-2018

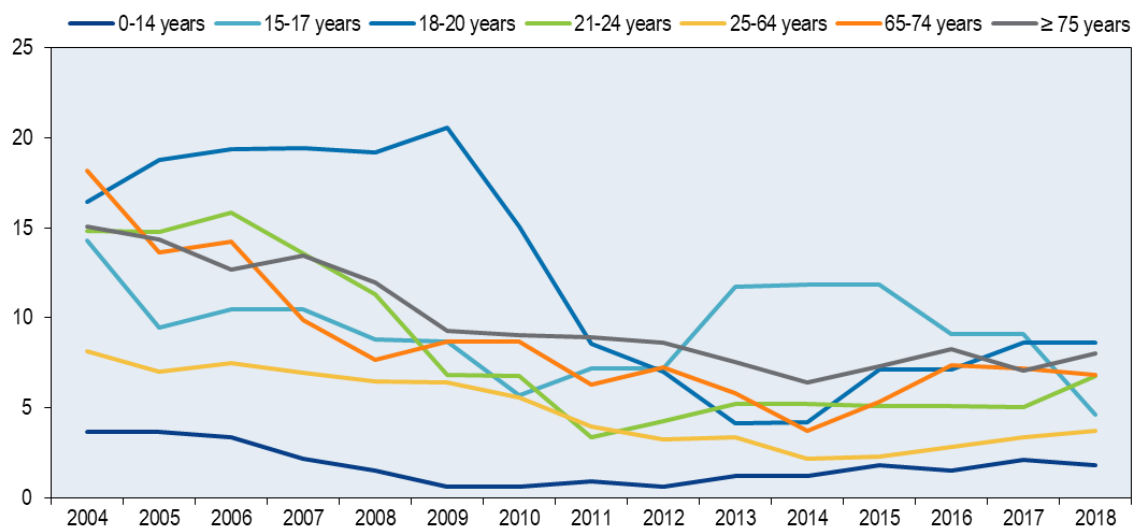


Road deaths by age group in 2018 showed that road users in the 25-64 age group accounted for the majority of the fatalities with 10 on the year. In 2018 four young people (21-24 age group) died from a traffic crash. In the past five years, 25-64 year olds suffered 45% of fatalities, followed by 65-74 year olds with 13% and 21-24 year olds with 10%.

Looking at the longer-term trend, since 2000, the number of road deaths decreased for all groups, with the exception of 21-24 year olds.

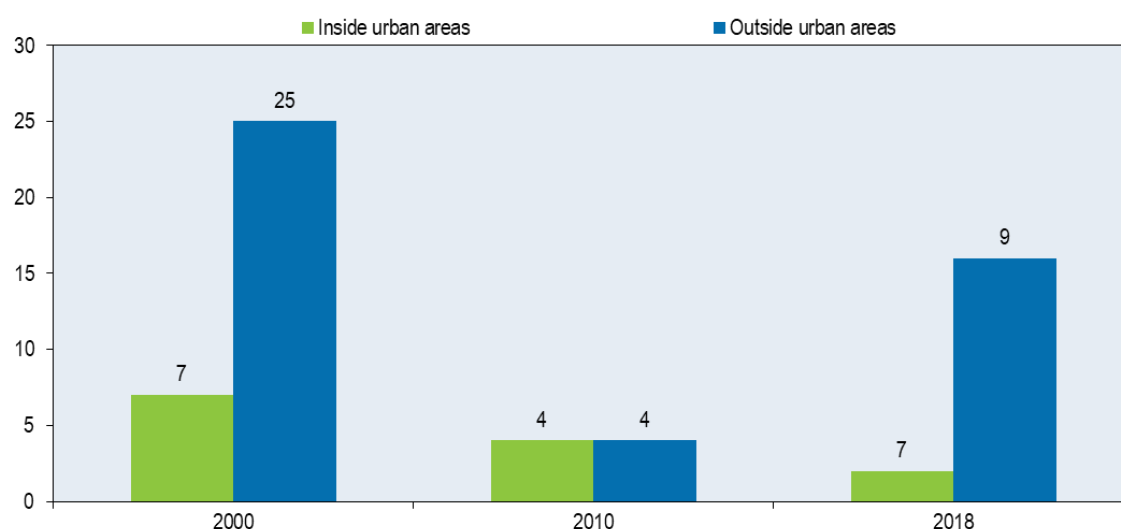
Despite recent improvements, young people continue to be the age group the most at risk in traffic, with a mortality rate above the average. In both 2017 and 2018, 21-24 year olds suffered disproportionately high mortality rates of 9.8 and 19.1, respectively, compared to national rates of 4.7 and 5.2 in these years.

Figure 3. Road fatality rates by age group, 2004-2018
Deaths per 100 000 population in a given age group, 5-year moving average



Analysis of **fatalities by road type** shows that the rural network is the deadliest. In 2018, 16 of the 18 deaths occurred on rural roads. In some cases, traffic crashes occur along Iceland's "Ring Road" – Iceland Route 1 – that connects many of the most populated areas of the country. The route traverses many scenic, 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.

Since 2000, fatalities in urban areas decreased by 71% while roads outside urban areas saw fatalities drop by 36%.

Figure 5. Road fatalities by road type

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 Iceland 183 people were seriously injured in 2018, 6 fewer than in 2017. For the period 2009-2018 the average number of seriously injured was 178.4. Figures for 2018 were a little above this average.

Economic costs of road crashes

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

In 2013, it was estimated that road crash costs amounted to EUR 254 million, or 2% of Iceland's GDP.

Table 1. Costs of road crashes, 2013

	Unit cost [EUR]	Total [EUR]
Injury or fatal crashes	252 667	207 692 274
Property damage only crashes	9 333	46 767 663
Total		254 459 937
Total as % of GDP (constant prices)		2%

Source: Sigthorsson and Hilmarsson, 2014.

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 was the same in 2017 as in 2016 and the v85 speed (meaning 15% drive faster than v85) increased by 0.1 km/h. (Vegagerdin, 2018). Iceland has increased enforcement (both traditional and automatic speed controls), but budgets have limited the ability to increase the number of automatic speed cameras more rapidly.

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

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

The maximum authorised blood alcohol content (BAC) is 0.5 g/l. From 2012-16, on average, 8% of those killed and 4% of those seriously injured were involved in road crashes where one of the drivers has a BAC above the limit or had taken drugs. **Drink driving** has declined although 2016 was unusually bad in this regard. In the five year period of 2012-16, there were three years where nobody died in an alcohol-related crash.

Television commercials are broadcast almost every year to combat drink driving. In some years, the police may receive special funding for strengthening drink driving enforcement.

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 2012-16 period, 8% of fatal crashes and 2.8% of serious injury crashes involved a driver under the **influence of drugs**. In 2015, Iceland had a very positive result in terms of drivers under the influence of drugs with zero fatalities and a record low number of accidents. In 2016, however, there were three fatal crashes caused by driving under the influence of alcohol and three caused by driving under the influence of illegal narcotics, one of which was caused by both alcohol and drugs. This means that 5 out of the 18 fatalities were caused by either alcohol or drugs (or both).

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

During the 2012-16 period, about 3-4% of fatal and injury crashes involved a driver who was drowsy, 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 usage is conducted every year at preschool establishments and the trend has been very positive. Since 1985 the child seat using rate of preschool children (3-6 years old) has gone up from 21% to 98%.

During the period 2011-15, on average, 43% of car occupants killed were not wearing a seat belt.

Table 3. Seat Belt wearing rate by car occupancy and road type

	2010	2015	2017	2018
Front seats				
Driver	86	..	..	..
Passenger	88	85	..	..
Urban roads (driver)	77	78	79	87
Rural roads (driver)	95	94	94	95
Rear seats				
General	73	69	80	84

Helmet wearing is mandatory for all powered two-wheelers, and is compulsory for cyclists up to 14 years of age.

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, the last four years have seen a large increase in road deaths, due in part to a greater number of foreign tourists, many of whom use rental cars. Improving road safety for foreign tourist 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 within the capital 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 organisation 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*) handles the human behaviour through campaigns, education, etc. The

National Commissioner of the Icelandic Police monitors speed and alcohol and drug abuse.

There is competition between regions and the constituencies on improved road infrastructure. In February 2019, the Icelandic parliament agreed on the second multi-modal transportation plan of its kind covering the period 2019-2033 and which includes the following road safety targets:

- In 2033, the number of traffic fatalities per 100 000 inhabitants should not exceed the rate of countries with outstanding traffic safety records;
- The number of killed and seriously injured should decrease annually, on average, by 5% until 2033.

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 44% decrease over the 15-year period of the strategy. The baseline for the second target is the average of the years 2013-2017, which is 201.

To assist in achieving this target, 11 sub-targets have been set to guide the strategy and monitor progress. These sub-targets include, among others: a yearly 5% decrease in fatal and serious crashes involving young drivers (aged 17-20), 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 yearly 5% decrease in killed or seriously injured pedestrians, cyclists and motorcyclists.

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 4. Trends in road fatalities towards national targets

Type	Targets	Base year	Target year	Base year figure	Current results (2018 figure)
Fatalities per 100 000 inhabitants	Not higher than the best performing countries	Average 2013-2017	2033	4.2	5.2
Killed and seriously injured	-5% per year (less than 88 in 2033)	Average 2013-2017	2033	201	201

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

Measures

Infrastructure

- Following a fatal crash at a single lane bridge in 2018, 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 an average annual 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, if they had not been installed already.
- Because the majority of crashes in rural areas are run-off-road crashes, there are important projects to improve roads and roadsides to make them more forgiving. These include the elimination of black spots, separation of driving directions, increased use of rumble strips, improved winter services.
- 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 "Driving with Elfis" campaign to educate foreign drivers on the dangers of Icelandic roads.
- Various campaigns are being conducted on topics including mobile phone usage when driving, speeding, driving under the influence of alcohol and/or drugs, fatigue, etc.
- 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 winter time and summer time.

Definition, methodology, data collection

- Road fatality: a person who died immediately or within 30 days of a crash.
- Seriously injured (old European definition): "fractures, concussion, internal lesions, crushing, severe cuts and laceration, severe general shock requiring medical treatment and any other serious lesions entailing detention in hospital."

Iceland is working towards using the Maximum Abbreviated Injury Scale of three or more (MAIS3+) to define a serious injury. A central accident database including non-traffic accidents is being developed for the healthcare system in which a MAIS score for each accident will be found.

Crash data is based on police reports. Reports are made by police at the scene and sent to the Icelandic Transport Authority. Information on the cause and type of crash is added to the files 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 fatal crash. By law, every injury crash must be reported to the police and therefore it will be included in the database. In practice, some injury crash data are not reported and others may be misreported.

From 1999, crash forms have been transferred electronically, which has led to a much better reporting rate. Comparing recent injury crash data 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/R12038SAM-Trans_tourism-skyrsla_RHA-final.pdf

Sigthorsson, H. and V. Hilmarsson (2014), *Kostnadur umferdarslysa*, A research project for the Icelandic Road and Coastal Administration, May 2014, [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 (2018), *Ökuhraði á þjóðvegum 2004-2017 (Driving speeds on highways 2004-2017)*, Icelandic Road and Coastal Administration,
[http://www.vegagerdin.is/vefur2.nsf/Files/Okuhradi_2004-2017/\\$file/%C3%96kuhra%C3%B0i_2004-2017_KaH_audur_yfirfar_lokaskjal.pdf](http://www.vegagerdin.is/vefur2.nsf/Files/Okuhradi_2004-2017/$file/%C3%96kuhra%C3%B0i_2004-2017_KaH_audur_yfirfar_lokaskjal.pdf)

Road safety and traffic data

	1990	2000	2010	2016	2017	2018	2018 % change over			
							2017	2010	2000	1990
Reported safety data										
Fatalities	24	32	8	18	16	18	12.5%	0.0%	-43.8%	-25.0%
Injury crashes	564	999	883	986	952	868	-8.8%	-12.0%	-13.1%	53.9%
Deaths per 100,000 population	9.5	11.5	2.5	5.4	4.7	5.2	9.2%	-4.6%	-55.0%	-45.4%
Deaths per 10,000 registered vehicles	..	1.8	0.3	0.6	0.5	0.5	8.2%	-10.1%	-71.1%	..
Deaths per billion vehicle kilometres	14.9	13.8	2.5	4.9	4.1	4.5	10.5%	-7.9%	-67.5%	-69.8%
Fatalities by road user										
Pedestrians	6	1	2	2	0	0	Figures too small for meaningful comparisons			
Cyclists	0	0	0	0	2	0				
Moped riders	0	0	0	0	0	0				
Motorcyclists	3	1	1	2	1	0				
Passenger car occupants	15	25	4	13	9	12				
Other road users	0	5	1	1	4	6				
Fatalities by age group										
0-14 years	3	0	0	1	2	1	Figures too small for meaningful comparisons			
15-17 years	2	5	0	2	0	0				
18-20 years	4	4	2	0	1	0				
21-24 years	3	1	1	0	2	4				
25-64 years	9	13	3	9	8	10				
65-74 years	..	..	0	4	1	2				
≥ 75 years	..	..	2	2	2	1				
Fatalities by road type										
Inside urban areas	10	7	4	5	7	2	-71.4%	-60.0%	-71.4%	-80.0%
Outside urban areas	14	25	4	13	9	16	77.8%	23.1%	-36.0%	14.3%
Traffic data										
Registered vehicles (thousands)	..	173	260	303	324	337	4.0%	11.2%	94.8%	..
Vehicle kilometres (millions)	1 612	2 316	3 168	3 693	3 938	4 008	1.8%	8.5%	73.1%	148.6%
Registered vehicles per 1,000 population	..	620.0	818.6	911.2	957.6	967.1	1.0%	6.1%	56.0%	..