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Korea marked its eighth consecutive annual reduction in road fatalities, measuring 3 081 road deaths in 2020. Pedestrian and cyclist safety needs improvement – together, these groups accounted for 43% of all road fatalities in 2020. Likewise, the elderly form a particularly vulnerable road user group. Korea adopted an ambitious transport safety plan for 2017-21 to reduce the number of road deaths to under 2 700 by 2021. The ninth Korea Transport Safety Master Plan is currently under preparation. It will contain the new plan 2022-26 for reducing fatalities.

## Road safety management and strategy

Fatalities peaked in 1991 at 13 429. Since road deaths have decreased (with some fluctuations) and were halved by 2004. In 2013, for the first time in 37 years, the number of road deaths measured below 5 000, and in 2020, Korea marked its eighth consecutive year of achieving a record-low annual fatalities total. This good record of reductions is due in part to the following measures:

- compulsory wearing of front seat belts (1990)
- drink driving enforcement (1998)
- installation of median barriers on national roads
- speed enforcement by the police, including automatic speed camera enforcement since 2008
- lower speed limits on urban roads in residential areas (ongoing pilot project since 2014)
- compulsory wearing of rear seat belts (2018)
- reduction of BAC level to 0.3 g/l (2019).

### Korea: Quick facts

**Population:** 51.8 million

**GDP per capita:** USD 31 489

**Road network:** 111 314 km

**Registered motor vehicles:** 27.4 million

- cars: 70%
- goods vehicles: 13%
- motorcycles: 8%

**Volume of traffic:** +59.2% (2000-19)

#### Speed limits:

- urban roads: 40-50-60 km/h
- rural roads: 60 km/h on one-lane roads, 80 km/h on two or more lane roads
- motorways: 110 km/h (100 km/h in urban areas)

**Limits on Blood Alcohol Content:** 0.3 g/l

**Road fatalities:** 3 081

- pedestrians: 35%
- cyclists: 6%
- car occupants: 19%
- motorcyclists: 23%
- other: 16%

**Road fatalities per 100 000 population:** 6.0

**Road fatalities per 10 000 vehicles:** 1.1

**Cost of road crashes:** 1.3% of GDP

All data 2020 unless otherwise stated.

However, Korea still faces several challenges and reports fatality rates above the average for OECD countries. Reasons for the elevated levels of deaths and serious injuries on roads include high alcohol consumption, wide junctions, a lack of sidewalks on rural roads, high speed limits on urban roads (usually 60 km/h), a lack of road safety education in high schools and the low priority of road safety by local government. Also, Korea's older population (above 65) has a very high risk in traffic when compared to other OECD countries. This is a serious concern as the share of the senior population is increasing steadily.

Responsibility for road safety in Korea is shared among various ministries and agencies:

- The Ministry of Land, Infrastructure and Transport (MOLIT) is responsible for motorways and highways' national trunk road network. It also manages vehicle safety and runs the New Car Assessment Program.
- The Ministry of Public Safety and Security oversees road safety for local governments. It contributes to safety strategies for provincial, municipal and county roads.
- The National Police Agency is mainly responsible for traffic enforcement and crash investigation. It also operates traffic signals, crossings and speed enforcement cameras.
- The Korea Transportation Safety Authority is a government agency mainly responsible for vehicle safety that supports the Ministry of Land, Infrastructure and Transport.
- The Korea Road Traffic Authority (KoROAD) is a government agency supporting the National Police Agency, responsible for road traffic management and car crash statistics. The agency is in charge of traffic monitoring, driver licence examinations and management, training and education.

Road safety policy is co-ordinated by the National Transport Safety Committee, an interministerial body. The committee is chaired by the Minister of Land, Infrastructure and Transport. Private professionals can participate in the committee, but the committee does not often convene in practice. The committee's role is to review road safety policies and measures implemented by the various agencies. However, it does not have a monitoring function, budget or budget allocation power.

The eighth National Safety Transport Plan covers the period 2017-21. Three main targets have been set for 2021:

- reducing the number of road fatalities to less than 2 700, with interim targets for each year from 2017 to 2021
- reducing the rate of fatalities per 100 000 inhabitants to 5.2
- reducing the rate of fatalities per 10 000 vehicles (including mopeds) to below 1.0 to be ranked in the middle range of OECD member countries.

Although considerable reductions can be observed, the targets do not seem achievable.

The ninth Korea Transport Safety Master Plan for 2022-26 is underway.

## Latest road safety measures

The responsibility for developing road safety measures is being progressively transferred from the National Police Agency to local governments, with the creation of local autonomous police agencies. Local governments manage and promote their traffic crash-reducing measures by creating their police organisations.

Since September 2018, seat belt wearing was made compulsory for all car occupants on all types of road (until then, seat belts for rear-seat passengers were only mandatory on motorways). Also, a bicycle helmet law entered into force in September 2018.

Reduction of the speed limit from 60 km/h to 40 or 50 km/h in residential and shopping areas was introduced. This is being progressively extended to additional areas. In residential areas with dense pedestrian activity, the speed limit was reduced to 30 km/h. These measures were accompanied by intense enforcement campaigns, especially in black spot areas.

Several measures are being implemented to make infrastructure safer: the construction of additional roundabouts, designation of Silver Zones near facilities for the elderly, construction of other rest areas along highways, construction of additional pedestrian crossings limited to less than 200 metres distance between two crossings and installation of safety fences to prevent jaywalking.

In 2019, the government set new limits regarding the amount of blood alcohol allowed for drivers. Drivers with a BAC of 0.3 g/l or higher will get their licenses suspended. Drivers with a BAC level of 0.8 g/l or higher will no longer be allowed to drive.

## Costs of road crashes

Traffic crashes represent a high cost for Korean society. A study in 2020 estimated total costs to be around USD 21 billion (1.3% of GDP). The costs are based on police crash data and information from insurance companies. These costs do not consider the indirect costs of suffering and pain.

Since 1992, KoROAD has calculated the economic cost of road crashes using the Gross Loss of Output approach. The most recently published estimation of road crash cost is based on 2020 crash data.



## Safety performance indicators

### Speed

Based on police reports in 2020, excessive speed was a primary contributing factor in 9% of all road fatalities.

In 2012, the speed limit in urban areas was reduced from 80 km/h to 60 km/h for two-lane roads. In 2015, as part of a pilot project, the speed limit was lowered from 60 km/h to 50 km/h or 40 km/h in around 118 residential and shopping areas. In 2017, this measure was extended to most residential and shopping areas.

### Drink-driving

Driving under the influence of alcohol is another major cause of road crashes in Korea, as in most IRTAD countries. In 2017, it was estimated that 10.2% of fatal crashes were alcohol related.

The maximum authorised blood alcohol content (BAC) is 0.3 g/l. A crash is categorised as alcohol related when at least one crash-related casualty has a BAC above the legal limit.

### Drugs and driving

Drugs and driving are likely to be a problem in Korea. However, there is no data to assess the prevalence of drugs and driving and their impact on crash occurrence. Drugs and driving are not classified in police forms as a possible cause of a crash.

### Use of mobile phones while driving

An increasing problem for traffic safety in Korea is distraction, for instance, through mobile phone use while driving or crossing a street. There is no official data on the prevalence of distraction in crashes, as distraction is not classified as a possible cause of a crash in police forms. However, according to the Traffic Culture Index Survey undertaken in 2017 by KOTSA, 13.2% of pedestrians use their smartphones while crossing a road and 5% of drivers on urban roads use a mobile phone while driving.

Since 2008, the use of hand-held mobile phones while driving has been prohibited. However, it remains a challenging behaviour to enforce, as it is strongly dependent on the driver's statement.

The Korea Expressway Corporation installed 324 rest areas on the motorway network to prevent driver fatigue and sleepiness.

## Seat belt and helmet use

Seat belt wearing has been compulsory since 1990 in front seats. Rear seat belts were made mandatory on motorways in 2008, but it was not made mandatory on other roads. Since September 2018, seat belt use has become compulsory for all car occupants and on all types of roads. The Traffic Culture Index Survey 2020 shows that 96% of drivers, 90% of front-seat passengers and 49% of rear-seat passengers wear seat belts on motorways. On urban roads, the seat belt wearing rate was 85% for front seat drivers and passengers and 37% for rear-seat passengers. Improving the usage of seat belts in rear seats is necessary.

Children under the age of six must be seated in a dedicated child seat. In 2020, the wearing rate was 61% on motorways and 53% on urban roads.

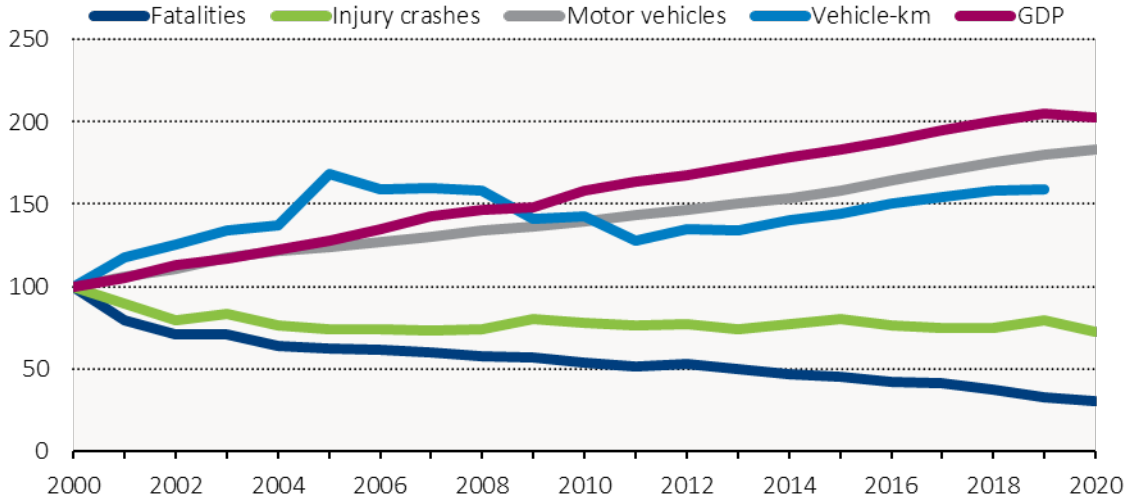
## Road safety data for Korea at a glance

### Long-term road safety trends for Korea

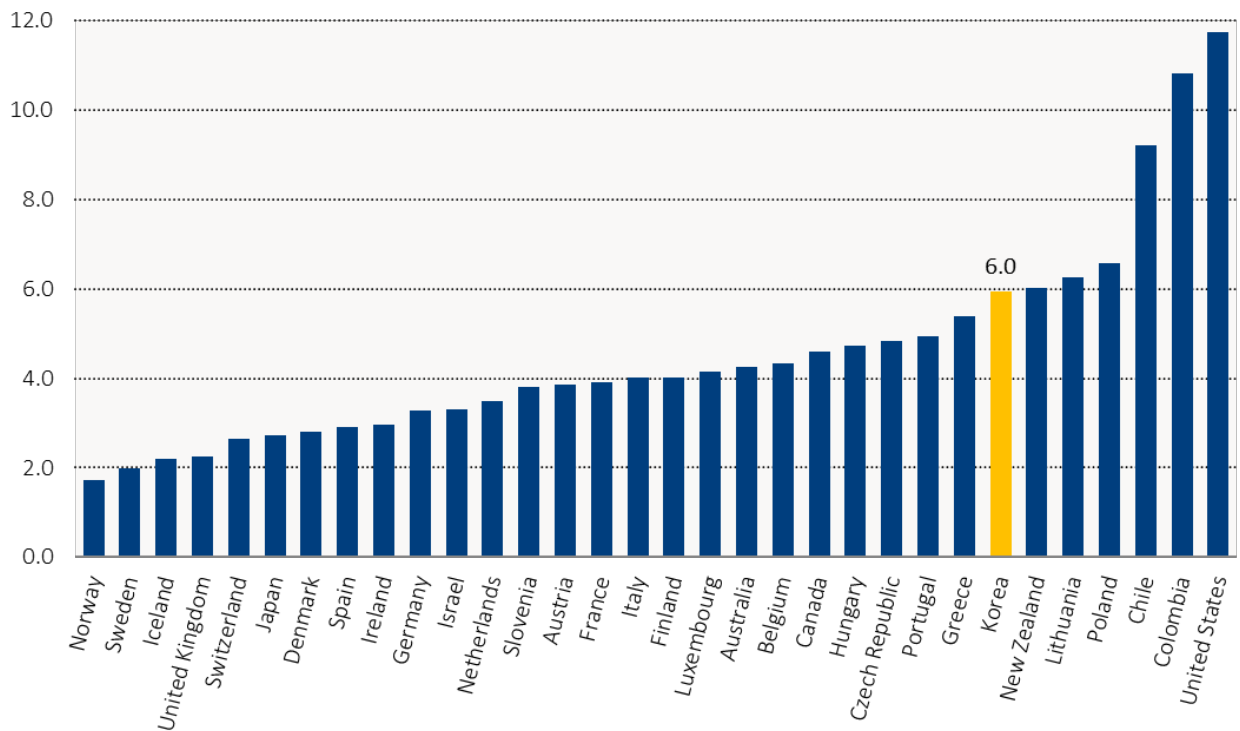
	1990	2000	2010	2018	2019	2020	2020 % change over			
							2019	2010	2000	1990
<b>Reported safety data</b>										
Fatalities	14 174	10 236	5 505	3 781	3 349	3 081	-8.0	-44.0	-69.9	-78.3
Injury crashes	255 303	290 481	226 878	217 148	229 600	209 654	-8.7	-7.6	-27.8	-17.9
Deaths per 100,000 population	33.1	21.8	11.1	7.3	6.5	6.0	-8.1	-46.4	-72.7	-82.0
Deaths per 10,000 registered vehicles	28.9	6.9	2.6	1.4	1.2	1.1	-9.7	-57.4	-83.6	-96.1
Deaths per billion vehicle kilometres	..	49.5	18.7	11.6	10.2	..	..	..	..	..
<b>Fatalities by road user</b>										
Pedestrians	7 063	3 764	2 082	1 487	1 302	1 093	-16.1	-47.5	-71.0	-84.5
Cyclists	644	317	294	207	179	198	10.6	-32.7	-37.5	-69.3
Moped riders	..	343	450	99	66	74	12.1	-83.6	-78.4	..
Motorcyclists	..	1 221	633	640	633	620	-2.1	-2.1	-49.2	..
Passenger car occupants	2 100	2 792	1 228	725	601	589	-2.0	-52.0	-78.9	-72.0
Other road users	2 692	1 799	818	623	568	507	-10.7	-38.0	-71.8	-81.2
<b>Fatalities by age group</b>										
0-14 years	..	588	160	41	34	26	-23.5	-83.8	-95.6	..
15-17 years	..	263	139	46	30	46	53.3	-66.9	-82.5	..
18-20 years	..	459	149	67	72	55	-23.6	-63.1	-88.0	..
21-24 years	..	573	236	106	103	88	-14.6	-62.7	-84.6	..
25-64 years	..	6 474	3 068	1 839	1 584	1 523	-3.9	-50.4	-76.5	..
65-74 years	..	1 117	1 030	725	613	580	-5.4	-43.7	-48.1	..
≥ 75 years	..	736	722	957	910	762	-16.3	5.5	3.5	..
<b>Fatalities by road type</b>										
Urban roads	..	3 311	2 312	1 930	1 677	1 544	-7.9	-33.2	-53.4	..
Rural roads	..	6 199	2 698	1 558	1 439	1 279	-11.1	-52.6	-79.4	..
Motorways	..	726	495	293	233	258	10.7	-47.9	-64.5	..
<b>Traffic data</b>										
Vehicle kilometres (millions)	..	206 985	295 055	327 073	329 554	..	..	..	..	..
Registered vehicles (thousands)	4 897	14 927	20 832	26 166	26 845	27 361	1.9	31.3	83.3	458.7
Registered vehicles per 1,000 population	114.2	317.5	420.4	507.0	519.1	528.4	1.8	25.7	66.4	362.6

### Evolution of road fatalities, injury crashes, motorisation, traffic and GDP in Korea, 2000-20

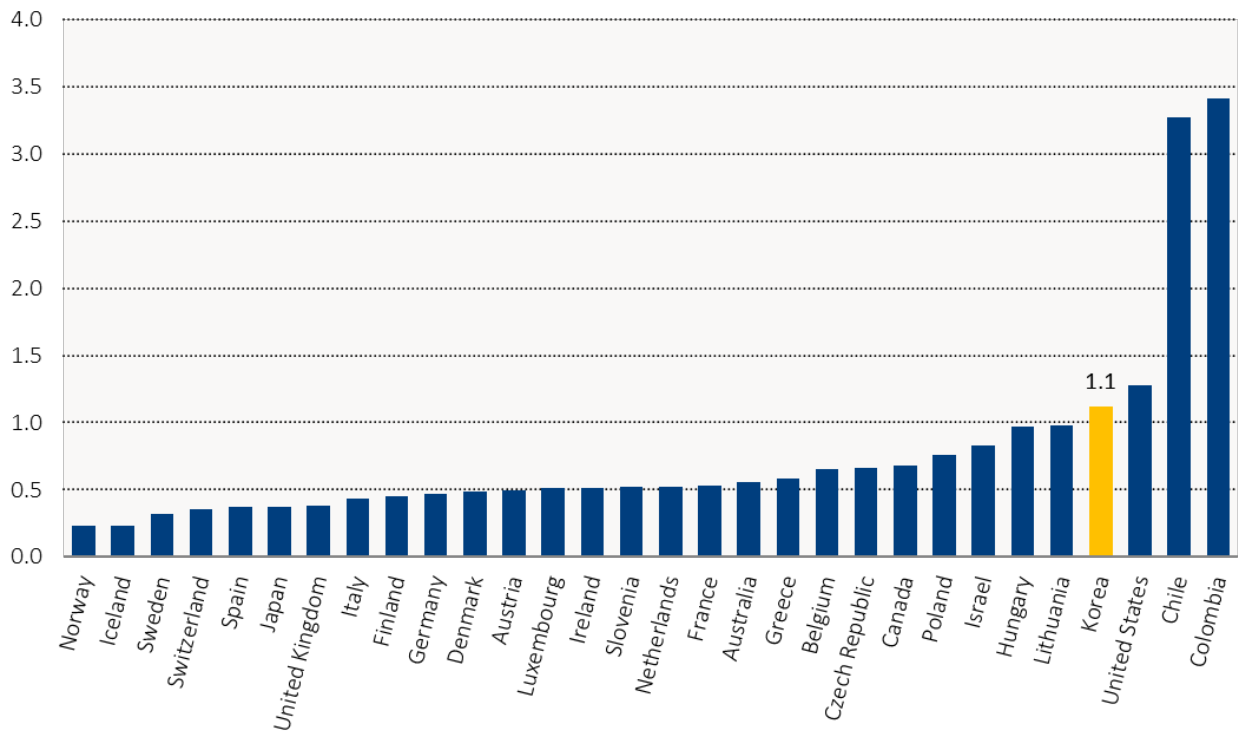
Index 2000 = 100



### Road fatalities per 100 000 inhabitants in Korea in comparison with IRTAD countries, 2020



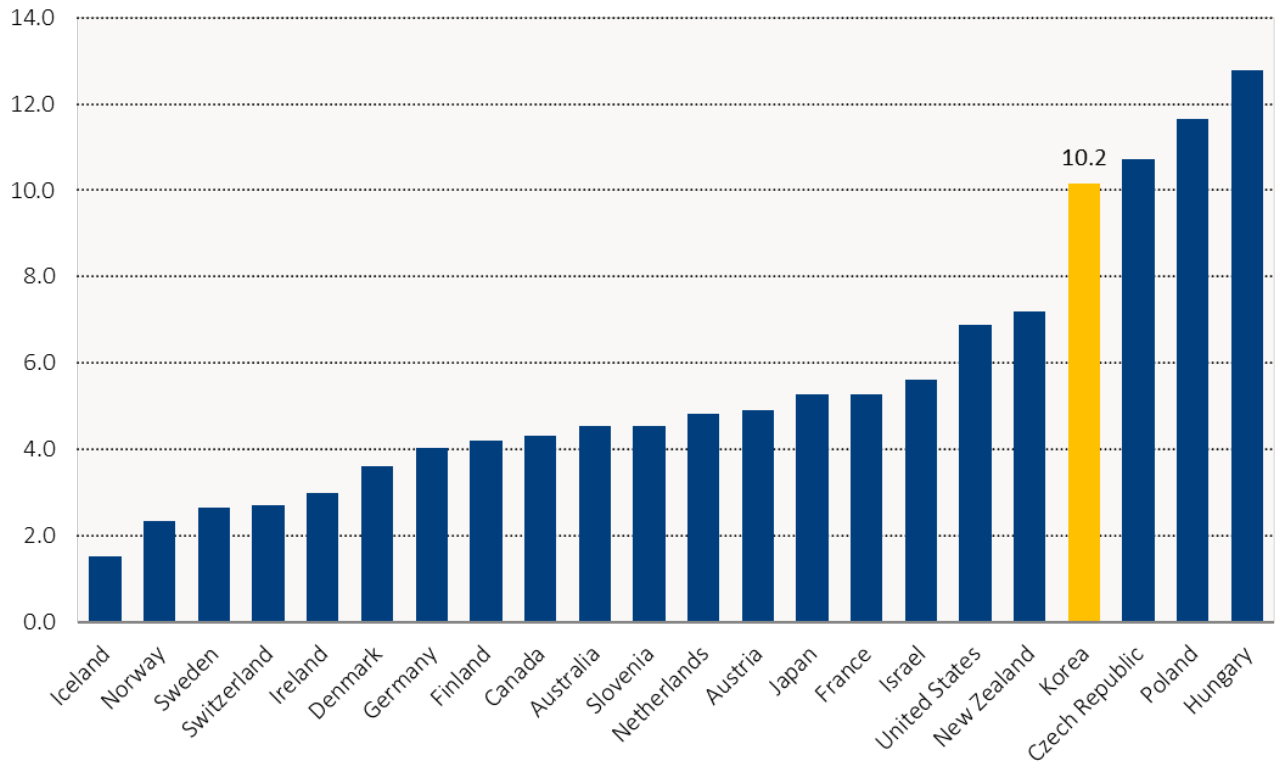
### Road fatalities per 10 000 vehicles in Korea in comparison with IRTAD countries, 2020



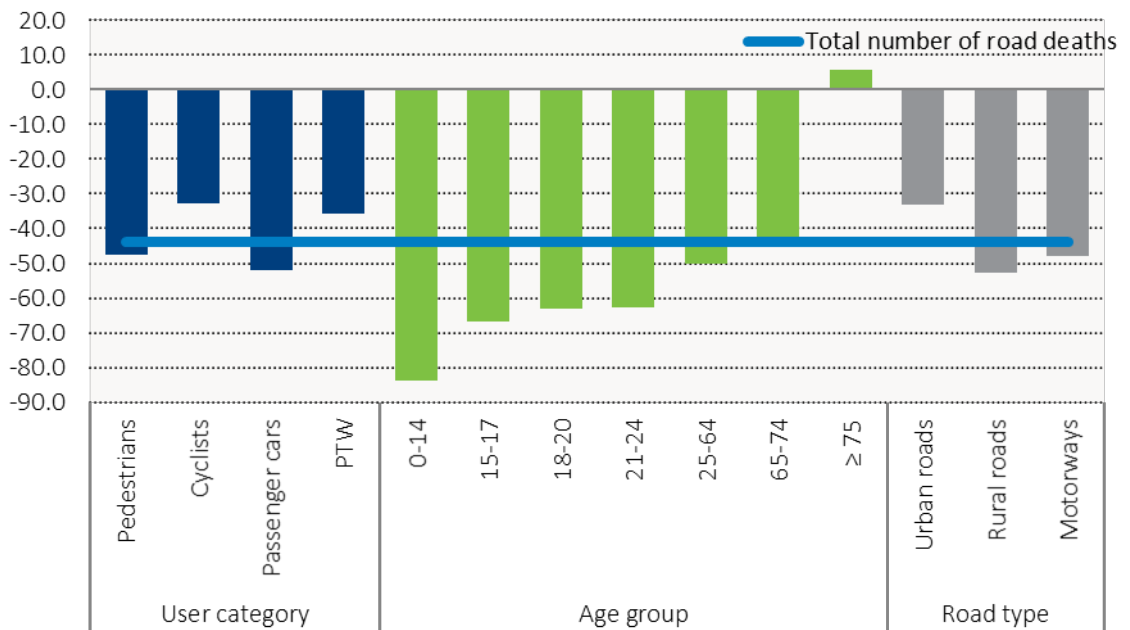
Note: in Belgium, Denmark, Germany and Hungary registered vehicles do not include mopeds.



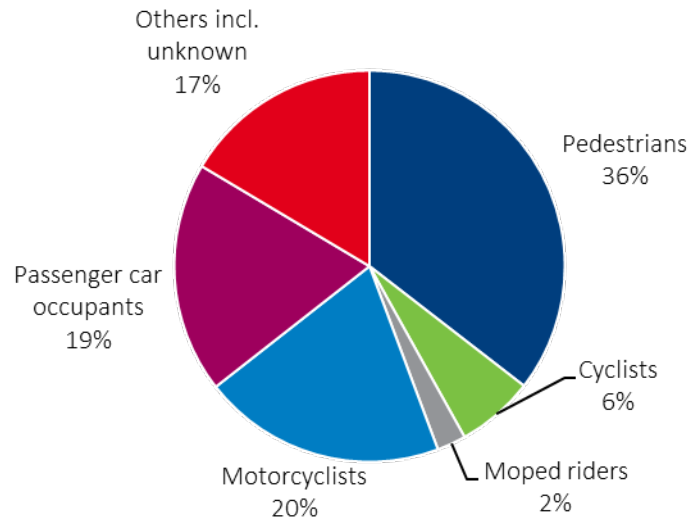
**Road fatalities per billion vehicle-kilometres in Korea in comparison with IRTAD countries, 2019**



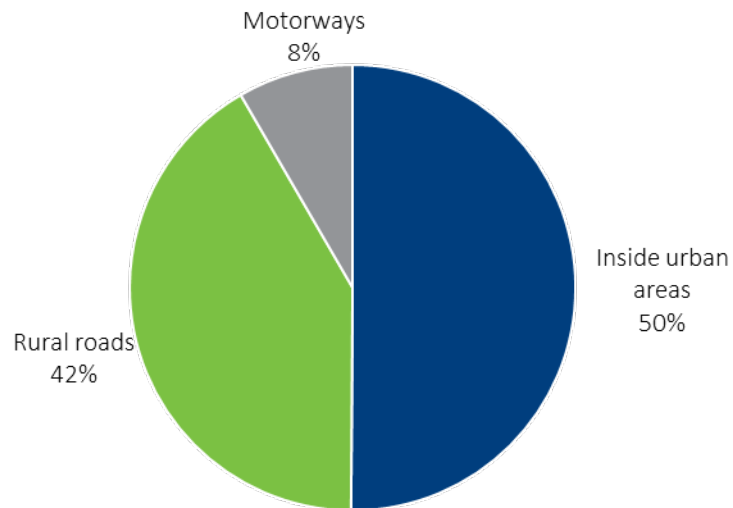
**Evolution of road fatalities in Korea by user category, age group and road type, 2010-20**



### Road fatalities in Korea by user category, 2020

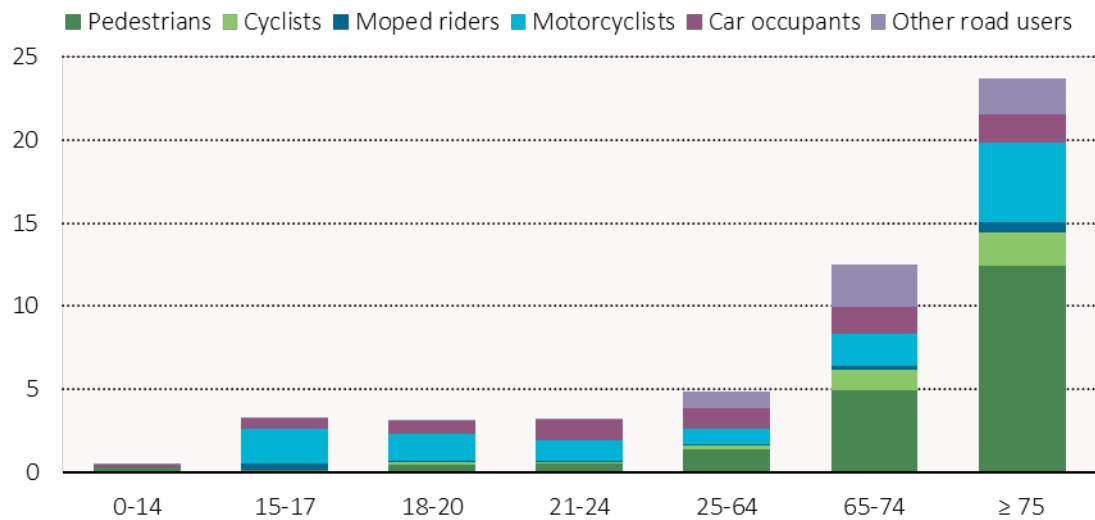


### Road fatalities in Korea by road type, 2020



### Road fatality rate in Korea by user category and age group, 2020

Rate per 100 000 population in the same age group



### Cost of road crashes in Korea, 2020

	Unit cost (USD)	Total (USD)
Fatalities	429 750	1.26 billion
Severe injuries	57 329	4.61 billion
Slight injuries	4 311	3.02 billion
Injuries less than 3 days treatment	2 124	2.51 billion
<b>Total</b>		<b>22.11 billion</b>
<b>Total as % of GDP</b>		<b>1.3%</b>

### Seat belt and helmet wearing rates

Percentages

	2010	2015	2020
<b>Front seats</b>			
Motorways (driver)	89	91	96
Motorways (passenger)	78	83	90
<b>Rear seats</b>			
Motorways (general)	6	28	49
Motorways (children)	..	45	61
<b>Helmet</b>			
Riders of motorcycles	78	88	91
Passengers of motorcycles	78	88	91

## Research and resources

### Publications

Research is currently being undertaken on the following topics:

- high risk drivers (on the major causes of crashes within this group)
- older drivers (crash patterns)
- methodologies to assess the driving ability of older drivers.

### Websites

Ministry of Land, Infrastructure and Transport: <http://www.molit.go.kr/english/intro.do>.

Road Traffic Authority: [www.koroad.or.kr](http://www.koroad.or.kr).

Traffic safety information management complex system: <https://tmacs.kotsa.or.kr/>.

Korea Transport Institute (KOTI): <https://english.koti.re.kr/>.

## Definition, methodology, data collection

- Road fatality: any person killed immediately or dying within 30 days due to a road crash.
- Person seriously injured: any injured person requiring medical treatment for more than three weeks.
- Person slightly injured: any injured person requiring medical treatment for less than three weeks.

Any road crash resulting in at least one person killed must be reported to the police. The police investigate the crash, fill out a form and enter the information in the police Traffic Accident Management System database. The police refer to the medical diagnosis to classify the injuries by severity.

To complete police reported crash data, KoROAD developed an integrated road crash database, the Traffic Accident Analysis System (TAAS). This contains not only police data but also inputs from car insurance companies and mutual aid associations. The TAAS data are collected regularly from these sources and are refined to eliminate duplicated information.