Main figures on Road Traffic Accidents

Spain 2020

MINISTERIO DEL INTERIOR

DGT
Dirección General de Tráfico

DIRECTORATE-GENERAL FOR TRAFFIC
EDITED BY: DIRECTORATE-GENERAL FOR TRAFFIC
C/ Josefa Valcárcel, 44 28027 MADRID

AUTHOR: National Road Safety Observatory

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Introduction

"Main figures on Road Traffic Accidents" began publication in 2004 with the aim of becoming the benchmark publication in Spain for analysing the trend in the number and characteristics of road traffic accidents as well as assessing the impact of major policies on road safety. We are confident that having reached its 17th edition means that such objective has been achieved.

In 2020, a year marked by mobility restrictions imposed as a result of the COVID-19 pandemic, 1370 people were killed in road traffic accidents in Spain, 385 fewer deaths than in 2019, which means a decrease by 23%. The fatality rate was at 29 deaths per million population, the fourth lowest rate in the European Union, just behind Sweden (20), Malta (21) and Denmark (28). The average rate in the European Union Member States was at 42. The Strategy on Road Safety 2011-2020 set the highest mortality rate at 37 in 2020, a value already achieved in 2019.

The following is a summary of the main figures on road traffic accidents for the year 2020, paying attention to the most important fields and groups:

– Vulnerable road users: they represent 50% of road deaths (260 pedestrian fatalities; 71 cyclists; 345 motorcyclists and 8 PMV users), being the second time in a row that vulnerable road users account for at least half of the death toll. One out of every four deaths is a motorcyclist.

– On interurban roads: the number of people killed was, for the first time, below 1000 fatalities - 975 -, which meant a decrease by 21%. The number decreased by 34% on dual carriageways and motorways and by 16% on main trunk roads. 55% of all fatalities reported in road traffic accidents occur on main trunk roads, with 751 fatalities in 2020, and 77% if we restrict to interurban roads. The only mode of transport registering an increase in the number of people killed on interurban roads was bicycles, with 2 more fatalities.

– Urban roads recorded 395 road fatalities, representing a decrease by 24%. Besides, 29% of fatalities occur on this type of road, and of them, 80% are vulnerable road users (153 pedestrians, 21 cyclists, 7 PMV users and 134 motorcyclists). In addition, 65% of pedestrian fatalities are 65 years of age or over.

– People over 65 years of age represent 20% of the population although they account for 26% of the deaths.

As regards risky behaviour, distraction was reported as the most common contributory factor in fatal accidents for the fifth consecutive year (it was present in 31%), followed by alcohol consumption (present in 27%) and speed (present in 25%).

This obliges us to redouble our efforts in the fields of training, awareness-raising and monitoring of risky behaviours.

As in previous years, we have received close collaboration from Autonomous Communities that have powers on traffic surveillance; the Ministry of Transport, Mobility and Urban Agenda for reviewing the information on roads under their scope and for the data on the road network and traffic; the Spanish National Toxicology and Forensic Science Institute (INTCF) and the Institutes of Forensic Medicine and Science (IML) in Murcia and Galicia. The Directorate-General for Traffic would like to thank all these institutions for their collaboration and the facilities offered to share their consolidated data.

DGT would also like to thank all the people who made the writing of this report possible and especially the Traffic Division of the Guardia Civil, the Local and Autonomous Police Forces and the experts at the Provincial Traffic Departments and at the National Road Safety Observatory.

Pere Navarro Olivella
Director-General for Traffic

Definition of the main indicators

The definitions of the main indicators of accident rate used in this report are explained below and defined in Annex III to the Order INT/2223/2014, of 27 October, governing the report of information to the National Register for Road Traffic Accident Victims:

Casualty accident:

That with the following conditions:

a) Occurs, or is caused, on a road or land which is subject to the legislation on road traffic, motor vehicles and road safety.

b) One or several persons are killed or injured as a result or consequence of the accident.

c) Be involved, at least, a vehicle in motion.

Fatal accident: road traffic accident with victims in which, at least, one of them is killed.

Casualty: any person who, as a result of a road traffic accident, is killed or injured.

Fatality: a person who, as a result of a road traffic accident, is killed on the spot or within 30 days after the accident. Confirmed cases of natural death or those where there is evidence of suicide will be excluded.

Injured: any person who, as a result of a road traffic accident, is injured and requires hospitalization or not, and the fatality definition does not apply to him/her.

Hospitalised injured casualty: any person who, as a result of a road traffic accident, requires hospitalization for more than 24 hours, and the fatality definition does not apply to him/her.

Non-hospitalised injured casualty: any person injured in a road traffic accident requiring health assistance for less than 24 hours, provided that the hospitalised injured casualty and fatality definitions do not apply to him/her.

NOTE: As regards PMV users, it should be noted that data on hospitalised and non-hospitalised injured casualties do not include those from Catalonia since they failed to provide them.

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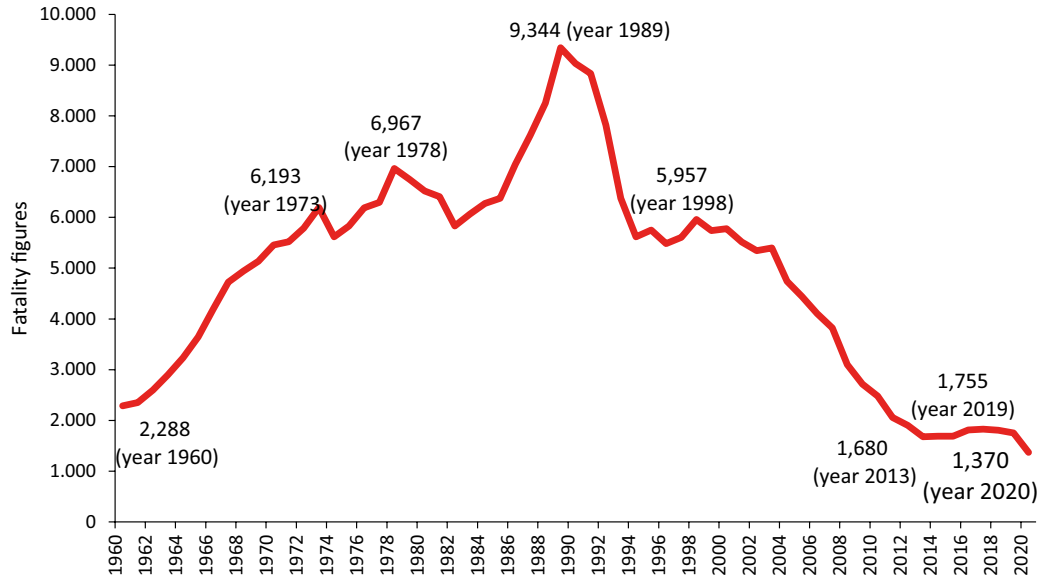
Road traffic accidents in 2020 and its recent evolution

2020 was an exceptional year marked by the COVID-19 pandemic and the restrictions on mobility, recording 1370 fatalities and a decrease by 22% compared to 2019.

Figure 1. Evolution of fatalities in traffic casualty accidents. Spain, 1960-2020



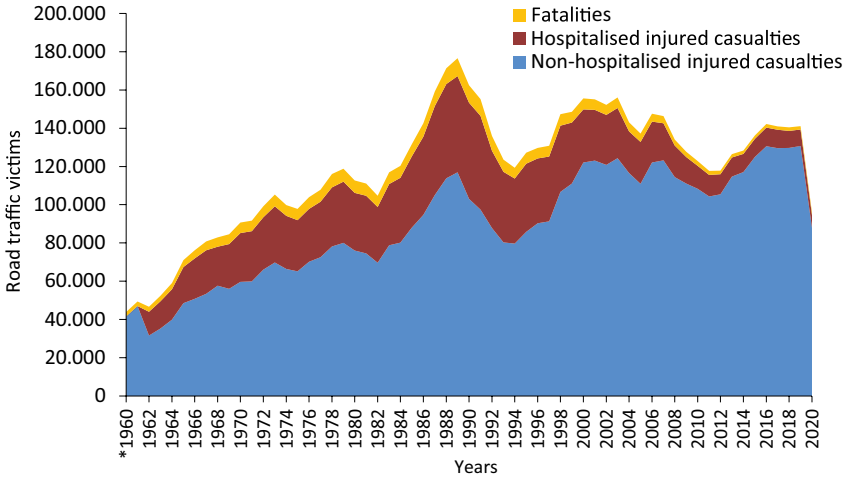
In the year 2020 the following was registered:

- A total of 1,370 deaths —385 fewer than in 2019 (-22%)—, 6,681 hospitalised injured casualties —1,932 fewer (-22%)—, and 87,881 non-hospitalised injured casualties (-33%).
- On interurban roads, a decrease by 21% in fatality figures (-16% on main trunk roads); on urban roads, a decrease by 24% in the number of deaths.
- 50% of the fatalities are vulnerable road users. On urban roads, 80%.

- From 14 March to 3 May there was a decrease by 72% in fatality rate (the first state of alarm due to COVID-19) compared to the corresponding period in 2019.

In Spain, the total road traffic victims were 95,932 in 2020, of them: fatalities represented 1%, hospitalised injured casualties 7% and non-hospitalised injured casualties was 92%.

Figure 2. Evolution of road traffic victims. Spain, 1960-2020



The main indicators of accident rate for the year 2020, and its comparison with 2019 and 2011, are summarised in Table 1:

Table 1. Evolution of the main indicators of accident rate and exposure to risk. Spain, 2019-2020 and 2011-2020

Indicator	2011	2019	2020	Difference[1] 2020/2019	Difference[1] 2020/2011	Year-on-year variation 2011-20207
Casualty accidents	83,027	104,080	72,959	-30%	-12%	1%
Fatalities	2,060	1,755	1,370	-22%	-33%	-4%
Hospitalised injured casualties	11,347	8,613	6,681	-22%	-41%	-6%
Non-hospitalised injured casualties	104,280	130,745	87,881	-33%	-16%	-2%
Fatalities per million population	44	37	29	-8	-15	-15
Hospitalised injured casualties per M p.tion	243	184	141	-23%	-42%	-6%
Daily average of fatalities	7	5	4	-1	-3	-2
Case fatality rate[2]	2	1.2	1.4	0.2	-40%	-0.4
Vehicle fleet	33.1	35.8	36.2	1%	9%	1%
Fatalities per million vehicles of the vehicle fleet	62	49	38	-11	-24	-24
Vehicle-km traffic 106*	234,678	252,055	195,687	-22%	-17%	-2%

[1] *The differences have been estimated as a percentage when the number of cases is higher than 100 and in absolute values when the number is below 100.*

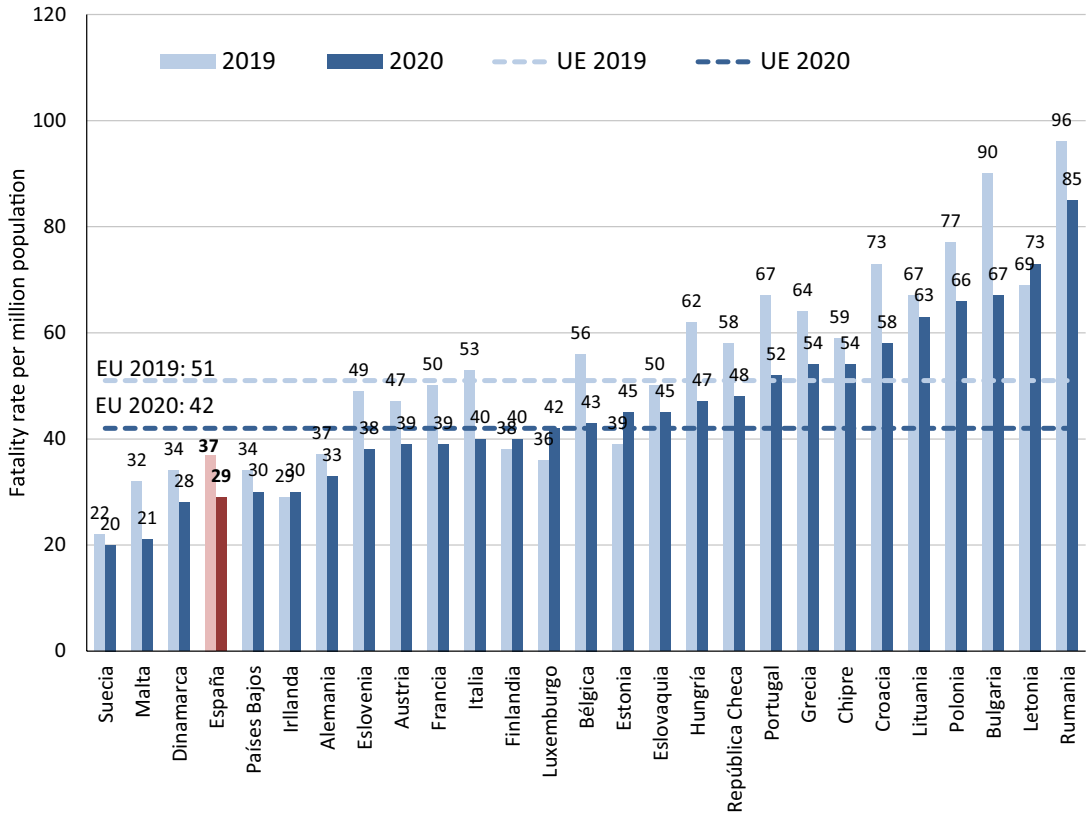
[2] *Case fatality rate is defined as the number of fatalities per 100 casualties.*

* *The source is the Yearbooks from the Ministry of Transport, Mobility and Urban Agenda. Data refer to interurban roads.*

The following figure shows the evolution of fatality rates per million population in the European Union from 2019 to 2020 and, in the case of Spain:

- In 2019, the rate was at 37 fatalities per million population (1,755 deaths), below the European average rate which was at 51.
- In 2020, the rate was at 29, below the European average rate that was at 42, ranking fourth among the countries with the lowest figures on accident rate.

Figure 3. Fatality rate per million population in the European Union. 2019, 2020

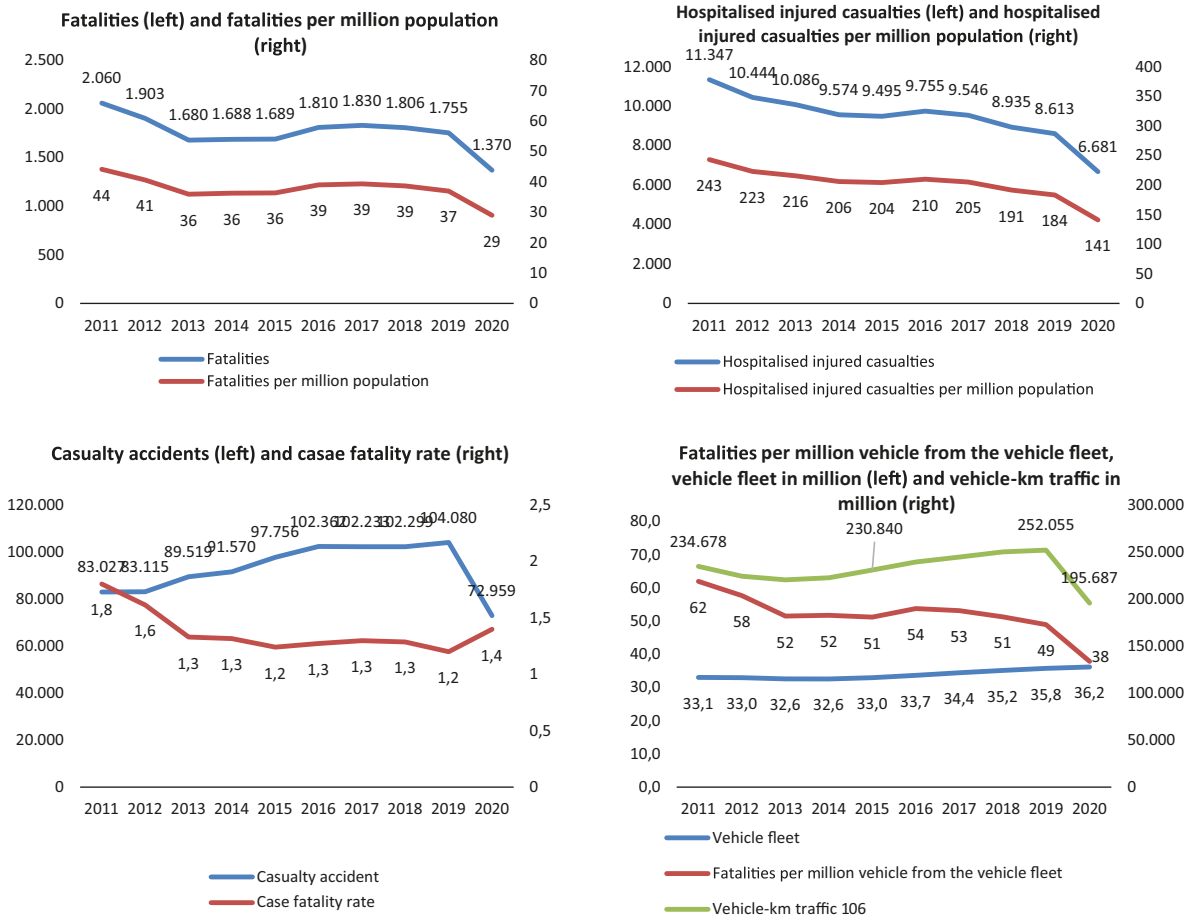


Sources: European Commission, CARE database and Eurostat.

From 2011 to 2020:

- Fatalities and hospitalised injured casualties as a result of a road traffic accident have decreased by 4% year-on-year, although the overall pattern of decrease in fatalities was interrupted between 2014 and 2017. In the last year, the number of people killed has decreased by 22% and of hospitalised injured casualties by 22%.
- Fatality rate per million population fell from 44 to 29 (37 in the year 2019).
- The vehicle fleet and traffic show a similar trend: decreases until 2013 and increases from 2014 to present.
- The daily average has gone from 6 to 4 deaths.

Figure 4. Evolution of the main indicators of accident rate and exposure to risk*. Spain, 2011-2020



* In every graph title, alongside each variable it is indicated, in brackets, if this variable has been represented in the right or left vertical axis.

The main indicators of accident rate for the year 2020, and its variation compared to 2019, are detailed in Table 3:

Table 2. Number of casualty accidents, fatalities, hospitalised and non-hospitalised injured casualties. Percentage difference compared with the previous year. Spain, 2020

	2020								Variation 2020/2019			
	Casualty accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties		Casualty accidents	Fatalities	Hospitalised injured casualties	Non-hospitalised injured casualties
	Number	%	Number	%	Number	%	Number	%				
Total	**72,959**	**100%**	**1,370**	**100%**	**6,681**	**100%**	**87,881**	**100%**	**-30%**	**-22%**	**-22%**	**-33%**
Location												
Interurban road	26,611	36%	975	71%	3,361	50%	34,246	39%	-29%	-21%	-22%	-33%
Motorway	2,154	3%	65	5%	184	3%	3,043	3%	-37%	-26	-28%	-42%
Dual c'way	5,741	8%	159	12%	468	7%	8,134	9%	-37%	-36%	-28%	-41%
Main trunk road	18,716	26%	751	55%	2,709	41%	23,069	26%	-25%	-16%	-20%	-29%
Urban road	46,348	64%	395	29%	3,320	50%	53,635	61%	-31%	-24%	-23%	-32%
Road running through town	1,081	1%	25	2%	114	2%	1,270	1%	-31%	-18	-10%	-31%
Streets	45,200	62%	369	27%	3,200	48%	52,279	59%	-31%	-22%	-23%	-32%
Motorway/Urban dual c'way	67	0%	1	0%	6	0%	86	0%	-22	-2	3	0%
Days of week[2]												
Working days	55,335	76%	942	69%	4,614	69%	65,938	75%	-30%	-15%	-20%	-32%
Weekend day	17,624	24%	428	31%	2,067	31%	21,943	25%	-30%	-33%	-27%	-34%
Type of accident												
Head-on collision	2,511	3%	209	15%	617	9%	3,555	4%	-27%	-26%	-34%	-31%
Side and T-bone collision	21,934	30%	186	14%	1,679	25%	27,099	31%	-30%	-18%	-18%	-32%
Rear and multiple collision	13,327	18%	106	8%	564	8%	19,960	23%	-38%	-27%	-29%	-41%
Run-off-road collision	11,742	16%	485	35%	1,536	23%	13,040	15%	-22%	-15%	-18%	-25%
Overturning	2,930	4%	25	2%	193	3%	3,031	3%	-19%	-7	-20%	-20%
Pedestrian impact[3]	8,422	12%	243	18%	1,115	17%	8,160	9%	-37%	-35%	-33%	-37%
Other type	12,093	17%	116	8%	977	15%	13,036	15%	-24%	-3%	-7%	-27%

	2020								Variation1 2020/2019			
	Casualty accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties		Casualty accidents	Fatalities	Hospitalised injured casualties	Non-hospitalised injured casualties
	Number	%	Number	%	Number	%	Number	%				
Mode of travel[4]												
Pedestrian[3]	8,551	12%	260	19%	1,138	17%	7,691	9%	-37%	-32%	-33%	-38%
Bicycle	7,510	10%	71	5%	699	10%	6,580	7%	-4%	-9	8%	-3%
PMV[6]	1,305	2%	8	1%	97	1%	1,097	1%				
Moped	4,641	6%	32	2%	382	6%	4,489	5%	-33%	-17	-19%	-35%
Motorcycle	20,050	27%	313	23%	2,145	32%	18,661	21%	-31%	-25%	-21%	-32%
Car	52,712	72%	544	40%	1,816	27%	42,144	48%	-32%	-15%	-26%	-35%
Goods vehicle	11,291	15%	102	7%	244	4%	4,463	5%	-30%	-28%	-37%	-33%
Bus or coach	1,362	2%	3	0%	21	0%	1,302	1%	-43%	0	-15	-44%
User[4,5]												
Driver	59,830	82%	922	67%	4,629	69%	60,440	69%	-28%	-19%	-18%	-30%
Passenger	15,075	21%	188	14%	914	14%	19,750	22%	-37%	-20%	-29%	-39%
Pedestrian[3]	8,551	12%	260	19%	1,138	17%	7,691	9%	-37%	-32%	-33%	-38%
Age[4,5]												
0-14	3,383	5%	17	1%	201	3%	3,692	4%	-39%	-15	-31%	-42%
15-24	13,625	19%	135	10%	985	15%	15,428	18%	-30%	-22%	-19%	-29%
25-34	17,753	24%	192	14%	1,075	16%	18,499	21%	-32%	-21%	-24%	-33%
35-44	17,386	24%	220	16%	1,160	17%	17,511	20%	-31%	-14%	-23%	-33%
45-54	15,270	21%	229	17%	1,328	20%	14,760	17%	-29%	-28%	-16%	-31%
55-64	9,462	13%	203	15%	908	14%	8,971	10%	-30%	-13%	-18%	-32%
65-74	4,703	6%	144	11%	509	8%	4,392	5%	-34%	-21%	-34%	-36%
75-84	2,632	4%	142	10%	332	5%	2,336	3%	-35%	-29%	-29%	-38%
85 and over	794	1%	76	6%	112	2%	640	1%	-38%	-31%	-41%	-38%
Gender[4,5]												
Male	51,316	70%	1,103	81%	4,846	73%	53,720	61%	-29%	-20%	-21%	-31%
Female	30,120	41%	265	19%	1,813	27%	33,837	39%	-34%	-28%	-25%	-36%

[1] *The differences have been estimated as a percentage when the number of cases is higher than 100 and in absolute values when the number is below 100.*
[2] *The working day includes from 0:00 hours on Monday to 14:59 hours on Friday; weekend days start at 15:00 on Friday and end at 23:59 on Sunday.*
[3] *The number of people killed when struck by a vehicle does not include all pedestrians hit by a vehicle because the classification by type of accident is made according to the first manoeuvre and not to its harmful outcome.*
[4] *In the casualty accident indicator, the addition does not correspond to the total because the same accident can fall under various subheadings.*
[5] *Accidents involving at least 1 casualty are recorded on the reference group.*
[6] *PMV are personal mobility vehicles.*

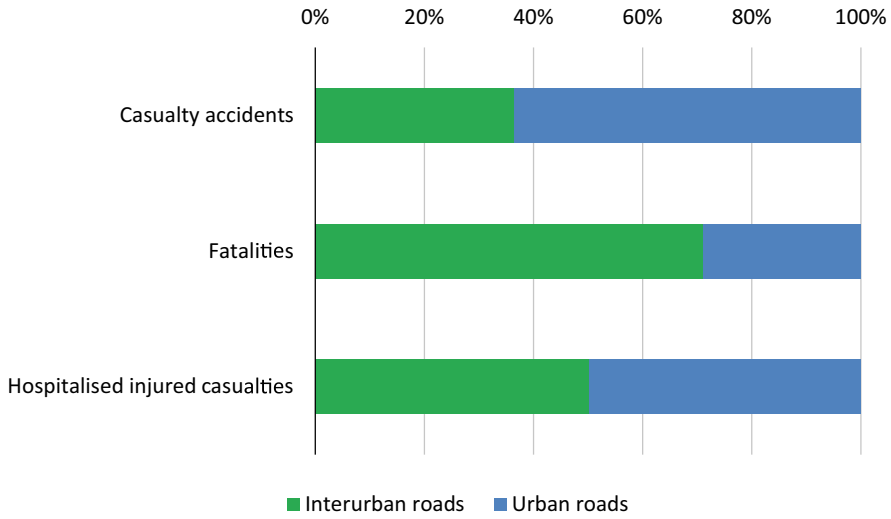
2 Infrastructure

Performance indicators: accidents and victims

The scene of the casualty accident

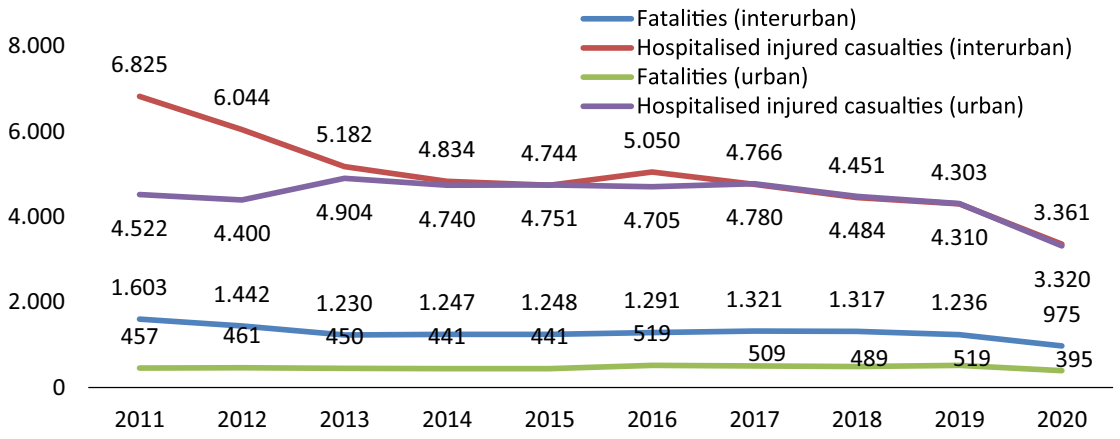
In 2020, 64% of casualty accidents happened on urban roads; however, 71% of the fatalities are registered on interurban roads. The number of hospitalised injured casualties is distributed in the same proportion on urban and on interurban roads.

Figure 5. Distribution of the number of casualty accidents, fatalities and hospitalised injured casualties by road type. Spain, 2020



The number of fatalities and hospitalised injured casualties decreased on interurban roads until 2013 and in a similar way on urban roads. Between 2014 and 2018, the number of fatalities increased by 6% on interurban roads and by 11% on urban roads. In 2020, due to the COVID-19 pandemic, fatalities on interurban roads decreased by 21% compared to 2019, and by 24% on urban roads.

Figure 6. Evolution of fatalities and hospitalised injured casualties on interurban and urban roads. Spain 2011-2020

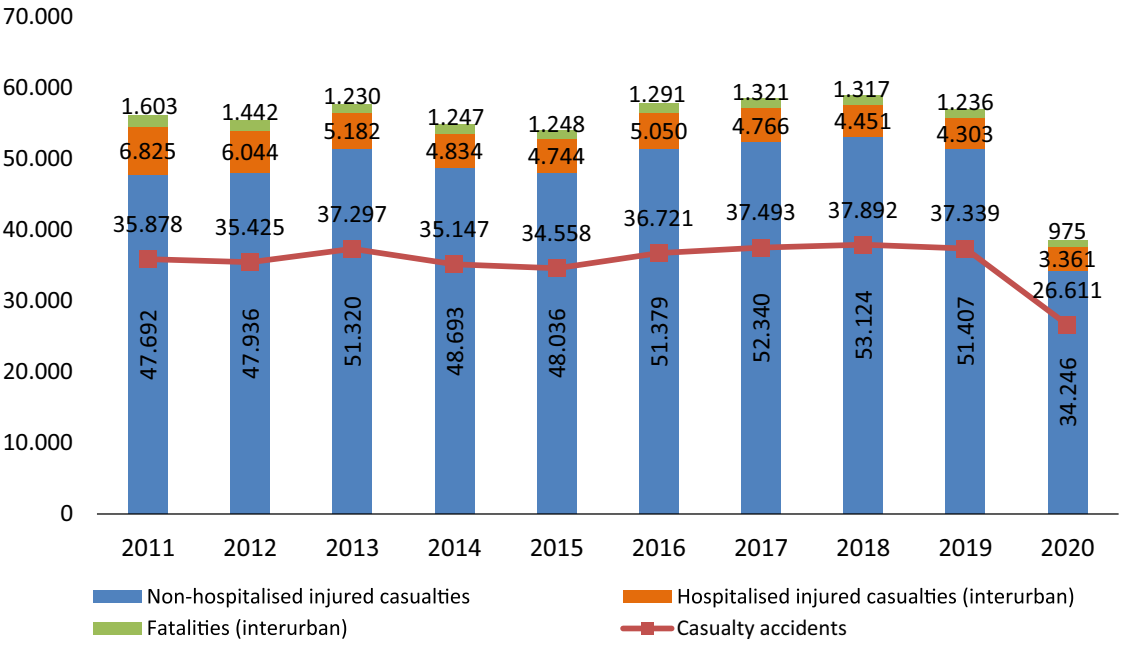


Interurban roads

In 2020, there were 21% fewer fatalities on interurban roads compared to 2019 and hospitalised injured casualties decreased by 22%. Over the last ten years, the year over year reduction rate for fatalities was at 5%.

36% of casualty accidents were recorded on interurban roads. 71% of fatalities (975 deaths) and 50% of hospitalised injured casualties (3,361 injured) resulted from those accidents.

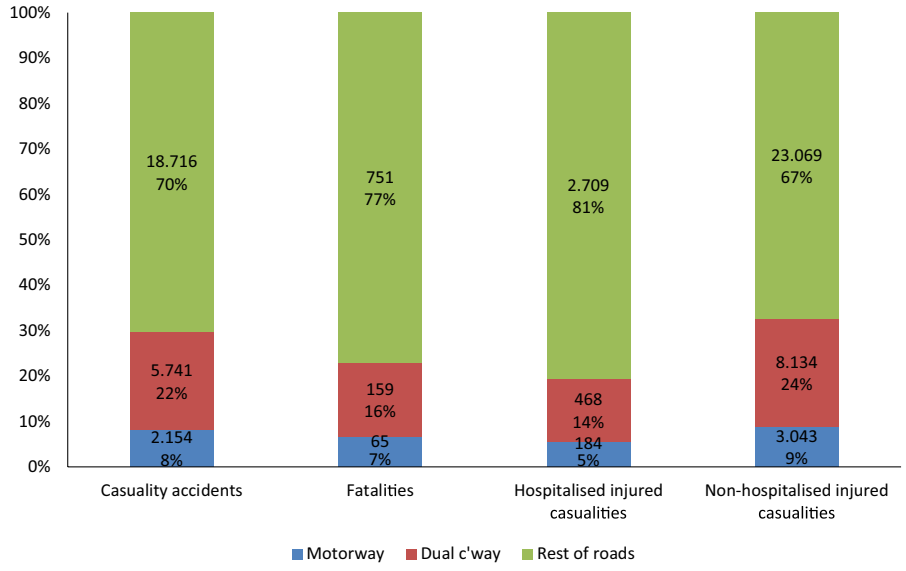
Figure 7. Evolution of casualty accidents, fatalities and injured casualties on interurban roads. Spain, 2011-2020



By type of interurban road, in 2020:

- 751 people were killed on conventional roads, accounting for 77% of all fatalities on interurban roads; 2,709 injured casualties were hospitalised, which accounted for 81% of the total.
- 16% of the fatalities and 14% of the hospitalised injured casualties were registered on dual carriageways.
- 7% of the fatalities and 5% of the hospitalised injured casualties were registered on motorways.

Figure 8. Casualty accidents, fatalities, hospitalised and non-hospitalised injured casualties on interurban roads by road type. Spain, 2020



In 2020 there were 65 fatalities on motorways, 26 fewer fatalities than in 2019. On dual carriageways, 159 fatalities have been registered, 90 fewer than in 2019, which means a decrease by 36%; on the rest of roads, with 751 fatalities, we can observe a decrease by 16%, 145 fewer fatalities than in 2019. Hospitalised injured casualties have also decreased on motorways, dual carriageways and on the rest of roads in 2020 as compared with 2019 —by 28%, 28% and 20% respectively—.

Table 3. Evolution of casualty accidents on interurban roads by road type. Spain, 2013-2020*

Casualty accidents	2013	2014	2015	2016	2017	2018	2019	2020	Variation 2020/2019
Motorway	2,456	2,369	2,398	3,592	3,932	3,722	3,438	2,154	-37%
Dual c'way	8,712	8,411	8,431	8,641	8,608	9,388	9,086	5,741	-37%
Other roads	26,129	24,367	23,729	24,488	24,953	24,782	24,815	18,716	-25%
Total Interurban	**37,297**	**35,147**	**34,558**	**36,721**	**37,493**	**37,892**	**37,339**	**26,611**	**-29%**

* *In 2013 the road catalogue was updated to classify accidents occurring on Catalonian interurban roads, so the data cannot be compared with those corresponding to previous years. In 2016 the data of catalogues of roads from Catalonia and the Basque Country updated to the corresponding year were uploaded into the National Register for Road Traffic Accident Victims.*

Table 4. Evolution of fatalities on interurban roads by road type. Spain, 2013-2020*

Fatalities	2013	2014	2015	2016	2017	2018	2019	2020	Variation 2020/2019(1)
Motorway	63	64	75	85	85	82	91	65	-26
Dual c'way	227	226	202	242	223	241	249	159	-36%
Other roads	940	957	971	964	1,013	994	896	751	-16%
Total Interurban	**1,230**	**1,247**	**1,248**	**1,291**	**1,321**	**1,317**	**1,236**	**975**	**-21%**

* *In 2013 the road catalogue was updated to classify accidents occurring on Catalonian interurban roads, so the data cannot be compared with those corresponding to previous years. In 2016 the data of catalogues of roads from Catalonia and the Basque Country updated to the corresponding year were uploaded into the National Register for Road Traffic Accident Victims.*

[1] *The differences have been estimated as a percentage when the number of cases is higher than 100 and in absolute values when the number is below 100.*

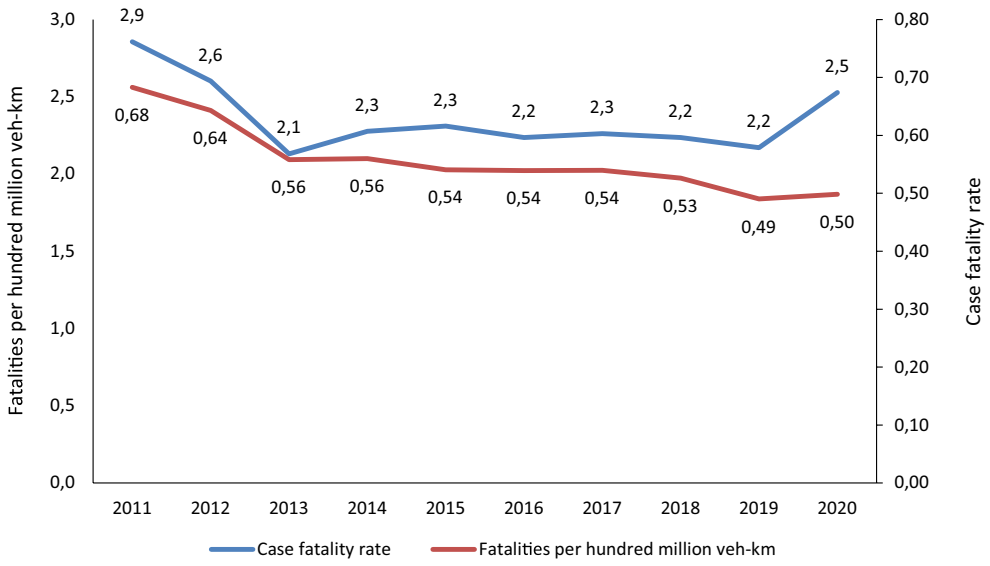
Table 5. Evolution of hospitalised injured casualties on interurban roads by road type. Spain, 2013-2020*

Hospitalised injured casualties	2013	2014	2015	2016	2017	2018	2019	2020	Variation 2020/2019
Motorway	268	263	223	290	285	271	254	184	-28%
Dual c'way	815	758	741	830	728	741	650	468	-28%
Other roads	4,099	3,813	3,780	3,930	3,753	3,439	3,399	2,709	-20%
Total Interurban	**5,182**	**4,834**	**4,744**	**5,050**	**4,766**	**4,451**	**4,303**	**3,361**	**-24%**

* *In 2013 the road catalogue was updated to classify accidents occurring on Catalonian interurban roads, so the data cannot be compared with those corresponding to previous years. In 2016 the data of catalogues of roads from Catalonia and the Basque Country updated to the corresponding year were uploaded into the National Register for Road Traffic Accident Victims.*

According to mobility, the fatality figure per a hundred million vehicle-km has reduced from 0.68 to 0.5 from 2011 to 2019 whereas case fatality rate (deaths per 100 casualties) has fallen from 2.9 to 2.5.

Figure 9. Evolution of case fatality rate and fatality figure per a hundred million vehicle-km on interurban roads. Spain, 2011-2020



Urban roads

In 2020, compared to the previous year, there were 24% fewer fatalities on urban roads and hospitalised injured casualties decreased by 23%. Vulnerable road users account for 82% of people killed on urban roads. Over the last ten years, the year over year reduction rate for fatalities was at 2%.

64% of the casualty accidents occurred on these roads, 29% of the fatalities, 395 deaths, and 50% of the hospitalised injured casualties, 3,320 people injured.

Sections of road running through towns are included in urban roads, showing a higher severity ratio than the rest of roads in built-up areas. In 2020, 25 people were killed in sections of road running through towns, 18 fatalities fewer than in the previous year.

Figure 10. Evolution of casualty accidents on interurban roads. Spain, 2011-2020

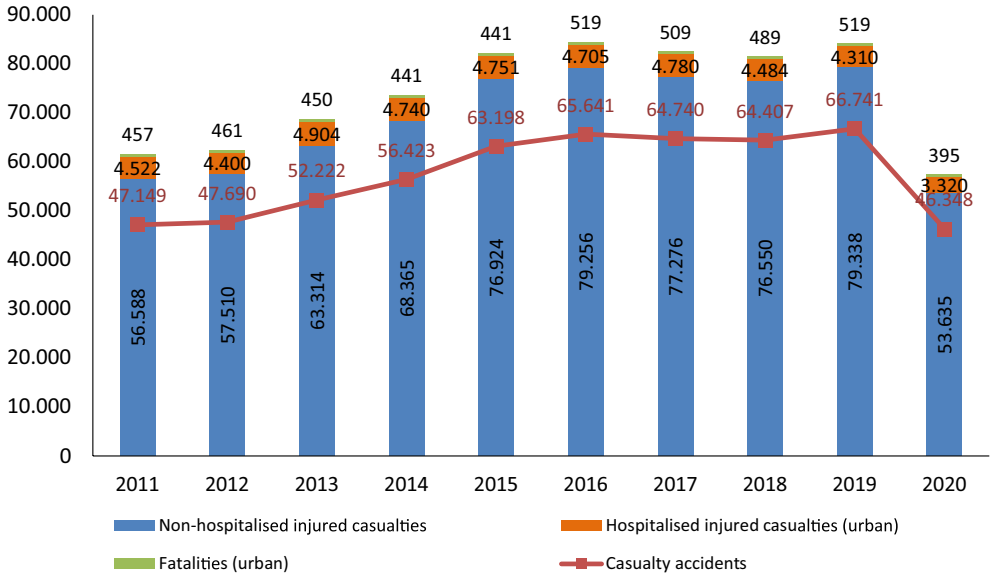


Table 6. Evolution of casualty accidents, fatalities, hospitalised and non-hospitalised injured casualties on sections of road running through towns and rest of urban roads. Spain, 2019-2020

Urban roads	Sections of road running through towns			Others		
	2019	2020	Variation 2020/2019 [1]	2019	2020	Variation 2020/2019
Casualty accidents	1,563	1,081	-31%	65,089	45,267	-30%
Fatalities	43	25	-18	473	370	-22%
Hospitalised injured casualties	127	114	-10%	4,180	3,206	-23%
Non-hospitalised injured casualties	1,840	1,270	-31%	77,348	52,365	-32%

[1] *The differences have been estimated as a percentage when the number of cases is higher than 100 and in absolute values when the number is below 100. Municipal data*

Madrid and Barcelona, two cities with a population of over a million inhabitants, have recorded 16% of fatalities and of hospitalised injured casualties on urban roads. Cities with a population from 100,001 to 500,000 inhabitants - where 24% of the Spanish population is concentrated - have recorded the highest number of fatalities (26%) and hospitalised injured casualties (33%).

Figure 11. Fatalities by size of the municipality. Spain, 2011, 2019 and 2020

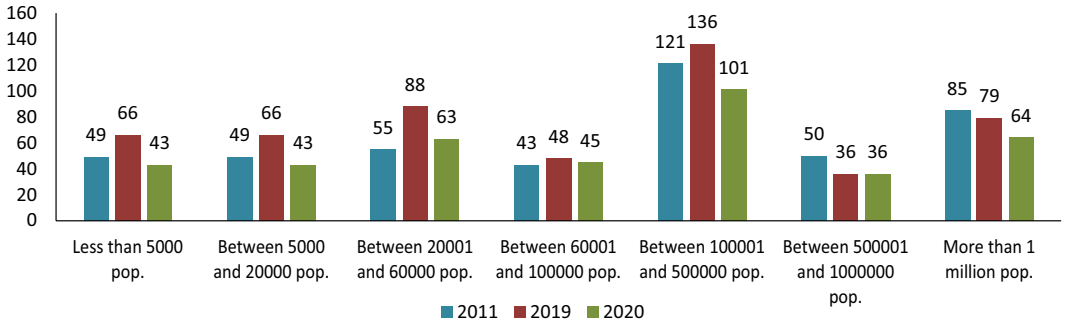
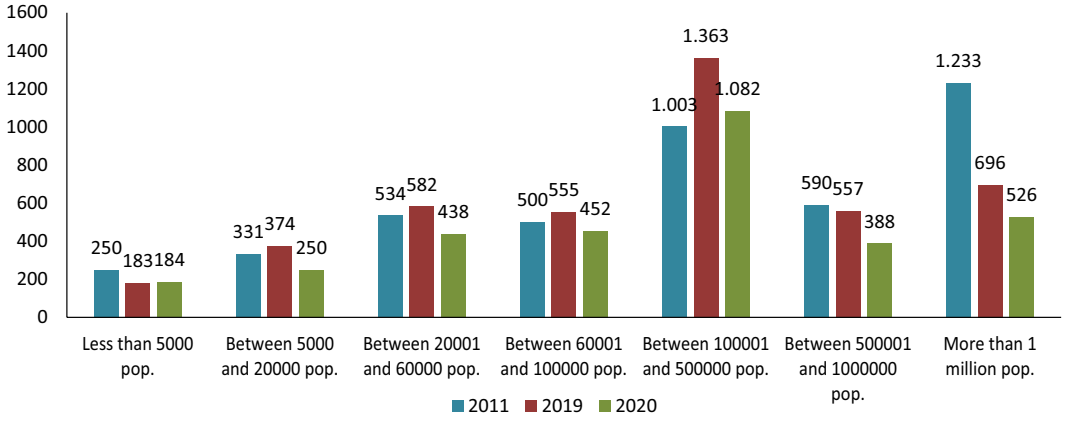


Figure 12. Hospitalised injured casualties by size of the municipality. Spain, 2011, 2019 and 2020



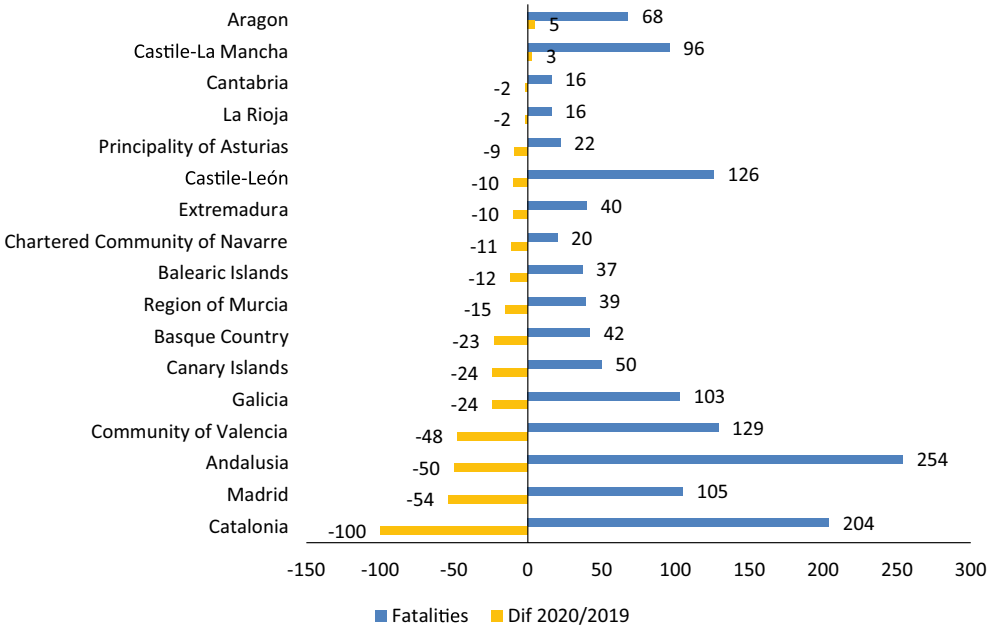
It should be emphasised that the level of communication in case of a non-fatal accident may vary in both the reporting time-frames and among municipalities, although it should be noted that the population coverage as regards information on the accident rates on urban roads (percentage of the population represented by municipalities reporting road accidents) has significantly increased during the last few years, from 78% in 2009 to 90% in 2020.

Autonomous regions and provinces

By Autonomous regions, in 2020 there was a decrease in the number of fatalities in all the regions, except in Aragón and Castilla-La Mancha, the greatest percentage decreases in fatalities were registered in Madrid and Catalonia. However, Aragón and Castilla-La Mancha show an increase in the

number of fatalities by 5 and 3, respectively. The autonomous cities of Ceuta and Melilla recorded 3 fatalities, 1 more than in 2019.

Figure 13. Evolution of fatalities by Autonomous Regions. Spain, 2020 and differences 2020-2019



Compared with 2019, the number of fatalities increased in 13 provinces and decreased in 37 of them. The Autonomous City of Ceuta registered the same number of fatalities as in 2019 (2 deaths) whereas in Melilla there was 1 fatality in 2020. It should be taken into account that the fatality trend in figures at provincial level is subject to fluctuations as they are small figures.

Table 7. Evolution of fatalities by provinces on interurban and urban roads. Spain, 2016-2020

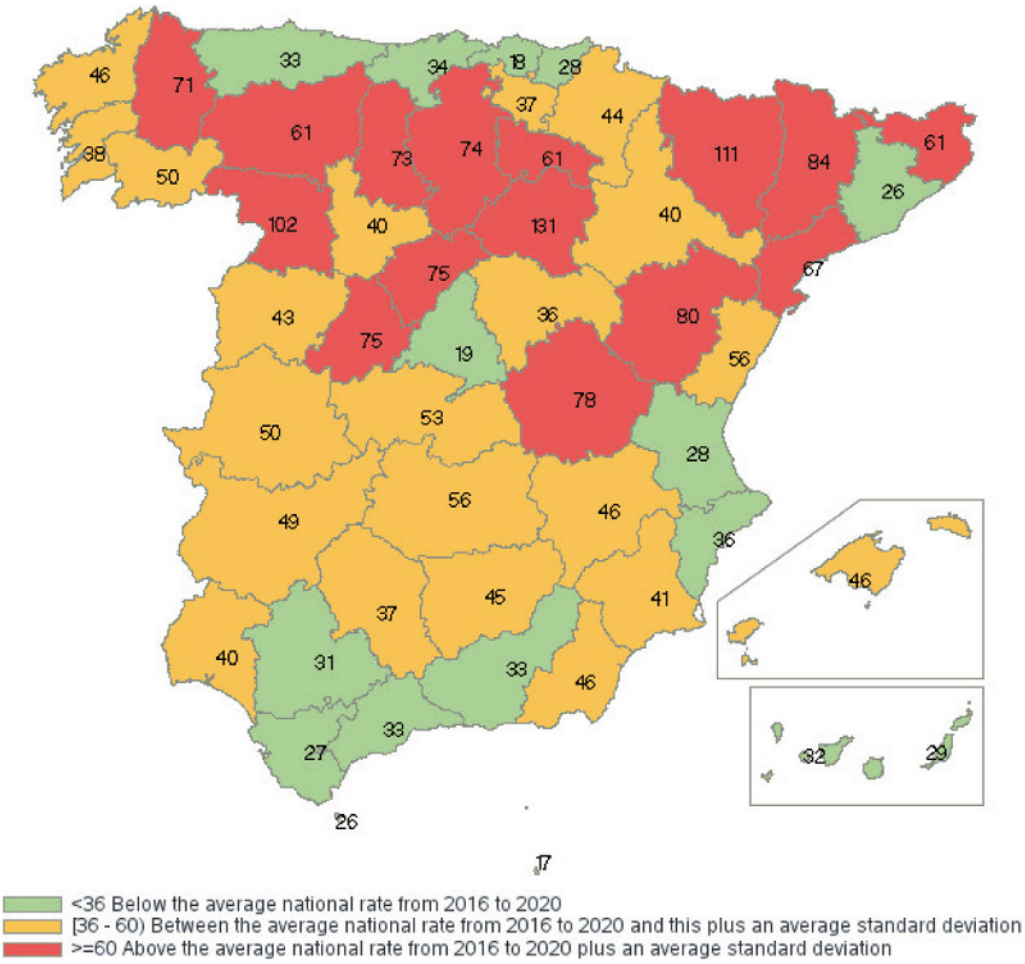
Provinces	2016	2017	2018	2019	2020	Variation 2020/2019(1)	Variation 2020/2016(1)
Araba/Álava	13	11	15	16	5	-11	-8
Albacete	24	16	11	28	10	-18	-14
Alicante/Alacant	68	64	60	80	61	-19	-7
Almería	40	22	27	35	38	3	-2
Ávila	12	11	16	11	10	-1	-2
Badajoz	38	36	32	34	25	-9	-13
Balearic, Islands	60	68	53	49	37	-12	-23
Barcelona	131	145	163	171	115	-33%	-12%
Burgos	36	31	32	14	19	5	-17
Cáceres	24	26	19	16	15	-1	-9
Cádiz	41	34	36	36	22	-14	-19

Provinces	2016	2017	2018	2019	2020	Variation 2020/2019[1]	Variation 2020/2016[1]
Castellón/Castelló	43	39	35	25	17	-8	-26
Ciudad Real	30	33	25	22	29	7	-1
Córdoba	22	37	34	38	14	-24	-8
Coruña, A	58	51	64	53	33	-20	-25
Cuenca	15	18	20	8	18	10	3
Girona	55	47	55	42	28	-14	-27
Granada	27	33	31	25	35	10	8
Guadalajara	7	12	10	6	12	6	5
Gipuzkoa	17	27	13	23	20	-3	3
Huelva	19	22	18	22	23	1	4
Huesca	21	25	27	29	20	-9	-1
Jaén	31	35	31	24	21	-3	-10
León	25	22	35	35	25	-10	0
Lleida	37	40	43	39	21	-18	-16
Rioja, La	25	26	10	18	16	-2	-9
Lugo	32	22	26	22	16	-6	-16
Madrid	121	125	114	159	105	-34%	-13%
Málaga	57	67	39	56	51	-5	-6
Murcia	58	85	66	54	39	-15	-19
Navarra	26	29	35	31	20	-11	-6
Ourense	15	13	19	15	16	1	1
Asturias	35	37	43	31	22	-9	-13
Palencia	13	13	11	12	10	-2	-3
Palmas, Las	40	30	39	32	22	-10	-18
Pontevedra	36	31	35	37	38	1	2
Salamanca	10	15	14	13	20	7	10
S.C. Tenerife	31	37	29	42	28	-14	-3
Cantabria	21	22	23	18	16	-2	-5
Segovia	16	10	12	9	11	2	-5
Sevilla	66	55	58	68	50	-18	-16
Soria	19	11	15	8	6	-2	-13
Tarragona	59	51	65	52	40	-12	-19
Teruel	9	18	10	7	10	3	1
Toledo	42	50	34	29	27	-2	-15
Valencia/València	69	73	88	72	51	-21	-18
Valladolid	24	27	23	18	13	-5	-11
Bizkaia	26	13	21	26	17	-9	-9
Zamora	20	24	18	16	12	-4	-8
Zaragoza	43	37	48	27	38	11	-5
Ceuta	2	2	3	2	2	0	0
Melilla	1	2	3	0	1	1	0
Total	**1,810**	**1,830**	**1,806**	**1,755**	**1,370**	**-22%**	**-24%**

[1] *The differences have been estimated as a percentage when the number of cases is higher than 100 and in absolute values when the number is below 100.*

The national fatality rate per million population over the last five years was at 36 and, as illustrated in the next figure, it was below the national rate in 16 provinces, it was over the national rate within the interval of a standard deviation in 21 provinces and it exceeded the national rate in a standard deviation in 15 provinces.

Figure 14. Average fatality rate per million population disaggregated by the province where the accident occurred. Spain 2016-2020



Exposure indicators

Road network

In 2018, of the 165,624 km of interurban roads belonging to the Central Administration, the Autonomous Communities, the Provincial Governments and the Island Councils recorded and classified in the Statistical Yearbooks of the Ministry of Transport, Mobility and Urban Agenda 2% were toll motorways, 8% motorways and dual carriageways, 1% multilane roads and 90% were the rest of roads.

Table 8. Length (km) of the interurban road network. Spain, 2009-2018

Type of road	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Increase in km 2018/2017
Toll motorway	3,016	2,991	3,022	3,025	3,026	3,020	3,040	3.039	3,039	2,957	-82
Dual c'way and motorway	11,005	11,271	11,509	11,676	11,955	12,029	12,296	12,405	12,484	12,626	142
Multilane road	1,599	1,703	1,651	1,634	1,602	1,656	1,686	1,665	1,641	1,645	4
Other roads	149,843	149,822	149,703	149,260	148,778	149,579	148,981	148,374	148,522	148,396	-126
Total	**165,463**	**165,787**	**165,885**	**165,595**	**165,361**	**166,284**	**166,003**	**165,483**	**165,686**	**165,624**	**-62**

Source: Yearbooks from the Ministry of Transport, Mobility and Urban Agenda. The latest year available at the time of preparing this report was 2018.

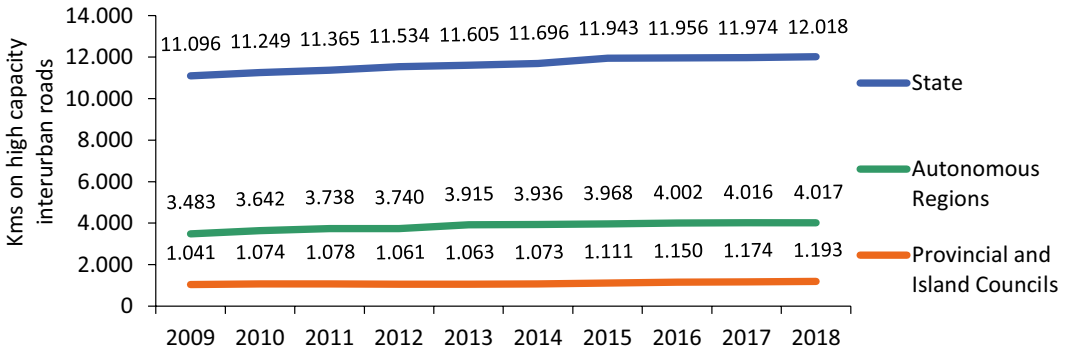
In 2018, the State Road Network was 26,403 kilometres, of which 46% were high capacity roads: motorways, dual carriageways and multilane roads. On the contrary, high capacity roads in the regional and provincial road networks accounted only for 4% of the total.

Table 9. Length (km) of the interurban road network by ownership and road type. Spain, 2018

Type of road	Central Administration	Autonomous Communities	Provincial Governments and Island Councils	Total
Toll motorway	2,457	329	171	2,957
Dual c'way and motorway	9,076	2,933	617	12,626
Multilane road	485	755	405	1,645
Other roads	14,385	67,296	66,715	148,396
Total	**26,403**	**71,313**	**67,908**	**165,624**

Source: Yearbooks from the Ministry of Transport, Mobility and Urban Agenda. The latest year available at the time of preparing this report was 2018.

Figure 15. Length (km) of the high-capacity interurban roads. Spain, 2009-2018



Source: Yearbooks from the Ministry of Transport, Mobility and Urban Agenda. The latest year available at the time of preparing this report was 2018.

Volume of traffic on interurban roads

The volume of traffic on interurban roads can be studied from the data collected by the Ministry of Transport, Mobility and Urban Agenda on its Statistical Yearbooks.

An analysis of the evolution of the volume of traffic —or exposure to risk—since 2011 shows a reduction until 2014 and an increase again as of 2015. In 2020 the volume of traffic fell due to the COVID-19 pandemic.

Table 10. Evolution of volume of traffic on interurban roads. Spain, 2011-2020

Interurban roads	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Variation 2020/2019	Year-on-year variation 2011-2020
Traffic vehicle-km 10^{6}[1]	234,678	224,285	220,377	222,689	230,840	239,353	244,661	250,192	252,055	195,687	-22%	-2%

[1] *Source: Statistical Yearbooks from the Ministry of Transport, Mobility and Urban Agenda.*

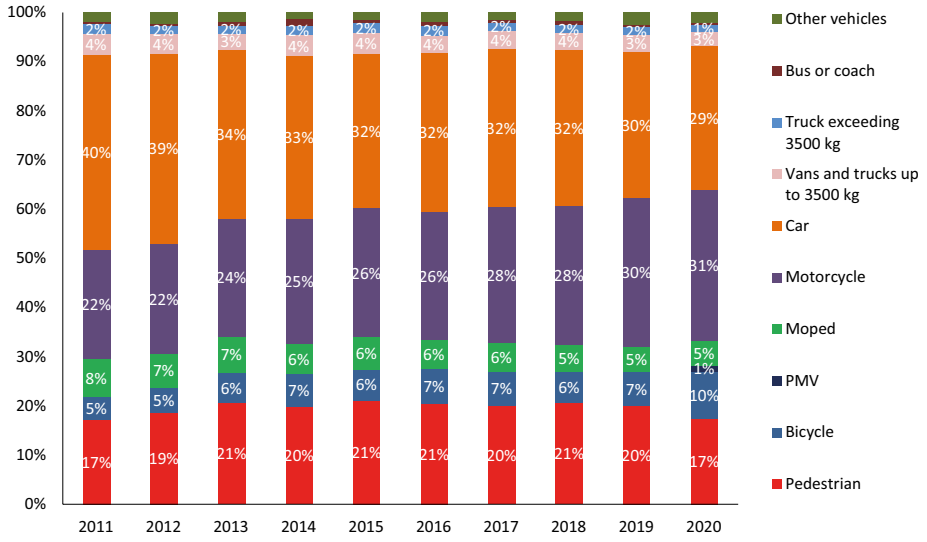
3 Means of transport

Performance indicators: accidents and victims

Mode of transport in casualty accidents

Cars are the most commonly involved mode of transport in road traffic accidents: there is at least one car involved in four out of five casualty accidents, a ratio that has remained roughly constant over the last decade. However, in terms of the percentage of fatalities plus hospitalised injured casualties, the following figure shows that the evolution is positive for cars (from 40% in 2011 to 29% in 2020). The modes of transport which show a worse evolution in their accident rate are vulnerable groups: motorcycle users in 2011 represented 22% of fatalities and hospitalised injured casualties and in 2020 reach to 31%; pedestrians, who have gone from 17% in 2011 to nearly 20%-21% from 2013 to 2019 (17% in 2020); bicycles, from 5% in 2011 to 10% in 2020 (7% in 2019); and PMV users, who accounted for 1% of fatalities and hospitalised injured casualties in 2020.

Figure 16. Evolution of the distribution of fatalities and hospitalised injured casualties by mode of transport. Spain, 2011-2020



Note: PMVs have been included since 2020.

Compared with 2019, in 2020 there were decreases in the number of fatalities in all modes of transport, except in bus or coach (no variation), being remarkable the decline in fatality figures in: vans and trucks up to 3500 kg (29 fewer), mopeds (17 fewer) and pedestrians (-32%). Car fatalities have decreased by 15%, a decline below the total number of fatalities (-22%). As regards motorcycles, the fall has been by 15%.

Moreover, if we standardize to 100 the number of fatalities in 2011 (figure 24), the values in 2020 express the percentage change compared to 2011. In 2020, bicycles and motorcycles are the modes of transport which show the worst evolution (in 2019) and at the opposite end are mopeds, cars, vans and trucks up to 3500 kg.

Figure 17. Evolution of fatalities by mode of transport. Spain, 2011-2020

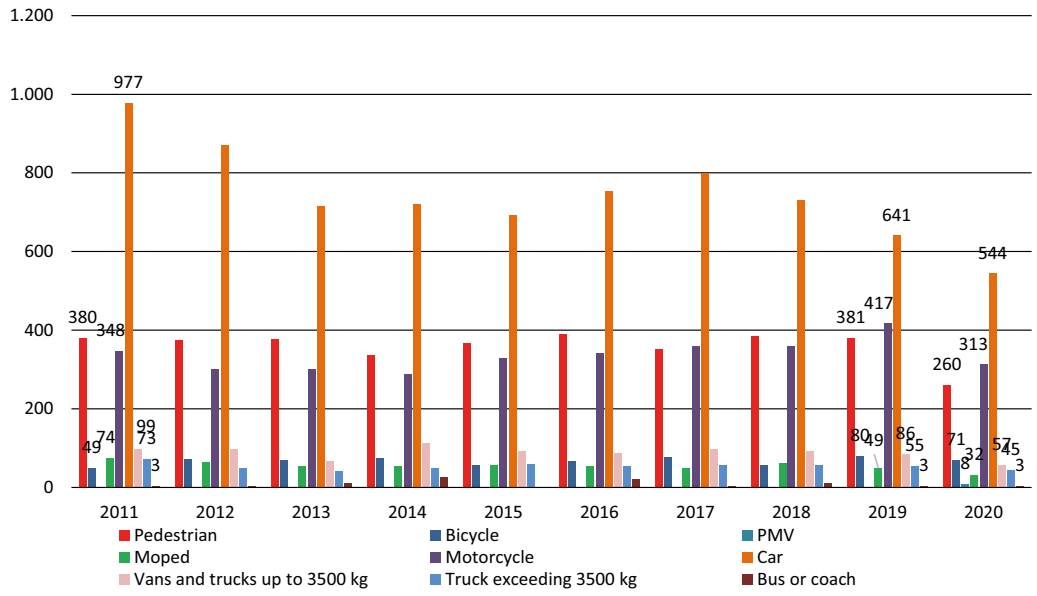
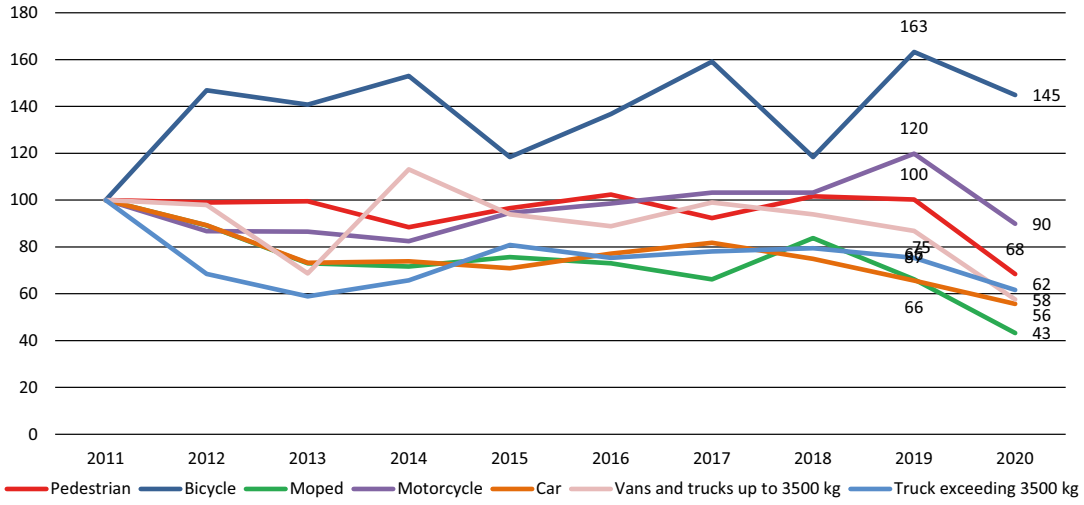


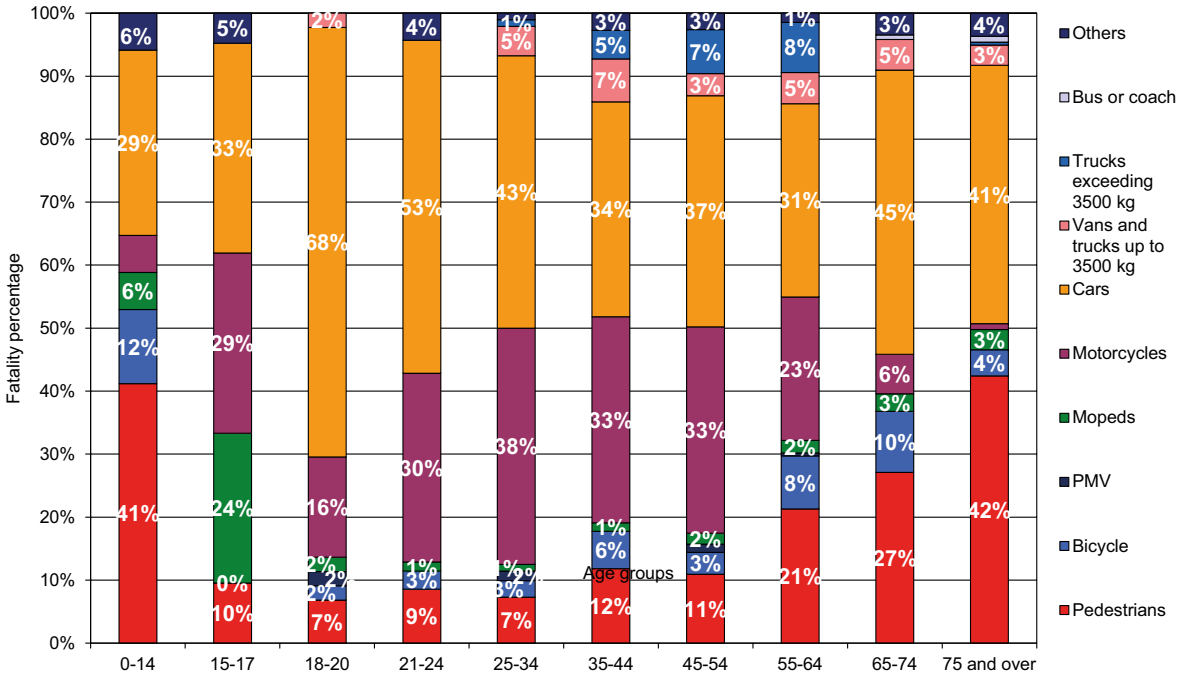
Figure 18. Evolution of fatalities by mode of transport. Base 2011=100. Spain, 2011-2020



As regards the distribution by age and by mode of transport of the people killed in 2020:

- Between 0 and 14 years of age, the fatalities are mainly pedestrians and car occupants.
- Between 18 and 24 years of age, the highest percentage is as car occupants.
- As motorcyclists, the most affected groups are the 15 - 17 years of age, and 25 - 54 years of age, whereas the 15 - 17 age group is the most affected group in mopeds.
- Persons aged over 75 show high percentages as pedestrians.

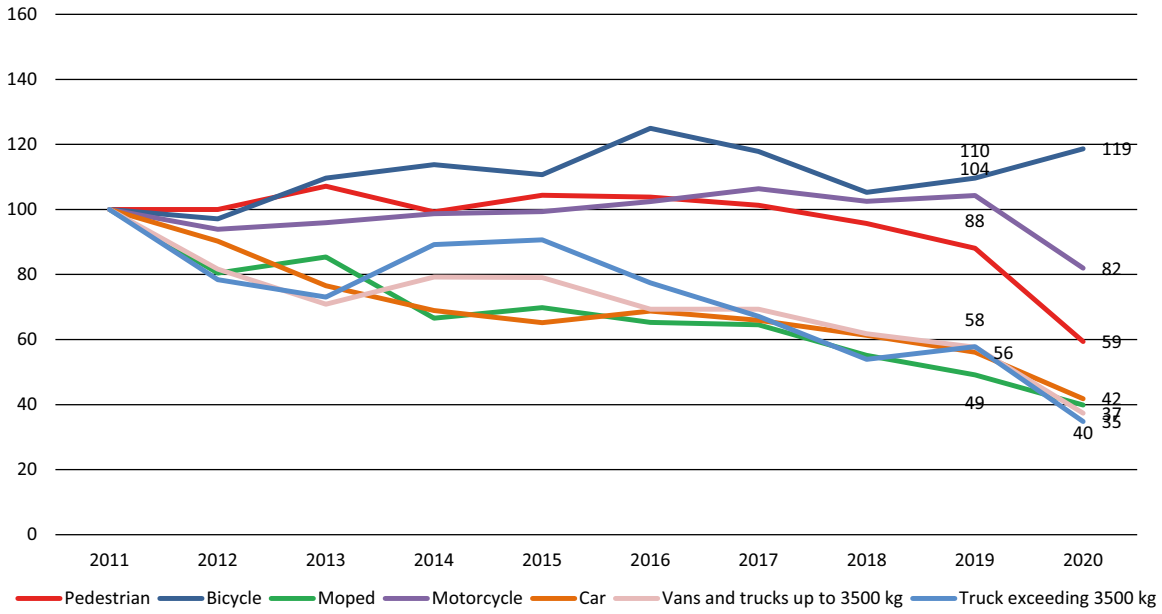
Figure 19. Percentage distribution of the number of fatalities by mode of travel and age. Spain, 2020



If we focus on hospitalised injured casualties, in 2020 there has been an overall reduction in all modes of transport compared to 2019, with the exception of pedal cyclists (+8%). The greatest decreases were seen in trucks over 3500 kg (-40%), vans and trucks up to 3500 kg (-35%) and pedestrians (-33%). As regards cars, the fall has been by 26%.

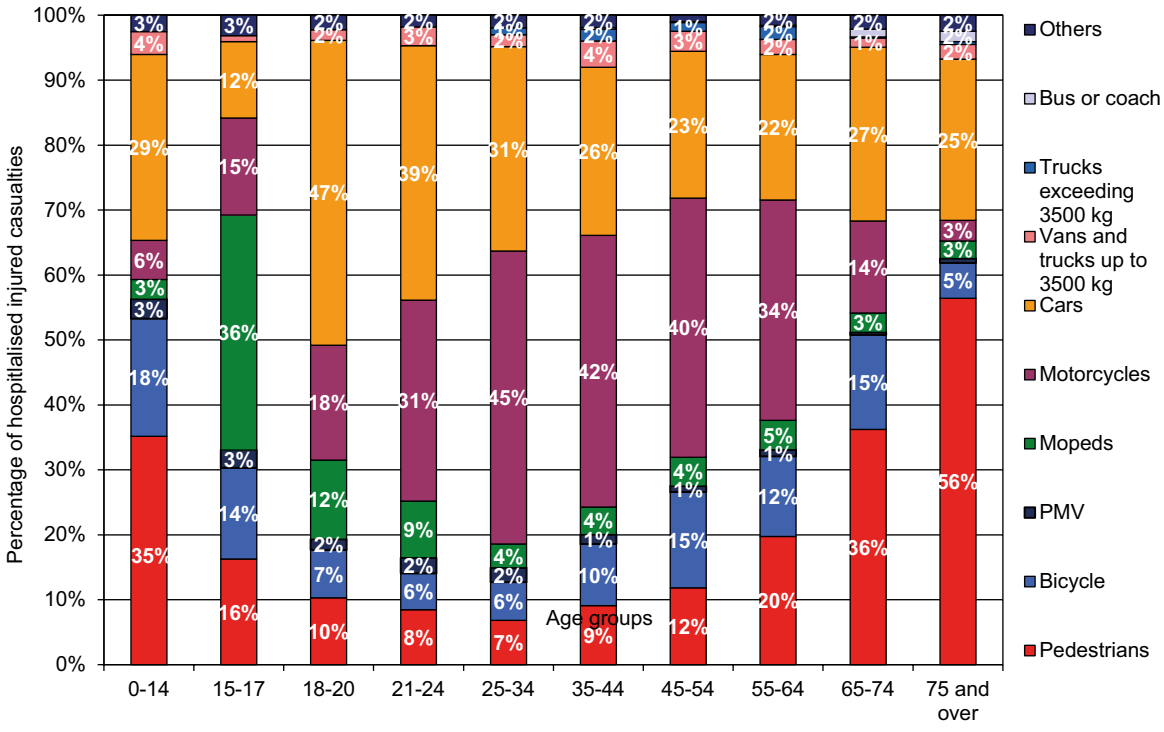
Moreover, if we standardize to 100 the number of hospitalised injured casualties in 2011 (figure 26), the values in 2020 express the percentage change compared to 2011. In 2020, bicycles are the mode of transport which shows the worst evolution (in 2019, bicycles and motorcycles) and at the opposite end are trucks over 3,500kg, vans and trucks up to 3500 kg, mopeds and cars.

Figure 20. Evolution of hospitalised injured casualties by mode of transport. Base 2011=100. Spain, 2011-2020



As regards the distribution by age and by mode of transport of the hospitalised injured casualties:

Figure 21. Percentage distribution of the number of hospitalised injured casualties by mode of transport and age. Spain, 2020

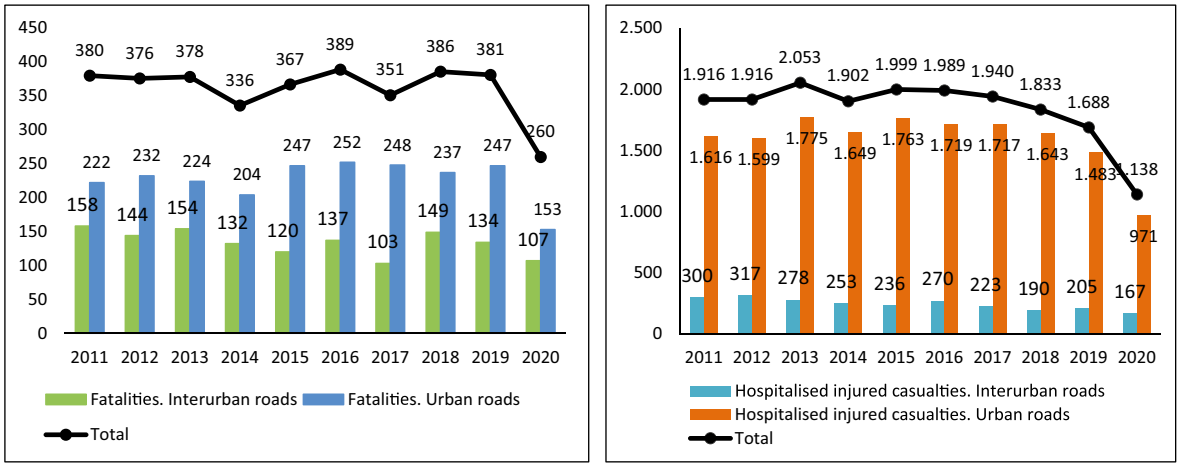


Pedestrians

In 2020, 260 pedestrians were killed, 19% of the total number of fatalities (22% in 2019). There were 121 fewer pedestrian fatalities (-32%) compared to 2019: 27 fewer pedestrians on interurban roads (-20%) and 94 fewer on urban roads (-38%).

Besides, 1,138 pedestrians were admitted to hospital and 7,691 were non-hospital injured casualties. Accidents involving pedestrians mainly occurred on urban roads (93%), roads that registered the highest percentage of pedestrians killed (59%) and of hospitalised injured casualties (95%).

Figure 22. Evolution of road fatalities and hospitalised injured casualties on interurban and urban roads. Spain, 2011-2020



On urban roads, the number of pedestrian fatalities presented slightly higher figures between 2015-2019 than between 2011-2014, an opposite behaviour to the pattern observed on interurban roads.

Table 11. Road traffic casualty accidents involving a pedestrian on urban and interurban roads. Spain, 2020

Type of road	Casualty accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	602	7%	107	41%	167	15%	382	5%
Urban roads	7,949	93%	153	59%	971	85%	7,309	95%
Total	**8,551**	**100%**	**260**	**100%**	**1,138**	**100%**	**7,691**	**100%**

Pedal cyclists

In 2020, 71 pedal cyclists were killed, which meant 9 fewer pedal cyclist fatalities than in 2019; distributed as follows: 2 more pedal cyclists on interurban roads and 11 fewer on urban roads.

Besides, 699 pedestrians were admitted to hospital and 6,580 were non-hospital injured casualties. Most of the accidents occurred on urban roads (70%); however, the greatest number of pedal cyclist fatalities occurred on interurban roads - 50 deaths - as against 21 deaths on urban roads.

Figure 23. Evolution of pedal cyclist fatalities and hospitalised injured casualties on interurban and urban roads. Spain, 2011-2020

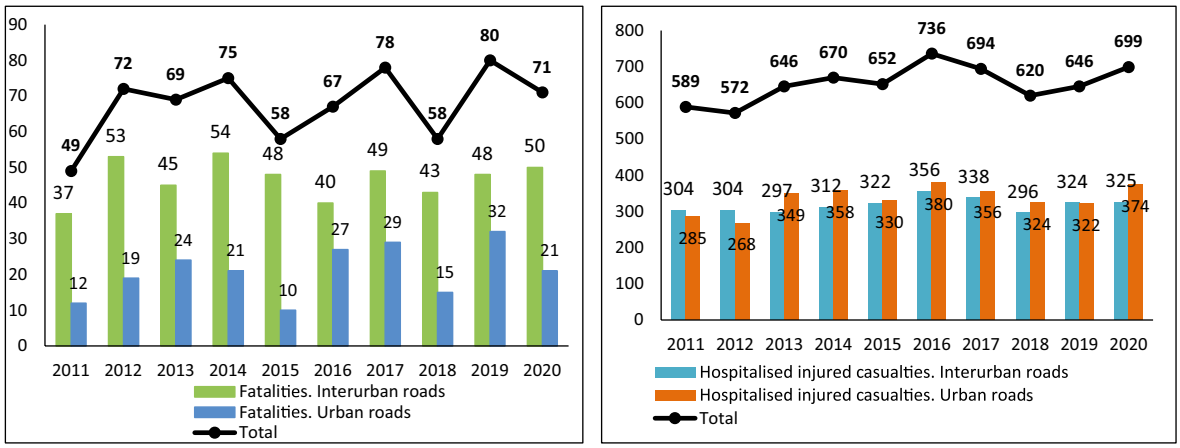


Table 12. Road traffic casualty accidents involving a pedal cycle on urban and interurban roads. Spain, 2020

Type of road	Casualty accidents		Fatalities*	Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	Number	%	Number	%
Interurban roads	2,247	30%	50	325	46%	2,032	31%
Urban roads	5,263	70%	21	374	54%	4,548	69%
Total	**7,510**	**100%**	**71**	**699**	**100%**	**6,580**	**100%**

* *The percentage distribution is not shown, as the total number of fatalities is below 100.*

Users of personal mobility vehicles

In 2020, 8 users of personal mobility vehicles were killed, there were 97 hospitalised injured casualties and 1,097 non hospitalised injured casualties. Most of the accidents occurred on urban roads (98%) where more casualties from PMV have been registered: 7 fatalities, 93 hospitalised and 1,074 non-hospitalised injured casualties.

Table 13. Road traffic casualty accidents involving personal mobility vehicles on urban and interurban roads. Spain, 2020

Type of road	Casualty accidents		Fatalities*	Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	Number	%	Number	%
Interurban roads	28	2%	1	4		23	2%
Urban roads	1,277	98%	7	93		1,074	98%
Total	**1,305**	**100%**	**8**	**97**		**1,097**	**100%**

* *The percentage distribution is not shown, as the total number of fatalities is below 100.*

Note: PMVs have been included since 2020.

Moped users

In 2020 there were 32 moped fatalities, 17 fewer deaths than in 2019. The number of hospitalised injured casualties has decreased by 19%.

The number of casualty accidents involving a moped was 4,641, accounting for 7% of the total, two percentage points above the figure corresponding to mopeds in the 2020 vehicle fleet.

The majority of accidents involving a moped occurs on urban roads (86%) where the highest number of hospitalised and non- hospitalised injured casualties (69% and 87% respectively) are registered. In the case of fatalities, the distribution is somewhat higher on interurban roads (19) than on urban roads (13).

The evolution of the number of moped users killed and injured shows a decreasing trend since 2011, stabilising in the current values as of 2014 until 2019, except in 2018, a year in which there was a slight increase in the fatality figure.

Figure 24. Evolution of road fatalities and hospitalised injured casualties involving a moped on interurban and urban roads. Spain, 2010-2020

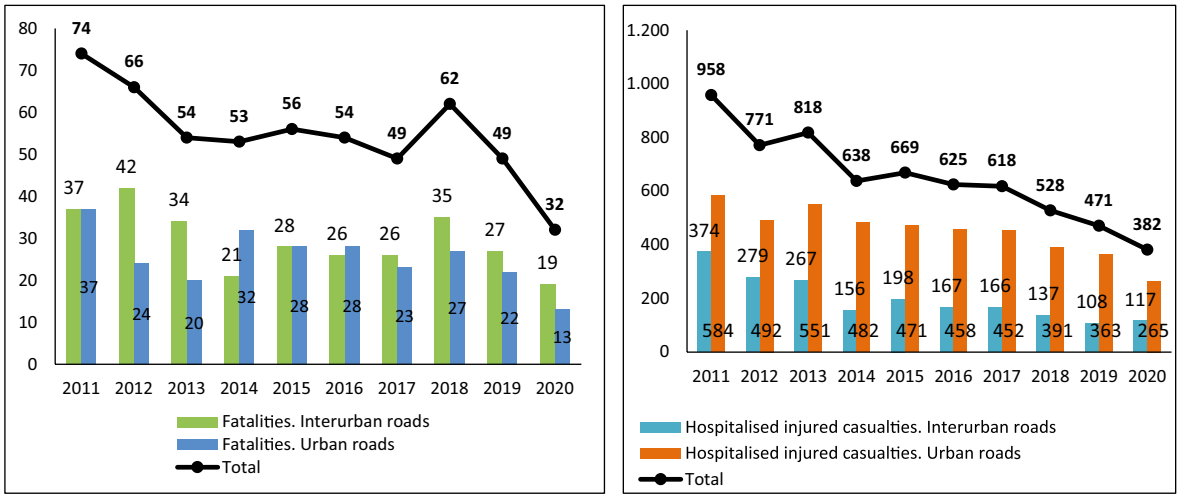


Table 14. Road traffic casualty accidents involving a moped on interurban and urban roads. Spain, 2020

Type of road	Casualty accidents		Fatalities*	Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	Number	%	Number	%
Interurban roads	637	14%	19	117	31%	568	13%
Urban roads	4004	86%	13	265	69%	3921	87%
Total	**4,641**	**100%**	**32**	**382**	**100%**	**4,489**	**100%**

* *The percentage distribution is not shown, as the total number of fatalities is below 100.*

Motorcyclists

In 2020 there were 313 motorcycle fatalities, 25% less than in 2019. Compared with 2019, on interurban roads there was a decrease in the number of motorcyclists killed by 34% and hospitalised injured casualties by 20%. There have been 5 fewer motorcyclist deaths on urban roads and a 22% fall in the number of hospitalised injured casualties as against the previous year.

In 2020 motorcycle users represented 27% of the total casualty accidents, i.e. they were involved in 20,050 accidents whereas the percentage of motorcycles on the vehicle fleet was 10%. 75% of the casualty accidents involving motorcycles occurred on urban roads where 54% of hospitalised and 77% of non-hospitalised injured motorcyclists were registered. Meanwhile, fatal injuries occurred more frequently on interurban roads: 61% of motorcyclist fatalities occurred on this type of road.

The evolution of fatalities since 2011 indicates that figures have worsened slightly both in urban and interurban areas since the year 2014, when there was a change in the trend, the number of fatalities increased during the last few years (2014-2019).

Figure 25. Evolution of road fatalities and hospitalised injured casualties involving a motorcycle on interurban and urban roads. Spain, 2011-2020

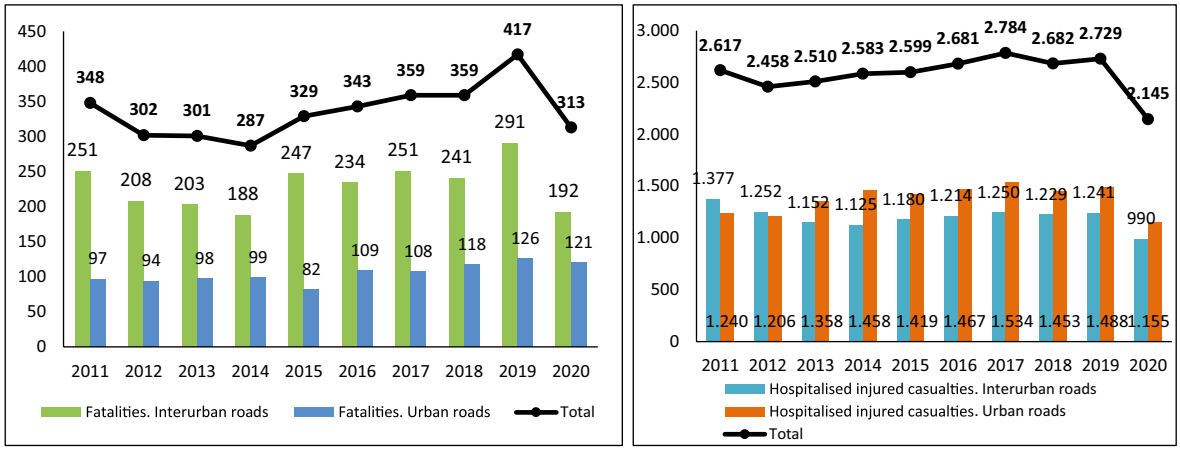


Table 15. Road traffic casualty accidents involving a motorcycle on interurban and urban roads. Spain, 2020

Type of road	Casualty accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	4,974	25%	192	61%	990	46%	4,272	23%
Urban roads	15,076	75%	121	39%	1,155	54%	14,389	77%
Total	**20,050**	**100%**	**313**	**100%**	**2,145**	**100%**	**18,661**	**100%**

Car users

Of the 1,370 road traffic deaths that occurred in 2020, 40% (544 fatalities) were travelling in a car, either as drivers or passengers. Car fatalities have decreased by 17% on interurban roads in comparison with 2019. On urban roads, the number of fatalities has increased with 2 more fatalities compared with 2019.

Car users were involved in 52,709 casualty accidents, that is, in 72% of the accidents registered in 2020; cars account for 68% in the Spanish vehicle fleet.

62% of the casualty accidents involving at least one car occurred on urban roads; however, 88% (480 individuals) of car fatalities occurred on road accidents on interurban roads.

Since 2011, the evolution shows a generally downward trend both in the number of fatalities and in hospitalised injured car occupants, except in 2016 and 2017, years with a slight increase.

Figure 26. Evolution of road fatalities and hospitalised injured casualties involving a car on interurban and urban roads. Spain, 2011-2020

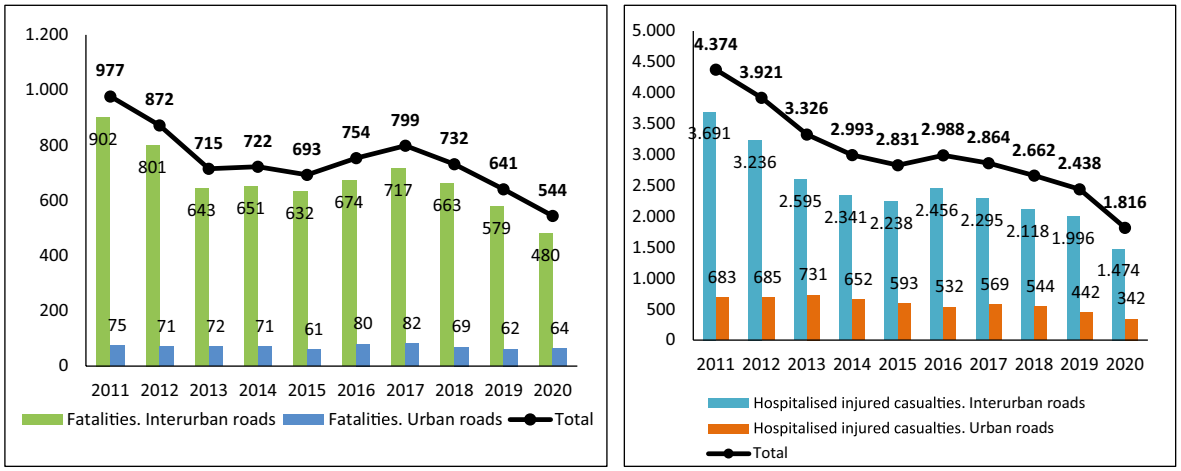


Table 16. Road traffic casualty accidents involving cars on interurban and urban roads. Spain, 2020

Type of road	Casualty accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	20,065	38%	480	88%	1,474	81%	23,528	56%
Urban roads	32,647	62%	64	12%	342	19%	18,616	44%
Total	**52,712**	**100%**	**544**	**100%**	**1,816**	**100%**	**42,144**	**100%**

Users of vehicles for the transport of goods and passengers

Van users

In 2020 there were 26 fewer fatalities in vans than in 2019, 24 fewer deaths on interurban roads and 2 fewer deaths on urban roads in 2019.

In 2020, 50 out of the 54 van fatalities were recorded on interurban roads. As for third-party fatalities (occupants in other vehicles or pedestrians) involved in van accidents, 77 of the 109 fatalities occurred on interurban roads.

Figure 27. Evolution of road fatalities and hospitalised injured casualties involving a van on interurban and urban roads. Spain, 2011-2020

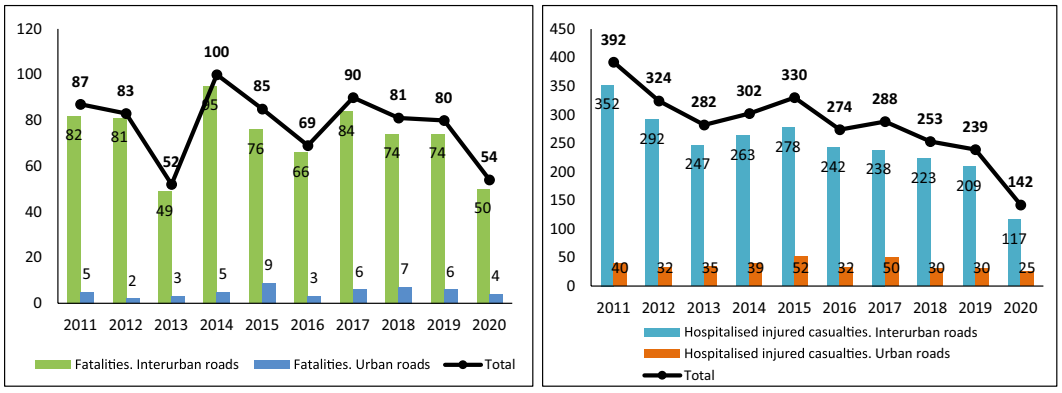


Table 17. Road traffic casualty accidents involving a van on urban and interurban roads. Spain, 2020

Type of road	Casualty accidents		Total fatalities		Occupant fatalities	Third-party fatalities		Hospitalised injured occupants		Non-hospitalised injured occupants	
	Number	%	Number	%	Number	Number	%	Number	%	Number	%
Interurban roads	3,037	39%	127	78%	50	77	71%	117	82%	2,067	63%
Urban roads	4,737	61%	36	22%	4	32	29%	25	18%	1,237	37%
Total	**7,774**	**100%**	**163**	**100%**	**54**	**109**	**100%**	**142**	**100%**	**3,304**	**100%**

Users of trucks with a MAM not exceeding 3500 kg

In 2020 and compared to 2019, there were 4 fewer fatalities and 3 fewer hospitalised injured casualties on interurban roads in 2020; they were travelling as occupants in trucks with a MAM not exceeding 3500 kg. On urban roads and for this truck category, in 2020 there was 1 more fatality and the same number of hospitalised injured casualties.

Trucks with a MAM not exceeding 3500 kg were involved in 1,198 casualty accidents; its incidence was slightly higher on urban roads (56%) than on interurban roads (44%).

As regards fatalities, hospitalised and non-hospitalised injured occupants of trucks with a MAM not exceeding 3500 kg were most frequently reported in accidents occurring on interurban roads (2 fatalities, 27 hospitalised and 281 non-hospitalised injured casualties). On urban roads, 1 truck occupant fatality was reported and there were 4 hospitalised injured occupant casualties. As regards third-party fatalities (occupants in other vehicles or pedestrians, in an accident in which there was a truck of this category involved), there were 11 fatalities on interurban roads and 9 on urban roads.

Figure 28. Evolution of fatalities and hospitalised injured casualties involving trucks not exceeding 3500 kg on interurban and urban roads. Spain, 2011-2020

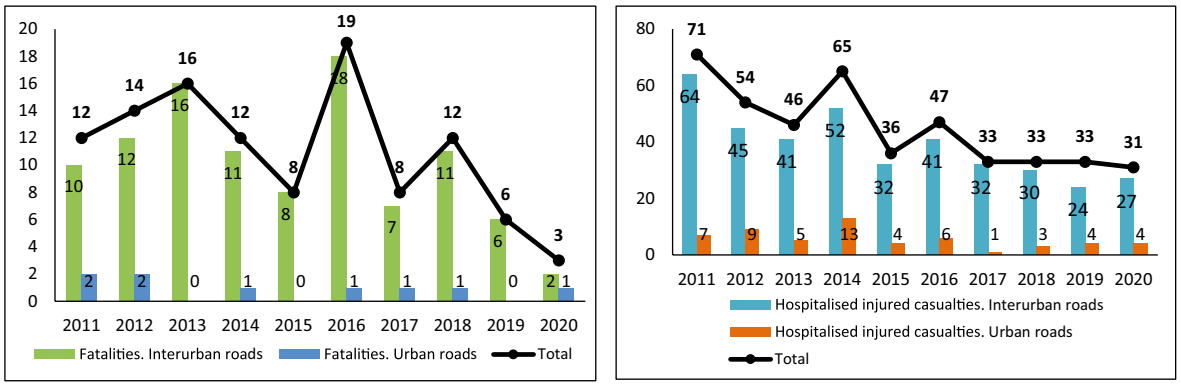


Table 18. Casualty accidents involving trucks with a MAM not exceeding 3500 kg on interurban and urban roads. Spain, 2020

Type of road	Casualty accidents		Total fatalities*	Occupant fatalities*	Third-party fatalities*	Hospitalised injured occupants*	Non-hospitalised injured occupants	
	Number	%	Number	Number	Number	Number	Number	%
Interurban roads	532	44%	13	2	11	27	281	74%
Urban roads	666	56%	10	1	9	4	101	26%
Total	**1,198**	**100%**	**23**	**3**	**20**	**31**	**382**	**100%**

* *The percentage distribution is not shown, as the total number of fatalities is below 100.*

Users of trucks with a MAM exceeding 3500 kg

There were 9 fewer fatalities (44 occupants of trucks with MAM exceeding 3500 kg) on interurban roads in 2020 than in 2019. On these roads, the number of occupants of these trucks requiring hospitalization decreased (40% less) as compared with 2019. On urban roads, there was 1 fewer fatality and 4 fewer hospitalised injured casualties than in 2019.

Trucks with a MAM exceeding 3500 kg were involved in 2,737 casualty accidents, occurring mainly on interurban roads (74%).

As for occupant fatalities, third-party fatalities (occupants in other vehicles involved in an accident in which there was a truck of this category involved), hospitalised and non-hospitalised injured occupants mainly occurred in accidents on interurban roads.

Figure 29. Evolution of road fatalities and hospitalised injured casualties involving trucks exceeding 3500 kg on interurban and urban roads. Spain, 2011-2020

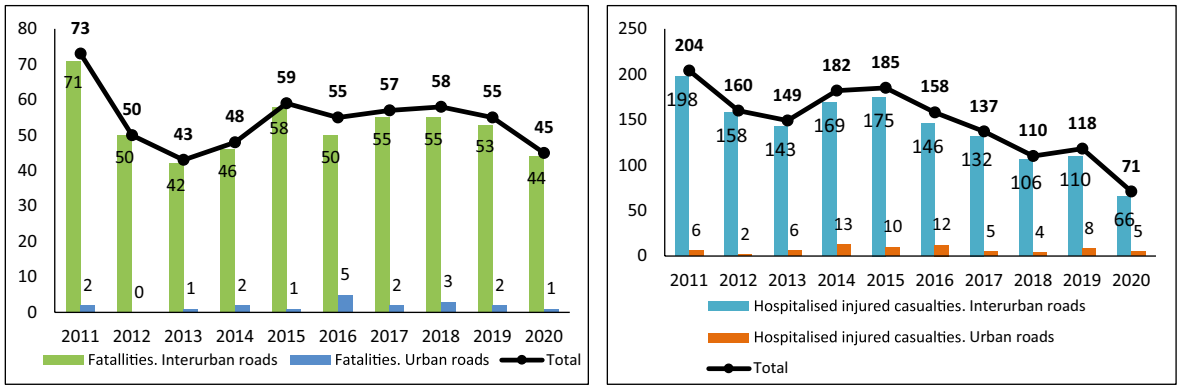


Table 19. Casualty accidents involving trucks with a MAM exceeding 3500 kg on interurban and urban roads. Spain, 2020

Type of road	Casualty accidents		Total fatalities		Occupant fatalities*	Third-party fatalities		Hospitalised injured occupants*		Non-hospitalised injured occupants	
	Number	%	Number	%	Number	Number	%	Number	%	Number	%
Interurban roads	2,025	74%	174	87%	44	130	84%	66		680	88%
Urban roads	712	26%	25	13%	1	24	16%	5		97	12%
Total	**2,737**	**100%**	**199**	**100%**	**45**	**154**	**100%**	**71**		**777**	**100%**

* *The percentage distribution is not shown, as the total number of fatalities is below 100.*

Bus or coach users

In 2020, on interurban roads, the same figure for occupant fatalities was reported, there were 2 fewer hospitalised injured casualties than in 2019; on urban roads there were 2 occupant fatalities, the same as in 2019, and 13 fewer hospitalised injured occupant casualties than in 2019.

In 2020, there were 1,362 casualty accidents in which a bus or coach was involved; 90% of them occurred on urban roads. On this type of road there were 1,224 accidents in which 13 people were killed (2 occupants), 18 bus or coach occupants required hospitalization and 1,176 injured occupants did not.

On urban roads, there were 138 casualty accidents in which a bus or coach was involved. There was 1 occupant fatality, 3 occupants required hospitalization and 126 occupants did not.

Figure 30. Evolution of road fatalities and hospitalised injured casualties involving a bus or coach on interurban and urban roads. Spain, 2011-2020

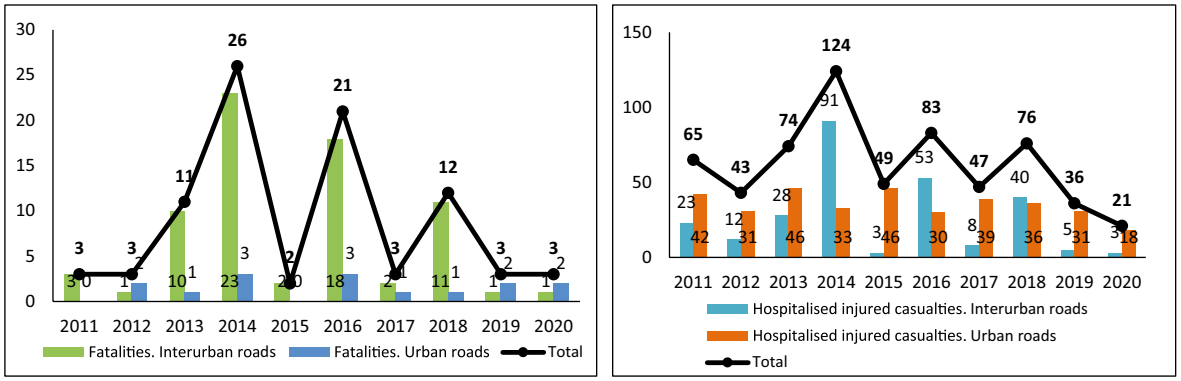


Table 20. Road traffic casualty accidents involving buses or coaches on urban and interurban roads. Spain, 2020

Type of road	Casualty accidents		Total fatalities*	Occupant fatalities*	Third-party fatalities*	Hospitalised injured occupants	Non-hospitalised injured occupants	
	Number	%	Number	Number	Number	Number	Number	%
Interurban roads	138	10%	5	1	4	3	126	10%
Urban roads	1,224	90%	13	2	11	18	1,176	90%
Total	**1,362**	**100%**	**18**	**3**	**15**	**21**	**1,302**	**100%**

* *The percentage distribution is not shown, as the total number of fatalities is below 100.*

The collision matrices

The collision matrix is an instrument that allows analysing accident rate in terms of the modes of transport involved in the accident.

The rows of the collision matrix include the mode of transport used by the casualties - fatalities, hospitalised and non-hospitalised injured casualties; whereas the columns of the matrix show the other mode of transport involved in the accident, if any.

If the collision matrices relating to the 38,582 casualties on interurban roads and the 57,350 casualties on urban roads reported in 2020 are analysed, the following conclusions are drawn:

- On interurban roads, car users represent 66% of the total fatalities in 2020, followed by motorcycles which account for 14% of the total. 37% of the casualties have occurred in accidents in which no other vehicle or pedestrian were involved, 47% of them involved two vehicles or one vehicle and one pedestrian, and 15% occurred in accidents in which two or more vehicles or one vehicle and two or more pedestrians were involved.
- On urban roads, cars represented 33% of the total casualties in 2020, followed by motorcycles - 27% - and pedestrians - 15% -. 16% of the casualties have occurred in accidents in which no other vehicle or pedestrian were involved, 75% of them involved two vehicles or one vehicle and one pedestrian, and 9% involved two or more vehicles or one vehicle and two or more pedestrians.

Table 21.- Collision matrix on road traffic casualties. Interurban roads. Spain, 2020

Casualty's mode of transport	Number	More than one vehicle	Single-vehicle	Pedes-trian	Bicycle	PMV	Moped	Motorcycle	Car	Van	Truck up to 3500 kg	Truck over 3500 kg	Bus or coach	Other vehicle	Total
		Mode of transport involved in the accident other than the casualty's													
	Pedestrian	93	0	0	14	0	6	20	410	56	11	20	5	21	656
	Bicycle	228	888	17	194	0	9	35	831	126	16	28	5	30	2,407
	PMV	0	3	0	1	0	0	0	18	4	0	1	1	0	28
	Moped	16	290	2	8	0	10	12	301	41	3	9	2	10	704
	Motorcycle	304	2,729	15	18	0	14	183	1,780	261	38	55	7	50	5,454
	Car	4,463	9,072	25	10	0	7	136	8,966	1,184	244	1,099	66	210	25,482
	Van	429	655	1	3	0	0	7	792	135	38	142	6	26	2,234
	Truck up to 3500 kg	34	113	0	0	0	0	3	91	24	12	23	3	7	310
	Truck over 3500 kg	85	466	1	0	0	0	0	86	25	12	110	0	5	790
	Bus or coach	26	38	0	4	0	0	0	39	12	4	3	0	4	130
	Other vehicle	20	209	2	0	0	0	4	105	19	5	17	0	6	387
	Total	**5,698**	**14,463**	**63**	**252**	**0**	**46**	**400**	**13,419**	**1,887**	**383**	**1,507**	**95**	**369**	**38,582**

Table 22. Collision matrix on road traffic casualties. Urban roads. Spain, 2020

Casualty's mode of transport	Number	More than one vehicle	Single-vehicle	Pedes-trian	Bicycle	PMV	Moped	Motorcycle	Car	Van	Truck up to 3500 kg	Truck over 3500 kg	Bus or coach	Other vehicle	Total
		Mode of transport involved in the accident other than the casualty's													
	Pedestrian	308	0	0	374	103	139	562	5,542	732	104	90	149	330	8,433
	Bicycle	118	1,397	143	310	31	33	171	2,303	238	34	25	35	105	4,943
	PMV	11	337	21	39	17	5	23	621	65	11	1	11	12	1,174
	Moped	156	1,063	70	32	1	78	130	2,307	257	29	14	15	47	4,199
	Motorcycle	872	3,204	329	176	27	97	739	8,458	1,169	148	146	79	221	15,665
	Car	3,408	2,277	84	42	13	77	356	10,500	1,320	210	296	196	243	19,022
	Van	217	109	13	3	1	7	23	689	112	27	24	20	21	1,266
	Truck up to 3500 kg	11	28	1	0	0	1	0	49	8	3	3	1	1	106
	Truck over 3500 kg	9	35	3	1	0	0	0	36	3	4	9	1	2	103
	Bus or coach	28	472	42	19	0	8	22	479	66	2	13	24	21	1,196
	Other vehicle	55	282	50	39	0	10	52	614	80	6	13	4	38	1,243
	Total	**5,193**	**9,204**	**756**	**1,035**	**193**	**455**	**2,078**	**31,598**	**4,050**	**578**	**634**	**535**	**1,041**	**57,350**

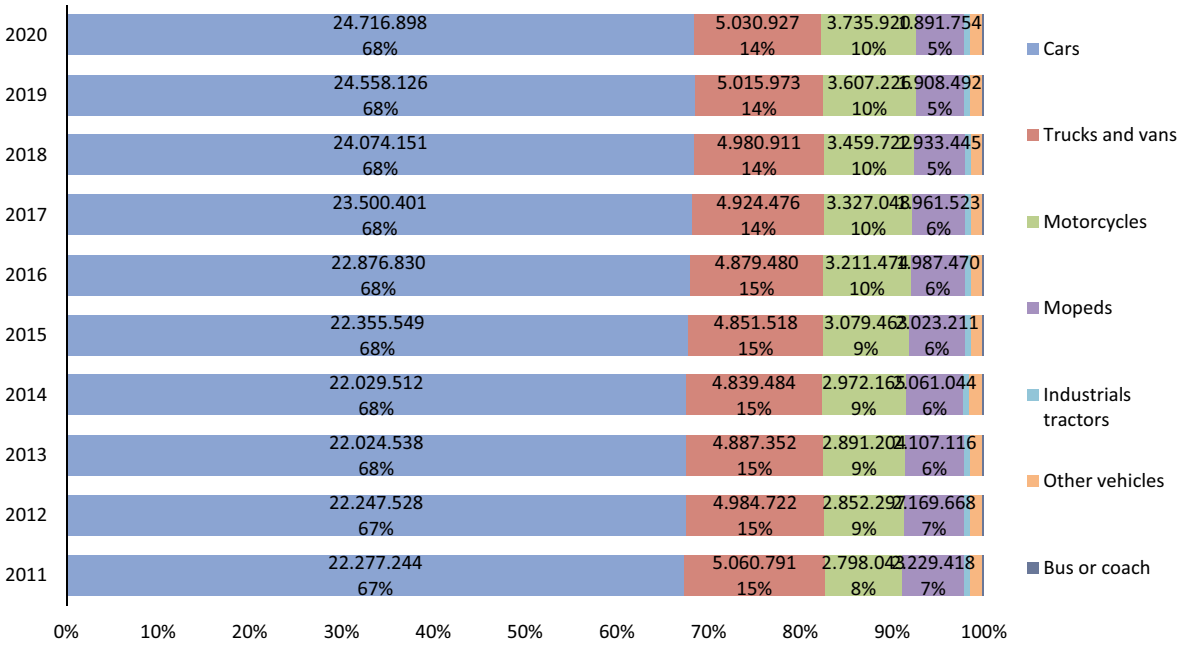
Exposure indicators

Vehicle fleet

The vehicle fleet has grown by more than two million units in the last decade. In 2020 there has been an increase by 1% (303,005 units) compared with the previous year and the greatest increase in absolute figures is for cars with an increase by 1%.

The vehicle fleet is mainly made up by cars with more than 24 million units which represent 68% of the fleet; cars are followed by trucks and vans, 14% of the total vehicle fleet; and by motorcycles, 10%.

Figure 31. Evolution of the vehicle fleet over the last ten years Spain, 2011-2020



Note: The "other vehicles" category includes special vehicles such as sweepers, snowploughs, cranes, work-site machines, etc. Trailers and semi-trailers have been excluded.

Performance indicators

Age of the vehicle fleet

It is essential to make the following observations in order to determine the age of the vehicle fleet:

1. Mopeds are excluded from the calculation of the fleet age since it was not compulsory to register them until 27 July 1999, date of entry into force of the General Regulations on Vehicles (RD 2822/98) being the latest deadline for registering used moped 27 January 2002.

2. There are vehicles that almost certainly are not used on public roads and have not been de-registered by their owners so the fleet figures are probably overstated, and the older the vehicles the greater the overestimation.

For the above reasons, a detailed study on the age of the vehicle fleet requires the exclusion of mopeds and the consideration of various groups depending on the age of the vehicles that involve an approach to the real vehicle fleet. The vehicle fleet under 25 years of age represent 86% of the total registered vehicles; the vehicles under 15 years of age represent 57% of the registered vehicles.

Table 23. Basic statistical measures of the vehicle fleet (moped excluded) and their age by vehicle type. Spain, 2020

Age of the fleet	Measure	Trucks and vans	Buses or coaches	Cars	Motorcycles	Industrial Tractors	Other vehicles	Total without Mopeds
Complete	**Total**	**5,030,927**	**63,387**	**24,716,898**	**3,735,920**	**235,511**	**467,493**	**34,266,711**
	Age average (years)	17.0	14.7	14.4	16.7	11.0	16.8	15.0
	Dev. St.	11.4	13.9	11.2	14.1	9.8	9.5	11.6
	Coef. Variation	64.5	94.6	78.0	84.8	89.2	56.5	77.5
Less than 25 years	**Total**	**4,098,204**	**54,648**	**21,923,407**	**2,894,656**	**217,673**	**411,375**	**29,599,963**
	Age average (years)	13.7	9.9	11.2	10.2	8.9	13.8	11.4
	Dev. St.	6.8	6.2	6.6	6.2	6.3	6.1	6.6
	Coef. Variation	53.5	62.3	58.7	60.4	70.9	44.1	58.3
Less than 15 years	**Total**	**2,357,845**	**42,362**	**14,606,026**	**2,257,980**	**175,383**	**206,451**	**19,646,047**
	Age average (years)	8.1	7.5	7.6	7.9	6.5	9.3	7.7
	Dev. St.	4.9	4.5	4.6	4.8	4.3	5.2	4.7
	Coef. Variation	60.2	60.7	61.2	60.3	66.3	55.8	61.0

Other useful statistical measures to avoid the problem of older vehicles that probably are not driven on public roads are the percentile values, especially the median or the 50th percentile. Thus, in the following table, in which the percentiles for the entire vehicle fleet have been calculated, it can be observed that half of all passenger cars are 13,5 years of age or older. Where the rest of the vehicles are concerned, the medians range from 7,5 of industrial tractors and 15,5 of trucks and vans.

Table 24. Percentiles in years by type of vehicle of the vehicle fleet. Spain, 2020

Type of Vehicle/Percentile	10	20	30	40	50	60	70	80	90
Trucks and vans	2.5	5.5	10.5	13.5	15.5	17.5	20.5	23.5	31.5
Buses or coaches	2.5	3.5	5.5	9.5	11.5	13.5	15.5	19.5	33.5
Cars	2.5	4.5	6.5	10.5	13.5	14.5	16.5	19.5	26.5
Motorcycles	2.5	4.5	7.5	11.5	13.5	14.5	17.5	28.5	37.5
Industrial tractors	1.5	2.5	4.5	5.5	7.5	10.5	13.5	16.5	21.5
Other Vehicles[1]	2.5	9.5	13.5	14.5	15.5	16.5	18.5	20.5	28.5
All without moped	**2.5**	**4.5**	**7.5**	**11.5**	**13.5**	**15.5**	**17.5**	**20.5**	**29.5**

[1] *The other vehicles category includes special vehicles such as sweepers, snowploughs, cranes, work-site machines, etc. Trailers and semi-trailers have been excluded.*

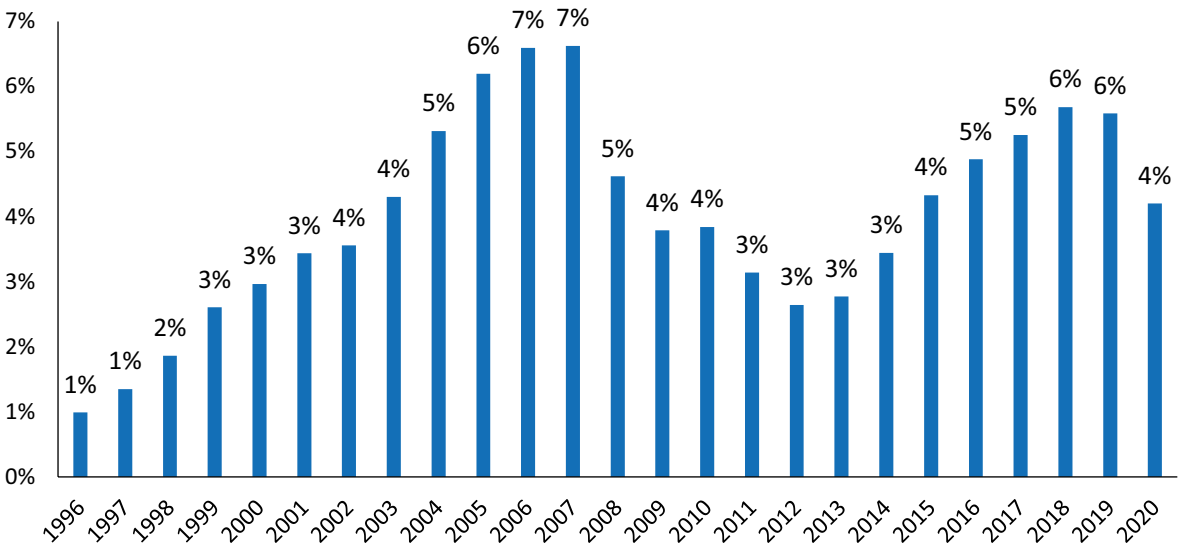
The average age of the vehicle fleet under 25 years ranges from 8.9 years for industrial tractors to 13.6 years for trucks with a MAM exceeding 3500 kg. The average age of buses or coaches is 9.9 years. The average age of cars is 11.2 years, over the average age of motorcycles that is 10.2 years.

Table 25. Age of vehicle fleet*. Spain, 2011-2020

Age of the fleet	Trucks ≤ 3,500kg	Trucks > 3,500kg	Industrial tractors	Vans	Buses or coaches	Cars	Motorcycles
2011	9.0	11.4	8.3	11.8	8.9	9.3	8.8
2020	13.8	13.6	8.9	11.5	9.9	11.2	10.2

* *Only vehicles under 25 years of age are con sidered.*

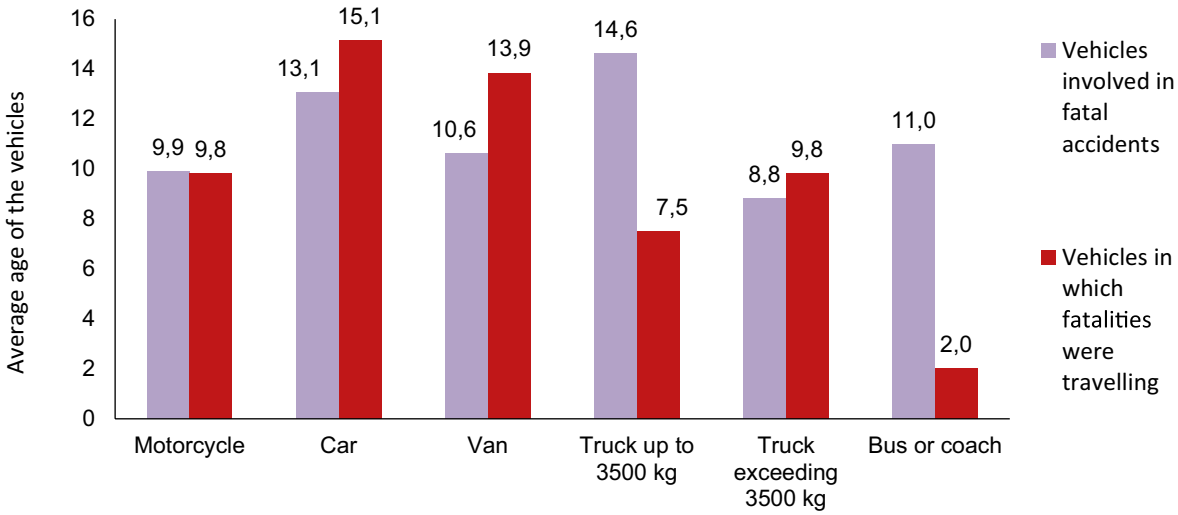
Figure 32. Percentage distribution of the vehicle fleet under 25 years of age, without mopeds, by registration year. Spain, 2020



Age of the vehicles involved in fatal traffic accidents

In 2020 on interurban roads, in the case of cars, vans and trucks exceeding 3500 kg, the average age of the vehicles involved in fatal accidents is below the average age of the vehicles in which the fatalities were travelling, except in motorcycles, trucks up to 3500 kg and buses or coaches. For cars, the average age of all the vehicles involved in fatal accidents was 13.1 years and 15.1 years when selecting those in which the fatalities were travelling; in the case of vans, the average age was 10.6 years and 13.9 years respectively.

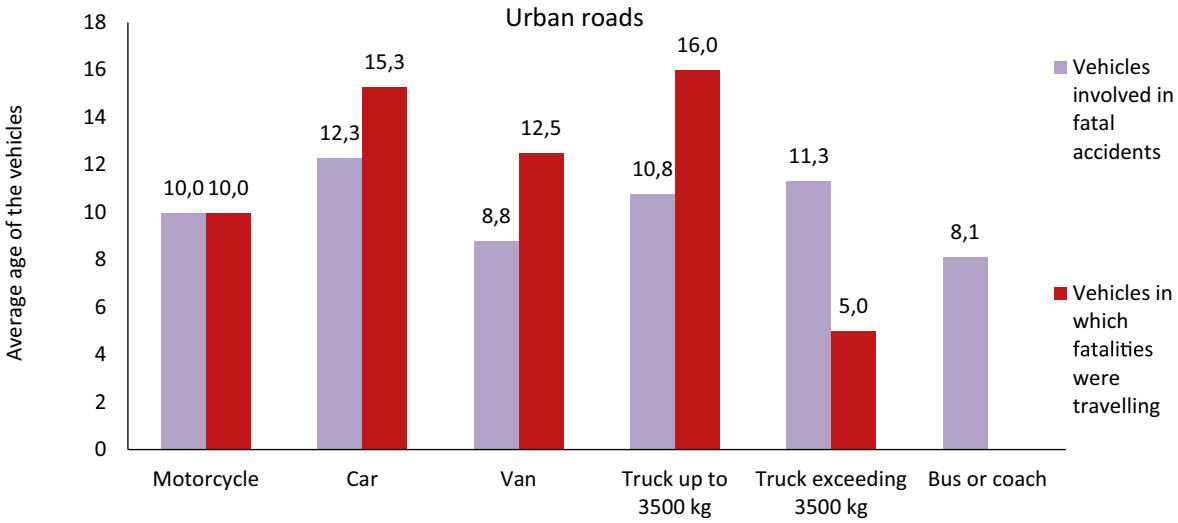
Figure 33. Average age of the vehicles involved in fatal accidents and of the vehicles in which the fatalities were travelling. Interurban roads. Spain, 2020



The average age of the vehicles is not shown when the number of units is below 10.

In 2020, on urban roads, the average age of the cars involved in fatal accidents was 12,3 years, a figure lower than that of cars in which fatalities were travelling (15,3).

Figure 34. Average age of the vehicles involved in fatal accidents and of the vehicles in which the fatalities were travelling. Urban roads. Spain, 2020



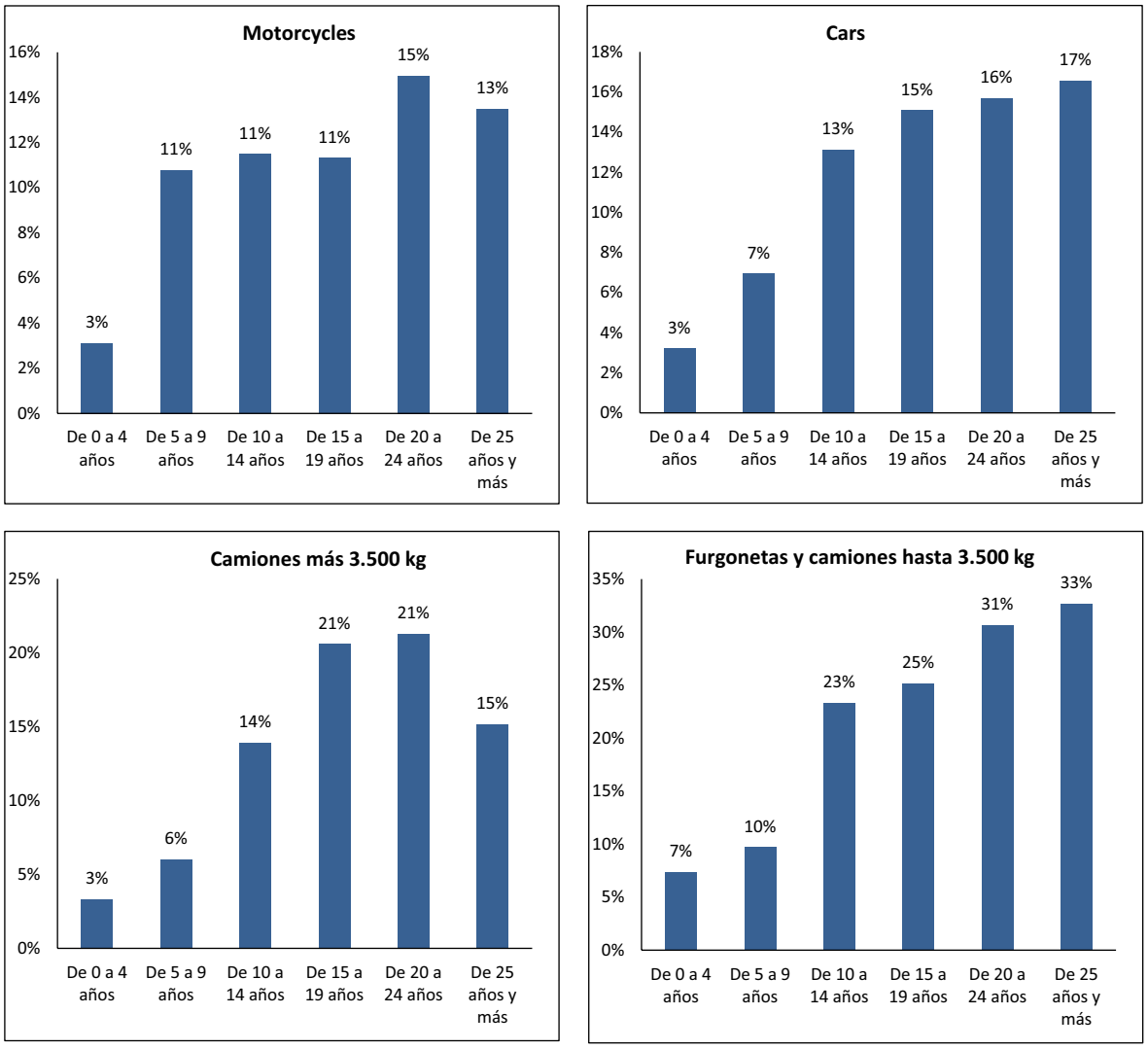
The average age of the vehicles is not shown when the number of units is below 10.

Roadworthiness tests for the vehicles involved in accidents

There is a link between the age of the vehicle involved in an accident and the result of its roadworthiness test, as may be noted from the data below. In the case of motorcycles, the percentage of vehicles with an expired roadworthiness test certificate went from 3% between 0 and 4 years to 11% from the age of 10 years. In the case of cars, the percentage went from 7% between 5 and 9 years to 15% from the age of 15 years.

As for vans and trucks up to 3500 kg, the percentage of vehicles with an expired roadworthiness test certificate ranged between 7% and 33%. In trucks exceeding 3500 kg the variation is between 3% and 21%.

Figure 35. Percentage of vehicles with an expired roadworthiness test certificate at the time of the accident. Vehicles involved in casualty accidents on interurban roads*. Spain, 2020



* *Those accidents occurring in the Autonomous Regions of Catalonia and the Basque Country are not included. The total number of cases is indicated in brackets in each age group.*

4

Users

Performance indicators: accidents and victims

Age and gender

- In 2020, males were killed 4.3 times more than females; the number of male fatalities was higher than female fatalities in all age groups. Males also register the greatest fatality rates per million population.
- Fatality rates per million population have decreased in all age groups as compared with 2019.

Figure 36. Fatalities by age groups and by gender. Spain, 2020

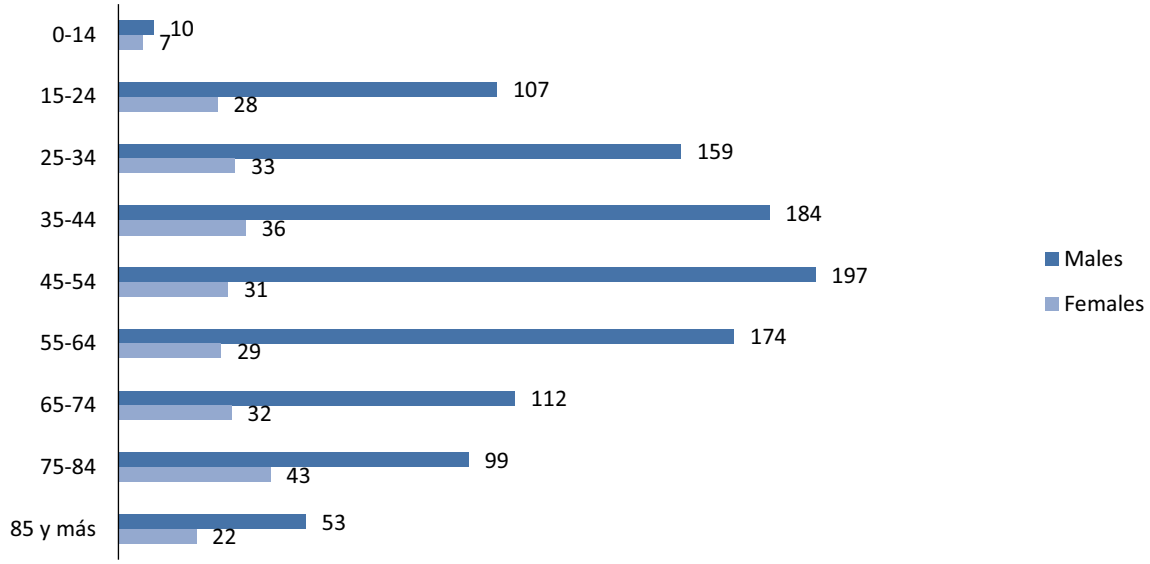
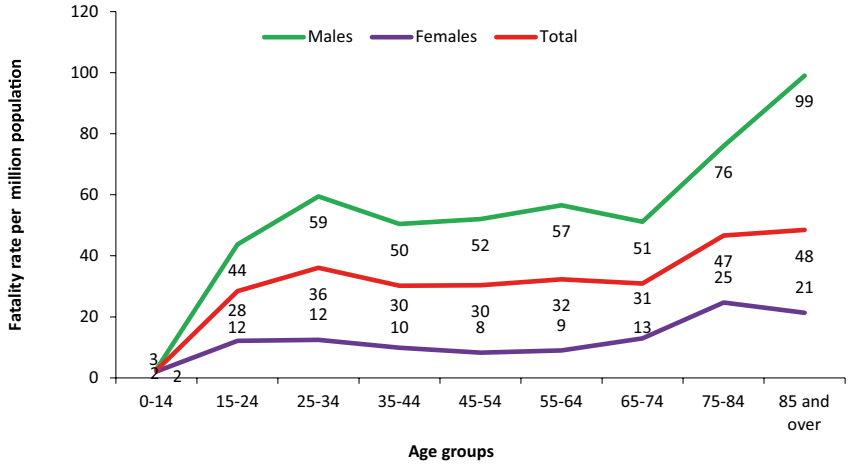
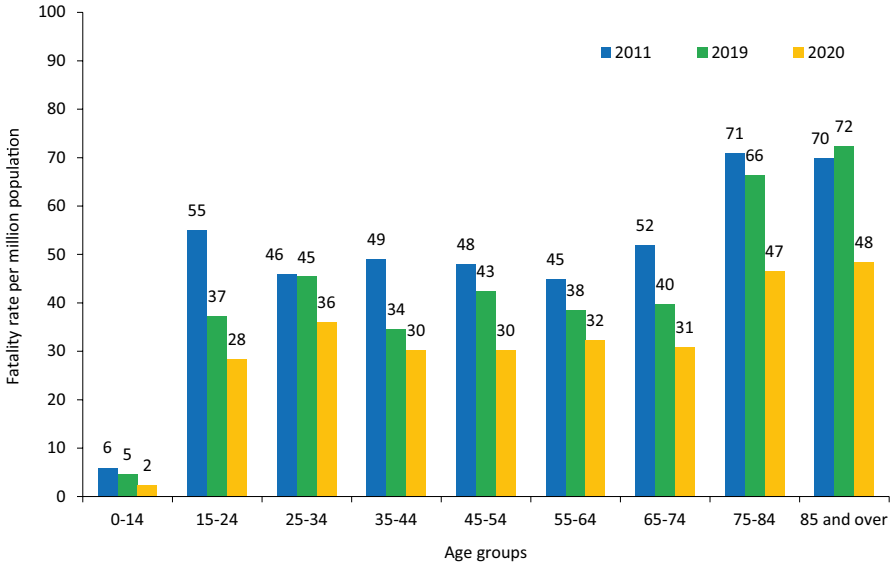


Figure 37. Fatality rate by age and gender per million population. Spain, 2020



As regards fatality rates per population by age and by gender, males register the highest rate in all age groups, the differences are largest with females in the 75-84 and 85 and over age groups.

Figure 38. Evolution of fatality rates by age groups. Rates per million population. Spain, 2011, 2019 and 2020



Children

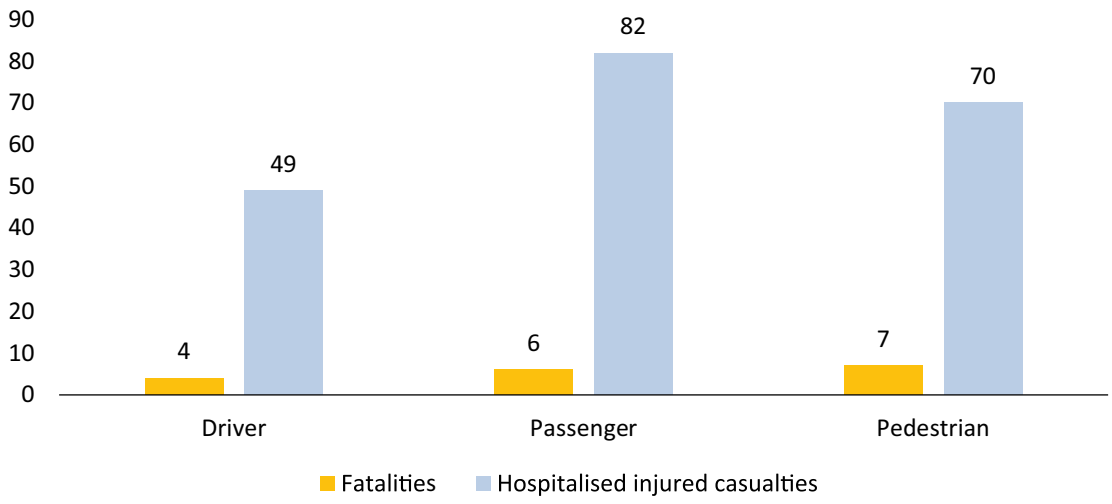
There were 17 child deaths in 2020 caused by a traffic accident (up to the age of 14), representing 1% of all fatalities. The case fatality rate for the 0-14 age group was 0.4, whereas it was 1.5 for the rest of the age groups; the child fatality rate per million population was at 2, whereas for the complementary set of ages was at 33.

Table 26. Comparison of severity degree as a result of road traffic accidents in children as compared with the rest of the population. Spain, 2020

	Up to 14 years	% on the total of ages	Rest of ages
Fatalities	17	1%	1,353
Hospitalised injured casualties	201	3%	6,480
Non-hospitalised injured casualties	3,692	4%	84,189
Total casualties	**3,910**	**4%**	**92,022**
Case fatality rate	0.4	–	1.5
Fatalities per million population	2	–	33
Hospitalised injured casualties per M p.tion	29	–	160

The greatest number of fatalities between 0 and 14 years (7 of the 17 fatalities) were registered when the children were pedestrians. Of the hospitalised injured children, the highest frequency occurred as occupants of a vehicle - 41% - and secondly as pedestrians - 35%.

Figure 39. Child fatalities and hospitalised injured casualties (0 to 14 years) by type of user. Spain, 2020



Young people

There were 135 young people deaths in 2020 caused by a traffic accident (aged 15 to 24), representing 10% of total fatalities. This group accounts for 9.8% of the Spanish population and 6% of the registered drivers.

Their case fatality rate was at 0.8 in 2020. The fatality rate per million population for young people was at 28.

The fatality rate per million population for young people shows considerable differences by gender: in males is five times as high as that among females in the 18-20 and 21-24 age groups.

Table 27. Comparison of severity degree as a result of road traffic accidents in young people (15-24 years) and rest of population. Spain, 2020

	Age 15-24	% on the total of ages	Rest of ages
Fatalities	135	10%	1,235
Hospitalised injured casualties	985	15%	5,696
Non-hospitalised injured casualties	15,428	18%	72,453
Total casualties	**16,548**	**17%**	**79,382**
Case fatality rate	0.8	–	1.6
Fatalities per million population	28	–	29
Hospitalised injured casualties per M p.tion	207	–	134

Figure 40. Fatality rate in young people per million population distributed by gender and by age groups. Spain, 2020

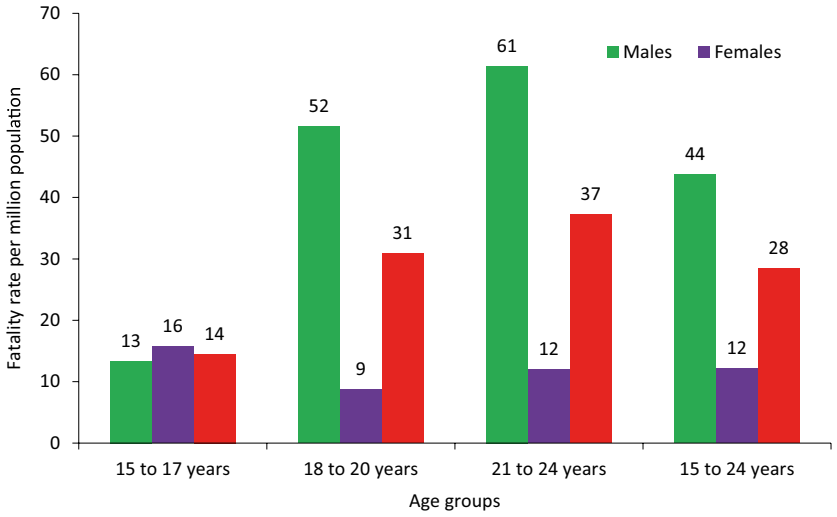
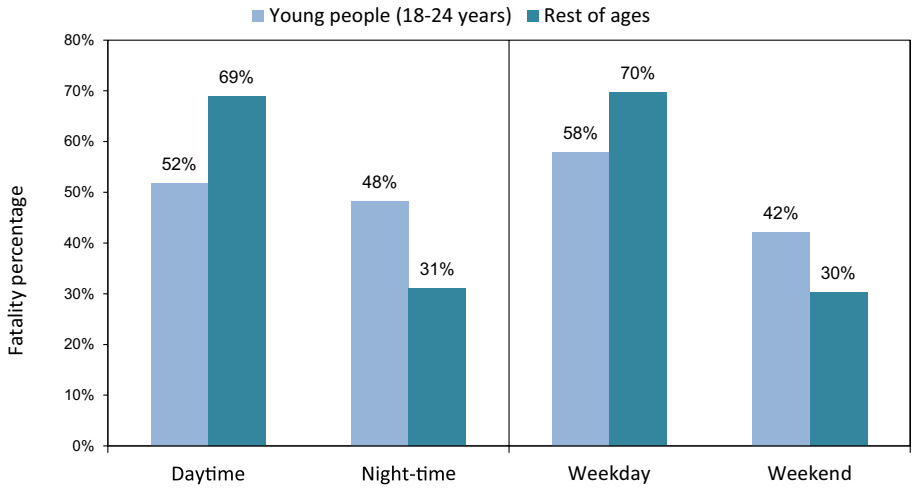


Figure 41. Percentage distribution of young fatalities and rest of ages based on the parameters day/night and weekend([1])/not weekend. Spain, 2020



[1] *Weekend: weekend days start at 15:00 on Friday and end at 23:59 on Sunday.*

The weekend and the night present a risk to young people if compared with the rest of the population. 48% of the deaths of young people between 18 and 24 years of age were registered during the night whereas for the rest of the population the percentage was 31%. During the weekend, the percentage of fatalities for young people was 42% and for the rest of the population was 30%.

Elderly people

In 2020, the number of fatalities over 64 years has decreased by 26% compared with 2019; even so, elderly people represent 26% of the fatalities. Overall, this age group accounts for 19.6% of the Spanish population and 16.5% of the registered drivers.

Their case fatality rate was at 4.2 in 2020.This rate increases as age increases, in such a way that for the 65-74 age group was at 2.9, for the 75-84 was at 5.1 and for the 85 and over age group was at 9.2.

The rate per million population for the 65 and over age group was at 39 whereas for the rest of age groups was at 26.

Table 28. Comparison of severity degree as a result of road traffic accidents in elderly people (aged 65 and over) and rest of the population. Spain, 2020

	Age 65+	% on the total of ages	Rest of ages
Fatalities	362	26%	1,008
Hospitalised injured casualties	953	14%	5,728
Non-hospitalised injured casualties	7,368	8%	80,513
Total casualties	**8,683**	**9%**	**87,249**
Case fatality rate	4.2	–	1.2
Fatalities per million population	39	–	26
Hospitalised injured casualties per M p.tion	103	–	150

Accident pattern has been different according to the type of road; people aged 65 and over were killed mainly as drivers on interurban roads and as pedestrians on urban roads.

The role as users is also different in these age groups, depending on the place where the accident occurred. On interurban roads, fatalities show an increased frequency as drivers. On urban roads, fatalities in the three age groups considered present an increased frequency as pedestrians.

Figure 42. Fatalities over 64 years of age by area (urban or interurban) and type of user. Spain, 2020

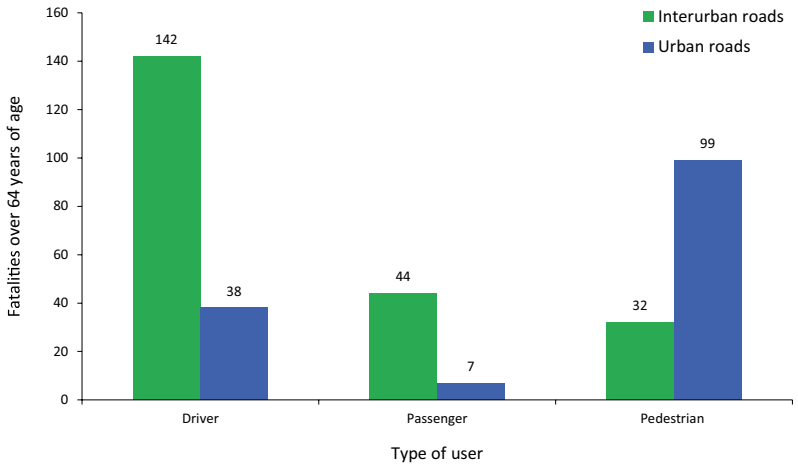


Figure 43. Distribution by type of user and by age group of fatalities older than 65 years. Interurban roads. Spain, 2020

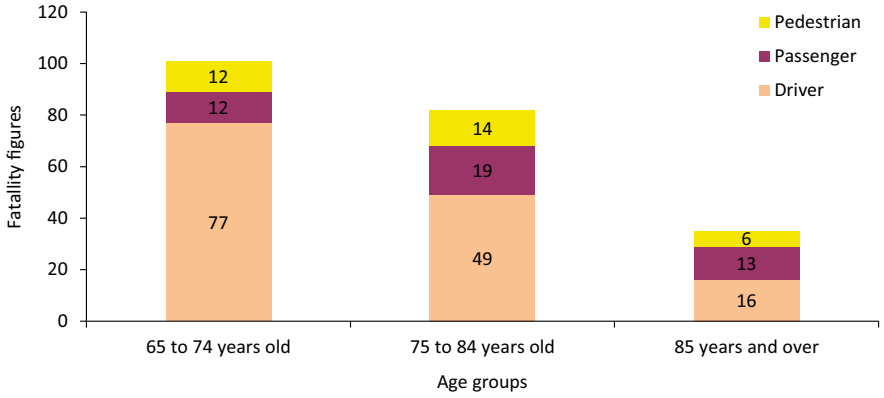
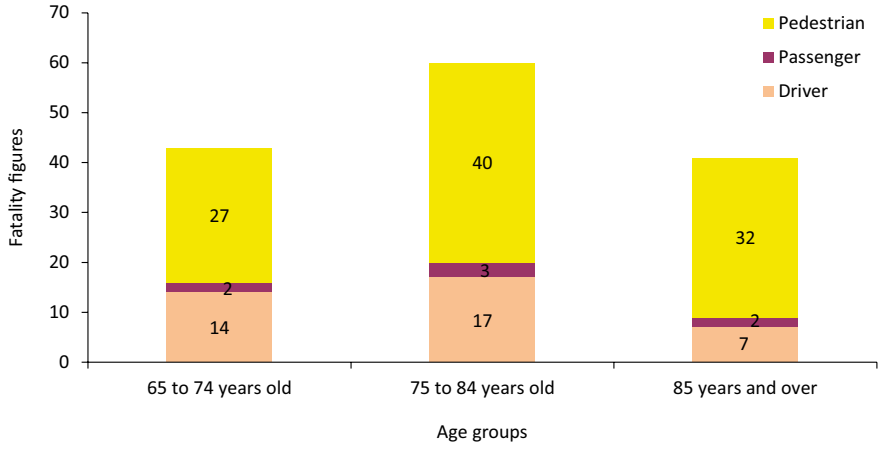


Figure 44. Distribution by type of user and by age group of fatalities older than 65 years. Urban roads. Spain, 2020



Drivers

In 2020, 922 drivers were killed in road accidents, 67% of total fatalities. 91% of the driver fatalities were males, 44% were below 45 years of age and 43% were driving a car. In addition, 76% of the drivers were killed in accidents occurring on an interurban road.

In 2020 there was a decrease in the number of road accident fatalities by 22% and in the case of fatally injured drivers the decrease was by 19%. Over the past ten years the year-on-year variation has been -4% of total fatalities and of driver fatalities. An analysis of the percentage of the drivers killed over the total fatalities indicates that it was 67% in 2020.

Figure 45. Evolution of total fatalities and driver fatalities. Spain, 2011-2020

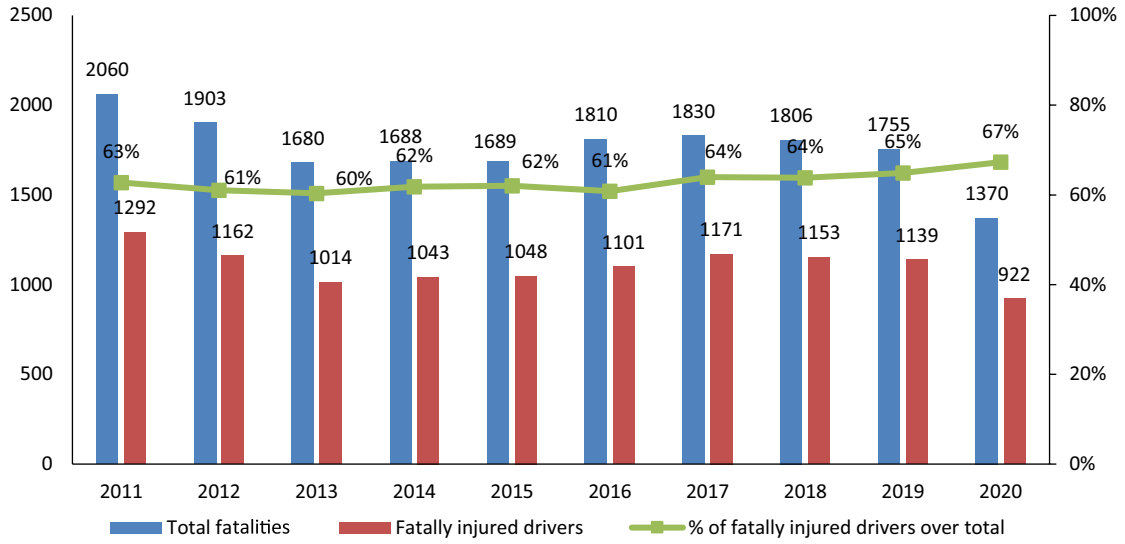
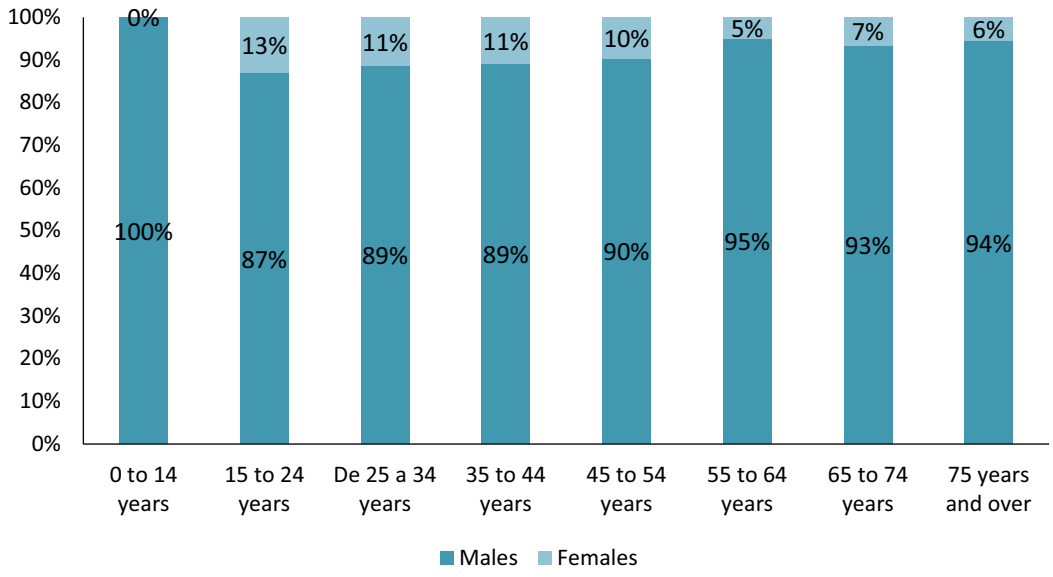
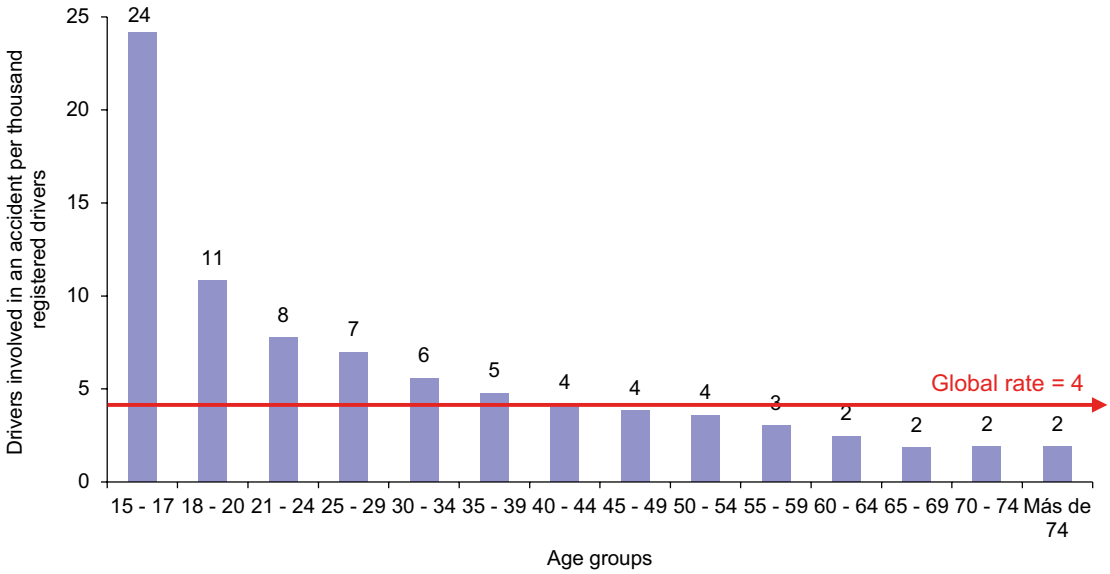


Figure 46. Proportion of driver fatalities by age groups and by gender. Spain, 2020



The rate of drivers involved in an accident per thousand registered drivers was at 4 in 2020. This rate decreases with age, registering rates lower than global rates from the age of 55 years, and the minimum from the age of 60 years. The greatest rate is at 24, with drivers aged 15 - 17 years.

Figure 47. Rate of drivers involved in casualty accidents per thousand registered drivers. Spain, 2020



Pedestrians

260 pedestrians were killed in road traffic accidents in 2020 which account for 19% of total fatalities.

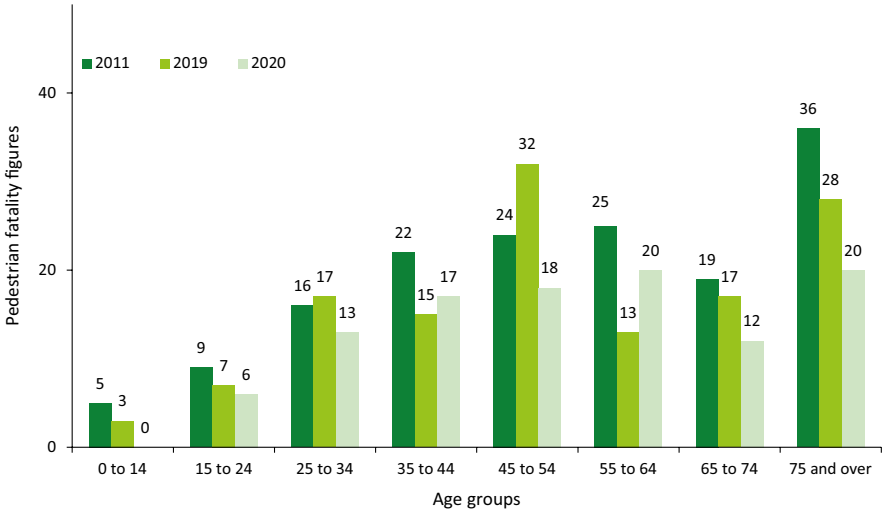
Table 29. Pedestrian fatalities, hospitalised and non-hospitalised injured pedestrians and case fatality rate. Interurban and urban roads. Spain, 2020

Type of road	Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties		Case fatality rate
	Number	%	Number	%	Number	%	
Interurban roads	107	41%	167	15%	382	5%	16.3
Urban roads	153	59%	971	85%	7,309	95%	1.8
Total	**260**	**100%**	**1,138**	**100%**	**7,691**	**100%**	**2.9**

In 2020, pedestrian fatalities decreased by 20% on interurban roads and by 38% on urban roads.

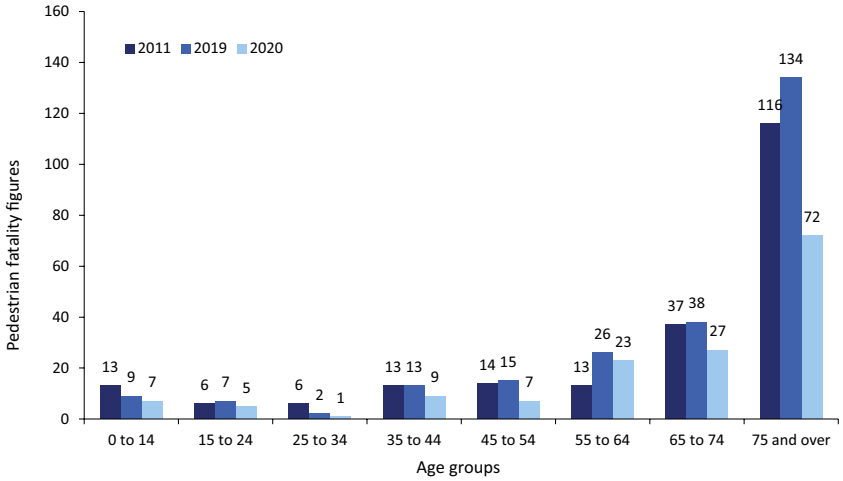
In the figure below, the evolution of the number of pedestrians killed on interurban roads by age groups is shown and it can be seen, in comparison with 2019, an increase in fatalities in the 35-44 and the 55-64 age groups and a decrease in the rest of age groups. The 55-64 age group showed the greatest increase, 7 more fatalities, followed by the 35-44 age group, with 2 more fatalities.

Figure 48. Number of pedestrians killed by age groups. Interurban roads. Spain, 2011, 2019 and 2020



On urban roads, there has been a decline in pedestrian fatalities in all age groups compared with 2019. The greatest variation concentrates on the 75 and over age group, with a decrease of 62 fatalities. On these roads, 65% of the pedestrians killed were 65 years of age or over.

Figure 49. Number of pedestrians killed by age groups. Urban roads. Spain, 2011, 2019 and 2020



Passengers

188 passengers were killed in road traffic accidents in 2020 which account for 14% of total fatalities. 89% of the fatally injured passengers occurred on interurban roads where 72% of hospitalised and 49% of non-hospitalised injured passengers were registered.

Table 30. Passenger fatalities, hospitalised and non-hospitalised injured casualties and case fatality rate. Interurban and urban roads. Spain, 2020

Type of road	Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties		Case fatality rate
	Number	%	Number	%	Number	%	
Interurban roads	167	89%	659	72%	9,746	49%	1.6
Urban roads	21	11%	255	28%	10,004	51%	0.2
Total	**188**	**100%**	**914**	**100%**	**19,750**	**100%**	**0.9**

In 2020, the number of passenger fatalities has decreased by 20%. The year-on-year variation has been -4% for total fatalities and -8% for passenger fatalities over the past ten years.

Figure 50. Evolution of total fatalities and passenger fatalities. Spain, 2011-2020

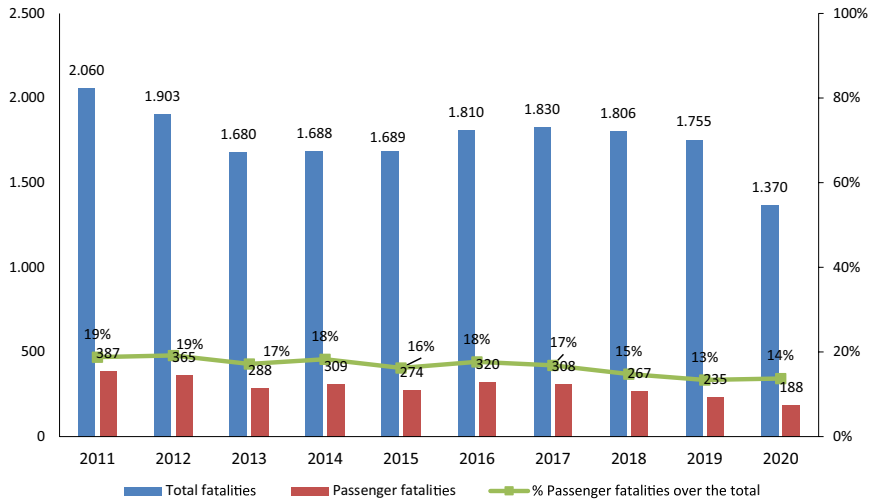
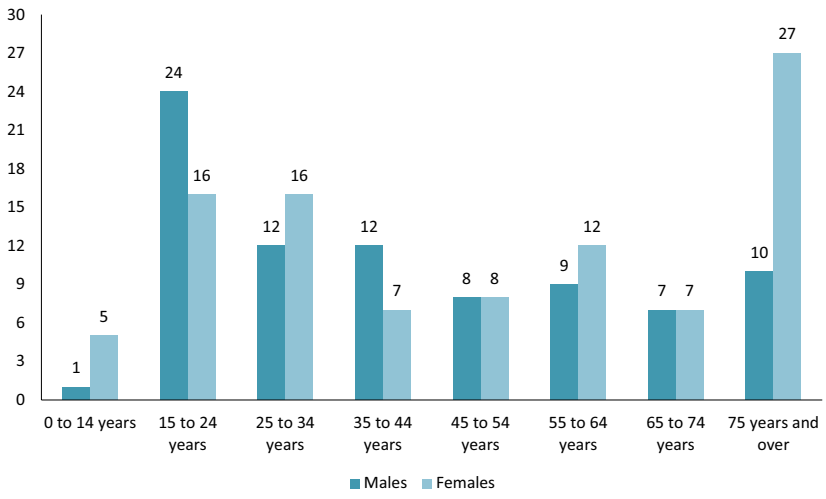


Figure 51. Number of passengers killed by age groups and gender. Spain, 2020



The following figure shows the number of passenger fatalities by age groups and gender, and it can be observed that the number of male fatalities is higher in the 15-24 and 35-44 age groups. However, the number of female passenger fatalities is higher in the 0-14, 25-34, 55-64 and 75 and over age groups.

Vulnerable road users

In 2020, 50% of the fatalities were pedestrians, cyclists, users of personal mobility vehicles and motorcyclists. It is the second year in a row where vulnerable road user fatalities represent 50% or more of the people killed as a result of road accidents. On urban roads this percentage is higher, vulnerable road users represent 80% of the fatalities on this type of road for 2020 and on interurban roads the percentage is 38%.

Figure 52. Evolution of the fatalities and of the percentage of vulnerable road user fatalities by type of road. Spain, 2011-2020

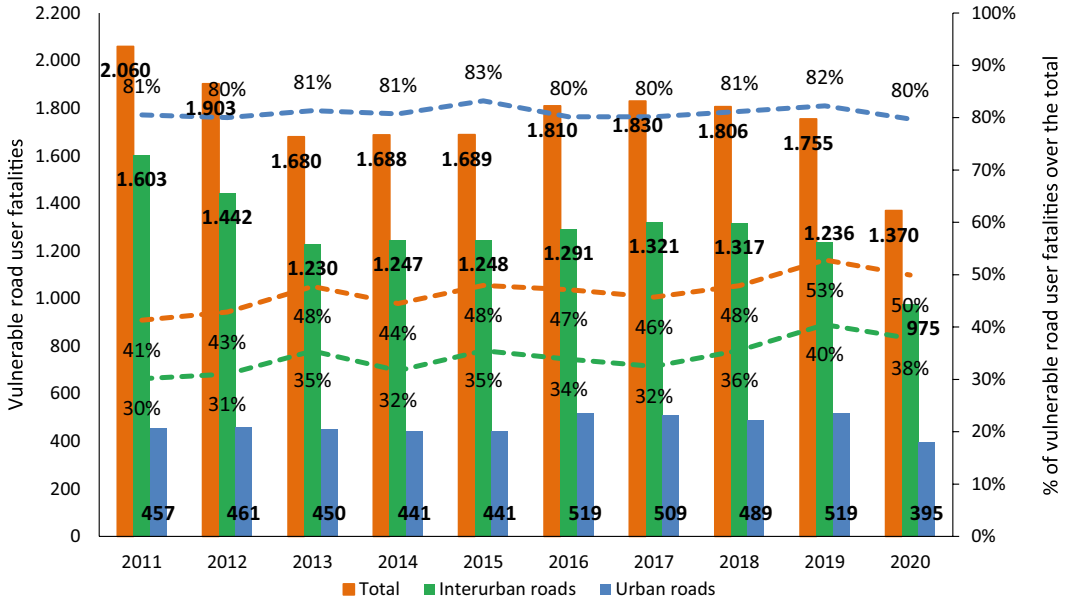
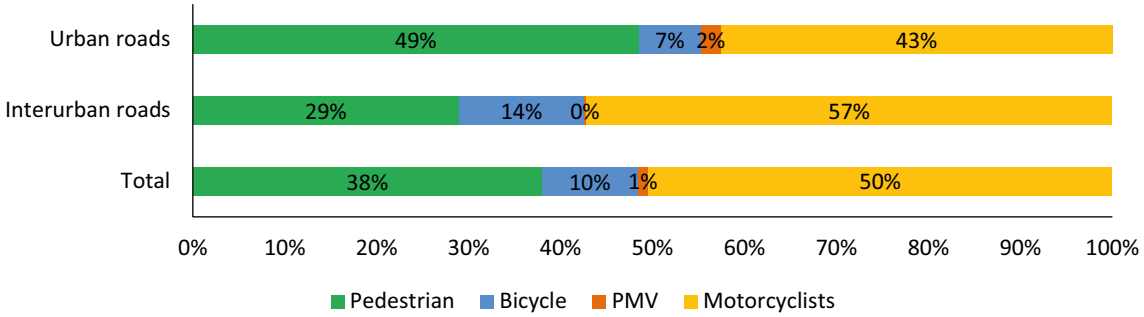
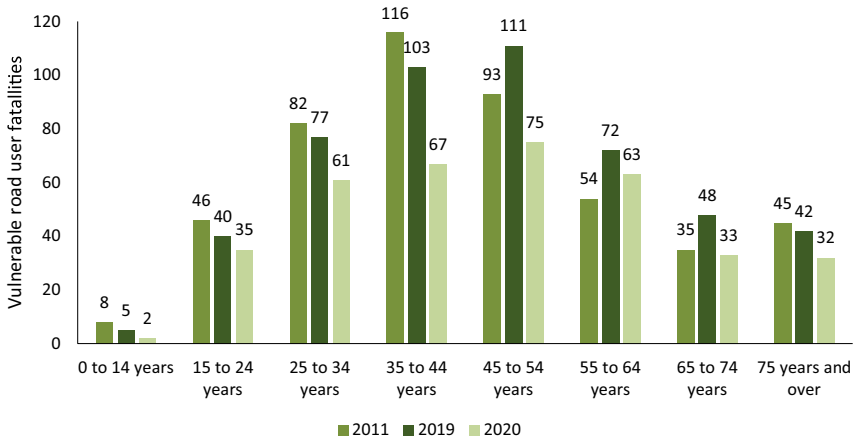


Figure 53. Percentage of vulnerable road user fatalities by mode of transport and by type of road. Spain, 2020



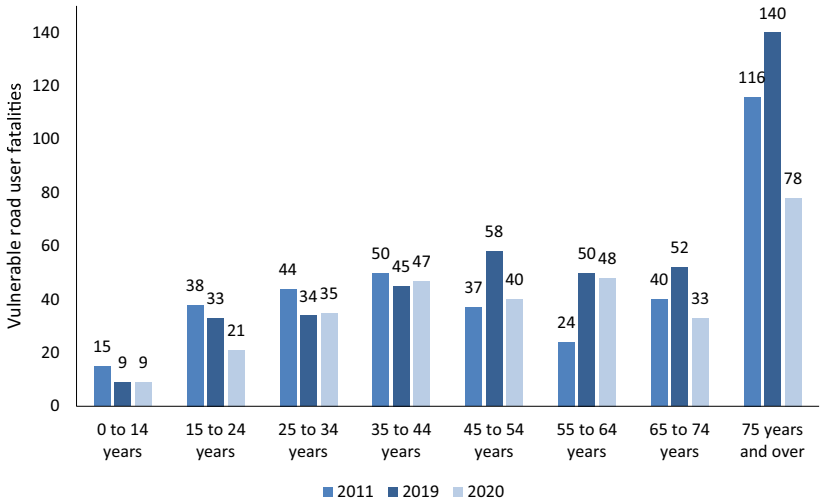
The evolution of the number of vulnerable road user fatalities on interurban roads by age group is shown below and it can be seen, in comparison with 2019, a decrease in all age groups. In 2020, the age group resulting in the highest road death figure record was the 45-54 age group with 75 fatalities, followed by the 35-44, 55-64 and 25-34 age groups with 67, 63 and 61 fatalities respectively.

Figure 54. Number of vulnerable road user fatalities by age groups. Interurban roads. Spain, 2011, 2019 and 2020



With regard to the evolution of the number of vulnerable road users killed on urban roads by age groups, in comparison with 2019, it can be seen an increase in the number of vulnerable road users killed in the 25-34 and 35-44 age groups. The greatest variation concentrates on the 75 and over age group, with a decrease of 62 fatalities. On these roads, 35% of the vulnerable road user fatalities were 65 years of age or over.

Figure 55. Number of vulnerable road user fatalities by age groups. Urban roads. Spain, 2011, 2019 and 2020



Contributory factors

Contributory factors are all those factors related to individuals, vehicles and infrastructure which may have played a role in the occurrence of an accident or in aggravating its consequences. One or several contributory factors can be present in an accident, whose identification may, in many instances, depend on the thoroughness of the investigation conducted by law enforcement officers. At present, the classification of the contributory factors used by law enforcement officers is laid down in Order INT/2223/2014, of 27 October, which regulates the reporting of information to the National Register for Road Traffic Accident Victims.

The presence of the three main contributory factors —distraction, inappropriate speed and alcohol— to accidents resulting in fatalities and casualties occurring on interurban and urban roads is analysed below. Distraction appears as a contributory factor in 31% of fatal accidents; alcohol consumption in 27%; and speed in 25%.

Table 31. Distribution of contributory factors in casualty and fatal accidents occurring on interurban and urban roads. Year 2020. (Catalonia and Basque Country excluded)

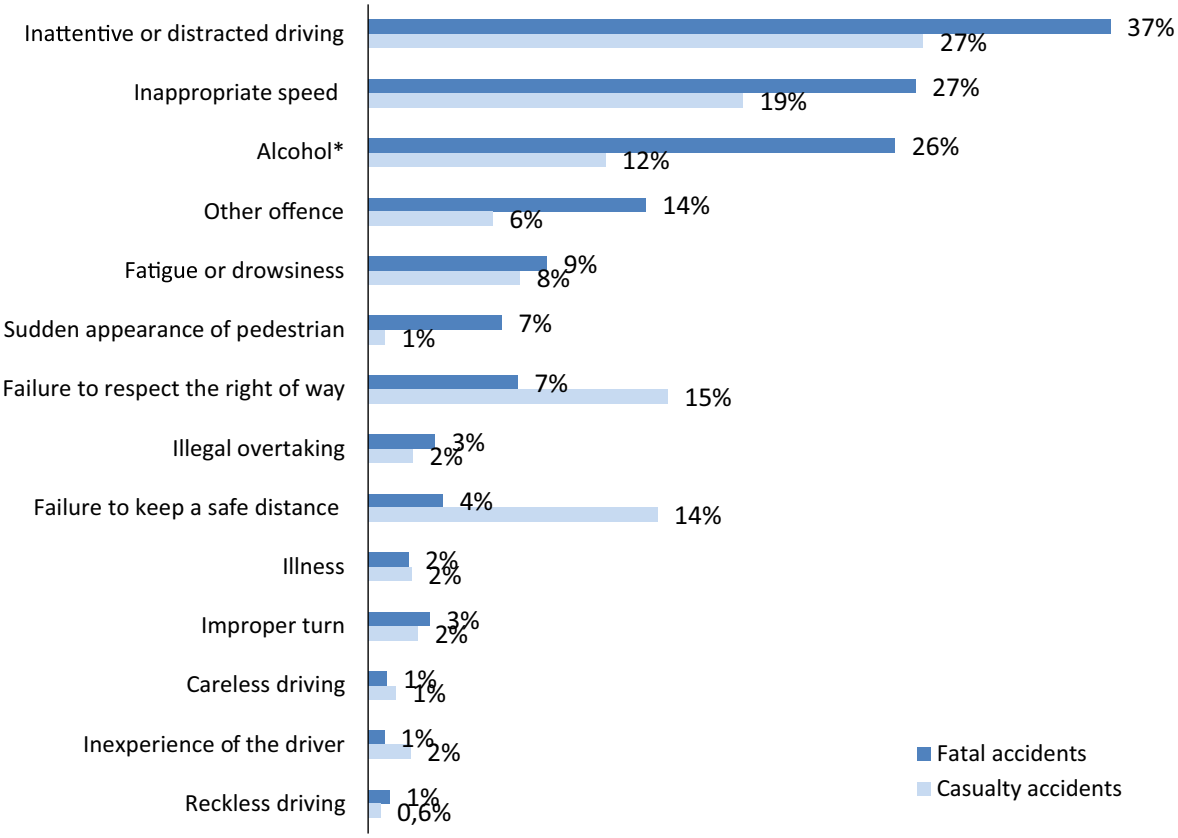
Contributory factor	Casualty accidents		Fatal accidents	
	Cases	% over total accidents	Cases	% over total accidents
Inattentive or distracted driving	8,759	17%	319	31%
Alcohol	2,488 (out of 17,467)	14%	173 (out of 640)	27%
Inappropriate speed	4,578	9%	257	25%

Note: The actual total number of casualty accidents is 51,374 and of fatal accidents is 1,044. Several factors may be present in a single accident.

* *As regards alcohol, the sample considered is 17,467 casualty accidents and a sample of 640 fatal accidents, in which all drivers involved were submitted to test. Of these accidents, alcohol is considered as a contributory factor when, at least, one of the drivers involved in the accident tests positive.*

On interurban roads it is possible to conduct a more detailed analysis of the contributory factors. As for casualty accidents, the most common factors identified in police reports are distraction (27%), inappropriate speed (19%), failure to respect the right of way (15%), failure to keep a safe distance (14%) and alcohol consumption (12%). As regards fatal accidents, the most common factors are distraction (37%), inappropriate speed (27%) and alcohol (26%).

Figure 56. Distribution of contributory factors in casualty and fatal accidents occurring on interurban roads. Year 2020. (Catalonia and Basque Country excluded)



Note: The actual total number of casualty accidents is 19,409 and of fatal accidents is 757. Several factors may be present in a single accident.

** As regards alcohol, the sample considered is 13,233 casualty accidents and a sample of 468 fatal accidents, in which all drivers involved were submitted to test. Of these accidents, alcohol is considered as a contributory factor when, at least, one of the drivers involved in the accident tests positive.*

Exposure indicators

Registered drivers

In 2020 there were 27,206,036 registered drivers, a figure which means a percentage decrease by 0.3% compared with 2019. The registered driver rate was at 672 per thousand driving age population. Between the age of 40 and 59, the rate exceeds 800 drivers per thousand population; for the 25-39 and 60-64 age groups the rate exceeds 700 drivers per thousand population; and for the 65-69 age group the rate exceeds the value 600.

Figure 57. Evolution of the registered drivers. Number of holders with at least one permit or driving licence. Evolution of the rate of drivers per 1,000 population whose age authorises them to drive. Spain, 2011-2020

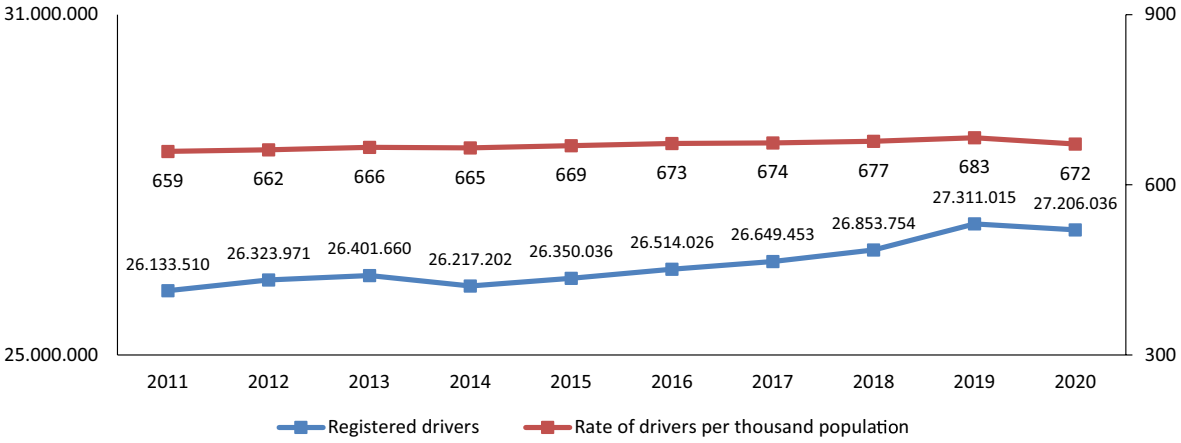
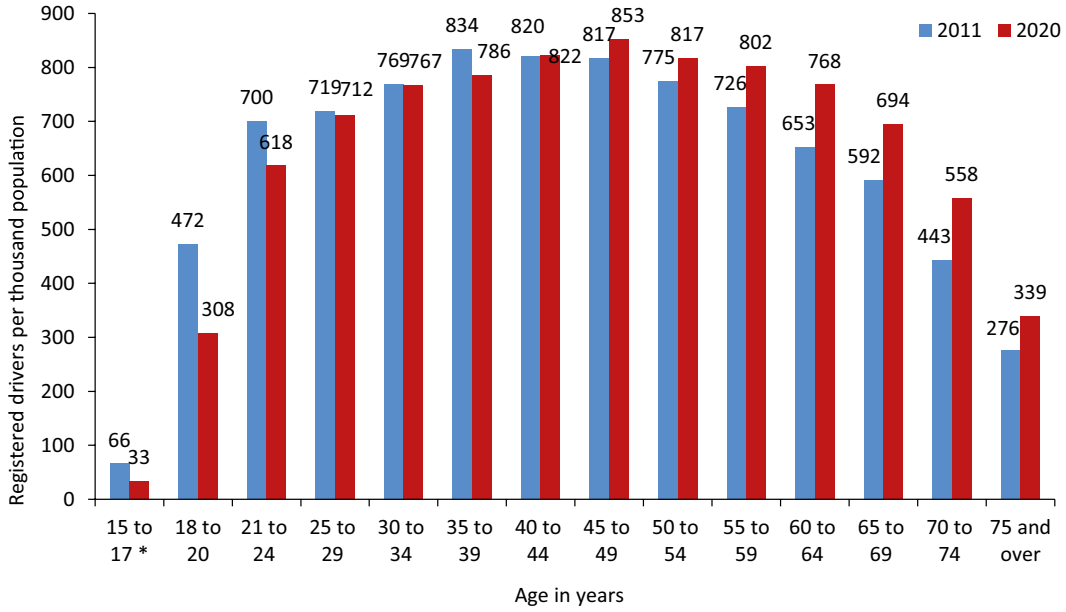


Figure 58. Registered drivers per 1,000 population whose age authorises them to drive. Spain, 2011-2020



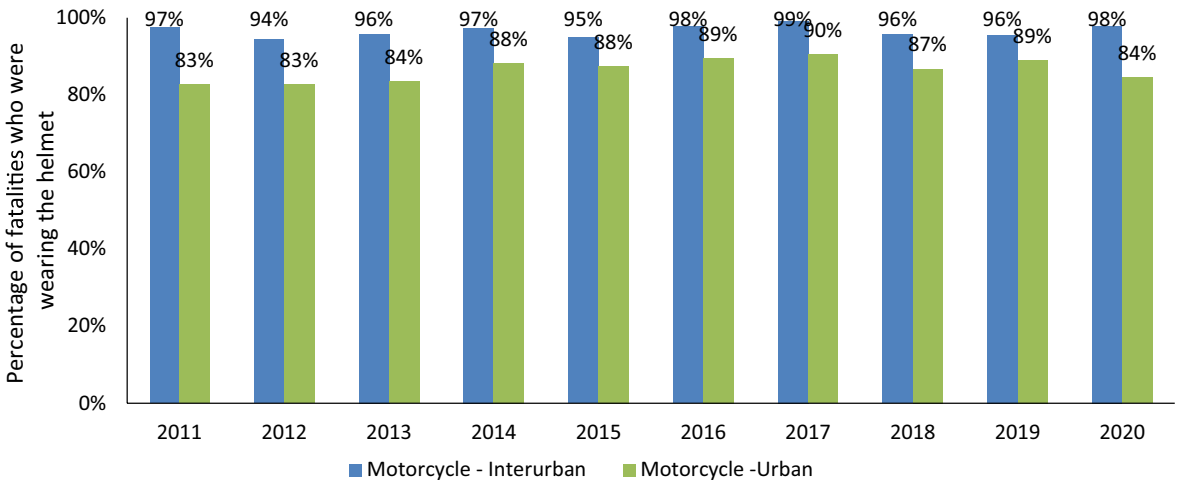
Performance indicators

Seat belt and helmet

98% of the motorcyclists killed on interurban roads in 2020 were wearing the helmet. On urban roads, 84% of fatally injured motorcyclists were wearing the safety helmet in 2020.

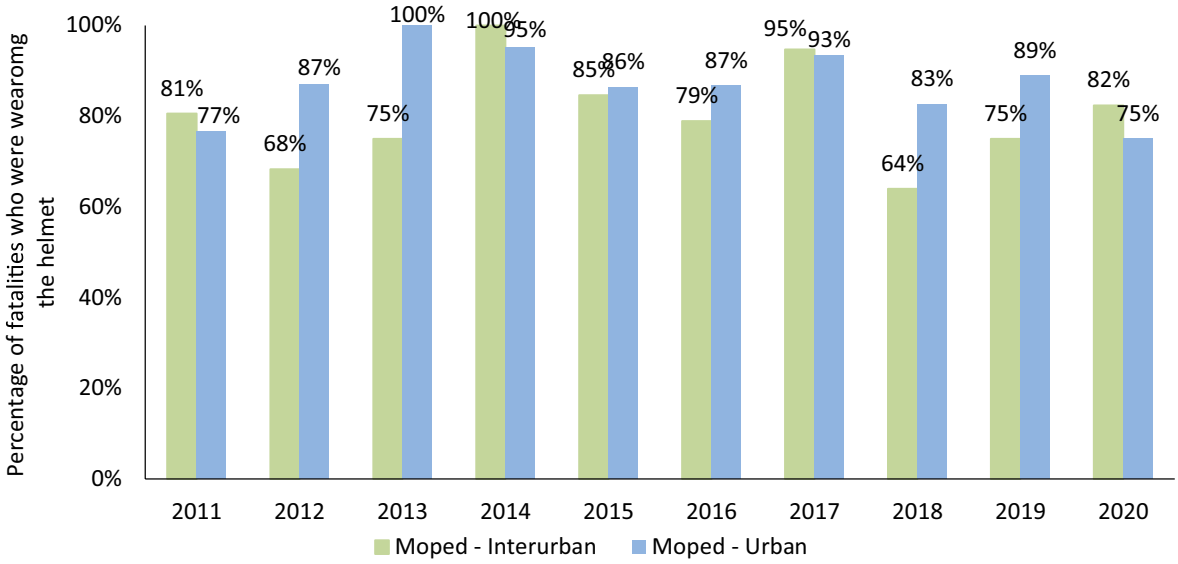
As regards moped fatalities, 82% wore the helmet on interurban roads and 75% did on urban roads.

Figure 59. Motorcyclist fatalities regarding the use of the helmet. Spain, 2011-2020



Note: The percentage of safety devices usage has been calculated considering only the cases in which such usage was known.

Figure 60. Moped user fatalities regarding the use of the helmet. Spain, 2011-2020

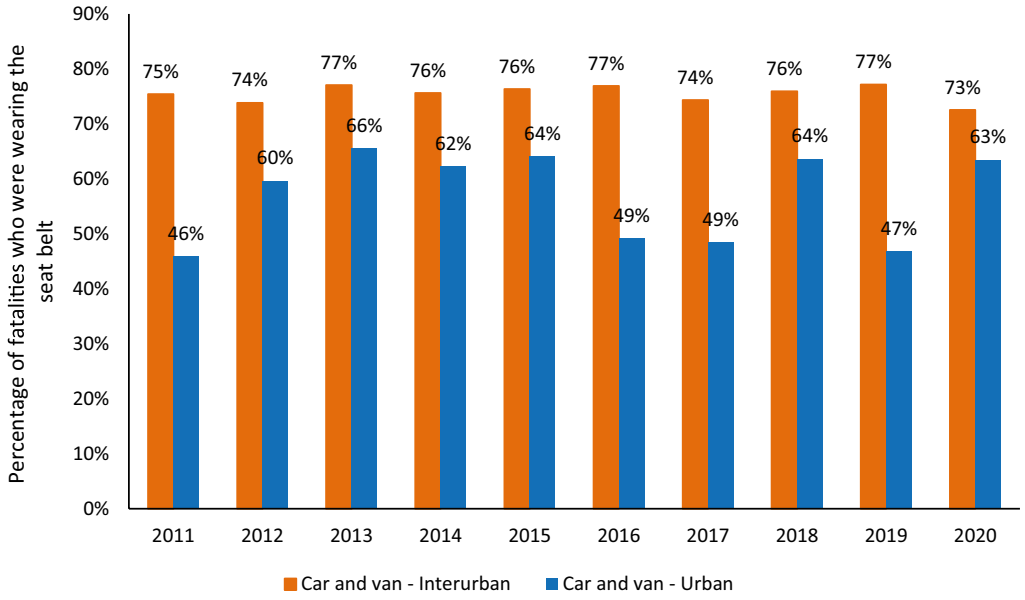


Note: The percentage of safety devices usage has been calculated considering only the cases in which such usage was known.

In 2020, on interurban roads, 73% of car and van occupant fatalities aged 12 and over were wearing the seat belt, and 63% on urban roads.

On interurban roads, in 2020, the 3 children fatalities under 12 years of age who were travelling in a car or van were using a safety device — child restraint system or seat belt—. On urban roads, there was no fatality under the age of twelve as a car or van occupant.

Figure 61. Car and van occupant fatalities aged 12 and over by seat belt use. Spain, 2011-2020



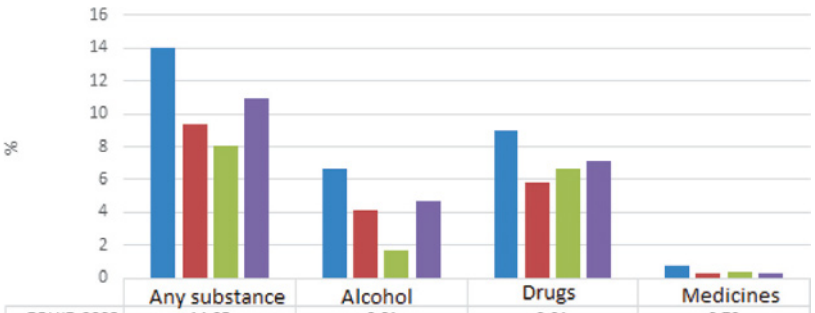
Note: The percentage of safety devices usage has been calculated considering only the cases in which such usage was known.

Alcohol and drugs

Prevalence of psychoactive substances consumption in drivers

Since 2008, prevalence studies have been carried out on a regular basis to determine the consumption of psychoactive substances by drivers travelling on public roads. To date, four editions of the study have been completed: DRUID project (2008-2009), Study on the EDAP prevalence for 2013, 2015 and 2018.

Figure 62. Evolution of the consumption of alcohol, drugs and medicines when driving (years 2008, 2013, 2015 and 2018)



	Any substance	Alcohol	Drugs	Medicines
DRUID-2008	14,05	6,61	9,01	0,73
DRUID-2013	9,34	4,16	5,79	0,29
EDAP-2015	8,09	*	6,63	0,40
EDAP-2018	10,94	4,72	7,08	0,35

Note: Alcohol >0.05 mg/l exhaled air

* *Figure is still being reviewed*

Presence of psychoactive substances by individuals involved in a road traffic accident[1]

Drivers

For the past five years DGT and the Spanish National Toxicology and Forensic Science Institute (INTCF) have been collaborating to connect the databases of the Road Traffic Accident Victims (RNVAT) which contains detailed information on people, vehicles, infrastructure and environment to the INTCF and the IML databases, which record the results of the alcohol and drug tests conducted on the samples taken from fatally injured drivers. This collaboration has enabled us to significantly enrich the quantity and quality of the available information on the role that alcohol and drugs play on road traffic accidents.

In 2020, the INTCF has established collaboration mechanisms with all Institutes of Forensic Medicine and Science which have led to an enhanced percentage of killed drivers for whom there is a blood test available. It should be recalled that in case of death it is compulsory to perform a blood test.

Besides, it should be taken into account that the Traffic Division of the Guardia Civil, the Chartered Police of Navarra and the various local police forces have performed, and recorded on RNVAT, alcohol tests to 32,207 surviving drivers and drugs tests to 630 surviving drivers.

In the analysis below a positive alcohol test means those results exceeding the legal limit established in Article 20 of the General Regulations on Road Traffic[2]: on a general basis, a blood alcohol content higher than 0.5 grams per litre or a breath alcohol content higher than 0.25 milligrams per litre; in the case of novice or professional drivers, a blood alcohol content higher than 0.3 grams per litre, or a breath alcohol content higher than 0.15 milligrams per litre[3].

In 2020, 85,612 drivers were involved in casualty accidents on interurban and urban roads; there is evidence of having tested 38% of them for alcohol. In the case of fatally injured drivers - 746 in 2020 -, the percentage of tested drivers was 63%, of hospitalised injured drivers was 24%, of non-hospitalised injured drivers was 37% and of non-injured drivers was 42%.

On interurban roads, 77% of the drivers were submitted to test whereas the percentage was 15% on urban roads. Depending on the severity of injury and of the location major differences can be observed: on interurban roads 64% of driver fatalities were tested, as well as 36% of hospitalised injured casualties, 74% of non-hospitalised injured casualties and 91% of surviving drivers; on urban roads, 62% of driver fatalities were tested, as well as 9% of hospitalised injured casualties, 11% of non-hospitalised injured casualties and 19% of surviving drivers.

As regards the results of the tests: 32% of fatally injured drivers tested positive for alcohol, as well as 14% of the hospitalised injured drivers, 10% of the non-hospitalised injured drivers and 8% of the non-injured drivers. In comparison with 2019, the percentage of fatally injured drivers testing positive increased from 29% to 32%, covering 68% of the cases in 2019 and 63% in 2020.

1 The information from Catalonia and the Basque Country is not included.

2 Royal Decree 1428/2003 of 21 November approving the General Regulations on Road Traffic for applying and implementing the articled text on the Law on Road Traffic, Motor Vehicles and Road Safety, approved by Royal Legislative Decree 339/1990 of 2 March 1990.

3 The Spanish National Toxicology and Forensic Science Institute, in its road traffic fatality records, identifies as positive those cases with a blood alcohol content higher than 0.3g/l.

Table 32. Results of alcohol testing in drivers involved in casualty accidents. Total, interurban and urban roads. Year 2020, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)

Total	Total drivers	Drivers with proof of testing	% of drivers with proof of testing	Drivers testing positive	Alcohol positive percentage
Fatalities	746	471	63% (68%)	150	32% (29%)
Hospitalised injured casualties	3,527	847	24% (26%)	117	14% (15%)
Non-hospitalised injured casualties	41,957	15,395	37% (36%)	1,515	10% (9%)
No healthcare required	37,796	15,765	42% (42%)	1,276	8% (7%)
Not classified	1,586	200	13% (14%)	18	9% (5%)
Total	**85,612**	**32,678**	**38% (38%)**	**3,076**	**9% (8%)**

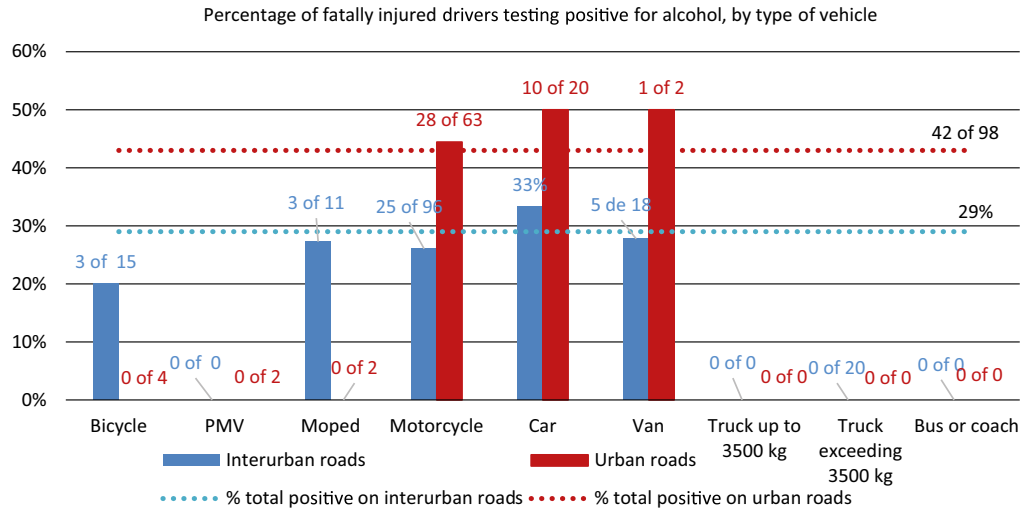
Interurban roads	Total drivers	Drivers with proof of testing	% of drivers with proof of testing	Drivers testing positive	Alcohol positive percentage
Fatalities	587	373	64% (69%)	108	29% (27%)
Hospitalised injured casualties	1,967	700	36% (38%)	71	10% (11%)
Non-hospitalised injured casualties	17,325	12,792	74% (75%)	975	8% (7%)
No healthcare required	11,867	10,783	91% (91%)	499	5% (4%)
Not classified	312	116	37% (42%)	4	3% (2%)
Total	**32,058**	**24,764**	**77% (79%)**	**1,657**	**7% (6%)**

Urban roads	Total drivers	Tested drivers	% of tested drivers	Drivers testing positive	Alcohol positive percentage
Fatalities	159	98	62% (62%)	42	43% (41%)
Hospitalised injured casualties	1,560	147	9% (10%)	46	31% (35%)
Non-hospitalised injured casualties	24,632	2,603	11% (10%)	540	21% (20%)
No healthcare required	25,929	4,982	19% (18%)	777	136% (143%)
Not classified	1,274	84	7% (7%)	14	17% (11%)
Total	**53,554**	**7,914**	**15% (14%)**	**1,419**	**18% (16%)**

Taking into account the coverage of alcohol testing for drivers involved in an accident, especially in built-up area, the tests in detail by type of vehicle and by alcohol content that are shown below are performed only to fatally injured drivers.

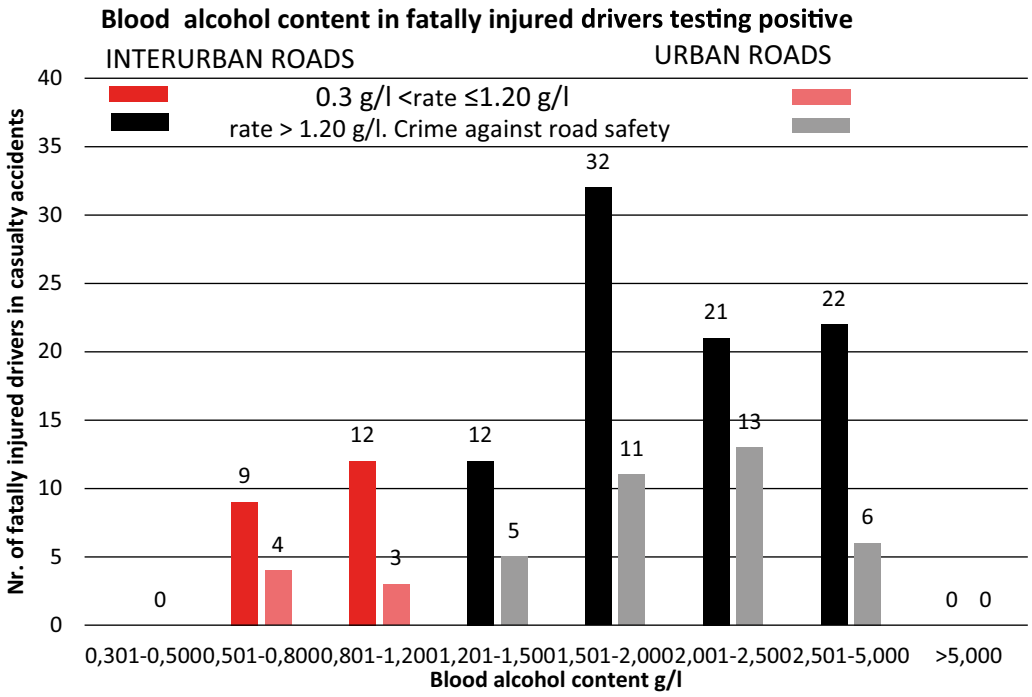
By the mode of transport and the location of the accident, it can be observed that the percentage of fatally injured drivers testing positive is very heterogeneous: on interurban roads, the highest presence is observed for cars and less than 1% for PMVs, trucks exceeding and up to 3500 kg and bus and coach; on urban roads, the highest presence is observed for cars, vans and motorcycles, whereas for the rest of vehicles the presence is less than 1%.

Figure 63. Percentage of fatally injured drivers testing positive for alcohol by type of vehicle. Interurban and urban roads. Year 2020 (Catalonia and Basque Country excluded)



As regards alcohol content in the case of fatally injured drivers, the most remarkable fact is that 70% of the positive cases show a concentration three times higher than the legal limit established in the General Regulations on Road Traffic. On interurban roads, this percentage is 69% and on urban roads it is 71%. Meanwhile, the percentage of cases exceeding the 1.2 g/l content is 81% on interurban roads and 83% on urban roads.

Figure 64. Blood alcohol concentration in drivers killed in traffic accidents who tested positive. Interurban and urban roads. Year 2020. (Catalonia and Basque Country excluded)



The total of fatalities in road accidents in which a driver tested positive for alcohol is recorded below. It should be noted that a fatal accident with alcohol test is the accident in which all the drivers involved have been tested or one of the drivers tested positive for alcohol. Fatalities resulting from an accident in which the driver tests positive for alcohol are the individuals who were fatally injured in the fatal accidents previously defined.

In 2020, 191 people were killed on interurban and urban roads in an accident in which the driver tested positive for alcohol, this means 19% less than in 2019. On interurban roads, there were 138 fatalities - 21% less than in 2019 - and on urban roads there were 53 fatalities - 8 less than in 2019.

Table 33. Road fatalities in accidents in which at least one driver tested positive for alcohol. Years 2016, 2017, 2018, 2019 and 2020. (Catalonia, Basque Country excluded)

Total	2016	2017	2018	2019	2020	Diff 2020/2019
Road fatalities in accidents in which the driver tested positive for alcohol	228	254	195	235	191	-19%
% fatal accidents with test over the total fatal accidents	65%	68%	65%	67%	61%	-6

Interurban roads	2016	2017	2018	2019	2020	Diff 2020/2019
Road fatalities in accidents in which the driver tested positive for alcohol	168	200	152	174	138	-21%
% fatal accidents with test over the total fatal accidents	68%	69%	66%	68%	62%	-6

Urban roads	2016	2017	2018	2019	2020	Diff 2020/2019
Road fatalities in accidents in which the driver tested positive for alcohol	60	54	43	61	53	-8
% fatal accidents with test over the total fatal accidents	59%	64%	63%	64%	60%	-4

As regards the consumption of illegal drugs[4], there is evidence of having tested 62% of fatally injured drivers, of whom 21% tested positive. The percentage of fatally injured drivers submitted to test was 61% on interurban roads and 62% on urban roads, of whom 19% tested positive on interurban roads and 31% on urban roads.

[4] The following substances have been considered: amphetamines, cocaine, cannabis and opioids. The annual reports of the Spanish National Toxicology and Forensic Science Institute include an analysis of the presence of psychotropic drugs in fatally injured drivers.

Table 34. Results of drug testing in drivers involved in casualty accidents. Interurban and urban roads. Year 2020, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)

	Total driver fatalities	Fatally injured drivers with proof of testing	% of fatally injured drivers with proof of testing	Fatally injured drivers testing positive	Drug positive percentage
Interurban roads	587	361	61% (70%)	67	19% (18%)
Urban roads	159	98	62% (63%)	30	31% (25%)
Total	**746**	**459**	**62% (69%)**	**97**	**21% (20%)**

The most common substances on fatally injured drivers testing positive for drugs are cocaine (62%) and cannabis (55%). Opioids and amphetamines are less common (5% and 6% respectively).

Table 35. Substances tested for in drug testing performed on drivers with a positive result. Interurban and urban roads. Year 2020, 2019 values in red and in brackets. (Catalonia, Basque Country excluded)

Substance	Fatally injured drivers	Percentage
Cocaine	60	62% (55%)
Opioids	5	5% (1%)
Amphetamine	6	6% (6%)
Cannabis	53	55% (56%)
Drivers testing positive for drugs	**97**	**100% (100%)**

The percentage of fatally injured drivers testing positive for alcohol and/or drugs was 43% in 2020.

Table 36. Fatally injured drivers submitted to alcohol and/or drug testing and results. Interurban and urban roads. Year 2020, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)

	Evidence of tests performed for alcohol and/or drugs	Positive in alcohol and/or drug testing	Percentage of positive in alcohol and/or drug testing
Fatally injured drivers	**472**	**205**	**43% (39%)**

Pedestrians

In 2020, 216 pedestrians were killed (Catalonia and the Basque Country are excluded) and 102 of them were submitted to alcohol testing, i.e. 47%. 21 pedestrians had a level of alcohol above 0.5 g/l, that is, 21% of the tested fatalities.

On interurban roads, 53 out of 92 pedestrian fatalities were submitted to test - 59% - and on urban roads, 49 out of 124 pedestrian fatalities were tested - 40%. 17 out of the 53 tested pedestrians

on interurban roads registered a level of alcohol above 0.5 g/l as well as 4 out of the 49 tested pedestrians on urban roads.

Table 37. Pedestrian fatalities, alcohol testing performed and results of the tests. Year 2020, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)

Total	Total	Tested pedestrians	% of tested pedestrians	Pedestrians result > 0.5 g/l	% alcohol > 0.5 g/l
Pedestrian fatalities	216	102	47% (46%)	21	21% (22%)

Interurban roads	Total	Tested pedestrians	% of tested pedestrians	Pedestrians result > 0.5 g/l	% alcohol > 0.5 g/l
Pedestrian fatalities	92	53	53 out of 92 (59%)	17	17 out of 53 (21 de 66)

Pedestrian fatalities	124	49	49 out of 124 (38%)	4	4 out of 49 (9 de 72)
Pedestrian fatalities	124	49	49 out of 124 (38%)	4	4 out of 49 (9 de 72)

Activity indicators

Controls performed by the Traffic Division of the Guardia Civil (ATGC)5:

Alcohol

In 2020 the Traffic Division of the Guardia Civil performed 3,121,815 breath alcohol tests within the framework of their competences, which means 52% less as compared to the tests conducted in 2019. Of the 2,453,661 preventive control tests performed, 1.03% were positive for alcohol (above the legal limits).

Drugs

In the context of the duties performed by the Traffic Division of the Guardia Civil, 48,194 drug tests were performed in 2020, as against the 101,893 ones performed in 2019, which means a decrease by 53%. Of the 32,124 preventive control tests performed, 34% were positive.

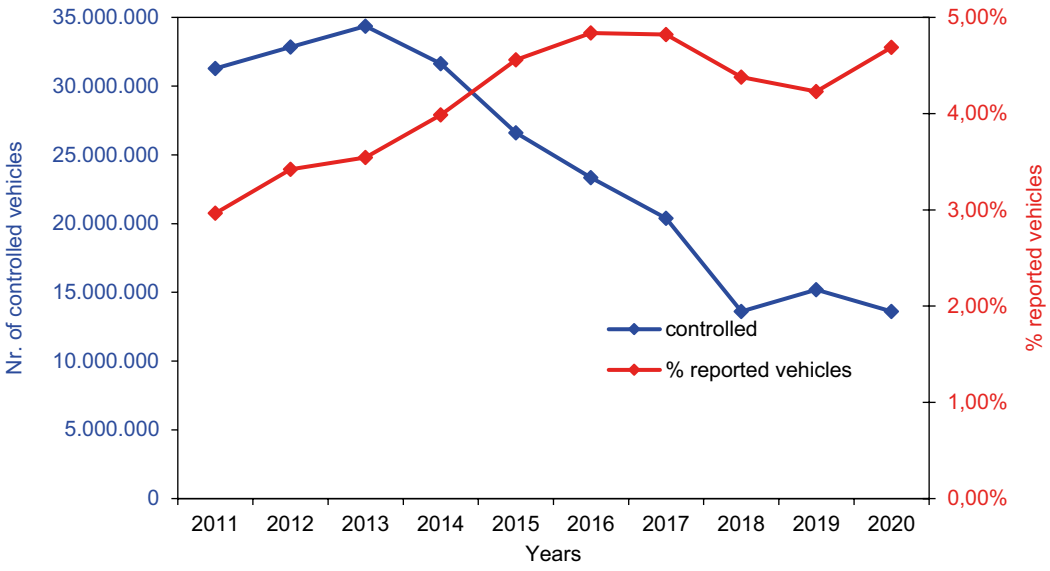
Speed

In 2019, DGT reported a total of 2,431,186 traffic offences. Of them, 63% were speed-related. These traffic offences were detected by the Traffic Division of the Guardia Civil and by fixed safety and point-to-point speed cameras and helicopters.

5 Their scope excludes public roads on the Basque Country and Catalonia as well as Municipalities with their own local police forces.

In 2020, the Traffic Division of the Guardia Civil[6] performed speed controls to 13.6 million vehicles, with an outcome of 638,082 vehicles being reported. As compared with 2019, around 1.6 million fewer vehicles have been controlled and the percentage of reported vehicles has been 4.7%.

Figure 65. Controls performed by the Traffic Division of the Guardia Civil. Years 2010-2019



[6] Whose activity excludes public roads on the Basque Country and Catalonia as well as Municipalities with their own local police forces.

5

Others

The type of casualty accident

Running off the road was the most commonly reported type of fatal accident in 2020, with 35% of all deaths, followed by accidents involving a pedestrian (18%) and head-on collisions (15%).

Table 38. Road fatalities by type of accident. Spain, 2011-2020

Type of Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Variation[1] 2020/2019	Year-on-year variation 2011-2020	Distribution % 2020
Run-off-road collision	646	663	508	548	522	601	601	582	573	485	-15%	-3%	35%
Head-on collision	336	250	222	225	209	277	327	290	284	209	-26%	-5%	15%
Side and T-bone collision	329	282	246	204	190	253	259	243	228	186	-18%	-6%	14%
Rear and multiple collision	191	165	153	145	169	145	144	140	146	106	-27%	-6%	8%
Pedestrian collision*	367	355	349	310	306	386	338	378	373	243	-35%	-4%	18%
Overturning	47	47	30	17	16	22	20	26	32	25	-7	-22	2%
Other type of accidents	144	141	172	239	277	126	141	147	119	116	-3%	-2%	8%
Total	**2,060**	**1,903**	**1,680**	**1,688**	**1,689**	**1,810**	**1,830**	**1,806**	**1,755**	**1,370**	**-22%**	**-4%**	**100%**

* *The number of people killed when struck by a vehicle does not include all pedestrians hit by a vehicle because the classification by type of accident is made according to the first manoeuvre and not to its harmful outcome.*

[1] *The differences have been estimated as a percentage when the number of cases is higher than 100 and in absolute values when the number is below 100.*

On interurban roads, the type of accident with more fatalities was running off the road (42%) and on urban roads pedestrians struck by a vehicle (37%).

Table 39. Road fatalities by type of accident. Interurban roads. Spain, 2011-2020

Type of Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Variation[1] 2020/2019	Year-on-year variation 2011-2020	Distribution % 2020
Run-off-road collision	578	594	441	476	464	524	519	506	482	406	-16%	-4%	42%
Head-on collision	322	232	214	208	195	254	306	282	263	192	-27%	-6%	20%
Side and T-bone collision	254	223	184	153	140	183	179	173	152	126	-17%	-7%	13%
Rear and multiple collision	163	136	132	122	136	114	126	109	125	91	-27%	-6%	9%
Pedestrian collision*	150	132	135	118	97	133	99	146	128	97	-24%	-5%	10%
Overturning	38	30	26	11	12	17	16	19	23	13	-10	-25	1%
Other type of accidents	98	95	98	159	204	66	76	82	63	50	-13	-48	5%
Total	**1,603**	**1,442**	**1,230**	**1,247**	**1,248**	**1,291**	**1,321**	**1,317**	**1,236**	**975**	**-21%**	**-5%**	**100%**

* *The number of people killed when struck by a vehicle does not include all pedestrians hit by a vehicle because the classification by type of accident is made according to the first manoeuvre and not to its harmful outcome.*

[1] *The differences have been estimated as a percentage when the number of cases is higher than 100 and in absolute values when the number is below 100.*

Table 40. Road fatalities by type of accident. Urban roads. Spain, 2011-2020

Type of Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Variation[1] 2020/2019	Year-on-year variation 2011-2020	Distribution % 2020
Run-off-road collision	68	69	67	72	58	77	82	76	91	79	-12	11	20%
Head-on collision	14	18	8	17	14	23	21	8	21	17	-4	3	4%
Side and T-bone collision	75	59	62	51	50	70	80	70	76	60	-16	-15	15%
Rear and multiple collision	28	29	21	23	33	31	18	31	21	15	-6	-13	4%
Pedestrian collision*	217	223	214	192	209	253	239	232	245	146	-40%	-4%	37%
Overturning	9	17	4	6	4	5	4	7	9	12	3	3	3%
Other type of accidents	46	46	74	80	73	60	65	65	56	66	10	20	17%
Total	**457**	**461**	**450**	**441**	**441**	**519**	**509**	**489**	**519**	**395**	**-24%**	**-2%**	**100%**

* *The number of people killed when struck by a vehicle does not include all pedestrians hit by a vehicle because the classification by type of accident is made according to the first manoeuvre and not to its harmful outcome.*

[1] *The differences have been estimated as a percentage when the number of cases is higher than 100 and in absolute values when the number is below 100.*

The temporal component in casualty accidents

By periods of the year

Accident rate by periods of the year 2020 in comparison with 2019 can be illustrated, because of mobility restrictions as a consequence of the COVID-19 pandemic.

Table 41. Fatalities and fatal accidents by periods. Spain, 2019-2020

Periods[1]	2019		2020		Var. % fatalities 2020/2019
	Fatal accidents	Fatalities	Fatal accidents	Fatalities	
1 January to 13 March	256	321	251	323	1%
14 March to 3 May	183	235	57	66	-72%
4 May to 30 June	195	246	131	156	-37%
1 July to 31 August	270	345	241	298	-14%
1 September to 24 October	231	275	216	265	-4%
25 October to 31 December	268	333	206	262	-21%
Total	**1,403**	**1,755**	**1,102**	**1,370**	**-22%**

[1] *Periods: 14 March 2020: entry into force of the state of alert approved by Royal Decree 463/2020; 4 May 2020: start of the Plan for Transition to a New Normal, approved by the Council of Ministers on 28 April 2020; 25 October 2020: entry into force of the state of alert approved by Royal Decree 926/2020.*

The trend in the number of fatalities before the declaration of the state of alert for COVID-19 (1 January to 13 March) was a growing trend: +1% compared to the same period of 2019. However, from 14 March to 3 May (first state of alert for COVID-19) there was a decrease by 72% in the number of fatalities.

Months of the year

In 2020, an average of 114 people a month was killed in road traffic accidents. The maximum figures are registered in July and October, 22% of the annual total fatalities. April is the month with the greatest case fatality rate (3.0) and June with the lowest (1.0).

Figure 66. Distribution of fatalities by months. Spain, 2010-2019

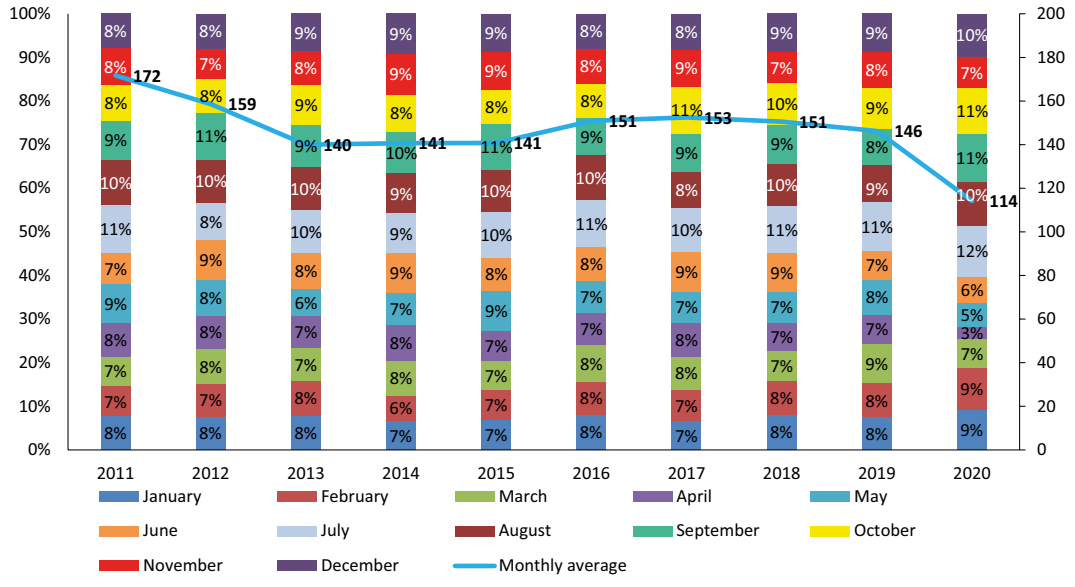
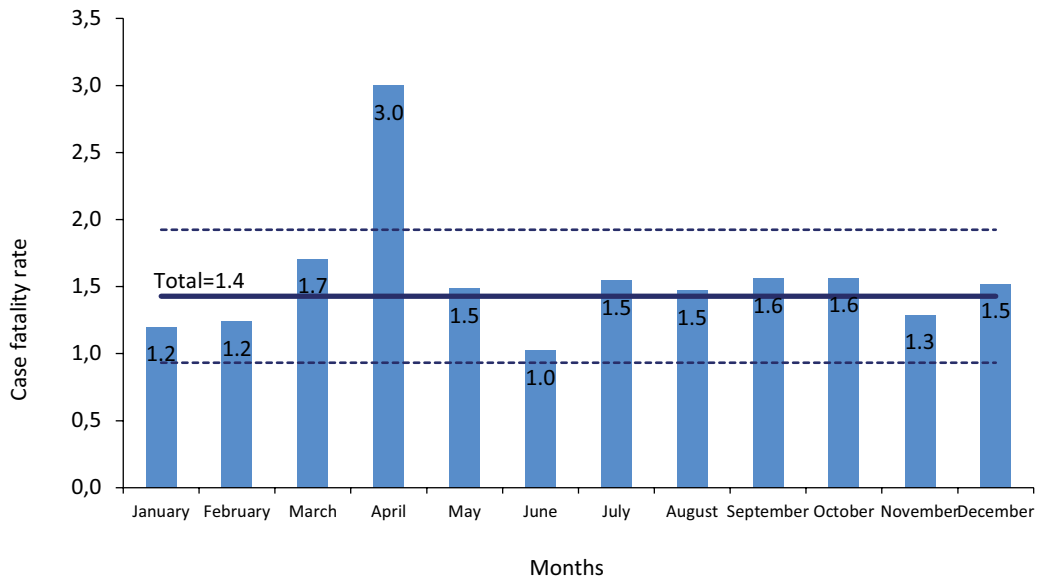


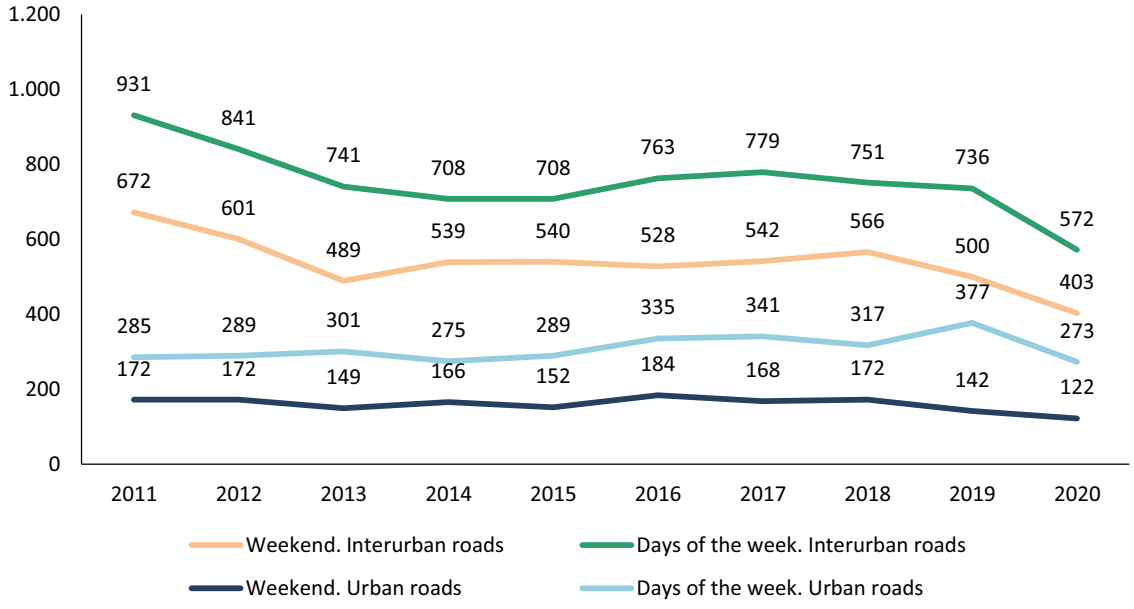
Figure 67. Case fatality rate by months. Spain, 2020



Days of the week

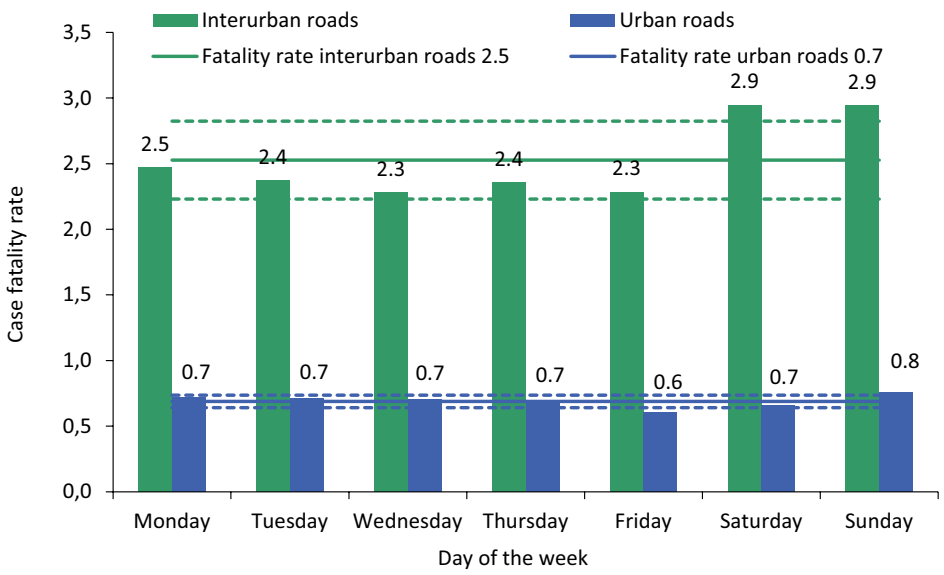
69% of the road fatalities in 2020 occurred in accidents happening from Monday to Friday. Notwithstanding the above, Tuesdays and Wednesdays were the days of the week recording fewer accumulated fatalities throughout the year (180 and 181 respectively).

Figure 68. Fatalities by time of the accident, at weekends or days of the week, on interurban and urban roads. Spain, 2020



Note: The weekend days start at 15:00 on Friday and end at 23:59 on Sunday.

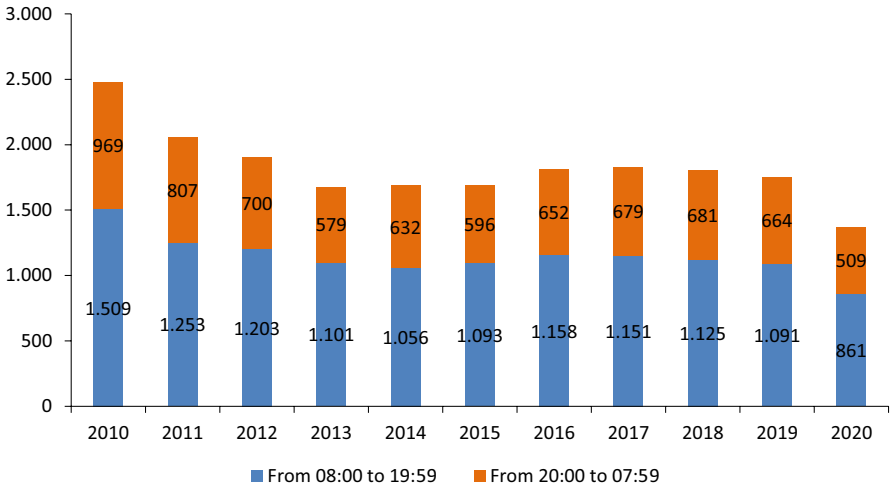
Figure 69. Case fatality rate by days of the week, on interurban and urban roads. Spain, 2020



Times of the day

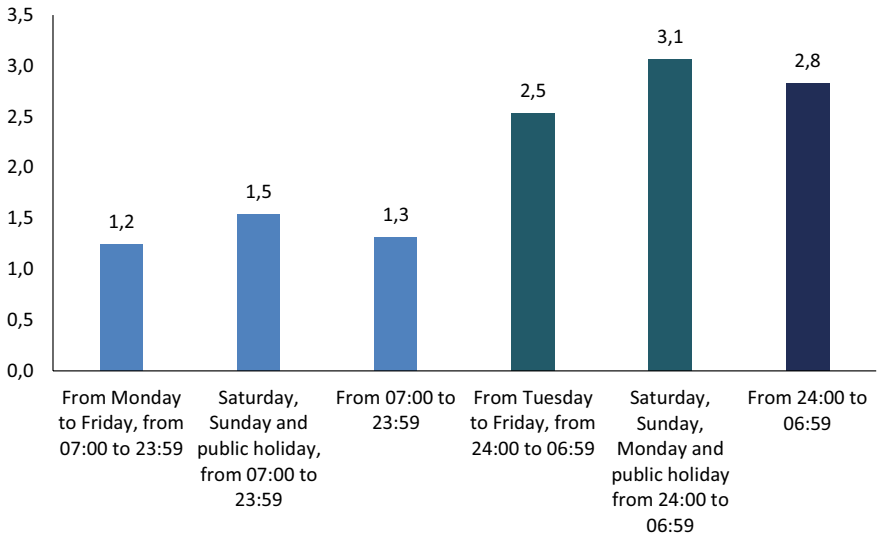
In 2020, 63% of the reported road fatalities occurred within the time frame between 08.00 and 19.59 hours. As compared with 2019, the number of road fatalities occurring during the slot 08.00 - 19.59 increased by 1%.

Figure 70. Fatalities by time slot. Spain, 2010-2020



If the combination of time slot and day of the week is analysed, the case fatality rate is higher on Saturdays, Sundays and public holidays than during the week, being fatality rate higher from 24:00 to 6:59 hours.

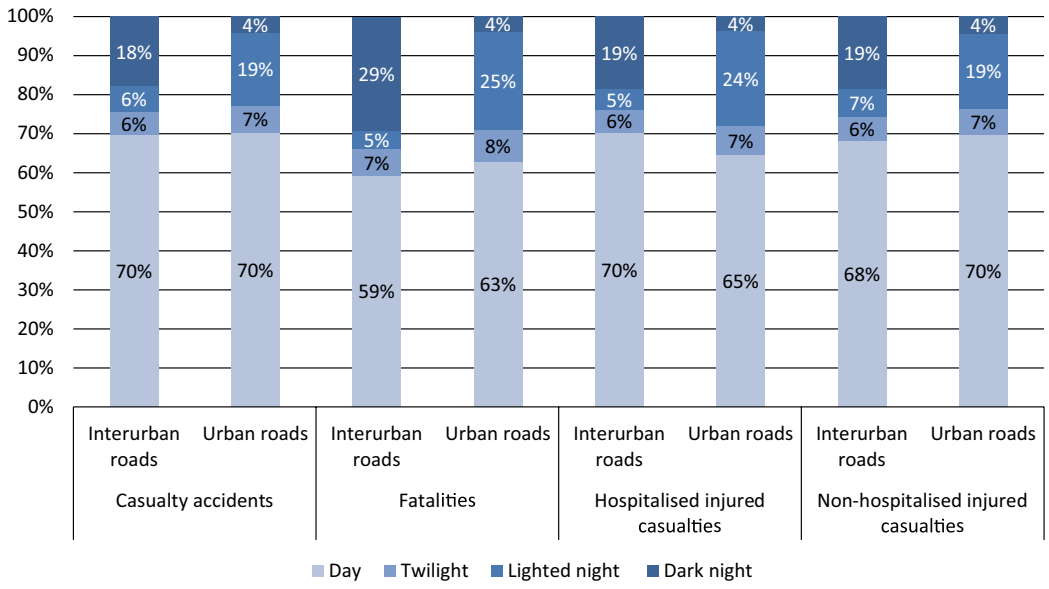
Figure 71. Case fatality rate by time slot and day of the week. Spain, 2020



Brightness

In 2020, 70% of casualty accidents, 59% of fatalities and 70% of hospitalised and 68% non-hospitalised injured casualties on interurban roads occurred during the day. On urban roads, the highest concentration of accidents and casualties occurs on urban roads during the day.

Figure 72. Casualty accidents, fatalities, hospitalised and non-hospitalised injured casualties by brightness. Interurban and urban roads. Spain, 2020



6

Traffic related injuries and the cost of the accidents

Severity of injured road casualties (MAIS 3+)

Traffic related injuries shall be analysed here and in the next section of this document from the data recorded in the Minimum Basic Data Set provided by the Ministry of Health. The Minimum Basic Data Set includes all hospital discharges of patients admitted to hospital in Spain, selecting the cases concerning road casualties admitted to hospital.

A seriously injured road casualty has traditionally been defined as an injury which results in the person being admitted to hospital at least for 24 hours. However, from the medical point of view, an injured person should be considered as seriously injured depending on the importance of the injuries and not on the hospital stay, since it can vary according to the groups at risk and to the health policies in each country. At international level consensus has been reached to use indicators that clearly express the degree of seriousness of injury as a result of an accident, being the method that shows the highest degree according to the implementation of the Abbreviated Injury Scale, selecting the cases with a Maximum Abbreviated Injury Scale of 3 or greater. This grouping of cases, considering as seriously injured casualty the casualty sustaining an injury classified as MAIS 3+, has also been adopted by the European Union.

As for Spain, MAIS classification is made from the diagnoses recorded on RAE-CMBD (Activity Logging for Specialized Health Care - Minimum Basic Data Set) and codified according to ICD-10-CM in 2018 and 2019 and from the diagnoses recorded on CMBD according to CD-9 for the years prior to 2016. The conversion table supplied by the European Union is applied and it provides injury severity in accordance with the international classification AIS, for each case the maximum value is taken, obtaining the classification MAIS 3+.

6,162 hospitalised casualties scored 3 or higher on MAIS 3+ in 2019. There were differences in the percentage distribution by age and gender and in their prevalence rate.

The 45-54 age group accounts for the highest proportion of seriously injured casualties with 16% and the 85 and over age group is the group with the lowest proportion: 3%. Males showed a proportion of 75% and females of 25%.

As regards age groups, the highest prevalence rate is observed among the 15-24 age group - 19.4 -, followed by the 25-34 age group - 16.6 - and by the 75-84 age group - 16.3. The lowest rate is observed among children under one year of age group - 2.2 - followed by the 1-14 age group - 3.6. Males showed a prevalence of 20.1 and females of 6.4; the rate for males is three times as high as that among females.

Compared to the rates for 2018, there are differences in the 15-24 age group, with an increase from 17.7 in 2018 to 19.4 in 2019 and in the 75-84 age group, with a decrease from 17.6 in 2018 to 16.3 in 2019. As regards gender, no differences were observed between these two years.

Table 42. Seriously injured casualties (MAIS 3+) by age groups, prevalence rate per 100,000 population. Spain, 2019

Age (in years)	Seriously injured casualties (MAIS 3+)	% Seriously injured casualties (MAIS 3+)	Prevalence rate MAIS 3+ per 100,000 population
Child under 1 y	8	0%	2.2
1 to 14 y	237	4%	3.6
15 to 24 y	898	15%	19.4
25 to 34 y	883	14%	16.6
35 to 44 y	954	15%	12.9
45 to 54 y	1,013	16%	13.6
55 to 64 y	896	15%	14.7
65 to 74 y	586	10%	12.8
75 to 84 y	488	8%	16.3
Over 84 y	199	3%	13.1
Total	**6,162**	**100%**	**13.1**

Figure 73. Seriously injured casualties (MAIS 3+) per 100,000 population by age groups. Spain, 2018, 2019

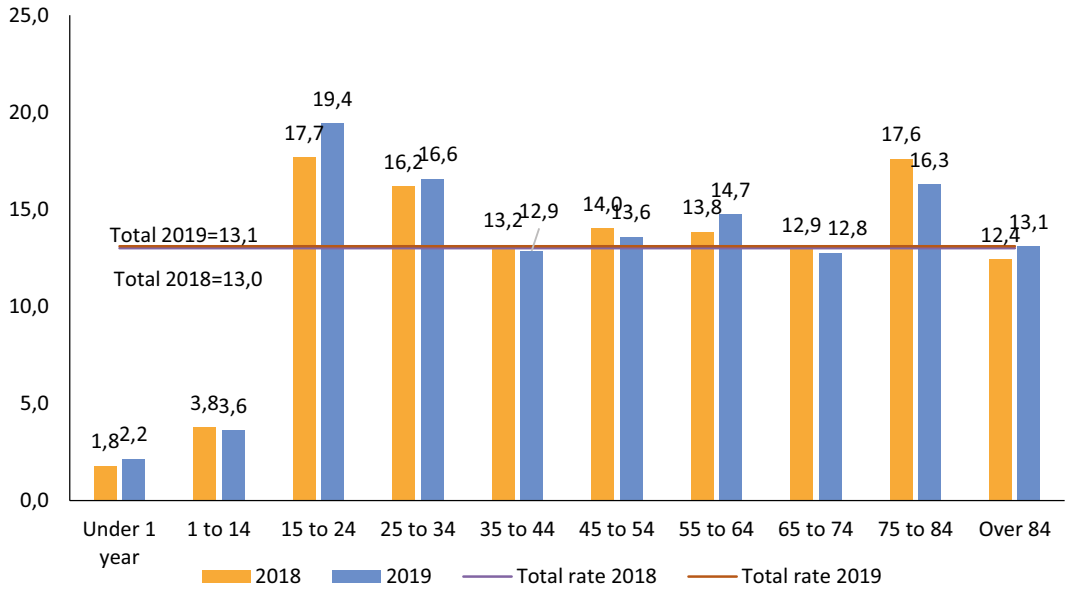
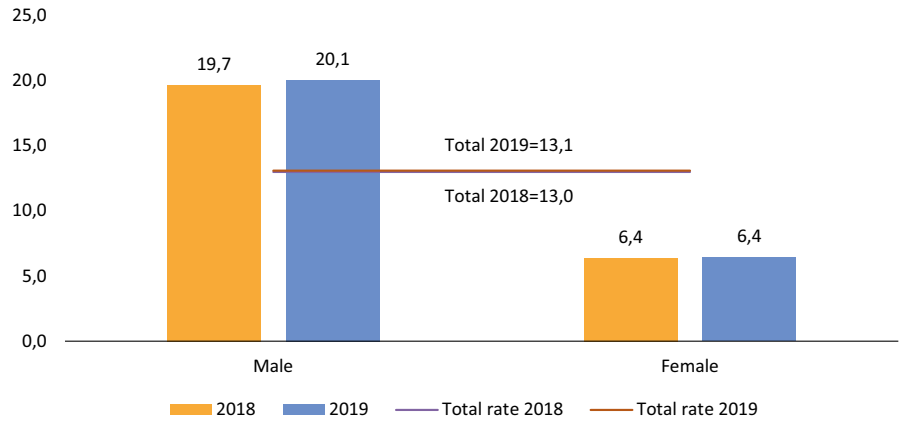


Table 43. Seriously injured casualties (MAIS 3+) by gender. Spain, 2019

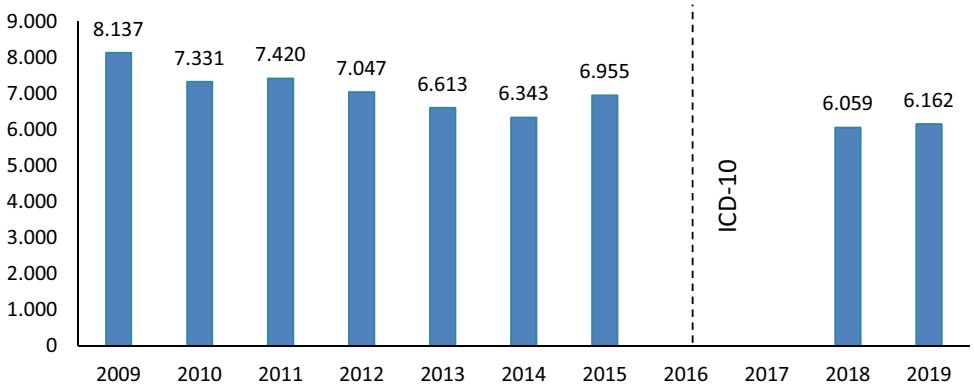
Gender	Seriously injured casualties (MAIS 3+)	% Seriously injured casualties (MAIS 3+)	Prevalence rate MAIS 3+ per 100,000 population
Male	4,619	75%	20.1
Female	1,543	25%	6.4
Unknown		0%	
Total	**6,162**	**100%**	**13.1**

Figure 74. MAIS 3+ per 100,000 population by gender. Spain, 2018.2019



The evolution of the number of MAIS 3+ injured casualties shows a downward trend since 2009. The estimate of MAIS 3+ was performed on the basis of ICD-9 from 2009 to 2015, year in which an increase by 10% was observed in comparison with 2014. Since 2016, the diagnoses of hospital discharge are codified according to the International Classification of Disease 10 (ICD-10) and from 2018 onwards the collected data are sufficiently robust to be used. In 2018, there were 6,059 MAIS 3+ casualties and in 2019 there were 6,162 - which mean an increase by 2%.

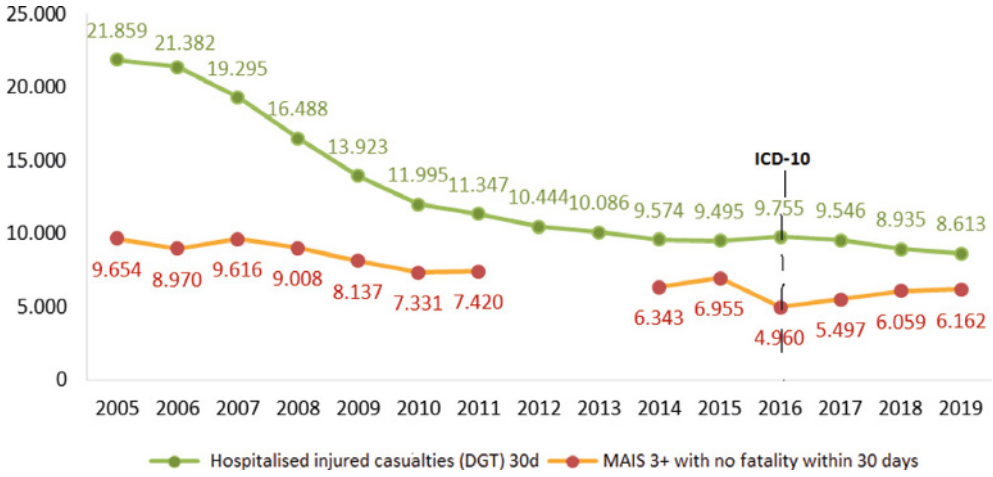
Figure 75. Evolution of seriously injured road casualties (MAIS 3+). Spain, 2009-2019



Note: In 2016 and 2017, data on hospital discharge used to estimate MAIS 3+ are not entirely comparable to the whole country, which has been the cause of their exclusion from this analysis.

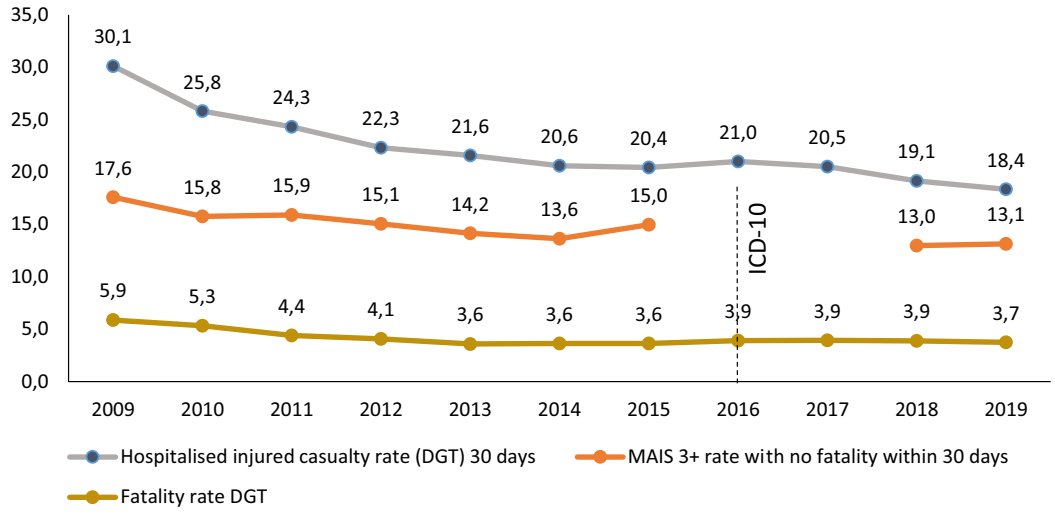
The evolution of the number of MAIS 3+ injured casualties shows a downward trend from 2009 to 2019.The hospitalised injured casualties obtained from the police records also show a downward trend in that period of time. That trend is also observed when the prevalence rate per 100,000 population is estimated for both indicators. Besides, it can be observed that the MAIS 3+ injury rate is more than three times the fatality rate in 2018 and 2019, highlighting the importance of collecting the MAIS 3+ indicator, since injury severity of the casualties with MAIS 3+ implies a longer stay at hospital, greater after-effects and, in certain cases, disabilities.

Figure 76. Evolution of seriously injured road casualties (MAIS 3+) and of hospitalised injured casualties from police records. Spain, 2009-2019



Note: In 2016 and 2017, data on hospital discharge used to estimate MAIS 3+ are not entirely comparable to the whole country, which has been the cause of their exclusion from this analysis.

Figure 77. Evolution of the rates of seriously injured road casualties (MAIS 3+), hospitalised injured casualties from police records and fatalities per 100,000 population. Spain, 2009-2019



Note: In 2016 and 2017, data on hospital discharge used to estimate MAIS 3+ are not entirely comparable to the whole country, which has been the cause of their exclusion from this analysis.

Traffic-related injuries

In order to know more about the type of injury following an accident, the diagnostic classification for trauma injuries has been carried out in relation to injury location and mechanism of injury for external causes applicable to ICD-10 through the Injury Mortality Diagnosis Matrix.This classification replaces the classification made in the Barell matrix on ICD-9 and was published by the Centres for Disease and Control Prevention)[7].

In the analysis of all the groups, two of them were considered: hospital discharge excluding all fatalities and only fatalities, because there are major differences between the two groups.

21,949 road injured casualties were discharged from Spanish hospitals, both public and private (being death the reason for hospital discharge) in 2019. If patients dying at a hospital are excluded from the analysis, the number of hospital discharges was 21,434 with 60,202 injuries, i.e. 2,8 injuries per individual.

Deaths due to road accidents occurring in hospital centres were 515 individuals and the number of injuries they sustained was 3,170, that is 6.2 injuries per individual, a figure above that published for injured survivors.

The most common injury location and the mechanisms of injury are very different, as one would expect, when analysing the classification matrix for hospital discharges without fatalities and the exclusively for fatalities matrix.

As for fatalities, 32% are traumatic brain injury, whether they be fractures or internal injuries, whereas for surviving casualties the percentage is less than half - 13%. Similarly, torso injuries, fractures or internal injuries are found in a much larger proportion in fatalities than in non-fatally injured casualties, 34% as against 27%.

As for hospitalised injured casualties excluding fatalities, injuries to the lower extremities represented 24% of the injuries and to the upper extremities accounted for 19%; injuries to the spinal column in non-fatally injured casualties made up 10%. As regards fatalities, the percentage is as follows: 9% injuries to the lower extremities, 7% to the upper extremities and 11% to the spinal column.

[7] /nchs/injury/injury_matrices.htm

Table 44. IMD Matrix*, ICD–10–CM, distribution of injuries by road accident. Spain, 2019 (21,434 discharges and 60,202 injuries)

Location of injury			Mechanism of injury												
			Fracture	Dislocation	Injury to the internal organs	Open wound	Amputation	Blood vessels	Superficial contusion	Crushing	Burns	Foreign body	Others specified	Unspecified	Total
Location of injury	Head and neck	Traumatic brain injuries	1,888	0	4,378	1,339	0	0	0	0	0	0	48	427	**8,080**
		Other to the head	2,011	19	0	43	6	6	633	0	5	6	67	27	**2,823**
		Neck	50	0	0	23	0	11	130	0	0	4	74	35	**327**
		Head, neck and other	0	0	0	0	0	0	0	0	23	0	0	0	**23**
	Spinal cord and spinal column	Spinal cord	0	0	413	0	0	0	0	0	0	0	0	0	**413**
		Cervical spine	5,272	118	4	0	0	10	0	0	0	0	332	0	**5,736**
	Torso	Chest	5,733	6	3,607	24	0	40	450	0	0	30	70	276	**10,236**
		Abdomen	0	0	1,809	72	0	57	226	0	0	0	0	0	**2,164**
		Pelvis and dorso-lumbar spine	2,356	45	533	55	0	31	284	1	0	0	3	0	**3,308**
		Abdomen, dorso-lumbar spine and pelvis	0	0	0	0	0	11	67	7	0	0	119	188	**392**
		Other to the torso	0	0	0	0	0	0	0	0	52	53	0	0	**105**
	Extremities	Upper extremities	9,058	733	0	406	43	45	599	6	84	0	626	93	**11,693**
		Hip	885	129	0	6	2	0	135	0	0	0	4	0	**1,161**
		Lower extremities	9,695	299	0	885	33	73	835	34	138	0	953	85	**13,030**
	Not classified in a region	Multiple regions of the body	0	0	0	0	0	0	0	0	0	0	0	460	**460**
		Systemic disease	0	0	0	0	0	0	0	0	0	0	5	0	**5**
	Unspecified	Not specified	0	0	0	0	0	0	0	0	61	0	0	185	**246**
		Total	**36,948**	**1,349**	**10,744**	**2,853**	**84**	**284**	**3,359**	**48**	**363**	**93**	**2,301**	**1,776**	**60,202**

* *Sub-group: All hospitalised road injured casualties except fatalities. Source Specialised Health Care Registry-MBDS.*

Table 45. IMD Matrix*, ICD–10–CM, percentage distribution of injuries by road accident. Spain, 2019 (21,434 discharges and 60,202 injuries)

			Mechanism of injury												
			Fracture	Dislocation	Injury to the internal organs	Open wound	Amputation	Blood vessels	Superficial contusion	Crushing	Burns	Foreign body	Others specified	Unspecified	Total
Location of injury	Head and neck	Traumatic brain injuries	3.1%	0.0%	7.3%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.7%	**13.4%**
		Other to the head	3.3%	0.0%	0.0%	0.1%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.1%	0.0%	**4.7%**
		Neck	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.1%	**0.5%**
		Head, neck and other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**
	Spinal cord and spinal column	Spinal cord	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.7%**
		Cervical spine	8.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	**9.5%**
	Torso	Chest	9.5%	0.0%	6.0%	0.0%	0.0%	0.1%	0.7%	0.0%	0.0%	0.0%	0.1%	0.5%	**17.0%**
		Abdomen	0.0%	0.0%	3.0%	0.1%	0.0%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	**3.6%**
		Pelvis and dorso-lumbar spine	3.9%	0.1%	0.9%	0.1%	0.0%	0.1%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	**5.5%**
		Abdomen, dorso-lumbar spine and pelvis	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%	0.3%	**0.7%**
		Other to the torso	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	**0.2%**
	Extremities	Upper extremities	15.0%	1.2%	0.0%	0.7%	0.1%	0.1%	1.0%	0.0%	0.1%	0.0%	1.0%	0.2%	**19.4%**
		Hip	1.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	**1.9%**
		Lower extremities	16.1%	0.5%	0.0%	1.5%	0.1%	0.1%	1.4%	0.1%	0.2%	0.0%	1.6%	0.1%	**21.6%**
	Not classified in a region	Multiple regions of the body	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	**0.8%**
		Systemic disease	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**
	Unspecified	Not specified	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	**0.4%**
		Total	**61.4%**	**2.2%**	**17.8%**	**4.7%**	**0.1%**	**0.5%**	**5.6%**	**0.1%**	**0.6%**	**0.2%**	**3.8%**	**3.0%**	**100.0%**

* *Sub-group: All hospitalised road injured casualties except fatalities. Source Specialised Health Care Registry-MBDS.*

Table 46. IMD Matrix*, ICD–10–CM, distribution of injuries sustained by road facilities. Spain, 2019 (515 facilities and 3,170 injured)

			Mechanism of injury												
			Fracture	Dislocation	Injury to the internal organs	Open wound	Amputation	Blood vessels	Superficial contusion	Crushing	Burns	Foreign body	Others specified	Unspecified	Total
Location of injury	Head and neck	Traumatic brain injuries	292	0	662	56	0	0	0	0	0	0	4	13	**1,027**
		Other to the head	127	4	0	6	0	2	17	0	0	0	5	1	**162**
		Neck	5	0	0	1	0	1	2	0	0	0	3	0	**12**
		Head, neck and other	0	0	0	0	0	0	0	0	3	0	0	0	**3**
	Spinal cord and spinal column	Spinal cord	0	0	26	0	0	0	0	0	0	0	0	0	**26**
		Cervical spine	340	7	0	0	0	4	0	0	0	0	1	0	**352**
	Torso	Chest	306	0	282	0	0	14	9	0	0	12	4	21	**648**
		Abdomen	0	0	148	1	0	10	10	0	0	0	0	0	**169**
		Pelvis and dorso-lumbar spine	167	1	41	4	0	11	11	0	0	0	0	0	**235**
		Abdomen, dorso-lumbar spine and pelvis	0	0	0	0	0	7	1	1	0	0	1	7	**17**
		Other to the torso	0	0	0	0	0	0	0	0	8	13	0	0	**21**
	Extremities	Upper extremities	160	8	0	7	2	3	6	0	11	0	10	1	**208**
		Hip	30	3	0	0	0	0	3	0	0	0	1	0	**37**
		Lower extremities	167	4	0	20	5	11	13	0	10	0	2	2	**234**
	Not classified in a region	Multiple regions of the body	0	0	0	0	0	0	0	0	0	0	0	12	**12**
		Systemic disease	0	0	0	0	0	0	0	0	0	0	2	0	**2**
	Unspecified	Not specified	0	0	0	0	0	0	0	0	3	0	0	2	**5**
		Total	**1,594**	**27**	**1,159**	**95**	**7**	**63**	**72**	**1**	**35**	**25**	**33**	**59**	**3,170**

* *Sub-group: Fatalities at hospital discharge due to a road accident. Source Specialised Health Care Registry-MBDS.*

Table 47. IMD Matrix*, ICD–10–CM, percentage distribution of injuries sustained by road fatalities. Spain, 2019 (515 facilities and 3,170 injured)

			Mechanism of injury											
			Fracture	Dislocation	Injury to the internal organs	Open wound	Amputation	Blood vessels	Superficial contusion	Crushing	Burns	Foreign body	Others specified	Unspecified	Total
Location of injury	Head and neck	Traumatic brain injuries	9.2%	0.0%	20.9%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.4%	**32.4%**
		Other to the head	4.0%	0.1%	0.0%	0.2%	0.0%	0.1%	0.5%	0.0%	0.0%	0.0%	0.2%	0.0%	**5.1%**
		Neck	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	**0.4%**
		Head, neck and other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	**0.1%**
	Spinal cord and spinal column	Spinal cord	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.8%**
		Cervical spine	10.7%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**11.1%**
	Torso	Chest	9.7%	0.0%	8.9%	0.0%	0.0%	0.4%	0.3%	0.0%	0.0%	0.4%	0.1%	0.7%	**20.4%**
		Abdomen	0.0%	0.0%	4.7%	0.0%	0.0%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	**5.3%**
		Pelvis and dorso-lumbar spine	5.3%	0.0%	1.3%	0.1%	0.0%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	**7.4%**
		Abdomen, dorso-lumbar spine and pelvis	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	**0.5%**
		Other to the torso	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.4%	0.0%	0.0%	**0.7%**
	Extremities	Upper extremities	5.0%	0.3%	0.0%	0.2%	0.1%	0.1%	0.2%	0.0%	0.3%	0.0%	0.3%	0.0%	**6.6%**
		Hip	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	**1.2%**
		Lower extremities	5.3%	0.1%	0.0%	0.6%	0.2%	0.3%	0.4%	0.0%	0.3%	0.0%	0.1%	0.1%	**7.4%**
	Not classified in a region	Multiple regions of the body	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	**0.4%**
		Systemic disease	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	**0.1%**
	Unspecified	Not specified	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	**0.2%**
		Total	**50.3%**	**0.9%**	**36.6%**	**3.0%**	**0.2%**	**2.0%**	**2.3%**	**0.0%**	**1.1%**	**0.8%**	**1.0%**	**1.9%**	**100.0%**

* *Sub-group: Fatalities at hospital discharge due to a road accident. Source Specialised Health Care Registry-MBDS.*

Figure 78. Percentage distribution by injury location and mechanism of injury to hospitalised injured casualties. Spain, 2019 (60,202 injuries)

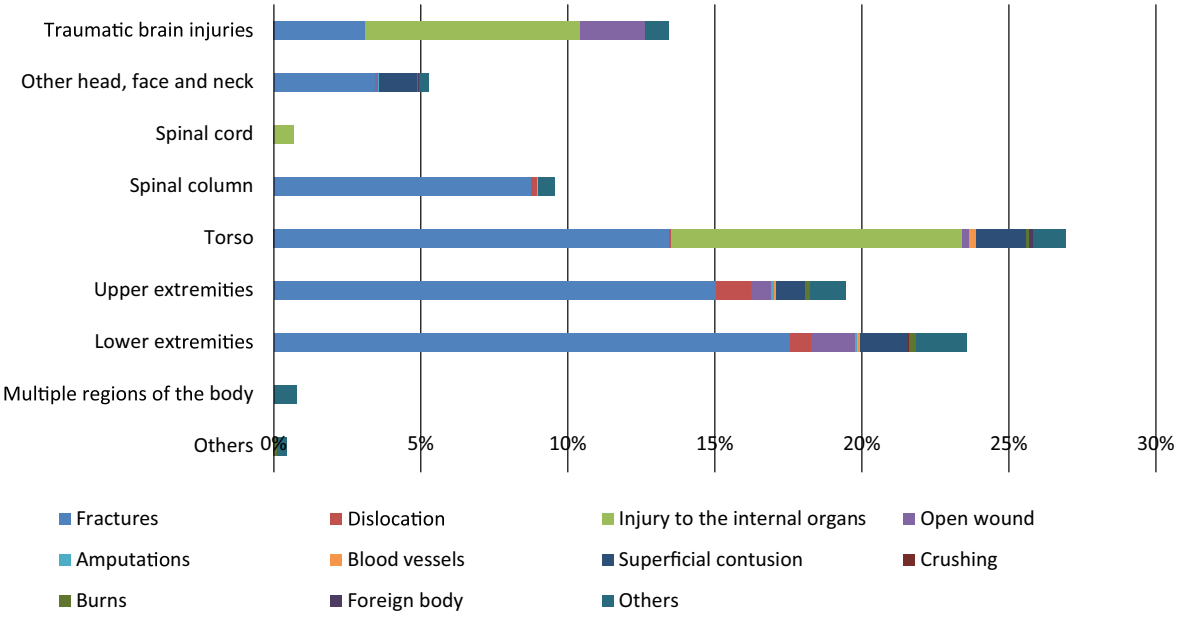


Figure 79. Percentage distribution by injury location and mechanism of injury to fatalities at hospital discharge. Spain, 2019. (3,170 injuries)

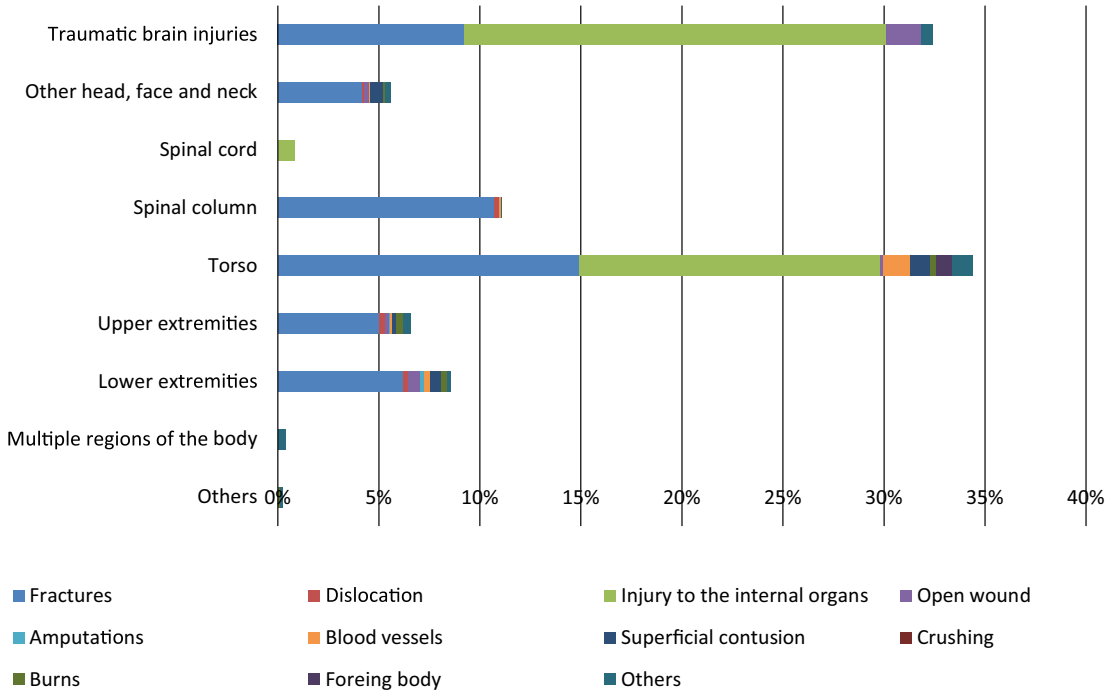
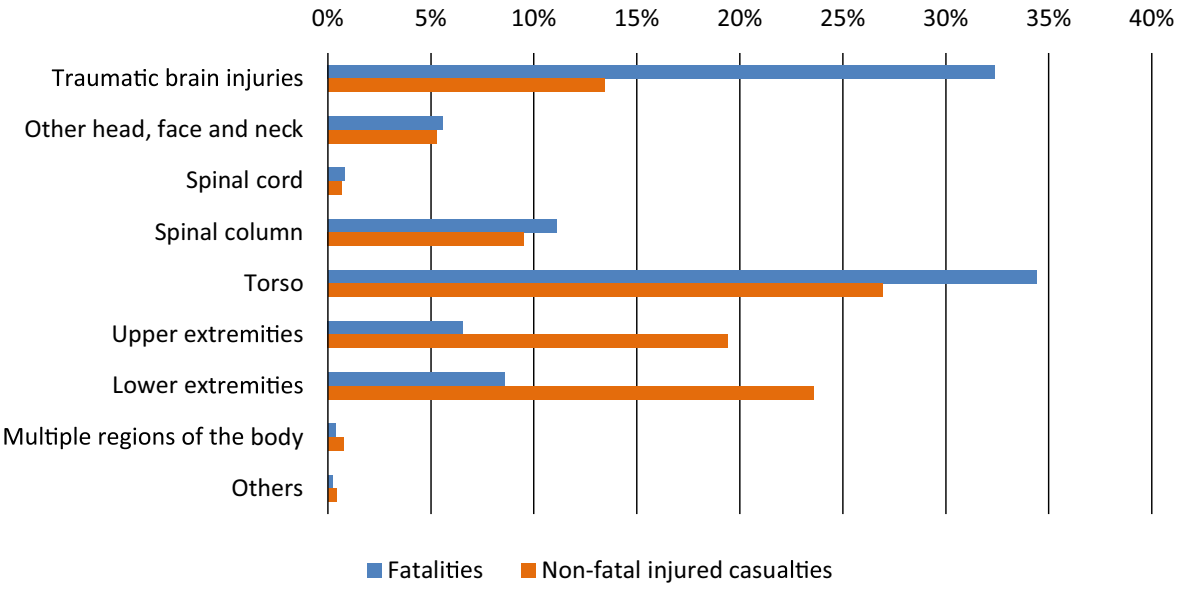


Figure 80. Percentage distribution by injury location and mechanism of injury to hospitalised injured casualties and to fatalities at hospital discharge. Spain, 2019 (60,202 injuries sustained by injured casualties and 3,170 injuries sustained by fatalities)



It is possible to identify in the MBDS database the mode of transport in which the injured casualties were travelling at the time of the accident according to ICD-10. Below are the results of the injury location classification according to IMD for vulnerable road users as pedestrians, cyclists and motorcyclists. When looking at these data, another point to bear in mind is that the percentage of registers without stating the mode of transport in the MBDS is 41%.

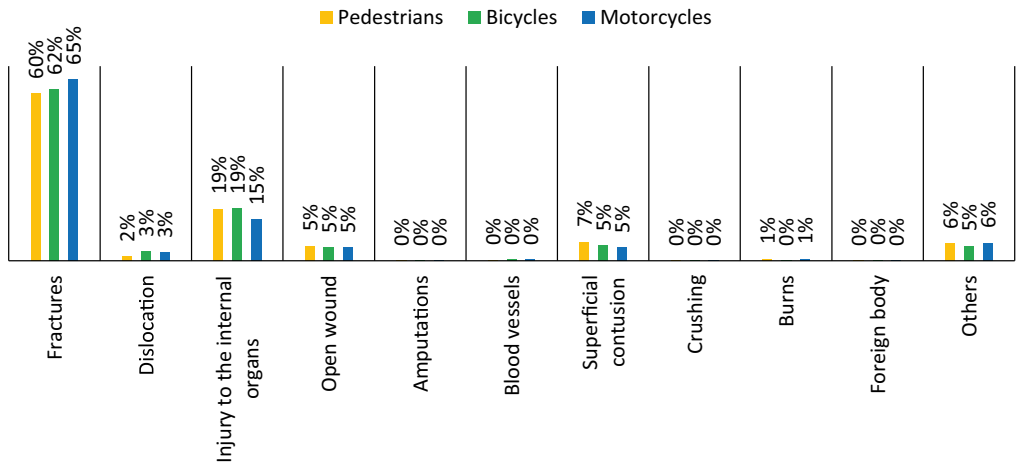
Table 48. Injury location classification in vulnerable road users according to IMD Matrix*, ICD-10-CM, Spain, 2019

	Pedestrians	Bicycles	Motorcycles
Traumatic brain injuries	1625	776	1,374
Head, face and neck	500	318	673
Spinal cord	18	24	84
Cervical spine	636	308	1,050
Torso	1618	1,169	3,688
Upper extremities	909	1,320	3,603
Lower extremities	2040	560	4,816
Others	113	46	158
Total injuries	7,459	4,521	15,446
Nr of hospitalised non-fatally injured casualties	2,422	1,937	5,379
Injuries by discharge	3.1	2.3	2.9

* *Sub-group: All hospitalised road injured casualties except fatalities. Source Specialised Health Care Registry-MBDS.*

Observing the location of injuries sustained by non-fatally injured casualties in 2019, traumatic brain injuries are more common in pedestrians (22%) and pedal cyclists (17%) than in motorcyclists (9%). Upper extremities are more common in pedal cyclists (29%) and motorcyclists (23%) than in pedestrians (12%). Lower extremities are more common in pedestrians (27%) and motorcyclists (31%) than in pedal cyclists (12%).

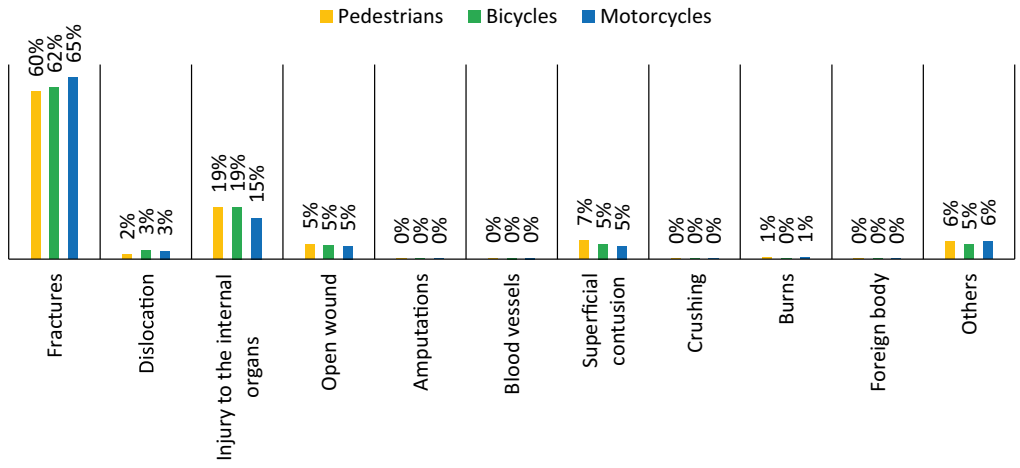
Figure 81. Percentage distribution by injury location in non-fatally hospitalised injured casualties. Spain, 2019



* *Sub-group: All hospitalised road injured casualties except fatalities. Source Specialised Health Care Registry-MBDS.*

As regards mechanism of injury, the distribution in pedestrians and pedal cyclists is quite similar: 60% and 62% are respectively fractures and 19% are injuries to internal organs. Motorcyclists show a different distribution: 65% are fractures and 15% are injuries to internal organs.

Figure 82. Percentage distribution by mechanism of injury in non-fatally hospitalised injured casualties. Spain, 2019



* *Sub-group: All hospitalised road injured casualties except fatalities. Source Specialised Health Care Registry-MBDS.*

The cost of casualty accidents

In 2011, the Directorate-General for Traffic, in collaboration with the University of Murcia, estimated the costs relating to casualty accidents using the willingness-to-pay method. As a result, a fatality would involve a cost of € 1.4 million, including direct and indirect costs (medical expenses, administrative expenses, etc.) and the fair actuarially price associated to the premium that society would pay to reduce the risk of being killed in a road traffic accident, known as the value of a statistical life. In the same way the costs associated to a hospitalised injured casualty, €219,000, and a non-hospitalised injured casualty, €6,100, have been calculated. These estimates have been updated to 1 January 2020, taking as reference the nominal variation of the Gross Domestic Product per capita, so that a fatality involved a cost of €1,448,227, a hospitalised injured casualty a cost of €226,544 and a non-hospitalised injured casualty a cost of €6,310.

By applying the above costs to the number of people killed, hospitalised and non-hospitalised injured casualties in road traffic casualties in 2020 we obtain that the costs associated to the victims are estimated at around € 4,052 million, but if we explore other information systems they could reach € 9,648 million. Taking into account that the GDP at market prices on 1 January 2020[8] was € 1,121,948 million, the percentage of GDP that these costs represent is as a minimum 0.36%, although it is reasonable to assume 0.86%, a percentage obtained by analysing jointly the information sources from the health and transport sectors.

Table 49. Calculation of the cost associated to casualty accidents. Spain, 2020

Victims	Unit cost (€ 2019)	Victims		Total cost € (2020)	
		If only the victims recorded by the transport sector are counted[1]	If only the victims recorded by the transport and health sectors are counted[2]	If only the victims recorded by the transport sector are counted[1]	If only the victims recorded by the transport and health sectors are counted[2]
Fatalities	1,448,227	1,370	1,370	1,984,071,516	1,984,071,516
Hospitalised injured casualties	226,544	6,681	20,542	1,513,541,404	4,653,669,740
Non-hospitalised injured casualties	6,310	87,881	477,022	554,540,851	3,010,072,551
				4,052,153,771	**9,647,813,806**

[1] *Casualty figures for the Transport Sector refer to 2020.*

[2] *Fatality figures refer to 2020, hospitalised injured casualties to 2015 and non-hospitalised injured casualties to 2014.*

[8] Advance by the National Statistical Institute (published in December 2021)

Annex I. Methodological notes

Databases used to prepare this report

a) National Register for Road Traffic Accident Victims

The National Register for Road Traffic Accident Victims (regulated by Order INT/2223/2014, of 27 October, governing the report of information to the National Register for Road Traffic Accident Victims) contains the data concerning road traffic casualty accidents, defined as those accidents in which at least one of the persons involved was injured. The definitions of the main indicators that must be used are detailed in the abovementioned Order.

The latest available information corresponds to 2020.

The National Register for Road Traffic Accident Victims database may be requested to the Directorate-General for Traffic via e-mail at the following address: observatorio@dgt.es.

The most significant micro-data and statistical tables may be accessed on the "Portal estadístico" of the Directorate-General for Traffic website www.dgt.es.

b) Deceased records from the Registry Office

On the basis of the Under-Secretary's Resolution of 7 February 2005, publishing that the Secretariat of State for Justice entrusts the management tasks to the National Statistical Institute (INE) as regards the transfer of computerised data on the registration of births, marriages and deaths recorded at the Civil Registers, INE facilitates all data corresponding to each and every death recorded at Civil Registers in the whole Spanish territory. These data have been used to merge them with data from road traffic accident registers, according to the methodology explained in this Annex.

c) Death statistics by cause of death

Drawn up by INE, it includes all deaths occurring on the national territory, regardless of the deceased's place of origin. The information must be completed by the physician certifying the death,

who in addition fills in the statistical death bulletin, stating the immediate cause of death, the pre-existing condition and the underlying cause of death, being the latter the disease or injury that initiated the chain of pathological events that led directly to death or the circumstances of the accident or violence that produced the fatal injury. Every cause-of-death statement is coded according to the International Classification of Diseases (ICD) established by the World Health Organization (WHO), at present the ICD-10 classification is being used.

d) Information on the road network and traffic on the interurban network.

The Ministry of Transport, Mobility and Urban Agenda publishes annually in its Statistical Yearbook (https://www.mitma.gob.es/informacion-para-el-ciudadano/informacion-estadistica/anuario-estadisticas-de-sintesis-y-boletin/anuario-estadistico) the road network, by ownership and road type, as well as the vehicle-kilometres, by road type and province. These indicators are developed from the Ministry's own information —for the State Road Network—, the Autonomous Communities and the Provincial and Island Councils.

Methodology used to estimate fatalities within 30 days

In the field of transport statistics, it is understood that the fatality figures due to a road traffic accident must be counted within the threshold of 30 days, as stated in the Glossary for Transport Statistics by UNECE-Eurostat-ITF.

In the case of Spain, the number of fatalities occurring within the first 24 hours is determined through the monitoring of all cases by law enforcement officers. The number of fatalities occurring within 30 days of the accident has been determined using correction factors deducted from the effective monitoring of a representative sample of hospitalised injured casualties. These correction factors were first applied in 1993 and reviewed on two occasions, in 1996 and in 2000; they were used until 2010.

From 2011 to 2015 the method of calculation was a two-phased process:

During the first phase, the DGT's road traffic accident register is combined with the INE's death records, so the hospitalised injured casualties recorded in the road traffic accident registers can be searched, provided that the entries contain identifying information that allows such search. Those hospitalised injured casualties recorded as deceased in the INE's death records are considered road traffic fatalities as long as the date of death is within the 30 day period following the accident.

During the second phase, the correction factor is calculated. This factor will be applied to those hospitalised injured casualties lacking enough identifying information to make the search in the INE's death records. The calculation of the factor is based on the data obtained in the preceding phase and is as follows:

$$Correction\_factor = x = \frac{nr\_of\_linked\_records(only\_seriously\_injured)}{nr\_of\_records\_of\_the\_first\_stratum(only\_seriously\_injured)}$$

As regards the identifying information concerning hospitalised injured casualties recorded in the road traffic accident register, in 2011 there was enough information for 65% of the hospitalised

injured casualties, this percentage rose to 80% in 2012, dropped to 76% in 2013 and rose again to 96% in 2014. In 2014 the correction factors were applied to the 438 hospitalised injured casualties lacking identifying information corresponding to the autonomous community of the Basque Country and to the City Council of San Cristóbal de La Laguna.

No correction factor has been applied since 2015 because the provision of identifying information concerning hospitalised injured casualties has significantly improved, which is added to the reporting of fatalities within 30 days following the accident by the autonomous regions with powers in traffic issues.

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GOBIERNO DE ESPAÑA
MINISTERIO DEL INTERIOR
DGT
Dirección General de Tráfico

Josefa Valcárcel, 44 - 28071 Madrid

www.dgt.es