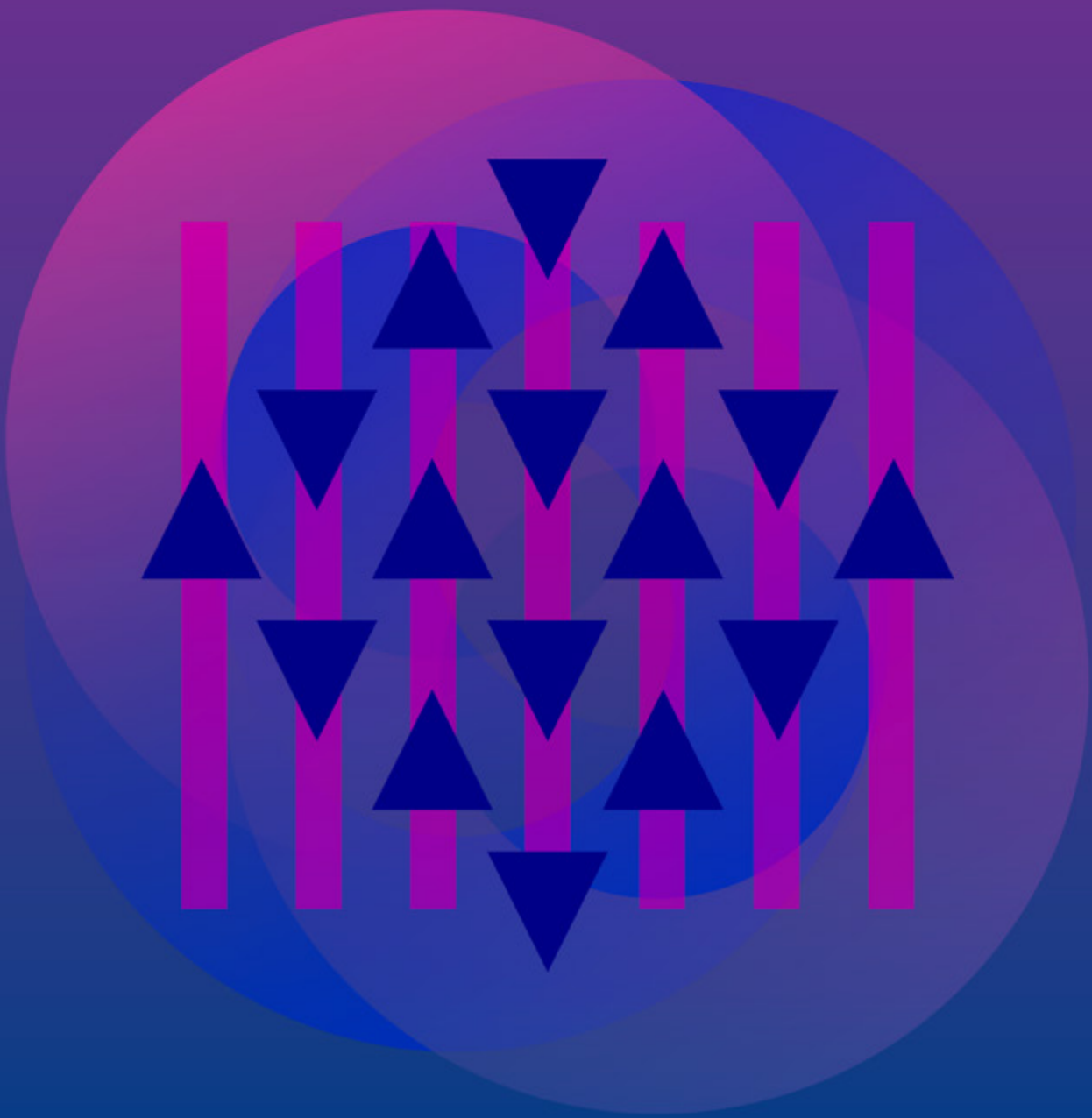
International Transport Forum

irtad Road Safety Data

Road Safety Country Profile

Japan 2023



Overview

Japan recorded 3 216 road deaths in 2022, eleven more than in 2021 but 22.9% below the pre-Covid-19 period. Since 2012, road deaths have fallen by 38.9%. The decrease accelerated in 2020 and 2021 when the Covid-19 pandemic hit Japan. A priority area for road safety in Japan is to provide a safer road transport system for senior citizens – a group that suffers more than half of all road deaths in Japan. The 11th Traffic Safety Programme was launched in March 2021 and covers 2021-25.

Quick facts: Japan (all data from 2022, unless otherwise stated)

Population	124.9 million				
GDP per capita	USD 33 863				
Road network	1 229 239 km (2021)				
Total number of motor vehicles	91.3 million				
	Cars	Motorcycles	Goods vehicles	Buses	
	68%	11%	16%	0.2%	
Volume of traffic	-16.2% (2000-21)				
Speed limits	Urban roads	Rural roads	Motorways		
	40-50-60 km/h	50-60 km/h	100 km/h		
Limits on blood alcohol content	General drivers	Professional drivers	Novice drivers		
	0.3 grams/litre (g/l)	0.3 g/l	0.3 g/l		
Road fatalities	3 216				
	Pedestrians	Cyclists	Car occupants	Motorised two-wheelers	Other and unknown
	36%	16%	22%	16%	10%
Road fatalities per 100 000 population	2.6				
Road fatalities per 10 000 vehicles	0.4				
Cost of road crashes	1.8% of GDP (2020)				

Short-term trends

Mobility and road safety in Japan were significantly impacted by the Covid-19 pandemic that hit the world in 2020. Figure 1 illustrates the number of road deaths in 2020, 2021 and 2022 compared

to the linear trend before the pandemic. It shows that road death figures for 2020 and 2021 were very much below the trend.

Due to the impact of the Covid-19 pandemic on mobility and road crashes, the data for 2020 and 2021 represent a poor reference point for benchmarking. Therefore, for short-term trends, this report compares data for 2022 and 2021 with the average for 2017-19.

There were 3 216 road deaths in 2022, eleven more than in 2021, but a decrease of 22.9% compared to the average for 2017-19 (Table 1).

Table 1. Road fatalities in Japan, 2017-2022

	2017	2018	2019	Average 2017-19	2020	2021	2022	2022 compared with average 2017-19
January	328	368	331	342	320	238	241	-29.6%
February	345	289	255	296	299	255	218	-26.4%
March	349	321	324	331	278	249	236	-28.8%
April	300	317	319	312	245	238	232	-25.6%
May	340	303	269	304	237	222	260	-14.5%
June	330	270	248	283	238	240	235	-16.9%
July	370	324	286	327	224	281	263	-19.5%
August	373	354	334	354	240	233	285	-19.4%
September	371	333	348	351	300	246	265	-24.4%
October	420	400	372	397	332	335	323	-18.7%
November	439	398	412	416	343	320	316	-24.1%
December	466	489	422	459	360	348	342	-25.5%
Total	4 431	4 166	3 920	4 172	3 416	3 205	3 216	-22.9%

Road deaths decreased by more than 20% for all road user categories, with the most robust decrease for pedestrians (-24%). Road fatalities also fell by more than 10% for all age groups. In particular, road deaths among children aged 0 to 14 decreased by 52.1%. The strong reduction in road deaths among children can be partly explained by the decrease in the population of this age group and by the fact that many children have stayed at home more following the Covid-19 pandemic.

The drop in road fatalities concerns all road categories but with a slightly less marked drop on motorways.

In 2021, traffic level was still lower than before the Covid-19 pandemic. For example, distance travel by passenger cars in 2022 was 15% lower than the average for the years 2017-19.

In 2022, Japan had a mortality rate of 2.6 deaths per 100 000 population, ranking it 4th among OECD countries with available data. Japan recorded 0.4 road deaths per 10 000 registered motor vehicles. In 2021, its fatality risk was 4.9 road deaths per billion vehicle-kilometres (Figures 3, 4 and 5).

Pedestrians represented 36% of all road deaths (Figure 6). This is a very high share compared to other OECD countries. The senior population is particularly vulnerable as pedestrians. Half of the persons aged 75 and above killed in traffic are pedestrians.

With 7.1 road deaths per 100 000 population, the senior citizens (75 and above) have a mortality rate more than twice as high as the general population (Figure 8).

Nearly two-thirds of road deaths occur in urban areas (Figure 7).

Figure 1. Road fatalities in Japan in 2020, 2021 and 2022 compared to the linear trend since 2012

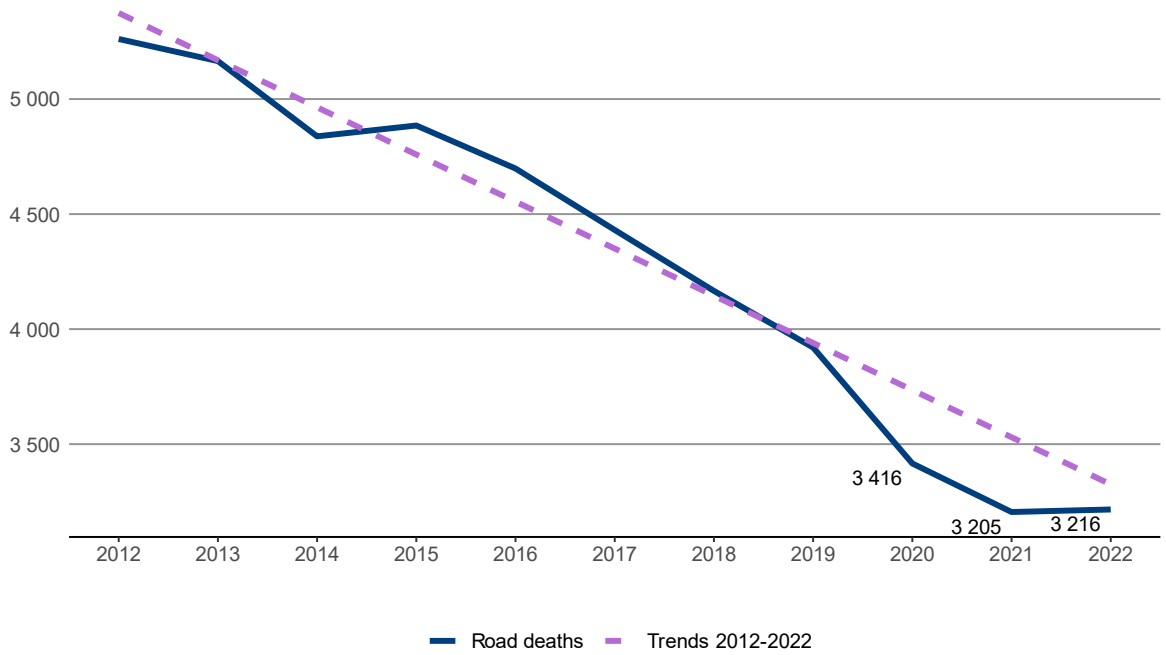


Figure 2. Evolution of road fatalities in Japan by user category, age group and road type, 2022 compared to the average 2017-19

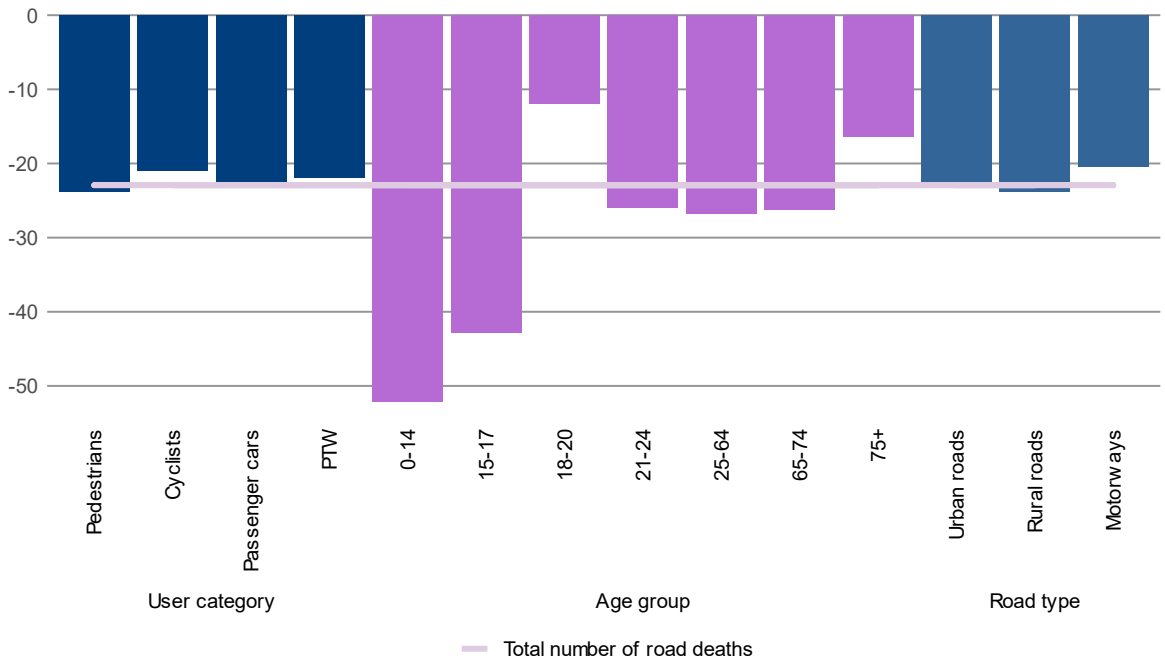


Figure 3. Road fatalities per 100 000 inhabitants in Japan compared to other IRTAD countries, 2022

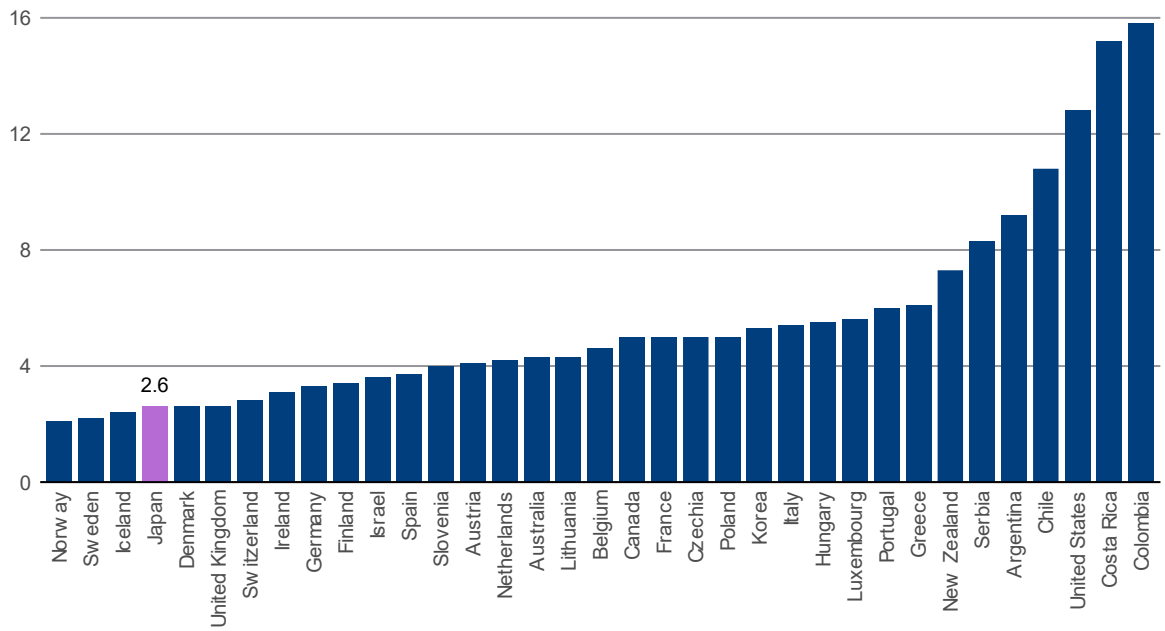
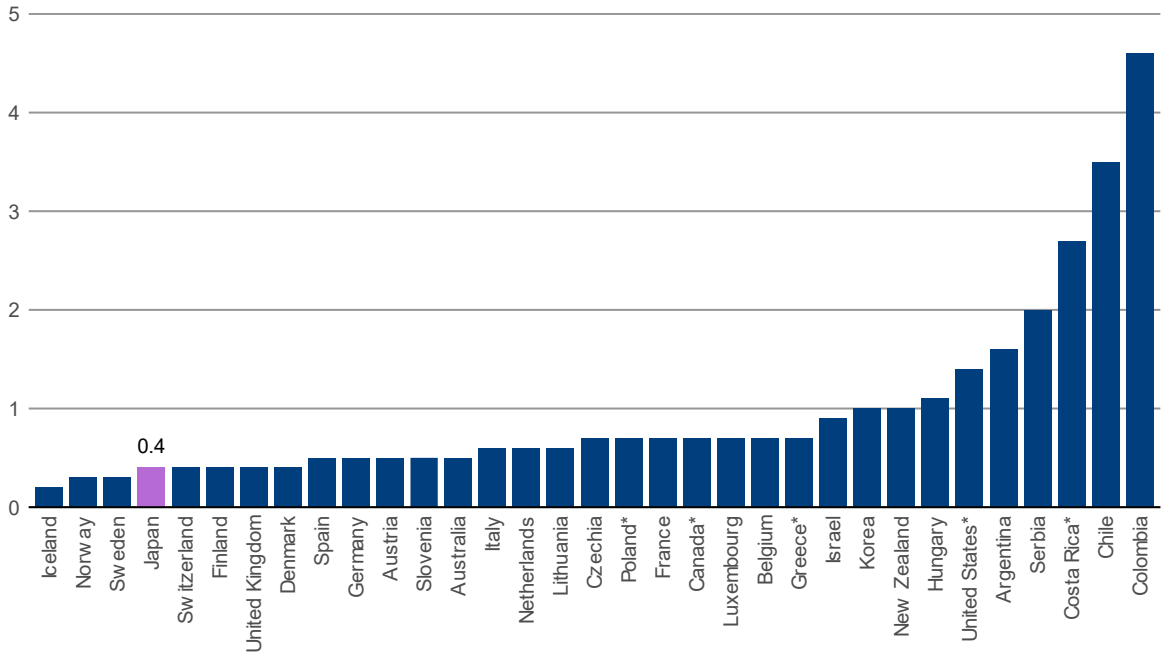


Figure 4. Road fatalities per 10 000 registered vehicles in Japan compared to other IRTAD countries, 2022



Note: in Belgium, Denmark, Germany and Hungary, registered vehicles do not include mopeds. * 2021 data.

Figure 5. Road fatalities per billion vehicle-kilometres in Japan compared to other IRTAD countries, 2021

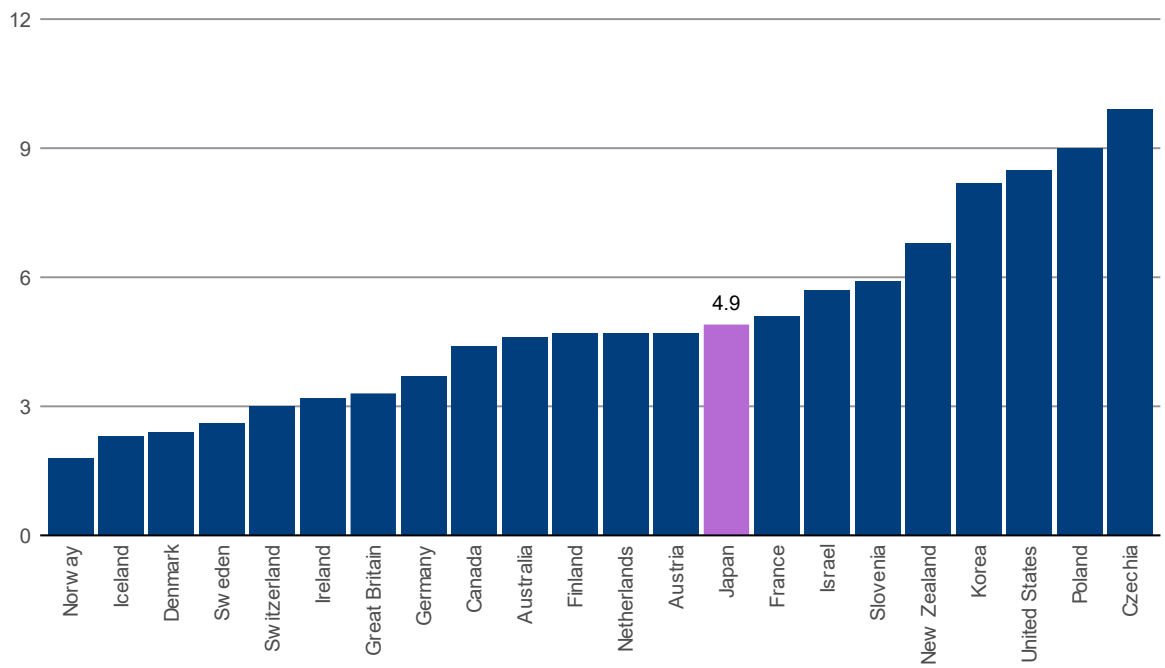


Figure 6. Road fatalities in Japan by user category, 2022

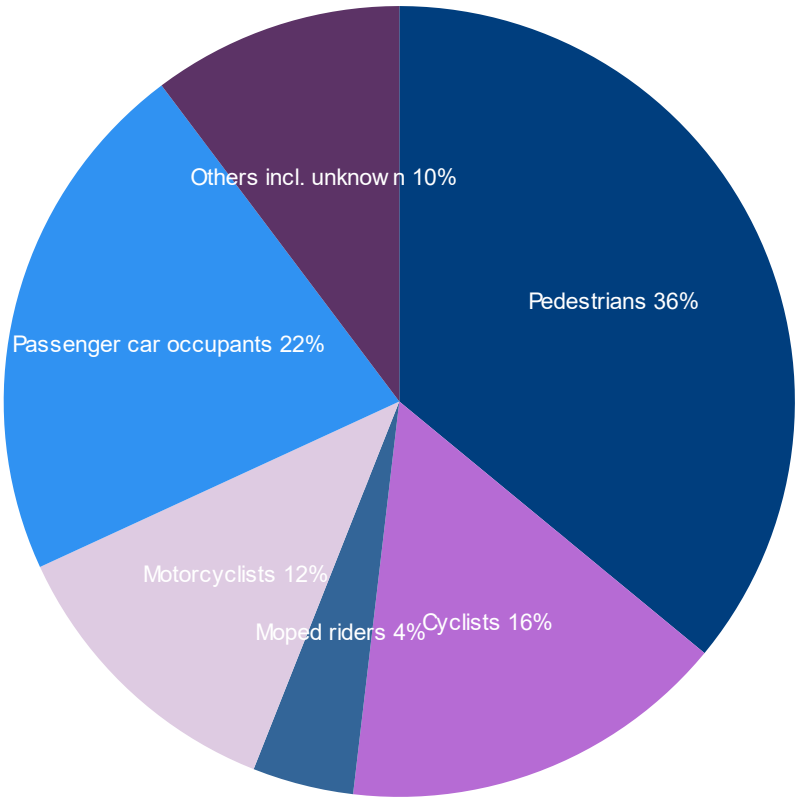


Figure 7. Road fatalities in Japan by road type, 2022

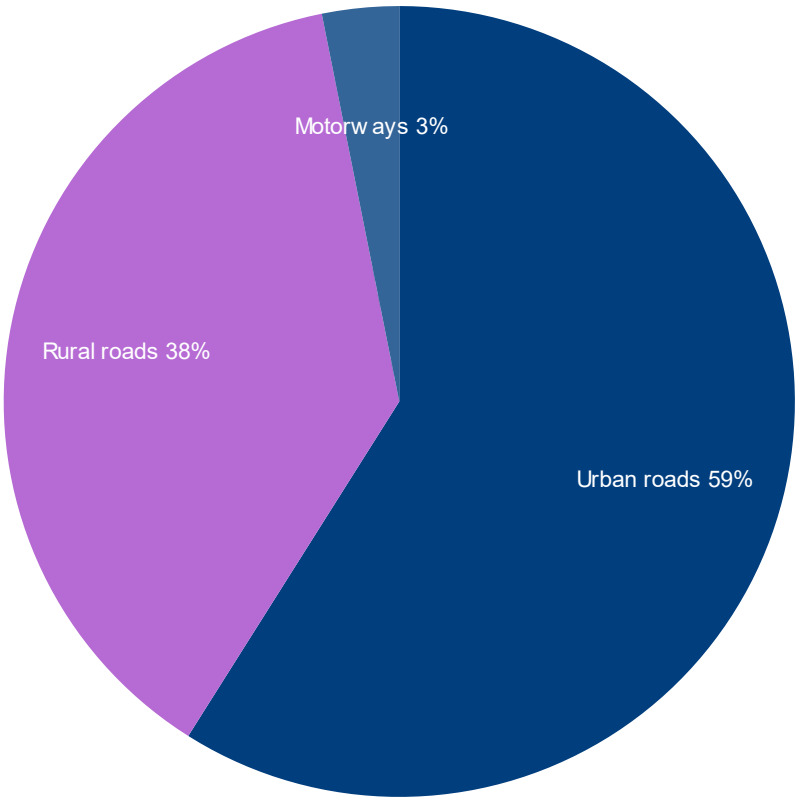
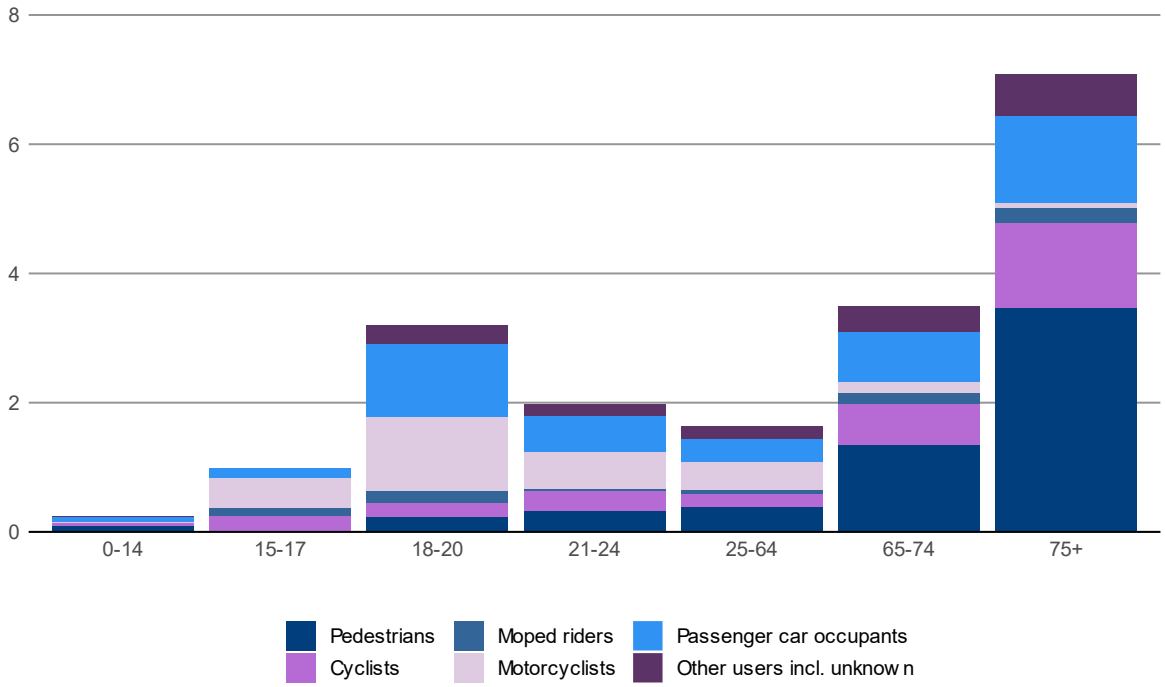


Figure 8. Road fatality rate in Japan by user category and age group, 2022

Rate per 100 000 population in the same age group



Road safety data 2012-22

Between 2012 and 2022, road deaths decreased by 38.9%. The motor vehicle fleet increased by 1.3% (Table 2 and Figure 9). The number of road deaths decreased every year except for 2015.

The number of road deaths fell for all categories of road users, without much difference. It fell for all age groups but less markedly for the elderly population. Road mortality decreased in all road categories, with the smallest reduction (-33.9%) on urban roads(Figure 10).

Table 2. Crash, casualty and traffic data in Japan, 2012-22

	2012	2020	2021	2022	Evolution 2012-22
Reported safety data					
Fatalities	5 261	3 416	3 205	3 216	-38.9%
Injury crashes	665 157	309 178	305 196	300 839	-54.8%
Deaths per 100 000 population	4.1	2.7	2.6	2.6	-37.6%
Deaths per 10 000 registered vehicles	0.6	0.4	0.4	0.4	-39.7%
Deaths per billion vehicle-kilometres	7.2	5.1	4.9	..	..
Fatalities by road user					
Pedestrians	1 911	1 203	1 135	1 157	-39.5%
Cyclists	790	573	526	511	-35.3%
Moped riders	417	174	165	133	-68.1%
Motorcyclists	529	423	372	390	-26.3%
Passenger car occupants	1 094	689	700	695	-36.5%
Other road users	520	354	307	330	-36.5%
Fatalities by age group					
0-14 years	98	45	41	34	-65.3%
15-17 years	97	61	47	32	-67.0%
18-20 years	201	114	85	111	-44.8%
21-24 years	167	114	106	100	-40.1%
25-64 years	1 937	1 113	1 003	1 026	-47.0%
65-74 years	963	645	618	590	-38.7%
≥ 75 years	1 798	1 324	1 305	1 323	-26.4%
Fatalities by road type					
Urban roads	2 869	2 021	1 979	1 896	-33.9%
Rural roads	2 204	1 321	1 134	1 219	-44.7%
Motorways	188	74	92	101	-46.3%
Traffic data					
Vehicle kilometres (million)	731 943	665 856	649 995	..	..
Registered vehicles (thousands)	90 147	91 430	91 254	91 356	1.3%
Registered vehicles per 1 000 population	707.0	724.8	727.1	731.2	3.4%

Figure 9. Evolution of road fatalities, motorisation, traffic and GDP in Japan, 2012-22

Index 2012 = 100

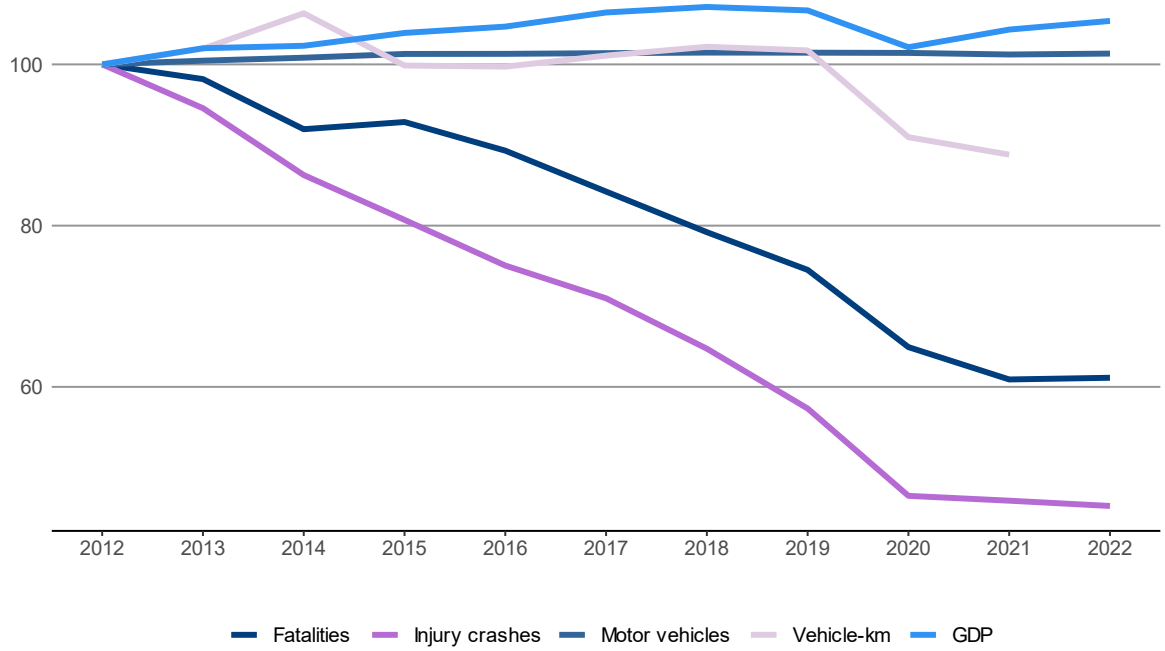
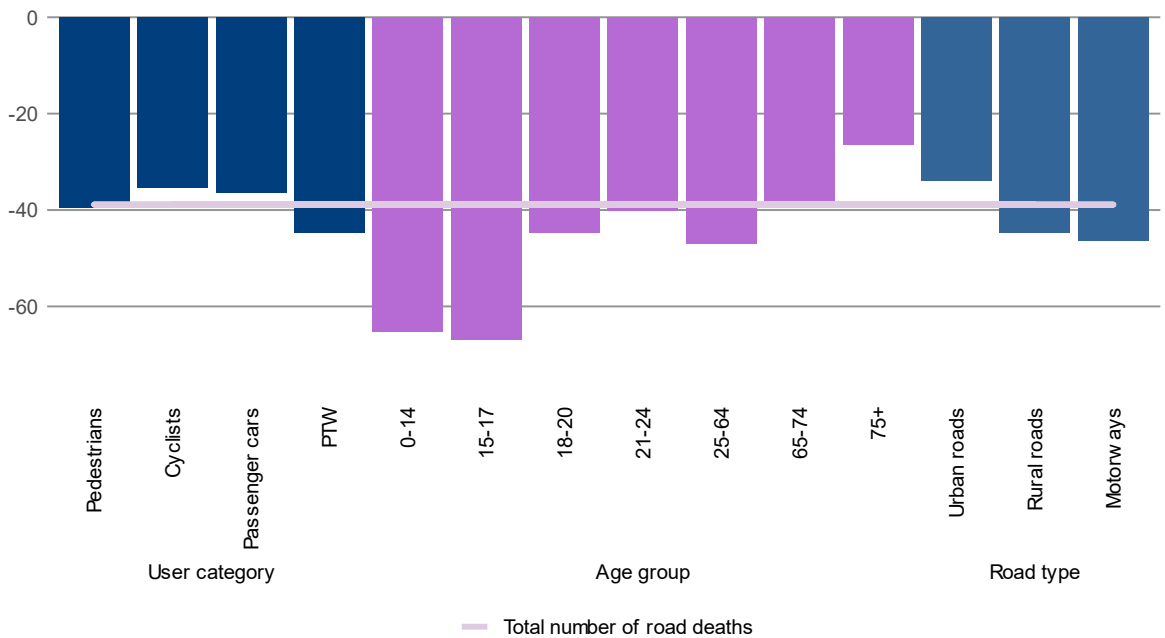


Figure 10. Evolution of road fatalities in Japan by user category, age group and road type, 2012-2022



Safety performance indicators

Speed

Inappropriate speed is one of the leading causes of road crashes. Violation of the speed limit was recorded in police records in 4.3% of all road fatalities in 2022.

Table 3 summarises the main speed limits for passenger cars in Japan.

Table 3. Passenger car speed limits by road type in Japan, 2023

	General speed limit
Urban roads	40, 50, 60 km/h
Rural roads	50, 60 km/h
Motorways	100 km/h

Drink driving

The maximum authorised BAC is 0.3 g/l for all drivers.

In 2022, it was reported that 125 people were killed in alcohol-related crashes (3.9% of all road deaths). The share of alcohol-related crashes decreased due to more severe sanctions and more frequent controls. However, in recent years, stagnation has been observed in the number of alcohol-related crashes.

Drugs and driving

In Japan, drivers using drugs are punished by the Road Traffic Act. In 2022, it was reported that 45 illegal and legal drug-related crashes occurred (0.01% of all road fatalities and serious injuries).

Use of mobile phones while driving

In 2020, distraction from using mobile phones was identified as the primary cause of about 0.3% of all road traffic crashes. It is forbidden in Japan to use a mobile phone while driving without hands-free devices.

Fatigue

In 2022, driver's sleepiness was the primary factor of 1 346 road crashes (0.45% of all road fatalities and seriously injuries).

Seat belt and helmet use

Seat belt wearing has been compulsory in front seats since 1985 and in rear seats since 2008. Children under six must be seated in a dedicated child restraint system. While the seat belt wearing rate is high for front-seat occupants, it is low in rear seats since people not wearing a seat belt in rear seats cannot be punished.

In 2021, only 43% of rear-seat passengers wore a seat belt. In 2022, 376 car occupants were fatally injured in a crash while not wearing a seat belt.

For motorcyclists, helmet wearing is the most effective passive safety habit. In Japan, helmets have been compulsory for all powered two-wheelers on all road types since 1986.

Wearing a helmet has been compulsory for cyclists since April 2023. However, there is currently no penalty for not wearing one.

Table 4. Seat belt and helmet wearing rates in Japan

Percentages

		2010	2021	2022
Front seats				
	General (driver and passenger)	98	99	99
	Driver	97	99	99
	Passenger	92	97	98
Rear seats				
	General	33	43	43
	Children (use of child restraint)	57	..	..
Helmet				
	Motorcyclists	99	99	98
	Pedal cyclists	7	10	10

Cost of road crashes

Road traffic crashes represent a high cost for Japan, estimated in 2020 at 1.8% of Japan's Gross Domestic Product (GDP) (Table 5).

Table 5. Cost of road crashes in Japan, 2020

	Unit Cost (JPY)	Number	Total cost (JPY)
Fatalities	633 million	3 416	2.25 trillion
Seriously injured	120 million	27 775	5.41 trillion
Slight injuries	2.2 million	369 476	1.54 trillion
Property damage costs of non-injury crashes	0.3 million	..	0.91 trillion
Total	..	..	10.11 trillion
Total as % of GDP	..	..	1.8 %

Road safety management and strategy

Evolution of road safety

From the early 1950s to around 1970, Japan suffered a significant increase in traffic crash casualties. As a result, traffic safety emerged as an important social issue. In June 1970, the government of Japan enacted the Traffic Safety Policies Act to promote traffic safety measures nationwide in a systematic manner. Under this Act, the government co-ordinated with local governments and relevant private organisations to implement traffic safety measures. Since 2000, road fatalities have decreased yearly until 2015, when a slight increase was observed. The improved safety record in the past decade is related to an increase in the seat belt wearing rate, progress in vehicle safety, and continuous improvement of the traffic environment. The Covid-19 pandemic also had a strong impact in reducing road deaths in 2020 and 2021.

Governance of road safety

Responsibility for road safety in Japan primarily lies with the National Police Agency. Together with the prefectural police, it is charged with traffic enforcement, traffic regulation, safety facilities management, driving licence administration, etc. The Ministry of Land, Infrastructure, Transport and Tourism oversees building and maintaining safe road structures and environments and managing vehicle safety standards. The Ministry of Education, Culture, Sports, Science and Technology is in charge of school traffic safety education and traffic safety on the way to and from school. The Cabinet Office oversees the entirety of traffic safety measures in Japan.

Road safety strategy

The Japanese government released its 11th Traffic Safety Programme in March 2021. It covers the period 2021-25. It is based on two strategic objectives and eight pillars. The ultimate goal is to make Japanese road traffic the safest in the world. The two strategic objectives are:

- No more than 2 000 deaths within 24 hours of a crash (equivalent to around 2 400 deaths within 30 days) by 2025.
- No more than 22 000 serious injuries by 2025.

The key objectives of the Programme are as follows:

1. improve safety for older people and children
2. ensure the safety of pedestrians and bicycle users and enhance their awareness of compliance with the law
3. ensure safety on community roads
4. promote the use of advanced technologies
5. promote safety measures based on actual road traffic conditions

Details of the traffic safety programme are available at: https://www8.cao.go.jp/koutu/kihon/keikaku11/pdf/kihon_keikaku-g_en.pdf.

Latest road safety measures

From April 2023, cyclists are obliged to wear helmets. However, there is no penalty for not wearing one.

From May 2022, drivers aged 75 or more must test their driving skills to renew their driving license. Depending on the results, the licence may be revoked.

From April 2022, companies whose employees drive for work may test drivers for their blood alcohol levels before and after driving.

In 2020, the Road Traffic Act was revised to punish dangerous driving and inappropriate behaviour. This includes driving too close to the vehicle in front, honking for no good reason, and obstructing the roadway. This law provides for severe penalties, including revoking the driving licence.

Research and resources

Publications

Traffic Safety White Paper: https://www8.cao.go.jp/koutu/taisaku/index-t.html

Websites

National Police Agency: http://www.npa.go.jp/

Institute for Traffic Accident Research and Analysis (ITARDA): http://www.itarda.or.jp/

National Research Institute of Police Science (NRIPS): http://www.npa.go.jp/nrips/en/index.html

Traffic Safety Programme 2021-2025: https://www8.cao.go.jp/koutu/kihon/keikaku11/pdf/kihon_keikaku-g_en.pdf

Definition, methodology, data collection

Term	Definition
Road death	A person who dies within 24 hours of a crash or 30 days of a crash. Two sets of records are kept. The data in this report and the IRTAD database are based on the 30-day definition.
Person seriously injured	Any injured person requiring medical treatment for 30 days or more.
Person slightly injured	Any injured person requiring medical treatment for less than 30 days.

There is no plan to adopt a definition of serious injuries based on the Abbreviated Injury Scale.

In Japan, the police collect road crash data. The National Police Agency has been collecting crash data since 1948. In 1966, an online database system was created, and in 1993, the 30-day definition for a crash fatality was added.

Hospital data are not used to complete police data. They may be used on an ad hoc basis for research.

About the IRTAD Database

The IRTAD Database includes road safety data, aggregated by country and year from 1970 onwards. It provides an empirical basis for international comparisons and more effective road safety policies.

The IRTAD Group validates data for quality before inclusion in the database. At present, the database includes validated data from 35 countries: Argentina, Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Lithuania, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, Serbia, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States.

The data is provided in a common format based on definitions developed and agreed by the IRTAD Group. Selected data is available for free; full online access requires IRTAD membership.

Access the IRTAD Database via the OECD statistics portal:

https://stats.oecd.org/Index.aspx?DataSetCode=IRTAD_CASUAL_BY_AGE

About the International Transport Forum

The International Transport Forum (ITF) is an intergovernmental organisation with 66 member countries that organises global dialogue for better transport. It acts as a think tank for transport policy and hosts the Annual Summit of transport ministers. The ITF is the only global body that covers all transport modes. The ITF is administratively integrated with the OECD, yet politically autonomous.

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About the IRTAD Group

The International Traffic Safety Data and Analysis (IRTAD) Group is the ITF's permanent working group for road safety. It brings together road safety experts from national road administrations, road safety research institutes, international organisations, automobile associations, insurance companies, car manufacturers, etc. With 80 members and observers from more than 40 countries, the IRTAD Group is a central force in promoting international co-operation on road-crash data and its analysis.

www.itf-oecd.org/irtad

Disclaimer

Data in this country profile have been provided by countries to the database of the International Traffic Safety Data and Analysis (IRTAD) Group. Where data has not been independently validated by IRTAD, this is indicated.

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https://www.itf-oecd.org/road-safety-annual-report-2023

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International Transport Forum

2 rue André Pascal

F-75775 Paris Cedex 16

contact@itf-oecd.org

www.itf-oecd.org