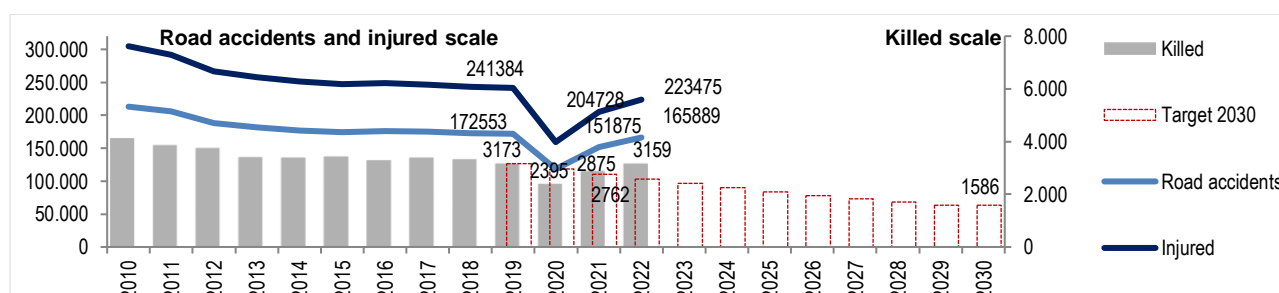


ROAD ACCIDENTS

Year 2022

- During the year 2022, occurs a clear recovery in mobility and, as a consequence, in road accidents too, after the years in which the pandemic has seen the most acute phase. Compared to 2021, road accidents and personal injuries show an overall growth with increases concentrated above all in the months from January to July, a period for which, in 2021, traffic and mobility limitation measures were still in effect, for the containment of the virus. Since August, there was a decrease in persons injured and road accidents compared to 2021, while the deaths due to road accidents increased in August, October and December.
- In 2022, 3,159 accidents deaths were registered in Italy (+9.9% compared to 2021), 223,475 were injured (+9.2%) and the number of road accidents were 165,889 (+9.2%). An increase compared to 2021, but fewer than in 2019 (road accidents and injuries, -3.7% and -7.4%, respectively). The number of deaths was relatively stable (-0.4% compared with 2019), 2,651 road users died within 24 hours after the accidents, while 508 died within the thirtieth day after the event.
- Fatalities increase for all road users, compared to 2021, except for cyclists and lorries occupants. There were 1,375 deaths among the occupants of cars (+15.4%), 781 among motorcyclists (+12.4%), 70 among moped riders (+4.5%), 485 among pedestrians (+3.2%). Among the occupants of trucks, 166 died (-1.8%), while for bicycles and electric bicycles there were 205 victims, in decrease, in respect of 2021 when they were 220 (-6.8%). On the other hand, injuries among users of electric scooters increased. Concerning the e-scooters (counted since 2020), road accidents involving them pass from 2,101 in 2021 to 2,929 in 2022, injured users since 1,980 to 2,787, while the victims (within 30 days) are 16 (in 2021 there were 9 plus a pedestrian).
- Road accidents, fatalities and injuries increase across all road types, compared to 2021, but still remain below pre-pandemic levels, excluding victims on urban roads. In comparison with 2021, on motorways there was an increase for accidents (+9.7%) and for victims (+19.9%); on built up roads +9.8% for accidents and +5.5% for victims, on rural roads +7.2% for accidents and +12.2% for deaths.
- In the EU27, the number of victims began to increase again in 2022 (+3.7% compared to 2021), after the drastic reduction in the two years of the pandemic (-9.1% compared to 2019). Overall, in 2022 there were 20,669 victims, against 19,932 in 2021 and 22,761 in 2019. For every million inhabitants there are 46 deaths due to road accidents in the EU27 and 54 in Italy, from 13th to 19th place in the European rankings.
- Among the incorrect driving behaviours, distraction, failure to respect the right of way and too high speed are confirmed as the most frequent. The three groups represent a total of 38.1% out of the total cases (82,857), a stable value over time.
- Driving too fast is the most sanctioned behaviour, in fact it represents 38.7% of the total. The penalties for failure to use seat belts, child restraint systems and a helmet are reduced. The number of penalties for improper use of devices inside the vehicles remains high and the penalties for driving under the influence of alcohol and drugs increased.
- The passenger's car market shows a sharp decline in 2022: the first registrations of cars decreased by 12.1% compared to 2021, while those of motorcycles are almost stable. On the motorway network, the average annual distance travelled by vehicles recorded a growth of 10.7% compared to 2021 and a decrease of 1.4% compared to 2019.

CHART 1. ROAD ACCIDENTS RESULTING IN DEATH OR INJURY, KILLED AND INURED. Years 2010-2022. Absolute values



Clear recovery of mobility in 2022

In 2022, 165,889 road accidents resulting in death or injury occurred in Italy; the victims were 3,159 and the injured 223,475 (Table 1). Compared to the previous year, road deaths increased by 9.9% as the number of accidents and injuries (+9.2%). The road death rate rose from 48.6 to 53.6 deaths per million inhabitants between 2021 and 2022, it was 53.1 in 2019. Compared to 2019, the benchmark for the decade 2021-2030, the victims on the road decrease by 0.4%.

Finally, the social cost of road accidents detected by the Motorway Police, Local Police and Carabinieri, using new parameters updated by Istat and ACI, amount to almost 18 billion euros in 2022 (0.9% of national Gross Domestic Product - GDP).

TABLE 1. ROAD ACCIDENTS, KILLED AND INJURED PERSONS. Years 2001, 2010-2022. Absolute values, deaths per million and percentage change

YEARS	Road accidents (a)	Killed	Injured	Deaths per million inhabitants (b)	Yearly % change	% change in respect to 2001 (b)	% change in respect to 2010 (b)
2001	263,100	7,096	373,286	124.5	-	-	-
2010	212,997	4,114	304,720	68.8	-2.9	-42.0	-
2011	205,638	3,860	292,019	64.3	-6.2	-45.6	-6.2
2012	188,228	3,753	266,864	62.4	-2.8	-47.1	-8.8
2013	181,660	3,401	258,093	56.4	-9.4	-52.1	-17.3
2014	177,031	3,381	251,147	56.1	-0.6	-52.4	-17.8
2015	174,539	3,428	246,920	56.9	+1.4	-51.7	-16.7
2016	175,791	3,283	249,175	54.6	-4.2	-53.7	-20.2
2017	174,933	3,378	246,750	56.3	+2.9	-52.4	-17.9
2018	172,553	3,334	242,919	55.7	-1.3	-53.0	-19.0
2019	172,183	3,173	241,384	53.1	-4.8	-55.3	-22.9
2020	118,298	2,395	159,249	40.3	-24.5	-66.2	-41.8
2021	151,875	2,875	204,728	48.6	+20.0	-59.5	-30.1
2022	165,889	3,159	223,475	53.6	+9.9	-55.5	-23.2

(a) Road accident resulting in deaths (within the 30th day) or injuries is defined as the event that involves at least a vehicle circulating on the national road net.

(b) Deaths out of resident population (per 1,000,000). (c) The percentage changes of the number of deaths is calculated as: $((M^t / M^{t-1} \circ 2001 \circ 2010) - 1) * 100$

(c) The 2010-2019 road death rates were recalculated on the basis of the post-census reconstruction of the resident population, produced by Istat (Informative Note 17/3/2021)

The year 2022 is characterised by a coming back to mobility and to the increased use of individual means of transport, after the forced suspension of travel and commuting due to the pandemic. Although the use of smart working is still widespread, which has certainly reduced the flow of people on systematic home-to-work and work-to-home journeys, the percentage of daily journeys using one's own vehicle is increasing. The mobility rate, in fact, rises to 80.9% in the first half of 2022, compared to 75% in 2021 and 69% in 2020, so the distance to the 2019 figure is reduced to 5%.

Also according to studies, recently released by Isfort (Institute for Transport Training and Research), pedestrian mobility, after the Covid and health emergency years, which had already dropped to 22.7% out of the total in 2021 (more than 6% lower than in 2020), in the first half of 2022 decreases further to 19.7%. The assumed consolidation of pedestrian mobility, excluding the physiological decline after the 2020 explosion, thus does not seem to be confirmed. On the other hand, journeys by bicycle and by micro-mobility-related means increase their weight (since 3.3% in 2019 to 4.7% during the first six months of 2022).

Combining this increase with the growth in the use of motorcycles, amounting to 4.7% in 2022 (it was 2.6% in 2019), it can be asserted that the 'two-wheeler' solution, whether motorised, electric or non-motorised, is becoming an option, often preferred, in the travel choices of Italians.

The widespread use of two-wheel vehicles has also favoured the creation of new bike-sharing services, with the fleet being enriched with electric vehicles, mostly by operators already active in cities with sharing services for electric scooters.

The monitoring of monthly data, carried out by the Sharing Mobility Observatory on the first half of 2022 and carried out in two sample cities Rome and Milan, also confirms that the strong contraction of mobility occurred during the pandemic is now behind us: in particular, light mobility services register more than doubled daily rentals. The total number of rentals recorded by sharing mobility services grew between January and June 2022 by 113% in the Lombardy capital and 83% in Roma, compared to the same period in 2021. Finally, an analysis of the data provided by five shared scooter rental operators, which together account for 74% of the sector's kilometres travelled in Italy, showed that kilometres travelled grew by 58.7% in 2022 compared to 2021 and rentals by 44.8%.

Together with the emerging and widespread trend towards the use of electric micro-mobility and soft mobility for travel, it should be remembered that Italy still remains a country with one of the highest motorisation rates in Europe, with 681 cars for every 1,000 inhabitants; the share of car use rises to almost 65% in 2022, one and a half points higher than the value recorded in the pre-Covid period (the historical lowest value of 59% was reached in 2020). The still dominant position of the car in the preferences of Italians is thus reaffirmed in 2022.

The mileage on the motorway network for all vehicles grew by 10.7% in 2022, compared to 2021 and slightly decreased by 1.4% compared to 2019. The mileage for heavy vehicles grew by 2.6% in 2022 over 2021; the increase for 2022 over 2019 was 3.7%. Finally, the mileage for light vehicles showed an increase of 13.6% in 2022 over 2021 and a decrease of 3.0% over 2019.

Also on an annual basis, the IMR (Index of Measured Mobility, calculated by Anas on the basis of monthly average daily traffic by vehicle class) of the road network, for all vehicles, showed a growth of 8.3 % in 2022 over 2021; the decrease in 2022, over 2019, is equal to 6.9%. The IMR for heavy vehicles increased by 1.1% in 2022 over 2021 and decreased by 0.9%, compared to 2019.

Concerning the sales of conventional bicycles, after two boom years a slight decline was recorded, still with a high number of bicycles sold (1.772 million). On the other hand, the sales of electric bicycles was not stopped: 337 thousand e-bikes sold in 2022 (19% out of the Italian bicycle market), a growth that is even more significant when measured out of 2019 (+72%).

Despite the passenger car represents the most widespread mobility choice of Italians, the Italian market of new cars closed 2022 with a 12.1% drop compared to 2021. Not even in 2020, when mobility was very limited, there was a value so low.

This result was due, in particular, to the continuing lack of supplies of microchips and other essential components used for the vehicles construction and, consequently, to the automotive industry's inability to fully meet the market requests. Besides, the main factors, that negatively affected the propensity to buy new cars, were the effects of the pandemic and subsequently by the war in Ukraine too.

The contribution of the eco-incentives, which were reintroduced gradually in April 2022, but with some strong limits, and again in November of the same year, was not consistent. The car market in Italy had the worst performance, compared to the five largest European markets (France -7.8%, Spain -5.4%, United Kingdom -2% and Germany +1.1%) and compared to the European market as a whole (-4.1% in 2022).

Road accident deaths increased in EU27 in 2022, with decreasing time trend

On European roads too, 2022 marks a gradual recovery in mobility. In the EU27 there were 20,669 fatalities compared to 19,932 in 2021, 22,761 in 2019 and around 30,000 in 2010. The increase in 2022 was equal to 3.7%, compared to 2021 and a decrease of 9.2%, compared to 2019. The increase in the number of road deaths did not affect all countries: negative changes were recorded in Slovenia (-25.4%), Latvia (-23.1%), Lithuania (-18.4%), Cyprus (-17.8%), Poland (-15.5%), Finland (-15.1%), Estonia (-9.1%), Romania (-8.2%), Croatia (-5.8%), Bulgaria (-5.3%) and Hungary (-1.7%).

By contrast, the largest increases were recorded in Malta (+188.9%), Luxembourg (+50.0%), the Netherlands (+26.6%), Denmark (+18.5%) and Sweden (+18.2%) (Table 2).

The road death rate (deaths per million inhabitants) stands at 46.3 in the EU27 and 53.6 in Italy. Our country thus moves from 13th to 19th place in the European ranking (Chart 2).

For the decade 2021-2030, the European objectives on road safety envisage halving the number of victims and serious injuries by 2030 compared to the benchmark year (set at 2019) and the monitoring of specific performance indicators, *Key Performance Indicators*¹, which Italy is preparing to provide and which concern: speed, use of protection systems (helmets, seat belts and child seats), use of alcohol and drugs, safety level of the vehicle fleet and the national road network, driving distraction and efficiency of rescue systems in the event of an accident. For the future, in addition to the targets set for the next decade, the foundations have been laid for new and ambitious goals, in particular the Stockholm Declaration of February 2020 calls for a 'zero victims' vision for 2050 (Table 2 and Chart 2).

TABLE 2. KILLED PERSONS IN ROAD ACCIDENTS IN THE COUNTRIES OF THE EUROPEAN UNION (EU27)
Years 2010, 2019, 2021 and 2022. Absolute values, percentage change and road mortality rate per 1,000,000 inhabitants (a)

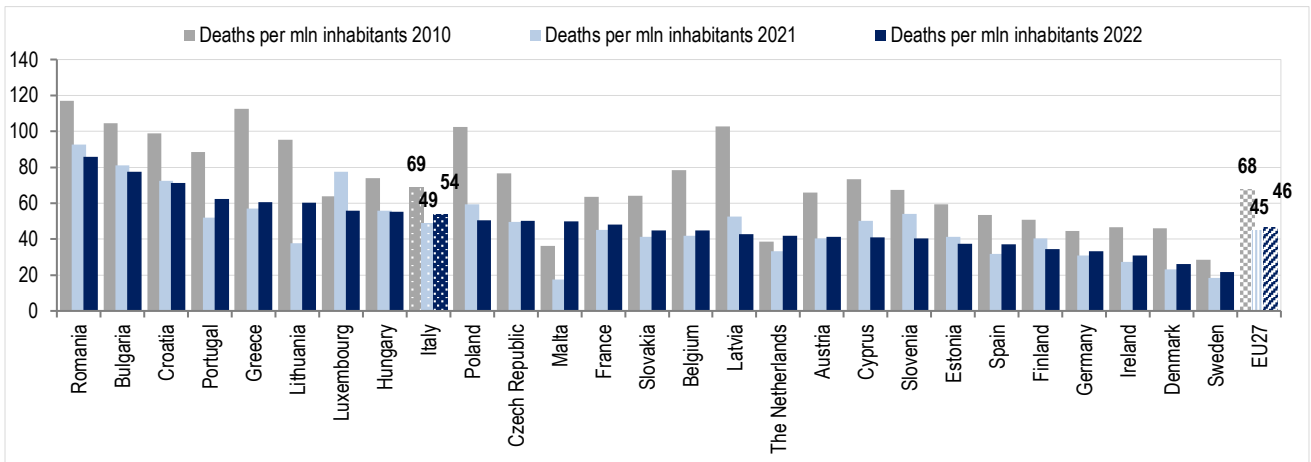
COUNTRIES EU27	Absolute values				Percentage change (b)			Road mortality rate		
	2010	2019	2021	2022	2022/2021*	2022/2019*	2022/2010 *	2010	2021	2022
Austria	552	416	362	370	+2.2	-11.1	-33.0	65.9	40.5	41.2
Belgium	850	644	516	521	+1.0	-19.3	-38.7	78.4	41.8	44.8
Bulgaria	776	628	561	531	-5.3	-15.4	-31.6	104.6	81.1	77.6
Croatia	426	297	292	275	-5.8	-7.4	-35.4	99.0	72.3	71.2
Cyprus	60	52	45	37	-17.8	-28.8	-38.3	73.2	50.2	40.9
Czech Republic	802	617	531	527	-0.8	-14.6	-34.3	76.7	49.6	50.1
Denmark	255	199	130	154	+18.5	-22.6	-39.6	46.1	23.1	26.2
Estonia	79	52	55	50	-9.1	-3.8	-36.7	59.3	41.4	37.5
Finland	272	211	225	191	-15.1	-9.5	-29.8	50.8	40.3	34.4
France	3,992	3,244	2,944	3,260	+10.7	+0.5	-18.3	63.6	45.0	48.1
Germany	3,651	3,059	2,562	2,776	+8.4	-9.3	-24.0	44.6	30.9	33.4
Greece	1,258	688	624	635	+1.8	-7.7	-49.5	112.5	56.9	60.7
Hungary	740	602	544	535	-1.7	-11.1	-27.7	73.9	55.9	55.2
Ireland	212	140	136	157	+15.4	12.1	-25.9	46.6	27.4	31
Italy	4,114	3,173	2,875	3,159	+9.9	-0.4	-23.2	68.8	48.6	53.6
Latvia	218	132	147	113	-23.1	-14.4	-48.2	102.8	52.6	60.2
Lithuania	299	186	147	120	-18.4	-35.5	-59.9	95.2	77.6	42.8
Luxembourg	32	22	24	36	+50.0	+63.6	+12.5	63.7	37.8	55.8
Malta	15	16	9	26	+188.9	+62.5	+73.3	36.2	17.4	49.9
Poland	3,907	2,909	2,245	1,896	-15.5	-34.8	-51.5	102.4	59.3	50.4
Portugal	937	626	532	614	15.4	-1.9	-34.5	88.6	52.1	62.3
Romania	2,377	1,864	1,779	1,634	-8.2	-12.3	-31.3	117.1	92.7	85.8
Slovakia	345	245	226	244	+8.0	-0.4	-29.3	64.0	41.4	44.9
Slovenia	138	102	114	85	-25.4	-16.7	-38.4	67.4	54.1	40.3
Spain	2,478	1,755	1,533	1,759	+14.7	+0.2	-29.0	53.3	31.8	37.1
Sweden	266	221	192	227	+18.2	+2.7	-14.7	28.5	18.5	21.7
The Netherlands	640	661	582	737	+26.6	+11.5	15.2	38.6	33.3	41.9
Eu27	29,691	22,761	19,932	20,669	+3.7	-9.2	-30.4	67.6	44.7	46.3

* Preliminary estimates 2022 for Belgium, Denmark, Finland, France, Germany, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Czech Republic, Spain, Sweden. (a) Source: European Transport Safety Council, Annual PIN report. Year 2023 - [17th Annual Road Safety Performance Index \(PIN Report\) – ETSC](#) ; European Commission 21/02/2023 - [Road safety in the EU: fatalities below pre-pandemic levels but progress remains too slow \(europa.eu\)](#)

(b) Le variazioni percentuali rispetto al 2010, al 2021 e al 2019 sono state calcolate come segue: $((M^{2022}/M^{2021} \circ M^{2019} \circ M^{2010}) - 1) * 100$

¹ The European Commission is in charge of coordinating the work of the EU27 countries for the production of the key performance indicators (8 different indicators on the topics: infrastructure, vehicles, road infrastructure, post-accident care). Each country will provide between one and eight national KPIs, comparable and with the minimum methodological requirements decreed by the European Commission (TRENDLINE project).

CHART 2. ROAD MORTALITY RATE IN THE COUNTRIES OF THE EUROPEAN UNION (EU27) (a). Years 2010, 2021 and 2022



(a) Road mortality rate (deaths in road accidents per million inhabitants)
 Source: European Transport Safety Council, Annual PIN report. Year 2023 - [17th Annual Road Safety Performance Index \(PIN Report\) – ETSC](#)

Road accidents deaths among young people and children still on the rise

There were 3,159 road accident victims in 2022: 2,579 men (81.6%) and 580 women (18.4%). The number of fatally injured drivers amounted to 2,245 (2,014 men and 231 women), passengers to 429 (240 men and 189 women) and pedestrians to 485 (325 men and 160 women).

Looking at the distribution by age, the victims are concentrated in the 45-59 and 20-29 age groups for men, between 75 and 84 and 20-24 for women. However, the largest increase, compared to 2021, is recorded, overall, for the 55-69 age group, with the largest increase for the 60-64 age group (+35.5%), but also for the very young 15-19 year olds (+21.2%) and 25-29 year olds (+10.4%).

The share of children aged 0-14 killed in road accidents (within the 30th day) continues to be a particularly negative note: there are 39 in 2022, 27 of whom are between 5 and 14 years old, an increase compared to previous years. The figure, which shows no sign of decreasing, is higher even than that recorded in 2019; the number of children 0-14 killed was 28 in 2021, 37 in 2020 and 35 in 2019.

Although measures have been put in place to fight the phenomenon, the hoped-for positive effects are not yet tangible and the goal of 'zero fatalities' is still a long way off. The National Road Safety Plan (PNSS) 2030, in addition to providing for measures aimed at achieving the general objective (halving the total number of deaths and serious injuries), identifies priority actions for improving the road safety conditions of certain categories of users particularly at risk, including children between 0 and 14 years of age.

The recommendations concern, in particular, incentives for a road safety culture, with training and education aimed at children, empowering parents to avoid road accidents and to adequately protect children with suitable restraint systems, and reducing the risk of accidents and injuries to children walking and cycling, especially on home-school-home routes, through speed management and enforcement measures.

With regards injuries in road accidents, they are increasing for all age groups compared to 2021, with a peak among children and the elderly over 75 (Table 3). In order to concretely tackle the containment also of the number of injuries and not only of fatalities, the new National Road Safety Plan 2030 also focuses on improvements in road and vehicle design, on the strengthening of laws and their enforcement, on timely and effective assistance to the injured.



TABLE 3. KILLED AND INJURED IN ROAD ACCIDENTS BY GENDER AND AGE CLASS. Year 2022. Absolute values and % change 2022/2021 and 2022/2019 (a)

AGE CLASSES	Killed (within 30 days)			Injured			% change 2022/2019		% change 2022/2021	
	Males	Females	Total	Males	Females	Total	Victims	Injured	Victims	Injured
0 - 4	11	1	12	1,203	919	2,122	..	+19.8	..	-17.2
5 - 9	4	4	8	1,488	1,170	2,658	..	+14.1	..	-22.4
10 -14	13	6	19	2,599	1,917	4,516	+11.8	+10.1	+35.7	-11.5
15 -19	59	9	68	6,667	2,977	9,644	+7.9	+9.6	+1.5	+10.7
20 -24	81	13	94	7,133	3,232	10,365	+13.3	+10.9	+3.3	+2.9
25 -29	191	45	236	16,903	8,463	25,366	+7.8	+5.8	-4.8	-1.7
30 -34	193	29	222	13,925	7,293	21,218	+10.4	+6.4	+1.8	-8.1
35 -39	151	23	174	12,120	6,472	18,592	-1.7	+8.8	+2.4	-5.4
40 -44	151	28	179	10,372	5,601	15,973	+8.5	+6.5	-2.2	-12.8
45 -49	170	19	189	10,478	5,669	16,147	-3.1	+4.9	-6.9	-16.6
50 -54	189	29	218	11,822	6,441	18,263	+5.8	+6.5	-7.2	-10.5
55 -59	200	37	237	11,769	6,659	18,428	+6.8	+11.4	-10.9	-6.1
60 -64	218	37	255	10,844	5,829	16,673	+15.4	+13.5	+15.4	-0.2
65 -69	186	47	233	8,076	4,231	12,307	+35.5	+17.9	+20.1	+2.0
70 -74	166	30	196	5,504	3,016	8,520	+18.1	+14.0	+8.3	-3.4
75 -79	142	41	183	4,408	2,626	7,034	-5.2	+14.7	-4.2	-11.7
80 -84	128	54	182	3,598	2,145	5,743	+17.4	+19.6	-9.0	-10.3
85 -89	140	55	195	2,766	1,551	4,317	+4.3	+11.8	-8.5	-15.0
90 +	147	60	207	1,848	912	2,760	+22.5	+19.9	-1.0	-5.1
Unknown	39	13	52	1,553	1,276	2,829	-1.9	-21.0	+8.3	-46.6
Totale	2,579	580	3,159	145,076	78,399	223,475	+9.9	+9.2	-0.4	-7.4

(a) The age class variable, also includes the "unknown or not indicated" mode. For each accident, in fact. Also the occupants of other vehicles involved over the third is counted too. For these individuals, of which we only know the number and the outcome, demographic characteristics. Including the age, are not detected

The age and gender structure of fatalities in 2022 and in 2010 (the year of comparison to detect differences in the shape of the distribution) shows how the proportions of adult and elderly fatalities, in relation to the total by gender, are increasing over time, also in connection with the ageing of the population.

The distribution of road death rates by age calculated on the resident population confirms the disadvantage of the youngest age groups (20-34 years) and of the over-70s: the highest specific death rate is in the 85-89 year-old class (106.0 per million inhabitants) and in the 20-24 year-old class (80.6 per million inhabitants) (Charts 3 and 4).

CHART 3. KILLED IN ROAD ACCIDENTS. AGE PYRAMID BY AGE CLASS. Year 2010-2022. Percentage values

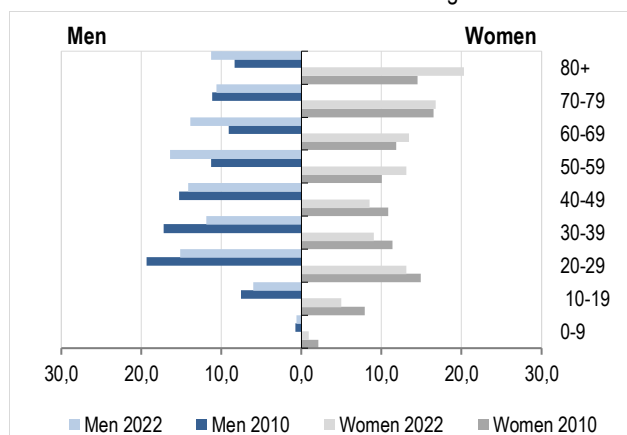
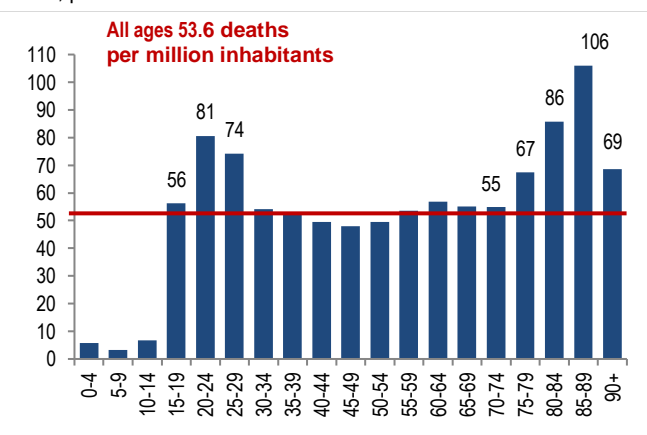


CHART 4. ROAD MORTALITY RATE BY AGE CLASS. Year 2022, per million inhabitants



Killed: increases for motorcyclists, electric scooter users and pedestrians

In 2022, the increasing use of zero-emission electric micro-mobility vehicles is confirmed. In order to document the road accident rate of these new vehicles, since May 2020, Istat included the new vehicles 'electric scooter' and 'electric bicycle' among the survey variables.

The number of road accidents resulting in death or injury, involving at least one electric scooter, was 2,929 in 2022, up from 2,101 in 2021 and 564 in 2020 (recorded only since May of the same year); there were 16 fatalities; in 2021 there were 9, plus one pedestrian who was run over and died. There were 2,787 injured drivers and passengers on e-scooters (2,699 drivers and 88 passengers), and 221 uninjured drivers; 131 injured pedestrians were hit.

Electric bicycles were involved in 1,113 accidents (691 in 2021 and 240 in 2020), with 20 fatalities among drivers and passengers of the vehicles and 1 pedestrian killed (13 fatalities in 2021 and 6 in 2020), 1,077 injured and 34 pedestrians injured. Non-electric bicycles were involved in 15,981 accidents (15,771 in 2021 and 13,240 in 2020) with 185 fatalities and 2 pedestrians killed (211 in 2021 and 169 in 2020), 15,600 injured and 378 pedestrians injured.

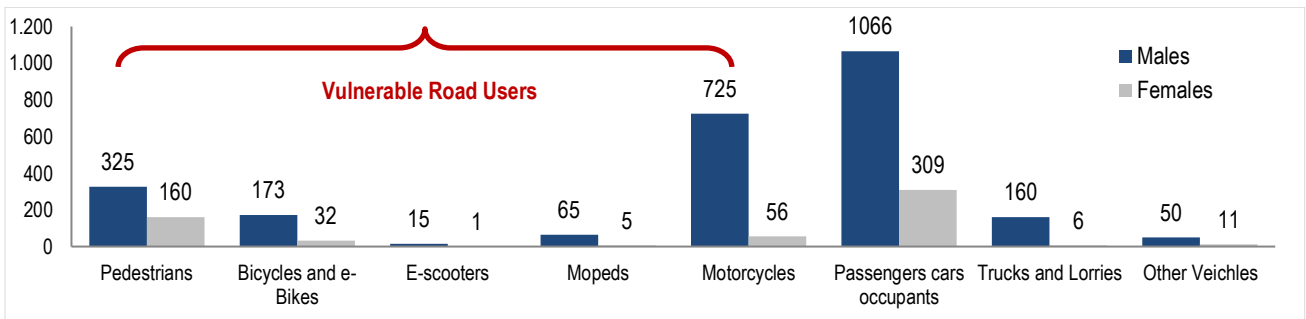
Compared to 2021, the number of victims increased for all road users, with the exception of truck occupants and cyclists. There were 1,375 fatalities among car occupants (+15.4%), 781 among motorcyclists (+12.4%), 70 among moped riders (+4.5%), 485 among pedestrians (+3.2%). Among lorry occupants there were 166 fatalities (-1.8%), for bicycles and e-bikes there were 205 fatalities among users, down from 220 in 2021 (-6.8%). In contrast, the number of fatalities among users of electric scooters increased (16 cases in 2022, compared to 9 in 2021).

The gender distribution of fatalities also shows a distinctly male bias in 2022, particularly for drivers, for whom the proportion of men reaches 90%, while for passengers the proportions are 56% male and 44% female. Finally, for pedestrians, the proportions are 67% male and 33% female. Overall, the most vulnerable users account for 49.3% of road deaths (50.9% in 2021 and 51.4% in 2020) (Chart 5).

Compared to 2021, the number of victims increased for all road users, with the exception of truck occupants and cyclists. There were 1,375 fatalities among car occupants (+15.4%), 781 among motorcyclists (+12.4%), 70 among moped riders (+4.5%), 485 among pedestrians (+3.2%). Among truck occupants there were 166 fatalities (-1.8%), for bicycles and e-bikes there were 205 fatalities among users, down from 2021, when they were

The fatality and injury indexes by road user category show higher risks for vulnerable users than for other categories. The mortality rate for pedestrians, at 2.7 per 100 pedestrian accidents, is 4.4 times higher than for car occupants (0.6), while the mortality rate for motorcyclists is 2.5 times higher (1.5 deaths per 100 accidents); it is 1.9 times higher for drivers and passengers of bicycles, electric and non-electric, and scooters (1.1 deaths per 100 accidents).

CHART 5. KILLED IN ROAD ACCIDENTS BY GENDER AND ROAD USER TYPE. Year 2022. Absolute values. Mortality and harmfulness index (a)



(a) Trucks and tractor units category includes: Trucks, Trucks with trailers, Lorries, Special vehicles, Road tractors or tractor units. Other road users category includes: Buses or trolleybuses in urban service or extra urban service, Passengers cars, Rural vehicles, Motorcycles and motor vans, Animal-drawn or arm-drawn vehicles, Hit and Run Vehicles, Minicar

With reference to the road safety decade 2021-2030, the targets set are to halve the number of fatalities and serious injuries by 2030. As repeatedly stated, 2020 was an exceptional year, marked by the effects of the pandemic, and therefore it was chosen not to use it to monitor progress in road safety in the current decade. The benchmark year conventionally chosen by all EU countries is 2019; this year is then used to analyse changes in mortality and injury over time.

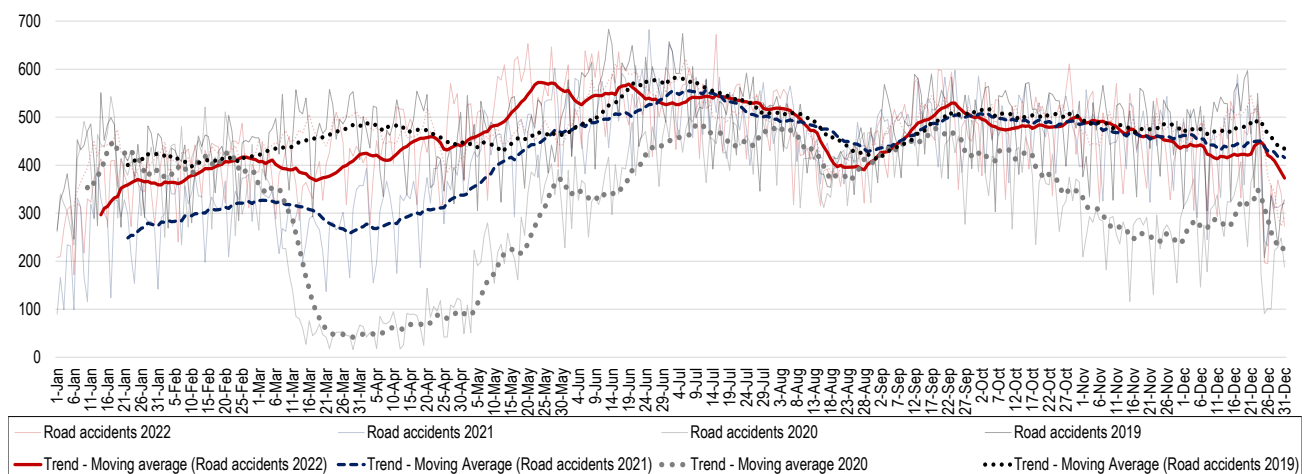


The categories that recorded the smallest decreases in terms of fatalities, or in some cases even increases, were motorcyclists (-17.8% since 2010 and +11.9 since 2019), cyclists (-17.4% since 2010, -13.4% since 2019) and pedestrians (-21.7% since 2010, -9.0% since 2019). Cyclists and motorists have made the greatest gains in terms of fatality reduction over the past 20 years due to a variety of factors, including awareness of the proper use of helmets and safety devices, and significant advances in vehicle safety technology. It remains to be emphasised that the number of mopeds in circulation has fallen sharply over time.

Day-to-day accidents: return to the distribution of pre-covid years

The year 2022 is characterised by a clear and complete resumption of activity and road traffic. A day-by-day analysis of accident data makes it possible to compare the accident distributions that marked the pandemic years and the period immediately preceding them. The trend recorded in 2022 is now very similar to the shape of the distribution recorded in 2019; we are now a long way from the 2020-2021 accident levels (Chart 6).

CHART 6. ROAD ACCIDENTS RESULTING IN DEATH OR INJURY BY DAY AND MONTH IN 2019-2022. Absolute values



Driving distraction is always the first cause of road accidents

Among incorrect driving behaviour (excluding the residual group of causes of an unspecified nature), distraction, failure to yield the right of way and speeding are confirmed as the most frequent. The three groups together account for 38.1% of cases (82,857). It should be noted that the survey conducted by ISTAT only includes the circumstances ascertained or presumed for the drivers of the first two vehicles involved in the accident (accidents involving three or more vehicles account for 8.7 per cent of the total in 2022).

Of the other most significant causes, irregular manoeuvring (16,788), lack of safe distance (15,233 cases), lack of right of way for pedestrians (7,185) and pedestrian misconduct (5,899) accounted for 7.7 per cent, 7.0 per cent, 3.3 per cent and 2.7 per cent of accident causes respectively.

With reference to the road category, the leading cause of accidents on urban roads is failure to yield the right of way or traffic lights (16.3%), followed by distracted driving (12.7%); on non-urban roads it is distracted driving or indecisive behaviour (15.0%), followed by speeding (13.7%).



Tables and charts collection:

CHART 7. DRIVERS INVOLVED IN ACCIDENTS BY OUTCOME. Year 2022. Percentage values

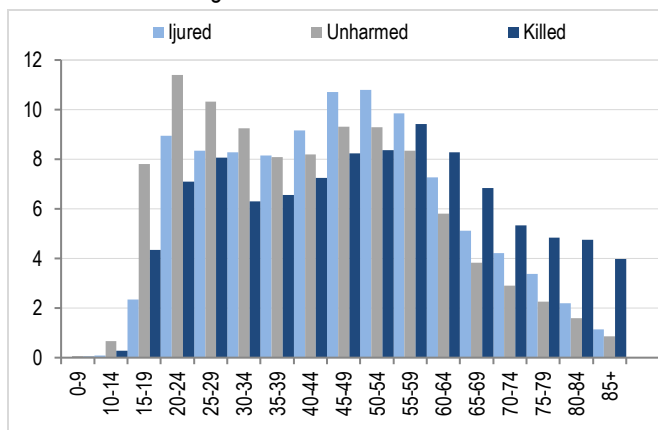


CHART 8. ROAD ACCIDENTS BY DAY, PERIOD AND MONTH Year 2022. Absolute values

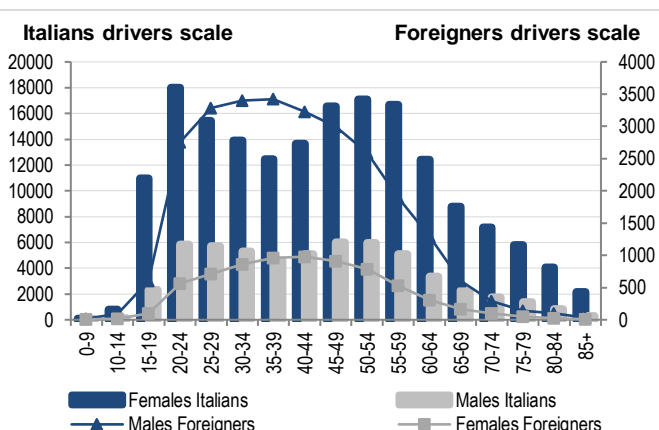


CHART 9. ROAD ACCIDENTS BY DAY HOURS. Years 2020, 2021 and 2022, percentage values (a)

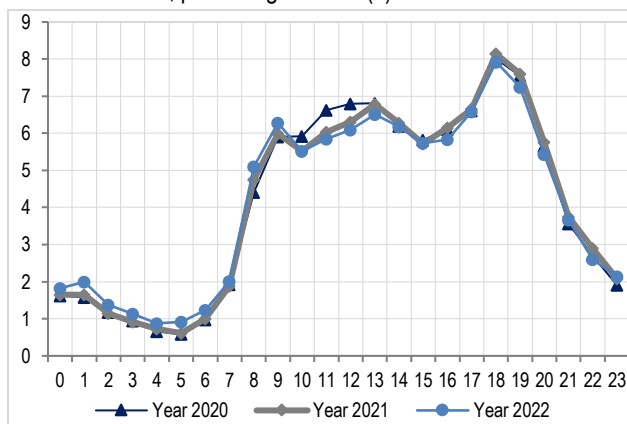
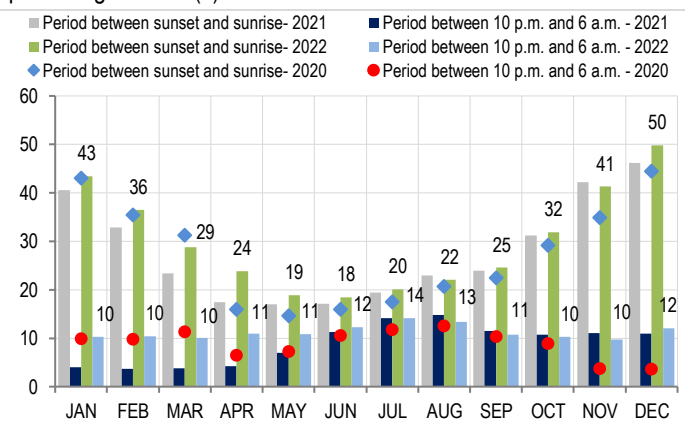


CHART 10. ROAD ACCIDENTS. Years 2020, 2021 and 2022, percentage values (b)



(a) Rounded hour . (b) Conventional night period between 10,01 p.m and 6,00 a.m..

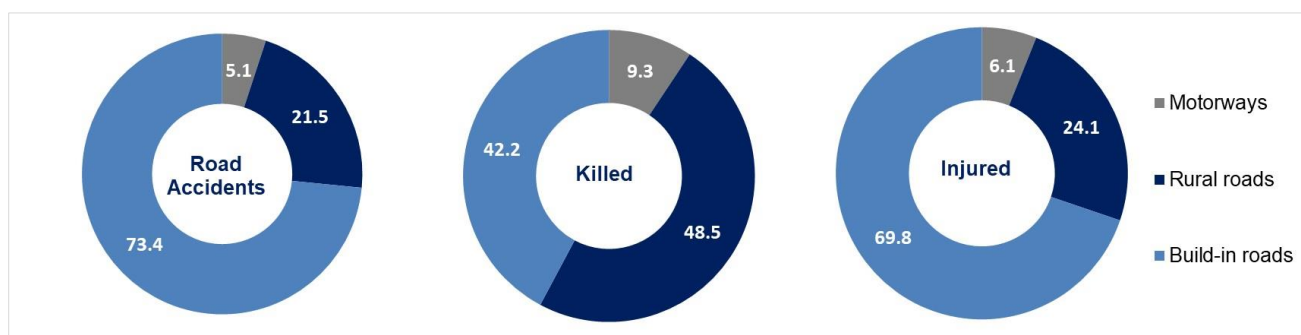


TABLE 5. ROAD ACCIDENTS RESULTING IN DEATH OR INJURY. KILLED AND INJURED BY ROAD TYPE. Years 2022, 2021 and 2019. Absolute values and percentage changes 2022/2021 and 2022/2019

ROAD CATEGORY	Road accidents 2022	Road accidents 2021	Road accidents 2019	Killed 2022	Killed 2021	Killed 2019	Injured 2022	Injured 2021	Injured 2019	% change accidents 2022/2021	% change killed 2022/2021	% change accidents 2022/2019	% change killed 2022/2019
Built up roads	121,818	110,952	127,000	1,333	1,264	1,331	155,934	142,729	168,794	+9.8	+5.5	-4.1	+0.2
Motorways	8,375	7631	9,076	295	246	310	13,579	12,023	15,009	+9.7	+19.9	-7.7	-4.8
Non built up roads (a)	35,696	33,292	36,107	1,531	1,365	1,532	53,962	49,976	57,581	+7.2	+12.2	-1.1	-0.1
Total	165,889	151,875	172,183	3,159	2,875	3,173	223,475	204,728	241,384	+9.2	+9.9	-3.7	-0.4

(a) Included rural or not built up roads called: Statali, Regionali and Provinciali, Comunalì out of urban area.

CHART 11. ROAD ACCIDENTS RESULTING IN DEATH OR INJURY. KILLED AND INJURED BY ROAD TYPE (a). Year 2022 percentage values



(a) Included rural or not built up roads called: Statali, Regionali and Provinciali, Comunalì out of urban area.

TABLE 7. ROAD ACCIDENTS RESULTING IN DEATH OR INJURY AND KILLED BY REGIONS. Years 2022, 2021 and 2019 (a). Absolute values. Road mortality rate per 100.000 inhabitants, percentage change 2022/2021, 2022/2019

REGIONS	Killed (absolute values)			% change 2022/2021 (a)	% change 2022/2019 (a)	Road Mortality 2022 (b)	Road Mortality 2021 (b)
	2022	2021	2019				
Piemonte	241	192	232	+25.5	3.9	5.7	4.5
Valle d'Aosta/Vallée d'Aoste	10	1	4	8.1	0.8
Lombardia	402	357	438	+12.6	-8.2	4.0	3.6
Bolzano/Bozen	33	24	46	+37.5	-28.3	6.2	4.5
Trento	33	25	25	+32.0	32.0	6.1	4.6
Veneto	321	285	336	+12.6	-4.5	6.6	5.9
Friuli-Venezia Giulia	74	82	72	-9.8	2.8	6.2	6.8
Liguria	57	64	64	-10.9	-10.9	3.8	4.2
Emilia-Romagna	311	281	352	+10.7	-11.6	7.0	6.3
Toscana	225	190	209	+18.4	7.7	6.2	5.2
Umbria	49	53	51	-7.5	-3.9	5.7	6.1
Marche	91	84	99	+8.3	-8.1	6.1	5.6
Lazio	339	288	295	+17.7	14.9	5.9	5.0
Abruzzo	59	80	78	-26.3	-24.4	4.6	6.3
Molise	14	15	28	-6.7	-50.0	4.8	5.1
Campania	228	214	223	+6.5	2.2	4.1	3.8
Puglia	226	203	207	+11.3	9.2	5.8	5.2
Basilicata	46	36	29	+27.8	58.6	8.5	6.6
Calabria	74	85	104	-12.9	-28.8	4.0	4.6
Sicilia	226	225	210	+0.4	7.6	4.7	4.7
Sardegna	100	91	71	+9.9	40.8	6.3	5.7
Italia	3,159	2,875	3,173	+9.9	-0.4	5.4	4.9

(a) Percentage change formula: $(M^{2022}/M^{2019} \text{ e } 2021-1)*100$. (b) Rate for 100,000 inhabitants.

TABLE 8. ROAD ACCIDENTS RESULTING IN DEATH OR INJURY AND KILLED BY ROAD CATEGORY IN LARGE MUNICIPALITIES IN ITALY. Years 2022 and 2021 (a). Absolute values. Road mortality rate per 100.000 inhabitants. Percentage change 2022/2021 and 2022/2019.

MAIN CITIES	Built up roads				Not built up roads (b)				Road mortality rate 2022 (b)	Road mortality rate 2021(b)	% change killed 2022/2021 (c)	% change killed 2022/2019 (c)
	Road accidents 2022	Road accidents 2021	Killed 2022	Killed 2021	Road accidents 2022	Road accidents 2021	Killed 2022	Killed 2021				
Torino	2,891	2,751	29	15	44	40	2	0	3.7	1.8	+106.7	+19.2
Milano	7,527	7,231	38	31	259	233	6	3	4.6	2.5	+29.4	+29.4
Verona	1,133	1,038	14	7	118	91	3	2	2.1	3.5	+88.9	+6.3
Venezia	532	438	6	4	168	152	2	0	3.2	1.6	+100.0	+100.0
Trieste	786	764	4	4	83	63	1	0	2.2	2.0	+25.0	-37.5
Genova	3,686	3,375	15	14	224	209	1	0	4.2	2.5	+14.3	-30.4
Bologna	1,914	1,757	18	9	206	162	5	3	5.9	3.1	+91.7	+27.8
Firenze	2,476	1,965	9	13	151	63	1	0	2.8	3.6	-23.1	+66.7
Roma	11,798	9,891	124	100	1,384	1,240	26	21	5.5	4.4	+24.0	+14.5
Napoli	2,138	1,966	20	30	198	195	3	2	2.5	3.4	-28.1	+4.5
Bari	1,330	1,274	9	7	174	174	2	4	3.5	3.5	+0.0	-8.3
Palerm	1,763	1,586	18	19	34	21	1	0	3.0	3.0	+0.0	-26.9
Messin	573	602	10	8	123	135	5	6	6.8	6.3	+7.1	+50.0
Catania	1,299	1,095	17	14	79	70	1	3	6.0	5.7	+5.9	+20.0
Totale	39,846	35,733	331	275	3,245	2,848	59	44	4.2	3.4	+22.3	+11.1

(a) Included rural or not built up roads called: Statali, Regionali and Provinciali, Comunali out of urban area and motorways.

(b) Percentage change formula: $(M^{2022}/M^{2019} \text{ e } 2021$

(c) $-1)*100$; the symbol "-" means "no changes". The percentage changes calculated on more contained values show greater fluctuations over time and therefore must be interpreted with due caution.

TABLE 9. SANCTIONS APPLIED BY MOTORWAY POLICE, CARABINIERI AND LOCAL POLICE OF THE MAIN MUNICIPALITIES WITHIN THE PROVINCES. VIOLATIONS OF THE ROAD CODE: TITLE V - RULES OF CONDUCT.
Year 2022, absolute values

Italian Road code (Articles) ²	Violation description Title V - Rules of conduct	Number of violations/sanctions (Absolute values)		
		Motorway Police (a)	Carabinieri (b)	Local Police (c)
Art.141	Speeding	40,563	25,648	35,619
Art.142	Exceeding the speed limits	312,977	638	2,627,237
Art.143-144	Position of vehicles on the roadway, use of lanes, driving in parallel lines	10,155	11,666	10,897
Art.145	Obligations of precedence	4,791	9,629	21,013
Art.146	Failure to comply with road markings and traffic lights	25,741	16,861	615,162
Art.148	Regulation of overtaking vehicles	11,484	17,622	4,034
Art.149	Respect for the safety distance	5,714	3,410	4,072
Art.152-153	Use of visual signaling and lighting devices	7,118	1,929	1,092
Art.154	Rules for changing direction and lane	6,270	3,025	19,820
Art.155	Limitation of noise from silencers and radio equipment	497	1,197	529
Art.157-158	Discipline of arrest, stop and parking outside and inside inhabited centers	13,506	25,182	2,888,133
Art.161-162-165	Encumbrance of the roadway, signaling and towing of vehicles in breakdown	2,391	407	2,776
Art.164	Regulations on the arrangement of cargo on vehicles	6,489	687	1,228
Art.167	Carrying goods and exceeding vehicle weight limits	37,027	148	1,533
Art.168	Rules on the transport of dangerous goods	4,808	27	136
Art.169	Transportation of people, animals and objects on motor vehicles	4,683	1,966	2,141
Art.170	Transport of people and objects on two-wheeled motor vehicles	423	1,160	624
Art.171	Use of helmet	3,676	9,481	28,857
Art.172	Use of seat belts and child restraint systems	68,674	67,224	29,595
Art.173	Failure to use contact lenses or use of radiotelephones or headphones	43,200	25,401	55,116
Art.174-178	Respect for driving times and rest periods for drivers of heavy vehicles	36,601	67	2,218
Art.175-176	Circulation and behavior on motorways and main extra-urban roads.	172,262	262	57
Art.179	Installation, alteration, tampering with the Chrono tachograph	8,461	139	1,263
Art.180-181	Possession of traffic documents	97,471	75,045	118,127
Art.182	Rules of behavior for cyclists	126	381	1,371
Art.186	Driving under the influence of alcohol	15,754	15,787	6,137
Art.187	Driving under the influence of drugs	1,610	2,146	852
Art.189	Behavior of drivers in the event of an accident	1,944	2,774	5,777
Art.190	Pedestrian behavior	147	351	2,363
Art.191	Behavior of drivers towards pedestrians	641	1,133	6,655
Art.193	Insurance obligation	34,383	52,644	57,239
Total	Violations of the Road Code: Title V - Rules of conduct	979,587	374,037	6,551,673

(a) Source: Ministry of Interior - Motorway Police Service; (b) Source: Carabinieri - Chronological register of disputed violations; (c) Source: ACI survey on the local police headquarters of the main municipalities in the province (ref. 1/1/2022), the data of the local police of Rome were estimated on the basis of previous years, since the 2022 data was not provided.

² Road Code - Legislative Decree n. 285 dated 30/04/1992 and Law 29 July 2010, n. 120 Road safety provisions

Glossary:

Bus: passenger-carrying vehicle, most commonly used for public transport, having more than 16 seats for passengers.

Deaths: the number of people involved in road accidents, who die immediately or within 30 days after the event occurred. This definition was adopted on 01st January 1999, while in the past (up until 31st December 1998) deaths were considered to include only deaths within seven days of the accident.

Goods vehicle: Motor vehicle used only for the transport of goods.

Injured: the road user was seriously or slightly injured (but not killed within 30 days) in the road accident.

Moped: two or three wheeled vehicle equipped with internal combustion engine, with size less than 50 cc and maximum speed that does not exceed 45 km/h (28mph).

Motorcycle: two or three wheeled motor vehicle, with engine size up to 125 cc. or maximum speed exceeding 45km/h (28 mph) or with engine size more than 125 cc.

Passenger car: motor vehicle with 3 or 4 wheels, mainly used to transport people, seating for no more than 8 occupants. Motor vehicles with these characteristics used as taxis as well as motor caravans are also included.

Pedal cycle: vehicle with at least 2 wheels, without engine. In some cases it can also use electric power.

Electric scooter: equivalent to pedal cycle, vehicle with maximum power 500 W and with speed limits 6 km / h or 30 km/h as the areas where they circulate vary (paragraph 75 of the Budget Law 2020 DL 160/2019).

Pedestrian: person on foot; person pushing or holding bicycle. Person who uses a wheel chair, a pram or a pushchair, leading or herding an animal, riding a toy cycle on the footway, person on roller skates, skateboard or skis. Does not include persons in the act of boarding or alighting from a vehicle.

Percentage change: the percentage change is calculated by means the difference between data at **t** time and data **t-1** (or t-x) time, divided by data at **t-1**(or t-x) time, per 100.

Public motor vehicle registry (PRA): the registry holding all public deeds relating to the transfer of property and rights of ownership, in addition to the records of loans and mortgages on all motor vehicles registered in Italy.

Road accident: the 1968 Vienna Convention defines a road accident as an event occurring on the roads or squares open to traffic involving standing or moving vehicles and which results in injury to people. For this reason, if the accident only involves damage to objects, it is excluded from the statistics. This definition therefore reserves attention exclusively for reported accidents involving injury to people.

Road accidents harmfulness index: the ratio of the number of injuries caused by road accidents and the number of collisions, per 100 accidents.

Road accidents mortality index: the ratio of the number of fatalities caused by road accidents and the number of collisions, per 100 accidents.

Road accidents seriousness index: the ratio of the number of fatalities caused by road accidents and the total number of deaths and injuries as a result of accidents, per 100 accidents.

Road tractor road motor vehicle designed, exclusively or primarily, to haul other road vehicles which are not power-driven (mainly semi-trailers).

Rural or non-built up roads: outside urban area, no motorway

Serious injuries: the serious injuries are identified by MAIS classification (Maximum Abbreviated Injury Scale). The severity level is measured by a 6-level scale. Serious injuries have a score of 3 or higher (MAIS3+).

Two wheel motor vehicle: motor vehicle moving on two wheels. Includes mopeds and motorcycles but not bicycles.

Urban or built up roads: inside urban area, no motorway.

Methodological note

Data flow and definitions

The survey on road accidents resulting in death (within 30 day) or injury carried out by the Italian National Institute of Statistics (Istat), with the cooperation of ACI (Automobile Club of Italy) and other local organisations, is an exhaustive and monthly based data collection (National Statistical Programme - PSN – 00142 code).

The survey collects all road accidents involving at least a vehicle circulating on the national road net, resulting in death or injury and documented by a Police authority.

The detection unit is the single road accident resulting in death or injury; all information is referred to the period when the accident occurred.

As regards the data flow, a flexible model was adopted by Istat, through the subscription of a Memorandum of understanding or special agreements signed with regions (NUTS2 level) and provinces (NUTS3 level). in order to facilitate the local authority information needs and to improve the timeliness and quality of data collected.

Main information collected:

- Date, time and location of the accident
- Type of road
- Road surface
- Signals
- Weather conditions
- Type of accident (collision, investment, etc.)
- Type of vehicles involved
- Consequences of the accident to people
- Causes of the accident

Timeliness and dissemination

The figures for every year $t-1$ are disseminated in July of the year t , approximately five months after the collection deadline.

European Union law of reference:

Reference: COUNCIL DECISION of 30 November 1993 on the creation of a Community database on the road accidents [Decision n. 704 of 1993](#)

Link to database and websites:

- Noi Italia: <http://noi-italia.istat.it/>
- DWH I.stat: <http://dati.istat.it/> (Health Statistics/Road Accidents)
- Time series: <http://seriestoriche.istat.it/>
- CARE - Community database on road accidents resulting in death or injury – DG-MOVE European Commission http://ec.europa.eu/transport/road_safety/specialist/statistics/index_en.htm

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