



# MEXICO

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According to police data, Mexico recorded 13 630 road fatalities in 2020 – a 7.1% decrease on 2019. In April 2020, casualties decreased by 34% compared to April 2019 due to Covid-19 pandemic restrictions. On 15 October 2020, the Chamber of Deputies approved the constitutional reform that empowers Congress to legislate on mobility and road safety. The Mexican political constitution now states: "Every person has the right to mobility in conditions of road safety, accessibility, efficiency, sustainability, quality, inclusion and equality". On 16 December 2021, the Senate Chamber approved the General Law of Mobility and Road Safety. It is now expected that the Chamber of Deputies will analyse it carefully and approve it. Note that data in this country profile come from the Mexican Institute of Transportation (Instituto Mexicano del Transporte [IMT]) and the Ministry of Health; IRTAD has yet to validate them.

## Road safety management and strategy

A total of 15 000 deaths were recorded on average every year over the last 25 years. The number of registered fatalities peaked in 2009 at 17 820.

As a federation, responsibility for road safety management in Mexico lies with a wide range of actors. Road safety responsibility is partly co-ordinated by the National Council for the Prevention of Accidents (CONAPRA), the state councils for preventing accidents and the state agencies in charge of crash prevention for both urban and federal roads. In 2017, CONAPRA was strengthened and became a council with representatives from ten ministries working together to promote road safety. The actions carried out on federal roads are co-ordinated by the Ministry of Infrastructure, Communications and Transport.

In 2011, Mexico launched its National Road Safety Strategy 2011-20, inspired by the Plan for the Decade of Action for Road Safety. The strategy was developed jointly by the Ministry of

### Mexico: Quick facts

**Population:** 127.8 million

**GDP per capita:** USD 8 455

**Road network:** 802 574 km

- urban roads: 10%
- rural roads: 89%
- motorways: 1%

**Registered motor vehicles:** 50.3 million

- cars: 68%
- goods vehicles: 21%
- motorcycles: 10%

#### Speed limits:

- urban roads: 20-80 km/h
- rural roads: 60-110 km/h
- motorways: 110 km/h

#### Limits on Blood Alcohol Content:

- general drivers: 0.8 g/l
- professional drivers: 0.3 g/l

**Road fatalities:** 13 630

- pedestrians: 19%
- cyclists: 1%
- car occupants: 11%
- moped riders and motorcyclists: 15%
- other: 55%

**Road fatalities per 100 000 population:** 10.5

**Road fatalities per 10 000 vehicles:** 2.6

**Cost of road crashes:** 1.6% of GDP

All data 2020 unless otherwise stated.

Communications and Transport and the Ministry of Health. This strategy has been ratified in recent years by setting national goals that also contribute to meeting the sustainable development objectives proposed by the United Nations and by incorporating these actions in the national development plan and the sectoral plan of the Ministry of Infrastructure, Communications and Transport. The action plan continues to focus on the following areas:

- Road safety management: implement agreements among those involved in road safety both nationally and internationally; develop new laws in this area; update and create new regulations aimed at safeguarding the life of road users and road safety training.
- Safer infrastructure: update regulations on the design and operation of roads; restructure transport routes in the country; assess the safety level of roads and create a catalogue of measures to improve infrastructure.
- Safer vehicles: establish standards to regulate the safety devices of new vehicles and evaluate the performance and compliance with current regulations; develop technological tools to support the renewal of the vehicle fleet and evaluate the devices designed to provide greater safety to road users.
- Road user behaviour: review and update the training programmes for professional drivers, the regulations for safety devices for vulnerable users, the drug and alcohol detection programmes for drivers and the implementation of training programmes for all types of road users.
- Post-crash care: update the applicable regulations for medical care providers, the locations of medical emergency regulatory centres, the training of health professionals and the involvement of citizens and government in improving services.

The main target of the action plan was to halve the number of fatalities on Mexican roads by 2020 and reduce as many as possible injuries and disabilities from road crashes. The target was not met.

On 15 October 2020, the Chamber of Deputies approved by an absolute majority the constitutional reform that empowers Congress to legislate on mobility and road safety. This amendment contributes to the actions promoted by the United Nations in the context of the beginning of the Second Decade of Action for Road Safety 2021-30.

The approved constitutional reform modifies Articles 4, 73, 115 and 122 of the Mexican constitution to include the right to mobility. On December 16 2021, the Senate Chamber approved the General Law of Mobility and Road Safety that, among other points, establishes the mechanisms and actions for the management of risk factors to reduce deaths and serious injuries caused by road accidents. It is now expected that the Chamber of Deputies will analyse it carefully and approve it.



## Latest road safety measures

The General Law on Mobility and Road Safety, which the Senate approved on December 16 2021, establishes as a priority objective "the protection of the life and physical integrity of people when they travel on the country's public roads, using a prevention approach that reduces risk factors through the generation of safe road systems".

The United Nations General Assembly adopted a resolution on improving global road safety in September 2020, proclaiming the period 2021-30 as the Second Decade of Action for Road Safety. The initiative aims to reduce road traffic deaths and injuries by at least 50% from 2021 to 2030. Mexico's Ministry of Infrastructure, Communications and Transport is committed to continuing working towards this goal and taking action to meet the targets of the Sustainable Development Goals related to road safety. These include reducing the number of deaths and injuries from road traffic crashes, providing access to safe, affordable, accessible and sustainable transport systems and improving road safety. Mexico aims to achieve this by expanding public transport, paying particular attention to the needs of vulnerable people, women, children, those with disabilities and senior citizens.

Within the context of the National Development Plan to improve the living conditions of the people of Mexico, it is the responsibility of the Ministry of Infrastructure, Communications and Transport to promote and conduct policies and programmes for the development of transport and telecommunications in the country. With this in mind, it has established the Sectoral Programme for Communications and Transport 2020-24, which includes actions for road safety in two of its four priority objectives:

- contribute to social welfare through the construction, modernisation and maintenance of accessible, safe, efficient and sustainable road infrastructure, with a vision of regional and intermodal development
- contribute to the country's development by strengthening transport with a long-term vision, and a regional, multimodal and sustainable approach so that the population, particularly in the regions of lower growth, will have safe, quality transport services with national coverage.

The IMT participated in elaborating the Agreement of Actions with the Motor Transport Chambers to increase road safety on the roads and bridges within federal jurisdiction.

Moreover, the IMT co-ordinates the sub-group's work for a "review of statistics and methodology to obtain indicators of road crashes and their causes". This group aims to improve the quality of information available on road crashes in the country, identify the

characteristics of these events and thus contribute to the formulation of public policies that will enhance the safety of all road users.

Thirty-two Accident Prevention State Councils were established formally to facilitate and co-ordinate the participation of all stakeholders: authorities from the three levels of government, civil society and NGOs.

Regarding road safety data, 32 state observatories continue to work to manage and analyse data at the state level. The information collected in each observatory is used to feed the National Injury Observatory, which is co-ordinated by the Technical Secretariat of the National Council for the Prevention of Accidents (STCONAPRA).

Together with local authorities, the STCONAPRA continues promoting the modification and reform of legal provisions to regulate better road safety and crash prevention for the benefit of the general population.

STCONAPRA continues promoting the implementation of breathalyser control points in priority municipalities by providing technical and methodological tools for planning, operating and evaluating them in the urban areas of the 32 states.

The General Directorate of Federal Transportation continues to work on conducting inspections to check the physical condition of federal drivers that operate on the Federal Road Network (RCF), with particular attention paid to the detection of alcohol and drugs while driving.

The IMT continues to offer an international road safety course, which covers topics related to the human factor in road crashes, audits in road safety, treatment of sites with a high crash rate and the investigation and reconstruction of road crashes. The courses are aimed at professionals (authorities, technicians and operators) involved in preventing road crashes.

Together with the IMT and the Spanish Civil Guard, the Police Development System (SIDEPOL) continues to organise a certification in traffic acts and road safety every year. Moreover, it trains more than 140 staff from the National Guard and similar police organisations from other countries. The focus of the course is on specific procedures in the investigation of road crashes occurring on the RCF.

Since 2009, the Ministry of Health has promoted and strengthened strategic action against drink driving. Regular alcohol checkpoints have been put in place all over the country. In 2019, at least 20 606 operations coordinated by STCONAPRA were implemented, applying 843 216 breathalyser tests in the 32 federal entities. In 172 of the 197 priority

municipalities, it was recorded that 15.9% of them were positive. The Sectoral Program for Communications and Transport 2020-24 sets out the following priority strategies:

- Improve the physical state of the RCF through conservation and reconstruction to increase the welfare, connectivity and safety of road infrastructure users.
- Improve the safety of the RCF for the welfare of all users by addressing problem points, designing and implementing a preventive road safety programme, strengthening horizontal and vertical signalling and protective barriers by current regulations, implementing road safety audits and conducting road safety campaigns.
- Promote long-term strategic planning of the transport sector based on regional and logistic development criteria, social inclusion, connectivity, sustainability and technological innovation to contribute to sustained economic and social development; this includes designing and implementing a programme for investigating transport accidents.

In co-ordination with the Ibero-American Vial Institute, the IMT has continued to provide the online course Training Road Auditors to train technicians and managers in auditing since 2015.

A project was conducted to assess the performance and condition of the federal highway network using the methodology of the International Road Assessment Programme (iRAP). This has facilitated the development of an investment plan for safer roads. The iRAP Mexico project has helped address significant road safety problems and identify appropriate solutions (e.g. vertical signs and road markings). Some toll road concessionaires have also evaluated their infrastructure with this iRAP methodology, seeking to promote effective improvement plans to reduce the number of traffic accidents reported on their highways.

Several important infrastructure improvement projects are being carried out, such as installing protective barriers, improved intersections, pedestrian bridges, bus stops, road markings, emergency braking ramps, railway crossings and pavement markings with thermoplastic paint and impact dampers.

In Mexico, the priority is shifting from car occupants to the most vulnerable road users. The country has more than 1 800 road safety auditors in 32 states, including 162 members of the National Guard. Each state must implement at least three changes in infrastructure, giving priority to pedestrians within the context of the multi-national road traffic safety project Vision Zero.

In January 2021, the Ministry of Infrastructure, Communications and Transportation published the Mexican Official Standard NOM-037-SCT2-2020 "barriers on highways and urban roads". Its purpose is to establish the general criteria to be considered for the design and placement of barriers, including bridge parapets, on highways and urban roads under federal, state and municipal jurisdiction, as well as to establish the designation, definition and use of the various elements that make up such barriers. This standard supports the

Manual for Assessing Safety Hardware, published by the American Association of State Highway and Transportation Officials in 2009 and 2016.

In April 2021, the Ministry of Infrastructure, Communications and Transportation published the Mexican Official Standard NOM-008-SCT2-2020, "Impact crushers on highways and urban roads". Its purpose is to establish the general criteria for the selection and placement of impact crushers on highways and urban roads, to protect the occupants of vehicles that, due to weather conditions, mechanical failures, driver errors or specific characteristics of the road or urban road, could leave the road and impact against a rigid element, thus preventing them from suffering more significant damage.

In January 2022, the Ministry of Infrastructure, Communications and Transportation and the Ministry of Agrarian, Territorial and Urban Development of Mexico City published the Preliminary Draft of Mexican Official Standard NOM-034-SCT2-SEDATU-2021, "Signalling and Road Devices for Streets and Highways", and its objective is to establish the general requirements to be considered for the design and implementation of signalling and road safety devices on streets and highways under federal, state and municipal jurisdiction. It is currently in the public consultation phase. At the end of this phase, it will be published in the Official Gazette of the Federation, establishing the period it will enter into force.

Currently, the Ministry of Infrastructure, Communications and Transport and the Ministry of Agrarian, Territorial and Urban Development of Mexico City are working on updating the Mexican Official Standard NOM-086-SCT2-2015 "Signage and devices for protection in road work zones", which aims to establish the general requirements to be considered for designing and implementing signage and protection devices in work zones on highways and urban roads of federal, state and municipal jurisdiction. The final version is expected to be published by the end of 2022.

## Costs of road crashes

Traffic crashes represent considerable costs to Mexican society. In 2020, they were estimated at USD 19.7 billion (1.6% of GDP). These costs are calculated based on a human capital approach, as there are no studies available on the statistical valuation of life using a willingness-to-pay approach.

## Safety performance indicators

### Speed

Inappropriate speed is one of the leading causes of road crashes. In 2020, 16.4% of road crashes on the federal highway network were attributed to excessive speed, according to National Guard.

## **Drink-driving**

Driving under the influence of alcohol is another major cause of road crashes in Mexico. According to the statistics office (INEGI), 7.1% of road fatalities on urban and suburban roads in 2017 were due to drunk drivers. In 2020, this share decreased to 6.7%. However, it is important to note that the BAC level is not systematically reported in the case of fatal crashes. This figure is therefore likely to be underreported. In 2016, 11% of the 1 831 autopsies performed following road accidents showed alcohol had been consumed. Moreover, 18% of emergency patients involved in a traffic crash were reported drinking alcohol during the previous six hours.

The maximum authorised BAC on federal roads and highways is 0.8 g/l for automobile drivers and 0.3 g/l for truck and coach drivers. On urban roads, the maximum BAC differs by state; however, in most states, the level is the same as for federal roads and highways. A crash is defined as alcohol-related when one of the participants (including cyclists and pedestrians) has a BAC above the legal limit. Limits on BAC are mainly enforced through alcohol breath tests conducted by the police on the roadside. In 2019, at least 20 6060 operations co-ordinated by STCONAPRA were implemented, applying 843 216 breathalyser tests in the 32 federal entities, in 172 of the 197 priority municipalities. It was recorded that 15.9% of them were positive.

## **Drugs and driving**

The Mexican authorities conduct regular checks on the federal highway network to test professional drivers' physical and physiological conditions. However, there is no data available to estimate deaths due to drugs.

## **Use of mobile phones while driving**

An increasing problem for traffic safety in Mexico is distraction through the use of mobile phones while driving (there is no official definition of distracted driving). In Mexico, only hands-free devices are allowed while driving. There is no data on the contribution of distracted driving to road crashes.

## **Seat belt and helmet use**

Seat belt wearing has been compulsory in Mexico since 2003 in front seats and since 2015 in rear seats. The wearing rate in 2017 was 79% for drivers, 65% for front-seat passengers and 46% for rear-seat passengers. It is estimated that only 11% of children under 12 are correctly seated with a dedicated child restraint system. These figures suggest that much progress can still be made in increasing seat belt use.



According to the INEGI, 19.2% of drivers killed in a crash on urban and suburban roads in 2020 did not wear a seat belt when the crash occurred. However, it is important to note that this information was only available for 26% of road deaths.

For motorcyclists, helmet wearing is the most effective passive safety habit. In Mexico, helmets have been compulsory for users of all motorised two-wheelers on the whole network (federal highway network and urban and suburban roads) since 2012. In 2016, based on observational surveys, 83% of motorcycle drivers and 55% of motorcycle passengers wore a helmet.

Bicycle helmets are not compulsory.

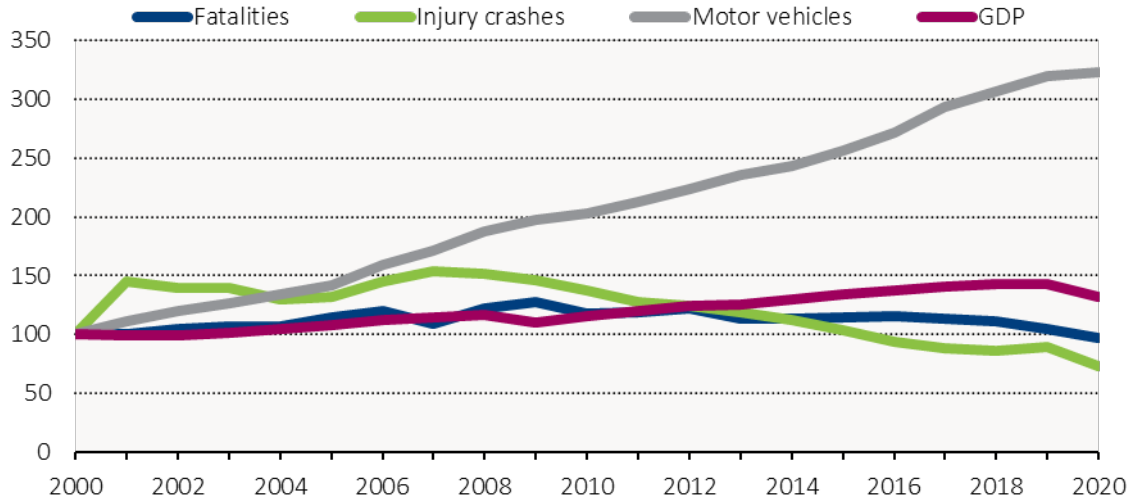
## Road safety data for Mexico at a glance

### Long-term road safety trends for Mexico

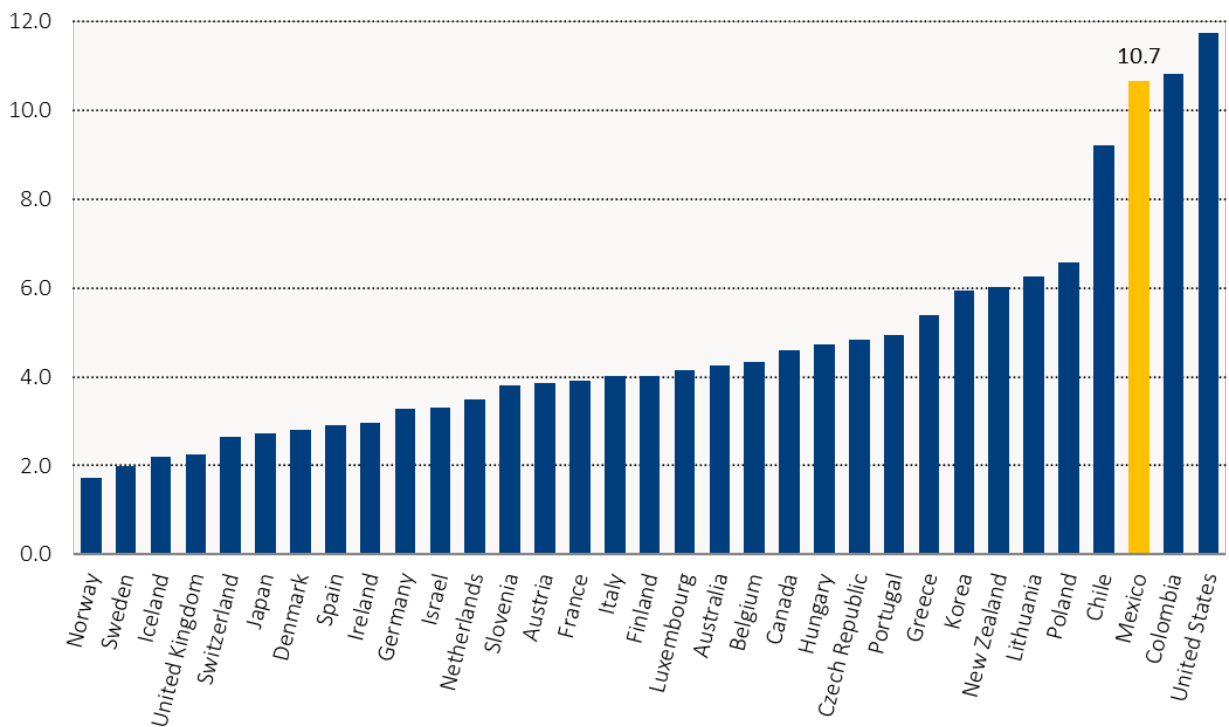
	2000	2010	2018	2019	2020	2020 % change over			
						2019	2010	2000	1990
<b>Reported safety data</b>									
Fatalities	14 028	16 559	15 574	14 673	13 630	-7.1	-17.7	-2.8	..
Injury crashes	83 804	114 708	72 451	74 479	61 421	-17.5	-46.5	-26.7	..
Injured persons hospitalised	..	26 335	23 833	23 828	21 424	-10.1	-18.6	..	..
Deaths per 100 000 population	13.9	14.5	12.4	11.6	10.7	-8.0	-26.4	-23.3	..
Deaths per 10 000 registered vehicles	9.0	5.2	3.3	2.9	2.6	-10.9	-50.6	-71.2	..
Deaths per billion vehicle kilometres	..	..	26.3	24.0	23.9	-0.3	..	..	..
<b>Fatalities by road user</b>									
Pedestrians	5 509	4 786	3 587	3 120	2 536	-18.7	-47.0	-54.0	..
Cyclists	107	178	148	128	111	-13.3	-37.6	3.7	..
Motorised two-wheelers	158	704	1 890	1 952	1 982	1.5	181.5	1154.4	..
Passenger car occupants	2 967	3 357	1 964	1 658	1 505	-9.2	-55.2	-49.3	..
Other road users	5 287	7 534	7 985	7 815	7 496	-4.1	-0.5	41.8	..
<b>Fatalities by age group</b>									
0-14 years	1 543	1 341	887	783	681	-13.0	-49.2	-55.9	..
15-17 years	656	815	629	624	625	0.2	-23.3	-4.7	..
18-20 years	961	1 269	1 084	988	1 016	2.8	-19.9	5.7	..
21-24 years	1 370	1 592	1 578	1 508	1 398	-7.3	-12.2	2.0	..
25-64 years	7 699	9 372	9 239	8 748	8 187	-6.4	-12.6	6.3	..
65-74 years	865	1 032	1 021	1 007	816	-19.0	-20.9	-5.7	..
≥ 75 years	775	930	826	763	615	-19.4	-33.9	-20.6	..
<b>Fatalities by road type</b>									
Urban roads	3 497	4 582	2 506	2 484	2 293	-7.7	-50.0	-34.4	..
Rural roads	5 723	6 179	3 781	3 699	3 389	-8.4	-45.2	-40.8	..
Motorways	1 267	1 205	934	988	866	-12.3	-28.1	-31.6	..
<b>Traffic data</b>									
Vehicle kilometres (millions)	..	..	591 929	611 288	569 817	-6.8	..	..	..
Registered vehicles (thousands)	15 612	31 635	47 784	49 870	50 348	1.0	59.2	222.5	..
Registered vehicles per 1 000 population	154.7	278.1	381.3	394.0	394.0	0.0	41.7	154.6	..

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

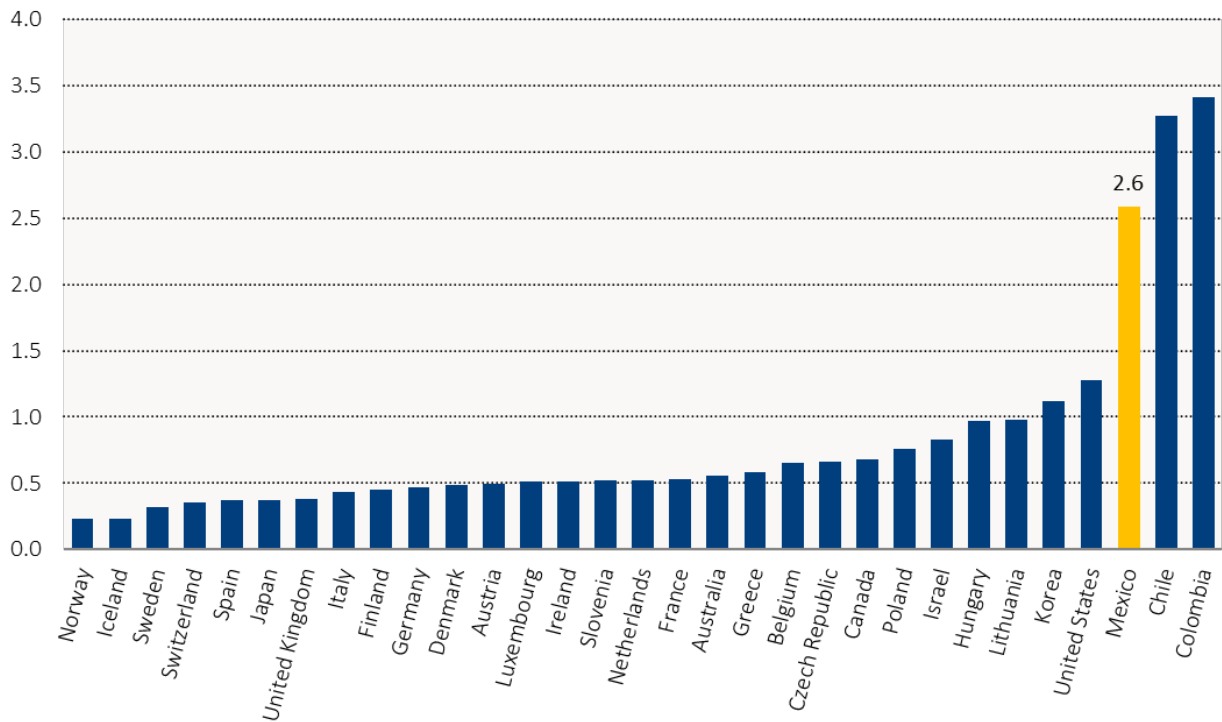
Index 2000 = 100



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

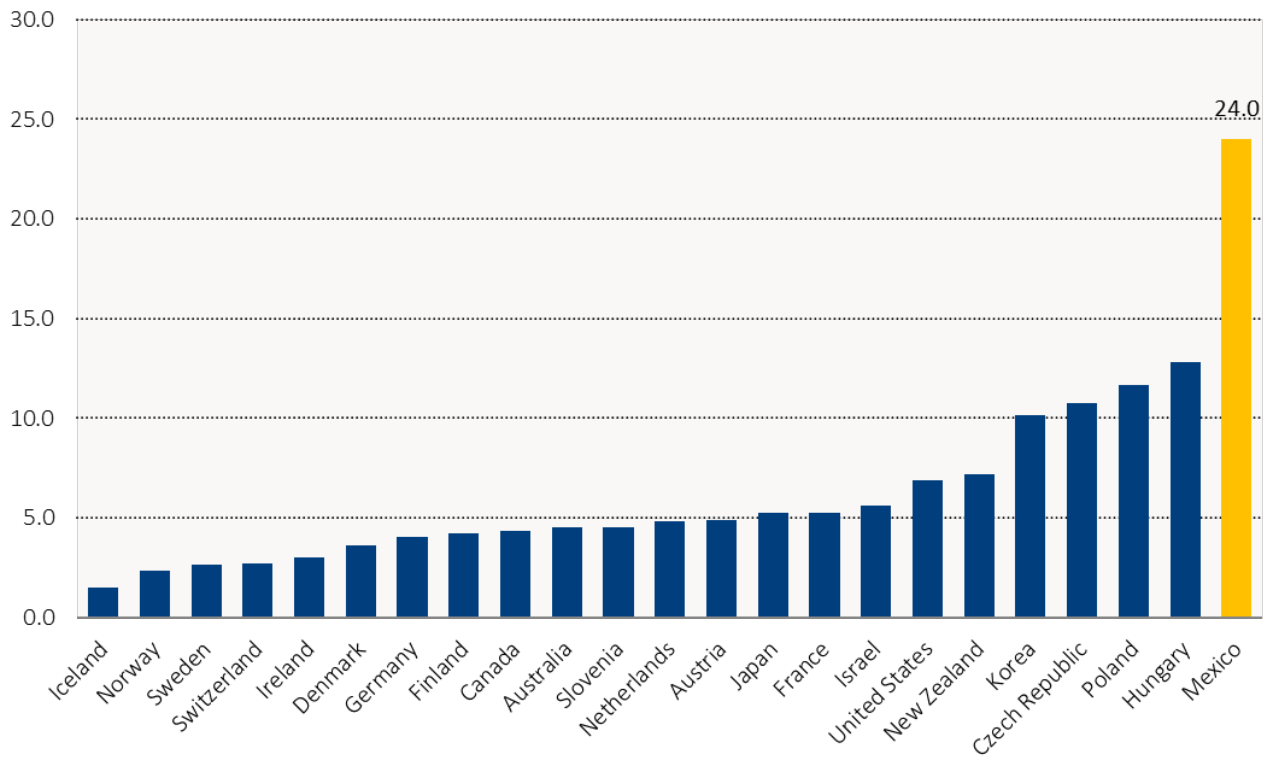


### Road fatalities per 10 000 vehicles in Mexico in comparison with IRTAD countries, 2020

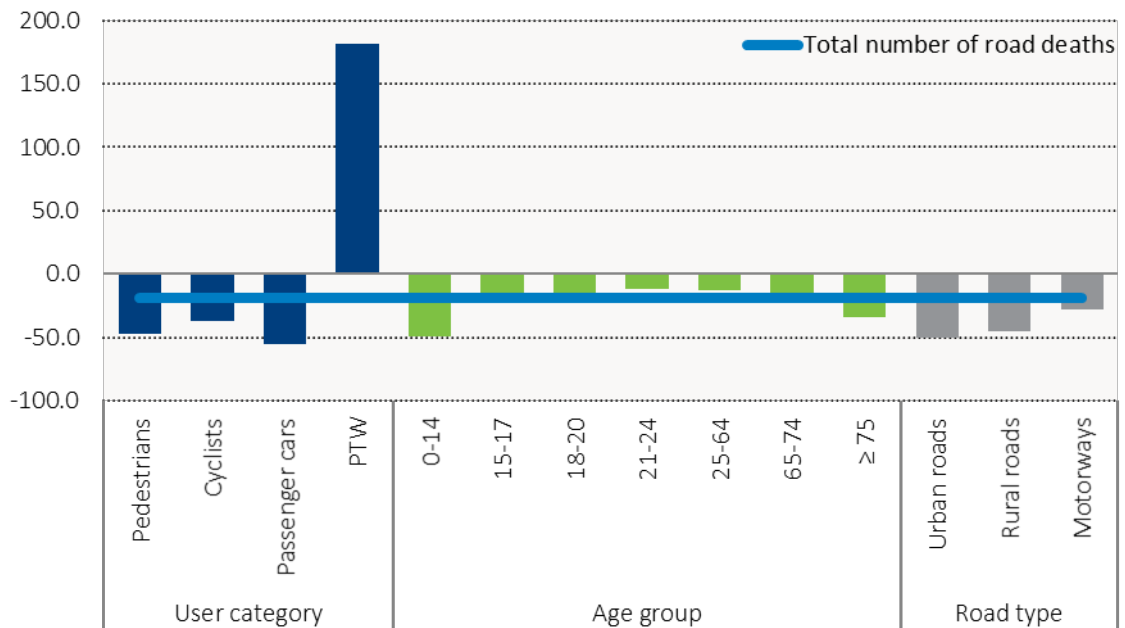


Note: in Belgium, Denmark, Germany and Hungary registered vehicles do not include mopeds.

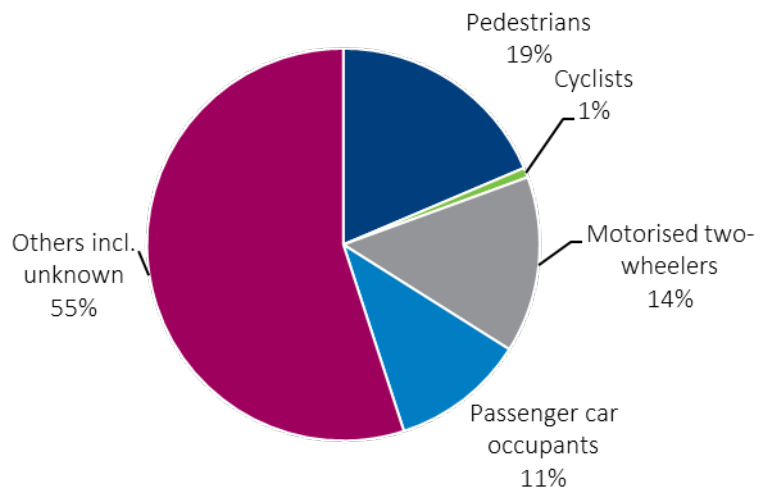
**Road fatalities per billion vehicle-kilometres in Mexico in comparison with IRTAD countries, 2019**



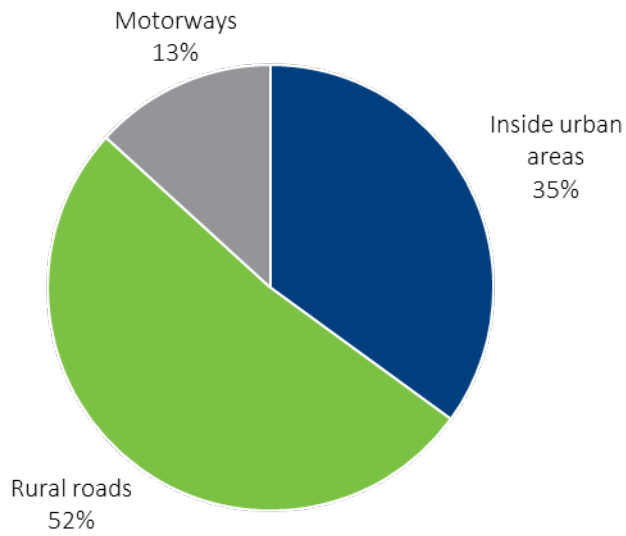
**Evolution of road fatalities in Mexico by user category, age group and road type, 2010-20**



**Road fatalities in Mexico by user category, 2020**

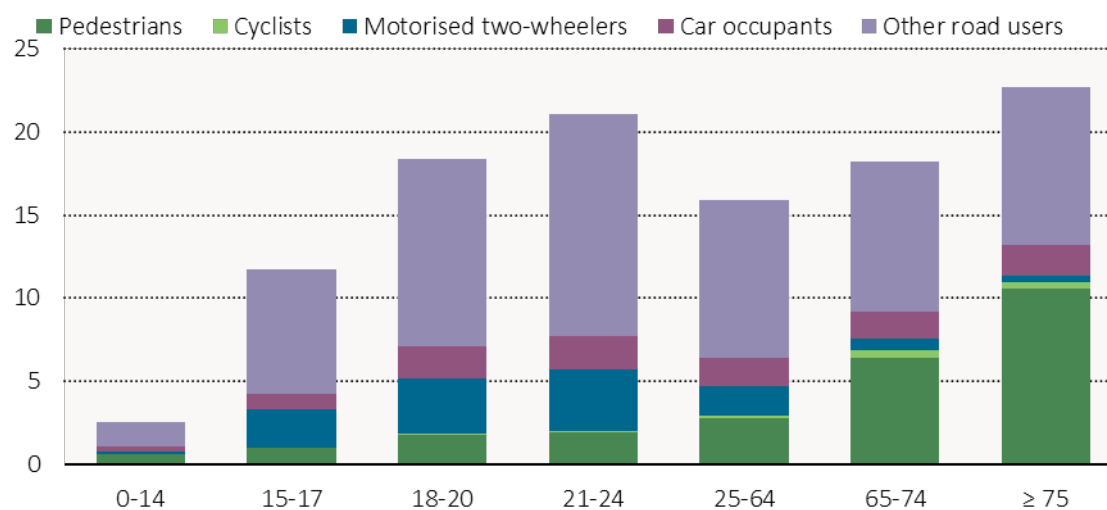


**Road fatalities in Mexico by road type, 2020**



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

Rate per 100 000 population in the same age group



## Cost of road crashes in Mexico, 2020

	Unit Cost (USD)	Total (USD)
Fatalities	591 818	8.1 billion
Slight injuries	147 954	11.6 billion
<b>Total</b>		<b>19.7 billion</b>
<b>Total as % of GDP</b>		<b>1.6</b>

## Seat belt and helmet wearing rates

Percentages

	2017
<b>Front seats</b>	
General (driver and passengers)	74
Driver	79
Passenger	65
<b>Rear seats</b>	
General	46
Children (use of child restraint)	11



## Research and resources

### Publications

In co-ordination with STCONAPRA, INEGI and the National Guard, and through the working subgroup 4A, the IMT is working with the agencies responsible for collecting information on road crashes in the country. It aims to standardise the data collected by different police agencies and identify opportunities for improvement in collecting, analysing and generating road safety statistics.

The IMT participates in Subcommittee No. 2 – Vehicle Specifications, Parts, Components and Identification Elements of the National Advisory Committee of Land Transport Normalisation (CCNN-TT). As such, it supports the General Directorate of Federal Transportation (DGAF) with studies on incorporating safety aspects in the regulations on operating motor transport.

Together with the Inter-American Development Bank (IDB) and the ITDP Institute for Transportation and Development Policies, the STCONAPRA drew up and published the guide for low-cost and high impact interventions. It included strategies for implementing changes in road infrastructure, with an emphasis on vulnerable users.

A strategy for consolidating this has been implemented since 2018 in all 32 states, with the creation of Safe-Infrastructure Subcommittees. These have brought together at the municipal and state levels the agencies in charge of maintaining, preserving, equipping and improving roads, thus facilitating the required management and implementation.

In addition, the STCONAPRA helped put together *Street Manual: Road Design for Mexican Cities*:

[https://www.gob.mx/cms/uploads/attachment/file/509173/Manual\\_de\\_calles\\_2019.pdf](https://www.gob.mx/cms/uploads/attachment/file/509173/Manual_de_calles_2019.pdf).

The IMT publishes annual statistics on traffic accidents reported on the Federal Road Network, information used to identify problem sites on the network and program intervention through the application of improvement measures included in the network's maintenance plans.

Currently, the IMT is developing two research projects focused on addressing specific problems. The first is a Road Safety Audit focused on detecting risks in construction sites, and the second is designing a road safety campaign to encourage the use of child restraint systems.

At the end of last year, INEGI presented its interactive map in which geographic and economic information on the different cities and areas of the country can be viewed. It includes a part of the database of state and municipal police reported accidents. Basic information is displayed for those accidents for which there is information on the geographic coordinates of the site where the accident occurred. The interactive map can be consulted at the following link: <https://www.inegi.org.mx/app/mapa/espacioydatos/>.

## Websites

Mexican Transportation Institute (*Instituto Mexicano del Transporte*, IMT): <https://www.gob.mx/imt>.

Ministry of Health (*Secretaría de Salud*): <http://www.gob.mx/salud/>.

National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*, INEGI): <http://www.inegi.org.mx>.

Ministry of Infrastructure, Communication and Transport (*Secretaría de Infraestructura, Comunicaciones y transportes*, SICT): <https://www.gob.mx/sct>.

Road Safety Action Plan 2013-18: [https://www.gob.mx/cms/uploads/attachment/file/63376/PAE\\_SV.pdf](https://www.gob.mx/cms/uploads/attachment/file/63376/PAE_SV.pdf).

## Definition, methodology, data collection

A road fatality is defined as any person who dies following a road crash. When a person does not die at the crash scene but instead at, or on the way to, the hospital, they are reported as an injured person. In this report, road fatalities are those registered in the National Health Information System (SINAIS) and recorded as caused by a motor vehicle traffic crash, according to the codes of the International Classification of Diseases (10<sup>th</sup> Revision).

An injured person is defined as a person suffering minor or severe injuries following a road crash.

All traffic safety-related definitions are available through the national statistics agency.

The primary sources of information for road crashes are the National Institute of Statistics and Geography (INEGI) for urban and suburban areas and the National Guard for federal areas. Crash statistics include data on the date and time of the crash, location, type of crash, vehicle type, crash contributing factors, road user category and condition of the casualties (injured or killed). INEGI is also in charge of compiling statistics at a national level.

Crash data for urban and suburban areas are collected on an INEGI form through the state and municipal safety and traffic agencies. Crash statistics are compiled based on the recommendations of the Organization of American States (OAS).

Crashes occurring on the federal road network are reported in a different form through the regional offices of the National Guard (140 locations around the country). These crash forms are then processed in the crash database for federal roads.

Currently, Mexico does not have an integrated road crash database that collates data from INEGI and the National Guard. As both systems (INEGI and the National Guard)

have different variables and definitions, it is difficult to obtain a precise count of the total number of crashes in the country. The most accurate source of data on road deaths and serious injuries is the health database of the Ministry of Health, which is based on health certificates and hospital discharges. Injury data are recorded based on the International Classification of Diseases (10<sup>th</sup> Revision).

Efforts are underway to improve data collection and monitoring of road crashes. As part of the Road Safety Programme 2013-18, 32 state observatories have been in operation since 2018. Of these, 16 report crash data on a common platform (RAVMex) through mobile and web applications, enabling them to report contributing factors to crashes. The registration of injury data is also being improved through multisectoral collaboration.