IT

TRENDS OF ROAD ACCIDENTS IN ITALY 1996-2005

Carlo PUTIGNANO

Head of "Transport Statistics", Istat, National Statistical Institute of Italy, Rome, Italy
(Received February 8, 2007)

1. GENERAL TRENDS OF ROAD TRAFFIC ACCIDENTS

The number of road accidents and injuries slightly decreased (–1.8% and –2.7%) in 2005 compared to 2004.

The number of fatalities fell by 4.7% over the same period, this lead to a total number of 5,426 killed[1]. Analysis of road accidents in the past decade indicates an increasing trend of the number of accidents and injuries in 1996-2002. In 2003, a radical reduction in the number of the accidents, injuries, and and fatalities occurred.

Table 1 shows that the number of road accidents and injuries reached the maximum in 2002, and decreased in 2003 and 2004; the number of fatalities decreased also in 2005.

Information on the number of registered vehicles is given in Table 1. The number of registered vehicles has increased except in 2004, which was the result of an economic downturn. If accident trends are considered, the number of fatalities and injuries per 100,000 vehicles (Table 1), has been decreasing since 1999. This is because road accidents were increasing during the period 1996-1999, as well as the number of registered vehicles. However, since 1999 the rate of accident increase has not been as great as the increaseing trend of new vehicle registerations.

Figure 1 shows the number index of accidents, registered vehicles and accidents per 100,000 vehicles. The number of accidents has shown a decreasing trend in recent years. However, registeration of new vehicles has been constantly increasing and accidents per 100,000 vehicles has shown a marked decreasing trend.

Moreover, there is one constant lessening the severity of accidents, as evidenced from the mortality index

Table 1 Accidents, fatalities, injuries, registered vehicles and rates

Year	Accidents	Fatalities	Injuries	Registered vehicles	Accidents rate per 100,000 registered vehicles	Fatalities rate per 100,000 registered vehicles	Injuries rate per 100,000 vehicles
1996	190,068	6,193	272,115	37,471.127	507.2	16.5	726.2
1997	190,031	6,226	270,962	37,838.351	502.2	16.5	716.1
1998	204,615	6,342	293,842	38,221.545	535.3	16.6	768.8
1999	225,646	6,688	322,999	39,627.179	569.4	16.9	815.1
2000	229,034	6,649	321,796	40,743.777	562.1	16.3	789.8
2001	235,409	6,691	335,029	41,936.627	561.3	16.0	798.9
2002	239,354	6,739	341,660	42,950.325	557.3	15.7	795.5
2003	231,740	6,065	327,324	44,078.935	525.7	13.8	742.6
2004	229,156	5,692	322,447	43,950.907	510.9	12.8	720.4
2005	225,078	5,426	313,727	45,185.101	499.5	12.0	694.3

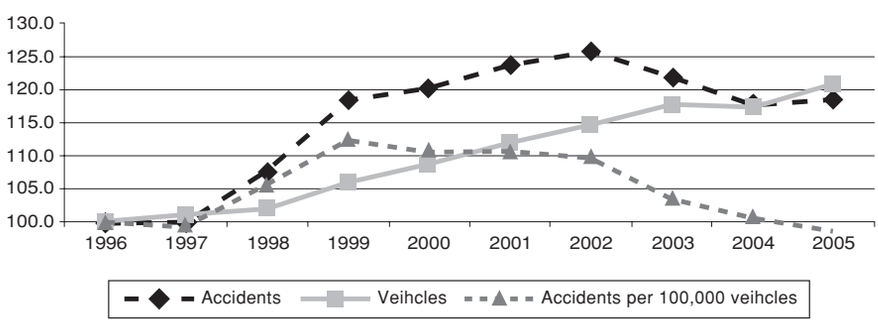

Fig. 1 Number index of accidents, registered veihcles and accidents per veihcles (base 1996=100)

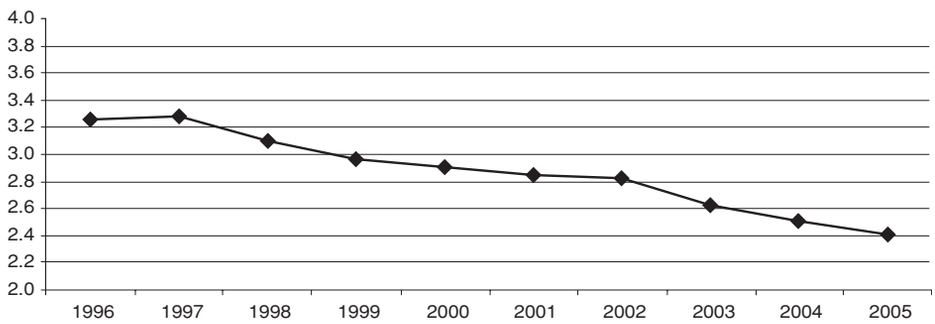

Fig. 2 Fatalities per 100 road accidents

(number of killed per 100 accidents). As Figure 2 shows, it is attested to 2.4 in 2005 against 3.2 in 1996. The fatality rate has been falling constantly, also as an absolute value. This means that accidents have become less dangerous, partly due to improvements introduced in vehicle construction by manufacturers (both for active and passive safety measures), and partly due to improvements of the health care services (especially in terms of prompt intervention).

2. ROAD SAFETY MEASURES SINCE 2003

The Act no. 151[2], which modified the Road Rules, was put into force on 30 June 2003. Some of the remarkable new rules are:

– Driver's License Point System;
– driver's license for mopeds;
– new speed limits (150 km/hour on the 3-lane motorways);
– tighten the penalty for infractions (between the others: exceeding the speed limit, dangerous overtaking, etc.);
– the obligation of lateral reflecting strips for trucks to increase visibility;
– new instruments for the measurement of alcohol concentration;
– the obligation for daylight use of headlights on all extra-urban roads.

The main reason for the road accident decrease since 2003 was the introduction of a Drivers License Point System. (Under this system every driver receives 20 points with a licence, and certain points are deducted based on the type of violation. If a driver lost all the points, the license is suspended for one or two years, and the driver has to renew the license.)

3. MAIN ANALYSES

Table 2 shows, in 2005 on urban roads 172,422 accidents occurred (76.6% of the total), and caused 228,109 injuries (72.7% of the total). The number of fatalities on urban roads was 2,417 in absolute value or 44.5% of the total.

The number of fatalities per 100 accidents is smaller in urban areas and motorways than that on other roads (Fig. 3).

Table 2 Accidents, fatalities, injuries by type of road

Type of road	1996			2005			%2005/1996		
	Accidents	Fatalities	Injuries	Accidents	Fatalities	Injuries	Accidents	Fatalities	Injuries
Urban area	133,168	2,633	181,391	172,422	2,417	228,109	29.5	−8.2	25.8
Motorways	11,546	698	20,305	14,006	577	23,857	21.3	−17.3	17.5
Other roads	38,701	2,862	62,517	38,650	2,432	61,761	−0.1	−15.0	−1.2
Total	183,415	6,193	264,213	225,078	5,426	313,727	22.7	−12.4	18.7

In the last ten years the percentage of fatalies per 100 accidents has decreased on motorways and other roads; whereas it is increasing in urban areas (Fig. 4).

As Table 3 shows, there are different levels of risk among different types of road users: in 2005 driver fatalities were 3,637, passengers 1,086 and pedestrians 703.

Figure 5 shows the comparison of fatalities by road user type in 1996 and 2005. Driver fatalities increased from 63.4% in 1996 to 67.0% in 2005. However, passenger fatalities decreased from 21.9% (1996) to 20.0%

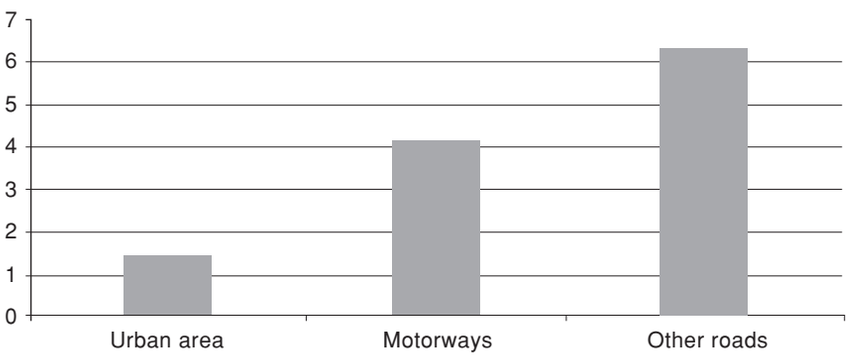

Fig. 3 Fatalities per 100 accidents - Year 2005

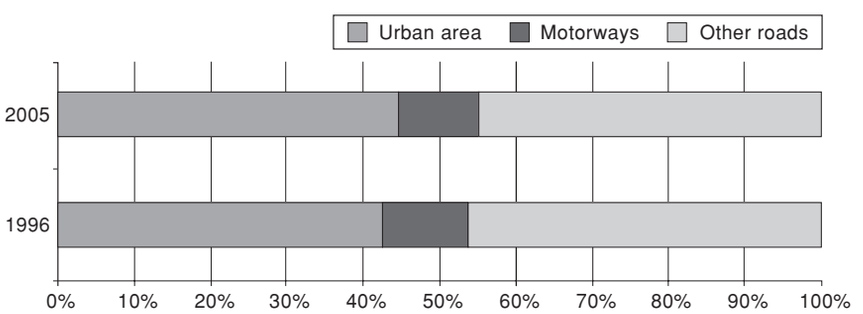

Fig. 4 Fatalities by type of road

Table 3 Road fatalities per road users - 1996-2005

Year	Drivers		Passengers		Pedestrians		Total	
	Fatalities	Injured	Fatalities	Injured	Fatalities	Injured	Fatalities	Injured
1996	3,927	180,252	1,352	76,003	914	15,860	6,193	272,115
1997	4,063	182,860	1,335	72,600	828	15,502	6,226	270,962
1998	4,022	201,890	1,537	76,311	783	15,641	6,342	293,842
1999	4,427	218,710	1,414	87,283	847	17,006	6,688	322,999
2000	4,290	218,774	1,462	84,703	897	18,319	6,649	321,796
2001	4,263	229,773	1,496	87,175	932	18,081	6,691	335,029
2002	4,134	234,686	1,442	89,117	1,163	17,857	6,739	341,660
2003	3,971	225,571	1,313	83,977	781	17,776	6,065	327,324
2004	3,750	219,384	1,165	78,961	710	18,285	5,625	316,630
2005	3,637	222,006	1,086	72,727	703	18,994	5,426	313,727

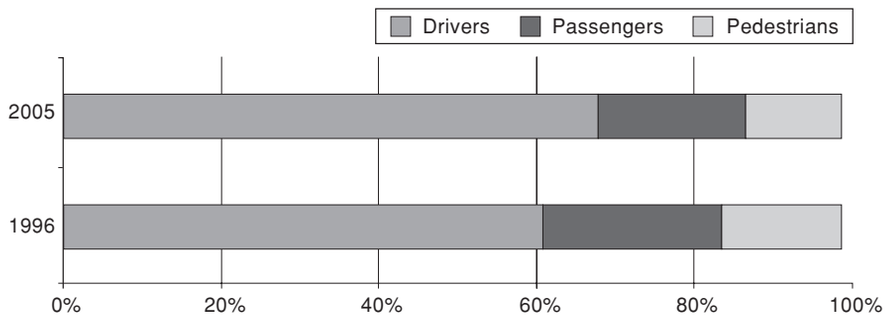

Fig. 5 Fatalities per group of road user – 1996-2005

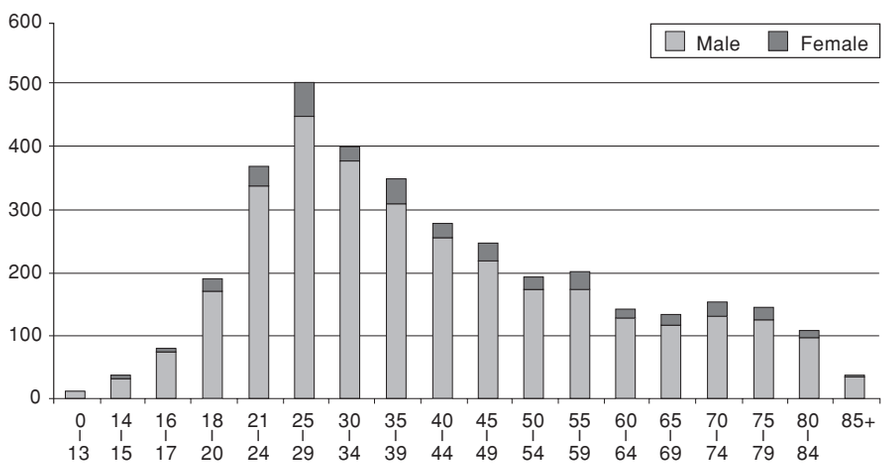

Fig. 6 Distribution of age and sex of drivers killed

(2005), and pedestrian fatalities also decreased from 20.0% (1996) to 11.4% (2005).

Figure 6 shows young drivers represent the most critical hight-risk group. In 2005 driver fatalities were the highest among 25-29 year-olds (565 deaths), followed by the 30-34 year-olds (440) and 21-24 year-olds (376). In terms of driver injuries of the above age groups, 34,276 (25-29 year-olds), 31,017 (30-34 year-olds) and 24,882 (21-24 year-olds).

4. CONCLUSION

There has been a considerable decrease in the number of accidents and injuries, and a drastic decrease in fatalities during the period 1996-2005 in Italy. Since the introduction of the Driver's License Point System, a decrease in the number of accidents as well as an attenuation of negative consequences of road accidents was observed. Therefore, the modifications introduced to the Road Rules, tightening the penalties and widening the powers of assessment by the police forces, surely contributed to improving road users' behaviour. The effects of the Driver's License Point System, however, seems to have been reduced in recent years. The government strategies include "Fatalities Reduction Target to 50% by 2010"; however, we have to define more realistic goals on the bases of recent figures.

REFERENCES

1. ISTAT, Incidenti stradali – Anno2005, *Statistiche in breve* del 27 novembre 2006.
2. DL n. 151 del 27 giugno 2003 e legge n. 214 del 1 agosto 2003.