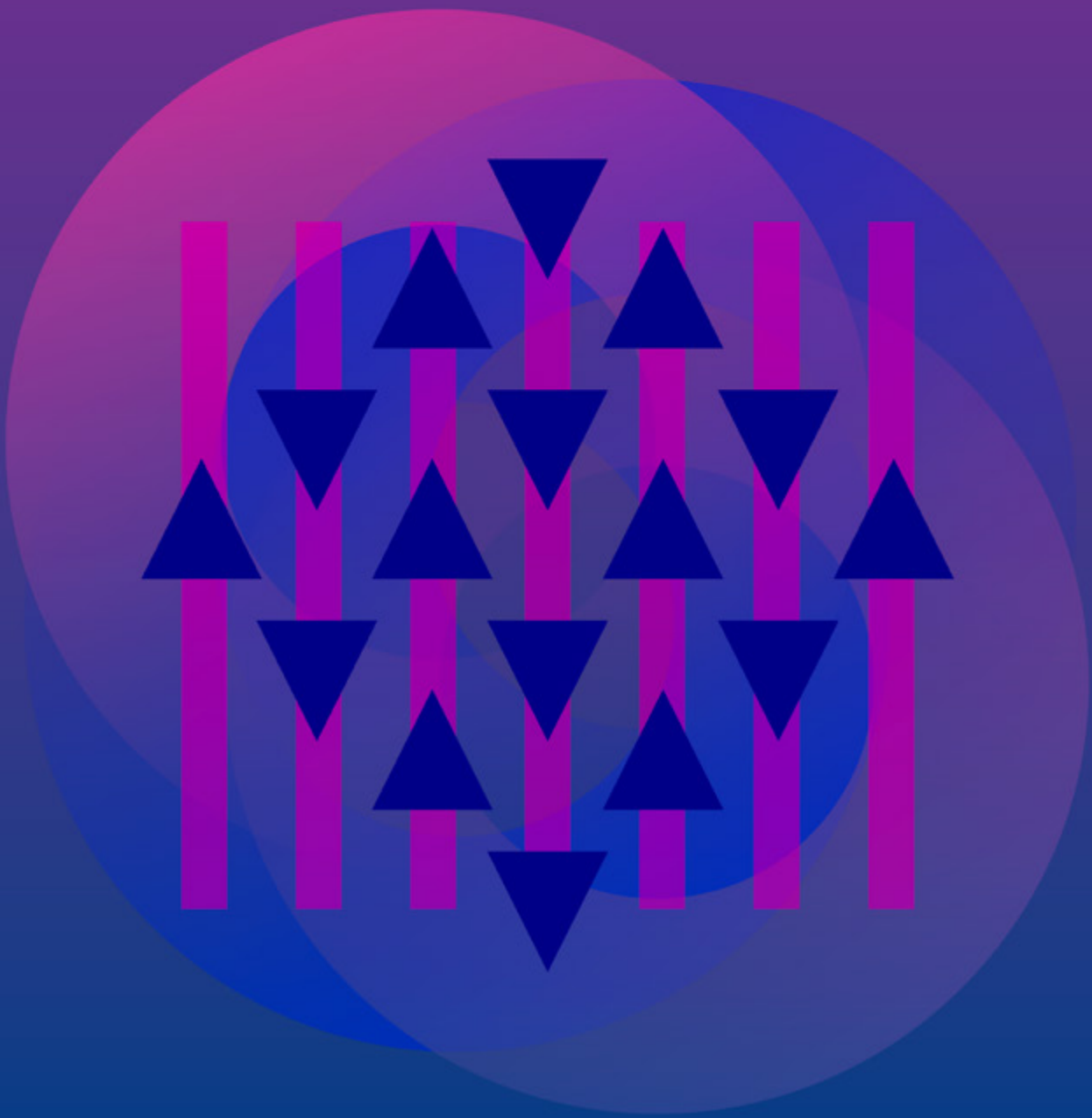
International Transport Forum

irtad Road Safety Data

Road Safety Country Profile

Israel 2023



Overview

Israel recorded 351 road deaths in 2022, 1.7% above the pre-Covid-19 period. The traffic volumes resumed at the 2019 level. The most significant increase was recorded among the powered two-wheeler users, mainly due to their use as a means of transport.

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

Population	9.7 million				
GDP per capita	USD 54 029				
Road network	20 571				
	Urban roads	Rural roads	Motorways		
	57%	9%	33%		
Total number of motor vehicles	4.0 million				
	Cars	Motorcycles	Goods vehicles	Buses	
	87%	4%	8%	1%	
Volume of traffic	+75.4% (2000-21)				
Speed limits	Urban roads	Rural roads	Motorways		
	30-50 km/h (70 km/h arterial roads)	80, 90 km/h	100, 110, 120 km/h		
Limits on blood alcohol content	General drivers	Professional drivers	Novice drivers		
	0.5 grams/litre (g/l)	0.1 g/l	0.1 g/l		
Road fatalities	351				
	Pedestrians	Cyclists	Car occupants	Motorised two-wheelers	Other and unknown
	31%	6%	29%	22%	11%
Road fatalities per 100 000 population	3.6				
Road fatalities per 10 000 vehicles	0.9				
Cost of road crashes	1.2% of GDP (2016-2018)				

Short-term trends

Mobility and road safety in Israel 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 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.

Israel recorded 351 road deaths in 2022, an increase of 1.7% compared with the average for 2017-19 (Table 1). The traffic volumes in 2022 resumed to the level of 2019.

Table 1. Road fatalities in Israel, 2017-2022

	2017	2018	2019	Average 2017-19	2020	2021	2022	2022 compared with average 2017-19
January	38	27	29	31	24	16	26	-17.0%
February	25	35	28	29	22	29	30	2.3%
March	21	23	25	23	18	27	31	34.8%
April	33	20	25	26	21	47	34	30.8%
May	30	26	23	26	27	28	37	40.5%
June	46	20	29	32	26	36	23	-27.4%
July	38	22	33	31	31	26	20	-35.5%
August	21	21	31	24	39	29	32	31.5%
September	29	17	24	23	27	34	25	7.1%
October	32	43	38	38	24	35	32	-15.0%
November	28	35	28	30	14	25	29	-4.4%
December	23	27	42	31	32	32	32	4.3%
Total	364	316	355	345	305	364	351	1.7%

Car occupants are the only user category which registered a decrease (-6.7%). The number of road deaths increased by 8.4% for pedestrians, 8.2% for cyclists and 37.8% for users of powered two-wheelers. The increase in the number of motorcyclists killed was due to the increase in registered motorcycles and their more and more widespread use.

A significant decrease (-55.3%) in road deaths was recorded for young people aged 15-17. However, road deaths increased by 20.5% and 13.4% for the 21-24 and the 18-20 (Figure 2).

In 2022, Israel had a road mortality rate of 3.6 deaths per 100 000 people. The fatality rate was 0.9 road deaths per 10 000 registered vehicles. The fatality risk in 2021 was 5.7 road deaths per billion vehicle-kilometres (Figures 3, 4 and 5).

In 2022, pedestrians accounted for 31% of all road deaths (Figure 6).

Older people above 75 are the most at risk, followed by those aged 21-24 (see Figure 7).

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

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

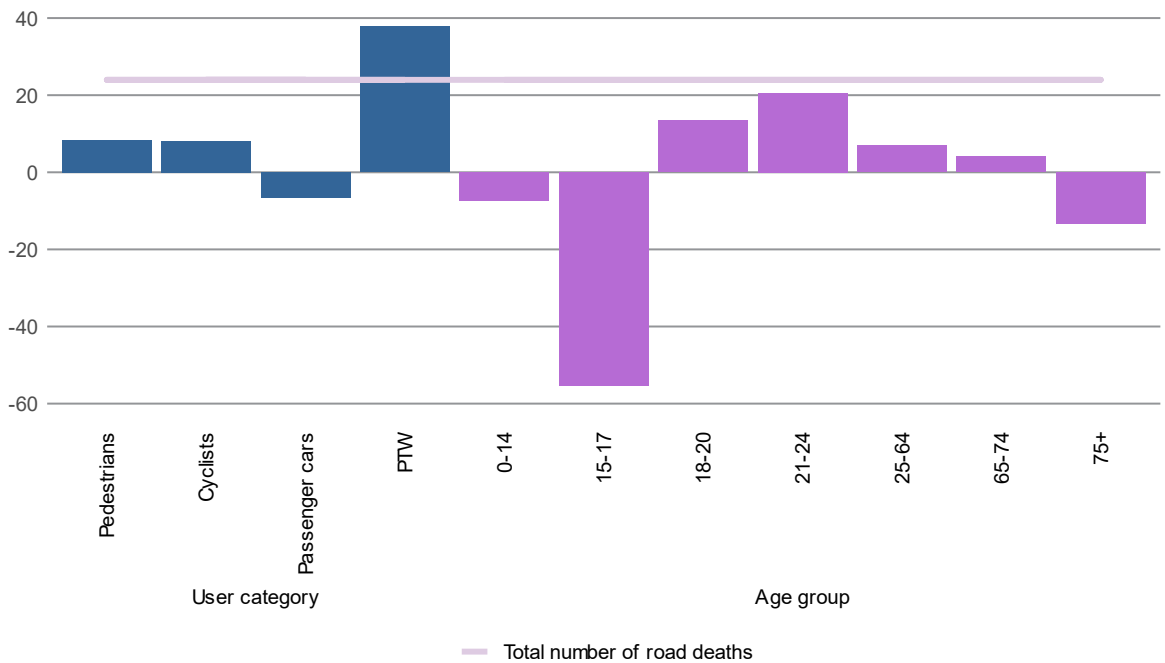


Figure 3. Road fatalities per 100 000 inhabitants in Israel compared to other IRTAD countries, 2022

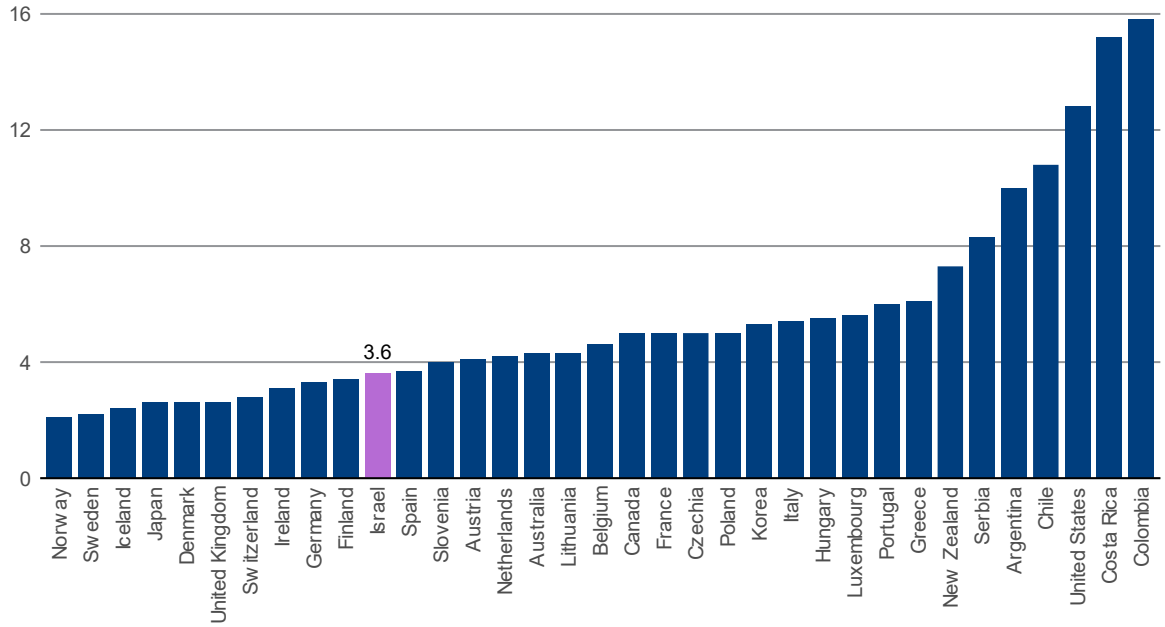
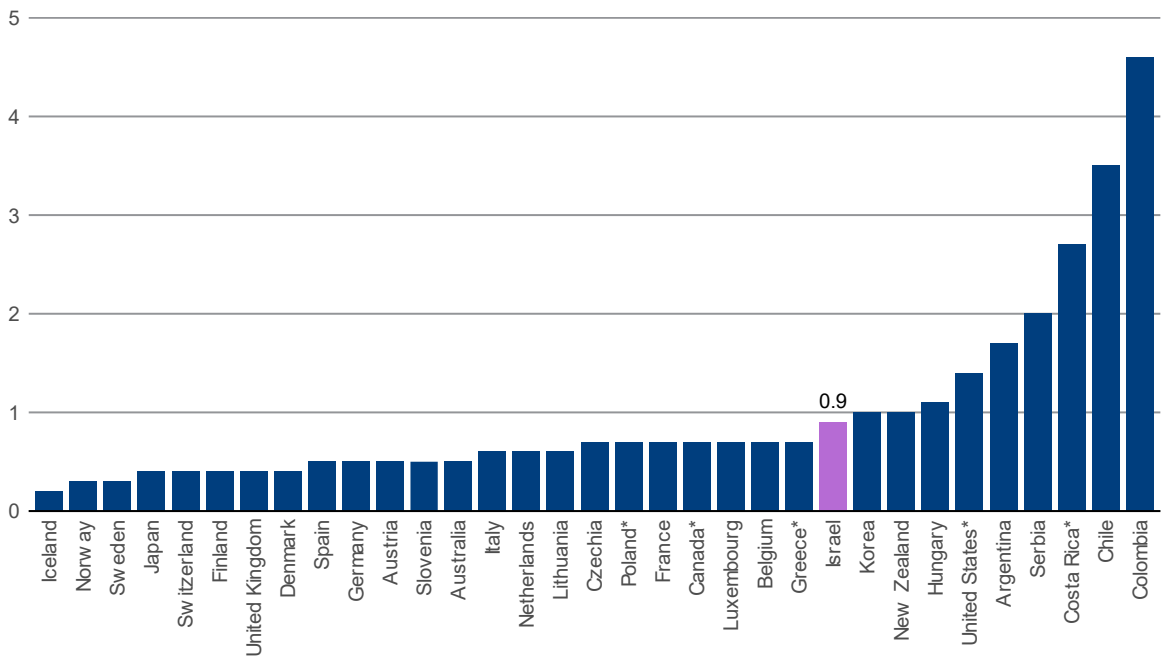


Figure 4. Road fatalities per 10 000 registered vehicles in Israel compared to other IRTAD countries, 2022



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

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

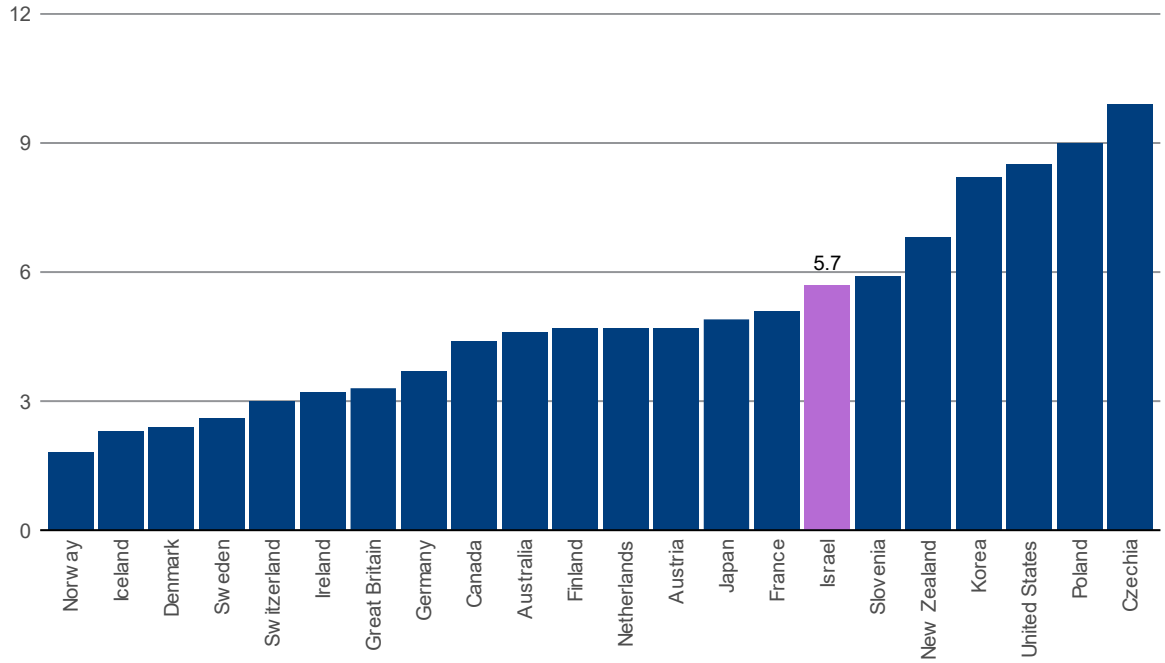


Figure 6. Road fatalities in Israel by user category, 2022

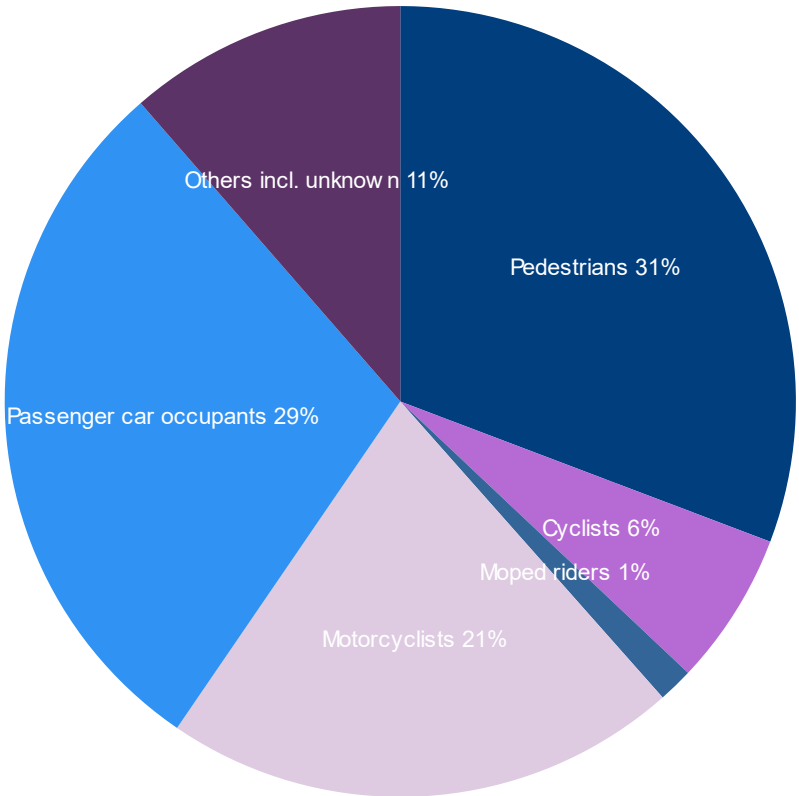
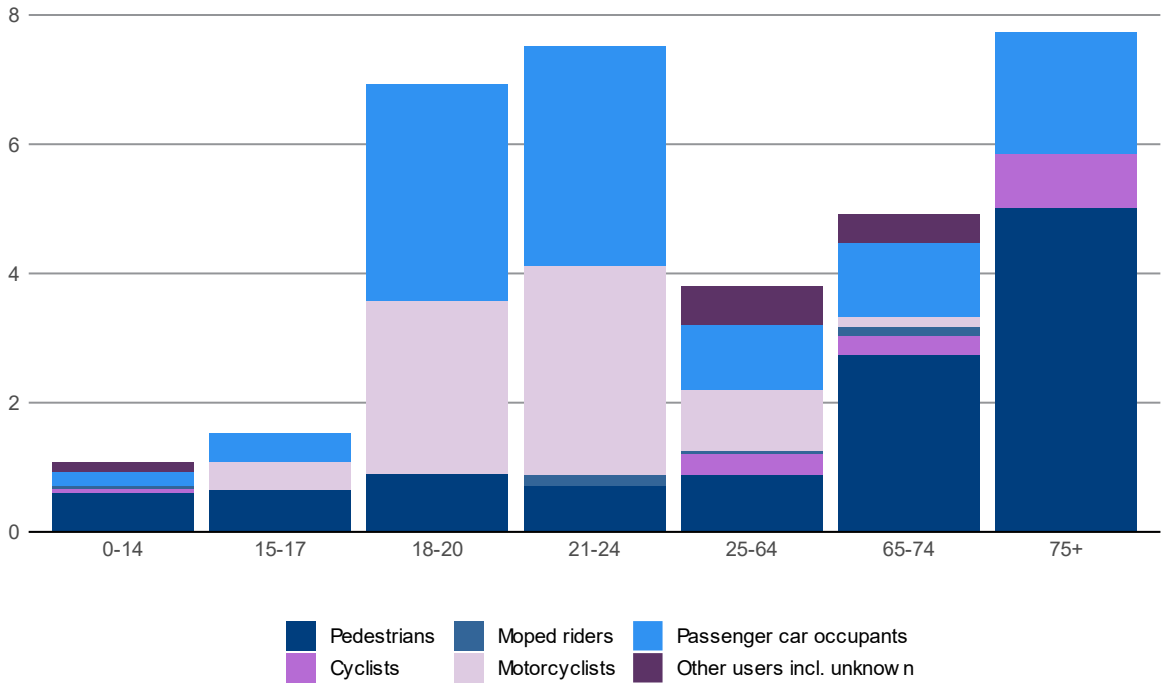


Figure 7. Road fatality rate in Israel by user category and age group, 2022

Rate per 100 000 population in the same age group



Road safety data 2012-22

Between 2012 and 2022, the number of road deaths fluctuated between 290 (2012) and 377 (2016), with no clear trend. During the same period, the number of registered motor vehicles increased by 43.9% (Table 2 and Figure 8)

In 2022, road deaths were 21% higher than in 2012. The number of users of powered two-wheelers killed in traffic more than doubled from 39 in 2013 to 79 in 2022. The increase spread over the decade and is not only related to the strong increase in the past three years. The number of road deaths also increased for cyclists (83.3%) and pedestrians (18.7%). It slightly decreased for car occupants (-1.9%) (Figure 9).

While the number of fatalities decreased for children aged 0 to 17, it increased for all the other age groups.

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

	2012	2020	2021	2022	Evolution 2012-22
Reported safety data					
Fatalities	290	305	364	351	21.0%
Injury crashes	12 484	10 834	11 550	10 404	-16.7%
Injured persons hospitalised	1 611	2 072	2 458	2 607	61.8%
Deaths per 100 000 population	3.7	3.3	3.9	3.6	-0.9%
Deaths per 10 000 registered vehicles	1.1	0.8	0.9	0.9	-15.9%
Deaths per billion vehicle-kilometres	5.8	5.5	5.7	5.3	-8.0%
Fatalities by road user					
Pedestrians	91	83	98	108	18.7%
Cyclists	12	26	23	22	83.3%
Moped riders	12	2	5	5	-58.3%
Motorcyclists	27	66	81	74	174.1%
Passenger car occupants	104	103	125	102	-1.9%
Other road users	44	25	32	40	-9.1%
Fatalities by age group					
0-14 years	32	25	27	29	-9.4%
15-17 years	15	13	11	7	-53.3%
18-20 years	19	18	38	31	63.2%
21-24 years	23	39	37	45	95.7%
25-64 years	135	138	173	164	21.5%
65-74 years	28	28	37	34	21.4%
≥ 75 years	30	42	38	41	36.7%
Fatalities by road type					
Urban roads	119	142	138	126	5.9%
Roads outside urban areas	171	163	226	225	31.6%
Traffic data					
Vehicle kilometres (million)	50 107	55 121	64 001	65 900	31.5%
Registered vehicles (thousands)	2 761	3 689	3 840	3 974	43.9%
Registered vehicles per 1 000 population	349.0	400.4	406.2	411.3	17.8%

Figure 8. Evolution of road fatalities, motorisation, traffic and GDP in Israel, 2012-22

Index 2012 = 100

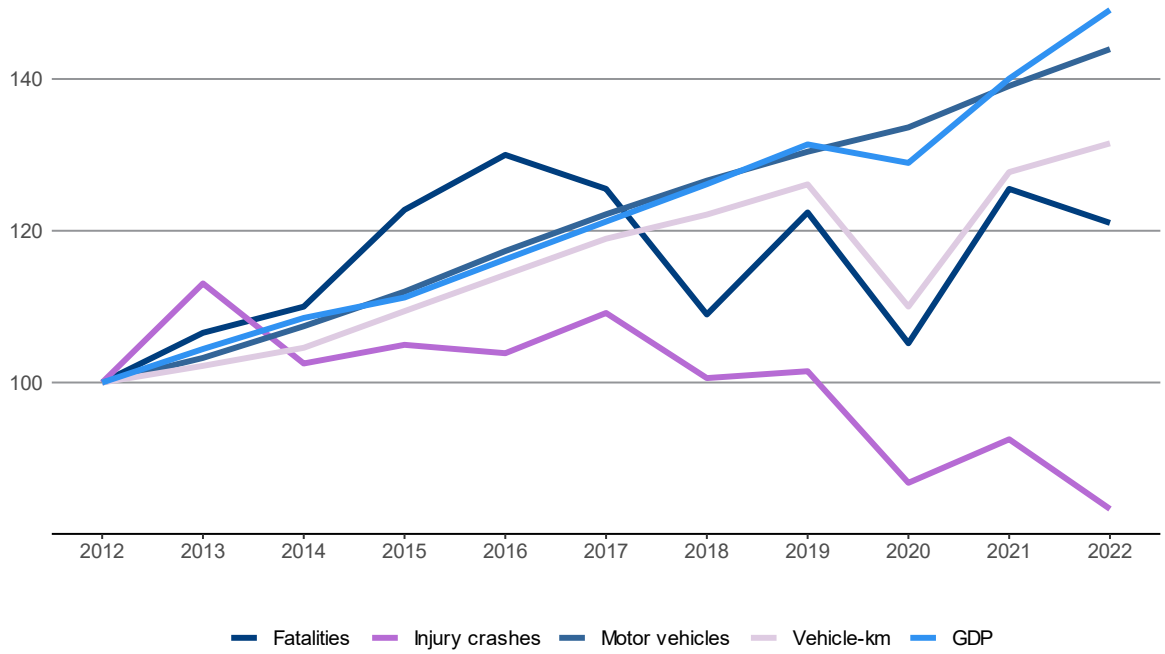
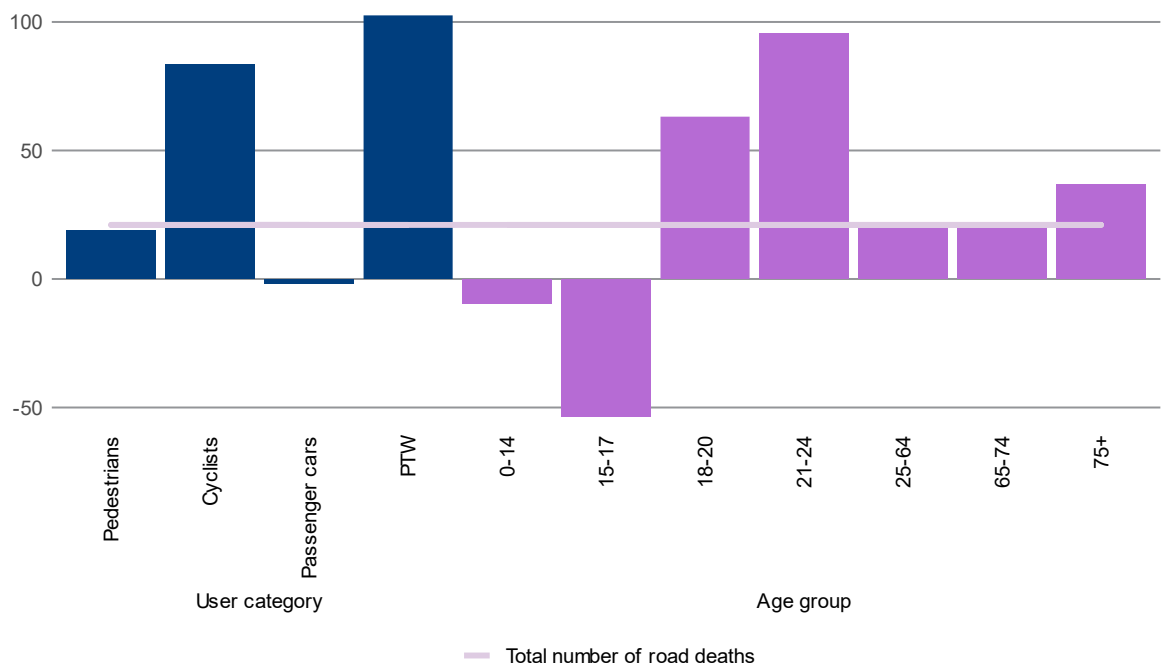


Figure 10. Evolution of road fatalities in Israel by user category and age group, 2012-2022



Safety performance indicators

Speed

Inappropriate speed is one of the main causes of road crashes. According to EU recommendations for Safety Performance Indicators, Israel measures the compliance of vehicles travelling within the speed limits. More than 50% of Israeli drivers exceed the speed limit on all types of roads except motorways, urban arterial and rural local roads. In particular, non-compliance was high on single carriageways not divided (1 on 1) roads and on urban main collectors. The non-compliance rate has reached 76% for urban main collectors, and for not-divided single carriageways on rural roads, it is 69%. However, in-depth analysis has shown that a large part of the increase in non-compliance on these types of roads was due to changes in sites sampled.

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

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

	General speed limit	Comments
Urban roads	30-50 km/h	70 km/h on arterial roads
Rural roads	80,90 km/h	
Motorways	100, 110, 120 km/h	

Drink driving

The extent of drink driving was long underestimated and not recognised as a major problem. This perception has now changed. Police have increased roadside alcohol checks and testing for drivers involved in crashes. Conservative estimates indicate that alcohol is a contributing factor in 7-15% of fatal crashes.

The maximum authorised BAC is 0.5 g/l for general drivers. This limit is lowered to 0.1 g/l for drivers under 24, novice drivers for the first two years after receiving their licence and professional and public transport drivers.

According to the findings of ESRA (E-Survey of Road Users' Attitudes) from 2023, 7.5% of Israelis self-reported that they drove after drinking over the legal limit for alcohol consumption and driving.

Drugs and driving

Drivers are not routinely checked for drugs. The Israeli police are currently working on creating a routine check-up for this matter. In the case of fatal crashes, all involved parties are tested for drug use. Fatalities due to drugs and driving are estimated at 3% per year.

According to the findings of ESRA (E-Survey of Road Users' Attitudes) from 2023, 10.4% of Israelis self-reported that they drove within 2 hours after taking medications that might affect their ability

to drive, and 4.4% reported that they have driven within one hour after taking drugs (other than prescribed or over-the-counter medication).

Use of mobile phones while driving

An increasing problem for traffic safety in Israel is distraction, for instance, through the use of smartphones while driving. Driving while operating a hands-free mobile phone is legal, but not with a hand-held phone. In 2018, the National Road Safety Agency (NRSA) started monitoring smartphone usage, including reading and writing text messages. The NRSA is also developing Safety Performance Indicators for this issue (see Resources).

Fatigue

The share of sleepiness and fatigue as a causal factor in crashes is challenging to detect. According to ESRA's (E-Survey of Road Users' Attitudes) findings from 2023, 25.7% of respondents admitted to having driven when they were so sleepy that they had trouble keeping their eyes open. Regarding professional drivers, Israel is adhering to the AETR agreement and implementing the digital tachograph (DG) in international and domestic traffic. The adoption of DG will allow enforcement of existing rest-hours regulations and the development of appropriate SPI.

Seat belt and helmet use

Seat belt use has been compulsory in front seats since 1975 and in rear seats since 1995. Dedicated child restraint use is mandatory for children up to eight years old. Children in their first year must sit in a rear-facing restraint. Children aged one to three must sit in a forward-facing restraint. Children aged three to eight must be seated in a booster seat. The NRSA has issued stricter recommendations for children up to age two to sit in a rear-facing child restraint, children between two and five in a forward-facing restraint, and children aged five to ten in a booster seat.

In 2019, the seat belt use rate was 94% for drivers, 91% for front seat passengers and 71% for rear seat passengers. For children, according to a 2016 roadside survey, the overall usage rate of dedicated child restraint systems was 87%. However, only 50% of children were correctly buckled up.

Helmet use is compulsory for all motorcycle and moped riders. The rate of use by motorcyclists is close to 100% but varies according to riding conditions (alone or in a group), the rider's age, the type of site, the size of the town, etc.

Helmets are compulsory for child cyclists and adults on non-urban roads. A 2013 roadside survey found that over 90% of cyclists wear helmets outside urban areas. As of July 2019, helmet wearing has been compulsory when riding an e-bike, regardless of the cyclist's age or the type of road.

Table 4. Seat belt and helmet wearing rates in Israel

Percentages

		2017	2019
Front seats			
	Driver	90	94
	Passenger	89	91
Rear seats			
	General	70	71
Helmet			
	Motorcyclists	~100	..

Cost of road crashes

Traffic crashes represent a significant cost for society, with an estimated average for 2016-2018 at around ILS 15.8 billion, representing 1.2% of GDP.

The methodology for assessing road crash costs was developed in 2004 using a combination of all available data sources. The injury and crash cost values were recently updated. The human and material costs were updated based on the change in real GDP from 2012 to 2019, exchange rates as they appeared at the year-end of 2019 and changes in estimates that happened in other countries. Calculations are based on crash data from the Israeli police, hospitals and other sources.

Crash costs include direct and indirect costs, including loss of productivity due to a fatal or severe injury and productivity loss for close family members; medical expenses; assistance and nursing care; work disability; property damage costs; time lost due to traffic congestion caused by the crash; administrative costs; damage to the environment; and an approximation of costs of grief and suffering.

Table 5. Cost of road crashes in Israel, 2016-2018

	Unit Cost (ILS)	Number	Total cost (ILS)
Fatalities	9.15 million	368	3.37 billion
Seriously injured	2.39 million	3 499	1.46 billion
Slight injuries	0.18 million	6 192	1.11 billion
Slight injuries without hospitalisation	0.025	78 480	1.96 billion
Property damage costs of injury crashes			0.96 billion
Total	..	..	15.76 billion
Total as % of GDP	..	..	1.8 %

Road safety management and strategy

Evolution of road safety

The number of road fatalities peaked in 1974, with 704 road deaths. Since then, the number of fatalities has decreased by 50%. During the same period, motorisation and traffic have grown rapidly. Even in recent years, motorisation has continued to expand. Between 2000 and 2021, registered motorised vehicles more than doubled.

Israel reached its lowest number of road deaths in 2012, with 290 road fatalities. Since 2012, the number of road deaths has fluctuated between 309 and 377, with no clear trend.

In recent years, road safety in Israel has significantly been impacted by increased traffic volume, motorcyclist fatalities, e-bikes and electric scooters, and the growing issue of mobile phone use while driving.

Five population groups are disproportionately represented in Israeli casualty data: pedestrians, young drivers under 24, minorities, drivers of heavy vehicles, pedestrians over 75 and motorcyclists.

Governance of road safety

The national lead agency for road safety is the National Road Safety Authority (NRSA), created in 2007. The Agency is in charge of:

- Advising the Minister of Transport, National Infrastructure and Road Safety, as well as the government on road safety issues;
- Formulating, approving and implementing annual and multiannual work plans to improve road safety and to set measurable goals to reduce the rates and severity of road crashes and injuries;
- Managing the National Information Centre for Road Safety Research and Data;
- Formulating an integrated multiannual plan for promoting road safety in Israel and ensuring its implementation;
- Supervising the operations of the local road sign placement authorities;
- Strengthening road safety operations in local councils, including actions to improve transportation infrastructure and safety measures;
- Developing campaigns to raise public awareness of road safety issues;
- Advising and aiding the school system on road safety;
- Facilitating the strengthening of the traffic law enforcement system.;

The NRSA operates according to a multidisciplinary work plan.

Road safety strategy

In 2019, the NRSA began developing a new national road safety plan until 2030 to guide actions from all governmental agencies responsible for road safety. Following the 2020 Stockholm declaration, Israel developed a detailed multi-year national road safety plan to halve the number of fatalities and severe injuries by 2030 and is currently going through funding assessments.

Latest road safety measures

In 2018, the NRSA launched a prevention programme for minorities, which is being monitored and improved through formative and evaluative research. It has already demonstrated short-term effectiveness in its first year.

An important focus of the NRSA is to better protect pedestrians and vulnerable road users through traffic regulation and speed reduction in urban areas. The NRSA is also working with the Israeli police to increase traffic enforcement in urban areas with additional police patrols and cameras. A yearly measure of local municipalities' safety performance is conducted to make safety information accessible to local residents and encourage local governments to address road safety issues.

Measures are being developed to manage and regulate the usage of micromobility in urban areas: accelerated construction of bicycle paths, mandatory helmet wearing for all users of electric bicycles, the obligation to complete a driver's knowledge test at 16, the obligation to increase micro vehicles' visibility and authorising local municipality inspectors to enforce these laws.

Research and resources

Publications

E-survey of road users' attitudes, Wave 3: https://www.esranet.eu/en/

Websites

National Road Safety Authority – Israel:
https://www.gov.il/he/Departments/israel_national_road_safety_authority

Transportation Research Institute – Technion: https://tri.net.technion.ac.il/en/

Central Bureau of Statistics: http://www.cbs.gov.il/reader

Definition, methodology, data collection

Term	Definition
Road death	A person who dies immediately or within 30 days of a crash due to injuries sustained during the crash.

In Israel, from 1965 until 2012, a seriously injured person was a person injured in a road crash and hospitalised for 24 hours or more (excluding hospitalisation for observation only). As of 2013, police data has been linked to hospital data. When the casualty is identified in both data sources, the severity of the injury is defined based on the Maximum Abbreviated Injury Score (MAIS). The injury is classified as serious when the MAIS score is 3 or higher and as light when it is 1 or 2. When the police cannot identify the casualty in the hospital data, they classify the injury as serious if the victim is hospitalised for 24 hours or more (excluding hospitalisation for observation only).

Israeli police collect crash data at the crash scene and send it to the Central Bureau of Statistics. The NRSA funds both the Traffic Police and the Transportation Unit at the Central Bureau of Statistics to manage and maintain the system.

Police data are regularly linked with other data sources, such as hospital databases (for fatalities up to 30 days and injuries), the Trauma Registry, the Ministry of Transportation (driver and vehicle registries) and the Ministry of Interior (population registry). The crash data cover the entire population and geographical area of Israel.

In 2014, Israel collected data from 2008-16 using the Maximum Abbreviated Injury Scale with scores of 3 or higher (MAIS3+). As of 2013, these data have been integrated into the NRSA database.

It is assumed that all fatal crashes are reported to the police.

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.

www.itf-oecd.org

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

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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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