



# MAIN FIGURES ON ROAD TRAFFIC ACCIDENTS SPAIN 2023



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## EXECUTIVE SUMMARY

The first edition of the report “Main figures on road accidents” was published in 2004, this being its 20<sup>th</sup> edition. The objective of the first report was to consolidate an annual reference publication in Spain to analyse the evolution of the number and characteristics of road accidents in our country. We are confident that having reached its 20<sup>th</sup> edition means that such objective has again been achieved.

Analysing the figures recorded during the year 2023, **1,806 people were killed with a total of 101,306 road accidents throughout Spain.**

This represents, compared to 2022, a 3% increase in casualty accidents, fatalities also increased by 3%.

Regarding 2019 data, the baseline of the Strategy on Road Safety 2030, casualty accidents decreased by 3% and the number of people killed also increased by 3%.

Thus, fatality rate per million population stood at 38, remaining 8 points below the average rate of the European Union countries (46) and being the ninth lowest in the European Union, only behind Sweden (22), Denmark (27), Malta (30), Finland (33), Germany (34), The Netherlands (34), Ireland (35) and Cyprus (37).

**Regarding morbidity figures**, 9,265 people were admitted to hospital and 124,266 were non-hospitalised injured casualties.

This represents, compared to 2022, a 9% increase in the number of hospitalised injured casualties and a 4% increase in the number of non-hospitalised injured casualties.

Compared to 2019, these figures translate into an increase of 8% in hospitalised injured casualties and a 5% decrease in non-hospitalised injured casualties.

Besides, mobility has reached its historical maximum value in 2023 with 448.78 million long-distance journeys. This figure represents, compared to 2022, an increase of 2% in annual mobility. Looking now at 2019, 427.15 million long-distance journeys were recorded, with an increase being observed of 5%.

**Regarding the type of road and people killed**, 1,288 fatalities were recorded on interurban roads and 518 on urban roads. This has meant, compared to 2022, a 1% increase in the number of people killed on interurban roads and a 10% increase in people killed on urban roads.

Compared to 2019, these records translate into a 4% increase in fatalities on interurban roads, but remain stable, however, in similar numbers of people killed on urban roads (+0%).

**Regarding hospitalised injured casualties by type of road**, 4,345 people were admitted to hospital on interurban roads and 4,920 on urban roads during the year 2023. Hospitalised injured casualties also showed an upward trend compared to 2022, with an increase of 12% on interurban roads and 7% on urban roads.

This trend is also observed compared to 2019, with a 1% increase in the number of hospitalised injured casualties on interurban roads and a 14% increase on urban roads.

**Urban roads accounted for 65% of road accidents, 29% of fatalities and 53% of hospitalised injured casualties, while interurban roads recorded 35% of road accidents, 71% of fatalities and 47% of hospitalised injured casualties,** a fact that shows that the accidents recorded on interurban roads continue to be far fewer than on urban roads but are, on average, of greater seriousness.

Besides, if the figures according to the type of interurban road are disaggregated, it is observed that conventional roads recorded 943 fatalities (+2% compared to those registered in 2022 and +5% compared to 2019) and 3,381 hospitalised injured casualties (+12% compared to those registered in 2022 and -1% compared to 2019).

In this way, conventional roads accounted for 73% of the total number of fatalities on interurban roads and 78% of the hospitalised injured casualties on interurban roads.

Besides, the set dual carriageways and motorways recorded 345 fatalities (-1% compared to those recorded in 2022 and +1% compared to 2019) and 964 hospitalised injured casualties (+9% compared to those recorded in 2022 and +7% compared to 2019).

In this way, dual carriageways and motorways accounted for 27% of the total number of fatalities on interurban roads and 22% of the hospitalised injured casualties on interurban roads.

Similarly, in built-up area, sections of road running through town recorded 2% of road accidents, but they were more serious compared to the rest of urban roads. On sections of road running through town 31 people were killed in 2023 (2 fewer than in 2022 and 12 fewer than in 2019), and 163 hospitalised injured casualties were recorded (8% less than in 2022 and 28% more than in 2019). Thus, sections of road running through town accounted for 6% of the total number of fatalities on urban roads and 3% of the hospitalised injured casualties on urban roads.

**From the point of view of the territorial distribution** of the number of fatalities, and with respect to 2022, the greatest increases are observed in the Autonomous Regions of Extremadura (+29), Castilla-La Mancha (+26) and in the Balearic Islands (+26) and Catalonia (+24) as well. On the other hand, the greatest decreases in the number of people killed compared to that year were recorded in Andalusia (-23), Comunitat Valenciana (-21) and Navarra (-20).

Compared to 2019, the largest increases in the number of fatalities were recorded in Castilla y León (+31), Castilla-La Mancha (+30) and Extremadura (+20), while at provincial level in Asturias (+18) and Zaragoza (+17), Málaga (+14), Cuenca (+13) and Granada (+13). Besides, the greatest decreases at regional level have occurred in the Comunitat Valenciana (-23), the Community of Madrid (-22) and Catalonia (-16), whereas at provincial level the decreases occurred in Madrid (-34) and in Alicante (-20).

**As regards the mode of transport, the car is the mode with the highest number of people killed, 703 fatalities (39% of the total), which represents an increase of 3% compared to 2022** and an increase of 10% compared to 2019.

However, while compared to 2014 the number of people killed in cars has decreased, fatalities involving vulnerable means have increased, accumulating 52% in 2023, especially due to the increase in the number of people killed on motorcycles.

**Regarding motorcycle users,** the highest number in the last 10 years has been recorded in 2023: 455 deaths (excluding mopeds), 25% of the total, with an increase of 13% in the number of fatalities compared to 2022 and 9% compared to 2019.

Regarding motorcycle users, we are seeing an increase of 10% in the number of people killed on urban roads compared to both 2022 and 2019, and a 15% increase in fatalities on interurban roads compared to 2022 and a 9% increase compared to 2019.

Thus, 70% of motorcyclist fatalities were registered on interurban roads. This distribution differs as regards road accidents (28,298) that have occurred to a greater extent on urban roads (73%), as well as in the number of hospitalised (55%) and non-hospitalised (75%) injured casualties.

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**As regard pedestrian fatalities** (353 fatally injured pedestrians in 2023), the figure is 1% higher than the figure for 2022 and 7% less than the figure for 2019. 94% of road accidents involving pedestrians were registered on interurban roads.

**Regarding bicycles, 90 individuals were killed as users of this mode of transport in 2023**, most of them on interurban roads (68%). Pedal cyclist fatalities increased with 9 more individuals, 1 fatality more on interurban roads and 8 on urban roads compared to 2022 and, if compared to 2019, the number of people killed increased by 10 more individuals. 13 more pedal cyclists on interurban roads and 3 fewer on urban roads.

**The emergence of injured casualties in Personal Mobility Vehicles (PMVs) in the last 4 years stands out**, increasing the percentage of the total victims (fatalities + hospitalised injured casualties) by 1 percentage point annually, reaching 3% in 2022 and it stayed stable in 2023.

In addition, if all casualties of road accidents are taken into account, regardless of the severity of the injury:

- On interurban roads, car users accumulate the highest percentage of road traffic casualties (68% of the total), followed by motorcycles which account for 16% of the total. 22% of the casualties were registered in accidents in which no other vehicle or pedestrian were involved.
- On urban roads, pedestrians represent 16% of total casualties followed by motorcyclists with 26%.

Disaggregating by mode of travel by type of road, the majority of the 703 car users who were killed were registered on interurban roads, with 632 (90% of the total). This represents an increase of 3% compared to 2022 and of 9% compared to 2019.

**As regards the distribution of the people killed by age and by mode of transport in 2023:** in the 18 to 34 years old group, half or almost half of the fatalities were travelling in passenger cars. As motorcyclists, the most heavily affected group are individuals between the ages of 21 and 54. From the age of 65, the percentage of pedestrian fatalities increases considerably, and 47% of the fatalities over 75 years of age are pedestrians.

**On the other hand, analysing the vehicle fleet figures in Spain, an upward trend is observed in the number of vehicles travelling on our roads, approximately increasing by 1% annually.** However, not all types of vehicles are affected by this increase in the same way, while the fleet of lorries, vans and mopeds over the total has been decreasing since 2014, the increase in motorcycles stands out, going from accumulating 9% of the total vehicle fleet in 2014 to 11% in 2023, with an annual increase of approximately 50,000 – 150,000 units.

The vehicle fleet (excluding mopeds) under 25 years of age represent 85% of the total registered vehicles, and the vehicles under 15 years of age represent 51% of the registered vehicles. **Cars under the age of 25 years are, on average, 12 years old.**

On interurban roads in all types of vehicles analysed (this is the case of motorcycles, passenger cars, vans and lorries up to 3,500kg and more and buses), the average age of the vehicles in which the fatalities were travelling was greater than that of the vehicles involved in fatal accidents. In the case of urban roads, the same trend continues, except in the case of motorcycles.

**Taking into account socio-demographic variables**, males register more deaths (1,417 which represents 78% of the total) than females (389, representing 22% of the total), being their fatality rate per million population also higher than that of women in all age groups. In this sense, the age group with the highest fatality rate is the 45 - 54 years old (312, representing 17% of the total), while the age group with the lowest number of fatalities is the age group under 14 years of age - 30 - that represent 2% of the total.

**Fatally injured people over 64 years of age represent 26% of the total, with a record of 463 deaths**, the majority being drivers (49%) and pedestrians (38%).

As for the characteristics of the user, drivers registered a total of 1,178 fatalities, 65% of the total, mostly on interurban roads (78%); **males represented the highest proportion of fatally injured**

**drivers** (92% compared to 8% of females). In turn, the highest rate of drivers involved in casualty road accidents per thousand registered drivers occurs between 15 and 17 years of age (35). Besides, passengers recorded a total of 275 fatalities, representing 15% of the total, being females the majority (51% as against 49% of males), also registering in all groups over 55 years of age more fatally injured female passengers than male passengers.

Thus, **users of vulnerable means account for 52% of the total number of fatalities in 2023, representing 80% of people killed on urban roads and 41% of people killed on interurban roads.**

Among the fatalities in the vulnerable user group, motorcyclists registered the highest figure (49%) followed by pedestrians (38%) and, to a lesser extent, pedal cyclists (10%) and users of PMVs (1%).

**The most common contributory factor in road traffic accidents is distraction with 12,475 cases**, which means 17% of the total. In fatal accidents, distraction is also the most frequent factor, with 409 cases, which represents 30% of the total.

**In relation to safety devices**, 6% of motorcycle users killed on urban roads were not using the helmet. Thus, looking at the series of the last 10 years, figures similar to those of previous years are observed. Regarding the use of the seat belt in cars and vans, it has been recorded that 34% of people killed on urban roads (3 percentage points lower than in 2022, 20 percentage points lower than in 2019) and 24% of people killed on interurban roads (no variation compared to 2022, 1 percentage point higher than in 2019), did not wear this safety device.

**Regarding the presence of alcohol in drivers involved in casualty road accidents**, it has been identified that 28% (200) of the individuals killed who were submitted to alcohol testing (76% of the total) tested positive (level above the legal limit), which means a decrease compared to 2022 (-5 percentage points) and compared to 2019 (-1 percentage point).

**Regarding drug testing**, 78% of the fatally injured drivers were tested, 19% of them (115) tested positive, which represents a decrease compared to 2022 (-2 percentage point) but a slight increase compared to 2019 (+1 percentage point). 59% of the drivers testing positive were so for cocaine, followed by cannabis (35%), amphetamine (10%) and opioids (3%).

**In relation to the type of accident**, 36% of the fatalities occurred due to run-off-collisions (642 individuals), which does not represent a significant variation compared to 2022 but it does represent an increase of 12% compared to 2019.

Specifically on interurban roads, run-off-collisions is the type of accident that causes the greatest number of fatalities (539, representing 42% of the total) and on urban roads, where 42% of the fatalities are from collisions with pedestrians (215).

**Regarding temporality**, every month has a similar fatality figure ranging from 7% in the months of January, February, March and May to 10% in the month of August. Thus, in 2023, a monthly average of 151 people killed was reached, a figure higher by 5 people than the average reached in 2022 and 2019.

70% of road accidents on interurban roads and 73% on urban roads have occurred during the day. However, while on urban roads at night with no light conditions is the period of the day with fewer road accidents (3%), on interurban roads 17% of road accidents occur under these conditions. These differences are modulated by the scarcity of built-up areas that are in unlit conditions.

**Regarding traffic-related injuries**, considering that the latest data available at the date of publication of this report refer to 2022:

- 6,066 hospitalised injured casualties scored 3 or higher on MAIS, being the incidence rate per 100,000 population at 12.8. The highest percentage of seriously injured road casualties/MAIS3+ is observed on the 45-54 age group, 19%, and the lowest one on the 85 and over age group, 2%. Males showed a proportion of 76% and females of 24%.
- In 2022, 20,210 individuals were discharged from Spanish hospitals, both public and private (excluding

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death as the reason for hospital discharge), with 58,696 injuries which means 2.9 injuries per individual. In addition, those who died in hospital centres (515) sustained 3,024 injuries, that is, 5.9 injuries per individual.

- Regarding the location of the injuries, as for fatalities, the majority of the injuries recorded (34% of the total) were injuries to the torso, followed by head injuries (32%).

Last but not least, it should be stressed that:

- As in previous years, we have received close collaboration from Autonomous Communities that have powers on traffic control; 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) for providing data on psychoactive substances in dead individuals. 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.



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## 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:

### **Road traffic accident with victims ("road traffic accident", in this document):**

That with the following conditions:

- a) Occurs, or originates, 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 road traffic accident ("fatal accident", in this document):** road traffic accident with victims in which, at least, one of them is killed.

**Casualty ("victim", in this document):** any person who, as a result of a road traffic accident, is killed or injured.

**Fatality ("killed person", in this document):** 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 ("injured person", in this document):** any person who, as a result of a road traffic accident, is injured and requires hospitalization or not, and the definition of fatality does not apply to them.

**Hospitalised casualty ("hospitalised injured casualty", in this document):** any person who, as a result of a road traffic accident, requires hospitalization for more than 24 hours, and the definition of fatality does not apply to them.

**Non-hospitalised casualty ("non-hospitalised injured casualty", in this document):** any person injured in a road traffic accident requiring health care for less than 24 hours, provided that the definitions of hospitalised injured casualty and fatality do not apply to him/her.

### NOTE:

- **Personal mobility vehicle (PMV):** Vehicle with one or more wheels for a single user and exclusively propelled by electric motors with a maximum design speed between 6 and 25 km/h. They can only be equipped with a seat or saddle in case of self-balancing devices. Vehicles without self-balancing systems and with a saddle, vehicles designed for competing, vehicles for people with reduced mobility and vehicles with a working voltage greater than 100 VDC or 240 VAC as well as those included in the scope of Regulation (EU) No 168/2013 of the European Parliament and of the Council of 15 January 2013 are excluded from this definition.



# 1

## MAIN FIGURES ON ACCIDENT RATE 2023

### I.1. Time series, 1960-2023

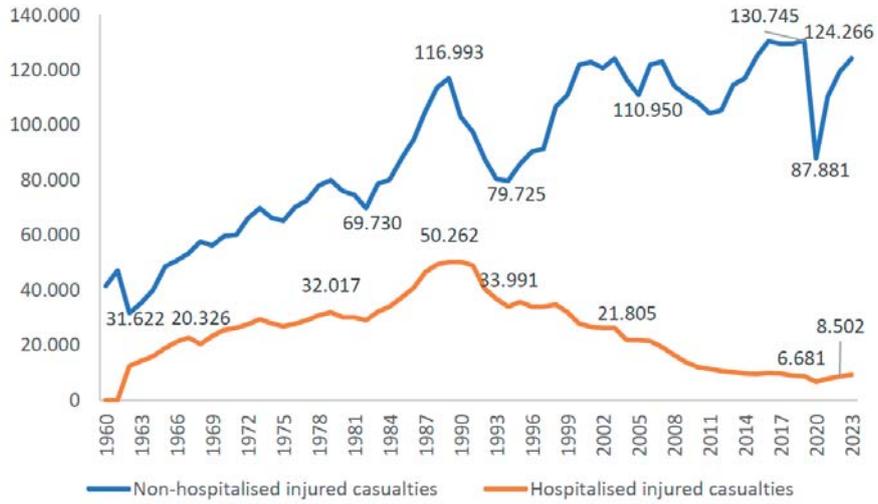
In 2023, 1,806 individuals were killed in traffic accidents —60 more than in 2022 (+3%)—, 9,265 individuals were hospitalised —733 more than in 2022 (+9%)— and 124,266 individuals were injured but did not require hospitalisation.

**Chart I: Evolution of persons killed in road traffic accidents. Spain, 1960-2023**



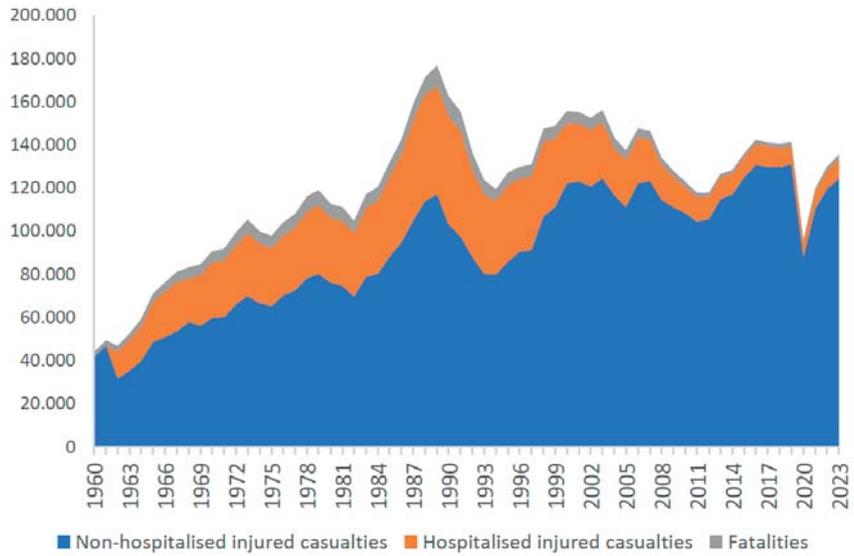
In Spain, all road traffic victims totalled 135,337 in 2023, of them: fatalities represented 1%, hospitalised injured casualties accounted for 7% and non-hospitalised injured casualties represented 92%.

**Chart 2: Evolution of hospitalised and non-hospitalised injured casualties in road traffic accidents. Spain, 1960-2023**



Note: 1960 and 1961 with no distinction between hospitalised and non-hospitalised injured casualties. In this chart, hospitalised injured casualties are included in non-hospitalised injured casualties for the years 1960 and 1961.

**Chart 3: Evolution of road traffic victims. Spain, 1960-2023**



## I.2. From 2014 to 2023

The main indicators of accident rate for the year 2023, and its comparison with 2019 and 2014, are summarised in the following table:

**Table I: Main indicators of accident rate and exposure to risk. Spain, 2014-2023**

	2014	2019	2022	2023	Year-on-year variation 2014-2023	Annual diff. 2023-2014	Annual diff. 2023-2019
Road traffic accidents	91.570	104.080	97.916	101.306	1%	11%	-3%
Fatal accidents	1.329	1.651	1.620	1.679	3%	26%	2%
Fatalities	1.688	1.755	1.746	1.806	1%	7%	3%
Hospitalised injured casualties	9.574	8.613	8.502	9.265	0%	-3%	8%
Non-hospitalised injured casualties	117.058	130.745	119.328	124.266	1%	6%	-5%
<b>Total de personas víctimas</b>	<b>128.320</b>	<b>141.113</b>	<b>129.576</b>	<b>135.337</b>	<b>1%</b>	<b>5%</b>	<b>-4%</b>
Fatalities per M p.tion	36	37	37	37	2	2	1
Hospitalised injured casualties per M p.tion	206	184	178	193	-1%	-6%	5%
Non-hospitalised injured casualties per M p.tion	2.517	2.786	2.513	2.584	0%	3%	-7%
Daily average of fatalities	5	5	5	5	0	0	0
Case fatality rate	1,3	1,2	1,3	1,3	0	0	0,1
Vehicle fleet	30.976.047	35.855.460	36.984.398	37.349.954	2%	21%	4%
Fatalities per million vehicles of the vehicle fleet	54	51	49	49	-5	-5	-2
Traffic vehicle-km106 *	222.689	252.055	254.459	N/A	N/A	N/A	N/A
Long distance journeys	359.789.623	427.146.612	439.775.372	448.735.650	2%	25%	5%

Case fatality rate is defined as the number of people killed per 100 casualties.

\* The source is the Yearbooks from the Ministry of Transport and Sustainable Mobility. Data refer to interurban roads

### From 2014 to 2023

People killed in road accidents have increased by 0.8% year-on-year, while hospitalised injured casualties have decreased at an annual average rate of 0.4%. The series reflect the effect of the COVID-19 pandemic in 2020 and 2021.

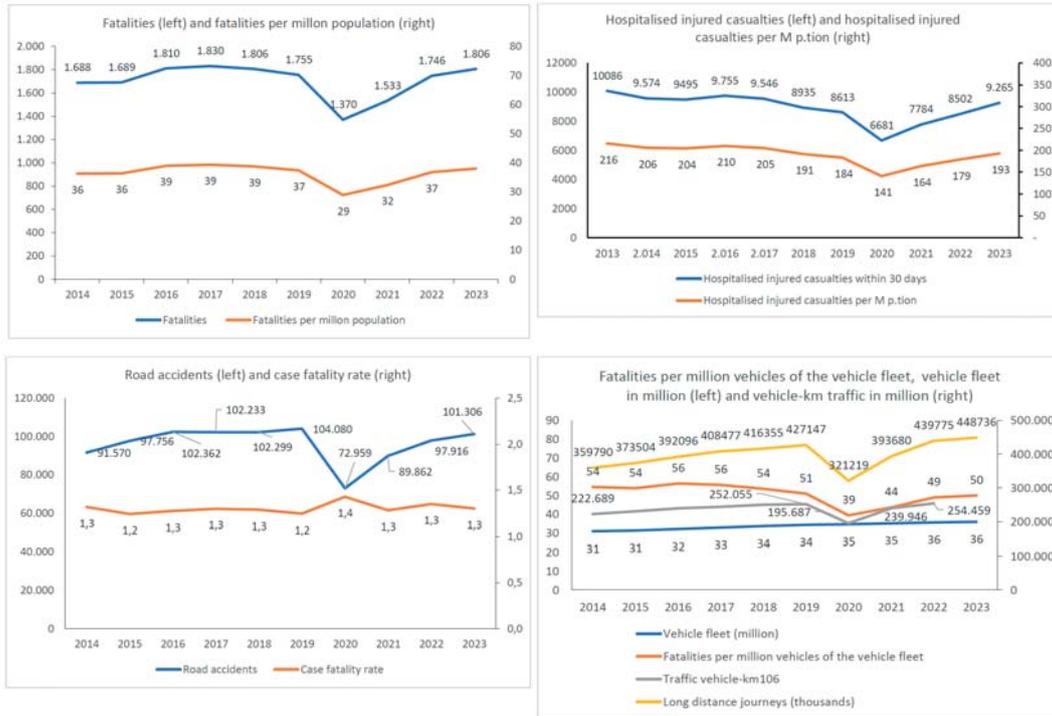
The death rate per million population has gone from 36 in 2014 to 38 in 2023.

The total number of accidents has increased by 11% annually, while fatality rate, which represents the percentage of victims who are killed, registers the same value in 2023 as in 2014 (1.3).

The vehicle fleet has increased steadily, going from 30.9 million vehicles in 2014 to 37.3 million in 2023. The number of fatalities per million vehicles of the vehicle fleet has decreased from 54 to 49.

The number of long-distance journeys has increased from 359.8 million in 2014 to 448.7 million in 2023, hitting an all-times record.

**Chart 4: Evolution of the main indicators of accident rate and exposure to risk\*. Spain, 2014-2023**



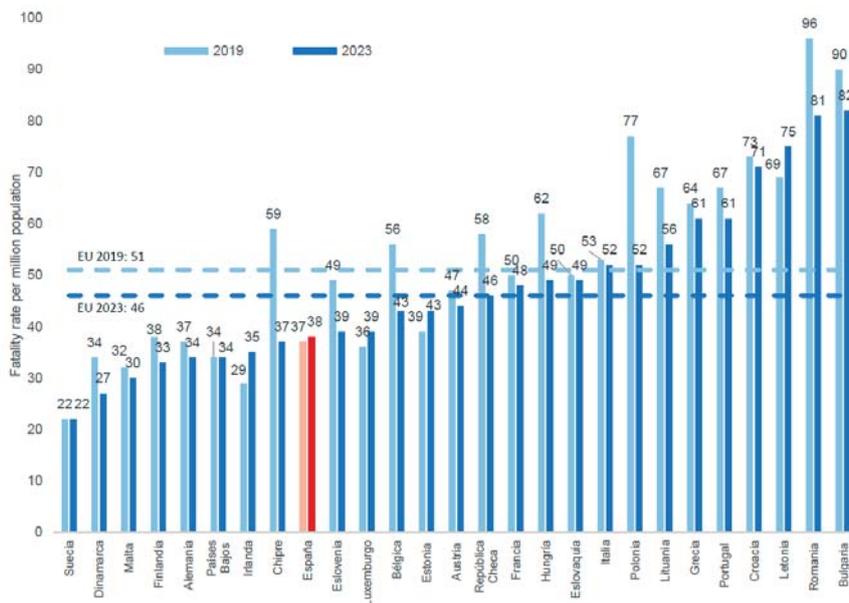
\* In the title of every chart, alongside each variable it is indicated, in brackets, if this variable has been represented in the right or left vertical axis.

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### 1.3. Year 2023

In 2023, Spain had a rate of 38 fatalities per million population (a point above the value for 2019), below the European average (46) and being the ninth lowest in the ranking of countries, only behind Sweden, Denmark, Malta, Finland, Germany, The Netherlands, Ireland and Cyprus. The following chart shows the evolution of fatality rates per million population in the European Union from 2019 to 2023 and, in the case of Spain:

**Chart 5: Fatality rate per million population in the European Union. 2019 and 2023**



For greater detail, the main indicators of accident rate for the year 2023, and its variation compared to 2019, are detailed in the following table:

- The number of people killed increased by 3% compared to 2019. On urban roads, the values for the same period in 2019 are maintained and on interurban roads, the number of fatalities increased by 4% (+52). The number of hospitalised injured casualties increased by 1% (+52) on interurban roads, compared to an increase of 610 fatalities on urban roads, which means an increase of 14%.
- Focusing on the case of fatalities, the main variations with respect to the type of accident are registered in running-off-road collisions (+12%) and collisions with pedestrians (-10%), while, depending on the mode of transport of the victim, there was a decrease in pedestrians (-7%) and an increase in motorcycles (+9%) and in passenger cars (+10%). By age groups, the 55-64 age group registered an increase of +29% while the 75-84 age group and the 85 and over age group registered a decrease of -16% and of -19% respectively. And by gender, despite the differences recorded (+3% males and +5% females), the ratio remained at similar levels to 2019 (78%,-22% in 2023 compared to 79%,-21% in 2019).

**Table 2: Road traffic accidents, fatalities, hospitalised and non-hospitalised injured casualties. Spain, 2023**

	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
<b>Total</b>	<b>101.306</b>	<b>100%</b>	<b>1.806</b>	<b>100%</b>	<b>9.265</b>	<b>100%</b>	<b>124.266</b>	<b>100%</b>
<b>Location</b>								
Interurban	35.330	35%	1.288	71%	4.345	47%	47.746	38%
Motorway	3760	4%	92	5%	296	3%	5.656	5%
Dual c'way	7.727	8%	253	14%	668	7%	11.667	9%
Conventional road	2.3843	24%	943	52%	3.381	36%	30.423	24%
Urban	65.976	65%	518	29%	4.920	53%	76.520	62%
Road running through town	1411	1%	31	2%	163	2%	1.694	1%
Streets	64.521	64%	486	27%	4.749	51%	74.759	60%
Motorway/Urban dual c'way	44	0%	1	0.06%	8	0,09%	67	0,05%
<b>Days of the week <sup>2</sup></b>								
Working days	76.251	75%	1.219	67%	6.458	70%	92.284	74%
Weekend day	25.055	25%	587	33%	2.807	30%	31.982	26%
<b>Type of road accident</b>								
Head-on collision	3.281	3%	263	15%	862	9%	4.721	4%
Side and T-bone collision	30.732	30%	249	14%	2.330	25%	37.849	30%
Rear and multiple collision	19.205	19%	149	8%	822	9%	29.753	24%
Run-off-road collision	15.665	15%	642	36%	2.076	22%	18.188	15%
Overtaking	3.676	4%	20	1%	239	3%	3.839	3%
Pedestrian impact <sup>3</sup>	12.541	12%	334	18%	1.702	18%	12.052	10%
Other type	16.206	16%	149	8%	1.234	13%	17.864	14%
<b>Mode of transport <sup>4</sup></b>								
Pedestrian <sup>3</sup>	12.714	13%	353	20%	1.742	19%	11.497	9%
Bicycle	7.842	4%	90	5%	759	8%	6.754	5%
PMV	6.058	3%	10	1%	341	4%	5.329	4%
Moped	5.218	3%	30	2%	400	4%	5.068	4%
Motorcycle	28.298	17%	455	25%	3.078	33%	26.352	21%
Car	73.627	51%	703	39%	2.421	26%	59.474	48%
Goods vehicle	14.253	7%	105	6%	295	3%	5.337	4%
Bus or coach	2.662	2%	6	0%	72	1%	2.651	2%

	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
<b>Type of user</b>								
Driver	82,138	81%	1,178	65%	6,205	67%	83,713	67%
Passenger	21,631	21%	275	15%	1,318	14%	29,056	23%
Pedestrian	12,714	13%	353	20%	1,742	19%	11,497	9%
<b>Age <sup>4,5</sup></b>								
0-14	3,043	3%	30	2%	276	3%	5,414	4%
15-24	14,895	15%	216	12%	1,323	14%	20,906	17%
25-34	18,046	18%	214	12%	1,359	15%	23,975	19%
35-44	17,727	17%	249	14%	1,405	15%	21,900	18%
45-54	18,960	19%	312	17%	1,767	19%	21,939	18%
55-64	13,221	13%	301	17%	1,467	16%	14,256	11%
65-74	6,703	7%	206	11%	820	9%	7,191	6%
75-84	3,917	4%	168	9%	576	6%	3,907	3%
85 and over	1,093	1%	89	5%	171	2%	1,008	1%
<b>Gender <sup>4,5</sup></b>								
Male	63,079	62%	1,417	78%	6,594	71%	73,798	59%
Female	37,080	37%	389	22%	2,642	29%	50,079	40%

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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 road accident is made according to the first manoeuvre and not to its harmful outcome.

<sup>4</sup> In the road traffic accident indicator, the addition does not correspond to the total because the same accident can fall under various subheadings.

<sup>5</sup> Accidents resulting in one or more persons being killed or injured are recorded on the reference group.

<sup>6</sup> PMVs are personal mobility vehicles.

**Table 2' : Year-on-year variation in 2023 compared to 2022 and 2019.**

	Variation <sup>1</sup> 2023/2022				Variation <sup>1</sup> 2023/2019			
	Road traffic accidents	Fatalities	Hospitalised injured casualties	Non-hospitalised injured casualties	Road traffic accidents	Fatalities	Hospitalised injured casualties	Non-hospitalised injured casualties
<b>Total</b>	<b>3%</b>	<b>3%</b>	<b>9%</b>	<b>4%</b>	<b>-3%</b>	<b>3%</b>	<b>8%</b>	<b>-5%</b>
<b>Location</b>								
Interurban	6%	1%	12%	7%	-5%	4%	1%	-7%
Motorway	6%	-7	6%	7%	9%	1	17%	7%
Dual c'way	0%	2%	11%	2%	-15%	2%	3%	-15%
Conventional road	8%	2%	12%	8%	-4%	5%	-1%	-6%
Urban	2%	10%	7%	3%	-1%	0%	14%	-4
Road running through town	-9%	-2	-8%	-5%	-10%	-12	28%	-8%
Streets	2%	11%	7%	3%	-1%	3%	14%	-3%
Motorway/Urban dual c'way	-20	-2	1	-18	-45	-2	5	-55%
<b>Days of the week <sup>2</sup></b>								
Working days	3%	7%	11%	4%	-3%	10%	11%	-5%
Weekend day	4%	-3%	4%	5%	-1%	-9%	0%	-3%

	Variation <sup>1</sup> 2022/2021				Variation <sup>1</sup> 2022/2019			
	Road traffic accidents	Fatalities	Hospitalised injured casualties	Non-hospitalised injured casualties	Road traffic accidents	Fatalities	Hospitalised injured casualties	Non-hospitalised injured casualties
<b>Type of road accident</b>								
Head-on collision	1%	-7%	1%	-1%	-4%	-7%	-8%	-9%
Side and T-bone collision	4%	17%	12%	4%	-2%	9%	13%	-5%
Rear and multiple collision	5%	-1%	16%	7%	-11%	2%	4%	-12%
Run-off-road collision	3%	0%	9%	5%	4%	12%	11%	4%
Overturning	0%	2	21%	0%	2%	-12	-1%	1%
Pedestrian impact	4%	3%	8%	3%	-6%	-10%	2%	-7%
Other type	2%	32%	5%	3%	2%	25%	17%	0%
<b>Mode of transport</b>								
Pedestrian	4%	1%	7%	4%	-6%	-7%	3%	-7%
Bicycle	-3%	9	7%	-4%	0%	10	17%	-1%
PMV	30%	2	9%	33%	N/A	N/A	N/A	N/A
Moped	-8%	-6	-9%	-8%	-25%	-19	-15%	-26%
Motorcycle	5%	13%	17%	4%	-3%	9%	13%	-5%
Car	4%	3%	9%	5%	-6%	10%	-1%	-9%
Goods vehicle	3%	-30%	-19%	1%	-12%	-26%	-23%	-20%
Bus or coach	16%	-7	13	16%	11%	3	36	15%
<b>Type of user</b>								
Driver	3%	4%	10%	3%	-1%	3%	10%	-3%
Passenger	7%	3%	6%	7%	-9%	17%	3%	-11%
Pedestrian	1%	1%	7%	4%	-6%	-7%	3%	-7%
<b>Age</b>								
0-14	-33%	12	6%	6%	-46%	-2	-5%	-14%
15-24	-19%	11%	13%	1%	-23%	26%	8%	-4%
25-34	-21%	-5%	5%	0%	-31%	-12%	-3%	-14%
35-44	-18%	-11%	6%	0%	-30%	-3%	-7%	-16%
45-54	-8%	12%	9%	7%	-12%	-2%	12%	3%
55-64	-4%	10%	14%	8%	-2%	29%	33%	9%
65-74	-2%	3%	12%	9%	-6%	13%	7%	5%
75-84	2%	1%	10%	13%	-3%	-16%	23%	4%
85 and over	0%	-11	18%	14%	-15%	-19%	-10%	-3%
<b>Gender</b>								
Male	-6%	5%	10%	4%	-13%	3%	7%	-5%
Female	-12%	-2%	7%	5%	-19%	5%	9%	-5%

<sup>1</sup> 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.

<sup>2</sup> 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.

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# 2

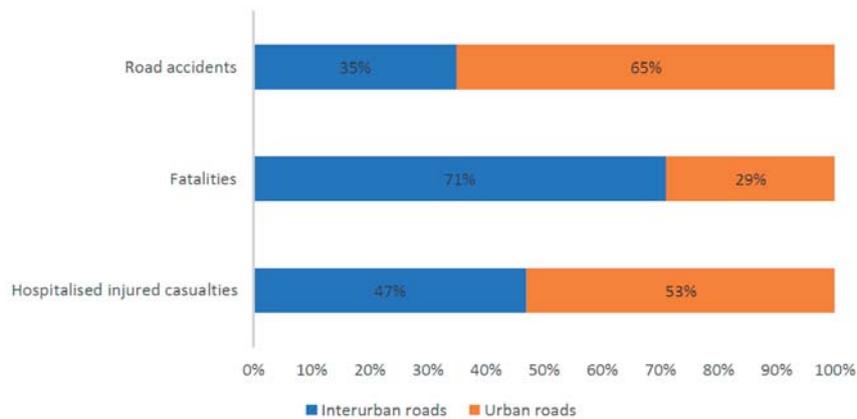
## INFRASTRUCTURE

### 2.1. Performance indicators: road traffic accidents and victims

#### 2.1.1. Scene of the road traffic accident

In 2023, 65% of road traffic accidents occurred on urban roads; however, 71% of the fatalities were registered on interurban roads. The number of hospitalised injured casualties is distributed on urban and interurban roads in similar percentages.

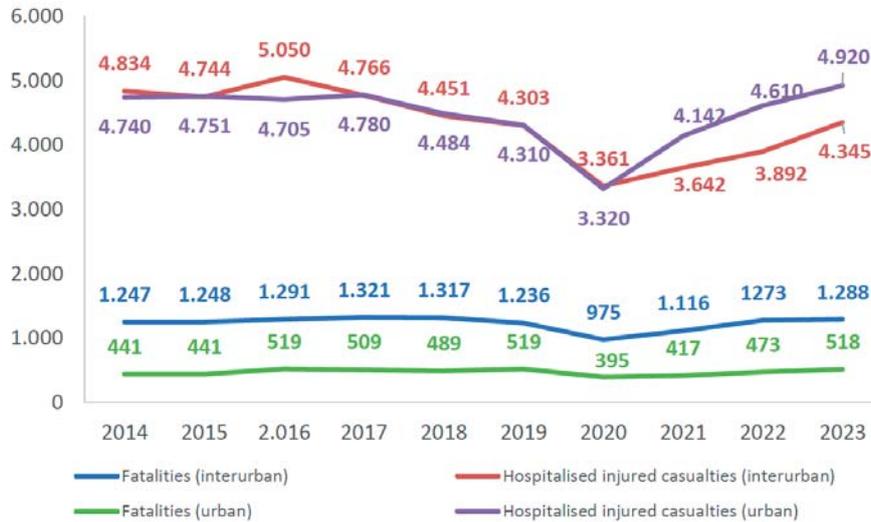
**Chart 4: Distribution of the number of road traffic accidents, fatalities and hospitalised injured casualties by road type. Spain, 2023**



Until 2014, the number of fatalities and hospitalised injured casualties had been decreasing on interurban roads and in a similar way on urban roads. Between 2014 and 2019, the number of fatalities decreased by 0.9% on interurban roads and increased by 18% on urban roads.

In 2023, compared to 2019, the number of fatalities increased by 4% on interurban roads and the values are the same on urban roads.

**Chart 5: Evolution of road fatalities and injured casualties admitted to hospitals on interurban and urban roads. Spain 2014-2023**



### 2.1.2. Interurban roads

In 2023, 35% of the road traffic accidents were registered on interurban roads, that is, 35,330. Compared to 2019, there were fewer accidents on interurban roads but, on average, they were more serious. The number of people killed has increased by 4% between 2019 and 2023, while hospitalised injured casualties have increased by 1% and those who did not require hospitalisation have decreased by 7%.

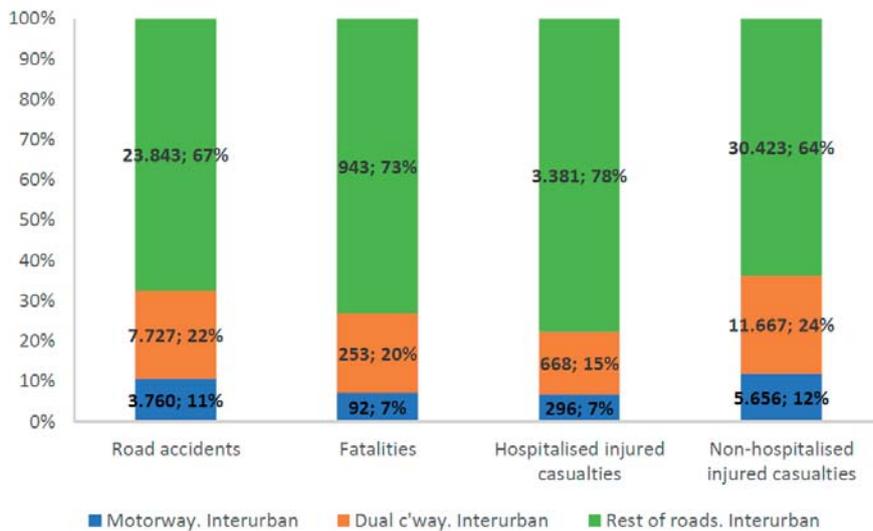
**Chart 6: Evolution of road traffic accidents, fatalities and injured casualties on interurban roads. Spain, 2014-2023**



By type of interurban road, in 2023:

- 943 people were killed on conventional roads, accounting for 73% of all fatalities on interurban roads; 3,381 injured casualties were hospitalised, which accounted for 78% of the total.
- 20% of the fatalities occurred on dual carriageways and 15% of the hospitalised injured casualties were registered on interurban roads.
- 7% of the fatalities were registered on motorways and 7% of the hospitalised injured casualties on interurban roads.

**Chart 7: Road traffic accidents, fatalities, hospitalised and non-hospitalised injured casualties on interurban roads by road type. Spain, 2023**



In 2023, 92 people were killed on motorways. On dual carriageways, 253 people were killed and on the rest of roads there have been 943 fatalities.

Hospitalised injured casualties on motorways totalled 296 individuals in 2023. On dual carriageways, 668 injured casualties required hospitalisation. On the rest of roads, 3,381 injured casualties required hospitalisation.

**Table 3: Road traffic accidents on interurban roads by road type. Spain, 2014-2023\***

Road traffic accidents	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Dif. 23/19	Dist. 23
Motorway	2.369	2.398	3.592	3.932	3.722	3.438	2.154	2.915	3.540	3.760	6%	9%	11%
Dual c'way	8.411	8.431	8.641	8.608	9.388	9.086	5.741	7.377	7.728	7.727	0%	-15%	22%
Rest of interurban roads	24.367	23.729	24.488	24.953	24.782	24.815	18.716	21.488	22.032	23.843	8%	-4%	68%
<b>Total interurban</b>	<b>35.147</b>	<b>34.558</b>	<b>36.721</b>	<b>37.493</b>	<b>37.892</b>	<b>37.339</b>	<b>26.611</b>	<b>31.780</b>	<b>33.300</b>	<b>35.330</b>	<b>6%</b>	<b>-5%</b>	<b>100%</b>

\* In 2013 the road catalogue was updated to classify road traffic accidents occurring on Catalanian 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: Fatalities on interurban roads by road type. Spain, 2014-2023\***

Fatalities	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Diff. 23/19	Dist. 23
Motorway	64	75	85	85	82	91	65	81	99	92	-7	1	7%
Dual c'way	226	202	242	223	241	249	159	235	248	253	2%	2%	20%
Other interurban roads	957	971	964	1.013	994	896	751	800	926	943	2%	5%	73%
<b>Total</b>	<b>1.247</b>	<b>1.248</b>	<b>1.291</b>	<b>1.321</b>	<b>1.317</b>	<b>1.236</b>	<b>975</b>	<b>1.116</b>	<b>1.273</b>	<b>1.288</b>	<b>1%</b>	<b>4%</b>	<b>100%</b>

\* In 2013 the road catalogue was updated to classify road traffic accidents occurring on Catalanian 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 5: Hospitalised injured casualties on interurban roads by road type. Spain, 2014-2023\***

Hospitalised injured casualties	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Diff. 23/19	Dist. 23
Motorway	263	223	290	285	271	254	184	186	280	296	6%	17%	7%
Dual c'way	758	741	830	728	741	650	468	539	602	668	11%	3%	15%
Other interurban roads	3.813	3.780	3.930	3.753	3.439	3.399	2.709	2.917	3.010	3.381	12%	-1%	78%
<b>Total</b>	<b>4.834</b>	<b>4.744</b>	<b>5.050</b>	<b>4.766</b>	<b>4.451</b>	<b>4.303</b>	<b>3.361</b>	<b>3.642</b>	<b>3.892</b>	<b>4.345</b>	<b>12%</b>	<b>1%</b>	<b>100%</b>

\* In 2013 the road catalogue was updated to classify road traffic accidents occurring on Catalanian 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 number of people killed per a hundred million vehicle-km has reduced from 0.56 to 0.5 between 2014 and 2022, the latest year with data available on journeys made on interurban roads. In 2019, the rate was at 0.49.

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On the contrary, the case fatality rate (persons who have died per 100 victims) has increased from 2.28 to 2.41 between 2014 and 2023. In 2019, this rate was at 2.17 and in 2022 it was at 2.50.

**Chart 8: Evolution of case fatality rate and fatality figure per a hundred million vehicle-km on interurban roads. Spain, 2014-2023**



### 2.1.3. Urban Roads

In 2023, compared to 2019, fatality figures remains stable on urban roads whereas hospitalised injured casualties increased by 14%.

65% of the road traffic accidents occurred on urban roads, with 29% of the fatalities, 518 fatally injured casualties, and 53% of the hospitalised injured casualties, that is 4,920 injured individuals.

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 2023, 31 people were killed on sections of road running through towns, 12 fewer fatalities than in 2019.

**Chart 9: Evolution of the number of road traffic accidents, fatalities and hospitalised injured casualties on urban roads. Spain, 2014-2023**



**Table 6: Road traffic accidents on urban roads by type of road. Spain, 2015-2023**

Road traffic accidents	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Diff. 23/19	Dist. 23
Road running through town	1,443	1,403	1,465	1,655	1,597	1,563	1,081	1,561	1,551	1,411	-9%	-10%	2%
Others	54,980	61,795	64,176	63,085	62,810	65,178	45,267	56,521	63,065	64,565	2%	-1%	98%
<b>Total</b>	<b>56,423</b>	<b>63,198</b>	<b>65,641</b>	<b>64,740</b>	<b>64,407</b>	<b>66,741</b>	<b>46,348</b>	<b>58,082</b>	<b>64,616</b>	<b>65,976</b>	<b>2%</b>	<b>-1%</b>	<b>100%</b>

**Table 7: Fatalities on urban roads by type of road. Spain, 2015-2023**

Fatalities	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Diff. 23/19	Dist. 23
Road running through town	43	41	47	48	43	43	25	34	33	31	-2	-12	6%
Others	398	400	472	461	446	476	370	383	440	487	11%	2%	94%
<b>Total</b>	<b>441</b>	<b>441</b>	<b>519</b>	<b>509</b>	<b>489</b>	<b>519</b>	<b>395</b>	<b>417</b>	<b>473</b>	<b>518</b>	<b>10%</b>	<b>0%</b>	<b>100%</b>

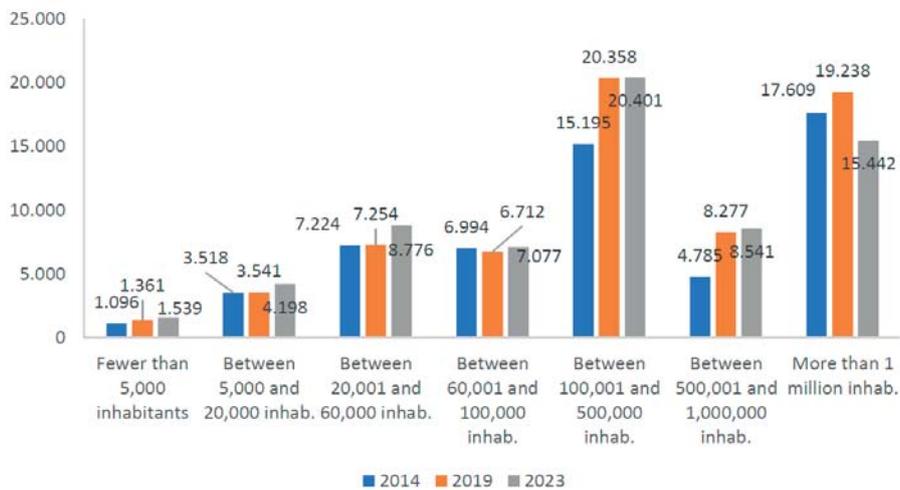
**Table 8: Hospitalised injured casualties on urban roads by type of road. Spain, 2015-2023**

Hospitalised injured casualties	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Diff. 23/19	Dist. 23
Road running through town	205	167	149	162	169	127	114	142	177	163	-8%	28%	3%
Others	4,535	4,584	4,556	4,618	4,315	4,183	3,206	4,000	4,433	4,757	7%	14%	97%
<b>Total</b>	<b>4,740</b>	<b>4,751</b>	<b>4,705</b>	<b>4,780</b>	<b>4,484</b>	<b>4,310</b>	<b>3,320</b>	<b>4,142</b>	<b>4,610</b>	<b>4,920</b>	<b>7%</b>	<b>14%</b>	<b>97%</b>

Madrid and Barcelona, two cities with a population of over a million population, have registered 13% of fatalities on urban roads; in 2022 this percentage was 11%. In general, it is observed that, as the size of the municipality increases, there is a greater concentration of accidents, but are, on average, less serious. Thus, municipalities with up to 60,000 inhabitants account for 22% of road traffic accidents, but 41% of the fatalities.

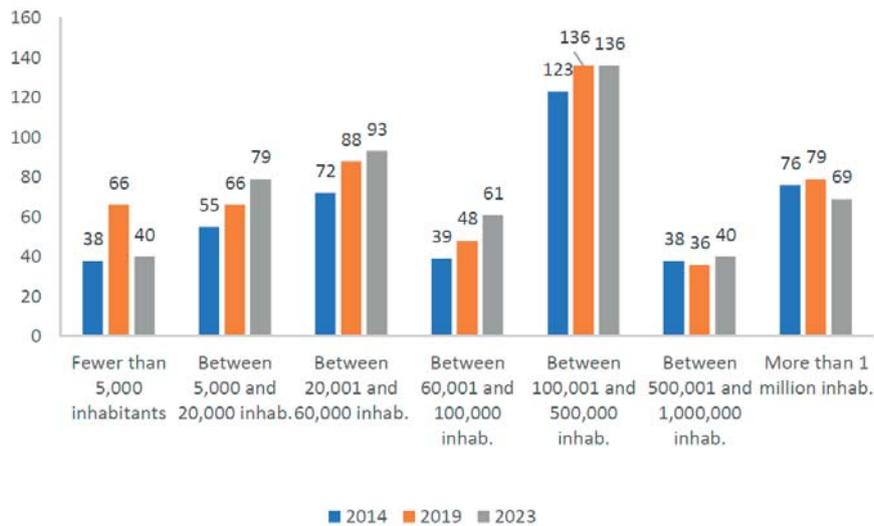
It should be emphasised that the level of communication in case of a non-fatal road traffic accident may vary in both the reporting time-frames and among municipalities, although it should be noted that the population coverage as regards information on the accident rates on urban roads (percentage of the population represented by municipalities reporting road traffic accidents) has significantly increased during the last few years, from 78% in 2009 to 99% in 2023.

**Chart 10: Road traffic accidents by the size of the municipality on urban roads. Spain, 2014, 2019 and 2023**

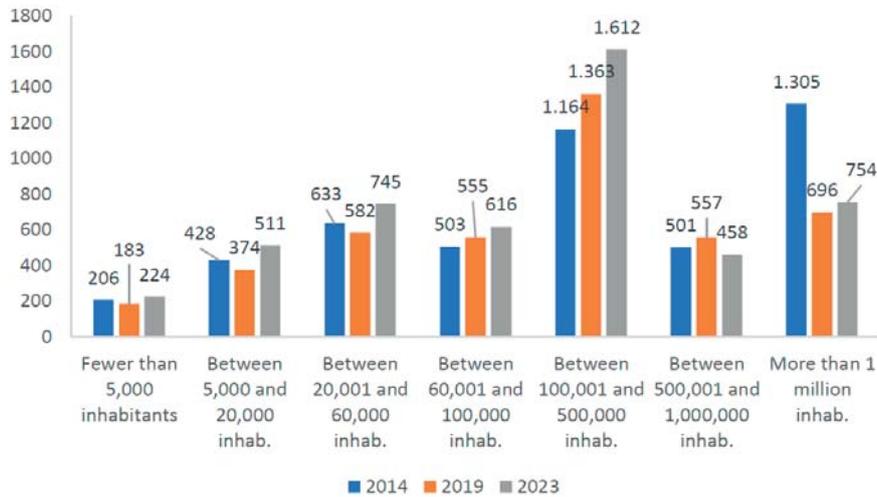


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**Chart 11: Fatalities by the size of the municipality on urban roads. Spain, 2014, 2019 and 2023**



**Chart 12: Hospitalised injured casualties by the size of the municipality on urban roads. Spain, 2014, 2019 and 2023**

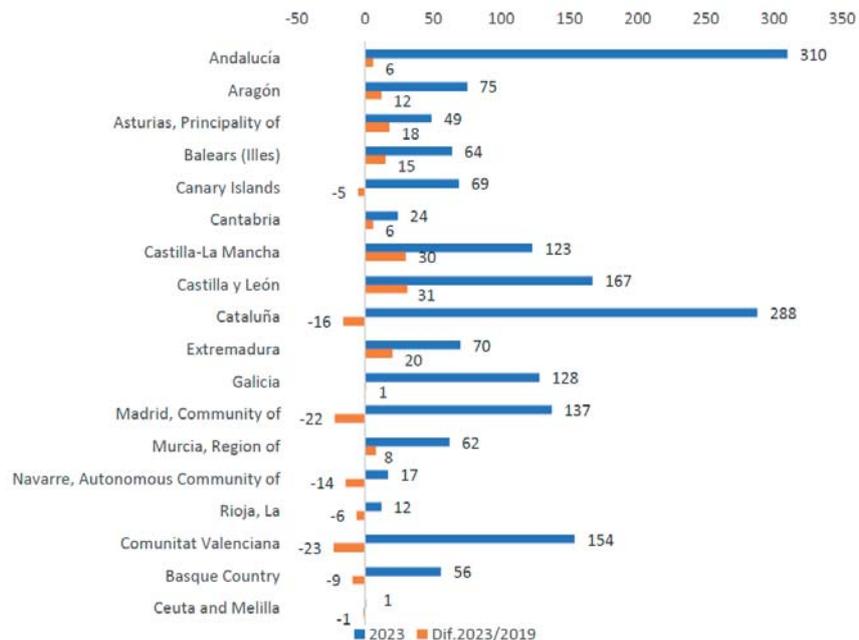


#### 2.1.4. Autonomous regions and provinces

By autonomous regions, there has been an increase in the number of deaths in 9 Autonomous Regions in 2023. The largest increases were in Castilla and León (+31), Castilla-La Mancha (+30) and Extremadura (+20).

In addition, there have been decreases between 2019 and 2023 in 7 Autonomous Regions and in Ceuta and Melilla; the main decreases have occurred in the Valencian Community (-23), the Community of Madrid (-22) and Catalonia (-16).

**Chart 13: Fatalities and absolute difference compared to 2019 by autonomous region, on interurban and urban roads. Spain, 2023**



By provinces, the number of people killed has increased in 30 provinces compared to 2019; the largest increases have been in Asturias (+18) and Zaragoza (+17).

Besides, the number of fatalities has decreased in 21 provinces compared to 2019; the largest decreases have been in Madrid (-22) and Alicante/Alacant (-20).

**Table 9: Evolution of fatalities by provinces on interurban and urban roads. Spain, 2014-2023**

Provincias	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Diff. 23/19	Dist.23
Araba/Álava	5	10	13	11	15	16	5	13	11	9	-2	-7	0%
Albacete	23	22	24	16	11	28	10	11	13	26	13	-2	1%
Alicante/Alacant	67	62	68	64	60	80	61	66	65	60	-5	-20	3%
Almería	19	26	40	22	27	35	38	34	41	36	-5	1	2%
Ávila	12	16	12	11	16	11	10	9	19	15	-4	4	1%
Badajoz	40	37	38	36	32	34	25	28	28	42	14	8	2%
Balears (Illes)	50	53	60	68	53	49	37	47	38	64	26	15	4%
Barcelona	159	128	131	145	163	171	115	117	141	148	5%	-13%	8%
Burgos	24	32	36	31	32	14	19	15	33	26	-7	12	1%
Cáceres	16	17	24	26	19	16	15	12	13	28	15	12	2%
Cádiz	41	32	41	34	36	36	22	41	40	42	2	6	2%
Castellón/Castelló	29	28	43	39	35	25	17	27	32	21	-11	-4	1%
Ciudad Real	19	27	30	33	25	22	29	24	29	27	-2	5	1%
Córdoba	37	26	22	37	34	38	14	30	36	24	-12	-14	1%
Coruña, A	55	47	58	51	64	53	33	42	62	38	-24	-15	2%
Cuenca	17	16	15	18	20	8	18	27	23	21	-2	13	1%
Girona	27	41	55	47	55	42	28	48	51	51	0	9	3%
Granada	49	43	27	33	31	25	35	38	38	35	-3	10	2%
Guadalajara	14	11	7	12	10	6	12	6	9	11	2	5	1%
Gipuzkoa	16	38	17	27	13	23	20	22	23	33	10	10	2%
Huelva	19	23	19	22	18	22	23	31	24	23	-1	1	1%
Huesca	24	17	21	25	27	29	20	13	28	21	-7	-8	1%
Jaén	30	23	31	35	31	24	21	22	22	20	-2	-4	1%
León	32	39	25	22	35	35	25	30	21	44	23	9	2%
Lleida	37	51	37	40	43	39	21	44	20	34	14	-5	2%
Rioja, La	11	20	25	26	10	18	16	12	12	12	0	-6	1%
Lugo	33	22	32	22	26	22	16	12	20	20	0	-2	1%
Madrid	114	111	121	125	114	159	105	127	125	137	10%	-14%	8%
Málaga	40	46	57	67	39	56	51	58	60	70	10	14	4%
Murcia	61	44	58	85	66	54	39	49	59	62	3	8	3%
Navarra	41	26	26	29	35	31	20	28	37	17	-20	-14	1%
Ourense	18	11	15	13	19	15	16	13	14	27	13	12	1%
Asturias	38	36	35	37	43	31	22	30	34	49	15	18	3%
Palencia	12	6	13	13	11	12	10	11	12	4	-8	-8	0%
Palmas, Las	31	22	40	30	39	32	22	25	31	36	5	4	2%

Provincias	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Diff. 23/19	Dist.23
Pontevedra	33	43	36	31	35	37	38	37	27	43	16	6	2%
Salamanca	13	17	10	15	14	13	20	6	18	17	-1	4	1%
S. C. de Tenerife	26	40	31	37	29	42	28	35	37	33	-4	-9	2%
Cantabria	18	22	21	22	23	18	16	15	21	24	3	6	1%
Segovia	19	16	16	10	12	9	11	7	17	13	-4	4	1%
Sevilla	52	43	66	55	58	68	50	48	72	60	-12	-8	3%
Soria	14	10	19	11	15	8	6	13	15	17	2	9	1%
Tarragona	49	71	59	51	65	52	40	33	52	55	3	3	3%
Teruel	14	16	9	18	10	7	10	10	7	10	3	3	1%
Toledo	34	31	42	50	34	29	27	36	23	38	15	9	2%
Valencia/València	71	64	69	73	88	72	51	47	78	73	-5	1	4%
Valladolid	13	24	24	27	23	18	13	24	23	17	-6	-1	1%
Bizkaia	15	19	26	13	21	26	17	22	21	14	-7	-12	1%
Zamora	18	21	20	24	18	16	12	9	21	14	-7	-2	1%
Zaragoza	39	38	43	37	48	27	38	28	45	44	-1	17	2%
Ceuta	0	3	2	2	3	2	2	0	1	1	0	-1	0%
Melilla	0	2	1	2	3	0	1	1	4	0	-4	0	0%
<b>Total</b>	<b>1.688</b>	<b>1.689</b>	<b>1.810</b>	<b>1.830</b>	<b>1.806</b>	<b>1.755</b>	<b>1.370</b>	<b>1.533</b>	<b>1.746</b>	<b>1.806</b>	<b>3%</b>	<b>3%</b>	<b>100%</b>

Chart 14: Fatalities by the scene of the road traffic accident. Year 2023

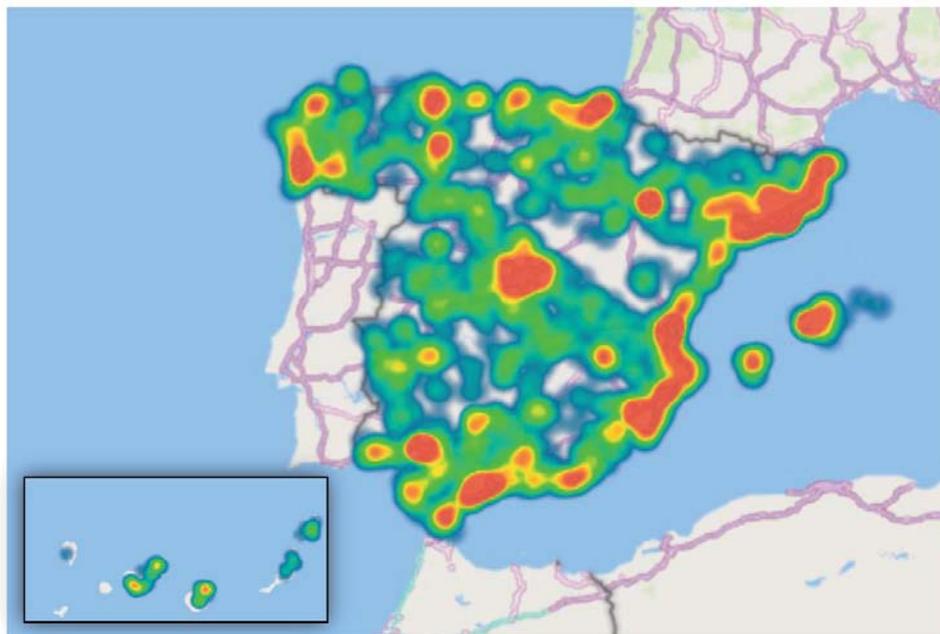


Chart 15: Fatalities by the scene of the road traffic accident on interurban roads. Year 2023

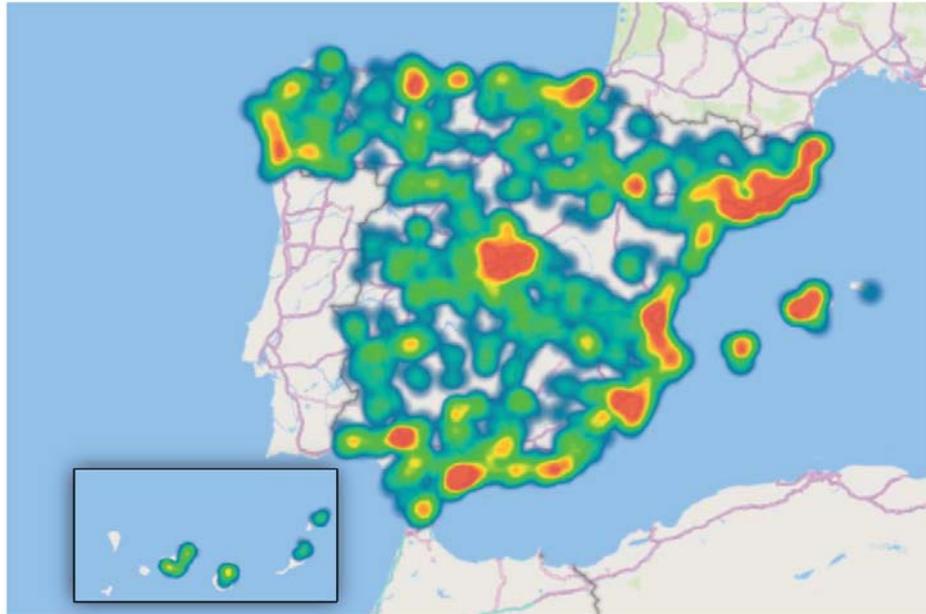


Chart 16: Fatalities by the scene of the road traffic accident on urban roads. Year 2023



## 2.2. Exposure indicators

### 2.2.1. Road network

In 2022, latest year with available data, of the 166,000 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 and Sustainable Mobility, 1% were toll motorways, 8% motorways and dual carriageways, 1% multilane roads and the remaining 90% were conventional roads.

**Table 10: Length (km) of the interurban road network. Spain, 2014-2022**

	2014	2015	2016	2017	2018	2019	2020	2021	2022	Dif. 22/21
Toll motorway	3.020	3.040	3.039	3.039	2.957	2.997	2.530	2.039	1.809	-11%
Dual c'way and motorway	12.029	12.296	12.405	12.484	12.626	12.725	13.222	13.786	14.047	2%
Multilane road	1.656	1.686	1.665	1.641	1.645	1.665	1.690	1.740	1.804	4%
Other roads	149.579	148.981	148.374	148.522	148.396	148.082	148.331	148.370	148.340	0%
<b>Total</b>	<b>166.284</b>	<b>166.003</b>	<b>165.483</b>	<b>165.686</b>	<b>165.624</b>	<b>165.469</b>	<b>165.773</b>	<b>165.935</b>	<b>166.000</b>	<b>0%</b>

Source: Statistical Yearbooks of the Ministry of Transport and Sustainable Mobility. The latest year available at the time of preparing this report was 2022.

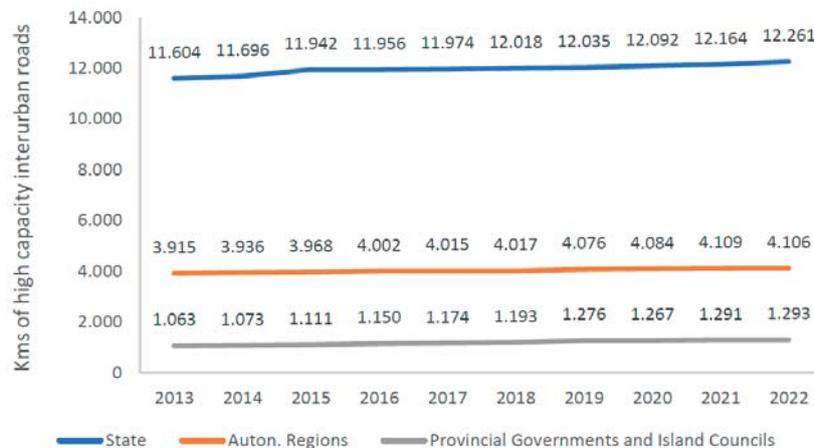
In 2022, the State Road Network was 26,490 kilometres, of which 46% were high-capacity roads: motorways, dual carriageways and multilane roads. On the contrary, high-capacity roads in the regional and provincial networks accounted only for 4% of the total.

**Table 11: Length (km) of the interurban road network by ownership and road type. Spain, 2022**

	Central Administration	Autonomous Regions	Provincial Governments and Island Councils	Total
Toll motorway	1.255	306	249	1.810
Dual c'way and motorway	10.485	2.932	629	14.046
Multilane road	521	868	415	1.804
Other roads	14.229	67.416	66.695	148.340
<b>Total</b>	<b>26.490</b>	<b>71.522</b>	<b>67.988</b>	<b>166.000</b>

Source: Statistical Yearbooks from the Ministry of Transport and Sustainable mobility. The latest year available at the time of preparing this report was 2022.

**Chart 17: Length (km) of the high-capacity interurban roads. Spain, 2014-2022**

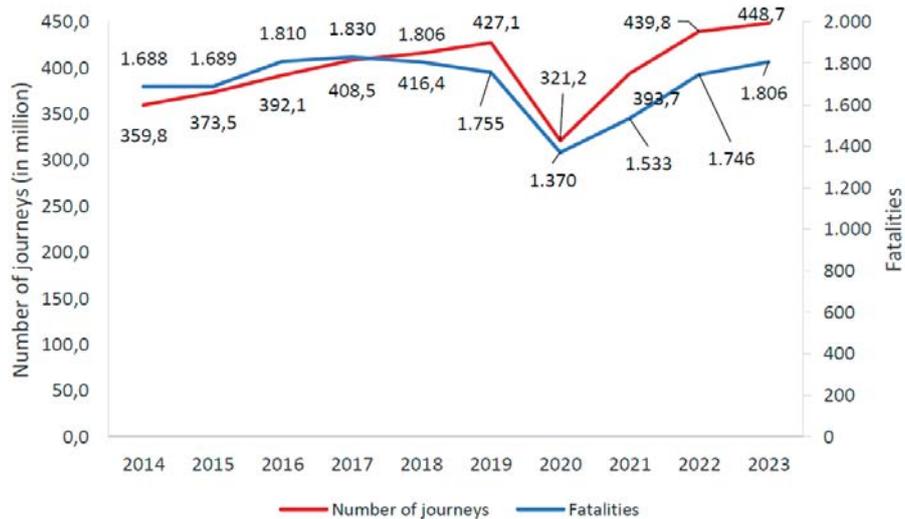


Source: Statistical Yearbooks from the Ministry of Transport and Sustainable mobility. The latest year available at the time of preparing this report was 2022.

### 2.2.2. Long-distance journeys

According to mobility, the fatality figure has increased from 1,688 to 1,806 between 2014 and 2023 (which means a 7% increase), whereas the number of journeys has increased from 359.79 million to 448.74 million (25% increase).

**Chart 18: Evolution of long-distance journeys and the number of people killed. Spain, 2014-2023**



### 2.2.3. Volume of traffic on interurban roads

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

If the evolution of volume of traffic – or exposure to risk – is analysed, an increase of 6% is observed between 2022 and 2021 and an increase of 1% between 2022 and 2019.

**Table 12: Evolution of volume of traffic on interurban roads. Spain, 2014-2023**

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	Diff 22/21	Diff 22/19
Traffic vehicle km 10 <sup>6</sup>	222.689	230.840	239.353	244.661	250.192	252.055	195.687	239.946	239.946	254.459	6%	1%

# 3

## MEANS OF TRANSPORT

### 3.1. Performance indicators: road traffic accidents and victims

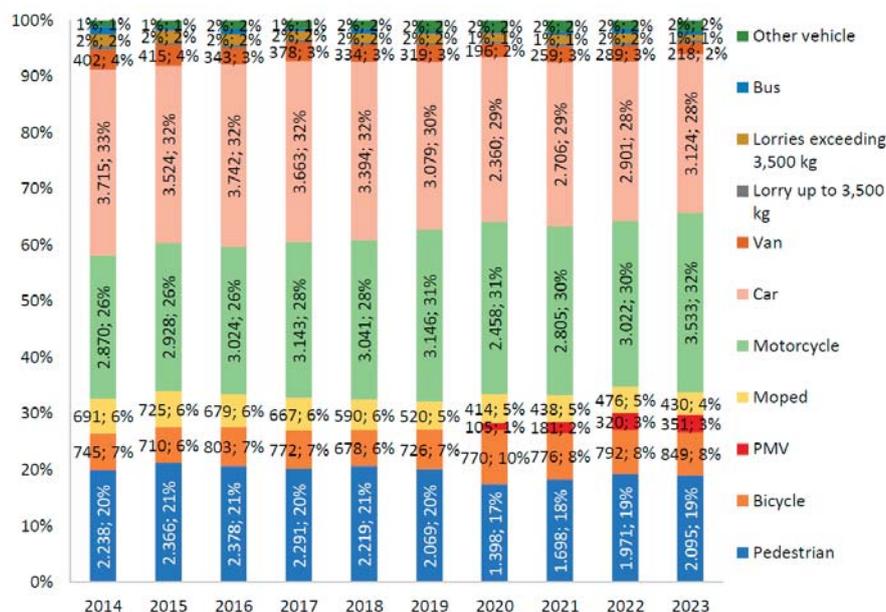
#### 3.1.1. Mode of transport in road traffic accidents

The mode of transport with the highest percentage of fatalities and hospitalised injured casualties in 2023 is the motorcycle. This percentage has been increasing in the last decade, from 26% in 2014 to 32% in 2023, reaching historical maximum in both categories. However, comparing the figures registered with those of 2019, an increase of 12% is observed, from 3,146 (31% of the total) to 3,533 (32% of the total).

On the other hand, a downward trend is observed in the percentage of fatalities and hospitalised injured casualties in cars, going from 33% in 2014 to 28% in 2023. Furthermore, compared to 2019, an increase of 1% is observed.

Regarding vulnerable groups and modes, pedestrians with 19% of the total increased by 1% compared to 2019 and by 6% compared to 2014, followed by bicycles with an upward trend with 8% of the total, an increase of 17% compared to 2019 and of 14% compared to 2014. It is worth highlighting the emergence of PMV casualties in the last 4 years, increasing the percentage over the total to 1 percentage point per year until 2022 and this figure seems to stagnate in 3% in 2023. The percentage of casualties in buses, trucks and vans remains stable within the period analysed, with no significant variations identified.

**Chart 19: Evolution of the distribution of fatalities and hospitalised injured casualties by mode of transport. Spain, 2014-2023**



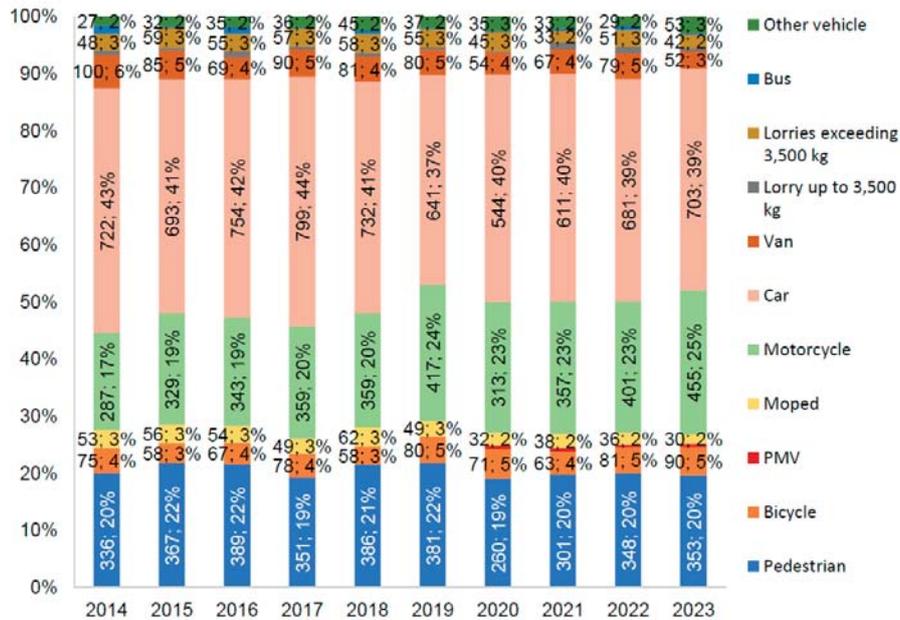
Cars are the mode of transport that concentrate the highest number of fatalities in traffic accidents, with 703 people killed, 39% of the total. However, a decrease has been observed since 2014, when the 722 people killed in passenger cars represented 43% of the total.

Along with the decrease in the burden of passenger cars in fatal accidents, the most notable trend is the increase in the burden of so-called vulnerable groups: pedestrians, cyclists, PMV users, mopeds and motorcyclists. The percentage of people killed in these modes of transport has increased from 45% in 2014 to 52% in 2023, the burden of pedestrians remains stable at 20% of the total, whereas that of mopeds and motorcycles has increased from 20% to 27%. The number of people killed on mopeds and motorcycles has increased from 340 to 485 (43%). Besides, 90 cyclists and 10 PMV users were killed in 2023.

In other modes of transport other than passenger cars and the vulnerable modes, we can observe a decrease in fatal accidents involving vans and trucks since 2014. In 2023, 52 people were killed in vans (3% of the total) and 53 people were killed in trucks (3% of the total).

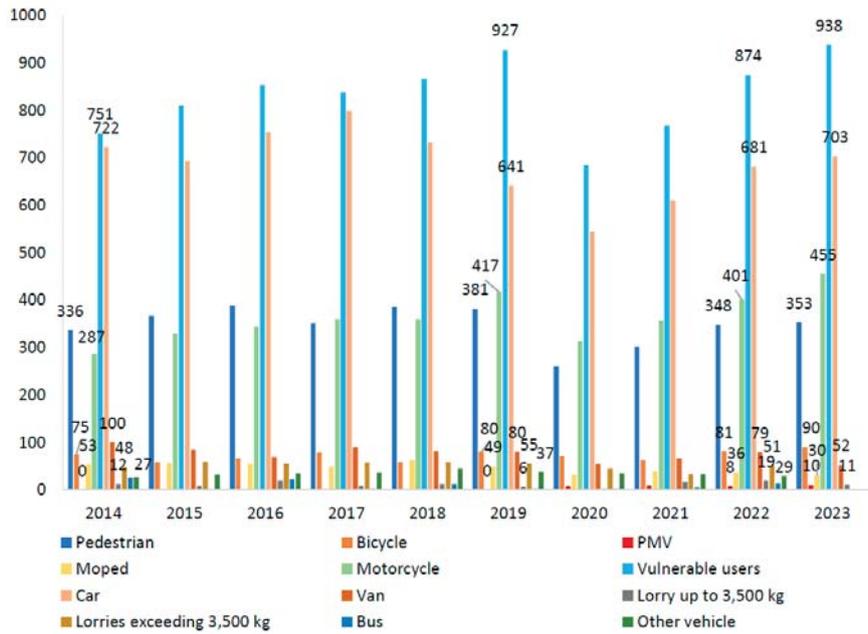
As for buses, 6 fatalities were registered in 2023, 7 fewer than in the same period in 2022.

**Chart 20: Evolution of the distribution of fatalities by mode of transport. Spain, 2014-2023**



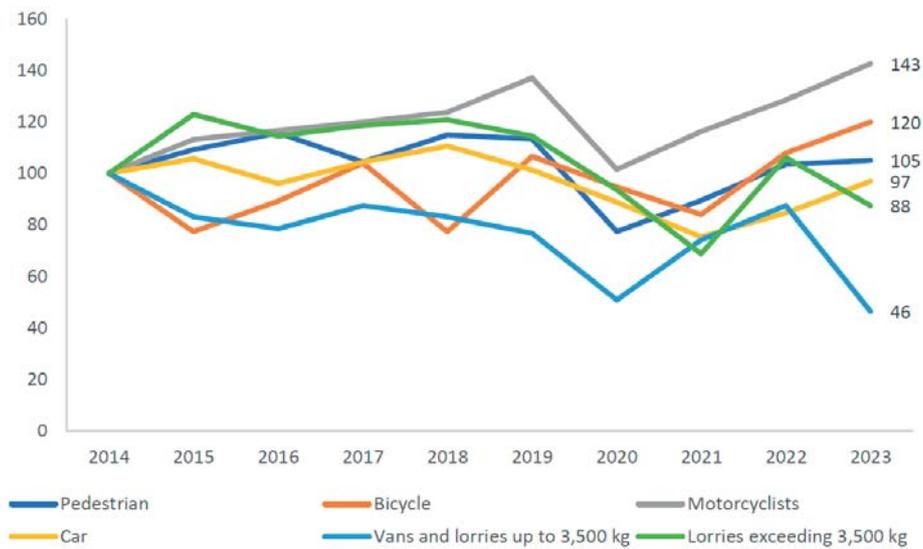
Note: PMVs have been included since 2020.

**Chart 21: Evolution of fatalities by mode of transport. Spain, 2014-2023**



Moreover, if we standardize to 100 the number of fatalities in 2014, the values in 2023 express the percentage change compared to 2014. In 2023, motorcyclists are the ones showing the worst evolution and at the opposite end are pedestrians.

**Chart 22: Evolution of fatalities by mode of transport. Base 2014=100. Spain, 2014-2023**



As regards the distribution by age and by mode of transport of the people killed in 2023:

- Between 0 and 14 years of age, the fatalities are mainly pedestrians and car occupants.
- Between 18 and 34 years of age, the highest percentage is as car and motorcycle users.
- As motorcyclists, the most affected groups are the 21 - 54 age group, whereas the 15 - 17 age group is the most affected group in mopeds.
- Persons aged over 75 show high percentages as pedestrians.

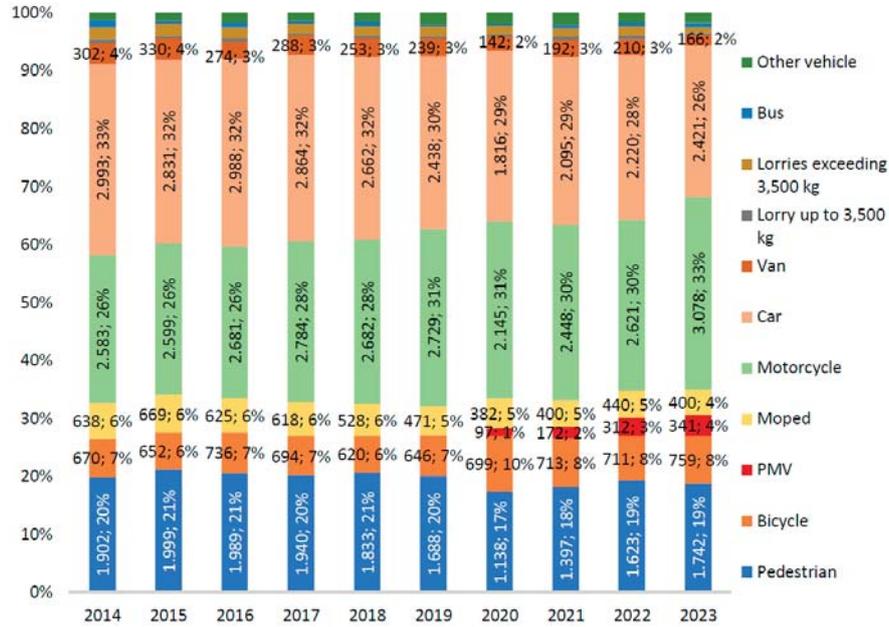
**Chart 23: Percentage distribution of the number of fatalities by mode of travel and age. Spain, 2023**



Note: PMVs have been included since 2020.

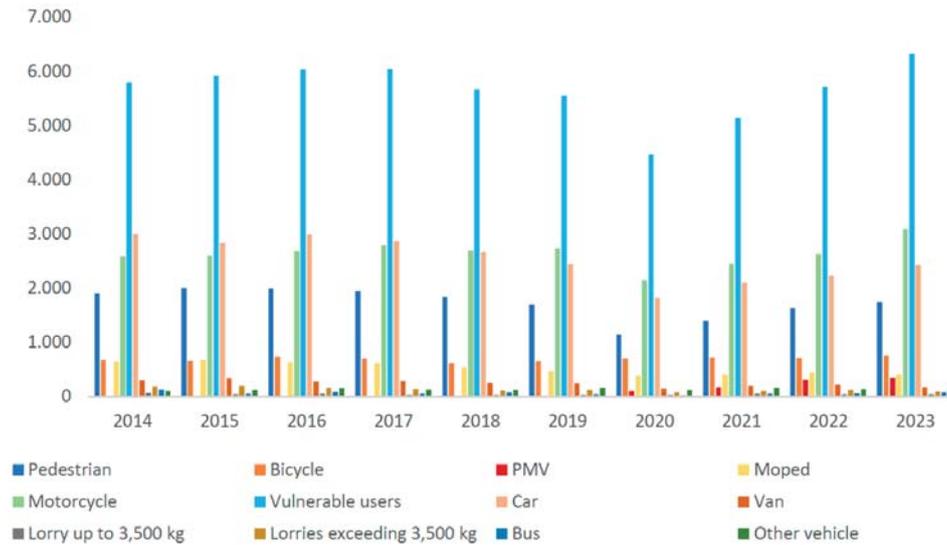
If we focus on hospitalised injured casualties, the trends are similar to those observed in the indicator of fatalities: the burden of cars decreased (from 33% of the total in 2014 to 26% in 2023) and the burden of certain vulnerable modes, in particular, the set of mopeds and motorcycles increased (from 32% of the total in 2014 to 38% in 2023). It is worth highlighting the appearance of PMVs, which accounted for 4% of hospitalised injured casualties in 2023.

**Chart 24: Evolution of the distribution of hospitalised injured casualties by mode of transport. Spain, 2014-2023**



Note: PMVs have been included since 2020.

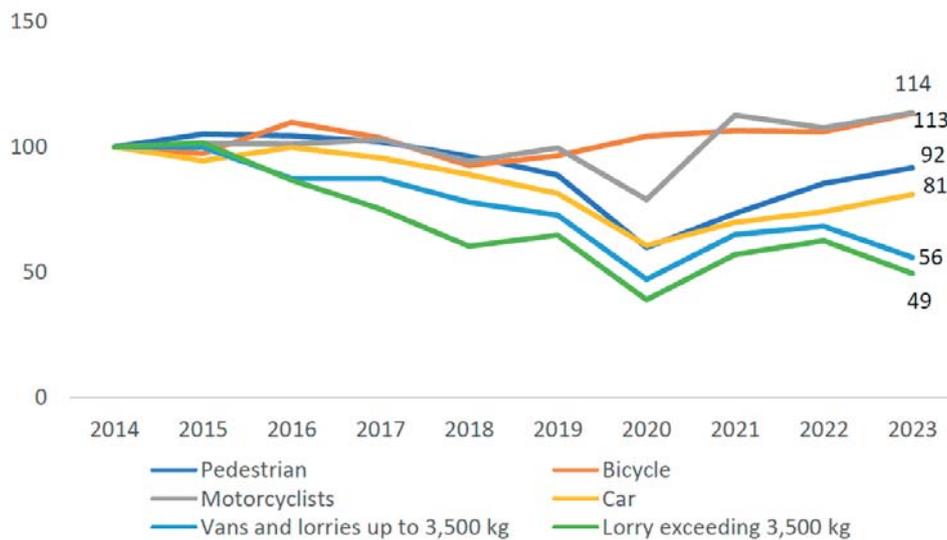
**Chart 25: Evolution of hospitalised injured casualties by mode of transport. Spain, 2014-2023**



Note: PMVs have been included since 2020.

Moreover, if we standardize to 100 the number of hospitalised injured casualties in 2014, the values in 2023 express the percentage change compared to 2014. In 2023, motorcycles are the mode of transport which show the worst evolution and at the opposite end are lorries exceeding 3500 kg.

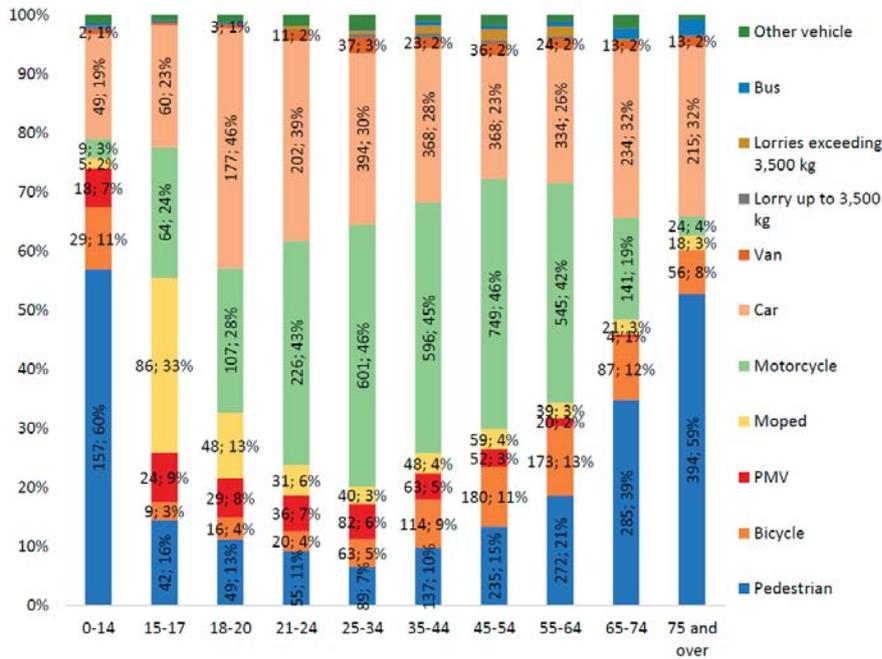
**Chart 26: Percentage distribution of the number of hospitalised injured casualties by mode of transport and age. . Base 2014=100. Spain, 2023**



By age, hospitalised injured casualties by mode of transport:

- Between 0 and 14 years of age, they are mainly pedestrians.
- Between 15 and 17 years of age, hospitalised injured moped casualties stand out with 33% of the total.
- Between 18 and 20 years of age, 46% of them travel in cars.
- Between 21 and 24 years of age, motorcycles (43%) and cars (39%) account for greater figures.
- Between 25 and 34 years old, they mainly concentrate on motorcycles (46%), which together with the 35-54 age group concentrate the largest numbers on motorcycles, with a difference of around 20% compared to cars.
- After 65 years of age, the percentage of pedestrians increases significantly, standing out as from the age of 75 with 59% of the total.

**Chart 27: Percentage distribution of the number of hospitalised injured casualties by mode of transport and by age. Spain, 2022**



Note: PMVs have been included since 2020.

### 3.1.1.1. Pedestrians

In 2023, 353 pedestrians were killed, 20% of the total number of fatalities (22% in 2019). Compared to 2019, there have been 28 fewer pedestrian fatalities (-7%), with different trends out of built-up area and in built-up area: 4 fewer pedestrians on interurban roads (-3%) and 24 fewer on urban roads (-10%).

Besides, 1,742 pedestrians were admitted to hospital and 11,497 were non-hospitalised injured casualties. Accidents involving pedestrians mainly occurred on urban roads (94%), roads that registered the highest percentage of pedestrians killed (63%) and of hospitalised injured casualties (90%). On interurban roads, collisions with pedestrians are especially harmful: they account for 37% of pedestrians killed with only 6% of accidents.

More information regarding pedestrians and their characteristics is detailed in the section 4.1.7 Pedestrians.

**Chart 28: Evolution of pedestrian fatalities and injured casualties admitted to hospitals on interurban and urban roads. Spain, 2014-2023**



**Table 13: Road traffic accidents involving pedestrians on urban and interurban roads. Spain, 2023**

	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	768	6%	130	37%	173	10%	532	5%
Urban roads	11.946	94%	223	63%	1.569	90%	10.965	95%
<b>Total</b>	<b>12.714</b>	<b>100%</b>	<b>353</b>	<b>100%</b>	<b>1.742</b>	<b>100%</b>	<b>11.497</b>	<b>100%</b>

*3.1.1.2. Bicycles*

In 2023, 90 pedal cyclists were killed, which meant 10 more pedal cyclist fatalities than in 2019; distributed as follows: 13 more pedal cyclists killed on interurban roads and 3 fewer on urban roads.

Besides, 759 pedal cyclists were admitted to hospital and 6,754 were non-hospitalised injured casualties. Most of the accidents occurred on urban roads (70%); however, the greatest number of pedal cyclist fatalities occurred on interurban roads - 61 deaths - as against 29 deaths on urban roads.

**Chart 29: Evolution of pedal cyclist fatalities and hospitalised injured casualties on interurban and urban roads. Spain, 2014-2023**



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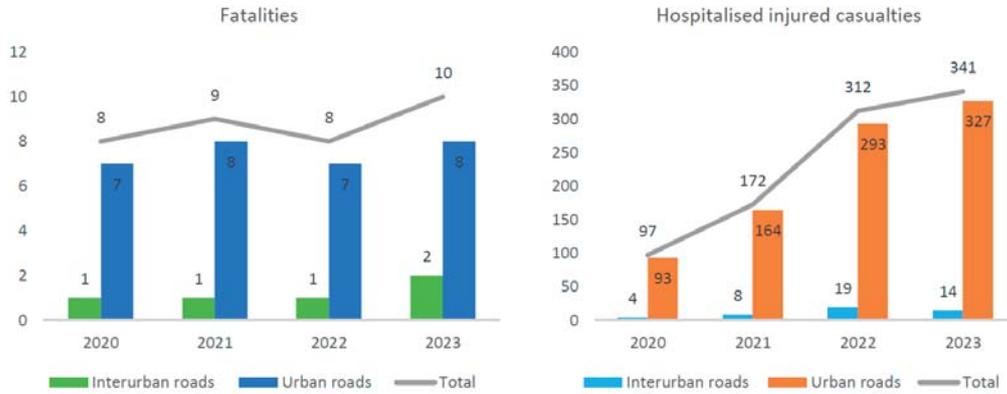
**Table 14: Road traffic accidents involving a bicycle on urban and interurban roads. Spain, 2023**

	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	2.359	30%	61	68%	350	46%	2.114	31%
Urban roads	5.483	70%	29	32%	409	54%	4.640	69%
<b>Total</b>	<b>7.842</b>	<b>100%</b>	<b>90</b>	<b>100%</b>	<b>759</b>	<b>100%</b>	<b>6.754</b>	<b>100%</b>

*3.1.1.3. Personal mobility vehicles*

In 2023, 10 users of personal mobility vehicles were killed, there were 341 hospitalised injured casualties and 5,329 non-hospitalised injured casualties. Most of the accidents occurred on urban roads (97%) where more casualties as PMVs users have been registered: 8 fatalities, 327 hospitalised and 5,172 non-hospitalised injured casualties.

**Chart 30: Evolution of fatalities and hospitalised injured casualties involving personal mobility vehicles on interurban and urban roads. Spain, 2020-2023**



**Table 15: Road traffic accidents involving personal mobility vehicles on urban and interurban roads. Spain, 2023**

	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	174	3%	2	20%	14	4%	157	3%
Urban roads	5.884	97%	8	80%	327	96%	5.172	97%
<b>Total</b>	<b>6.058</b>	<b>100%</b>	<b>10</b>	<b>100%</b>	<b>341</b>	<b>100%</b>	<b>5.329</b>	<b>100%</b>

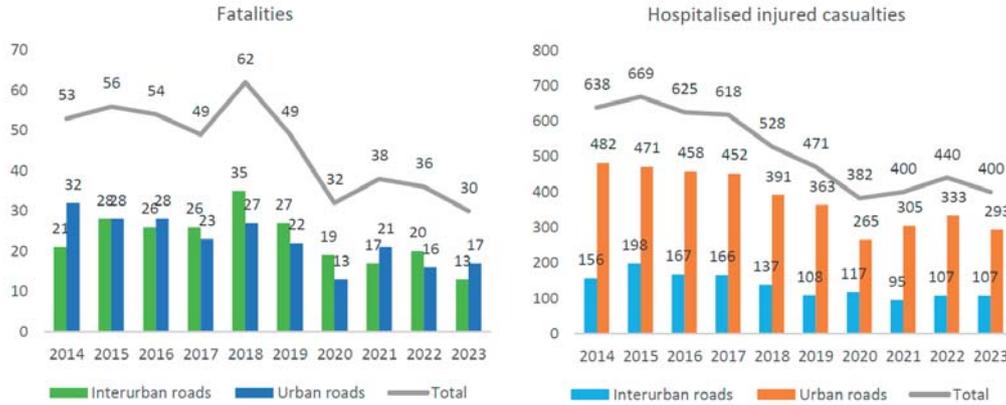
As regards users of personal mobility vehicles (PMV), it should be noted that data on hospitalised and non-hospitalised injured casualties for 2020 and 2021 do not include those from Catalonia since they have not provided any data.

#### 3.1.1.4. Mopeds

In 2023, 30 moped users were killed, 19 fewer deaths than in 2019. The number of hospitalised injured casualties has decreased by 15% in that period.

Mopeds were involved in 5,218 road accidents. The majority of them occurred on urban roads (87%) where the highest number of hospitalised and non-hospitalised injured casualties (73% and 87% respectively) were registered. In the case of fatalities, the distribution is somewhat higher on urban roads (17) than on interurban roads (13). The evolution in the number of fatalities and hospitalised injured casualties on mopeds shows a downward trend since 2014, accentuated in 2020 with the COVID-19 pandemic.

**Chart 31: Evolution of moped fatalities and hospitalised injured casualties on interurban and urban roads. Spain, 2014-2023**



**Table 16: Road traffic accidents involving mopeds on urban and interurban roads. Spain, 2023**

	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	672	13%	13	43%	107	27%	648	13%
Urban roads	4.546	87%	17	57%	293	73%	4.420	87%
<b>Total</b>	<b>5.218</b>	<b>100%</b>	<b>30</b>	<b>100%</b>	<b>400</b>	<b>100%</b>	<b>5.068</b>	<b>100%</b>

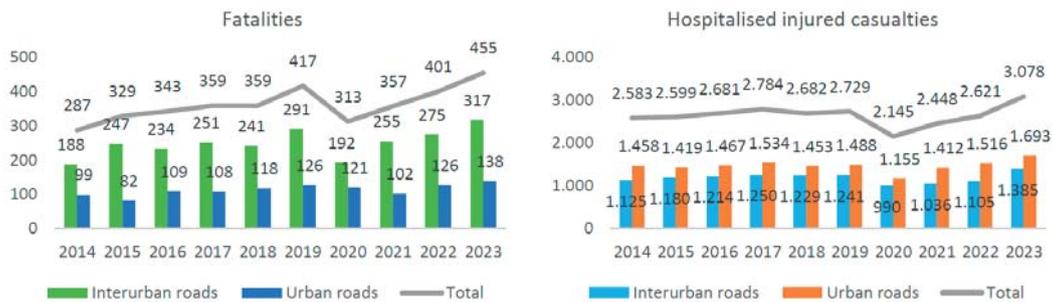
3.1.1.5. Motorcycles

In 2023 there were 455 motorcycle fatalities, 9% more than in 2019. On interurban roads there has been a 9% increase in the number of fatally injured motorcycle users and on urban roads the number of fatally injured motorcycle users has been 10% higher than in 2019.

In 2023, motorcycle users represented 28% of the total road traffic accidents, i.e. they were involved in 28,298 accidents. 73% of the road traffic accidents involving motorcycles occurred on urban roads where 55% of hospitalised and 75% of non-hospitalised injured motorcyclists were registered. In addition, fatal injuries occurred more frequently on interurban roads: 70% of motorcyclist fatalities occurred on this type of road.

The evolution of fatalities shows year-on-year increases since 2014, with the exception of 2020. The trend in the hospitalised injured casualty indicator is very similar.

**Chart 32: Evolution of motorcycle fatalities and hospitalised injured casualties on interurban and urban roads. Spain, 2014-2023**



**Table 17: Road traffic accidents involving a motorcycle on urban and interurban roads. Spain, 2023**

	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	7.560	27%	317	70%	1.385	45%	6.611	25%
Urban roads	20.738	73%	138	30%	1.693	55%	19.741	75%
<b>Total</b>	<b>28.298</b>	<b>100%</b>	<b>455</b>	<b>100%</b>	<b>3.078</b>	<b>100%</b>	<b>26.352</b>	<b>100%</b>

3.1.1.6. Cars

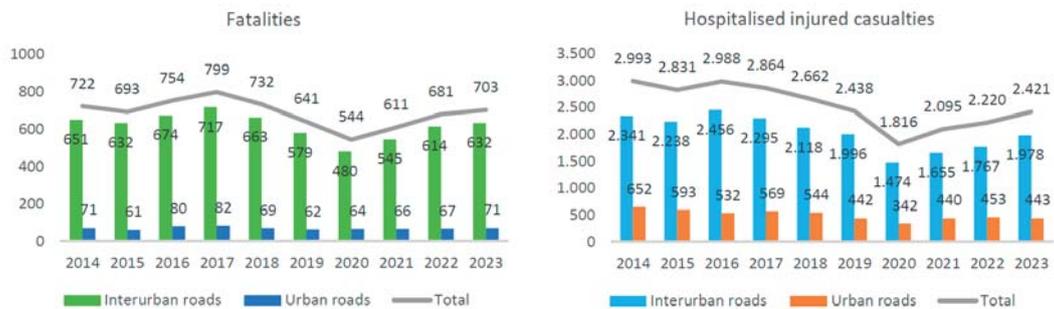
Of the 1,806 deaths as a result of a road traffic accident that occurred in 2023, 39% (703 individuals) were travelling in a car, either as drivers or passengers. Car fatalities have increased by 9% on interurban roads in comparison with 2019. On urban roads, the number of fatalities has increased with 9 more deaths compared with 2019.

Car users were involved in 73,627 road traffic accidents, that is, in 73% of the road accidents registered in 2023.

63% of the road traffic accidents involving at least one car occurred on urban roads; however, 90% (632 individuals) of car fatalities occurred on road accidents on interurban roads.

Since 2014, the evolution shows a generally downward trend in the hospitalised injured casualty indicator; however, the fatality indicator does not show a clear trend.

**Chart 33: Evolution of car fatalities and hospitalised injured casualties on interurban and urban roads. Spain, 2014-2023**



**Table 18: Road traffic accidents involving cars on urban and interurban roads. Spain, 2023**

	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	27.244	37%	632	90%	1.978	82%	33.624	57%
Urban roads	46.383	63%	71	10%	443	18%	25.850	43%
<b>Total</b>	<b>73.627</b>	<b>100%</b>	<b>703</b>	<b>100%</b>	<b>2.421</b>	<b>100%</b>	<b>59.474</b>	<b>100%</b>

### 3.1.1.7. Vehicles for the transport of goods and passengers

#### Vans

A total of 52 van users were killed in 2023, decreasing by 28 persons compared to 2019. Of them, the majority were registered on interurban roads, with 48 fatalities (92% of the total). As for hospitalised injured casualties, the total was 166, concentrating 78% of these on interurban roads. There is a 31% decrease in hospitalised injured casualties compared to 2019, mainly on interurban roads, with a 38% reduction. Regarding non-hospitalised injured casualties (3,866), 59% of them were registered on interurban roads.

Van users registered a total of 9,550 road accidents, registering 63% of them on urban roads.

**Chart 34: Evolution of van fatalities and hospitalised injured casualties on interurban and urban roads. Spain, 2014-2023**



**Table 19: Road traffic accidents involving a van on urban and interurban roads. Spain, 2023**

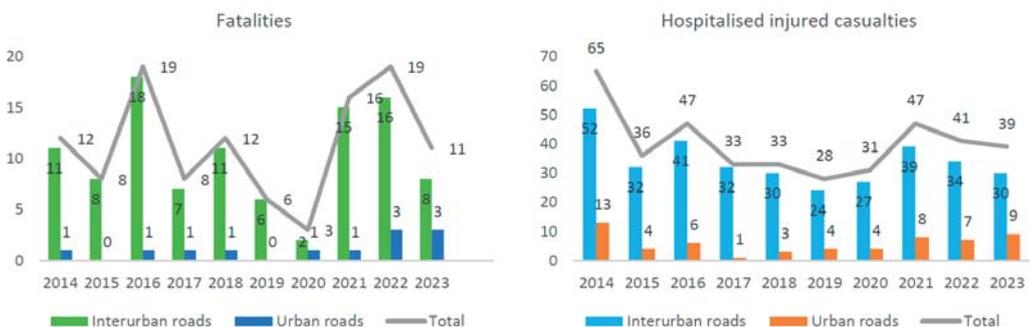
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	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	3.536	37%	48	92%	130	78%	2.293	59%
Urban roads	6.014	63%	4	8%	36	22%	1.573	41%
<b>Total</b>	<b>9.550</b>	<b>100%</b>	<b>52</b>	<b>100%</b>	<b>166</b>	<b>100%</b>	<b>3.866</b>	<b>100%</b>

#### Lorries with a MAM not exceeding 3500 kg

In 2023, as for lorries with a MAM not exceeding 3,500 kg, 11 individuals were killed, most of them (8) on interurban roads, increasing by 5 people compared to 2019. Regarding hospitalised injured casualties (39), there was an increase in 11 individuals compared to 2019, the majority were also concentrated on interurban roads (30). However, road traffic accidents (1,635) were registered to a greater extent on urban roads (54%).

**Chart 35: Evolution of fatalities and hospitalised injured casualties involving lorries with a MAM not exceeding 3500 kg on interurban and urban roads. Spain, 2014-2023**



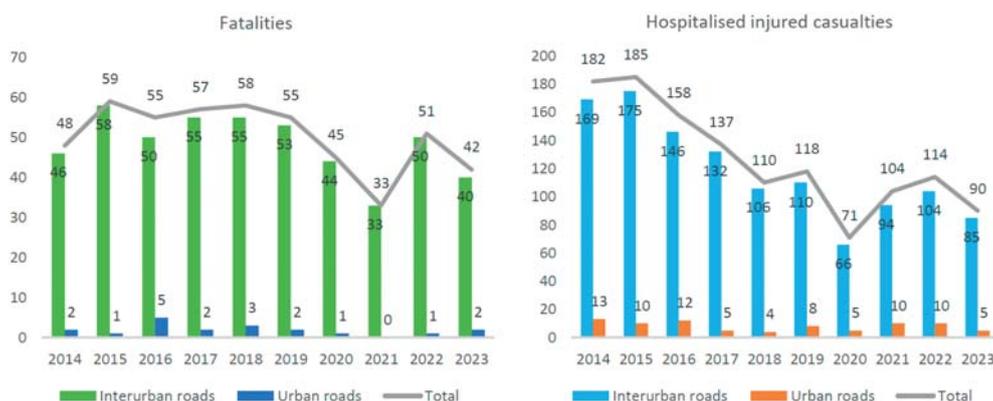
**Table 20: Road traffic accidents involving lorries with a MAM not exceeding 3500 kg on urban and interurban roads. Spain, 2023**

	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	748	46%	8	73%	30	77%	379	70%
Urban roads	887	54%	3	27%	9	23%	161	30%
<b>Total</b>	<b>1.635</b>	<b>100%</b>	<b>11</b>	<b>100%</b>	<b>39</b>	<b>100%</b>	<b>540</b>	<b>100%</b>

### Lorries with a MAM exceeding 3500 kg

In 2023, a total of 42 users of lorries with a MAM exceeding 3500 kg were killed, 13 fewer users than in 2019. Of them, 95% were registered on interurban roads. Besides, there were 90 hospitalised injured casualties, 28 fewer casualties than in 2019, 94% of the total were registered on interurban roads. There were 3,584 road traffic accidents, 76% of them occurred on interurban roads. As for non-hospitalised injured casualties (931), they also mainly occurred on interurban roads (87%).

**Chart 36: Evolution of fatalities and hospitalised injured casualties involving lorries exceeding 3500 kg on interurban and urban roads. Spain, 2014-2023**



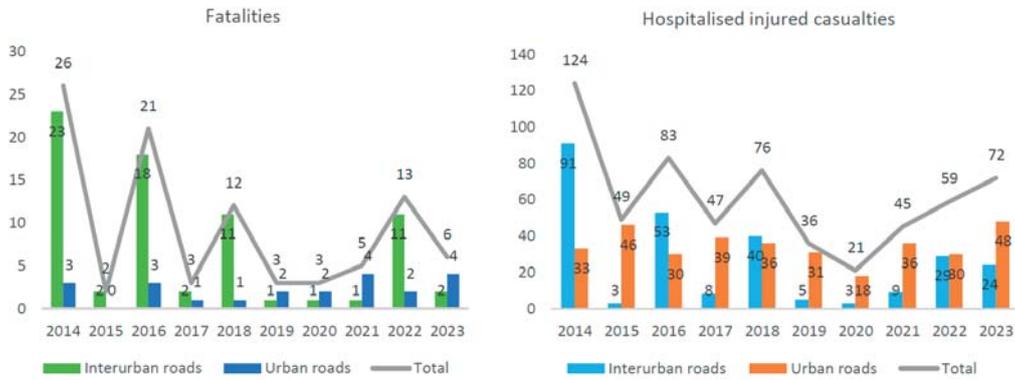
**Table 21: Road traffic accidents with individuals involved in lorries with a MAM exceeding 3500 kg on urban and interurban roads. Spain, 2023**

	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	2.717	76%	40	95%	85	94%	807	87%
Urban roads	867	24%	2	5%	5	6%	124	13%
<b>Total</b>	<b>3.584</b>	<b>100%</b>	<b>42</b>	<b>100%</b>	<b>90</b>	<b>100%</b>	<b>931</b>	<b>100%</b>

### Buses

In 2023, 6 bus users were killed, 3 more than in 2019, being the majority (4) on urban roads. Regarding hospitalised injured casualties (72), there has been an increase in 36 individuals compared to 2019 - 24 hospitalised injured casualties on interurban roads and 48 hospitalised injured casualties on urban roads. Regarding road accidents (2,662), as well as non-hospitalised injured casualties (2,651), they have been mostly registered on urban roads, with 91% and 89% respectively.

**Chart 37: Evolution of bus fatalities and hospitalised injured casualties on interurban and urban roads. Spain, 2014-2023**



**Table 22: Road traffic accidents involving buses on urban and interurban roads. Spain, 2023**

	Road traffic accidents		Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties	
	Number	%	Number	%	Number	%	Number	%
Interurban roads	250	9%	2	33%	24	33%	295	11%
Urban roads	2.412	91%	4	67%	48	67%	2.356	89%
<b>Total</b>	<b>2.662</b>	<b>100%</b>	<b>6</b>	<b>100%</b>	<b>72</b>	<b>100%</b>	<b>2.651</b>	<b>100%</b>

### 3.1.1.8. The collision matrices

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The collision matrix is an instrument that allows analysing accident rate in terms of the modes of transport involved in the road accident. The rows of the collision matrix include the mode of transport used by the casualties - whether this be fatalities, hospitalised or 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 53,379 casualties on interurban roads and the 81,958 casualties on urban roads reported in 2023 are analysed, the following conclusions are drawn:

- On interurban roads, car users accumulate the highest percentage of road traffic casualties (68% of the total), followed by motorcycles which account for 16% of the total. The car-car interaction is the one that accumulates the highest percentage of victims over the total (25%), followed by car-no other vehicle (21%).
- On urban roads, car users accumulate 32% of total casualties followed by motorcyclists - 26% - and pedestrians - 16% -. The car-car interaction is the one that accumulates the highest percentage of victims over the total (18%), followed by motorcycle-car (15%) and pedestrian-car (10%).

**Table 23: Collision matrix on road traffic casualties. Interurban roads. Spain, 2023**

	More than one vehicle	Single-vehicle	Pedestrian	Bicycle	PMV	Moped	Motorcycle	Car	Van	Lorry up to 3500 kg	Lorry exceeding 3500 kg	Bus or coach	Other vehicle	Total
Pedestrian	131	0	0	13	1	6	26	525	71	8	25	6	23	<b>835</b>
Bicycle	211	915	14	229	0	6	48	902	100	23	34	6	37	<b>2,525</b>
PMV	2	46	0	1	4	0	1	105	5	3	3	1	2	<b>173</b>
Moped	18	320	3	6	0	21	17	328	30	4	8	0	13	<b>768</b>
Motorcycle	489	3.801	15	29	2	17	319	3,007	357	55	127	26	69	<b>8,313</b>
Car	7.699	11.193	21	16	2	11	246	13.479	1,378	272	1,526	134	257	<b>36,234</b>
Van	577	737	2	0	0	1	17	786	114	34	165	12	26	<b>2,471</b>
Lorry up to 3500 kg	91	136	0	0	0	0	1	116	15	11	35	2	10	<b>417</b>
Lorry exceeding 3500 kg	134	467	0	0	0	0	1	118	26	5	151	4	26	<b>932</b>
Bus or coach	59	142	0	0	0	0	1	87	19	0	10	0	3	<b>321</b>
Other vehicle	28	203	1	3	0	0	6	113	5	2	16	4	9	<b>390</b>
<b>Total</b>	<b>9.439</b>	<b>17.960</b>	<b>56</b>	<b>297</b>	<b>9</b>	<b>62</b>	<b>683</b>	<b>19.566</b>	<b>2.120</b>	<b>417</b>	<b>2.100</b>	<b>195</b>	<b>475</b>	<b>53.379</b>

**Table 24: Collision matrix on road traffic casualties. Urban roads. Spain, 2023**

	More than one vehicle	Single-vehicle	Pedestrian	Bicycle	PMV	Moped	Motorcycle	Car	Van	Lorry up to 3500 kg	Lorry exceeding 3500 kg	Bus or coach	Other vehicle	Total
Pedestrian	569	4	0	388	473	135	731	8,236	1,038	156	100	330	597	<b>12.757</b>
Bicycle	147	1.354	154	229	84	29	166	2,432	242	32	22	56	131	<b>5.078</b>
PMV	80	1.786	112	90	106	16	99	2,812	245	28	20	28	85	<b>5.507</b>
Moped	181	1.264	64	24	12	56	146	2,557	260	44	29	29	64	<b>4.730</b>
Motorcycle	1.241	4.335	443	167	81	134	799	12,121	1,391	210	169	166	315	<b>21.572</b>
Car	4.932	2.995	153	25	40	77	509	14,800	1,539	239	368	371	316	<b>26.364</b>
Van	300	153	13	5	3	6	27	832	153	22	20	48	31	<b>1.613</b>
Lorry up to 3500 kg	29	37	6	0	1	0	4	64	16	5	5	6	0	<b>173</b>
Lorry exceeding 3500 kg	16	45	2	0	0	0	2	49	6	2	6	1	2	<b>131</b>
Bus or coach	93	1.025	87	43	15	4	19	853	103	19	25	43	79	<b>2.408</b>
Other vehicle	53	340	70	52	1	12	85	783	103	12	10	17	87	<b>1.625</b>
<b>Total</b>	<b>7.641</b>	<b>13.338</b>	<b>1.104</b>	<b>1.023</b>	<b>816</b>	<b>469</b>	<b>2.587</b>	<b>45.539</b>	<b>5.096</b>	<b>769</b>	<b>774</b>	<b>1.095</b>	<b>1.707</b>	<b>81.958</b>

As regards the collision matrices relating to the 5,633 fatalities and hospitalised injured casualties on interurban roads as well as the 5,438 fatalities and hospitalised injured casualties on urban roads reported in 2023, the following conclusions are drawn:

- On interurban roads, car users have accumulated the highest percentage of road fatalities and hospitalised injured casualties (46% of the total), followed by motorcycles, which have accounted for 30% of the total. 41% of the casualties have occurred in accidents in which no other vehicle or pedestrian were involved. The car-no other vehicle interaction is the one that accumulates the highest percentage of victims over the total (19%), followed by car-car (14%).
- On urban roads, motorcyclists represent 34% of total casualties followed by pedestrians: 33%. The pedestrian-car interaction is the one that accumulates the highest percentage of victims over the total (21%), followed by motorcycle-car (18%).

**Table 25: Collision matrix on road traffic fatalities and hospitalised injured casualties. Interurban roads. Spain, 2023**

	More than one vehicle	Single-vehicle	Pedestrian	Bicycle	PMV	Moped	Motorcycle	Car	Van	Lorry up to 3500 kg	Lorry exceeding 3500 kg	Bus or coach	Other vehicle	Total
Pedestrian	66	0	0	1	0	0	7	172	25	4	14	4	10	<b>303</b>
Bicycle	33	152	1	29	0	1	10	134	19	6	12	4	10	<b>411</b>
PMV	0	6	0	0	1	0	1	6	0	0	1	0	1	<b>16</b>
Moped	2	43	0	1	0	3	3	56	3	2	4	0	3	<b>120</b>
Motorcycle	115	772	1	7	0	2	54	599	77	14	38	4	19	<b>1.702</b>
Car	364	1.090	1	1	0	0	7	808	84	26	166	22	41	<b>2.610</b>
Van	26	72	0	0	0	0	0	46	3	4	24	0	3	<b>178</b>
Lorry up to 3500 kg	13	9	0	0	0	0	0	6	0	0	8	1	1	<b>38</b>
Lorry exceeding 3500 kg	21	49	0	0	0	0	0	10	2	1	42	0	0	<b>125</b>
Bus or coach	1	17	0	0	0	0	0	6	0	0	2	0	0	<b>26</b>
Other vehicle	4	75	0	0	0	0	0	15	0	0	9	0	1	<b>104</b>
<b>Total</b>	<b>645</b>	<b>2.285</b>	<b>3</b>	<b>39</b>	<b>1</b>	<b>6</b>	<b>82</b>	<b>1.858</b>	<b>213</b>	<b>57</b>	<b>320</b>	<b>35</b>	<b>89</b>	<b>5.633</b>

**Table 26: Collision matrix on road traffic fatalities and hospitalised injured casualties. Urban roads. Spain, 2023**

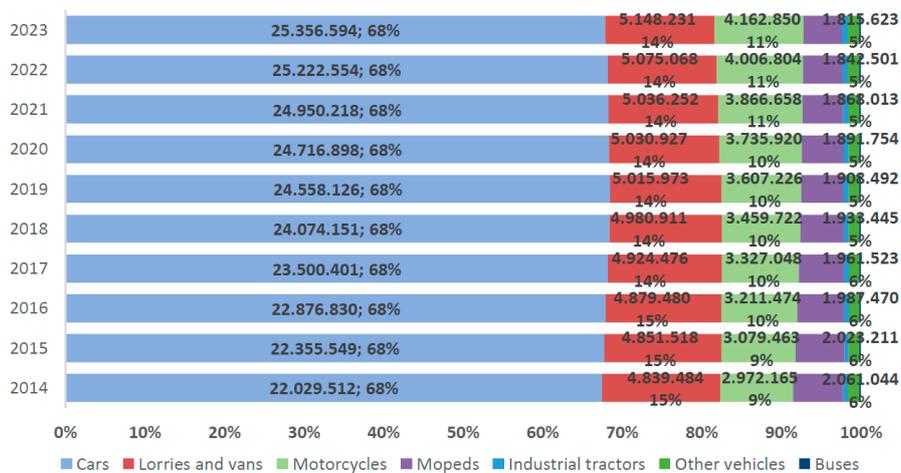
	More than one vehicle	Single-vehicle	Pedestrian	Bicycle	PMV	Moped	Motorcycle	Car	Van	Lorry up to 3500 kg	Lorry exceeding 3500 kg	Bus or coach	Other vehicle	Total
Pedestrian	93	2	0	26	30	10	111	1.134	165	40	40	75	66	<b>1.792</b>
Bicycle	8	132	14	24	9	2	7	182	28	6	5	8	13	<b>438</b>
PMV	9	130	6	2	9	1	7	145	10	2	4	5	5	<b>335</b>
Moped	11	90	3	2	0	6	7	157	19	1	5	4	5	<b>310</b>
Motorcycle	146	437	26	10	7	6	35	980	105	17	27	12	23	<b>1.831</b>
Car	75	225	6	0	0	0	6	162	12	1	12	10	5	<b>514</b>
Van	8	11	1	0	0	0	1	13	2	0	2	2	0	<b>40</b>
Lorry up to 3500 kg	2	5	0	0	0	0	0	2	0	0	1	2	0	<b>12</b>
Lorry exceeding 3500 kg	1	2	0	0	0	0	0	2	0	1	0	0	1	<b>7</b>
Bus or coach	1	33	1	1	0	0	0	10	3	0	0	0	3	<b>52</b>
Other vehicle	5	41	3	0	0	0	3	38	6	0	1	3	7	<b>107</b>
<b>Total</b>	<b>359</b>	<b>1.108</b>	<b>60</b>	<b>65</b>	<b>55</b>	<b>25</b>	<b>177</b>	<b>2.825</b>	<b>350</b>	<b>68</b>	<b>97</b>	<b>121</b>	<b>128</b>	<b>5.438</b>

### 3.2. Exposure indicators

#### 3.2.1. Vehicle fleet

There has been a 1% increase (approximately 365,556 units) compared with the previous year and the greatest increase in absolute figures is for cars with an increase of 1%. Although the fleet of mopeds has been decreasing over the total since 2014, the increase in motorcycles stands out, going from accumulating 9% of the total vehicle fleet in 2014 to 11% in 2023, with an annual increase of approximately 50,000 – 150,000 units. The vehicle fleet is mainly made up by cars with more than 25 million units which represent 68% of the fleet; cars are followed by lorries and vans, 14% of the total vehicle fleet; and by motorcycles, 11%.

**Chart 38: Evolution of the vehicle fleet over the last ten years. Spain, 2014-2023**



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

#### 3.2.2. Estimated annualized kilometres

Below is the distribution of annualized kilometres of vehicles being tested in the Roadworthiness Testing Centre (ITV in Spanish) between the years 2014 and 2023. Only the Roadworthiness Testing of Vehicles (ITV, in Spanish) with a favourable result have been considered for the calculation of kilometres. Roadworthiness Testing of Vehicles whose annualized kilometres are less than 50 in mopeds and motorcycles, and 1,000 kilometres in other vehicles, have been considered anomalous.

**Table 27. Distribution of annualized kilometres of vehicles being tested in the roadworthiness testing centre years 2014-2023 (until July).**

	Mopeds	Motorcycles	Cars	Vans	Trucks (MAM ≤3500Kg)	Trucks (MAM >3500Kg)	Buses	Industrial tractors
N	768.048	5.375.079	110.325.566	10.979.593	16.572.342	1.658.034	431.214	1.304.704
Mean	2.172	2.741	11.163	13.030	13.066	25.687	47.280	94.725
Median	1.426	1.895	9.282	9.402	10.434	18.126	41.304	98.112

The evolution of the average annualized kilometres of the vehicles being tested at the Roadworthiness Testing Centre is shown in the following table (please note the effect of the COVID-19 pandemic in some types of vehicles):

**Table 28. Evolution of annualized kilometres of vehicles being tested in the Roadworthiness Testing Centre.**

	Mopeds	Motorcycles	Cars	Vans	Trucks (MAM <=3500Kg)	Trucks (MAM >3500Kg)	Buses	Industrial tractors
2014	2.614	3.376	11.660	12.762	13.993	25.217	46.819	92.265
2015	2.394	3.083	11.665	12.857	13.941	25.080	47.241	93.786
2016	2.288	2.935	11.794	13.008	13.937	24.836	48.296	93.695
2017	2.227	2.858	11.800	13.167	13.840	25.887	49.512	95.230
2018	2.160	2.822	11.693	13.317	13.574	26.627	50.022	95.312
2019	2.110	2.746	11.527	13.383	13.253	26.565	50.114	95.647
2020	2.083	2.657	10.208	11.927	11.587	24.089	39.217	93.996
2021	1.978	2.405	9.690	12.430	11.935	26.383	39.865	96.184
2022	2.088	2.556	10.809	13.475	12.341	25.666	47.241	95.944
2023	2.154	2.709	11.164	13.659	12.319	25.821	51.668	93.407

To extrapolate these data to the entire vehicle fleet, a predictive model is adjusted on the aforementioned roadworthiness testing. These models are applied to the entire fleet in operation in 2023. As fleet in operation we understand any vehicle of the vehicle fleet on the roads (without being deregistered), that in the last 10 years (with respect to the year 2023) has a record in the DGT registries in the following areas: being tested at a roadworthiness testing centre, have insurance cover, a change of ownership, register the vehicle after a temporary deregistration or being the subject of a complaint. These criteria are intended to reduce the impact of vehicles (particularly very old ones) that are no longer on operation or that were de-registered in due course leaving aside regulated administrative procedures. The estimated annualized kilometres for the Spanish vehicle fleet in operation for the year 2023 are as follows:

**Table 29. Estimated annualized kilometres for the Spanish vehicle fleet in operation for the year 2023.**

	Mopeds	Motorcycles	Cars	Vans	Trucks not exceeding 3500kg	Trucks exceeding 3500kg	Buses	Industrial tractors
VEH-KM ( $\cdot 10^7$ km)	187,1	1.026,4	30.537,1	3.596,1	2.608,0	694,2	283,9	2.038,9
Mean (Km)	1.807	2.806	12.951	15.411	13.361	25.051	48.227	88.601

In relation to the age of the vehicle fleet, a downward trend can be observed in each vehicle category.

**Table 30. Estimated annualized kilometres for the vehicle fleet in operation for the year 2023, disaggregated by the age of the vehicle.**

Age of the vehicle	Mopeds	Motorcycles	Cars	Vans	Trucks not exceeding 3500kg	Trucks exceeding 3500kg	Buses	Industrial tractors
0 to 4 years	3.354	4.785	20.633	26.879	45.400	24.218	70.326	129.518
5 to 9 years	2.820	3.103	13.839	20.886	44.410	18.787	59.328	96.508
10 to 14 years	2.042	2.307	11.363	14.933	30.277	14.176	40.428	66.618
15 to 19 years	1.773	2.040	9.877	10.671	21.447	11.500	29.294	38.639
20 years and over	1.277	1.206	7.589	6.524	11.758	8.459	15.701	16.992

With the above data we can calculate mortality indicators adjusted for exposure to risk (excluding industrial tractors):

**Table 31. Exposure to risk by type of vehicle.**

	Mopeds	Motorcycles	Cars	Vans	Trucks not exceeding 3500kg	Trucks exceeding 3500kg	Buses (Adjusted by average occupancy in buses)*
Fatalities	30	455	703	52	11	42	6
Veh-km (•10 <sup>7</sup> )	187	1.026	30.537	3.596	2.608	694	2.555
Fat. veh-km	0,160	0,443	0,023	0,014	0,004	0,061	0,002
Risk Resp. Car	7,0	19,3		0.6	0,2	2,6	0.1

### 3.3 Performance indicators

#### 3.3.1.1. 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 mopeds 27 January 2002.

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

**Table 32: Basic statistical measures of the vehicle fleet (mopeds excluded) and their age by vehicle type. Spain, 2023**

Age of the fleet	Measure	Lorries and vans	Buses	Cars	Motorcycles	Industrial tractors	Other vehicles*	Total without mopeds
Complete	<b>Total</b>	<b>5.148.231</b>	<b>2.747.871</b>	<b>25.423.232</b>	<b>29.519.444</b>	<b>4.416.184</b>	<b>800.018</b>	<b>68.054.980</b>
	Mean	18	15	15	17	12	18	16
	St.Dev	12	14	11	15	10	10	12
	Coef. Variation	67	95	75	85	91	59	75
Less than 25 years	<b>Total</b>	<b>3.994.254</b>	<b>2.024.278</b>	<b>22.390.061</b>	<b>25.587.763</b>	<b>3.485.445</b>	<b>680.716</b>	<b>58.162.517</b>
	Mean	13	10	12	11	9	14	12
	St.Dev	7	6	7	7	7	7	7
	Coef. Variation	55	62	58	63	72	50	58
Less than 15 years	<b>Total</b>	<b>1.996.244</b>	<b>1.236.923</b>	<b>13.526.932</b>	<b>15,566.090</b>	<b>2.256.976</b>	<b>342.172</b>	<b>34.925.337</b>
	Mean	7	7	7	7	6	6	7
	St.Dev	4	4	4	4	4	4	4
	Coef. Variation	61	60	58	66	63	73	59

\* The "other vehicles" category includes special vehicles such as sweepers, snowploughs, cranes, work-site machines, etc. Trailers and semi-trailers, bicycles and personal mobility vehicles have been excluded.

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 represents 85% of the total registered vehicles, the vehicles under 15 years of age represent 51% of the registered vehicles.

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 14.5 years of age or older. Where the rest of the vehicles is concerned, the medians range from 7.5 years of industrial tractors to 17.5 years of lorries and vans.

**Table 33: Percentiles in years by type of vehicle of the vehicle fleet. Spain, 2023**

	10	20	30	40	50	60	70	80	90
Trucks and vans	3.5	6.5	9.5	15.5	17.5	19.5	22.5	25.5	33.5
Buses	1.5	4.5	6.5	8.5	11.5	14.5	16.5	19.5	34.5
Cars	2.5	5.5	7.5	9.5	13.5	16.5	18.5	20.5	26.5
Motorcycles	2.5	4.5	7.5	11.5	14.5	16.5	18.5	26.5	37.5
Industrial tractors	1.5	2.5	4.5	6.5	7.5	9.5	14.5	17.5	23.5
Other vehicles*	2.5	5.5	12.5	16.5	17.5	18.5	20.5	22.5	29.5
<b>Total</b>	<b>2.5</b>	<b>5.5</b>	<b>7.5</b>	<b>10.5</b>	<b>14.5</b>	<b>16.5</b>	<b>18.5</b>	<b>21.5</b>	<b>30.5</b>

\* The "other vehicles" category includes special vehicles such as sweepers, snowploughs, cranes, work-site machines, etc. Trailers and semi-trailers, bicycles and personal mobility vehicles have been excluded.

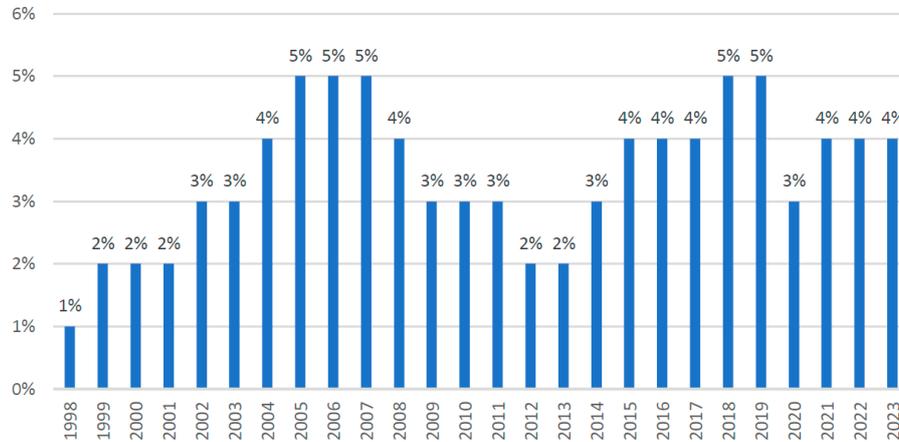
In 2023, the average age of the vehicle fleet under 25 years of age ranges from 9 years for industrial tractors to 14 years for other vehicles. The average age of cars is 12 years, over the average age of motorcycles that is 11 years. The average age of buses or coaches is 10 years. Compared to the 2014 figures, the average age has increased in all types of vehicles analysed except for industrial tractors, vans and buses that remains stable

**Table 34: Age of the vehicle fleet\*. Spain, 2014-2023**

Age of the fleet	Lorries <= 3.500kg	Trucks >3.500kg	Industrial tractors	Vans	Buses	Cars	Motorcycles
2014	11	12	9	12	10	10	10
2023	15	14	9	12	10	12	11

\* Only vehicles under 25 years of age are considered.

**Chart 39: Percentage distribution of the vehicle fleet under 25 years of age, mopeds excluded, by registration year. Spain, 2023**



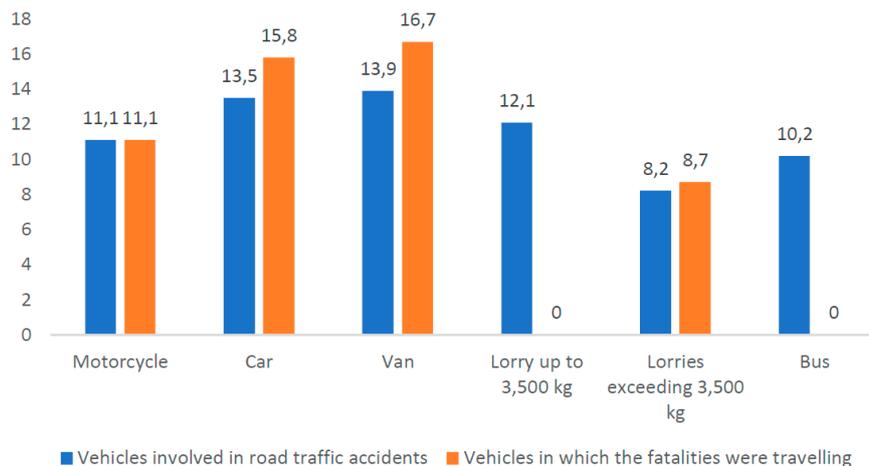
*3.3.1.2 Age of the vehicles involved in fatal road traffic accidents*

In 2023 on interurban roads, for all types of vehicles analysed (motorcycles, cars and vans), the average age of the vehicles involved in fatal accidents is below the average age of the vehicles in which the fatalities were travelling.

The greatest differences in the age of the vehicles involved in accidents with respect to those in which fatalities were travelling are in passenger cars and vans, both with a difference of at least 2 years. Passenger cars and vans also stand out for being the oldest vehicles in which fatalities were travelling, recording figures of 15.8 years in the case of passenger cars and 16.7 years in the case of vans.

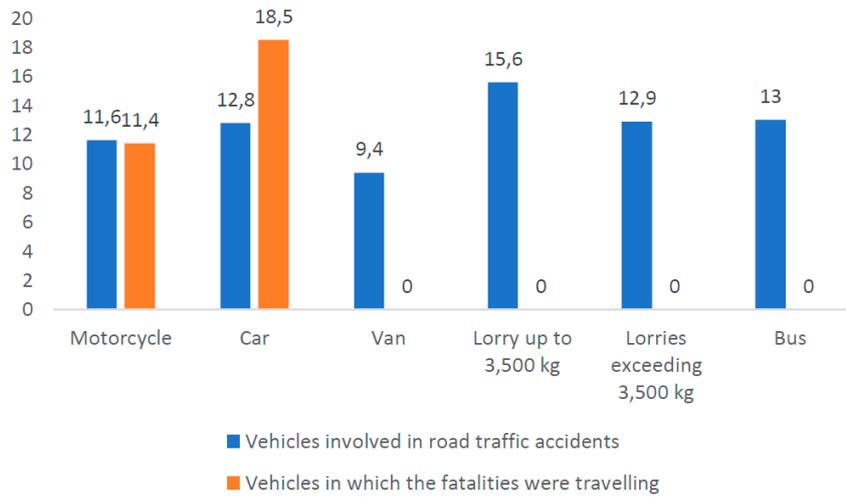
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**Chart 40: Average age of the vehicles involved in fatal accidents and of the vehicles in which the fatalities were travelling. Interurban roads. Spain, 2023**



*(The average age of the vehicles is not shown when the number of units is below 10)*

**Chart 41: Average age of the vehicles involved in fatal accidents and of the vehicles in which the fatalities were travelling. Urban roads. Spain, 2023**

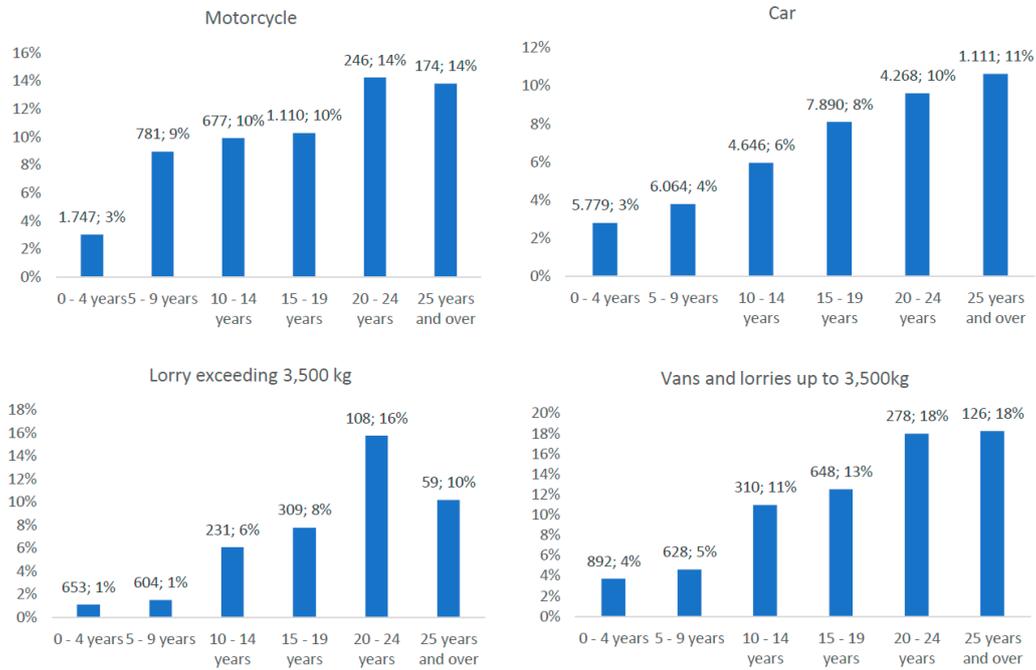


*(The average age of the vehicles is not shown when the number of units is below 10)*

### 3.3.2. Roadworthiness tests for the vehicles involved in road traffic accidents

On interurban roads, there is a link between the age of the vehicle involved in the accident and the result of its roadworthiness test. In the case of motorcycles, the percentage of vehicles with an expired roadworthiness test certificate went from 3% between 0 and 4 years to 10% from the age of 10 years. In the case of cars, the percentage went from 4% between 5 and 9 years to 8% from the age of 15 years. As for vans and lorries up to 3,500 kg, the percentage of vehicles with an expired roadworthiness test certificate ranged from 5% between 5 and 9 years to 13% from the age of 15. In lorries exceeding 3,500 kg the variation is between 1% (5-9 years) and 8% (over 15 years).

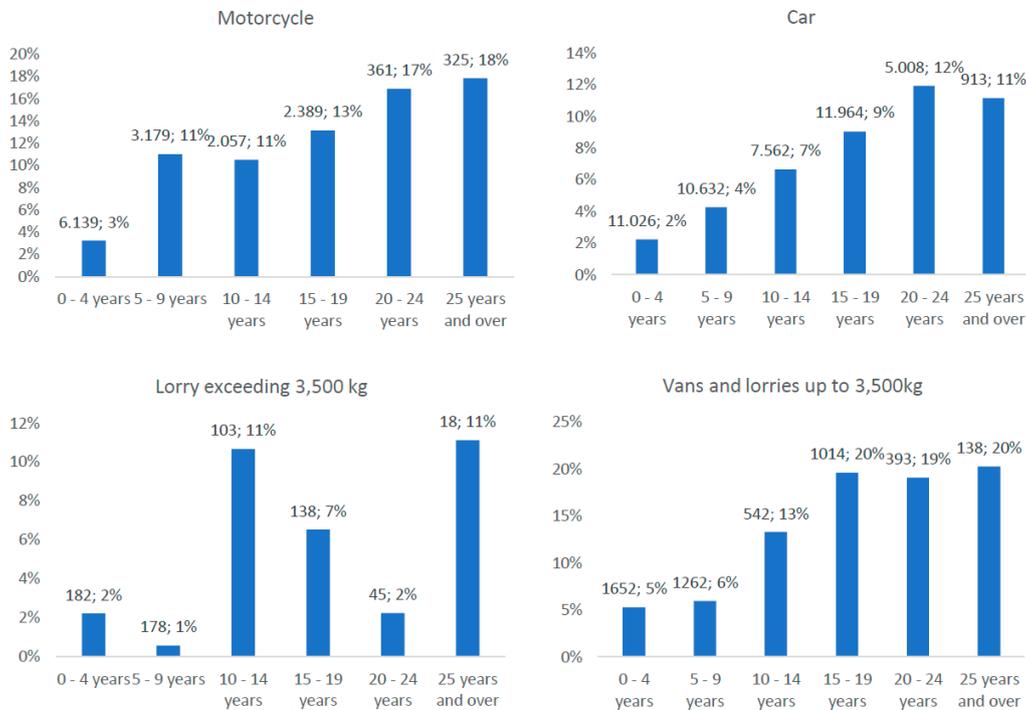
**Chart 42: Percentage of vehicles with an expired roadworthiness test certificate at the time of the accident. Vehicles involved in road traffic accidents on interurban roads. Spain, 2022.**



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

Regarding urban roads, the above-mentioned link is clearer in the case of cars. 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 2% between 0 and 4 years to 9% from the age of 15 years. As for vans and lorries up to 3,500 kg, the percentage of vehicles with an expired roadworthiness test certificate ranged between 5% (5-9 years) and 20% (from the age of 15 years). In lorries exceeding 3500 kg the variation is between 2% (5-9 years) and 7% (from the age of 15 years).

**Chart 43: Percentage of vehicles with an expired roadworthiness test certificate at the time of the accident by the age of the vehicle. Vehicles involved in road traffic accidents on urban roads. Spain, 2023**



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

### 3.3.3. Insurance of the vehicles involved in road traffic accidents

The percentage of vehicles with an expired insurance at the time of the accident is very low, ranging between 0% and 3% up to 19 years old; however, as age increases, mainly from the age of 20, the percentages are increasing until reaching a maximum of 6% in the case of motorcycles on interurban roads.

**Table 35: Percentage of vehicles with an expired insurance policy at the time of the accident. Vehicles involved in road traffic accidents on interurban roads. Spain, 2023**

	0 to 4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	Age 25+
Motorcycle	2%	2%	2%	3%	6%	3%
Car	1%	1%	1%	1%	2%	2%
Van	1%	1%	1%	1%	3%	2%
Lorry up to 3500 kg	0%	0%	0%	3%	5%	0%
Vans and lorries not exceeding 3500 kg	1%	1%	1%	1%	3%	1%
Lorry exceeding 3500 kg	0%	1%	0%	0%	1%	5%

**Table 36: Percentage of vehicles with an expired insurance policy at the time of the accident. Vehicles involved in road traffic accidents on urban roads. Spain, 2023**

	0 to 4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	Age 25+
Motorcycle	1%	1%	1%	2%	3%	2%
Car	0%	1%	1%	1%	2%	2%
Van	1%	0%	1%	1%	1%	2%
Lorry up to 3500 kg	0%	0%	0%	2%	2%	0%
Vans and lorries not exceeding 3500 kg	1%	0%	1%	1%	1%	1%
Lorry exceeding 3500 kg	1%	1%	0%	0%	0%	0%

### 3.3.4. Vehicle propulsion

Regarding the vehicles involved in fatal and serious accidents by type of propulsion, in 2023 the majority are distributed in a similar way between diesel (50%) and petrol (47%). However, it is worth highlighting the increase in electric vehicles involved, increasing by 104% compared to 2019, showing an upward trend, as well as gas-fuelled vehicles (+20%). Both petrol- and diesel-powered vehicles involved have decreased by 23% and 17% respectively.

Regarding interurban roads, the majority of vehicles involved in fatal and serious accidents (54%) are diesel, while petrol-powered vehicles accumulate 45%. Likewise, the increase in electric vehicles involved stands out with an increase by 450% compared to 2019. On the other hand, gas-fuelled vehicles have increased by 50% compared to 2019.

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On urban roads, petrol-powered vehicles involved in fatal and serious accidents accumulate 55% of the total, while diesel-powered vehicles accumulate 41%. Both electric vehicles and gas-fuelled vehicles accumulate 2% of the total, increasing by 72% and 12% respectively.

**Table 37: Evolution of vehicles involved in fatal and serious road accidents by type of vehicle propulsion**

	2019	2020	2021	2022	2023	Diff 23/22	Diff 23/19	Dist. 23
Diesel	6.453	4.784	5.571	6.016	4975	-17%	-23%	47%
Electric	71	77	124	162	145	-10%	104%*	1%
Gas	98	82	99	106	118	11%	20%*	1%
Petrol	6.287	4.820	5.643	6.016	5,244	-13%	-17%	50%
Other	4	1	3	1	2	.	-50%*	0%
Unspecified	25	1	23	20	10	-50%*	-60%*	0%
<b>Total</b>	<b>12.938</b>	<b>9.765</b>	<b>11.463</b>	<b>12.323</b>	<b>10.494</b>	<b>-15%</b>	<b>-19%</b>	<b>100%</b>

\* This fact cannot be interpreted in isolation due to its low frequency (N<100), since it can give rise to high and poorly representative percentage variations

**Table 38: Evolution of vehicles involved in fatal road traffic accidents by vehicle propulsion on interurban roads**

	2019	2020	2021	2022	2023	Diff 23/22	Diff 23/19	Dist. 23
Diesel	3.812	2.852	3.177	3.463	2.834	-18%	-26%	54%
Electric	6	11	19	20	33	65%*	450%*	1%
Gas	22	11	19	16	33	106%*	50%*	1%
Petrol	2.966	2.282	2.553	2.617	2.389	-9%	-19%	45%
Other	0	0	0	0	0	.	.	0%
Unspecified	20	0	16	16	8	-50%*	-60%*	0%
<b>Total</b>	<b>6.826</b>	<b>5.156</b>	<b>5.784</b>	<b>6.132</b>	<b>5.297</b>	<b>-14%</b>	<b>-22%</b>	<b>100%</b>

\* This fact cannot be interpreted in isolation due to its low frequency (N<100), since it can give rise to high and poorly representative percentage variations

**Table 39: Evolution of vehicles involved in fatal road traffic accidents by vehicle propulsion on urban roads**

	2019	2020	2021	2022	2023	Diff 23/22	Diff 23/19	Dist. 23
Diesel	2.641	1.932	2.394	2.552	2.141	-16%	-19%	41%
Electric	65	66	105	142	112	-21%	72%*	2%
Gas	76	71	80	92	85	-6%*	12%*	2%
Petrol	3.321	2.538	3.090	3.400	2.855	-16%	-14%	55%
Other	4	1	3	1	2	.	.	0%
Unspecified	5	1	7	4	2	-50%*	-60%*	0%
<b>Total</b>	<b>6.112</b>	<b>4.609</b>	<b>5.679</b>	<b>6.191</b>	<b>5.197</b>	<b>-16%</b>	<b>-15%</b>	<b>100%</b>

\* This fact cannot be interpreted in isolation due to its low frequency (N<100), since it can give rise to high and poorly representative percentage variations

**Table 40: Evolution of vehicles involved in fatal road accidents by type of vehicle propulsion**

	2019	2020	2021	2022	2023	Diff 23/22	Diff 23/19	Dist. 23
Diesel	1.387	1.073	1.225	1.391	1.125	-19%	-19%	58%
Electric	5	11	9	11	9	-18%*	80%*	0%
Gas	12	12	11	13	23	77%*	92%*	1%
Petrol	927	711	823	883	797	-10%	-14%	41%
Other	1	0	0	0	0	.	.	0%
Unspecified	8	1	6	10	2	-80%*	-75%*	0%
<b>Total</b>	<b>2.340</b>	<b>1.808</b>	<b>2.074</b>	<b>2.308</b>	<b>1.956</b>	<b>-15%</b>	<b>-16%</b>	<b>100%</b>

\* This fact cannot be interpreted in isolation due to its low frequency (N<100), since it can give rise to high and poorly representative percentage variations

**Table 41: Evolution of vehicles involved in fatal road traffic accidents by vehicle propulsion on interurban roads**

	2019	2020	2021	2022	2023	Diff 23/22	Diff 23/19	Dist. 23
Diesel	1.059	862	966	1.128	896	-21%	-15%	60%
Electric	2	2	3	4	2	-50%*	0%*	0%
Gas	5	3	4	3	16	433%*	220%*	1%
Petrol	656	456	592	607	570	-6%	-13%	38%
Other	0	0	0	0	0	.	.	0%
Unspecified	6	0	6	6	2	-67%*	-67%*	0%
<b>Total</b>	<b>1.728</b>	<b>1.323</b>	<b>1.571</b>	<b>1.748</b>	<b>1.486</b>	<b>-15%</b>	<b>-14%</b>	<b>100%</b>

\* This fact cannot be interpreted in isolation due to its low frequency (N<100), since it can give rise to high and poorly representative percentage variations

**Table 42: Evolution of vehicles involved in fatal road traffic accidents by vehicle propulsion on urban roads**

	2019	2020	2021	2022	2023	Diff 23/22	Diff 23/19	Dist. 23
Diesel	328	211	259	263	229	-13%	-30%	49%
Electric	3	9	6	7	7	0%*	133%*	1%
Gas	7	9	7	10	7	-30%*	0%*	1%
Petrol	271	255	231	276	227	-18%	-16%	48%
Other	1	0	0	0	0	.	.	0%
Unspecified	2	1	0	4	0	-100%*	-100%*	0%
<b>Total</b>	<b>612</b>	<b>485</b>	<b>503</b>	<b>560</b>	<b>470</b>	<b>-16%</b>	<b>-23%</b>	<b>100%</b>

\* This fact cannot be interpreted in isolation due to its low frequency (N<100), since it can give rise to high and poorly representative percentage variations

### 3.4. Key performance indicators

#### 3.4.1. Safety of the vehicle fleet

Spain has provided data to the European Baseline project in relation to the vehicle safety indicator. The indicator used in this project to quantify vehicle safety has been the percentage of new passenger cars registered with a Euro NCAP test rating equal to or greater than four or five stars. Therefore, it is a safety indicator of new registrations, and not of the vehicle fleet as a whole.

In the case of Spain, the estimate has been made for the years 2019 and 2020. If registrations for which a Euro NCAP result was not available are excluded, the percentage of new passenger cars with a score equal to or greater than 4 stars in 2020 is 99% (98% in 2019), and vehicles with a score of 5 stars (the maximum) account for 83% of new passenger car registrations (79% in 2019).

# 4

## USERS

### 4.1. Performance indicators: road traffic accidents and victims

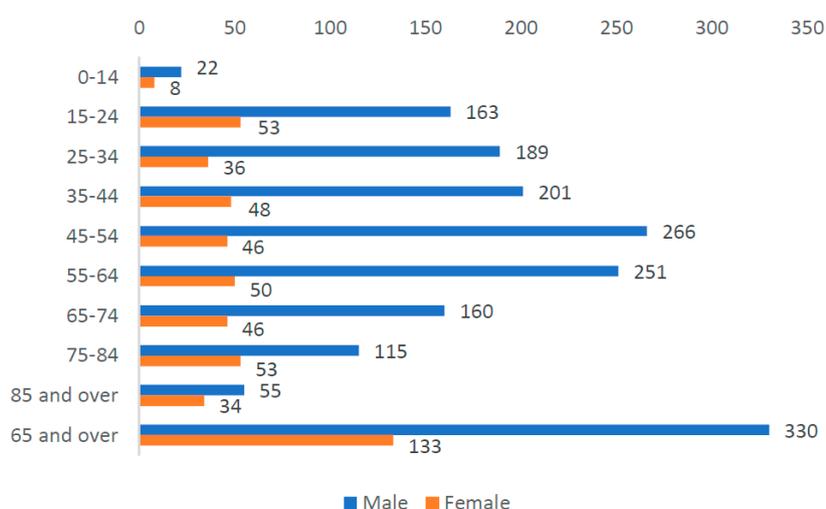
#### 4.1.1. Age and gender

In relation to the gender variable, males register more fatalities (1,417, i.e. 78% of the total) than females (389, which represents 22% of the total). Besides, the age group that registers more deaths is the 45-54 years old group (312, 17% of the total), followed by the 55-64 years old group (301, 17% of the total) and the 35-44 years old group (249, 14% of the total). The age group under 14 is the group with the lowest fatality figure: 30 individuals, which represent 2% of the total.

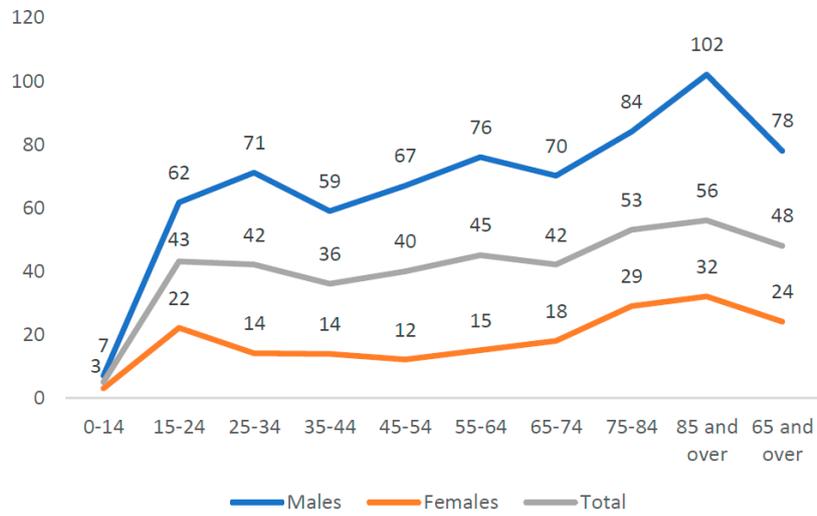
Taking into account the gender and age variable crossing, the group that registers the highest number of fatalities is the age group of males between 45 and 54 years old, with 266 people representing 19% of the male total, followed by males between 55 and 64 years old with 251 people, i.e. 18% of the total.

The fatality rate per million population in males is higher than that in females in all age groups. Specifically, males aged 85 and over are the group with the highest rate (102), registering a figure substantially higher than the rest of the user groups. Thus, the next highest rates are for males between 75 and 84 years old (84) and males between 55 and 64 years old (76). The group of males over 65 years of age has a rate of 78 fatalities per million population. As for females, the highest rate is recorded by the age group 85 years old and over (32), followed by the group between 75 and 84 years old (29).

Chart 44: Fatalities by age groups and by gender. Spain, 2023

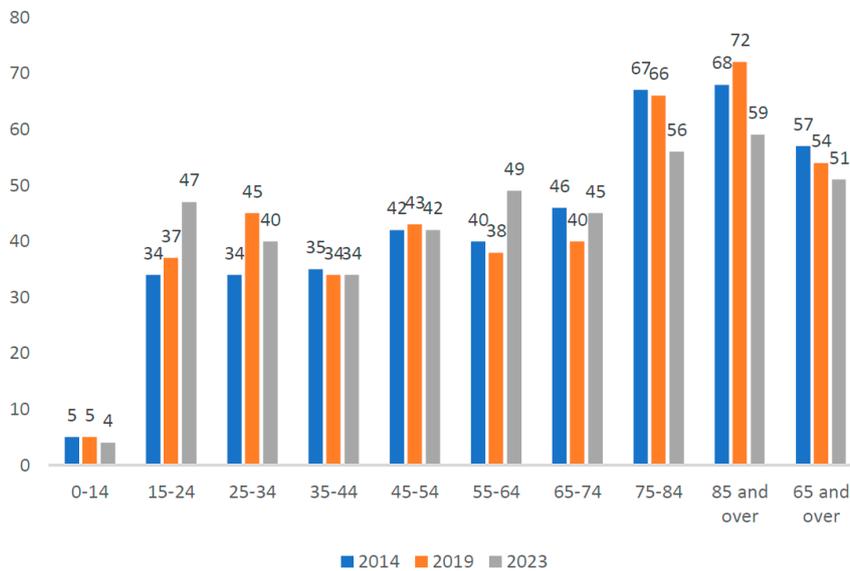


**Chart 45: Fatality rate by age and gender per million inhabitants. Spain, 2023**



Taking into account total rates, irrespective of gender, a decrease is observed compared to 2014 and 2019 in the age groups between 75 and 84 years old, those over 84 years of age, those under 14 years of age and those in the 35-44 age group. A downward trend is also identified in the group of persons aged 65 and over. On the contrary, the group between 15 and 24 years of age and the 55 and 64 years of age register an increase in the rate per million population compared to previous years (2014 and 2019).

**Chart 46: Fatality rate by age groups per million population. Spain, 2014, 2019, 2023**



#### 4.1.2. People under 15 years of age

The group of children under 15 years of age has registered 30 fatalities, which represents 2% of the total. In addition, the number of hospitalised injured casualties in this age group is 276 individuals (3%) and the number of non-hospitalised injured casualties is 5,414 (4%), making a total of 5,720 victims (4%), which

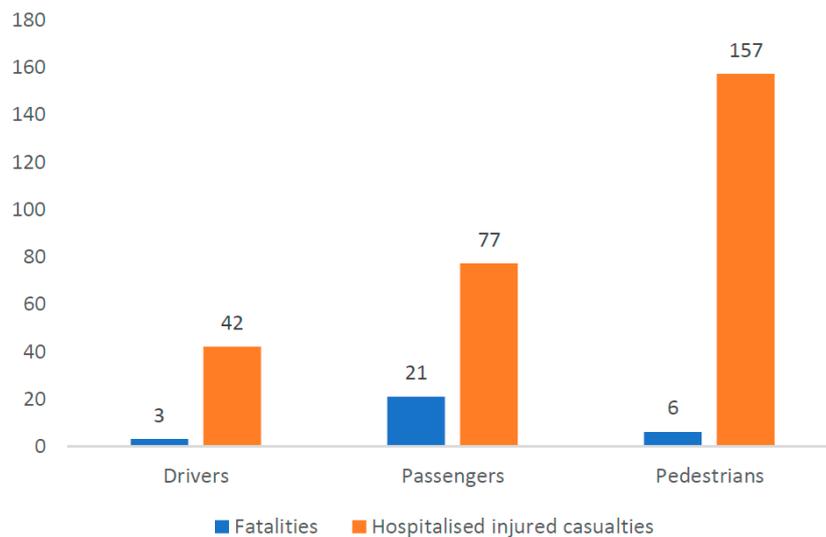
represents a fatality rate of 0.5 (notably lower than that of the rest of the age groups, which is at 1.4).

The distribution of fatalities under 15 years of age by the type of user is 21 passengers (70%), 6 pedestrians (20%) and 3 drivers (10%). In relation to hospitalised injured casualties, the majority are registered as pedestrians (157, which represents 57% of the total), followed by 77 passengers (28%) and 42 drivers (15%).

**Table 43: Comparison of severity degree as a result of a road traffic accident in people under 15 years of age and rest of the population. Spain, 2023**

	Under 15 years of age	% on the total of ages	Rest of ages
Fatalities	30	2%	1.776
Hospitalised injured casualties	276	3%	8.989
Non-hospitalised injured casualties	5.414	4%	118.852
<b>Total casualties</b>	<b>5.720</b>	<b>4%</b>	<b>129.617</b>
Case fatality rate	0.52		1.4
Fatality rate per million population	5		43
Hospitalised injured casualty rate per million population	42		220

**Chart 47: People killed and hospitalised under 15 years of age by type of user. Spain, 2023**



#### 4.1.3. Young people aged 15 to 24

The 15-24 age group has registered 216 fatalities, which represents 12% of the total. Thus, the number of hospitalised injured casualties in this age group is 1,323 individuals (14%) and the number of non-hospitalised injured casualties is 20,906 (17%), making a total of 22,445 casualties (17%), which represents a fatality rate of 1.

The distribution of young fatalities by the type of user is 125 drivers (58%), 75 passengers (35%) and 16 pedestrians (7%). In relation to hospitalised injured casualties, the majority are registered as drivers (841,

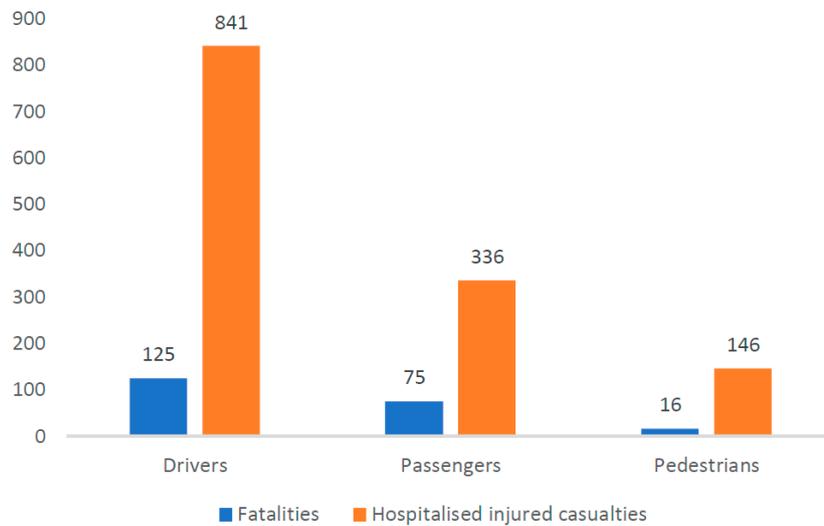
which represents 64% of the total), followed by 336 passengers (25%) and 146 pedestrians (11%).

The fatality rate for the 15-24 age group per million population is at 43, over the rest of age groups (36). Specifically, the subgroup between 21 and 24 years of age is the one with the highest fatality rate per million population (56). And, in terms of temporary variables, 55% of fatalities between 15 and 24 years old occur at night, and 56% on weekdays.

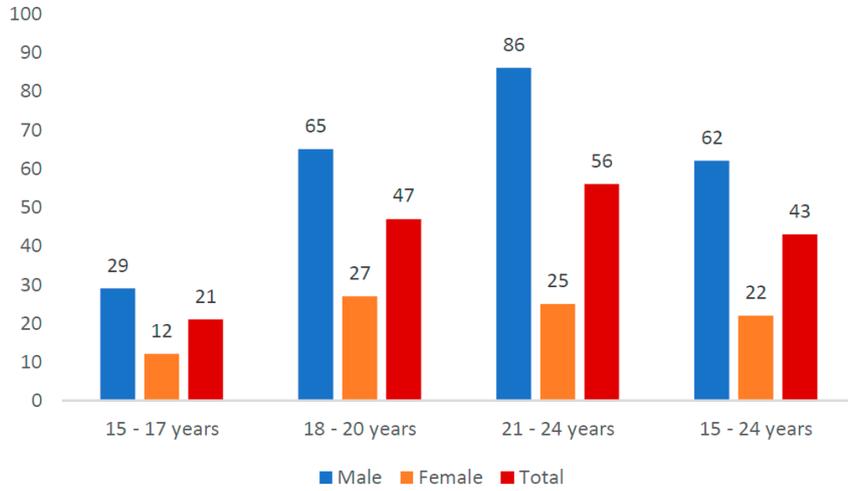
**Table 44: Comparison of severity degree as a result of road traffic accidents in young people aged 15 to 24 and rest of population. Spain, 2023**

	From 15 to 24 years of age	% on the total of ages	Rest of ages
Fatalities	216	12%	1.590
Hospitalised injured casualties	1.323	14%	7.942
Non-hospitalised injured casualties	20.906	17%	103.360
<b>Total casualties</b>	<b>22.445</b>	<b>17%</b>	<b>112.892</b>
Case fatality rate	1		1
Fatality rate per million population	43		37
Hospitalised injured casualty rate per million population	271		186

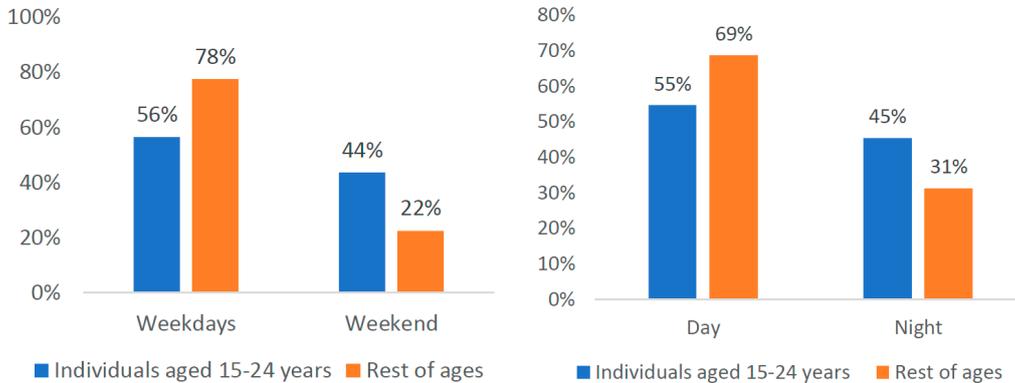
**Chart 48: People killed and hospitalised aged 15 to 24 by type of user. Spain, 2023**



**Chart 49: Fatality rate in young people aged 15 to 24 per million population distributed by gender and by age groups. Spain, 2023**



**Chart 50: Percentage distribution of deaths among young people aged 15 to 24 and the rest of ages based on the day/night and weekend/not weekend parameters. Spain, 2023**



#### 4.1.4. Persons over the age of 64

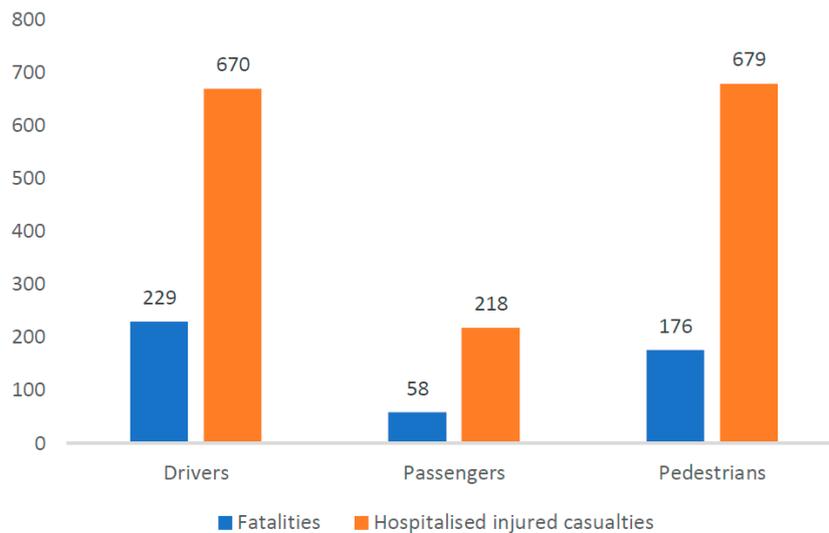
The group of people over 64 years of age has registered 463 fatalities, which represents 26% of the total. Thus, the number of hospitalised injured casualties in this age group is 1,567 individuals (17%) and the number of non-hospitalised injured casualties is 11,713 (9%), making a total of 13,743 casualties (10%), which represents a fatality rate of 3.

The distribution of fatalities over 64 years of age by the type of user is 176 pedestrians (38%), 229 drivers (49%) and 58 passengers (13%). In relation to hospitalised injured casualties, there were 679 pedestrians (43% of the total), followed by 670 drivers (43%) and 218 passengers (14%).

**Table 45: Comparison of severity degree as a result of road traffic accidents in persons over the age of 64 and rest of the population. Spain, 2023**

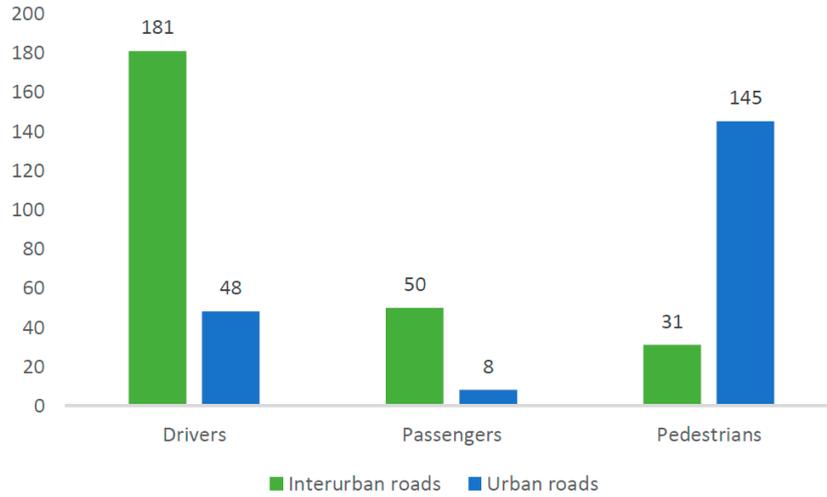
	65 or over	% over the total of ages	Rest of ages
Fatalities	463	26%	1.343
Hospitalised injured casualties	1.567	17%	7.698
Non-hospitalised injured casualties	11.713	9%	112.553
<b>Total casualties</b>	<b>13.743</b>	<b>10%</b>	<b>121.594</b>
Case fatality rate	3		1
Fatality rate per million population	48		35
Hospitalised injured casualty rate per million population	162		200

**Chart 51: People killed and hospitalised over 64 years of age by type of user. Spain, 2023**

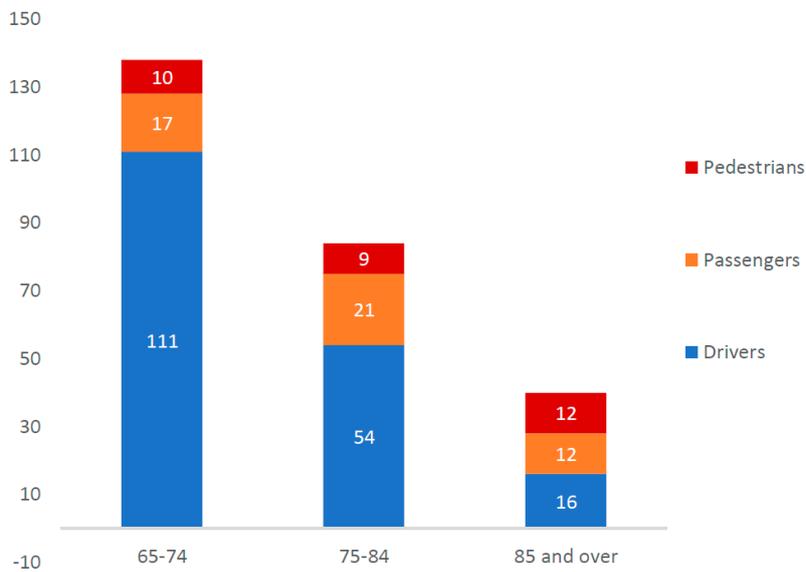


57% of the fatalities in this age group were registered on interurban roads (262), while 43% occurred on urban roads (201). However, these percentages vary depending on the type of user. Thus, on interurban roads, the casualties were travelling mainly as drivers (181, 69% of the total on interurban roads) or as passengers (50, 19% of the total on interurban roads), while in the case of urban roads the casualties were mostly pedestrians (145, 72% of the total on urban roads).

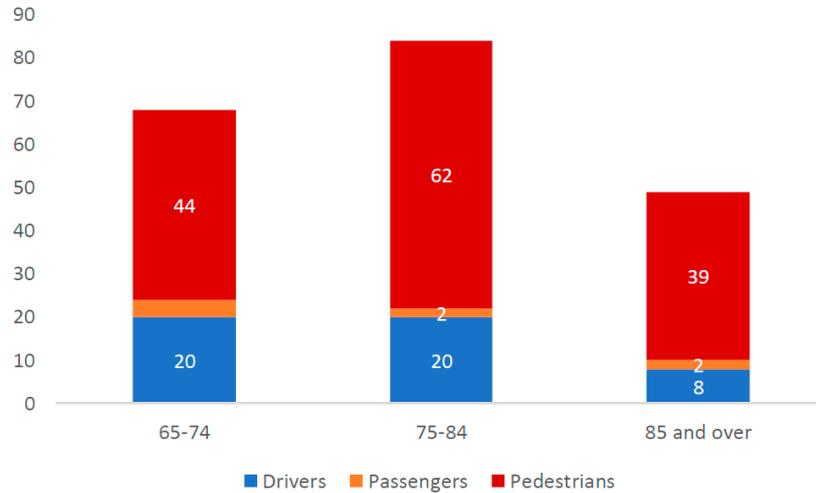
**Chart 52: Persons over the age of 64 killed by area (urban or interurban) and by type of user. Spain, 2023**



**Chart 53: Distribution of persons over the age of 64 killed by age group and by type of user. Interurban roads. Spain, 2023**



**Chart 54: Distribution of persons over the age of 64 killed by age group and by type of user. Urban roads. Spain, 2023**



#### 4.1.5. Drivers

Fatally injured drivers (1,178) represent 65% of the total number of people killed in 2023, mainly on interurban roads (78% of the cases, 921) and males (92% compared to 8% of females). There were 6,205 hospitalised injured drivers (52% on interurban roads and 48% on urban roads) and 83,713 non-hospitalised injured drivers (39% on interurban roads and 61% on urban roads).

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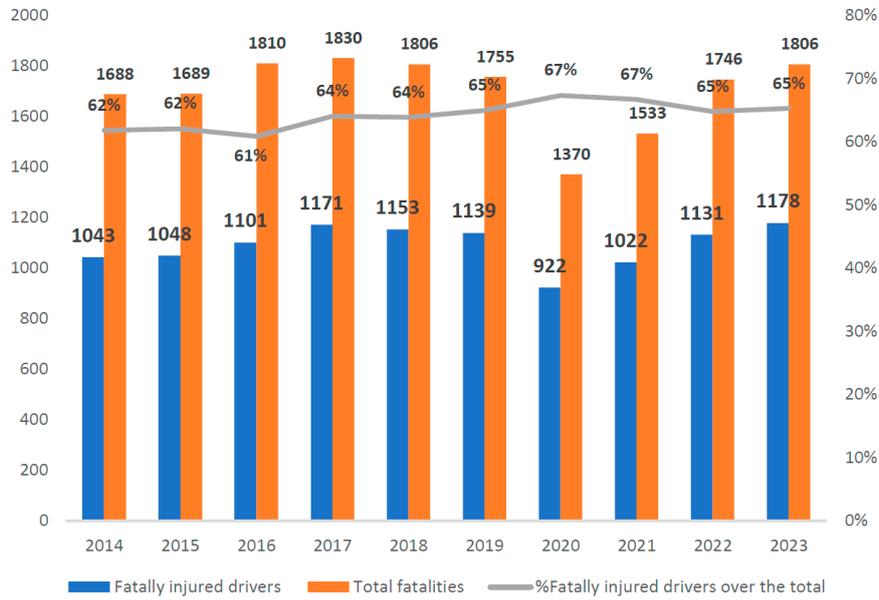
In relation to age and gender, both in the age groups of drivers under 14 years of age (3) and those over 85 years of age (24), 100% of the fatalities are males. Likewise, in all age groups, there are more male drivers killed than female drivers. The age group with the highest percentage of fatally injured female drivers is the 35-44 age group with 16% (31).

Besides, the highest rate of drivers involved in casualty road accidents per thousand registered drivers occurs between 15 and 17 years of age (35), followed by the 18-20 age group (14) and the 21-24 age group (10). The lowest rates are found in older drivers, being 3 in all groups over 65 years of age.

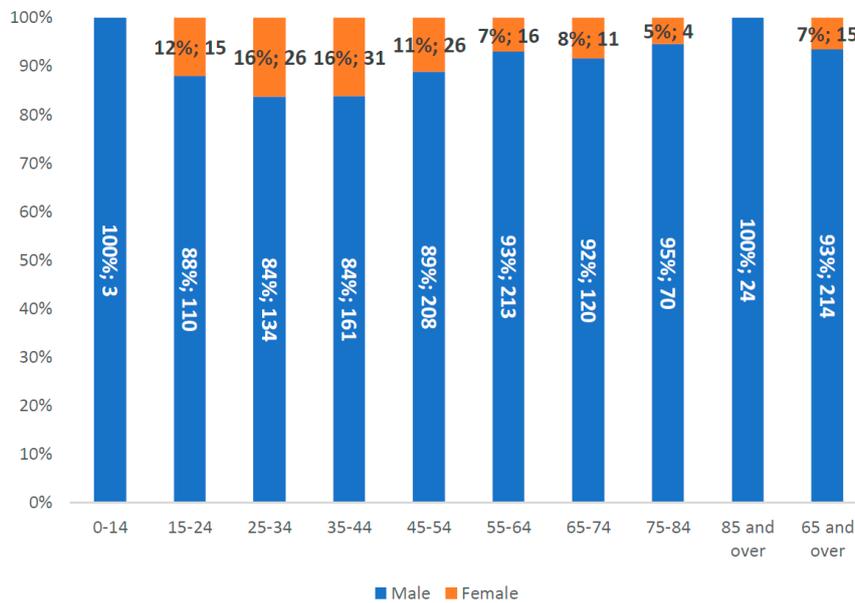
**Table 46: Driver fatalities, hospitalised and non-hospitalised injured drivers and their case fatality rate. Interurban and urban roads. Spain, 2023**

	Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties		Case fatality rate
	Number	%	Number	%	Number	%	
Interurban roads	921	78%	3.236	52%	32.827	39%	2,5%
Urban roads	257	22%	2.969	48%	50.886	61%	0,5%
<b>Total</b>	<b>1.178</b>	<b>100%</b>	<b>6.205</b>	<b>100%</b>	<b>83.713</b>	<b>100%</b>	<b>1.3%</b>

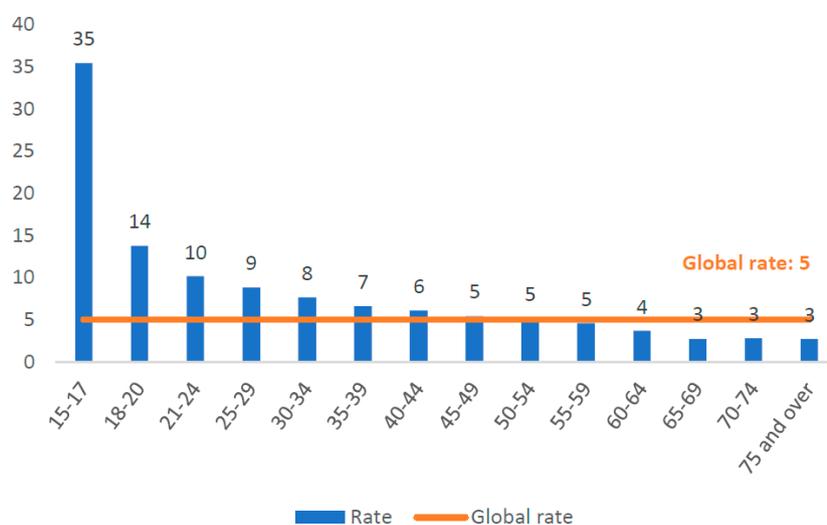
**Chart 55: Evolution of driver fatalities and of the total. Spain, 2014-2023**



**Chart 56: Proportion of driver fatalities by age groups and by gender. Spain, 2023**



**Chart 57: Rate of drivers involved in a road traffic casualty accident per thousand registered drivers, by age groups. Spain, 2022**



#### 4.1.6. Passengers

Passengers registered a total of 275 fatalities, representing 15% of the total number of people killed, mostly on interurban roads (86%) and females (51% compared to 49% of males). There were 1,318 hospitalised injured passengers (71% on interurban roads and 29% on urban roads) and 29,056 non-hospitalised injured passengers (50% on interurban roads and 50% on urban roads).

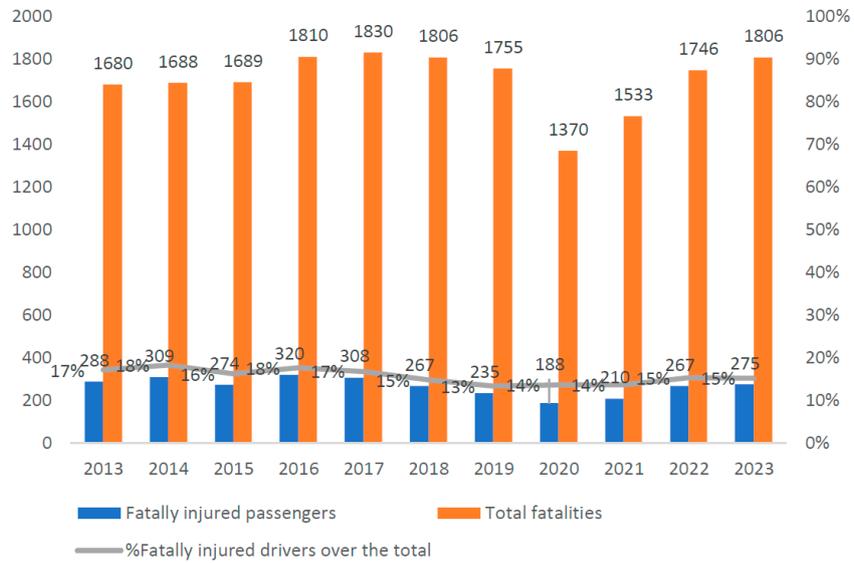
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Regarding age and gender, in all age groups over 55 years of age, more female passengers than male passengers were killed. However, in the age group between 0 and 54 years old, male passengers register higher numbers of fatalities in relation to female passengers.

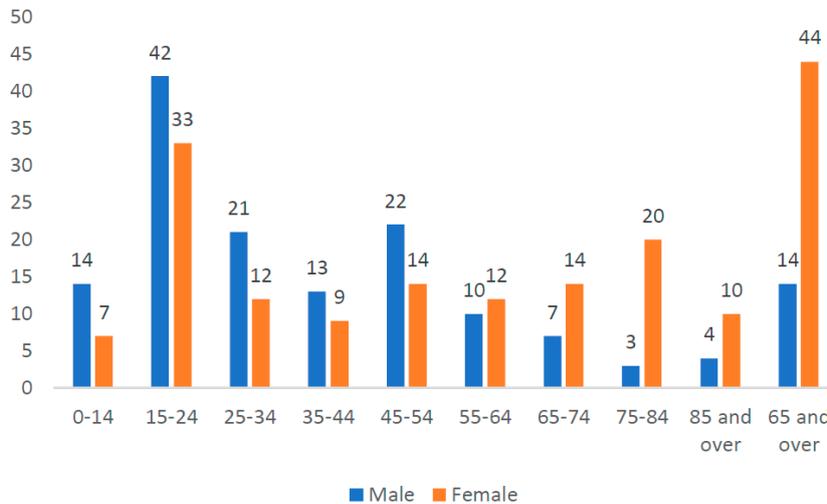
**Table 47: Passenger fatalities, hospitalised and non-hospitalised injured passengers and their case fatality rate. Interurban and urban roads. Spain, 2023**

	Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties		Case fatality rate
	Number	%	Number	%	Number	%	
Interurban roads	237	86%	936	71%	14.387	50%	1,5%
Urban roads	38	14%	382	29%	14.669	50%	0,3%
<b>Total</b>	<b>275</b>	<b>100%</b>	<b>1.318</b>	<b>100%</b>	<b>29.056</b>	<b>100%</b>	<b>0,9%</b>

**Chart 58: Evolution of passenger fatalities and of the total. Spain, 2014-2023**



**Chart 59: Number of passengers killed by age groups and gender. Spain, 2023**



#### 4.1.7. Pedestrians

Pedestrians registered a total of 353 fatalities, representing 20% of the total fatality figure in 2023. 37% of the casualties were registered on interurban roads (130) and 63% (223) on urban roads. There were 1,742 hospitalised injured pedestrians (10% on interurban roads and 90% on urban roads) and 11,497 non-hospitalised injured pedestrians (5% on interurban roads and 95% on urban roads).

Regarding interurban roads, there is an upward trend compared to 2019 in the age groups between 35 and 44 years old (from 15 to 28 pedestrian fatalities), between 55 and 64 years old (from 13 to 22), between 75 and 84 years old (from 17 to 24), over 65 years of age (from 45 to 22) and over 85 years of age (from 11 to 12). On the contrary, there has been a decrease in the number of pedestrians killed in children under 14 years

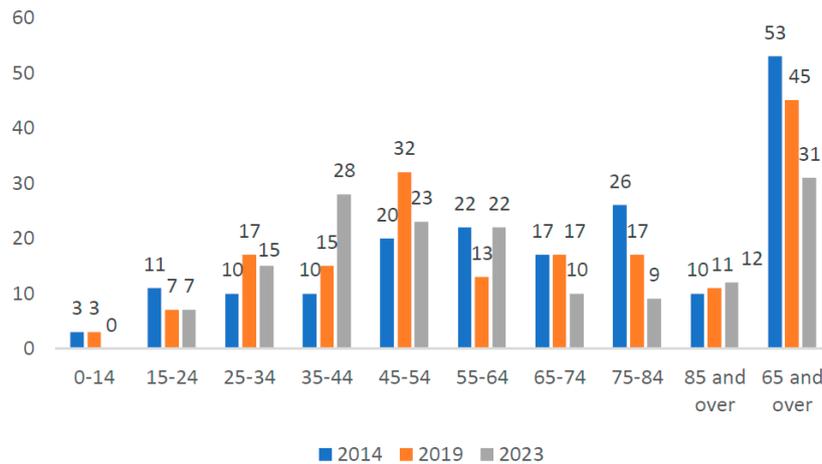
of age (from 3 to 0), between 25 and 34 years old (from 17 to 15), between 45 and 54 years old (from 32 to 23), between 65 and 74 years old (from 17 to 10) and between 75 and 84 years old (from 17 to 9). The 15-24 years old group has remained stable (7).

On urban roads, there is a decrease in the 0-14 years old groups (-3), 35-44 years old (-6) and 85 and over (20 fewer pedestrians) and an increase in the rest of the groups with 2 more pedestrian deaths for the 15-24 years old and 55-64 years old, 4 more pedestrians for the 25-34 years old and 45-54 years old, 6 more pedestrians for the 65-74 age group.

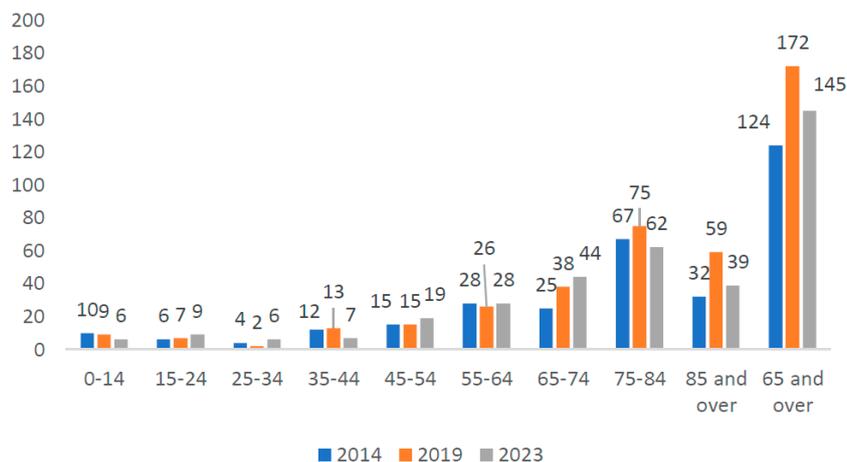
**Table 48: Pedestrian fatalities, hospitalised and non-hospitalised injured pedestrians and their case fatality rate. Interurban and urban roads. Spain, 2023**

	Fatalities		Hospitalised injured casualties		Non-hospitalised injured casualties		Case fatality rate
	Number	%	Number	%	Number	%	
Interurban roads	130	37%	173	10%	532	5%	15,6%
Urban roads	223	63%	1.569	90%	10.965	95%	1,7%
<b>Total</b>	<b>353</b>	<b>100%</b>	<b>1.742</b>	<b>100%</b>	<b>11.497</b>	<b>100%</b>	<b>2.6%</b>

**Chart 60: Number of pedestrians killed by age groups. Interurban roads. Spain, 2014, 2019 and 2023**



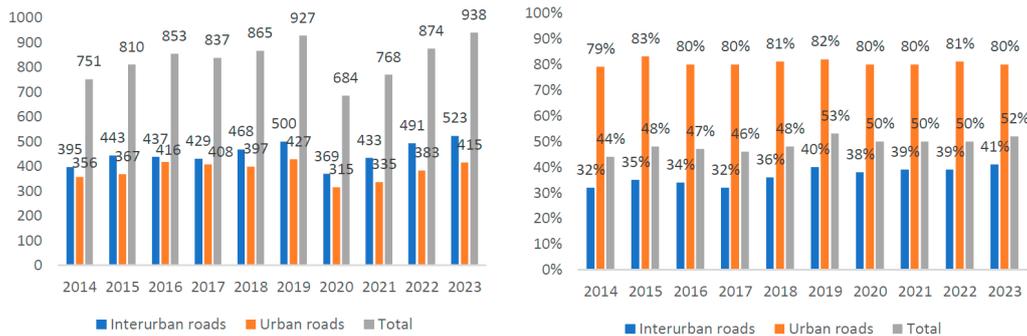
**Chart 61: Number of pedestrians killed by age groups. Urban roads. Spain, 2014, 2019 and 2023**



#### 4.1.8. Users of vulnerable means

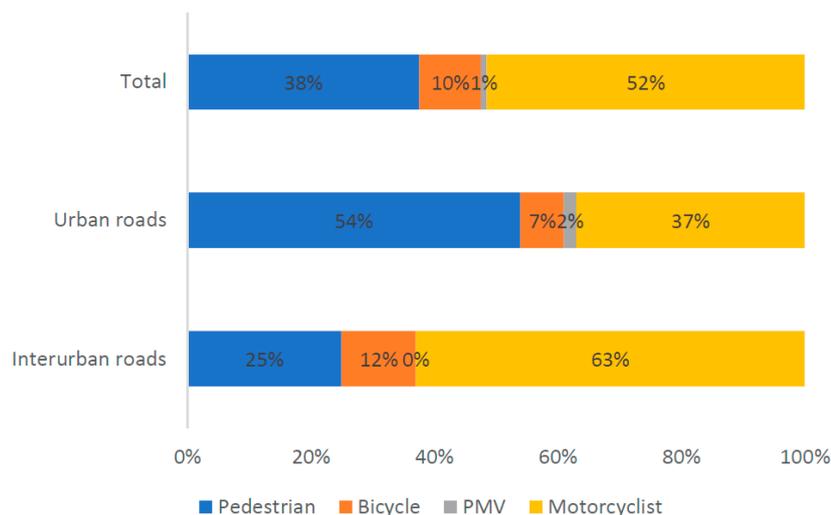
52% of the people killed in 2023 were users of vulnerable means (pedestrians, cyclists, users of personal mobility vehicles or motorcyclists). Specifically, they account for 80% of the people killed on urban roads and 41% of people killed on interurban roads, which represents a similar percentage to that registered in previous years.

**Chart 62: Evolution of the number of fatalities and of the percentage of the total of people killed using vulnerable means by type of road. Spain, 2014-2023**



Specifically, motorcycle users are the group who register the highest numbers of fatally injured users of vulnerable means, accounting for 49% of the total of vulnerable users killed. In second place are pedestrians (38%), followed by bicycle users (10%), moped users (3%) and PMV users (1%). This order in the distribution also occurs considering only people killed on interurban roads where motorcycle users represent 61% of the fatalities. However, the distribution is different on urban roads, where pedestrians, with 54%, register the highest numbers of fatalities, followed by motorcycle users (33%), bicycle users (7%) and PMV users (2%).

**Chart 63: Percentage of users of vulnerable means killed by mode of transport and by type of road. Spain, 2023**



#### 4.1.9. Contributory factors

The most frequent contributory factor in road accidents is distraction with 12,475 cases, which mean 17% of the total. In fatal accidents, distraction is also the most frequent factor, with 409 cases (30%).

On interurban roads it is possible to conduct a more detailed analysis of the contributory factors. As regards fatal accidents, the most common factors in police reports are distraction (37%), alcohol consumption (27%) and inappropriate speed (24%).

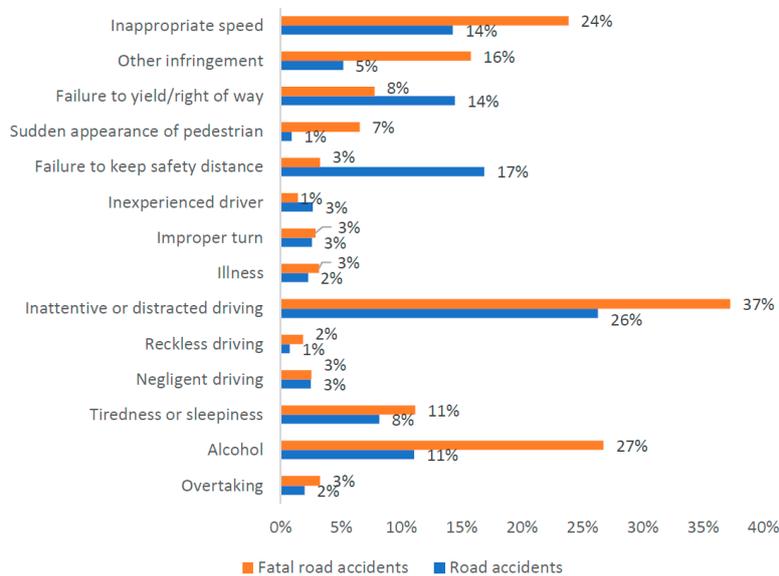
**Table 49: Distribution of contributory factors in casualty and fatal accidents occurring on interurban and urban roads. Year 2023. (Catalonia and Basque Country excluded)**

Contributory factor	Road traffic accidents		Fatal accidents	
	No of cases	%	No of cases	%
Alcohol*	3.609	13%	246	26%
Distractions	12.475	17%	409	30%
Inappropriate speed	5.070	7%	291	21%

Note: The actual total number of road traffic accidents is 73,249 and of fatal accidents is 1,359. Several factors may be present in a single road traffic accident.

\*As regards alcohol, the sample considered is 28,120 road traffic accidents and a sample of 941 fatal accidents, in which all drivers involved were submitted to test. Of these accidents, alcohol is considered a contributory factor when, at least, one of the drivers involved in the accident tests positive.

**Chart 64: Distribution of contributory factors in casualty and fatal accidents occurring on interurban and urban roads. Year 2023. (Catalonia and Basque Country excluded)**



Note: The actual total number of road traffic accidents is 73,249 and of fatal accidents is 1,359. Several factors may be present in a single road traffic accident.

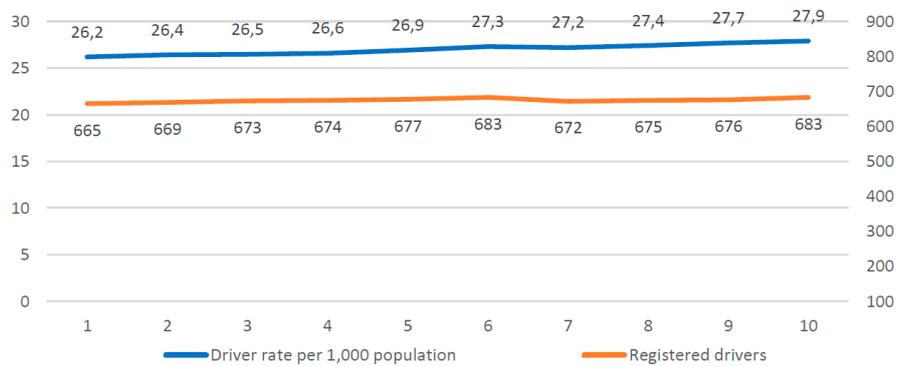
\*As regards alcohol, the sample considered is 28,120 road traffic accidents and a sample of 941 fatal accidents, in which all drivers involved were submitted to test. Of these accidents, alcohol is considered a contributory factor when, at least, one of the drivers involved in the accident tests positive.

## 4.2. Exposure indicators

### 4.2.1. Registered drivers

In 2023, the number of people with at least one driving licence or permit was 27,914,572 which represents a rate of 683 drivers per 1,000 population. Thus, the number of drivers has increased by 0.9% compared to 2022, in the same way as the rate of drivers per 1,000 population, which has increased slightly compared to 2022.

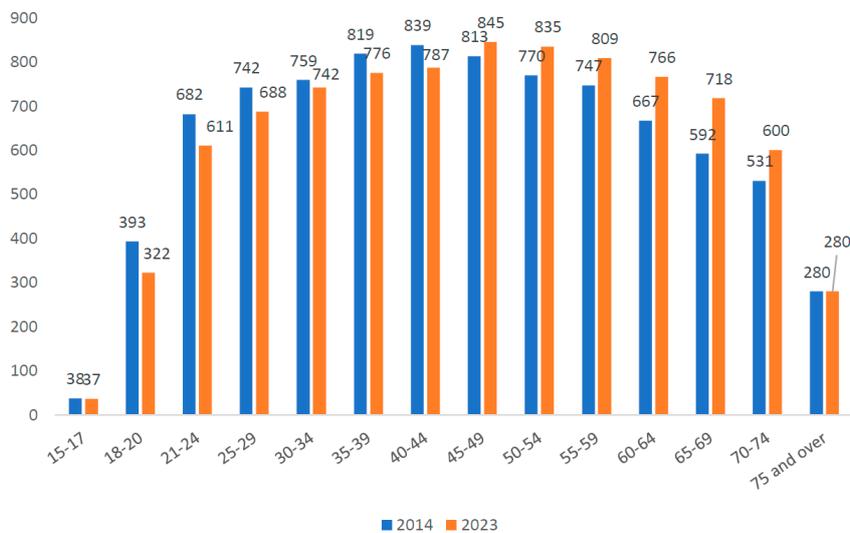
**Chart 65: Evolution of the registered drivers per million population. Number of holders with at least one permit or driving licence (millions). Evolution of the rate of drivers per 1,000 population. Spain, 2014-2023**



Note: The number of drivers match the number of holders with at least one driving permit or licence.

Regarding age groups, the highest rate of drivers is between 45 and 49 years old. As can be seen in the following graph, the trend in registered drivers per 1,000 population indicates that the population of drivers is ageing, registering an increase from the 45-49 age group and a decrease from the 15-44 age group compared to 2014.

**Chart 66: Registered drivers per 1,000 population. Spain, 2014-2023**

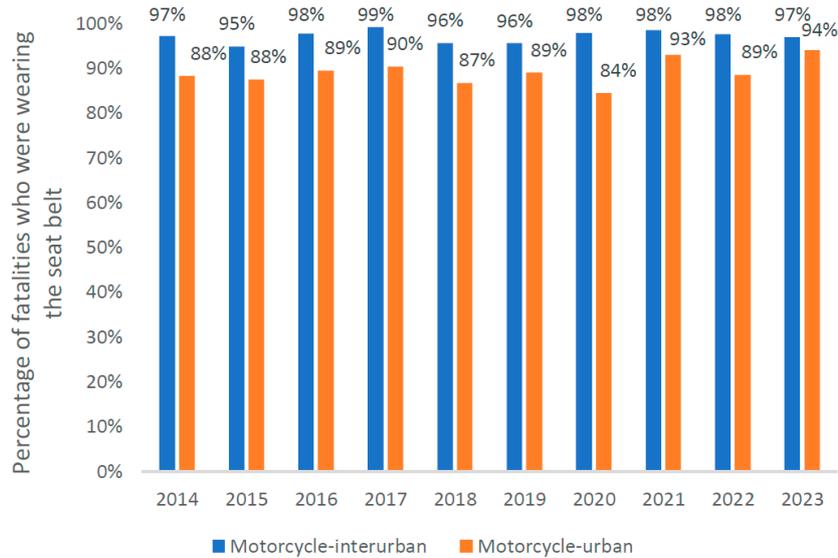


### 4.3. Performance indicators

#### 4.3.1. Seat belt and helmet

In 2023, 6% of motorcycle users killed on urban roads were not using the helmet. Thus, looking at the series of the last 10 years, figures lower than those of previous years are observed. In relation to interurban roads, 3% of fatally injured motorcycle users were not using the helmet, also maintaining the trend of the last decade.

**Chart 67: Motorcyclist fatalities regarding the use of the helmet. Spain, 2014-2023**

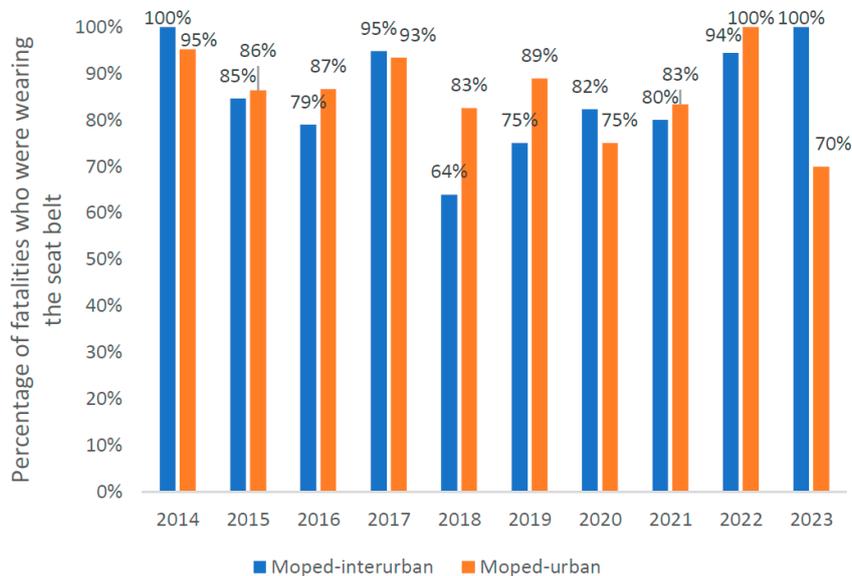


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Note: The percentage of safety devices usage has been calculated considering only the cases in which such usage was known.

Almost all moped users killed were wearing a helmet on interurban roads. However, in the case of urban roads, 30% of moped users killed were not wearing a helmet, which is the highest figure in the last 10 years.

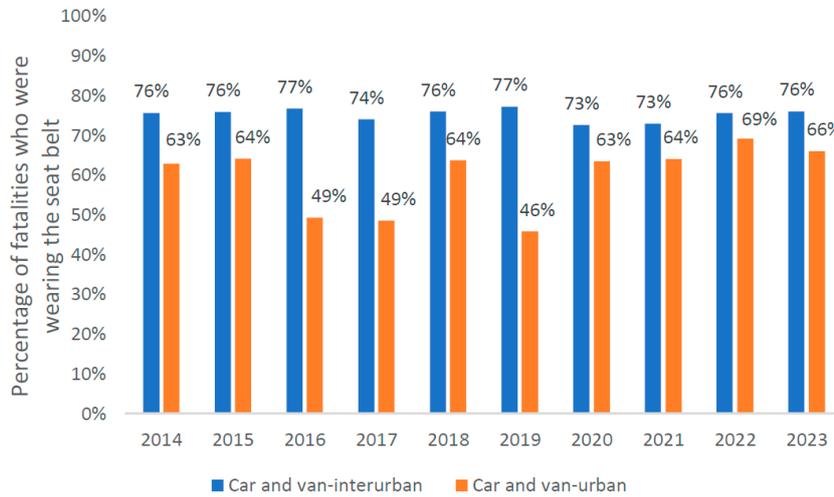
**Chart 68: Moped user fatalities regarding the use of the helmet. Spain, 2014-2023**



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

Regarding the use of seat belts in cars and vans, it has been registered that 34% of the people killed on urban roads and 24% of the people killed on interurban roads did not use that safety device being, in both cases, figures similar to those registered in previous years.

**Chart 69: Car and van occupant fatalities aged 12 and over by seat belt use. Spain, 2014-2023**

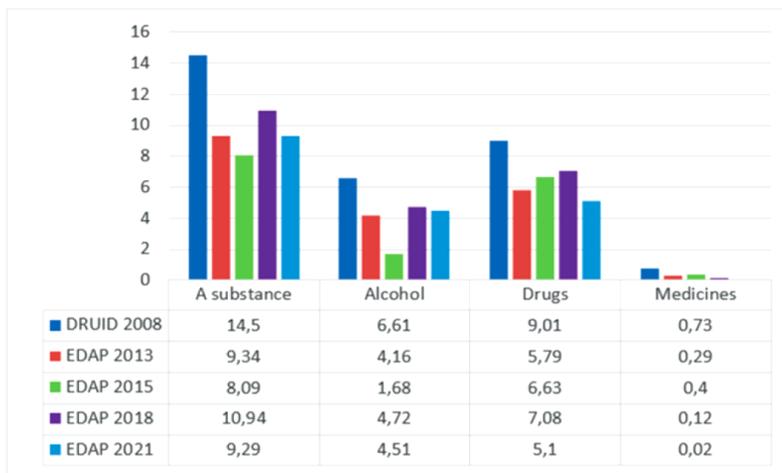


Note: The percentage of safety devices usage has been calculated considering only the cases in which such usage was known.

#### 4.3.2. Alcohol and drugs

##### 4.3.2.1. Prevalence of psychoactive substances consumption in drivers

**Chart 70: Evolution of the consumption of alcohol, drugs and medicines when driving (years 2008, 2013, 2015, 2018, 2021)**



Note: Alcohol >0.05 mg/l exhaled air.

DRUID analytical cut-off values have been used to compare data from the studies for the years 2008, 2013, 2015, 2018 and 2021.

#### 4.3.2.2. Presence of psychoactive substances in individuals involved in road traffic accidents

##### 4.3.2.2.1. Drivers

Regarding the presence of alcohol in drivers involved in casualty road accidents, it has been identified that 28% (200) of the drivers killed who were submitted to alcohol testing (76% of the total) tested positive, which means a decrease compared to 2019 (-1 percentage points) and to 2022 (-5 percentage points). Regarding hospitalised injured casualties, 11% (165) tested positive for alcohol, only 31% of the drivers involved in casualty road accidents were submitted to testing. Whereas 9% of non-hospitalised injured casualties (2,280) had a positive test result, 42% of the drivers involved in casualty road accidents with that injury severity were tested.

**Table 50: Results of alcohol testing in drivers involved in casualty accidents. Total, interurban and urban roads. Year 2023, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)**

Injury severity within 30 days	Total drivers	Drivers with proof of testing	%	Drivers testing positive	%
Fatalities	951	720	76% (68%)	200	28% (29%)
Hospitalised injured casualties	4.722	1.444	31% (26%)	165	11% (15%)
Non-hospitalised injured casualties	59.749	24.929	42% (36%)	2.280	9% (9%)
No healthcare required	55.215	25.398	46% (42%)	1.766	7% (7%)
People with unassigned injury severity	2.645	212	12% (14%)	20	9% (5%)
<b>Total</b>	<b>123.282</b>	<b>52.703</b>	<b>43% (18%)</b>	<b>4.431</b>	<b>8% (9%)</b>

Disaggregating the data based on the type of road, alcohol testing is mainly performed on interurban roads rather than on urban roads. Specifically in the case of people killed, this test was performed on 79% of the drivers on interurban roads where 27% tested positive. While on urban roads, alcohol testing was performed on 61% of the fatally injured drivers, where 34% tested positive.

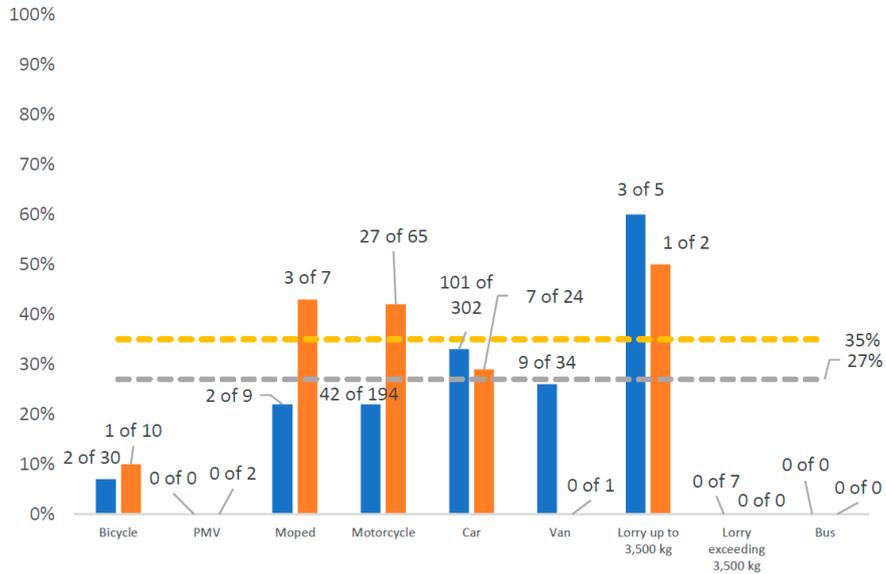
**Table 51: Results of alcohol testing in drivers involved in casualty accidents on interurban roads. Year 2023, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)**

Injury severity within 30 days	Total drivers	Drivers with proof of testing	%	Drivers testing positive	%
Fatalities	764	605	79% (69%)	161	27% (28%)
Hospitalised injured casualties	2.490	1.076	43% (38%)	100	9% (11%)
Non-hospitalised injured casualties	22.892	18.355	80% (75%)	1,318	7% (7%)
No healthcare required	16.512	15.384	93% (91%)	661	4% (4%)
People with unassigned injury severity	340	101	44% (42%)	1	1% (2%)
<b>Total</b>	<b>42.998</b>	<b>35.521</b>	<b>83% (78%)</b>	<b>2.241</b>	<b>6% (6%)</b>

**Table 52: Results of alcohol testing in drivers involved in casualty accidents on urban roads. Year 2023, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)**

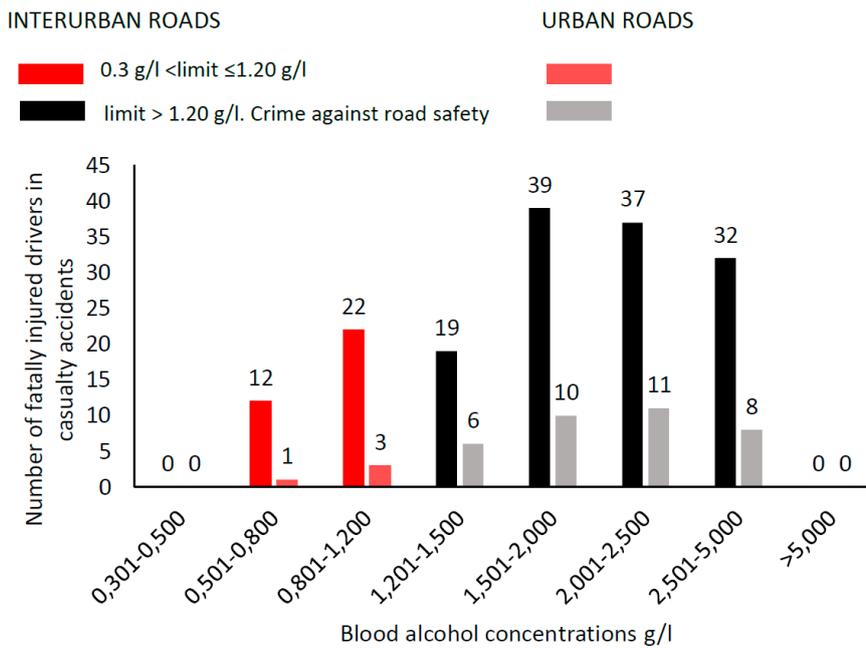
Injury severity within 30 days	Total drivers	Drivers with proof of testing	%	Drivers testing positive	%
Fatalities	187	115	61% (62%)	39	34% (41%)
Hospitalised injured casualties	2.232	368	16% (10%)	65	18% (35%)
Non-hospitalised injured casualties	36.857	6.574	18% (10%)	962	15% (20%)
No healthcare required	38.703	10.014	26% (18%)	1.105	11% (13%)
People with unassigned injury severity	2.305	111	7% (7%)	19	17% (11%)
<b>Total</b>	<b>80.284</b>	<b>17.182</b>	<b>21% (14%)</b>	<b>2.190</b>	<b>13% (16%)</b>

**Chart 71: Percentage of drivers killed as a result of a road traffic accident testing positive for alcohol by type of vehicle. Interurban and urban roads. Year 2023. (Catalonia and Basque Country excluded)**



The most frequent blood alcohol level among fatally injured drivers who were tested on interurban roads is between 1,501 and 2,000 (39 individuals), whereas on urban roads the rate is between 2,001 and 2,500, with 11 individuals. Although these results must be considered with caution since not all fatalities are submitted to alcohol testing.

**Chart 72: Blood alcohol concentration in drivers killed in road traffic accidents who tested positive. Interurban and urban roads. Year 2023. (Catalonia and Basque Country excluded)**



In 2023, there were 268 people killed in fatal road accidents in which at least one driver tested positive for alcohol, which represented an increase of 14% compared to 2019 whereas there was a decrease of 5% compared to 2022. Depending on the type of road, the number of people killed on interurban roads in 2023 was 213 (numbers somewhat higher than those for the previous year, but which represent an increase of 22% compared to 2019 and of 2% compared to 2022). As regards urban roads, 55 fatalities were registered which meant a 10% decrease compared to 2019 and of 26% compared to 2022.

**Table 53: Evolution of people killed in fatal road traffic accidents in which at least one driver involved tested positive for alcohol. Years 2016-2023. (Catalonia and Basque Country excluded)**

	2016	2017	2018	2019	2020	2021	2022	2023	Diff 23/22	Diff 23/19
People killed in traffic accidents	228	254	195	235	191	273	283	268	-5%	14%
% fatal road traffic accidents with test over the total fatal road traffic accidents	65%	68%	65%	67%	61%	72%	70%	69%	-1%	2%

**Table 54: Evolution of people killed in fatal road traffic accidents in which at least one driver involved tested positive for alcohol on interurban roads. Years 2016-2023. (Catalonia and Basque Country excluded)**

	2016	2017	2018	2019	2020	2021	2022	2023	Diff 23/22	Diff 23/19
People killed in traffic accidents	168	200	152	174	138	210	209	213	2%	22%
% fatal road traffic accidents with test over the total fatal road traffic accidents	68%	69%	66%	68%	62%	75%	73%	73%	1%	5%

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**Table 55: Evolution of people killed in fatal road traffic accidents in which at least one driver involved tested positive for alcohol on urban roads. Years 2016-2023. (Catalonia and Basque Country excluded)**

	2016	2017	2018	2019	2020	2021	2022	2023	Diff 23/22	Diff 23/19
People killed in traffic accidents	60	54	43	61	53	63	74	55	-26%	-10%
% fatal road traffic accidents with test over the total fatal road traffic accidents	59%	64%	63%	64%	60%	62%	61%	58%	-3%	-5%

Regarding drug testing, 78% of the fatally injured drivers were tested, 19% of them (115) tested positive, which represents a slight increase compared to 2019 (+1 percentage point), but a decrease of 2 percentage points compared to 2022. 59% of the drivers testing positive were so for cocaine, followed by cannabis (35%), amphetamine (10%) and opioids (3%).

**Table 56: Results of drug testing in drivers killed in road traffic accidents. Interurban and urban roads. Year 2022, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)**

	Total driver fatalities	Drivers with proof of testing	% proof of testing	Drivers testing positive	Drug positive percentage
Interurban roads	764	593	78% (70%)	115	19% (18%)
Urban roads	187	113	60% (63%)	31	27% (25%)
<b>Total</b>	<b>951</b>	<b>706</b>	<b>74% (69%)</b>	<b>146</b>	<b>21% (30%)</b>

**Table 57 Substances tested for in drug testing performed on fatally injured drivers with a positive result. Interurban and urban roads. Year 2023, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)**

	Driver fatalities	Distribution
Cocaine	85	55% (55%)
Opioids	4	3% (1%)
Amphetamine	14	9% (0%)
Cannabis	51	33% (56%)
<b>Total</b>	<b>154</b>	<b>100% (100%)</b>

Regarding drivers who have been tested for alcohol and drugs, 38% tested positive for both, which represents a decrease compared to 2019 (-1 percentage points) and of 4 percentage points compared to 2022.

**Table 58: Fatally injured drivers submitted to alcohol and/or drug testing and results. Interurban and urban roads. Year 2023, 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
<b>Driver fatalities</b>	<b>720</b>	<b>277</b>	<b>38% (39%)</b>

#### 4.3.2.2.2. Pedestrians

Regarding fatally injured pedestrians, 61% were submitted to alcohol testing, 25% of them tested positive (44 individuals). Specifically on interurban roads, 34% (28 individuals) tested positive of the 74% fatally injured pedestrians who were tested. On urban roads, 51% of the pedestrians killed were tested, 19% of them (16 individuals) tested positive, 9 more pedestrians than in 2022, which means an increase of 11 percentage points.

**Table 59: Pedestrian fatalities, alcohol testing performed and results of the tests. Year 2023, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)**

	Total	Tested pedestrians	% tested pedestrians	Pedestrians result > 0.5 g/l	% Pedestrians result > 0.5 g/l
Pedestrian fatalities	287	176	61% (46%)	44	25% (22%)

**Table 60: Pedestrian fatalities, alcohol testing performed and results of the tests on interurban roads. Year 2023, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)**

	Total	Tested pedestrians	% tested pedestrians	Pedestrians result > 0.5 g/l	% Pedestrians result > 0.5 g/l
Pedestrian fatalities	111	82	74% (59%)	28	34% (21 of 66)

**Table 61: Pedestrian fatalities, alcohol testing performed and results of the tests on urban roads. Year 2023, 2019 values in red and in brackets. (Catalonia and Basque Country excluded)**

	Total	Tested pedestrians	% tested pedestrians	Pedestrians result > 0.5 g/l	% Pedestrians result > 0.5 g/l
Pedestrian fatalities	168	86	51% (38%)	16	19% (9 of 72)

## 4.4. Activity indicators

### 4.4.1. Controls performed by the Traffic Division of the Guardia Civil

#### Alcohol

In 2023 the Traffic Division of the Guardia Civil performed 6,700,937 breath alcohol tests within the framework of their competences, which means 15% more as compared to the tests conducted in 2022. Of the 5,617,009 preventive control tests performed, 1.19% were positive for alcohol (above the legal limits).

#### Drugs

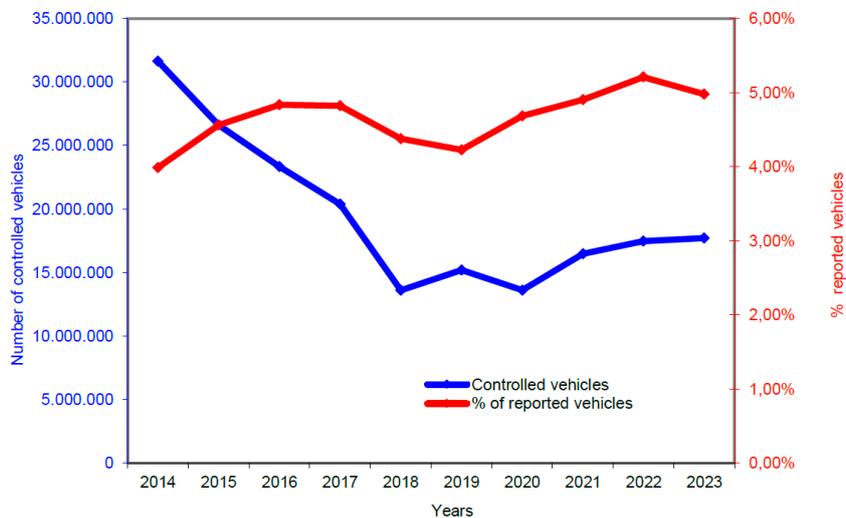
In the context of the duties performed by the Traffic Division of the Guardia Civil, 101,927 drug tests were performed in 2023, as against the 58,126 tests carried out in 2022, which means an increase by 75%. Of the 79,357 preventive control tests performed, 56% were positive.

#### Speed

In 2023 the total number of traffic offences reported by DGT was 5,161,544. Of them, 64% 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.

In 2023, the Traffic Division of the Guardia Civil performed speed controls to 17.7 million vehicles, with an outcome of 882,348 vehicles being reported. As compared with 2022, around 261,421 million more vehicles have been controlled and the percentage of reported vehicles has been 4.98%.

**Chart 73: Controls performed by the Traffic Division of the Guardia Civil Year 2014-2023**



# 5

## OTHERS

### 5.1. Type of road traffic accident

In relation to the type of road accident, 36% of the fatalities occurred due to run-off-collisions (642 individuals), figure similar to that for 2022 and an increase of 12% compared to 2019. In second place is the pedestrian collision that represents 18% of the total number of people killed (334), identifying a decrease of 10% compared to 2019 but an increase of 3% compared to 2022.

Specifically on interurban roads, run-off-collisions is the type of accident that causes the greatest number of fatalities (539, representing 42% of the total) followed by head-on collisions (245 which represent 19% of the total). On urban roads, 42% of the fatalities are pedestrian collisions (215), followed by run-off-collisions (103, which represent 20% of the total).

**Table 62: : Fatalities by type of road traffic accident. Spain, 2014-2023**

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Diff. 23/19	Dist.23
Head-on collision	225	209	277	327	290	284	209	219	282	263	-7%	-7%	15%
Side and T-bone collision	204	190	253	259	243	228	186	217	213	249	17%	9%	14%
Rear and multiple collision	145	169	145	144	140	146	106	135	150	149	-1%	2%	8%
Run-off-road collision	548	522	601	601	582	573	485	532	645	642	0%	12%	36%
Overtaking	17	16	22	20	26	32	25	27	18	20	2	-12	1%
Pedestrian collision	310	306	386	338	378	373	243	282	325	334	3%	-10%	18%
Other type	239	277	126	141	147	119	116	121	113	149	32%	25%	8%
<b>Total</b>	<b>1.688</b>	<b>1.689</b>	<b>1.810</b>	<b>1.830</b>	<b>1.806</b>	<b>1.755</b>	<b>1.370</b>	<b>1.533</b>	<b>1.746</b>	<b>1.806</b>	<b>3%</b>	<b>3%</b>	<b>100%</b>

\*The number of people being 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.

**Table 63: Fatalities by type of road traffic accident. Interurban roads Spain, 2014-2023**

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Diff. 23/19	Dist.23
Head-on collision	208	195	254	306	282	263	192	205	263	245	-7%	-7%	19%
Side and T-bone collision	153	140	183	179	173	152	126	146	150	166	11%	9%	13%
Rear and multiple collision	122	136	114	126	109	125	91	123	137	135	-1%	8%	10%
Run-off-road collision	476	464	524	519	506	482	406	445	533	539	1%	12%	42%
Overtaking	11	12	17	16	19	23	13	18	14	12	-2	-11	1%
Pedestrian collision	118	97	133	99	146	128	97	105	123	119	-3%	-7%	9%
Other type	159	204	66	76	82	63	50	74	53	72	19	9	6%
<b>Total</b>	<b>1.247</b>	<b>1.248</b>	<b>1.291</b>	<b>1.321</b>	<b>1.317</b>	<b>1.236</b>	<b>975</b>	<b>1.116</b>	<b>1.273</b>	<b>1.288</b>	<b>1%</b>	<b>4%</b>	<b>100%</b>

\*The number of people being 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.

**Table 64: Fatalities by type of road traffic accident. Urban roads Spain, 2014-2023**

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Diff. 23/19	Dist.23
Head-on collision	17	14	23	21	8	21	17	14	19	18	-1	-3	3%
Side and T-bone collision	51	50	70	80	70	76	60	71	63	83	20	7	16%
Rear and multiple collision	23	33	31	18	31	21	15	12	13	14	1	-7	3%
Run-off-road collision	72	58	77	82	76	91	79	87	112	103	-8%	13%	20%
Overturning	6	4	5	4	7	9	12	9	4	8	4	-1	2%
Pedestrian collision	192	209	253	239	232	245	146	177	202	215	6%	-12%	42%
Other type	80	73	60	65	65	56	66	47	60	77	17	21	15%
<b>Total</b>	<b>441</b>	<b>441</b>	<b>519</b>	<b>509</b>	<b>489</b>	<b>519</b>	<b>395</b>	<b>417</b>	<b>473</b>	<b>518</b>	<b>10%</b>	<b>0%</b>	<b>100%</b>

\*The number of people being 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.

**5.2. The time component in road traffic accidents**

In relation to the temporal component, the month with the highest percentage of deaths is August with 10% of the total, while January, February, March and May accumulate, each of them, 7% of the total, being the months with the lowest percentage. Thus, there has been a monthly average of 151 fatalities per month, a figure higher than that for 2019 (146 deaths).

5.2.1. By periods of the year

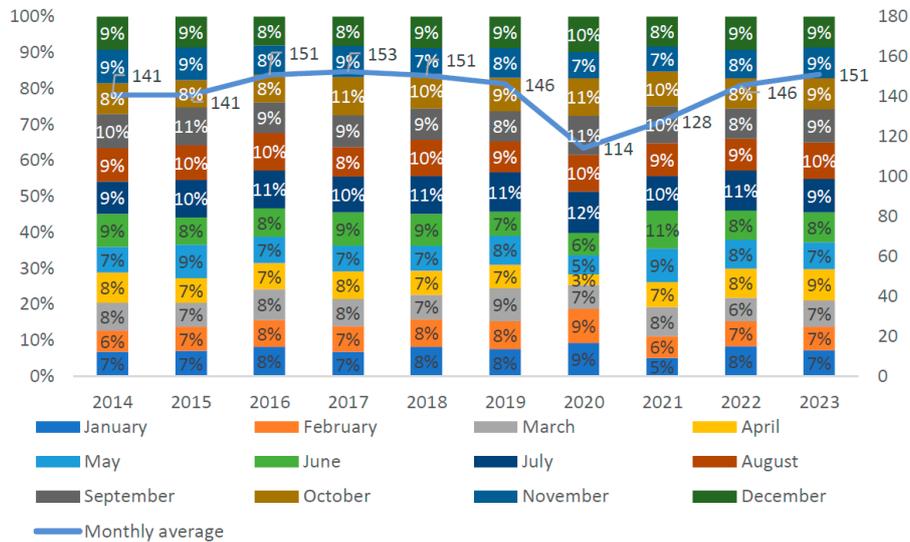
**Table 65: People killed by periods. 2014-2023**

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Diff. 23/22	Diff. 23/19	Dist.23
January-April	485	461	568	534	528	544	388	401	522	538	3%	-1%	30%
May-June	276	286	277	299	288	258	157	305	283	285	1%	10%	16%
July-August	309	338	379	334	371	345	298	288	348	351	1%	2%	19%
September-December	618	604	586	663	619	608	527	539	593	632	7%	4%	35%
<b>Total</b>	<b>1.688</b>	<b>1.689</b>	<b>1.810</b>	<b>1.830</b>	<b>1.806</b>	<b>1.755</b>	<b>1.370</b>	<b>1.533</b>	<b>1.746</b>	<b>1.806</b>	<b>3%</b>	<b>3%</b>	<b>100%</b>

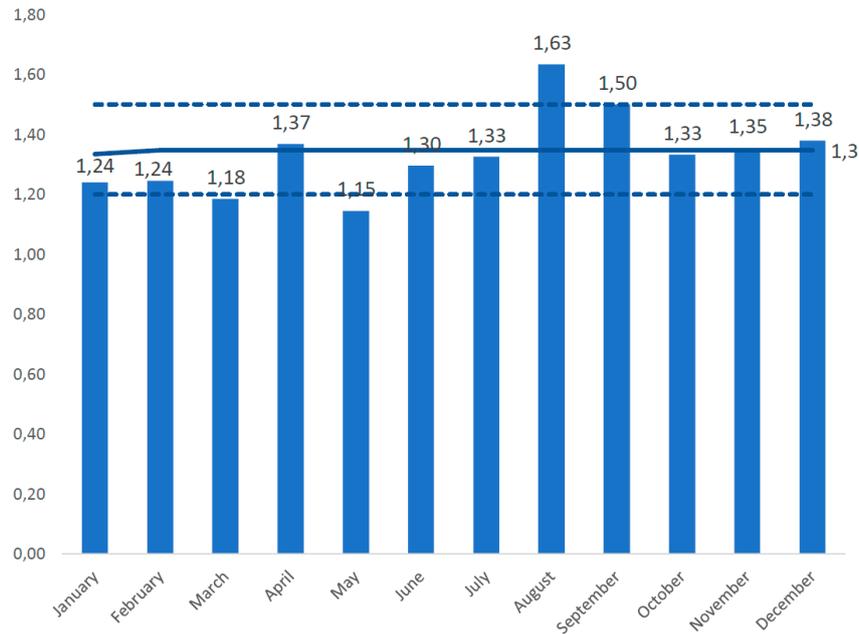
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5.2.2. Months of the year

**Chart 74: Distribution of fatalities by months. Spain, 2014-2023**



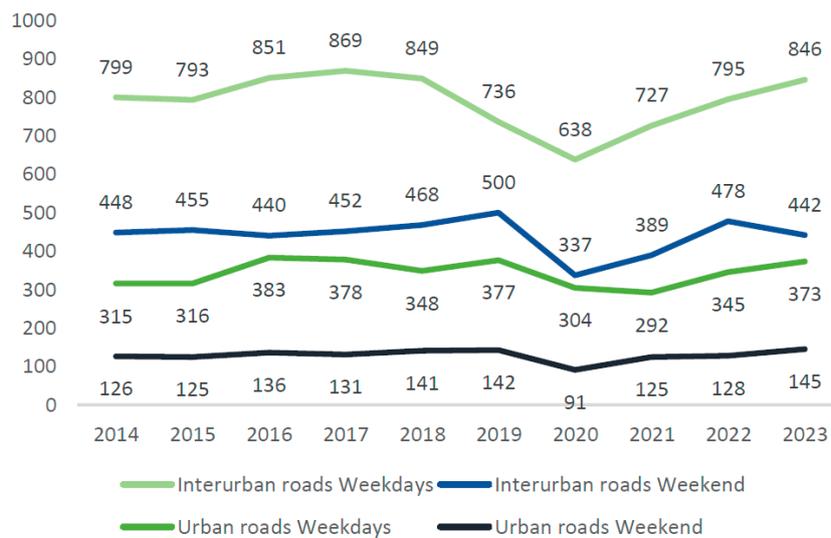
**Chart 75: Case fatality rate by months. Spain, 2023**



**5.2.3. Days of the week**

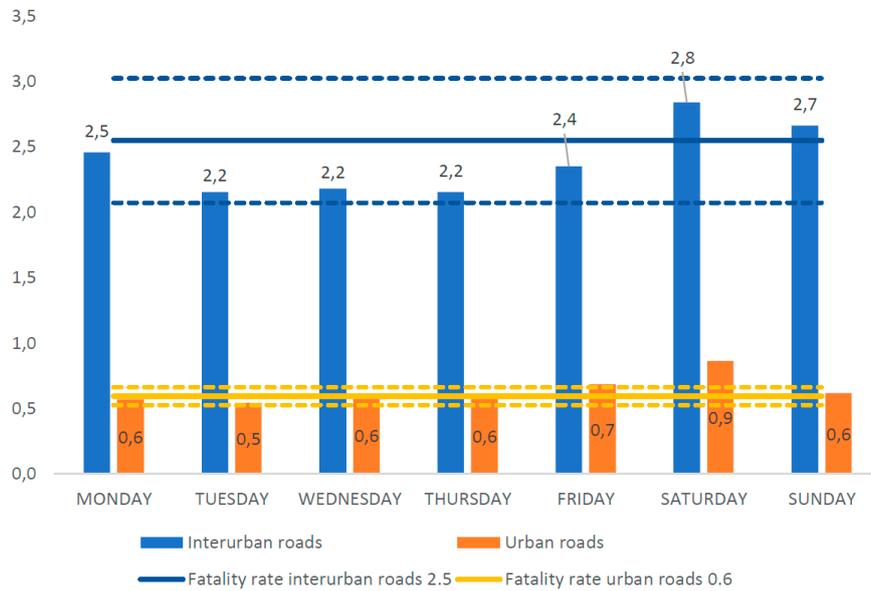
The majority of fatalities are registered on interurban roads both on weekdays (846) and on weekends (442). On urban roads, 373 people died on weekdays and 145 people died on weekends. The days with the highest fatality rate are Saturday (2.8 on interurban roads and 0.9 on urban roads) and Sunday (2.7 on interurban roads and 0.6 on urban roads).

**Chart 76: Fatalities by time of the accident, at weekends or not, on interurban and urban roads. Spain, 2023**



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

**Chart 77: Case fatality rate by days of the week, on interurban and urban roads. Spain, 2023**

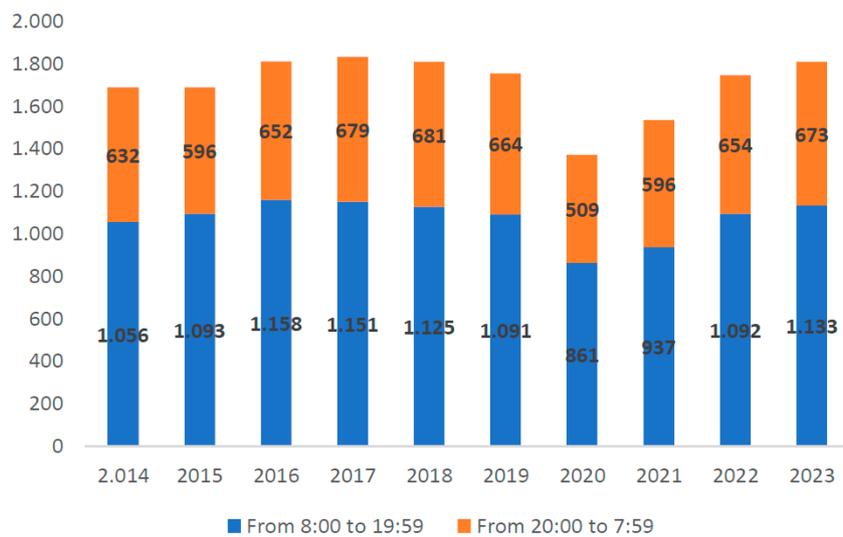


\* Case fatality rate is defined as the number of people killed per 100 casualties.

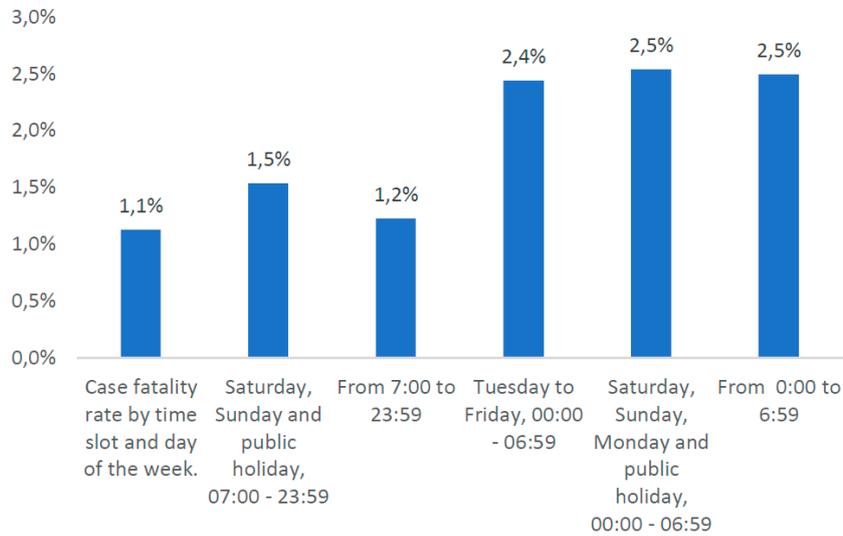
#### 5.2.4. Times of the day

1,133 people have been killed between 8:00 a.m. and 7:59 p.m., while 673 people have been killed at night from 8:00 p.m. to 7:59 a.m., with an increase in both range of times compared to 2019 and to 2022.

**Chart 78: Fatalities by time slot. Spain, 2014 - 2023**



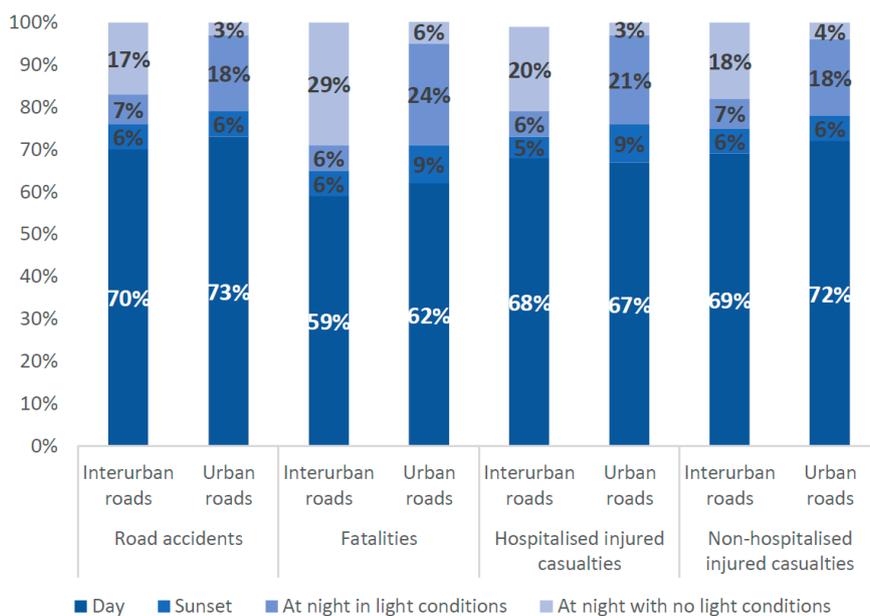
**Chart 79: Case fatality rate by time slot and day of the week. Spain, 2023**



### 5.2.5. Brightness

Regarding brightness, 70% of road accidents on interurban roads and 73% of those registered on urban roads have occurred during the day. However, while the period of the day with fewer road accidents on urban roads is at night with no light conditions (3%), on interurban roads 17% of accidents occur under these conditions. Similarly, on interurban roads, 59% of fatalities are registered during the day, and 29% are registered at night with no light conditions. While, on urban roads, 62% of fatalities occur during the day, and 6% are registered at night with no light conditions.

**Chart 80: Road traffic accidents, fatalities, hospitalised and non-hospitalised injured casualties by brightness. Interurban and urban roads. Spain, 2023**





# 6

## TRAFFIC-RELATED INJURIES

### 6.1. 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 length of 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 a road traffic 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 higher. This definition of case, 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 since 2018 onwards and from the diagnoses recorded on CMBD according to ICD-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+.

In 2022, 6,066 hospitalised injured casualties scored 3 or higher on MAIS, being the incidence rate per 100,000 population at 12.8. The above figures represent an increase of 7% in the absolute value and in the incidence rate compared to 2021 and a decrease of 2% in the absolute value and 3% in the incidence rate in relation to 2019, the year in which the corresponding figures were: 6.162 individuals with MAIS3+ and 13.1 as the incidence rate.

There were differences in the percentage distribution by age and gender and in their prevalence rate too.

The highest proportion of seriously injured casualties-MAIS3+ is on the 45-54 age group, 19%, and the lowest proportion is found on the 85 and over age group, 2%. Males showed a proportion of 76% and females of 24%.

As regards age groups, the highest prevalence rate is observed among the 15-24 age group - 16.6 -, followed by the 25-34 age group and by the 75-84 age group - both groups at 15.5. The lowest rates are observed among children under one year of age - 0.6 - followed by the 1-14 years age group - 3.4. Males showed a prevalence of 19.9 and females of 5.9; the rate for males is 3.4 times as high as that for females.

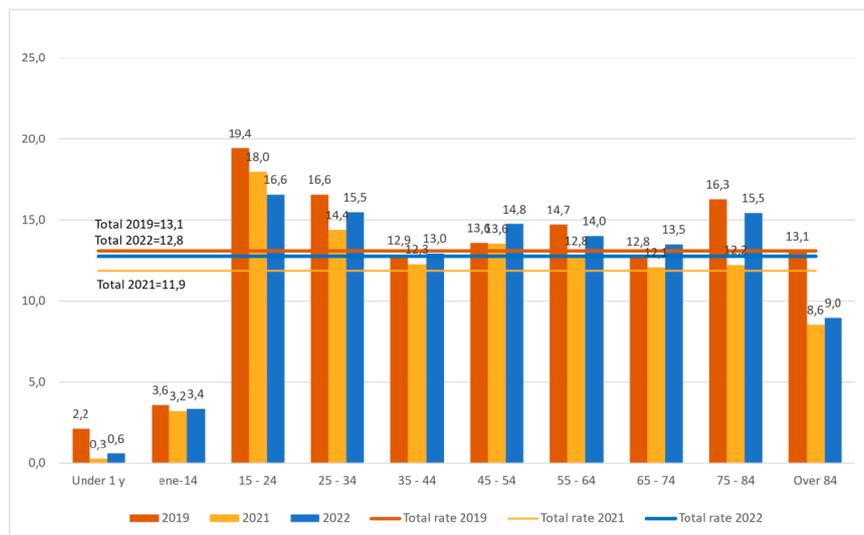
Compared to the rates for 2021, slight increases are observed in all age groups, except for those between 15 and 24 years old, where there is a decrease of 1.4. The steepest rise occur in the 75 to 84 and 65

to 74 age groups, where they go from 12.1 to 15.5 and from 12.1 to 13.5, respectively. As regards gender, the rates are also slightly higher than in 2021, going from 18.9 to 19.9 for males and from 5.2 to 5.9 for females. As previously indicated, these increases are conditioned by mobility restrictions due to COVID-19.

**Table 66: Seriously injured casualties (MAIS 3+) by age groups, prevalence rate per 100,000 population. Spain, 2022**

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	2	0%	0,6
1 to 14 y	212	3%	3,4
15 to 24 y	817	13%	16,6
25 to 34 y	811	13%	15,5
35 to 44 y	886	15%	13,0
45 to 54 y	1.140	19%	14,8
55 to 64 y	923	15%	14,0
65 to 74 y	648	11%	13,5
75 to 84 y	482	8%	15,5
Over 84 y	145	2%	9,0
<b>Total</b>	<b>6.066</b>	<b>100%</b>	<b>12,8</b>

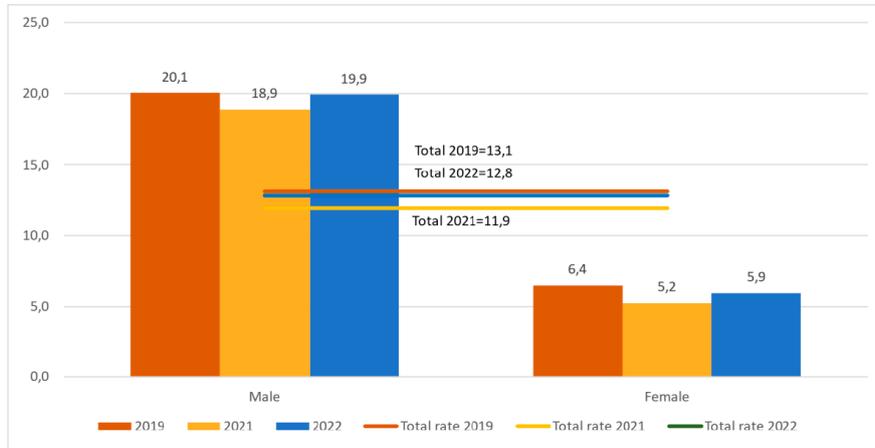
**Chart 81: Seriously injured casualties (MAIS 3+) per 100,000 population by age groups. Spain, 2019, 2021, 2022**



**Table 67: Seriously injured casualties (MAIS 3+) by gender. Spain, 2023**

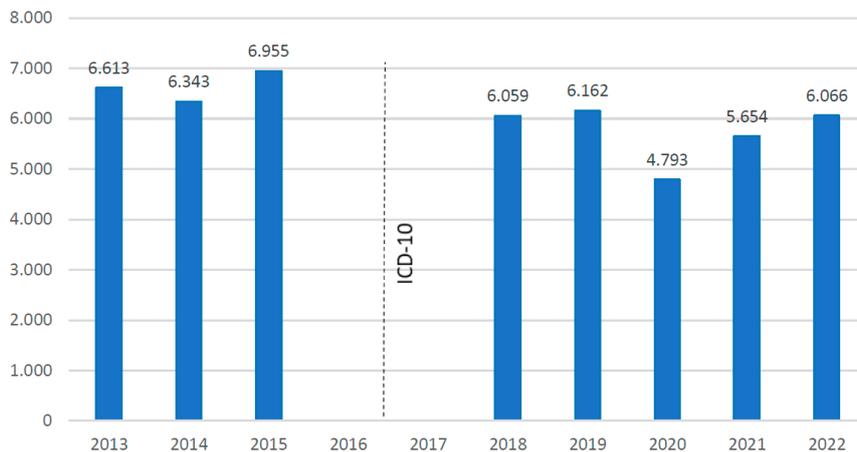
Gender	Seriously injured casualties (MAIS 3+)	% Seriously injured casualties (MAIS 3+)	Prevalence rate MAIS 3+ per 100,000 population
Male	4.635	76%	19,9
Female	1.431	24%	5,9
Unknown	0	0%	
<b>Total</b>	<b>6.066</b>	<b>100%</b>	<b>12,8</b>

**Chart 82: Prevalence rate in seriously injured casualties MAIS 3+ per 100,000 population by gender. Spain, 2019, 2021, 2022**



The evolution of the number of MAIS 3+ injured casualties shows a downward trend since 2011. The estimate of MAIS 3+ was performed on the basis of ICD-9 from 2009 to 2015, year in which a 10% increase in comparison with 2014 was observed. Since 2016, the diagnoses of hospital discharge have been codified according to the International Classification of Disease 10 (ICD-10) and from 2018 onwards the collected data have been sufficiently robust to be used. In 2019, the number of MAIS3+ injured casualties was 6 and in 2020 it was 4,793; in 2021 it was 5,654 and in 2022 it was 6,066; the figure for 2022 was 7% higher than that for 2021 and 2% lower than that for 2019. As previously indicated, the decreases in road accident figures in 2020 are conditioned by mobility restrictions due to COVID-19.

**Chart 83: Evolution of the number of seriously injured road casualties (MAIS 3+). Spain, 2013-2022**

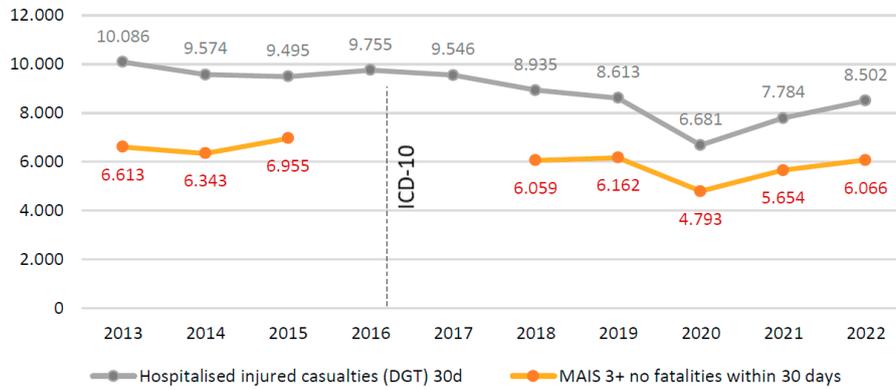


*Note: In 2016 and 2017, the data on hospital discharge used to estimate MAIS 3+ are not entirely comparable to the whole country, which has been the cause of their exclusion from this analysis.*

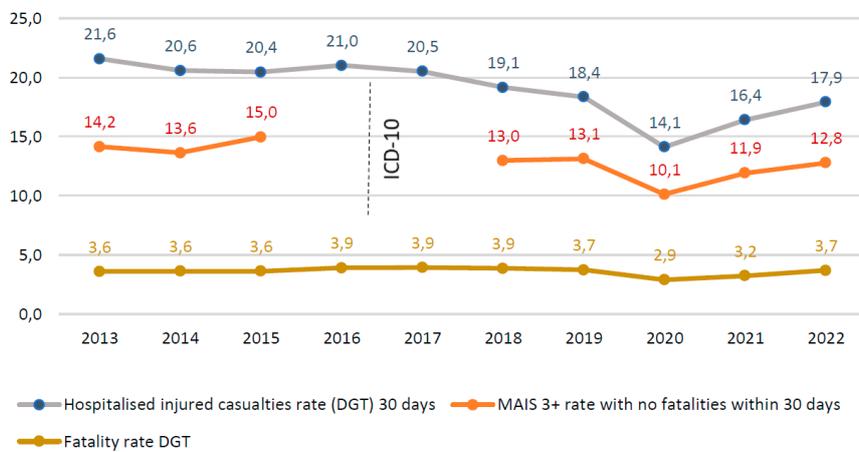
The evolution of the number of MAIS 3+ injured casualties shows a downward trend from 2013 to 2020. The hospitalised injured casualties obtained from the police records also show a downward trend in that period of time. That trend is also observed when the prevalence rate per 100,000 population is estimated for both indicators. Besides, it can be observed that the MAIS 3+ injury rate is more than three times the fatality rate

from 2018 to 2022, highlighting the importance of collecting the MAIS 3+ indicator, since injury severity of these casualties implies a longer stay at hospital, greater after-effects and, in certain cases, disabilities.

**Chart 84: Evolution of the rates of seriously injured road casualties (MAIS 3+), hospitalised injured casualties from police records. Spain, 2013-2022**



**Chart 85: Evolution of the prevalence rates of seriously injured road casualties (MAIS 3+), hospitalised injured casualties from police records and fatalities per 100,000 population. Spain, 2013- 2022**



## 6.2. Traffic-related injuries

In order to know more about the type of injury following a road traffic 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.

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

20,725 individuals with road traffic injuries were discharged from Spanish hospitals, both public and private (including death as the reason for hospital discharge) in 2022. If patients dying at a hospital are excluded

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from the analysis, the number of hospital discharges is 20,210 with 58,696 injuries, i.e. 2,9 injuries per individual.

Deaths due to road accidents occurring in hospital centres were 515 individuals and the number of injuries they sustained was 3,024, that is 5.9 injuries per individual, a figure above that published for injured survivors.

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

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 28%.

As for hospitalised injured casualties excluding fatalities, injuries to the lower extremities represented 23% of the injuries and to the upper extremities accounted for 19%; injuries to the spinal column in non-fatally injured casualties made up 9%. As regards fatalities, the percentage is as follows: 7% injuries to the lower extremities, 7% to the upper extremities and 11% to the spinal column.

**Table 68: IMD Matrix, ICD-10-CM, distribution of injuries by road accident in non-fatally injured casualties. Spain, 2022 (20,210 discharges and 58,696 injuries)**

		Mechanism of injury												Total	
		Fracture	Dislocation	Injury to the internal organs	Open wound	Amputation	Blood vessels	Superficial contusion	Crushing	Burns	Foreign body	Others specified	Unspecified		
Location of injury	Head and neck	Traumatic brain injuries	1.891	0	4.078	1.149	0	0	0	1	0	0	51	338	<b>7.508</b>
		Other to the head	2.046	43	0	41	6	1	587	0	0	1	72	27	<b>2.824</b>
		Neck	46	3	0	12	0	21	79	1	0	5	79	37	<b>283</b>
		Head, neck and other	0	0	0	0	0	0	0	0	9	0	0	0	<b>9</b>
	Spinal cord and spinal column	Spinal cord	0	0	387	0	0	0	0	0	0	0	0	0	<b>387</b>
		Cervical spine	5.178	113	4	0	0	24	0	0	0	0	245	0	<b>5.564</b>
	Torso	Chest	6.046	5	3.744	23	0	52	432	1	0	45	61	263	<b>10.672</b>
		Abdomen	0	0	1.834	59	0	74	215	0	0	0	0	0	<b>2.182</b>
		Pelvis and dorso-lumbar spine	2.358	49	538	52	0	34	209	1	0	1	1	0	<b>3.243</b>
		Abdomen, dorso-lumbar spine and pelvis	0	0	0	0	0	9	64	8	0	0	105	150	<b>336</b>
		Other to the torso	0	0	0	0	0	0	0	0	30	61	0	0	<b>91</b>
	Extremities	Upper extremities	8.812	699	0	386	42	65	572	1	64	0	642	51	<b>11.334</b>
		Hip	887	104	0	8	0	0	120	0	0	0	8	0	<b>1.127</b>
		Lower extremities	8.872	278	0	880	50	80	745	43	49	0	1.231	65	<b>12.293</b>
	Not classified in a region	Multiple regions of the body	0	0	0	0	0	0	0	0	0	0	0	650	<b>650</b>
		Systemic disease	0	0	0	0	0	0	0	0	0	0	7	0	<b>7</b>
	Unspecified	Not specified	0	0	0	0	0	0	0	0	25	0	0	161	<b>186</b>
		<b>Total</b>	<b>36.136</b>	<b>1.294</b>	<b>10.585</b>	<b>2.610</b>	<b>98</b>	<b>360</b>	<b>3.023</b>	<b>56</b>	<b>177</b>	<b>113</b>	<b>2.502</b>	<b>1.742</b>	<b>58.696</b>

**Table 69: IMD Matrix\*, ICD–10–CM, percentage distribution of injuries by road accident. Spain, 2022 (20,210 discharges and 58,696 injuries)**

		Mechanism of injury												Total	
		Fracture	Dislocation	Injury to the internal organs	Open wound	Amputation	Blood vessels	Superficial contusion	Crushing	Burns	Foreign body	Others specified	Unspecified		
Location of injury	Head and neck	Traumatic brain injuries	3,2%	0,0%	6,9%	2,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%	0,6%	<b>12,8%</b>
		Other to the head	3,5%	0,1%	0,0%	0,1%	0,0%	0,0%	1,0%	0,0%	0,0%	0,0%	0,1%	0,0%	<b>4,8%</b>
		Neck	0,1%	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%	0,0%	0,0%	0,0%	0,1%	0,1%	<b>0,5%</b>
		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%	<b>0,0%</b>
	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%	<b>0,7%</b>
		Cervical spine	8,8%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,4%	0,0%	<b>9,5%</b>
	Torso	Chest	10,3%	0,0%	6,4%	0,0%	0,0%	0,1%	0,7%	0,0%	0,0%	0,1%	0,1%	0,4%	<b>18,2%</b>
		Abdomen	0,0%	0,0%	3,1%	0,1%	0,0%	0,1%	0,4%	0,0%	0,0%	0,0%	0,0%	0,0%	<b>3,7%</b>
		Pelvis and dorso-lumbar spine	4,0%	0,1%	0,9%	0,1%	0,0%	0,1%	0,4%	0,0%	0,0%	0,0%	0,0%	0,0%	<b>5,5%</b>
		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%	<b>0,6%</b>
		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%	<b>0,2%</b>
	Extremities	Upper extremities	15,0%	1,2%	0,0%	0,7%	0,1%	0,1%	1%	0,0%	0,1%	0,0%	1,1%	0,1%	<b>19,3%</b>
		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%	<b>1,9%</b>
		Lower extremities	15,1%	0,5%	0,0%	1,5%	0,1%	0,1%	1,3%	0,1%	0,1%	0,0%	2,1%	0,1%	<b>20,9%</b>
	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%	1,1%	<b>1,1%</b>
		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%	<b>0,0%</b>
	Unspecified	Not specified	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,3%	<b>0,3%</b>
		<b>Total</b>	<b>61,6%</b>	<b>2,2%</b>	<b>18,0%</b>	<b>4,4%</b>	<b>0,2%</b>	<b>0,6%</b>	<b>5,2%</b>	<b>0,1%</b>	<b>0,3%</b>	<b>0,2%</b>	<b>4,3%</b>	<b>3,0%</b>	<b>100%</b>

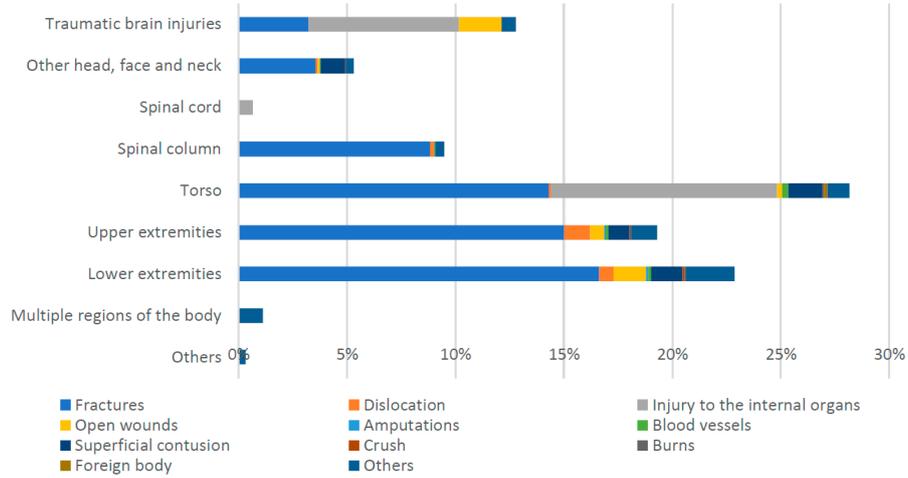
**Table 70: IMD Matrix\*, ICD–10–CM, distribution of injuries sustained by road facilities. Spain, 2022 (515 facilities and 3,024 injuries)**

		Mechanism of injury											Total		
		Fracture	Dislocation	Injury to the internal organs	Open wound	Amputation	Blood vessels	Superficial contusion	Crushing	Burns	Foreign body	Others specified		Unspecified	
Location of injury	Head and neck	Traumatic brain injuries	322	0	578	44	0	0	0	0	0	0	2	7	<b>953</b>
		Other to the head	153	1	0	4	0	0	25	0	0	1	1	0	<b>185</b>
		Neck	3	0	0	0	0	3	2	0	0	0	1	0	<b>9</b>
		Head, neck and other	0	0	0	0	0	0	0	0	0	0	0	0	<b>0</b>
	Spinal cord and spinal column	Spinal cord	0	0	49	0	0	0	0	0	0	0	0	0	<b>49</b>
		Cervical spine	311	11	2	0	0	3	0	0	0	0	2	0	<b>329</b>
	Torso	Chest	306	0	245	0	0	7	9	0	0	14	2	14	<b>597</b>
		Abdomen	0	0	155	6	0	15	10	0	0	0	0	0	<b>186</b>
		Pelvis and dorso-lumbar spine	152	5	21	2	0	6	5	0	0	0	0	0	<b>191</b>
		Abdomen, dorso-lumbar spine and pelvis	0	0	0	0	0	1	2	0	0	0	7	4	<b>14</b>
		Other to the torso	0	0	0	0	0	0	0	0	2	29	0	0	<b>31</b>
	Extremities	Upper extremities	197	8	0	10	2	0	5	0	0	0	4	0	<b>226</b>
		Hip	24	1	0	0	0	0	3	0	0	0	1	0	<b>29</b>
		Lower extremities	157	6	0	15	2	1	11	1	1	0	1	2	<b>197</b>
	Not classified in a region	Multiple regions of the body	0	0	0	0	0	0	0	0	0	0	0	22	<b>22</b>
		Systemic disease	0	0	0	0	0	0	0	0	0	0	2	0	<b>2</b>
	Unspecified	Not specified	0	0	0	0	0	0	0	0	0	0	0	4	<b>4</b>
		<b>Total</b>	<b>1.625</b>	<b>32</b>	<b>1.050</b>	<b>81</b>	<b>4</b>	<b>36</b>	<b>72</b>	<b>1</b>	<b>3</b>	<b>44</b>	<b>23</b>	<b>53</b>	<b>3.024</b>

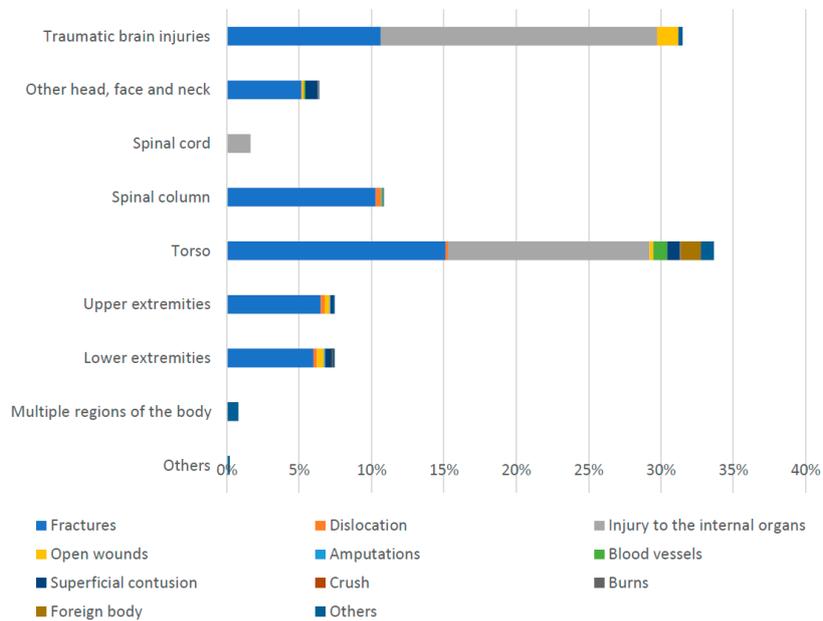
Table 71: IMD Matrix\*, ICD-10-CM, percentage distribution of injuries sustained by road facilities. Spain, 2022 (515 facilities and 3,024 injuries)

		Mechanism of injury											Total		
		Fracture	Dislocation	Injury to the internal organs	Open wound	Amputation	Blood vessels	Superficial contusion	Crushing	Burns	Foreign body	Others specified		Unspecified	
Location of injury	Head and neck	Traumatic brain injuries	10,6%	0,0%	19,1%	1,5%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%	0,2%	<b>31,5%</b>
		Other to the head	5,1%	0,0%	0,0%	0,1%	0,0%	0,0%	0,8%	0,0%	0,0%	0,0%	0,0%	0,0%	<b>6,1%</b>
		Neck	0,1%	0,0%	0,0%	0,0%	0,0%	0,1%	0,1%	0,0%	0,0%	0,0%	0,0%	0,0%	<b>0,3%</b>
		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%	<b>0,0%</b>
	Spinal cord and spinal column	Spinal cord	0,0%	0,0%	1,6%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	<b>1,6%</b>
		Cervical spine	10,03%	0,4%	0,1%	0,0%	0,0%	0,1%	0,0%	0,0%	0,0%	0,0%	0,1%	0,0%	<b>10,9%</b>
	Torso	Chest	10,1%	0,0%	8,1%	0,0%	0,0%	0,2%	0,3%	0,0%	0,0%	0,5%	0,1%	0,5%	<b>19,7%</b>
		Abdomen	0,0%	0,0%	5,1%	0,2%	0,0%	0,5%	0,3%	0,0%	0,0%	0,0%	0,0%	0,0%	<b>6,2%</b>
		Pelvis and dorso-lumbar spine	5,0%	0,0%	0,7%	0,1%	0,0%	0,2%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	<b>6,3%</b>
		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%	0,1%	<b>0,5%</b>
		Other to the torso	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%	1,0%	0,0%	<b>1,0%</b>
	Extremities	Upper extremities	6,5%	0,3%	0,0%	0,3%	0,1%	0,0%	0,2%	0,0%	0,0%	0,0%	0,1%	0,0%	<b>7,5%</b>
		Hip	0,8%	0,2%	0,0%	0,0%	0,0%	0,0%	0,1%	0,0%	0,0%	0,0%	0,0%	0,0%	<b>1,0%</b>
		Lower extremities	5,2%	0,2%	0,0%	0,5%	0,1%	0,0%	0,4%	0,0%	0,0%	0,0%	0,0%	0,1%	<b>6,5%</b>
	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%	0,7%	<b>0,7%</b>
		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%	<b>0,1%</b>
	Unspecified	Not specified	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%	<b>0,1%</b>
		<b>Total</b>	<b>53,7%</b>	<b>1,1%</b>	<b>34,7%</b>	<b>2,7%</b>	<b>0,1%</b>	<b>1,2%</b>	<b>2,4%</b>	<b>0,0%</b>	<b>0,1%</b>	<b>1,5%</b>	<b>0,8%</b>	<b>1,8%</b>	<b>100,0%</b>

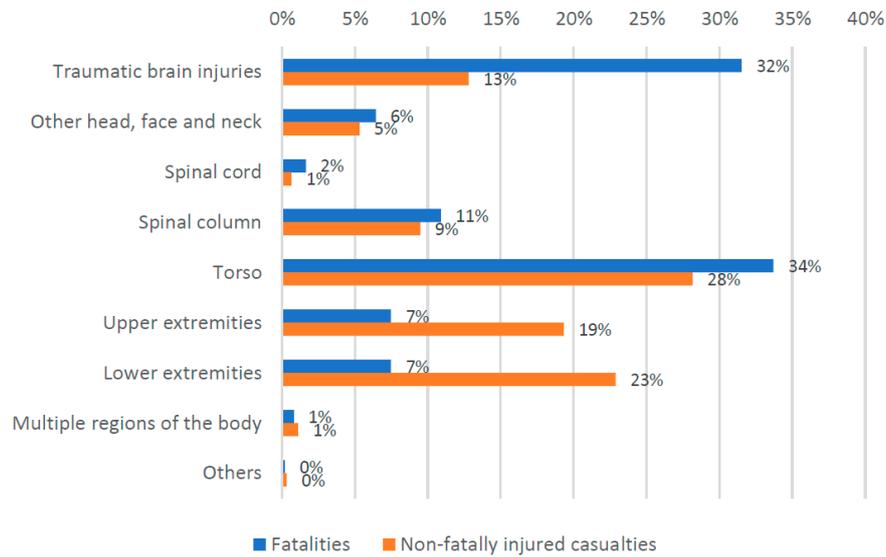
**Chart 86: Percentage distribution by injury location and mechanism of injury to hospitalised non-fatally injured casualties. Spain, 2022 (58,696 injuries)**



**Chart 87: Percentage distribution by injury location and mechanism of injury to people who die at hospital. Spain, 2022 (3,024 injuries)**



**Chart 88: Percentage distribution by injury location to hospitalised injured casualties and to deaths in hospital. Spain, 2022 (58,696 injuries sustained by non-fatally injured casualties and 3,024 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 users of vulnerable means as pedestrians, cyclists and motorcyclists.

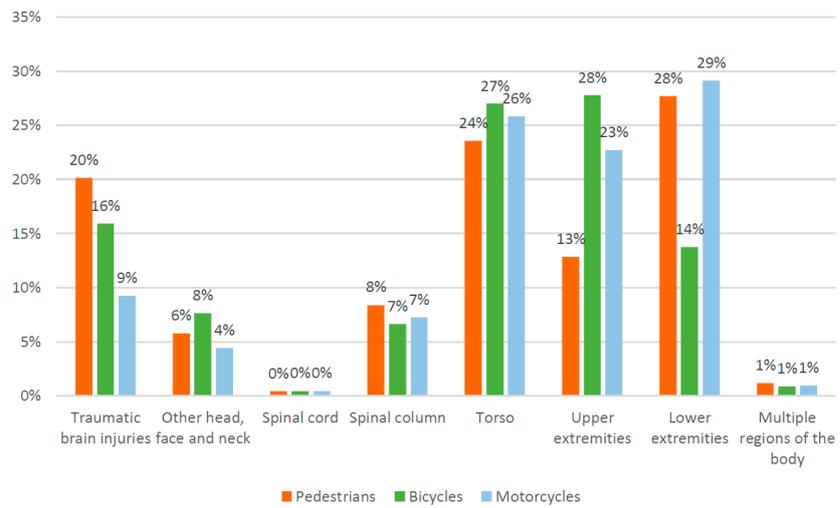
When looking at these data, another point to bear in mind is that the percentage of registers without stating the mode of transport in the MBDS is 39% in 2022.

**Table 72: Injury location classification to hospitalised non-fatally injured casualties using vulnerable means according to IMD Matrix\*, ICD-10-CM Spain, 2022**

	Pedestrians	Bicycles	Motorcycles
Traumatic brain injuries	1.191	843	1.469
Head, face and neck	341	405	702
Spinal cord injury	24	23	69
Cervical spine	496	351	1.152
Torso	1.394	1.430	4.106
Upper extremities	759	1.471	3.610
Lower extremities	1.637	728	4.632
Other	68	46	152
<b>Total injuries</b>	<b>5.910</b>	<b>5.297</b>	<b>15.892</b>
N of hospitalised non-fatally injured casualties(discharges)	1.853	2.197	5.257
Injuries by discharge	3,2	2,4	3,0

Observing the location of injuries sustained by non-fatally injured casualties in 2022, traumatic brain injuries are more common in pedestrians (20%) and pedal cyclists (16%) than in motorcyclists (9%). Upper extremities are more common in pedal cyclists (28%) and motorcyclists (23%) than in pedestrians (13%). Lower extremities are more common in pedestrians (28%) and motorcyclists (29%) than in pedal cyclists (14%).

**Chart 89: Percentage distribution by injury location to hospitalised non-fatally injured casualties. Spain, 2022**



# 7

## ANNEX I. METHODOLOGICAL NOTES

### 7.1 Databases used to prepare this report

#### a) National Register for Road Traffic Accident Victim

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 2023.

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](mailto:observatorio@dgt.es).

The most significant micro-data and statistical tables may be accessed on the “Portal estadístico” of the Directorate-General for Traffic [www.dgt.es](http://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 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 on the basis of the Ministry's

—for the State Road Network—, the Autonomous Communities' and the Provincial and Island Councils' information.

## 7.2 Methodology used to estimate fatalities within 30 days

### 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 2023.

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](mailto:observatorio@dgt.es).

The most significant micro-data and statistical tables may be accessed on the “Portal estadístico” of the Directorate-General for Traffic [www.dgt.es](http://www.dgt.es).

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### 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 on the basis of the Ministry's —for the State Road Network—, the Autonomous Communities' and the Provincial and Island Councils' information.

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