



FRANCE

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France recorded 3 244 road fatalities in 2019, its lowest total on record. The mortality rate is five deaths per 100 000 inhabitants. The number of cyclists killed increased in 2019 for the fourth consecutive year. The target of reducing the number of road fatalities to below 2 000 by 2020 was not met despite the strong decrease expected related to the Covid-19 pandemic.

Note: Data presented in this report are for metropolitan French only.

Impact of Covid-19

In response to the Covid-19 Pandemic, France introduced lockdown measures on 17 March 2020, which affected the movement of people and goods on the road and in turn, the exposure to road crashes.

As an illustration, traffic volume on the national road network decreased by 76% in April 2020, compared to the average for April from 2017-19, while the number of road deaths decreased by 62%.

Table 1. Road fatalities by month

	Average 2017-19	2020	% change
January	241	264	9.5
February	225	220	-2.2
March	252	152	-39.7
April	267	102	-61.8
May	269	208	-22.7
June	302	211	-30.1
July	333	296	-11.1
August	278	245	-11.9
September	310	270	-12.9
October	283	203	-28.3
November	266	170	-36.1
December	287	209	-27.2

Table 2. Road motor vehicle traffic by month per million vehicle-kilometres (vkm)

	Average 2017-19	2020	% change
January	14.97	15.95	6.5
February	14.64	15.64	6.8
March	16.58	10.23	-38.3
April	17.73	4.28	-75.9
May	17.64	9.21	-47.8
June	18.23	15.71	-13.8

Trends

France recorded an **overall decrease in the number of road deaths in 2019** and reached its lowest level to date. According to the latest available data, 3 244 people died in road crashes in 2019. This is four fewer fatalities than in 2018, a decrease of 0.1%, and 24 fewer than in 2013, when the number of road deaths had been the lowest on record.

The **longer-term trend for road deaths** in France is one of decreasing fatalities. Between 2000 and 2019, the number of annual road fatalities fell 60%. However, most of the reduction occurred from 2000 to 2013 period.

The number of **traffic deaths per 100 000 inhabitants** in France has fallen 64% between 2000 and 2019. In 2019, 5.0 traffic deaths per 100 000 inhabitants were recorded, compared to 13.7 in 2000. By way of comparison, the average in the EU was 5.1 deaths per 100 000 inhabitants in 2019.

Measured as **traffic deaths per billion vkm** driven, the fatality risk in France showed similar progress in the long term. In 2019, this metric stood at 5.2, 67% lower than in 2000. The fatality risk has declined faster than the number of deaths due to growth in traffic volume, which has increased 20% since 2000.

France recorded 0.7 **road fatalities per 10 000 registered vehicles** in 2019. This represents a decrease of 70% compared to the year 2000, when the rate of deaths to registered vehicles stood at 2.3.

Country Profile

Population in 2019: 64.8 million

GDP per capita in 2019: USD 41 898

Cost of road crashes: 2.2% of GDP

Road network: 1.1 million kilometres (urban roads 15%; rural roads 84%; motorways 1%)

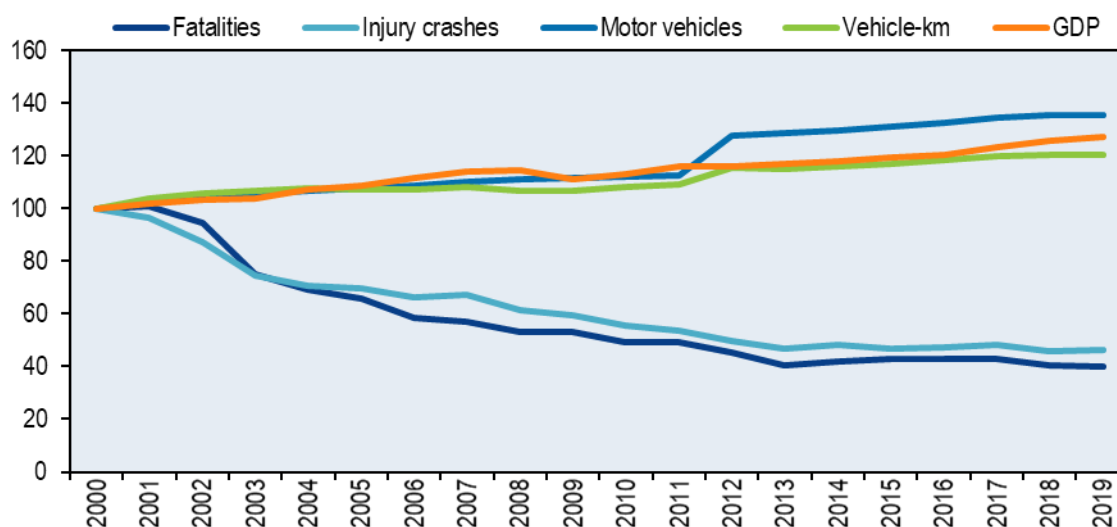
Registered motor vehicles in 2019: 48.5 million (cars 78.0%; goods vehicles 13.5%; motorised two-wheelers 10.0%)

Volume of traffic : +20.2% between 2000 and 2019

Speed limits: 50 km/h on urban roads; 80 km/h on rural single carriageways (90 km/h when two lanes dedicated to the same direction); 110 km/h on dual carriageways; 130 km/h on motorways

Limits on Blood Alcohol Content (BAC): 0.5 g/l for general drivers; 0.2 g/l for professional drivers and novice drivers

Figure 1. Road safety, vehicle stock, traffic and GDP trends
Index 1990 = 100



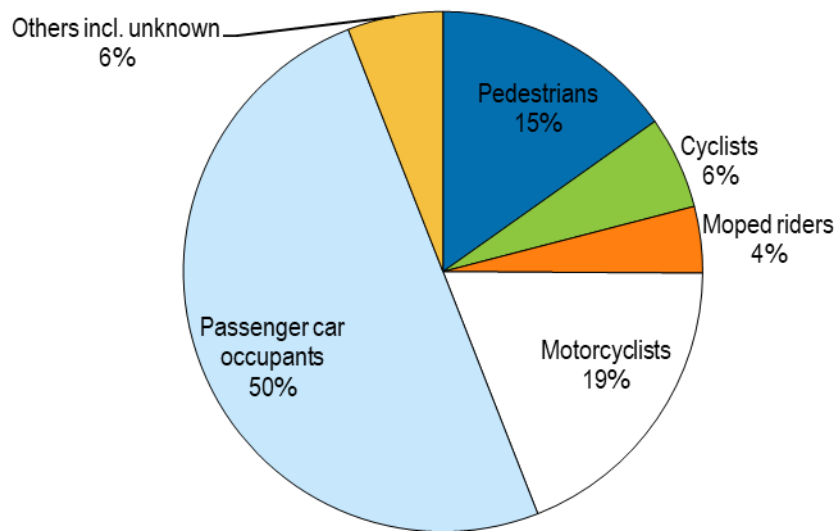
The picture for **fatalities by road user groups** shows that passenger car occupants continue to be the group most affected by road crashes. In 2019, passenger car occupants accounted for 50% of all road fatalities. They were followed by motorcyclists (19%), pedestrians (15%), cyclists (6%) and moped riders (4%). This breakdown has remained relatively stable in recent years.

Motorised two-wheelers are still overrepresented in road fatalities. While they account for less than 2% of distances travelled, they represent 23% of total fatalities and 38% of those seriously injured, according to estimations by Gustave Eiffel University (ex-IFSTTAR). The fatality risk per kilometre driven is 22 times higher for a motorcyclist than for a car occupant.

In 2019, the number of road deaths increased among moped riders (+0.8%), while it had decreased significantly (-46%) between 2010 and 2018. The number of cyclists killed – including on e-bicycles – increased 12.6% in 2019, compared to 2018, and the number of pedestrians killed by 2.8%. Cyclists are the only category where fatalities have increased for the fourth consecutive year, from 149 in 2015 to 197 in 2019. For all other user categories, the number of road deaths decreased slightly, with the strongest decline among motorcyclists (-1.9%).

The long-term trend shows that traffic in France has become safer for all road user groups but not to the same extent. The strongest decline was registered among moped riders despite the relatively strong increase since 2018. Between 2000 and 2019, the number of moped riders killed fell 71%. Car occupants saw road fatalities decrease 69%. The decrease was less pronounced for pedestrians (-41%), motorcyclists (-34%) and cyclists (-31%). For pedestrians and cyclists, the reduction mainly occurred before 2010. The number of pedestrians killed stagnated at around 480 per year from 2000 to 2019, and the number of cyclists killed increased by 40 over the same period.

Figure 2. Road fatalities by road user group, 2019



Road deaths by age group in 2019 showed a decrease for the youngest and oldest road users. Indeed, road users under 18 years old registered a 20.3% decrease with 39 fewer fatalities compared to 2018. The 25-64 age group registered a 1.1% decrease in the number of road deaths and those aged 65-74 saw a 4.5% decrease. On the other hand, the number of road deaths increased 5.7% for those 18-20 and 12.1% for those 21-24.

Road users from 18 to 29 represent 24% of the French population and 24% of kilometres travelled, but they account for 40% of the road deaths. Road crashes involving this age group are more likely to happen at peak hours, or by night and on the weekend. In addition, individuals in this age group are more likely to drive without licences and under the influence of alcohol than those in the 30-64 age group. Among those 18-29, the risk is predominant for men (75% of those implicated for 60% of the kilometres travelled) and for students (22% for 13%).

Looking at the longer-term trend, the number of road deaths decreased for all groups from 2000 to 2019 but to a lesser extent for elderly people. The number of road deaths decreased 70% or more for the 0-14, 15-17 and 18-20 age groups. It decreased 65% for the 21-24 age group and 59% for the 25-64 age group. However, it only decreased 37% for people over 65, while their share of the population increased 40%.

The percentage of road fatalities by travel mode is largely influenced by age, given the minimum age required to drive certain vehicles. Thus, the 15-17 age group still represents the largest share of fatalities among moped riders. Children under 14 and people over 65 are particularly vulnerable as pedestrians and cyclists.

Despite recent improvements, young people continue to be most at risk in road traffic. Those aged 18-20 suffer road fatalities at rates of 10.4 per 100 000 inhabitants and those 21-24 at 10.7 deaths per 100 000 inhabitants, i.e. twice the mortality rate of the average population.

Elderly people over 75 are the third most at risk age group, with a mortality rate of 8.8 per 100 000 inhabitants.

Figure 3. Road fatality rates by age group, 2010-19
Deaths per 100 000 inhabitants in a given age group

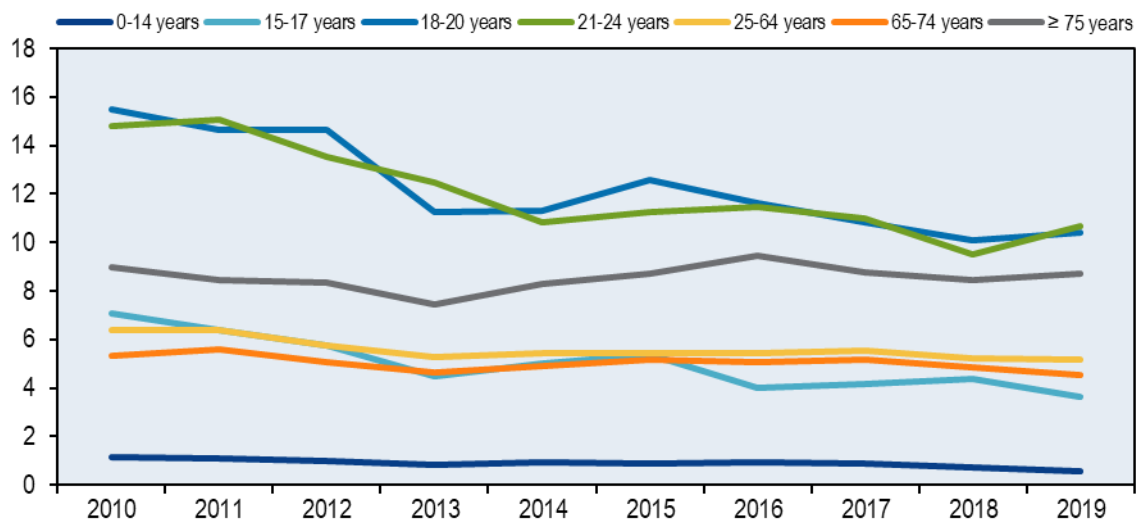
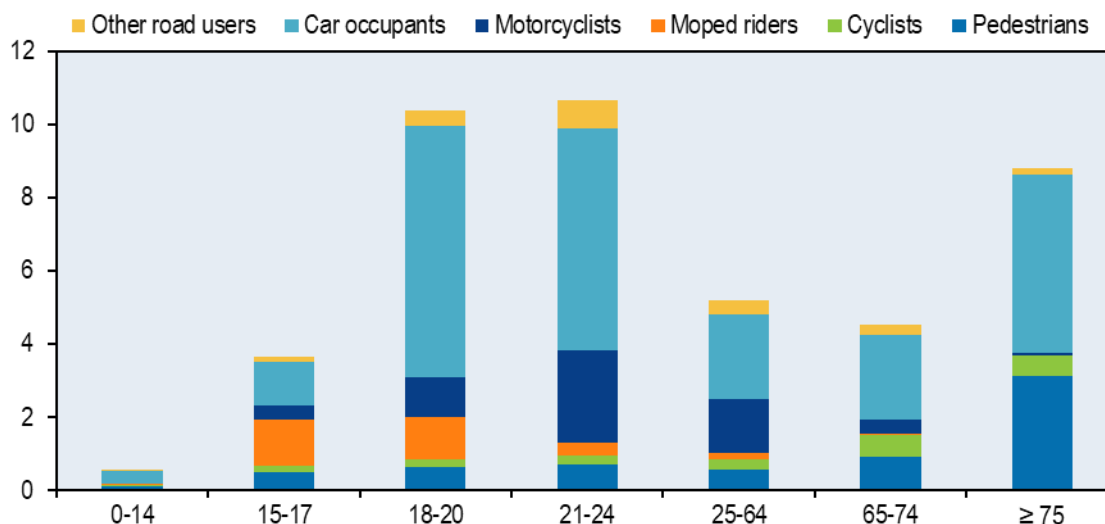


Figure 4. Road fatality rate by age and road user group, 2019
Fatalities per 100 000 inhabitants



Analysis of **fatalities by road type** shows that the rural network continues to be the deadliest. In 2019, 60% of deaths occurred on rural roads, 32% on urban roads and 8% on motorways. This split has remained relatively stable in recent years.

Following a strong increase in 2015, the number of fatalities on motorways decreased in 2016 (-9.4%), in 2018 (-4.6%) and 2019 (-2.2%). There was a slight reduction on rural roads (-1.5%) in 2017. This decline was more pronounced in 2018 (-6.5%) due to a new

speed limit introduced on 1 July 2018 on rural roads without a median separation (80 km/h instead of 90 km/h). This trend was confirmed in 2019, with 3.6% less deaths on rural roads.

On the other hand, despite the reduction of road deaths registered on urban roads in 2018, the number of road deaths increased 7.7% on urban roads in 2019.

The reduction in the number of road deaths since 2000 has benefited the whole network to a similar degree of magnitude (-54% on urban roads, -63% on rural roads and -54% on motorways).

Figure 5. Road fatalities by road type

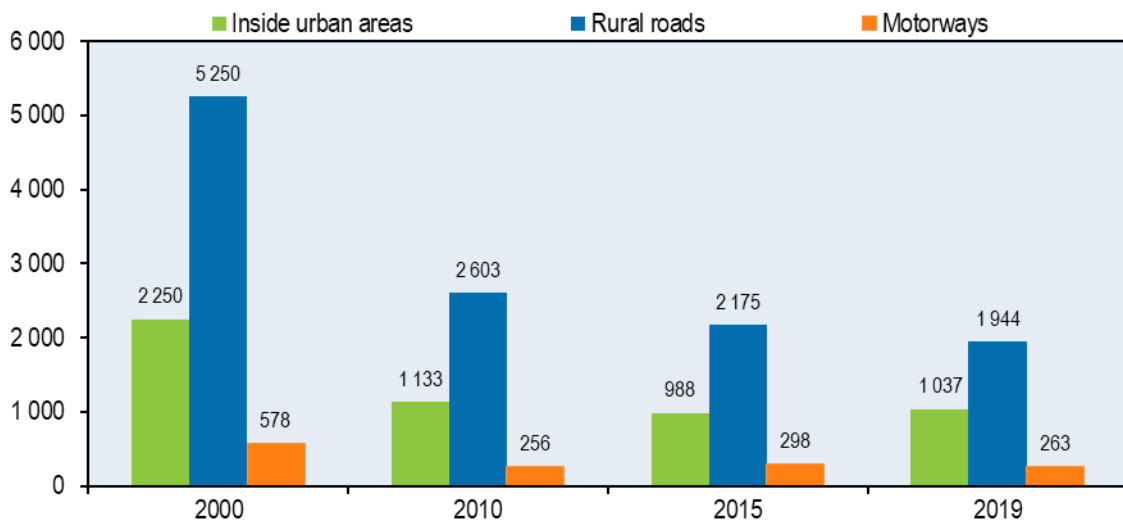
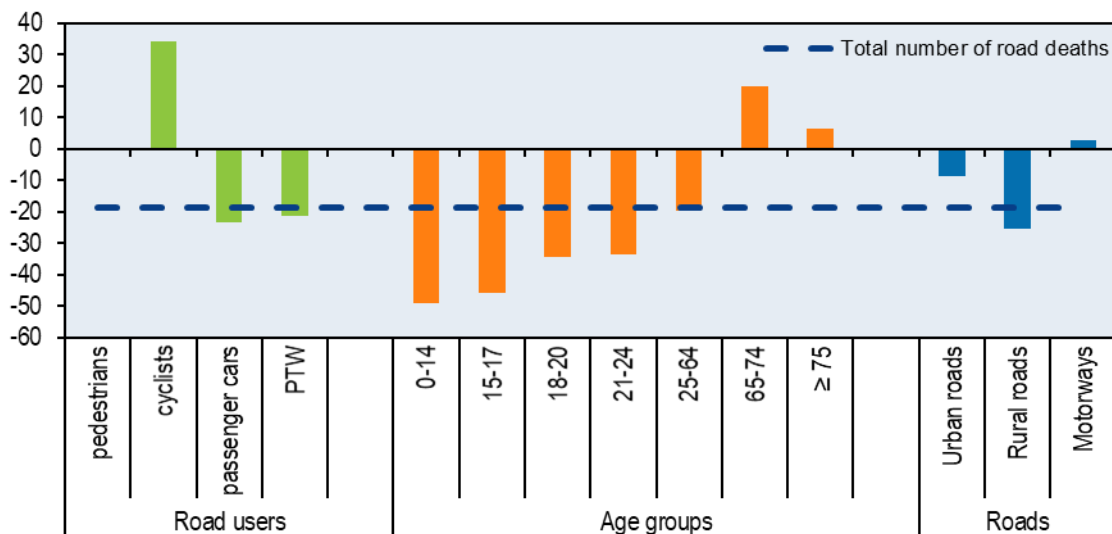


Figure 6. Evolution of road deaths by user category, age group and road type, 2010-19



Fatality data are essential to understand road safety issues, but hardly sufficient. Information on **serious injuries from crashes** is also critically important. Gustave Eiffel University estimates the number of people in road traffic crashes suffering an injury with a Maximum Abbreviated Injury Score of 3 or more (MAIS 3+). They do so using the capture-recapture process, which draws on the national corporal accident database (BAAC) and the Rhône Register, which records all casualties from road crashes that occurred in the Rhône department.

The number of serious injuries MAIS 3+ was estimated at 25 000 in 2016, corresponding to a ratio of seven people seriously injured for every road death.

Based on these estimates, between 2012 and 2016 on average 41% of persons injured with a MAIS 3+ were motorised two-wheeler riders, 27% were car occupants, 15% cyclists and 15% pedestrians. This means that nearly 70% of those seriously injured are vulnerable road users.

Economic costs of road crashes

Road traffic crashes represent a significant cost for France, estimated at EUR 50.9 billion, or 2.2% of GDP. This takes into account loss of productivity, the human cost for the relatives, medical costs and the loss of quality of life. This calculation takes into account estimates of non-reported crashes. Gustave Eiffel University estimates that the number of injured people could be four times greater than the registered number, and the number of hospitalised nearly twice as great.

Table 3. Costs of road crashes, 2019

	Unit cost [EUR]	Total [EUR]
Fatalities	3.43 million	11.4 billion
Hospitalised persons	428 642	23.1 billion
Slight injuries	17 146	4.0 billion
Property damage costs of injury crashes	5 258	1.2 billion
Property damage costs of non-injury crashes		11.1 billion
Total		50.9 billion
Total as % of GDP		2.2%

Behaviour

The behaviour of road users is an important determinant of a country's road safety performance. **Inappropriate or excessive speed** is the leading cause of fatal crashes. In 2019, according to police reports, speed was one of the causes in 30% of fatal crashes and the primary cause in 21% of fatal crashes.

In July 2018, the speed limit was reduced from 90 to 80 km/h on single carriageway rural roads. A final evaluation of the measure was published in July 2020 and concluded that this measure saved 331 lives in the first 18 months of its implementation (Cerema, 2020).

The 2018 speed measurement campaign indicates a slight decrease in the average speed of passenger vehicles on all networks, except on 2x2 lane roads. On roads limited to 80 km/h since mid-2018, the average speed decreased by 3 km/h 12 months after implementation of the new speed limit.

The table below summarises the main speed limits in France.

Table 4. Passenger car speed limits by road type, 2020

	General speed limit	Comments
Urban roads	50 km/h	30 km/h zones are spreading
Rural roads	80 km/h	90 km/h when two lanes in one direction
Dual carriageways	110 km/h	100 km/h in wet weather or for novice drivers
Motorways	130 km/h	110 km/h in wet weather or for novice drivers

Driving under the influence of alcohol is another major cause of road crashes in France. In 2019, it is estimated that 1 052 persons were killed in an alcohol-related crash. The share of alcohol-related fatalities has remained stable at around 30% since 2000.

Drink-driving concerns all age groups, particularly the 18-24 and 25-34 age groups.

The maximum authorised BAC is 0.5 g/l for all drivers (including cyclists). For bus and coach drivers, the maximum authorised BAC is 0.2 g/l. Since 2009, all buses that carry children have alcohol interlocks installed. Since 1 July 2015, the maximum authorised BAC is 0.2 g/l for novice drivers during their probation period. A crash is defined as alcohol-related when any of the active participants has a BAC above the legal limit.

Gustave Eiffel University’s ACTUSAM research showed that the risk of being responsible for a fatal crash is multiplied by an average of 18 for drivers under the influence of alcohol. This factor varies increasingly with blood alcohol content (Ifsttar, 2016).

Experimentation with the use of alcohol interlocks for drink-driving offenders started in December 2016 in some regions. Since September 2019, some drink-driving offenders are subject to a mandatory review by a medical committee. They are allowed to resume driving on the condition that they install an alcohol interlock device in their vehicle.

Driving under the influence of drugs is of continuing concern. In 2019, it is estimated that 731 persons (23% of all road deaths) were killed in a crash with a driver under the influence of illegal drugs.

INSERM-CESIR research among drivers estimated that 3% of crashes can be attributed to the consumption of prescription drugs. Benzodiazepines (anxiolytics or hypnotics) and

antidepressants, widely used in France, are associated with a significant increase in the risk of causing a road crash.

In 2019, among drivers implicated in a road crash tested with a BAC above the legal limit of 0.5 g/l, 34% also tested positive in a drug test. Among drivers implicated in a fatal crash who tested positive in a drug test, half were also found to have a BAC above the legal limit of 0.5 g/l.

Since 2003, driving under the influence of substances or plants classified as narcotics constitutes an offence. Testing is approved for the following categories: cannabinoids, amphetamines, cocaine and opiates. The police have been carrying out more random drug tests using a saliva-testing kit, which is less expensive than a blood test. After a trial period from December 2015 to June 2016 in 11 departments, saliva-only testing was generalised in 2017. Between 2018 and 2019 the number of drug tests increased by 28%.

In 2019, among drivers implicated in a fatal crash while under the influence of a drug, whether alcohol or narcotics, half were exclusively under the influence of alcohol, a quarter under the influence of drugs and a quarter both.

An increasing problem for traffic safety in France is **distraction**, which includes the use of mobile phones while driving or crossing a street. In 2019, distracted attention was noted as the contributing factor of 11% of fatal crashes.

It is forbidden to drive while using a hand-held mobile phone, but the use of hands-free mobile phones is tolerated. While phoning when driving is a growing concern, an even greater concern is the expanding number of features smartphones offer. Drivers have been prohibited since 1 July 2015 from using any device attached to the ear while driving, whether used for phone calls or for listening to music or the radio (e.g. headphones, headsets).

Observations during daytime in 2019 showed that at any given time 3.5% of passenger car drivers, 7.6% of light-duty vehicle drivers and 5.1% of heavy vehicle drivers used a handheld or ear-mounted phone. The use of a phone while driving is increasing in cities, especially for cyclists (20.2%) and light-duty vehicles drivers (14.5%).

The share of **sleepiness and fatigue** as a causal factor in crashes is especially challenging to detect. According to police records, sickness and sleepiness are the main contributing factors in 3% of fatal crashes. Fatigue or drowsiness is more prevalent on motorways operated under a concession, where it was identified in 23% of fatal road crashes during the period 2015-19. A total of 36% of fatal road crashes where drowsiness is a contributing factor take place between 4:00-8:00 am and 16% from 2:00-5:00 pm (ASFA, 2019).

Seat belt wearing has been compulsory for drivers and in front seats in rural areas since 1973, in urban areas and at night since 1975 and at all times since 1979. They have been compulsory in rear seats since 1991. Children under 10 must be seated in a rear seat and be adequately restrained, taking into account their weight and height.

The seat belt wearing rate is among the highest in OECD countries; however, there is still room for improvement, especially for rear seats. In 2019, 23% of car occupants killed, 31% of utilitarian vehicle occupants killed and 31% of heavy truck occupants killed were not wearing a seat belt or the seat belt was not buckled properly when the crash occurred.

Table 5. Seatbelt wearing rate by car occupancy and road type
Percentages

	2005	2012	2019
Front seats			
Urban roads	94	96	99
Motorways	98	99	99
Rear seats			
Urban roads (adults)	66	71	76
Motorways (adults)	73	84	89
Urban roads (children – use of child restraint)	85	89	86
Motorways (children – use of child restraint)	..	94	94

For powered-two wheelers, **helmet wearing** is the most effective passive safety tool. In France, wearing a helmet was made compulsory in 1973 for motorcyclists with engines over 125 cc and for moped riders and motorcyclists with engines of 50 cc to 125 cc in rural areas. This obligation was extended to urban areas in 1975. The helmet-wearing rate for motorised two-wheelers (it is difficult to discriminate between mopeds and motorcycles during observations) is almost 100% on weekdays and weekends. In 2019, 10 moped and 24 motorcycle riders were killed while not wearing a helmet.

It has been illegal since March 2017 to allow children under 12 to ride a pedal-cycle without a helmet. Failure to do so results in a fine for the parents.

Road safety management and strategies

The number of road fatalities peaked in 1972 at about 18 000. France had a fatality rate of 35 deaths per 100 000 inhabitants. Since then, the number of fatalities has followed a downward trend, with fluctuations from year to year. Between 1990 and 2019, the number of road fatalities decreased by 71%.

Between 1990 and 2000, the following important road safety measures were introduced:

- In 1989, the publication of the White Paper on Road Safety paved the way for road safety policies on improving and enhancing enforcement that would come into effect 10 years later.
- The maximum speed limit in built-up areas was set at 50 km/h in 1990, and the maximum allowable BAC was lowered to 0.5 g/l.
- The demerit point system was introduced in 1992.
- Most motorway network construction was completed during this period.
- Most vehicles were equipped with airbags.

- The educational continuum was implemented.

Despite these measures, fatalities only decreased by 20% during the decade, as traffic increased by 20%. In 2000, there were 15 people killed per billion vehicle kilometres driven and 14 per 100 000 inhabitants. In July 2002, French President Jacques Chirac declared road safety to be one of his four main priorities. Between 2000 and 2010 important advances in road safety included:

- The first permanent automated speed cameras were introduced in 2003.
- A national council on road safety was established for public and private stakeholders to meet and present action proposals to the government.
- Probationary licences were introduced in 2004.
- A driver caught exceeding the maximum BAC level would lose six demerit points out of 12 (or six out of six for drivers during probation).

These changes made it possible to go below the symbolic level of 5 000 fatalities per year in 2006, with fatalities falling 51% from 2000 to 2010. Experts attribute 75% of the improvement to a reduction in average speed and 11% to improved vehicle safety. At the same time, traffic was up 7%.

The French government has been introducing new measures continually since 2006. Examples include developing pedestrian zones or areas with low speed limits in 2008 and introducing the first traffic light cameras in 2009.

Responsibility for the organisation of road safety in France lies with the Road Safety Directorate, which has reported to the Minister of the Interior since 2012. The Minister of the Interior chairs the Inter-ministerial Road Safety Committee, an assembly of representatives of various ministries, where decisions are taken. The French Road Safety Observatory (ONISR) assists the Road Safety Directorate and is responsible for managing the road traffic accident database, analysing road safety performance and organising research to prepare new measures and evaluate them. The National Road Safety Council (CNSR) is in charge of presenting road safety action proposals to the government. Its main role is to provide guidance to the government, make recommendations and identify objectives to reduce road crashes. It is assisted by an expert committee, which provides appropriate technological and scientific input.

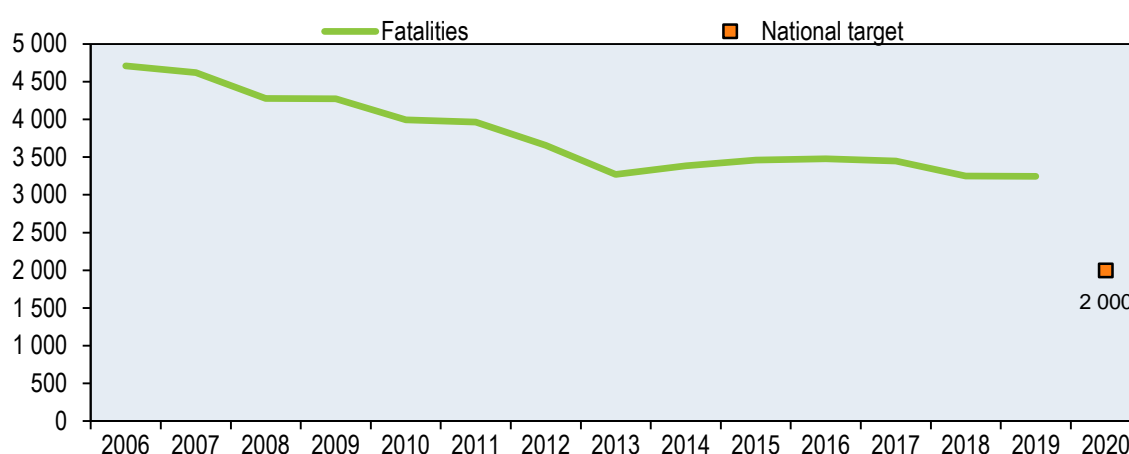
The French government set a **target** in 2010 of reducing the number of road fatalities to below 2 000 by 2020, which was in line with the European Commission goal of halving the number of fatalities by 2020. In order to achieve this objective, **key priorities** identified by the government were: the reduction of fatalities among young people, novice drivers and riders of motorised two-wheelers, tackling the main crash-contributing factors of speed and impaired driving due to alcohol and drugs. Priorities are regularly re-formulated in relation to road safety outcomes. Progress towards the 2020 target was measured using national indicators and published each year in ONISR's annual report. The projections of

road fatalities produced through the simulation models of population dynamics are also considered a tool for managing implemented policies. Based on the results obtained in the past three years and provisional data for 2020, the target was not met.

The Interministerial Road Safety Committee (CISR) met last on 9 January 2018. An 18-point action plan was announced, and legislation for the measures is currently being rolled out (see the Measures). Objectives include engaging all citizens in road safety; protecting all road users; and anticipating new technologies that can be used to enhance road safety.

In 2017, France adopted the Valletta Declaration, which set the target of halving the number of fatalities and serious injuries in the EU by 2030 from the 2020 baseline.

Figure 7. Trends in road fatalities towards national target



Measures

Road safety management: The ONISR website (<https://www.onisr.securite-routiere.gouv.fr/en>) has been accessible since April 2020.

After a successful experiment in the region of Normandy, the French government extended the outsourcing of the driving of radar cars in May 2020 to the regions of Bretagne, Pays de la Loire and Centre-Val de Loire.

For several years, traffic violations detected by radar have been sent to the offender's country of residence, and this has been reciprocal between countries. Sweden and the Republic of Ireland have implemented this reciprocity since 24 June 2019. Today, 19 EU countries have partnered with France four years after the transformation of the European directive into the August 2015 law Energy Transition and Green Growth. They are Germany, Austria, Belgium, Spain, Estonia, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, the Czech Republic, the United Kingdom, Romania, Slovakia. France has also signed a bilateral agreement with Switzerland.

In September 2020, the government introduced a reform to lower the cost of a driving licence and help people better choose a driving school.

In order to combat uninsured driving by making it easier for law enforcement officers to carry out checks, a central file of insured vehicles became operational in October 2019. All the data is made available to the forces of law and order.

Road behaviour regulations: With the aim of better protecting and empowering users of motorised two-wheelers, in January 2018 the CISR decided to modernise the content of training courses for motorised two-wheelers. Since March 2019, the AM licence, which is for mopeds of less than 50 cc and light quadricycles (14+), the training provided by driving schools has been extended from seven to eight hours and is spread over at least two days. The objective is to reduce the mental load and fatigue for a better assimilation of knowledge and practices.

The CISR started promoting in January 2018 the use of the alcohol interlock device (EAD) to fight against driving under the influence of alcohol and the recurrence of this offence. After successful experimentation in seven departments, drivers over the BAC limit can avoid having their licences suspended by agreeing to drive a vehicle equipped with an EAD.

Definitions, methodology, data collection

A road fatality is a person who dies within 30 days of a road crash. Before 2005, fatalities were accounted for when occurring within six days. A correction factor of 1.069 is applied for international comparisons for the years before 2005.

A hospitalised person is a non-fatal casualty who stays longer than 24 hours in hospital. Before 2005 this category used the duration of more than six days for the hospital stay. Figures are not available from 2018 on as there seems to have been a disruption in the way they are recorded by police forces.

A slightly injured person is a non-fatal casualty who receives medical care but does not stay in hospital longer than 24 hours (or six days before 2005).

A seriously injured person is someone who is injured with at least one injury ranking three or more on the Maximum Abbreviated Injury Scale (MAIS3+), not including those who die within 30 days.

Proven suicides and intentional murders are not registered as road traffic crashes.

French official road safety information comes from the national Road Traffic Accident (RTA) database, which includes results for mainland France only, unless it is specified that data from overseas territories are included.

Road traffic crashes leading to injury are recorded by the police in their own software programme according to a dedicated format, the Corporal Accident Analysis Bulletin (BAAC, *Bulletin d'analyse d'accident corporel*). These files are then gathered centrally through a web-based programme and constitute the national RTA database.

A new information system is currently under development to modernise the data collection process and the analysis of road traffic accident data. The format of the Injury Accident Analysis Bulletin (BAAC) has been revised accordingly (date of implementation from February to July 2018 according to the police) to facilitate the work of the police, improve the coherence of statistics and introduce information about new means of transport or accident factors.

The data collection process is managed by ONISR, with assistance from technical teams from the French Research Centre on Risks, Environment, Mobility and Planning (CEREMA, *Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement*) and the network of local observatories to check and complement the information as necessary.

Monitoring the quality of data is partially ensured by comparing it with the Rhone registry, i.e. information gathered from hospitals in the Rhone region on all road traffic crash victims who received medical care at a hospital. Information on the number of fatalities is considered highly accurate and used as a benchmark. Serious injury crashes are usually recorded accurately too, except in the case of single-vehicle crashes involving motorised two-wheelers and cyclists.

There are some variations across the country over the way slight injury accidents are recorded. The French Institute of Science and Technology for Transport, Development and Networks (IFSTTAR) estimates that the number of injured people is significantly underestimated and could be four times greater than the registered number.

Based on the expertise developed by using both the Rhone registry and the national RTA database, IFSTTAR has been tasked with providing a national estimate for MAIS3+ victims to provide the relevant information requested by the European Commission.

Resources

In order to meet road safety challenges and to obtain a better understanding of road crashes, the French Road Safety Directorate (DSR) identified seven research priorities for the period 2018 to 2022:

- vulnerable road users
- young and older road users
- reducing the number of serious injuries
- behavioural factors (i.e. speed, alcohol, drugs)
- ensuring regulatory compliance and safe traffic
- automated vehicles

- assessment of road safety policies.

As part of this strategy, the DSR launched its first call for proposals for 2018-22, with at least one session opened each year. More information is available at <https://www.onisr.securite-routiere.interieur.gouv.fr/en/road-safety-policy/call-for-research-projects>.

Reduction of speed limits

Cerema carried out the final assessment of the impact of the reduction of speed limitation from 90 to 80 km/h on two-way roads outside urban areas, introduced on 1 July 2018. The study covered the 18 months after the measure was introduced, detailing that 331 lives were saved on the network. The results also showed a reduction of average speeds for light vehicles of 3.5 km/h, and a decrease of 1.8 km/h for HGVs, which were already subject to an 80 km/h speed limit. The time lost due to the measure is on average one second per kilometre.

The Vehicle Occupant Infrastructure Road User Safety Studies (VOIESUR, *Véhicule occupant infrastructure études de la sécurité des usagers de la route*) led to the launch of several in-depth analyses from police reports registered in the VOIESUR database. These gathered all fatality crash reports and one out of 20 injury crash reports in France for 2011. Concerning driving speeds in road crashes, 30% of drivers involved in fatal traffic crashes occurring on rural single carriageways with two lanes exceeded the speed limit.

Work-related road risks

The CISR recommended in 2018 that the government publish an annual report on road risks related to work. These risks are the leading cause of death in the workplace, with 482 workers killed in 2018. Moreover, according to the Rhone register, 41 000 workers were injured on their commute to work and 15 000 on a professional journey. This led to 4.1 million days compensated.

Gustave Eiffel University conducted a study on professional phone use while driving. The results show that 90% of the workers used phones for conversations and 81% for other tasks, such as writing messages or handling the phone. Only 7% of respondents thought phone use should not be restricted while driving. Also, two out of three declared they never had road safety training in their company.

Elders and road safety

Thanks to the volunteers of the GAZEL cohort (12 460 participants aged 62 to 76), INSERM conducted a study on the influence of certain diseases on the behaviour of older drivers. Parkinson's disease or cardiovascular accidents can be a cause of road crashes, but they do not lead to greater risk: the drivers adapt their behaviour by avoiding complicated situations, limiting their travels or even stopping using their cars. However, disorders such as hearing impairment or articular pains lead to a higher risk.

The Gustave Eiffel University carried out a study (“COSERA: Senior Driving, responsibility and adaptation”) using the VOIESUR database on the determining liability in fatal crashes. The results show that middle-aged drivers (35-64 years old) are less likely to be victims of human failure than other drivers. In addition, the study recommends the introduction of personal support for older drivers to help them self-assess their ability and knowledge.

Autonomous vehicles

The Gustave Eiffel University and the Rennes 2 University have conducted a study (Automa-Pied) on pedestrians crossing in front of an autonomous vehicle (AV) in a pedestrian crossing simulator. They found specific pedestrian movements that can help the AV determine the intention to cross the street or not. They recommend a homogenous look for AVs, which makes them distinguishable from other vehicles.

Another study (Surca, <https://surca.ifsttar.fr/le-projet-de-recherche/resume-du-projet-surca/>) focuses on the impact on accidents caused by the introduction of AVs in traffic. The first results show that if all cars were AVs, the number of fatal crashes could be reduced by around 40%. Another aspect of the study is the impact of new postures in vehicles due to not needing to drive the car and the consequences on injuries if a crash happens.

Factors related to lethal accidents (FLAM, *Facteurs Liés aux Accidents Mortels*)

Cerema set up a database in 2017-18 that includes data and information on 85% of fatal crashes that occurred in 2015. With this database, it is now possible to determine the causes of crashes. They are divided into four factors related to: humans, vehicles, infrastructure and traffic. Human factors are involved in 92% of fatal crashes and are the sole causes of crashes in 49% of the cases. The main factors are excessive or inappropriate speed (38%), alcohol (31%), drug use (17%) and non-compliance with priority rules (16%). Further analysis is ongoing. The study shows that factors related to vehicles are involved in 20% of fatal crashes, those related to infrastructure 26% and those related to traffic 13%.

In 2020, Cerema published the study FLAM 2RM on powered two-wheelers. This shows that fatal crashes with powered two-wheelers have a greater multiplicity of factors, as well as more vehicle and infrastructure factors.

Cerema also published the study FLAM pedestrian. Its findings show the most important causes of accidents involving pedestrians, the main causes are alcohol (18%), non-compliance with priorities (16%), and voluntary risk-taking behaviour (15%). Among drivers of vehicles that struck the pedestrian, the main causes are inattention (excluding smartphones) (28%), non-compliance with priorities (27%) and speed (17%).

Websites

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Gustave Eiffel University (ex-IFSTTAR) - The French Institute of Science and Technology for Transport, Development and Networks: <https://www.ifsttar.fr/en>.

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UTAC CERAM (Car, Motorcycle and Bicycle Technical Union): <https://www.utacceram.com/>.

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Road safety and traffic data

	1990	2000	2010	2017	2018	2019	2019 % change over			
							2018	2010	2000	1990
Reported safety data										
Fatalities	11 215	8 079	3 992	3 448	3 248	3 244	-0.1%	-18.7%	-59.8%	-71.1%
Injury crashes	162 573	121 223	67 288	58 613	55 766	56 016	0.4%	-16.8%	-53.8%	-65.5%
Injured persons hospitalised	..	..	30 393	27 732	..	..	..	..	..	..
Deaths per 100,000 population	19.8	13.7	6.4	5.3	5.0	5.0	-0.3%	-21.3%	-63.5%	-74.7%
Deaths per 10,000 registered vehicles	3.6	2.3	1.0	0.7	0.7	0.7	0.0%	-32.7%	-70.3%	-81.6%
Deaths per billion vehicle kilometres	26.7	15.6	7.1	5.6	5.2	5.2	-0.2%	-26.9%	-66.6%	-80.5%
Fatalities by road user										
Pedestrians	1 534	838	485	484	470	483	2.8%	-0.4%	-42.4%	-68.5%
Cyclists	437	270	147	173	175	197	12.6%	34.0%	-27.0%	-54.9%
Moped riders	716	456	248	117	133	134	0.8%	-46.0%	-70.6%	-81.3%
Motorcyclists	1 031	937	704	669	627	615	-1.9%	-12.6%	-34.4%	-40.3%
Passenger car occupants	6 862	5 291	2 117	1 767	1 637	1 622	-0.9%	-23.4%	-69.3%	-76.4%
Other road users	635	288	291	238	206	193	-6.3%	-33.7%	-33.0%	-69.6%
Fatalities by age group										
0-14 years	546	363	130	104	86	66	-23.3%	-49.2%	-81.8%	-87.9%
15-17 years	472	350	161	101	106	87	-17.9%	-46.0%	-75.1%	-81.6%
18-20 years	1 153	857	370	246	230	243	5.7%	-34.3%	-71.6%	-78.9%
21-24 years	1 594	869	461	316	273	306	12.1%	-33.6%	-64.8%	-80.8%
25-64 years	5 784	4 157	2 105	1 812	1 711	1 693	-1.1%	-19.6%	-59.3%	-70.7%
65-74 years	756	624	264	342	332	317	-4.5%	20.1%	-49.2%	-58.1%
≥ 75 years	882	718	499	527	510	532	4.3%	6.6%	-25.9%	-39.7%
Fatalities by road type										
Urban roads	3 940	2 250	1 133	1 010	963	1 037	7.7%	-8.5%	-53.9%	-73.7%
Rural roads	6 542	5 250	2 603	2 156	2 016	1 944	-3.6%	-25.3%	-63.0%	-70.3%
Motorways	732	578	256	282	269	263	-2.2%	2.7%	-54.5%	-64.1%
Traffic data										
Registered vehicles (thousands)	30 869	35 874	40 181	48 227	48 603	48 520	-0.2%	20.8%	35.3%	57.2%
Vehicle kilometres (millions)	419 772	518 248	560 429	619 898	622 565	622 988	0.1%	11.2%	20.2%	48.4%
Registered vehicles per 1,000 population	545.6	609.5	640.2	746.3	750.9	748.6	-0.3%	16.9%	22.8%	37.2%