

RSA



ROAD CASUALTY & COLLISION REPORT 2013

Údarás Um Shábháilteacht Ar Bhóithre
Road Safety Authority

Contents

Introduction	2
Executive Summary	3
Overview	4
Road Collision Fatalities 2013	5
Casualties	7
Who was involved	8
<i>Gender</i>	8
<i>Age</i>	8
<i>Age and Gender</i>	10
When casualties occurred	12
<i>Month of year</i>	12
<i>Day of week</i>	13
<i>Time of day</i>	14
Where casualties occurred	15
<i>Urban and rural areas</i>	15
<i>County</i>	16
Collisions	20
When and where	20
<i>Month of year</i>	20
<i>Day of week</i>	21
<i>Time of day</i>	22
<i>Urban and rural</i>	23
<i>County</i>	24
Drivers, Cyclists, and Motorcyclists involved	26
Contributory factors	26
Weather	27
Light conditions	28
Road collisions and casualties – contextual background	29
Historic context	29
Vehicle Kilometres of Travel	31
Economic and other activity	32
European Context	33
Targets for 2020	34
Appendix 1 - Cost of road collisions 2013	35
Notes and definitions	36

Introduction

This report includes all road traffic collisions reported to An Garda Síochána and forwarded to the RSA on a form called a C(T)68. The information provided in the C(T)68 form is based on preliminary information collected at the scene of a collision, and does not encompass definitive results from the forensic collision investigation. This information is used to populate the 2013 road collision database which was then analysed to produce this report. It contains details of fatalities, personal injury or material damage in collisions which occurred on public roads in Ireland in 2013. Collisions on private property, such as private lanes and car parks, are excluded.

The report also examines trends in collisions, fatalities and injuries over time as well as information about the European context and road safety related activities.

Notes on terminology:

- Casualties are persons killed or injured in a road collision.
- Injured persons can be further divided by severity into those who were seriously injured, those with minor injuries, and those with unspecified injuries, of which there were 120.
- Where there is reference to vulnerable road users, the category comprises pedestrians, cyclists and motorcyclists who are considered vulnerable because of their level of exposure on the road.
- Goods vehicles include light goods vehicles, such as vans, and heavy goods vehicles, such as articulated trucks.
- The vehicle category 'other' includes vehicles that are not accounted for in other options and would include vehicles such as agricultural tractors.
- An urban area is one where the speed limit was 60km/h or less in 2013 and a rural area is one where the speed limit was greater than 60km/h in 2013.
- There were 390 forms for minor injury collisions not received by the RSA, as a result of which, information from these are not included in the data presented.

All data referenced in this document is sourced from the road collision database of the Road Safety Authority for 2013 and previous years unless otherwise cited. If you wish to reference information from this document, please use the following citation:

Road Safety Authority (2015) *Road Casualties and Collisions in Ireland 2013* [Online].
Available at: <http://www.rsa.ie/en/RSA/Road-Safety/Our-Research/Collision-Statistics/>.

Executive Summary

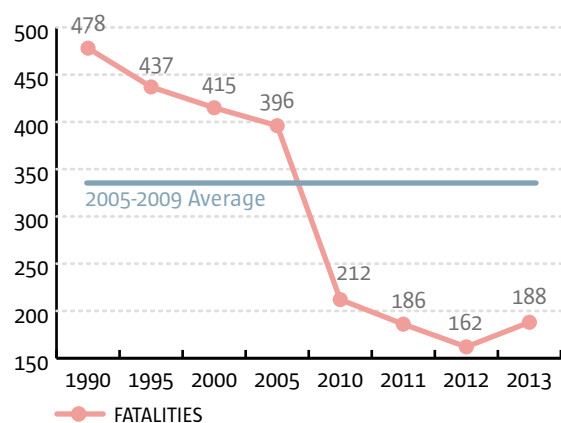
There were 188 reported road deaths in 2013 representing an increase of 26 (16%) compared to 2012 and the first increase in fatalities noted since 2005. This still represents a decrease of 11.3% on 2010 figures and 54.6% on the number of road deaths seen in 2000. Since records first officially began in 1959, this is the third lowest annual total after 2011 and 2012. In total 7,068 people were injured in road traffic collisions in 2013. These include 508 people who were seriously injured, and 6,252 people with minor injuries.

In 2013 car users (drivers and passengers) accounted for 57% of all road deaths and vulnerable road users (pedestrians, cyclists, and motorcyclists) accounted for 33%. Compared to 2012, there was a 20% increase in the number of car users killed and an 11% increase in vulnerable road users killed. In 2013 there were 79 car drivers killed representing an increase of 23% from 2012. In 2013 28 car passengers were killed, an increase of 12% from 2012. There were 5 pedal cyclist fatalities and 19 goods and other vehicles user fatalities. Of all road user groups, the largest increase in fatalities between 2012 and 2013 (36.8%) was among motorcyclists.

The number of road deaths per million inhabitants in Ireland has fallen from 47 per million in 2010 to 41 per million in 2013. Within the EU, countries such as Sweden (27 per million), the UK (28 per million) and The Netherlands (34 per million), consistently have the lowest road deaths per million inhabitants.

Overview

There were 188 reported road deaths in 2013 representing an increase of 26 (16%) compared to 2012 and the first increase in fatalities noted since 2005. Since records first officially began in 1959, this is the third lowest annual total after 2011 and 2012. The rate of fatalities per million population is now 41, less than half the rate ten years ago (2004, 92 fatalities per million).



In total 7,068 people were injured in road traffic collisions in 2013. These include 508 people who were seriously injured, and 6,252 people with minor injuries. The 508 seriously injured represent a rise of 7% on 2012 figures or an additional 34 people.

In 2013, of the 26,710 Garda-recorded motor vehicle traffic collisions, 4,976 were injury collisions and 21,734 collisions involved property or material damage only. Of the injury collisions, 179 of these resulted in at least one fatality.

Table 1. Road safety and traffic data 1990, 2000, 2010, 2012, and 2013¹

	1990	2000	2010	2012	2013	2013 % change from			
						2012	2010	2000	1990
Reported safety data									
Fatalities	478	415	212	162	188	16%	-11.3%	-54.7%	-60.7%
Injury crashes	6,067	7,757	5,780	5,610	4,976	-11%	-13.9%	-35.8%	-17.9%
Deaths per 100,000 population	13.6	11.0	4.7	3.5	4.1	17.1%	-11.2%	-62.3%	-69.6%
Deaths per 10,000 registered vehicles	4.5	2.5	0.9	0.7	0.8	13.5%	-12.8%	-68.9%	-83.1%
Deaths per billion vehicle kilometres	19.2	11.5	4.5	3.4	4.0	15.0%	-11.5%	-65.7%	-79.4%
Traffic data									
Registered vehicles* (thousands)	1,054	1,684	2,416	2,403	2,483	3.3%	2.7%	47.4%	135.5%
Vehicle kilometres (millions)	24,896	36,001	47,414	47,088	48,028	2.0%	1.3%	33.4%	92.9%
Registered vehicles per 1,000 population)	301	446	531	524	541	3.1%	1.8%	21.3%	79.9%

*Registered vehicles excluding mopeds

1 OECD (2015), "Ireland", in OECD/ITF, Road Safety Annual Report 2015, OECD Publishing, Paris.
DOI: <http://dx.doi.org/10.1787/irtad-2015-21-en>

Table 2. Percentage change in the number of casualties in 2013 compared to 2012 and 2009

	2013	Percentage change	
		2012	2009
Killed	188	16%	-21%
Serious Injuries	508	7%	-21%
Minor Injuries	6,252	-16%	-30%
All casualties	7,068	-11%	-27%

Road Collision Fatalities 2013

Figure 1 indicates the number of people killed on the roads by type of road user. Of all road deaths in 2013, car users (drivers and passengers) accounted for 57% and vulnerable road users (pedestrians, cyclists, and motorcyclists) accounted for 33% of road deaths.

Figure 1. Numbers of road collision fatalities by road user group 2013

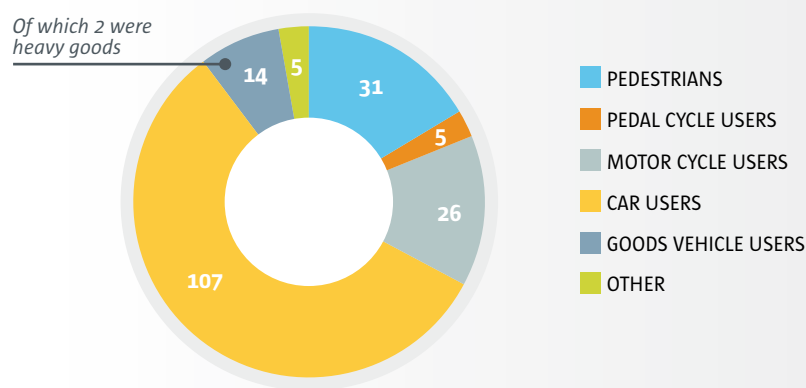


Figure 2. Percentage of vulnerable road users and vehicle users killed 2013

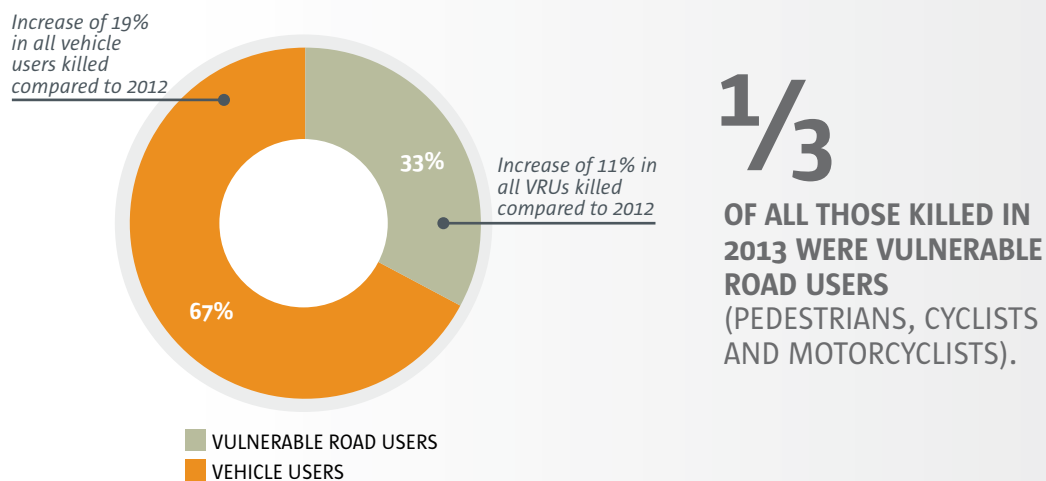
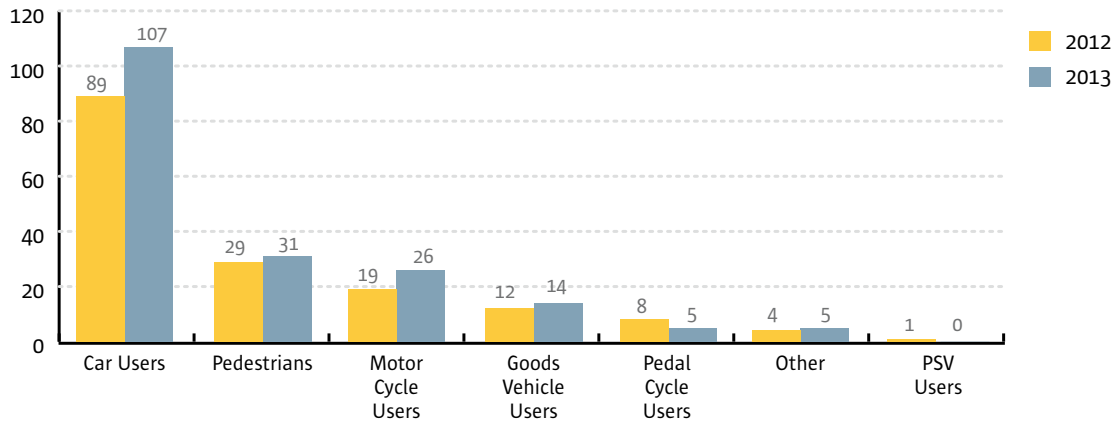


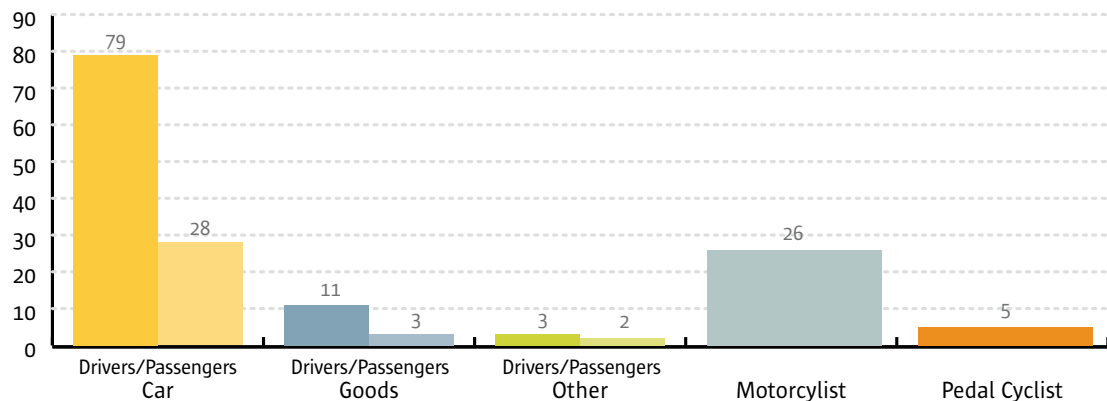
Figure 3 outlines the actual change in road user deaths year on year from 2012 to 2013. Compared to 2012, there was a 20% increase in the number of car users killed and an 11% increase in the number of vulnerable road users killed. In 2013 there were 79 car drivers killed representing an increase of 23% from 2012 (64). In 2013, 28 car passengers were killed, an increase of 12% from 2012 (25). The year was particularly dangerous for motorcyclists, an increase of 37% compared to 2012.

Figure 3. Number of fatalities by road user group, 2012-2013



Of the 188 people killed in 2013, 16% (31) were pedestrians. All others killed were drivers or passengers of motorised or self-propelled vehicles (cars, goods vehicles, motorcycles, pedal cycles or others). Figure 4. provides a breakdown of those killed while using a vehicle. The highest number of vehicle deaths were among car drivers (79). These are followed by car passengers (28), motorcyclists (26), goods vehicle drivers (11), and pedal cyclists (5). There was a smaller number of goods passengers (3) and other vehicle drivers (3) and other vehicle passengers (2) also killed.

Figure 4. Vehicle user fatalities 2013



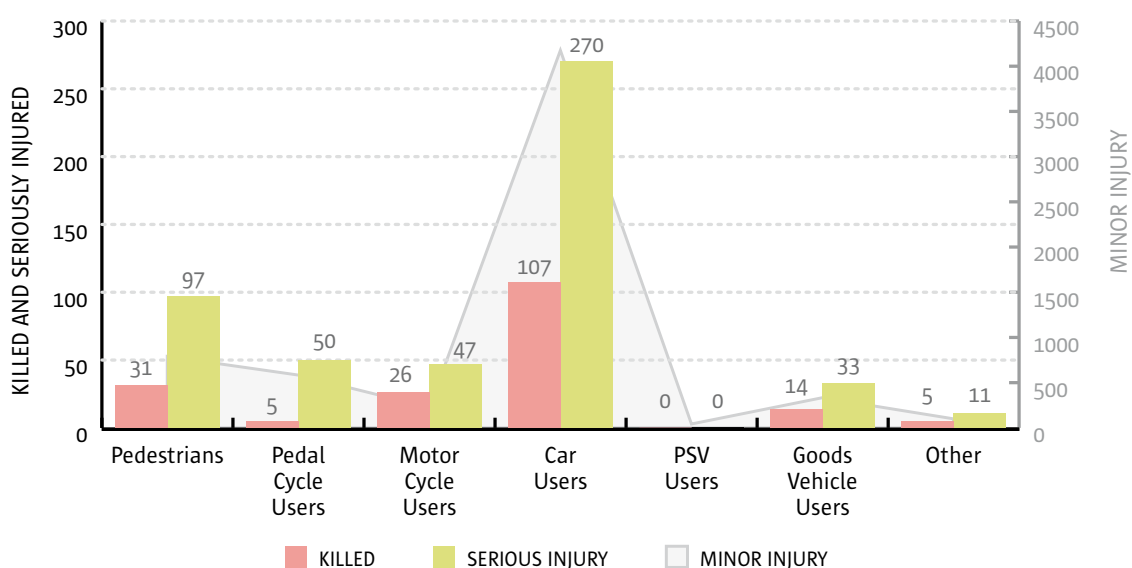
Casualties

There were 7,068 people injured and severity of injury was known for 6,948 people. Of these, 508 people were seriously injured and 6,252 had minor injuries. By far the largest group injured in road collisions were car users, both drivers and passengers, accounting for 65.5% of all casualties. Pedestrians were the next largest group of casualties among road users accounting for 13.2% of all casualties (see table 3). Figure 5 offers a breakdown of the number of road users by casualty type in 2013.

Table 3. Road users by casualty type 2013

	Killed	Seriously Injured	Minor Injury	Total	%
Car Users	107	270	4,175	4,552	65.5
Goods Vehicle Users	14	33	334	381	5.5
Other	5	11	100	116	1.7
PSV Users	0	0	43	43	0.6
Pedestrians	31	97	791	919	13.2
Motor Cycle Users	26	47	225	298	4.3
Pedal Cycle Users	5	50	584	639	9.2
TOTAL	188	508	6,252	6,948	100

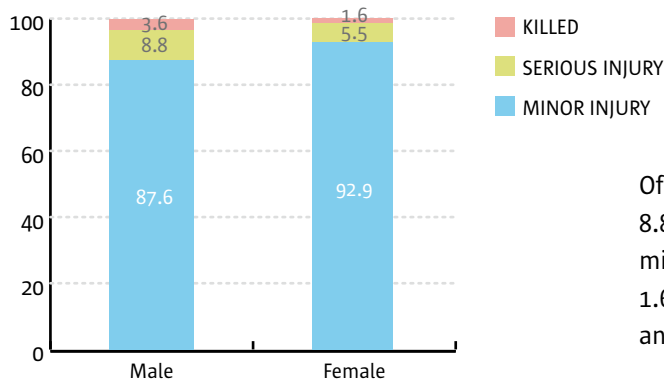
Figure 5. Road users by casualty type 2013



Who was involved

Gender

Across all injury types there were more males injured than females.



Of all males injured in 2013, 3.6% were killed, 8.8% were seriously injured, and 87.6% had minor injuries. Of all females injured in 2013, 1.6% were killed, 5.5% were seriously injured and 92.9% had minor injuries.

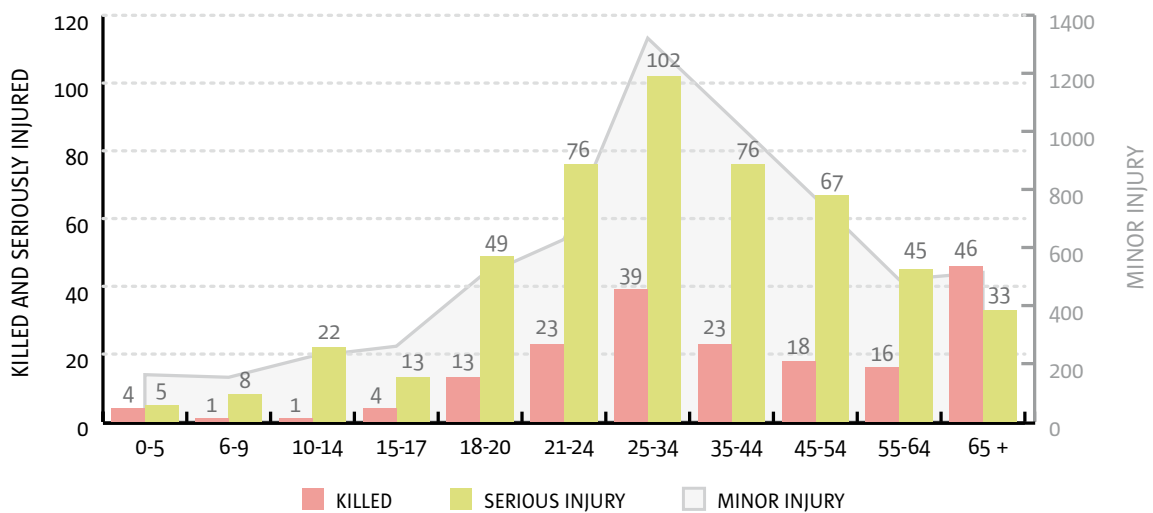
Age

The age group with the highest percentage of casualties (fatal, serious, and minor) were the 25-34 year olds (21.6%). The next highest age groups were those aged 35-44 (17%), 45-54 (12.7%), and 21-24 (10.8%). However, when considering the age groups of people killed, those aged 65 and older (24.5%) followed by those aged 25-34 (20.7%) were the groups most at risk.

Table 4. Number and percentage of casualties by age group 2013

Age Group	Casualties				Percentage			
	Killed	Seriously Injured	Minor Injury	Total	Killed	Seriously Injured	Minor Injury	Total
0-5	4	5	162	171	2.1	1.0	2.7	2.5
6-9	1	8	153	162	0.5	1.6	2.5	2.4
10-14	1	22	226	249	0.5	4.4	3.7	3.7
15-17	4	13	260	277	2.1	2.6	4.3	4.1
18-20	13	49	499	561	6.9	9.9	8.2	8.3
21-24	23	76	628	727	12.2	15.3	10.3	10.8
25-34	39	102	1,321	1,462	20.7	20.6	21.8	21.6
35-44	23	76	1,047	1,146	12.2	15.3	17.2	17.0
45-54	18	67	771	856	9.6	13.5	12.7	12.7
55-64	16	45	489	550	8.5	9.1	8.1	8.1
65+	46	33	514	593	24.5	6.7	8.5	8.8
TOTAL	188	496	6070	6754	100	100	100	100

Figure 6. Casualties by age group 2013



As can be seen from the figures 7 and 8, those at greatest risk of being killed on the roads per population are those aged 65 and older (8.1 per 100,000 population) followed by those aged 15-24 (7.5 per population). In terms of greatest risk of injury it is those aged 15-24 who are at greatest risk (286 per 100,000) followed by those aged 25-34 (201 per 100,000).

Figure 7. Number killed in 2013 per 100,000 population (CSO estimated population figures 2013)

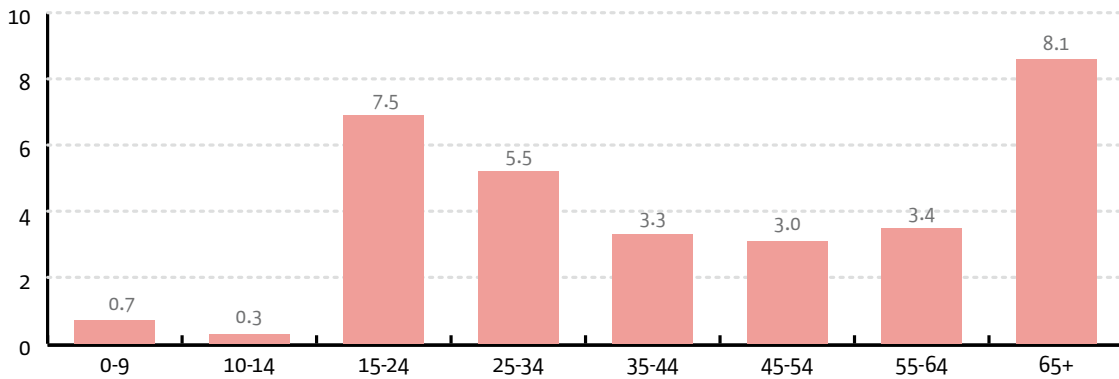
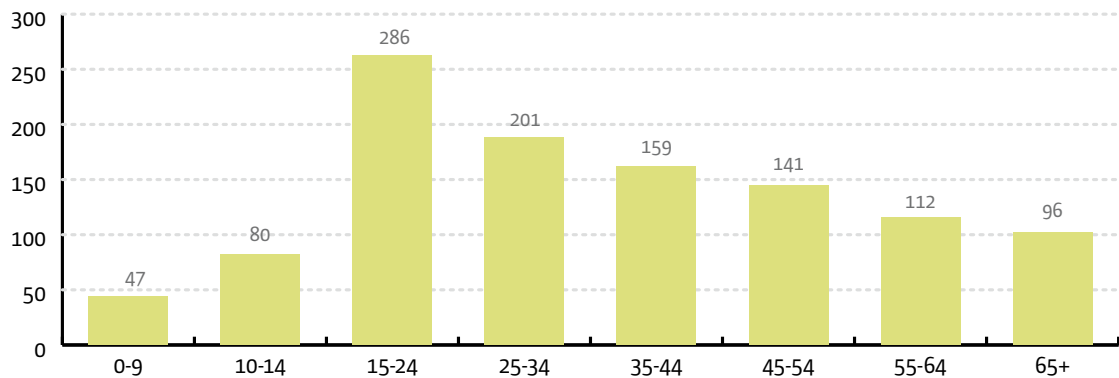


Figure 8. Number injured in 2013 per 100,000 population (CSO estimated population figures 2013)



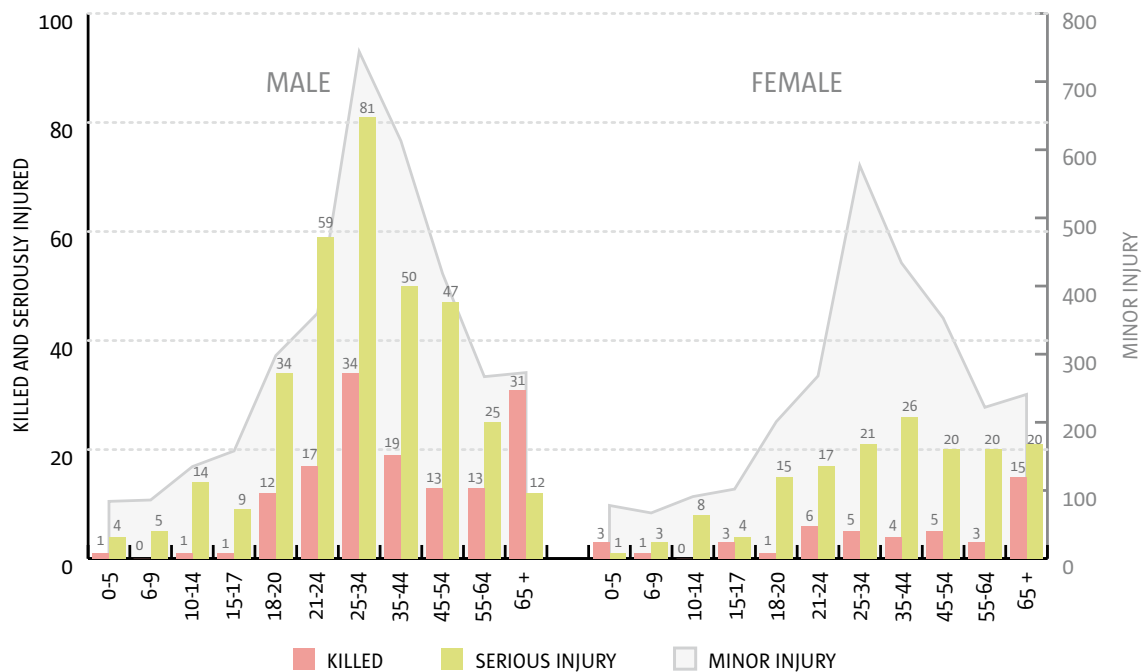
Age and Gender

A further breakdown of casualties (fatal, serious, and minor) by age and gender (table 5) indicate that for both males and females the same age groups (21-24, 25-34, 35-44, 45-54) are found to be at greater risk. However, when looking at road deaths only, the female age group most at risk of death are those aged 65 and older (32.6% of all female road deaths) while for males it is those aged 25-34 (23.9% of all male road deaths) followed by those aged 65+ (21.8%).

Table 5. Percentage of casualties by age group and gender 2013

Age Group	Percentage of Males				Percentage of Females			
	Killed	Seriously Injured	Minor Injury	Total	Killed	Seriously Injured	Minor Injury	Total
0-5	0.7	1.2	2.4	2.3	6.5	0.6	3.0	2.9
6-9	0.0	1.5	2.5	2.3	2.2	1.9	2.5	2.5
10-14	0.7	4.1	3.9	3.8	0.0	5.1	3.5	3.5
15-17	0.7	2.6	4.6	4.3	6.5	2.6	3.9	3.8
18-20	8.5	10.0	8.7	8.8	2.2	9.6	7.6	7.7
21-24	12.0	17.4	10.5	11.1	13.0	10.9	10.2	10.3
25-34	23.9	23.8	21.7	21.9	10.9	13.5	21.9	21.3
35-44	13.4	14.7	17.8	17.4	8.7	16.7	16.5	16.4
45-54	9.2	13.8	12.2	12.2	10.9	12.8	13.4	13.3
55-64	9.2	7.4	7.8	7.8	6.5	12.8	8.4	8.6
65+	21.8	3.5	7.9	8.1	32.6	13.5	9.1	9.8
	100	100	100	100	100	100	100	100

Figure 9. Casualties by gender and age group 2013



When casualties occurred

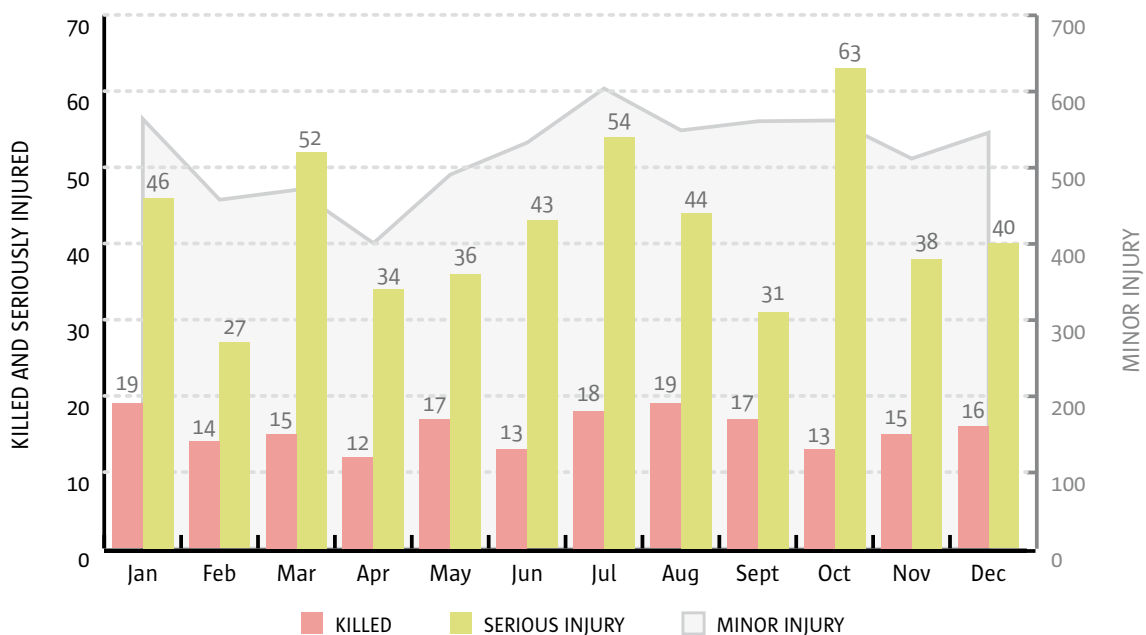
Month of year

Table 6 and figure 10 provide breakdowns of casualties by month. In 2013 the month associated with the highest number of casualties (fatal, serious, and minor) was July (9.7%) followed by October (9.2%) and January (9.1%). The month with the lowest number of casualties was April (6.4%). The worst months for fatalities were January (19) and August (19). April recorded the lowest number of fatalities (12).

Table 6. Month of year by casualty type 2013

	Killed	Serious Injury	Minor Injury	Total	%
January	19	46	564	629	9.1
February	14	27	458	499	7.2
March	15	52	471	538	7.7
April	12	34	401	447	6.4
May	17	36	491	544	7.8
June	13	43	533	589	8.5
July	18	54	604	676	9.7
August	19	44	549	612	8.8
September	17	31	561	609	8.8
October	13	63	562	638	9.2
November	15	38	512	565	8.1
December	16	40	546	602	8.7
Total	188	508	6,252	6,948	100

Figure 10. Month of year by casualty type 2013



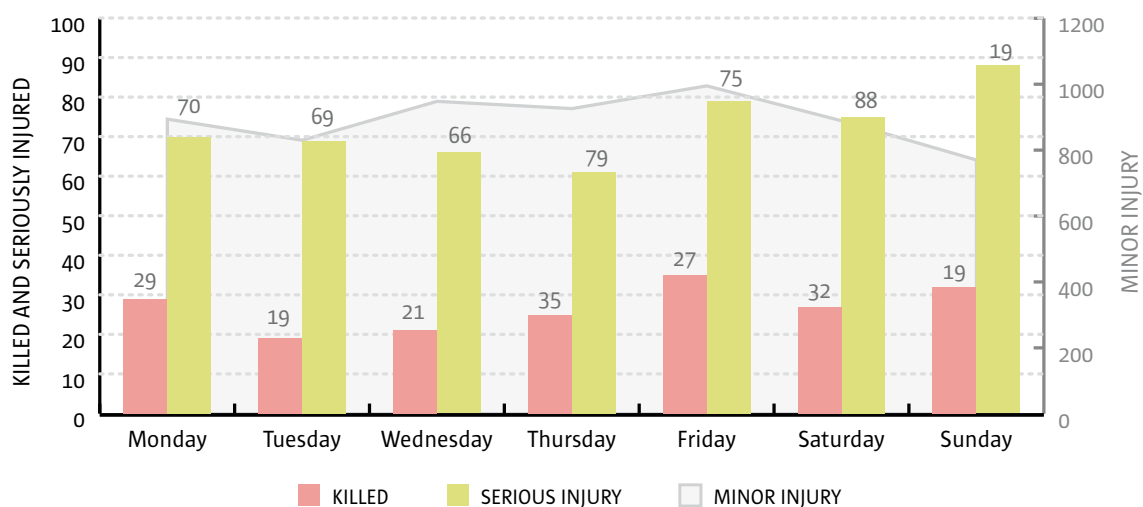
Day of week

Table 7 and figure 11 provide breakdowns of casualties by day of week. In 2013, Friday was the day of the week associated with both the highest number of casualties (fatal, serious, and minor; 16%) and the highest number of deaths (35). Sunday had the lowest number of casualties (12.8%) and Tuesday the lowest number of fatalities (19).

Table 7. Day of week by casualty type 2013

	Killed	Serious Injury	Minor Injury	Total	%
Monday	29	70	894	993	14.3
Tuesday	19	69	830	918	13.2
Wednesday	21	66	948	1,035	14.9
Thursday	25	61	926	1,012	14.6
Friday	35	79	995	1,109	16.0
Saturday	27	75	889	991	14.3
Sunday	32	88	770	890	12.8
TOTAL	188	508	6,252	6,948	100

Figure 11. Day of week by casualty type 2013



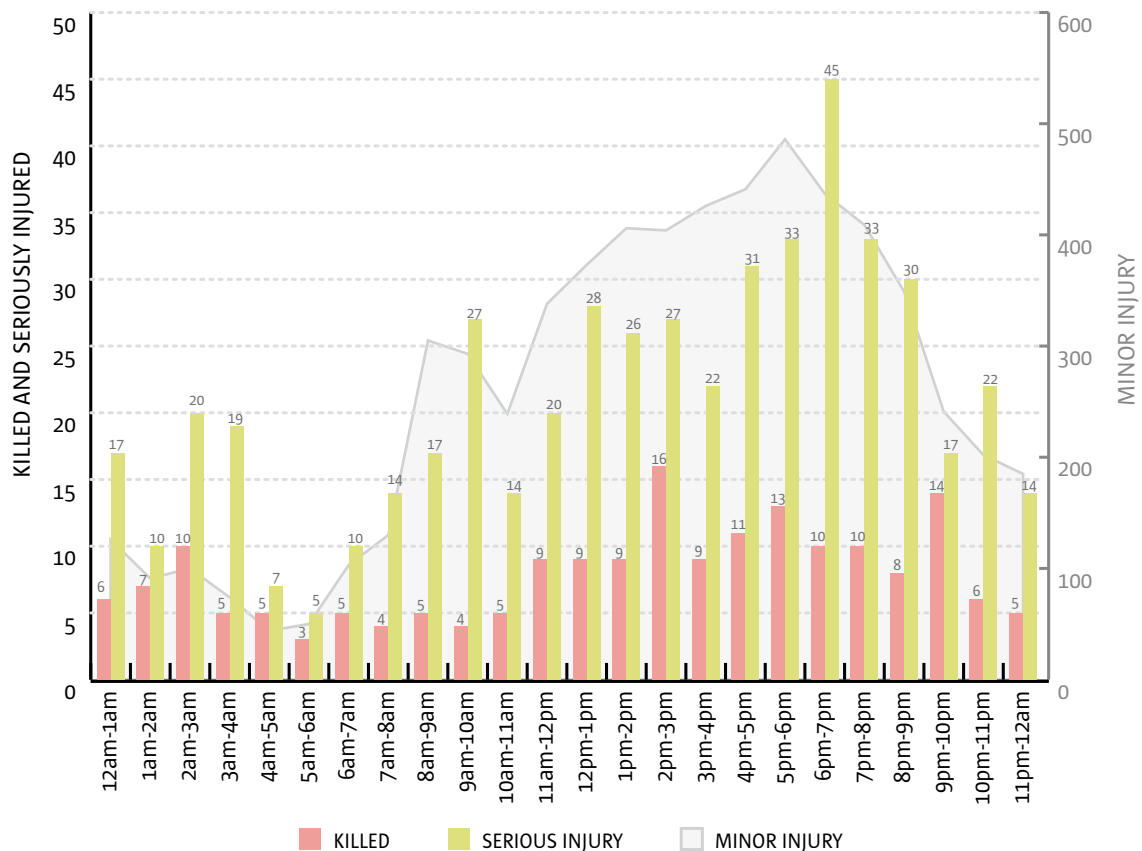
Time of day

Table 8 and figure 12 provide breakdowns of casualties by time of day. In 2013, 26.8% of all injury casualties occurred in the four hour period from 5pm and 9pm. A further 26.3% happened during the hours of 1pm and 5pm and almost 18% between the night time hours of 9pm and 5am. Taking serious injuries only, between 6pm and 7pm was a particularly high risk time of day.

Table 8. Number and percentage of casualties by time of day 2013

	Number	%
9am-1pm	1,359	19.6
1pm-5pm	1,828	26.3
5pm-9pm	1,863	26.8
9pm-1am	855	12.3
1am-5am	392	5.6
5am-9am	651	9.4
Total	6,948	100.0

Figure 12. Time of day by casualty type 2013

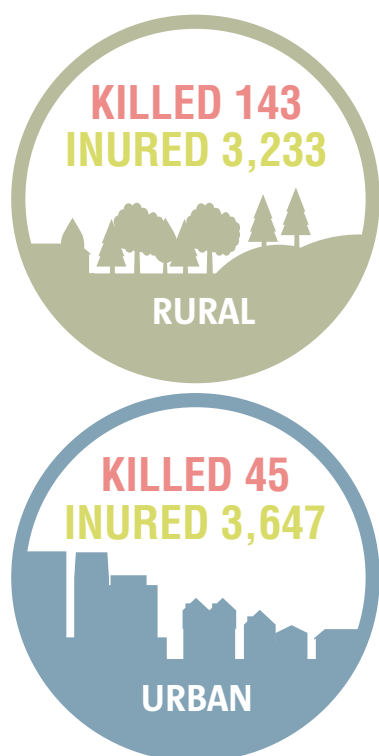


Note: time is represented in 12h format where 1am-2am = 1am up to 1.59am or 3pm-4pm = 3pm up to 3.59pm

Where casualties occurred

Urban and rural areas

Figure 13. Casualties by urban or rural area 2013



An urban area is one where the speed limit was 60km/h or less in 2013 and a rural area is one where the speed limit was greater than 60km/h in 2013.

Of all casualties killed and injured in 2013, 52% occurred on urban roads and 48% on rural roads. Table 9 provides a breakdown of casualties (killed and injured) by type of road user and area. In terms of those who were injured, 53% occurred on urban roads and 47% on rural roads. Injured pedestrians were more vulnerable on urban roads (90.5%) than on rural roads (9.5% of all pedestrians injured). Pedal cyclists were also most at risk of injury on urban roads (84.6% of cyclists injured) than on rural roads (15.4%).

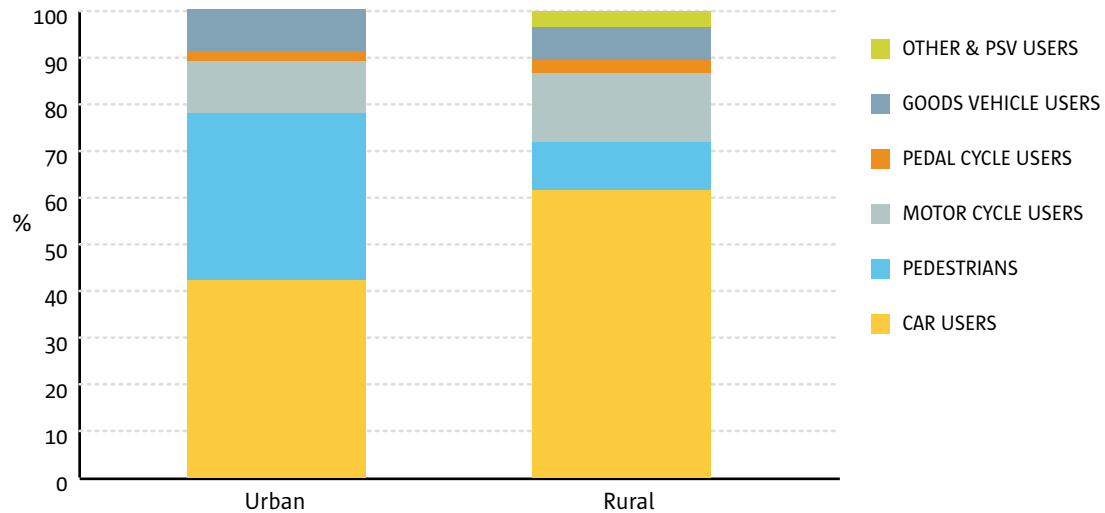
The pattern is different for those road users killed with 23.9% of all deaths occurring on urban roads and 76.1% on rural roads. For pedestrians, 51.6% were killed on urban roads and 48.4% on rural roads. The number of pedal cyclists killed on the roads was small but most died on rural roads.

Table 9. Casualties (killed and injured) by urban or rural road type 2013

	Killed				Total	Injured				Total
	Urban	%	Rural	%		Urban	%	Rural	%	
Car Users	19	17.8	88	82.2	107	1,920	42.2	2,625	57.8	4,545
Pedestrians	16	51.6	15	48.4	31	810	90.5	85	9.5	895
Motor Cycle Users	5	19.2	21	80.8	26	175	64.1	98	35.9	273
Pedal Cycle Users	1	20.0	4	80.0	5	540	84.6	98	15.4	638
Goods Vehicle Users	4	28.6	10	71.4	14	129	35.0	240	65.0	369
Othor & PSV Users	0	0.0	5	100.0	5	73	45.6	87	54.4	160
TOTAL	45	23.9	143	76.1	188	3,647	53.0	3,233	47.0	6,880

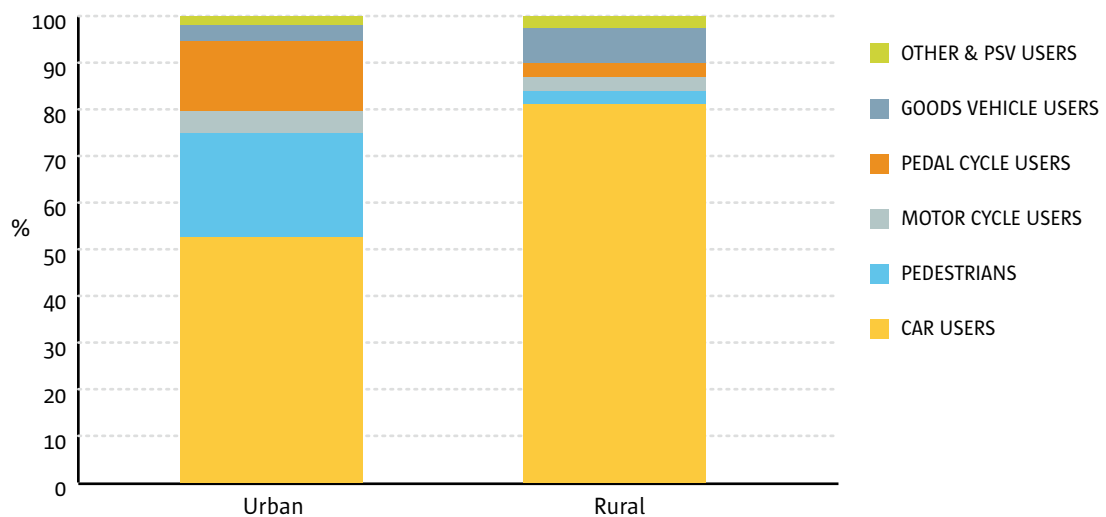
Figures 14a and 14b indicate the pattern of differences by road user and injury on urban and rural roads.

Figure 14a. Road users killed by urban and rural area 2013



Of all persons injured on urban roads, just over 50% were car users whereas on rural roads just over 80% are car users.

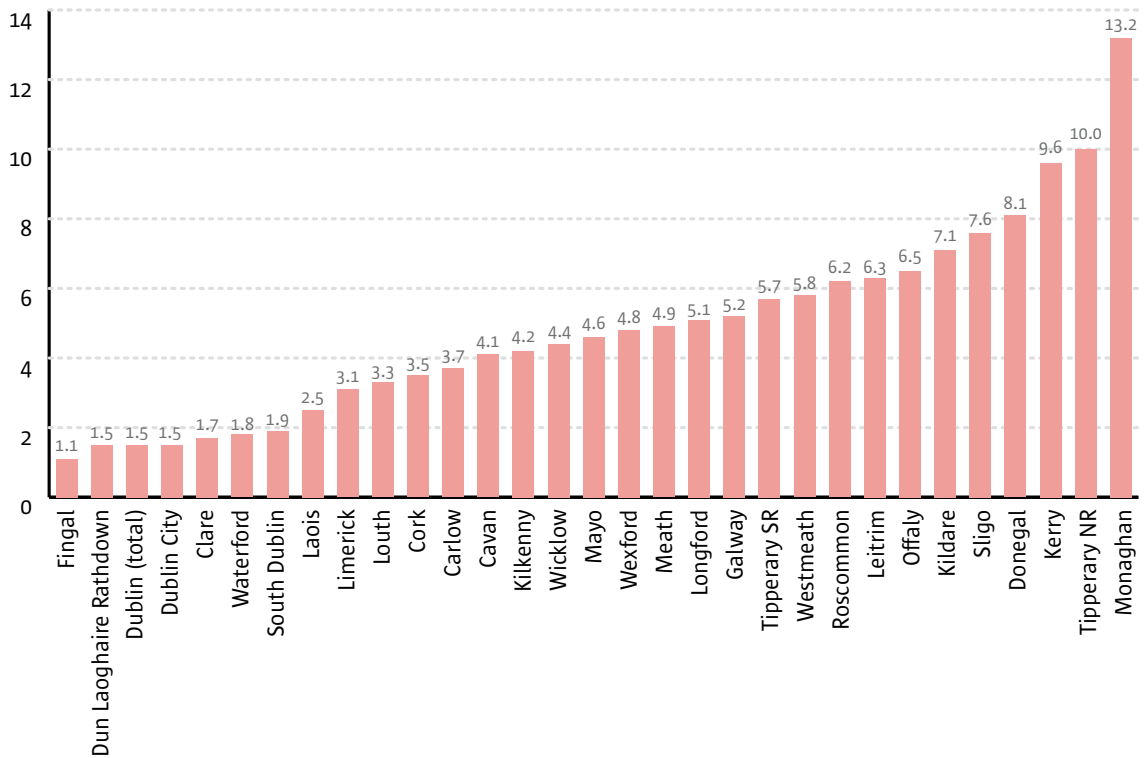
Figure 14b. Road users injured by urban and rural area 2013



County

On a county by county basis, Dublin had the highest number of casualties, both killed and injured, (20.2%) followed by Cork (10.3%). Of those killed, the highest number occurred in Dublin (19) and Cork (18; table 10). Counties Carlow, Laois, Longford, Clare, Waterford, and Leitrim had the lowest number of fatalities (2 per county).

Figure 15. Number of persons killed per 100,000 population by county

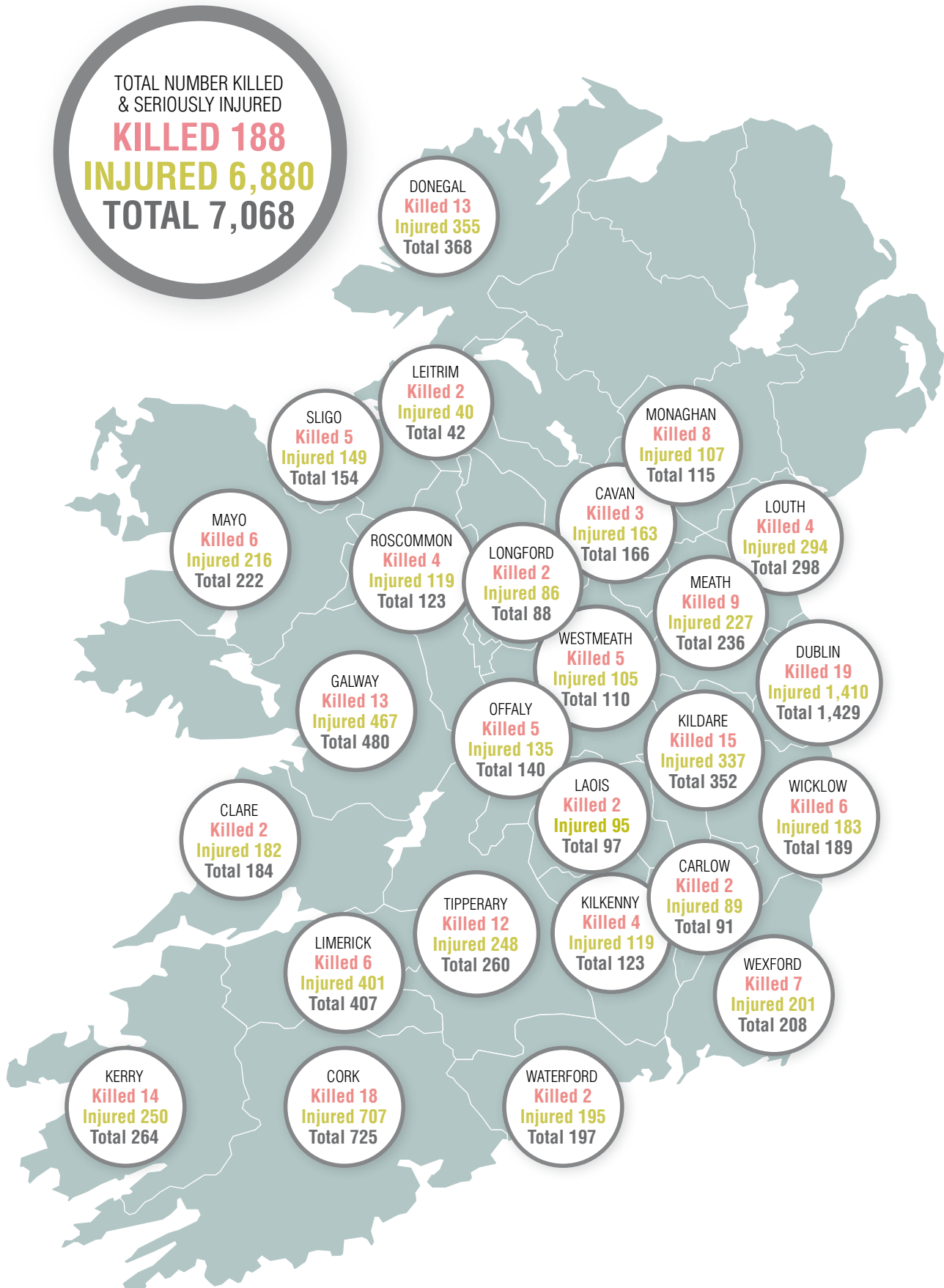


When looking at county totals per 100,000 population however, Monaghan experienced the highest number of fatalities per population (13.2 per 100,000 population) and Dublin the lowest (1.5 per 100,000) based on 2011 population data by county (figure 15). Louth had the highest number of injured (serious and minor) per population (239.2 per 100,000) and Dublin the lowest (110.8 per 100,000; table 10).

Table 10. Number of persons killed and injured and number per 1000 population by county

County and Province	Casualties				2011 CSO population data	
	Killed	Injured	Total	%	Killed per 100,000 pop	Injured per 100,000 pop
Leinster						
Carlow	2	89	91	1.3	3.7	163.0
Dublin	19	1,410	1,429	20.2	1.5	110.8
Kildare	15	337	352	5.0	7.1	160.2
Kilkenny	4	119	123	1.7	4.2	124.7
Laois	2	95	97	1.4	2.5	117.9
Longford	2	86	88	1.2	5.1	220.5
Louth	4	294	298	4.2	3.3	239.2
Meath	9	227	236	3.3	4.9	123.3
Offaly	5	135	140	2.0	6.5	176.0
Westmeath	5	105	110	1.6	5.8	121.9
Wexford	7	201	208	2.9	4.8	138.3
Wicklow	6	183	189	2.7	4.4	133.9
Munster						
Clare	2	182	184	2.6	1.7	155.3
Cork	18	707	725	10.3	3.5	136.2
Kerry	14	250	264	3.7	9.6	171.8
Limerick	6	401	407	5.8	3.1	209.1
Tipperary NR	7	116	123	1.7	10.0	165.0
Tipperary SR	5	132	137	1.9	5.7	149.3
Waterford	2	195	197	2.8	1.8	171.4
Connacht						
Galway	13	467	480	6.8	5.2	186.3
Leitrim	2	40	42	0.6	6.3	125.8
Mayo	6	216	222	3.1	4.6	165.3
Roscommon	4	119	123	1.7	6.2	185.7
Sligo	5	149	154	2.2	7.6	227.9
Ulster						
Cavan	3	163	166	2.3	4.1	222.7
Donegal	13	355	368	5.2	8.1	220.3
Monaghan	8	107	115	1.6	13.2	176.9
TOTAL	188	6,880	7,068	100.0		
Dublin of which						
Dublin City	8	734	742		1.5	139.1
Dun Laoghaire-Rathdown	3	287	290		1.5	139.1
Fingal	3	189	192		1.1	69.0
South Dublin	5	180	185		1.9	67.9

Figure 16. Number of persons killed and injured by county



Collisions

When and where

The following sections consider collisions in detail and provide breakdowns based on a number of factors such as when and where they happened and the weather and light conditions reported at the time.

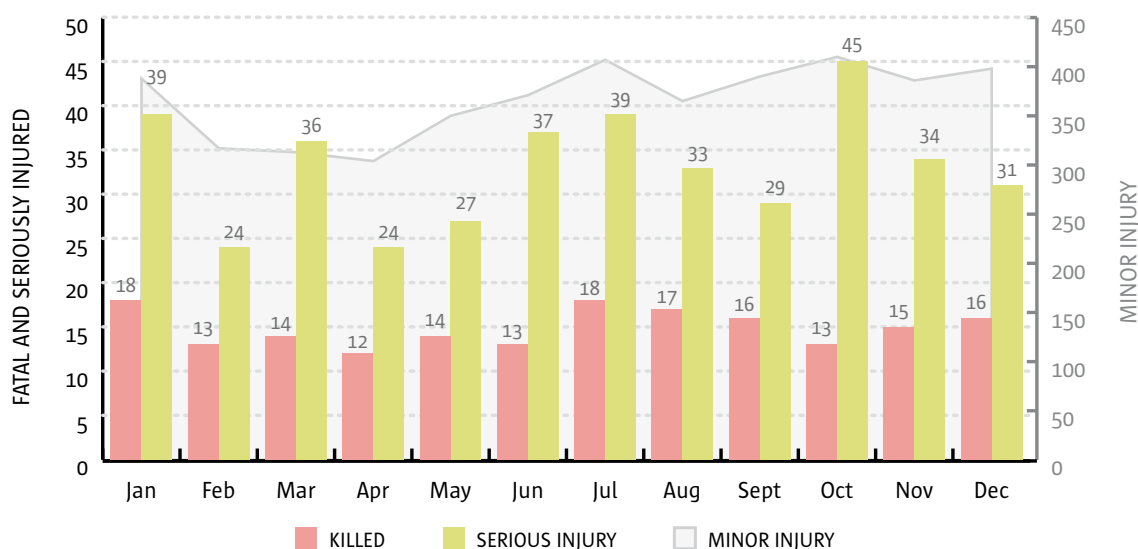
Month of year

Table 11 and figure 17 indicate the type of collisions and the months in which they happened. In 2013 the month associated with the highest number of fatal, serious, and minor collisions was October (9.4%) followed by July (9.3%). The month with the lowest number of injury collisions was April (6.8%). The worst months for fatal collisions were January (18) and July (18). April recorded the lowest number of fatal collisions (12).

Table 11. Month of year by collision type 2013

Month	Fatal	Serious	Minor	Total	%
January	18	39	388	445	8.9
February	13	24	317	354	7.1
March	14	36	313	363	7.3
April	12	24	304	340	6.8
May	14	27	350	391	7.9
June	13	37	371	421	8.5
July	18	39	407	464	9.3
August	17	33	365	415	8.3
September	16	29	390	435	8.7
October	13	45	410	468	9.4
November	15	34	386	435	8.7
December	16	31	398	445	8.9
Total	179	398	4,399	4,976	100.0

Figure 17. Month of year by collision type 2013



Day of week

Figure 18 and table 12 indicate the type of collisions and the day of the week on which they happened. During 2013, Friday was the day of the week associated with the highest number of total collisions (fatal, serious, and minor; 15.7%) and Sunday had the lowest (12.2%). Of all fatal collisions, the highest number were on a Friday and Sunday (32). The lowest number of fatal collisions was on Tuesday (19).

Figure 18. Day of week by collision type 2013

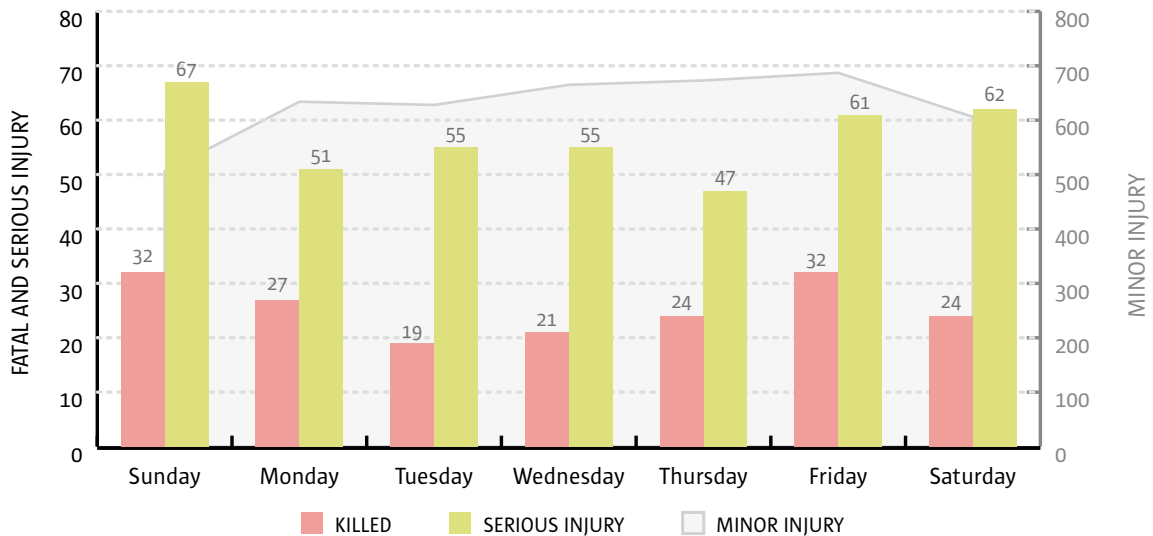


Table 12. Day of week by collision type 2013

Day	Fatal	Serious	Minor	Total	%
Sunday	32	67	506	605	12.2
Monday	27	51	634	712	14.3
Tuesday	19	55	628	702	14.1
Wednesday	21	55	665	741	14.9
Thursday	24	47	673	744	15.0
Friday	32	61	687	780	15.7
Saturday	24	62	606	692	13.9
Total	179	398	4,399	4,976	100

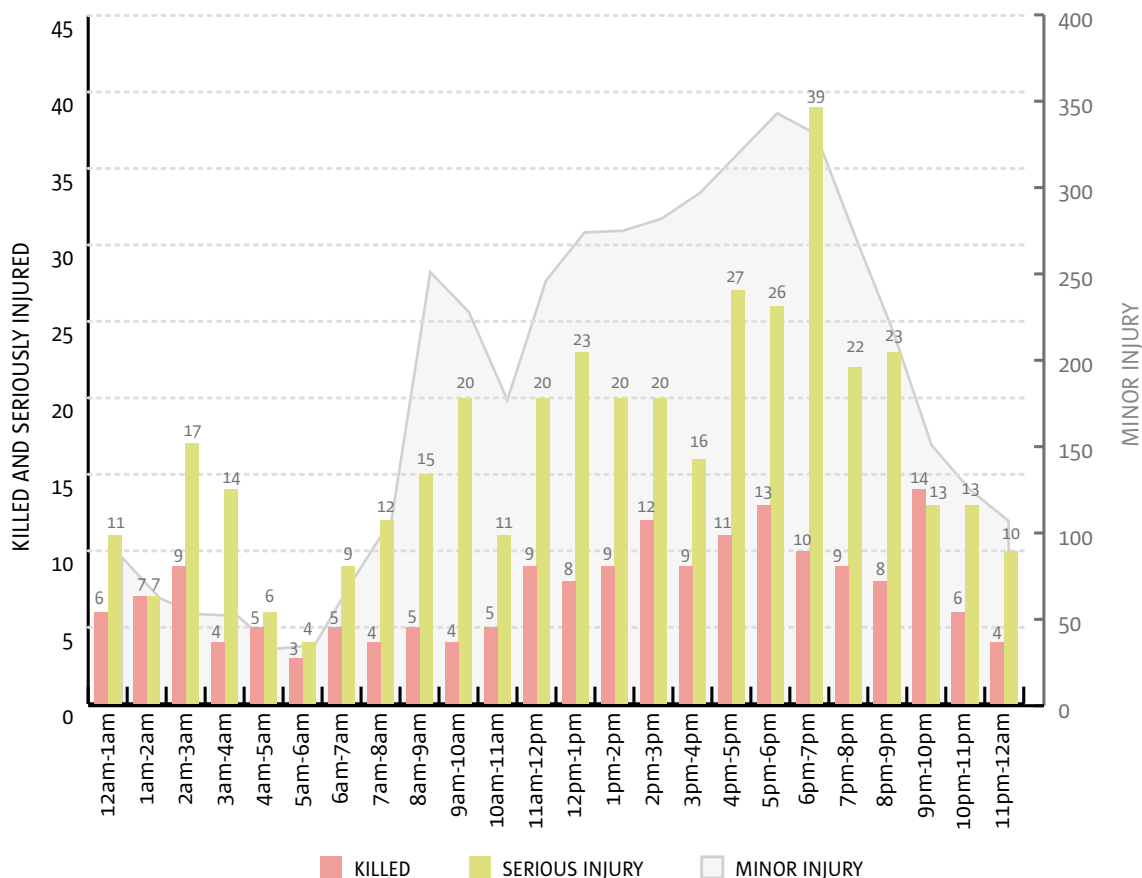
Time of day

Table 13 and figure 19 indicate the type of collisions and the time of day. In 2013, 26.4% of all fatal, serious, and minor collisions happened between the hours of 5pm and 9pm and 26.1% occurred during the hours of 1pm and 5pm. Just over 16% happened between the night time hours of 9pm and 5am. The highest number of fatal collisions occurred between the hours of 1pm and 5pm (41) followed by 5pm to 9pm (40). The early morning hours between 5am and 9am saw the fewest number of fatal collisions (17).

Table 13. Time of day by collision type 2013

	Fatal	Serious	Minor	Total	%
9am-1pm	26	74	925	1,025	20.6
1pm-5pm	41	83	1,174	1,298	26.1
5pm-9pm	40	110	1,164	1,314	26.4
9pm-1am	30	47	469	546	11.0
1am-5am	25	44	200	269	5.4
5am-9am	17	40	467	524	10.5
Total	179	398	4,399	4,976	100.0

Figure 19. Time of day by collision type 2013



Note: time is represented in 12h format where 1am-2am = 1am up to 1.59am or 3pm-4pm = 3pm up to 3.59pm

Urban and rural

The percentage of collisions occurring in urban and rural areas is different for different collision types as seen in figure 20a. For fatal collisions, the majority (75%) happened on rural roads, for serious injury collisions, a little over half (52%) happened on rural roads, while for minor collisions less than half (41%) occurred on rural roads.

Figure 20a. Collision type in urban and rural areas 2013

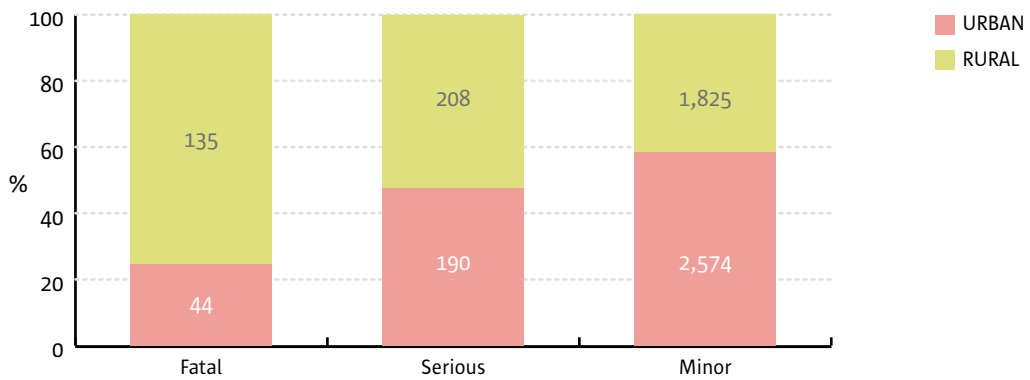
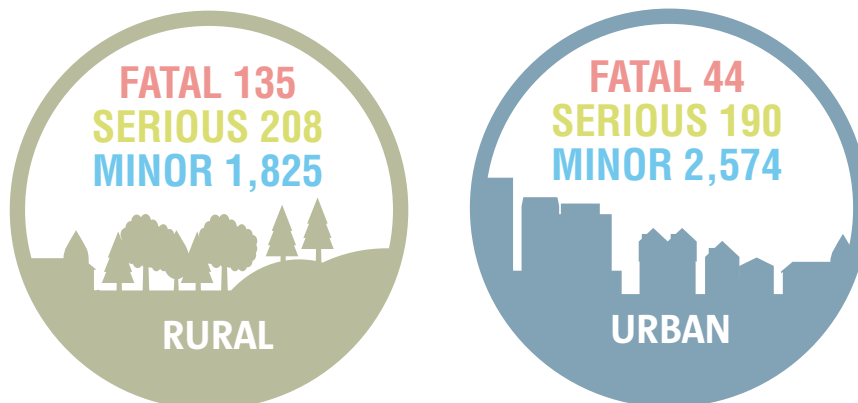


Figure 20b. Number of fatal, serious and minor collisions in urban and rural areas 2013



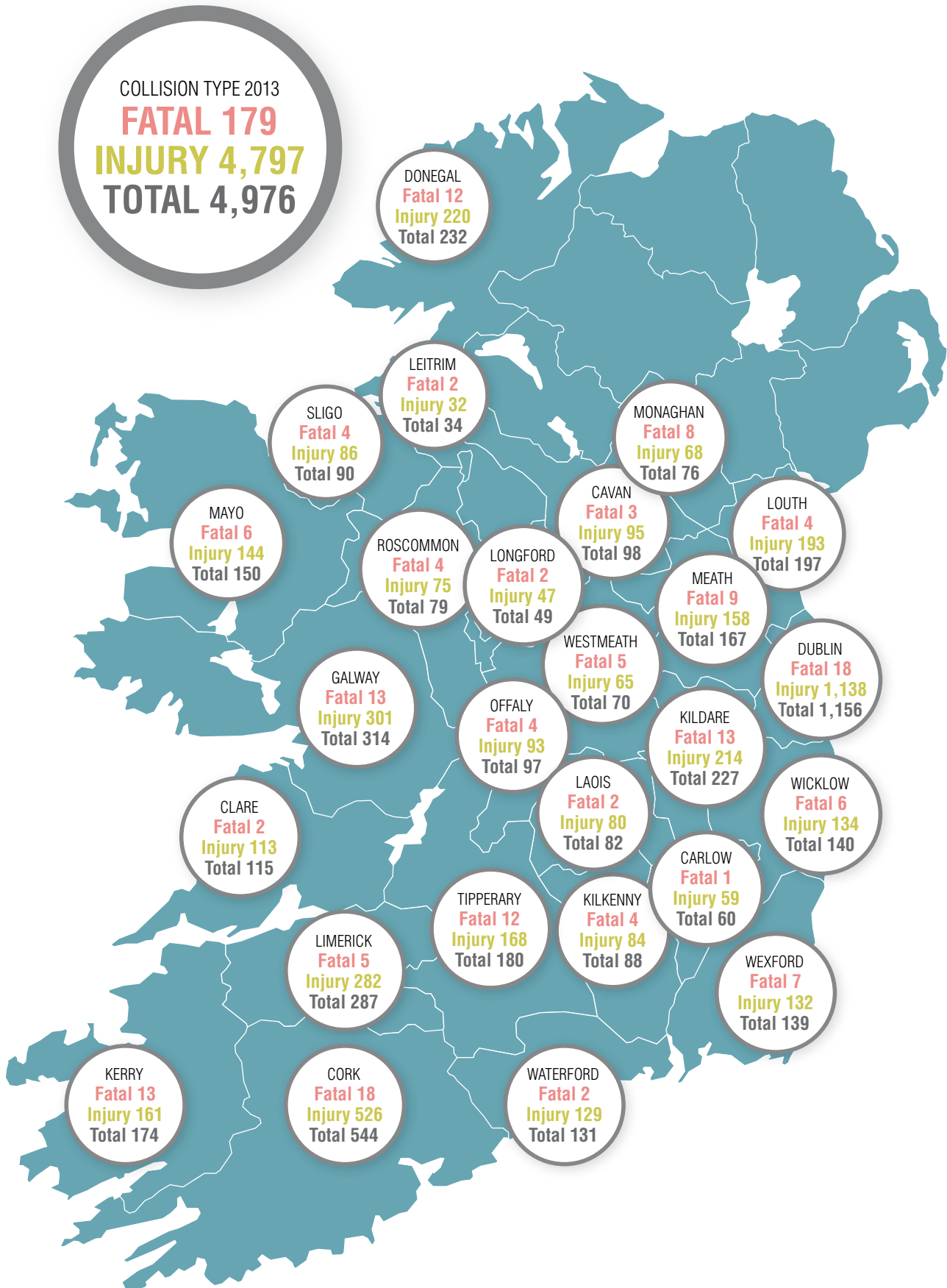
County

Dublin had the highest number of fatal and injury collisions (23.2%) followed by Cork (10.9%). Of fatal collisions, the highest numbers occurred in Dublin (18) and Cork (18). There were 13 fatal collisions in Kildare, Kerry, and Galway, and 12 fatal collisions in Tipperary and Donegal. Carlow had the lowest number of fatal collisions (1).

Table 14. County by collision type 2013

	Fatal	Injury	Total	%
Leinster				
Carlow	1	59	60	1.2
Dublin	18	1138	1156	23.2
Kildare	13	214	227	4.6
Kilkenny	4	84	88	1.8
Laois	2	80	82	1.6
Longford	2	47	49	1.0
Louth	4	193	197	4.0
Meath	9	158	167	3.4
Offaly	4	93	97	1.9
Westmeath	5	65	70	1.4
Wexford	7	132	139	2.8
Wicklow	6	134	140	2.8
Munster				
Clare	2	113	115	2.3
Cork	18	526	544	10.9
Kerry	13	161	174	3.5
Limerick	5	282	287	5.8
Tipperary NR	7	81	88	1.8
Tipperary SR	5	87	92	1.8
Waterford	2	129	131	2.6
Connacht				
Galway	13	301	314	6.3
Leitrim	2	32	34	0.7
Mayo	6	144	150	3.0
Roscommon	4	75	79	1.6
Sligo	4	86	90	1.8
Ulster				
Cavan	3	95	98	2.0
Donegal	12	220	232	4.7
Monaghan	8	68	76	1.5
TOTAL	179	4797	4976	100
Dublin of which				
Dublin City	7	630	637	12.8
Dun Laoghaire Rathdown	3	220	223	4.5
Fingal	3	144	147	3.0
South Dublin	5	126	131	2.6

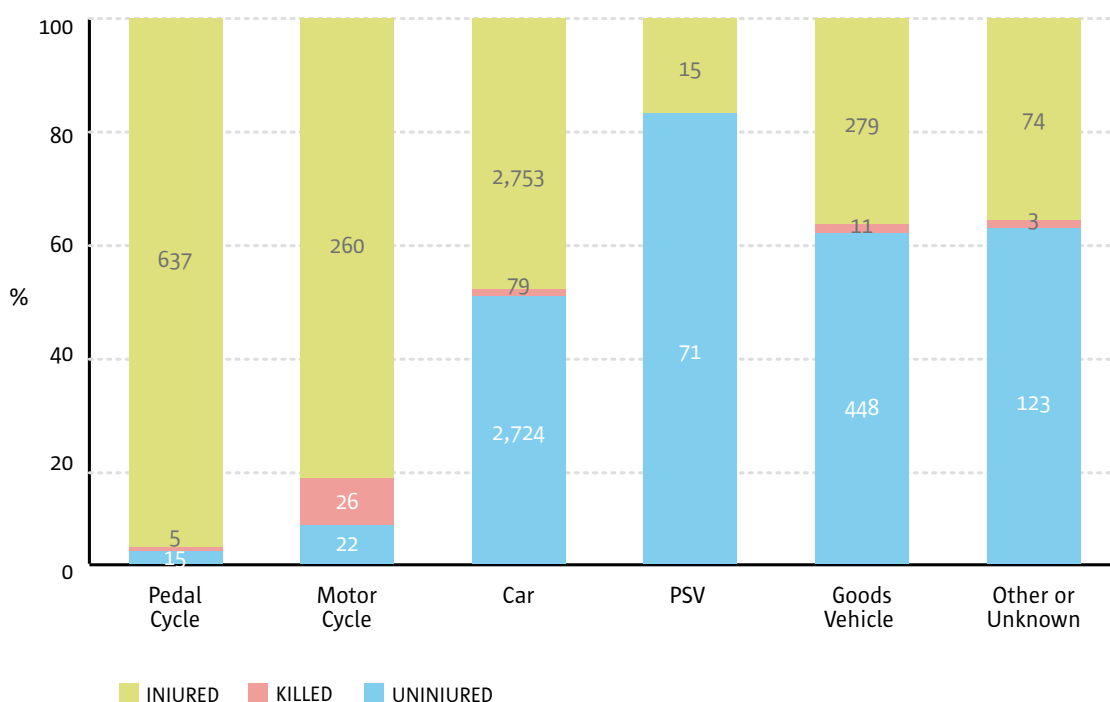
Figure 21. County by collision type 2013



Drivers, Cyclists and Motorcyclists involved

Figure 22 below indicates the pattern of injury for drivers, pedal cyclists, and motorcyclists involved in all fatal, serious, and minor collisions based on the vehicle they were in charge of at the time. Here the proportion of road users uninjured, killed and injured (serious and minor) varies greatly by mode of transport. For instance, of all pedal cyclists involved in collisions, the vast majority are injured while very few are uninjured (2% of all pedal cyclists involved in collisions). For motorcyclists, there is a higher percentage killed compared to any other driver type (8% of all motorcyclists involved in collisions).

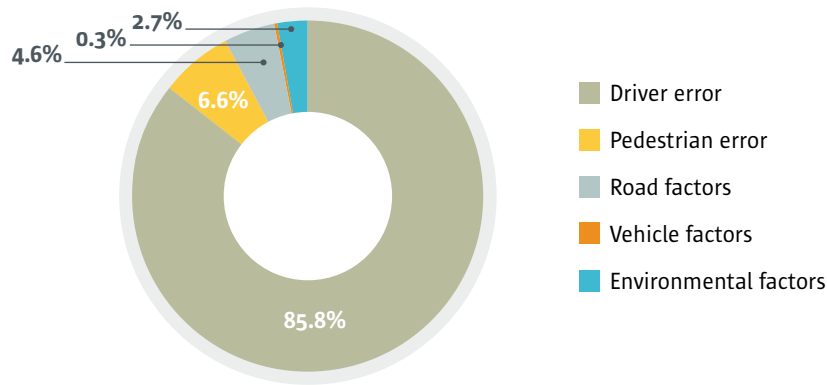
Figure 22. Drivers involvement in fatal and injury collisions classified by vehicle type and driver's injury type 2013



Contributory factors

Where an initial assessment can be made at the time of a collision, a record may be taken of contributory factors associated with the collision by An Garda Síochána, but does not encompass definitive results from the forensic collision investigation. Possible factors include driver error, pedestrian error, road factors, vehicle factors, and environmental factors. It is possible to record more than one factor per collision. Of all fatal collisions, 28% had at least one contributory factor associated with it. Of all injury collisions, 44% had at least one contributory factor associated (Figure 23).

Figure 23. Contributory factors associated with fatal and injury collisions 2013



*More than one may be included

Among all collisions, the highest percentage are two or more vehicle collisions (55.4%), followed by single vehicle collisions (27%), and single vehicle collisions with a pedestrian (17.6%). The pattern is different, however, when looking at collisions by urban and rural area as can be seen in table 17. There were a higher percentage of single vehicle collisions in rural areas (42.4%) than urban (15.1%) and there were a higher percentage of single vehicle collisions with pedestrians in urban areas (28%) than in rural areas (4.1%).

Table 15. Type of collision by urban or rural area

Collision Type	Total	%	Urban Areas				Rural Areas			
			Fatal	Injury	Total	%	Fatal	Injury	Total	%
Single Vehicle collision with a Pedestrian	875	17.6	16	770	786	28.0	14	75	89	4.1
Single Vehicle Only	1,344	27.0	16	409	425	15.1	54	865	919	42.4
Two or more Vehicle Collisions	2,757	55.4	12	1,585	1,597	56.9	67	1,093	1,160	53.5
TOTAL	4,976	100	44	2,764	2,808	100	135	2,033	2,168	100

Weather

Of all fatal, serious, and minor collisions recorded 73% happened in dry conditions and 21% in wet conditions. The remaining 6% had unknown weather conditions or small numbers with frost, snow, fog or mist.

Light conditions

As can be seen in table 16 below the highest number of collisions occurred in conditions of daylight with good visibility for both urban (63.6%) and rural areas (61.1%). However, in urban areas the next highest occurrence is on dark roads which are well lit (21.5%) and on rural roads the next highest occur on roads that are dark with no lighting (22.1%).

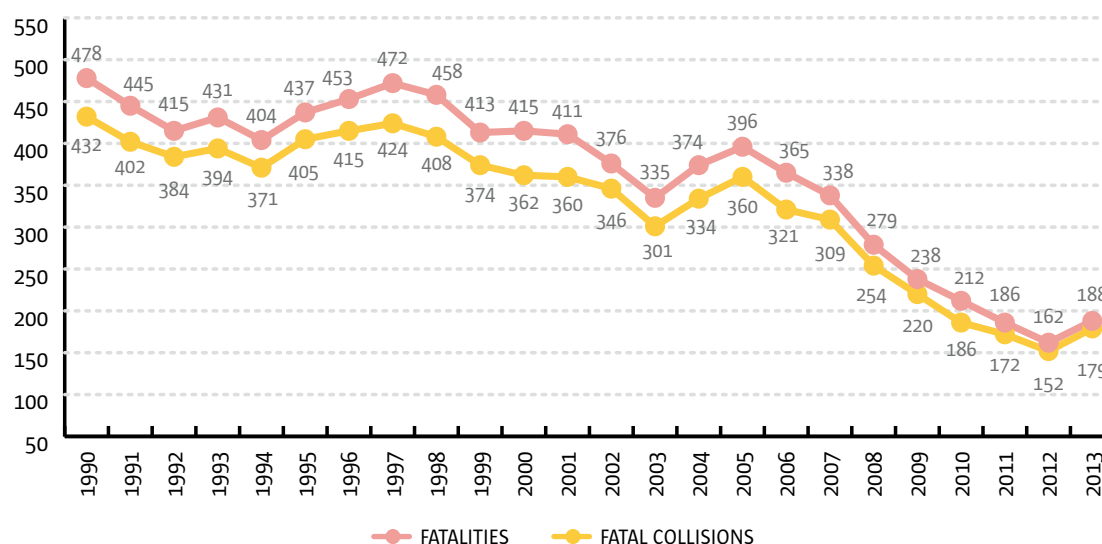
Table 16. Lighting conditions by urban and rural area for fatal and injury collisions 2013

Lighting	Urban Area				Rural Area			
	Fatal	Injury	Total	%	Fatal	Injury	Total	%
Daylight: good visibility	20	1,765	1,785	63.6	73	1,252	1,325	61.1
Daylight: poor visibility	1	113	114	4.1	4	137	141	6.5
Dark road: well-lit	15	589	604	21.5	4	100	104	4.8
Dark road: poorly-lit	2	131	133	4.7	6	68	74	3.4
Dark: lighting but unlit	1	4	5	0.2	0	7	7	0.3
Dark: no lighting	4	85	89	3.2	47	433	480	22.1
Unknown/Not stated	1	77	78	2.8	1	36	37	1.7
TOTAL	44	2,764	2,808	100	135	2,033	2,168	100

Road collisions and casualties – contextual background

Historic context

Figure 24. Number of fatal collisions and fatalities by year, 1990-2013



Road fatalities increased by 16% between 2012 and 2013 but this still represents a decrease of 11.3% on 2010 figures and 54.6% on the number of road deaths seen in 2000 (table 17). Although the number of pedestrians who died increased in 2013 from 2012 figures by 6.9%, pedestrians have seen the largest decrease in fatalities compared to 2010 (29.5%) and 2000 (63.5%). Of all road users, motorcyclists continue to be at risk, they saw the largest increase of all road users between 2012 and 2013 (36.8%). Fatalities among motorcyclists increased between 2010 and 2013 by 52.9%.

Table 17. Road fatalities by road user group²

						2013% change from			
	1990	2000	2010	2012	2013	2012	2010	2000	1990
Bicyclists	46	10	5	8	5	-37.5%	0.0%	-50.0%	-89.1%
Motorcyclists	41	39	17	19	26	36.8%	52.9%	-33.3%	-36.6%
Passenger car occupants	206	260	130	89	107	20.2%	-17.7%	-58.8%	-48.0%
Pedestrians	150	85	44	29	31	6.9%	-29.5%	-63.5%	-79.3%
Others	35	21	16	17	19	11.8%	18.8%	-9.5%	-45.7%
Total	478	415	212	162	188	16.0%	-11.3%	-54.6%	-60.7%

Note: in this data 'others' includes goods vehicle users

2 OECD (2015), "Ireland", in OECD/ITF, Road Safety Annual Report 2015, OECD Publishing, Paris.
DOI: <http://dx.doi.org/10.1787/irtad-2015-21-en>

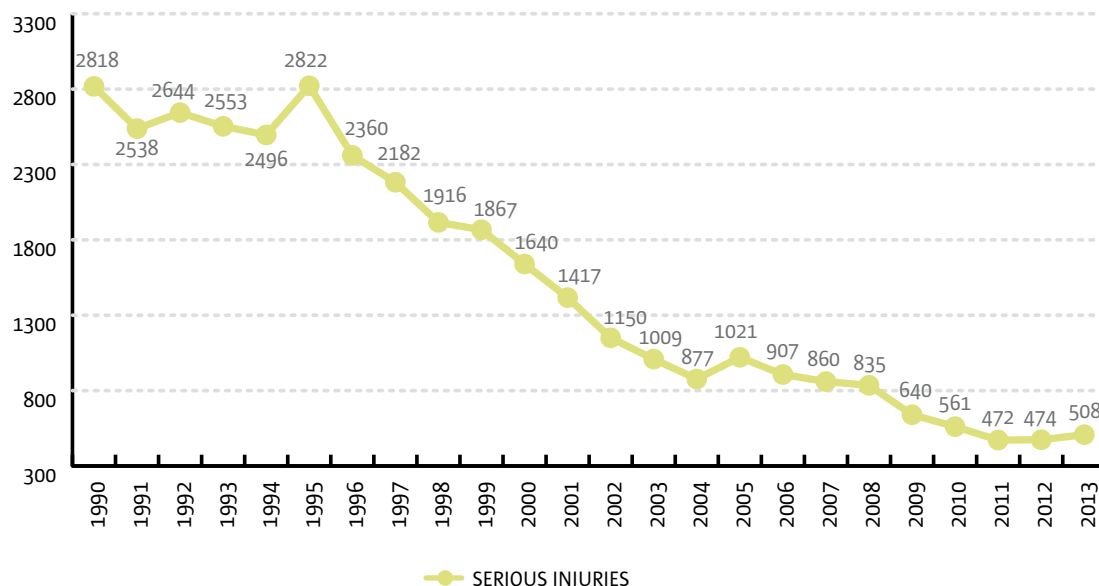
Table 18 provides a breakdown by age of fatalities over a number of years. From this it is clear that those 65 years and over have continued to be at high risk since 2000. Between 2010 and 2013, there was an increase of 53.3% in road deaths among this age group and between 2012 and 2013 deaths increased by 27.8%.

Table 18. Road fatalities by age group³

Age	1990	2000	2010	2012	2013	2013 % change from			
						2012	2010	2000	1990
0-5	15	8	3	2	4	n.a. figures too small for meaningful comparisons		-50.0%	-73.3%
6-9	12	6	2	1	1			-83.3%	-91.7%
10-14	19	8	1	0	1			-87.5%	-94.7%
15-17	28	23	7	7	4			-82.6%	-85.7%
18-20	56	63	21	12	13	8.3%	-38.1%	-79.4%	-76.8%
21-24	53	54	35	23	23	0.0%	-34.3%	-57.4%	-56.6%
25-64	195	195	109	81	96	18.5%	-11.9%	-50.8%	-50.8%
>=65	81	44	30	36	46	27.8%	53.3%	4.5%	-43.2%
Total	478	415	212	162	188	16.0%	-11.3%	-54.6%	-60.7%

As can be seen in figure 25, between 2008 and 2011 there was a period of strong decline (-43%) in the number of those seriously injured on Irish roads. This increased again slightly between 2012 and 2013 by 7%.

Figure 25. Number of serious injuries by year, 1990-2013



3 OECD (2015), "Ireland", in OECD/ITF, Road Safety Annual Report 2015, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/irtad-2015-21-en>

Vehicle Kilometres of Travel

Vehicle kilometres travelled (VkmT) is considered the best measure of risk exposure for all vehicles on the road. It is an estimated measure of the number of kilometres travelled by vehicles allowing quantification of a road users risk on the road. In much the same way as fatalities per million population are derived so fatalities per billion km travelled can be calculated providing a useful measure for contextualising the number of fatalities. The CSO produce an annual figure based on data for vehicle kilometres travelled (VkmT) nationally.

Figure 26. All road collision fatalities and vehicle km travelled, 2002-2013

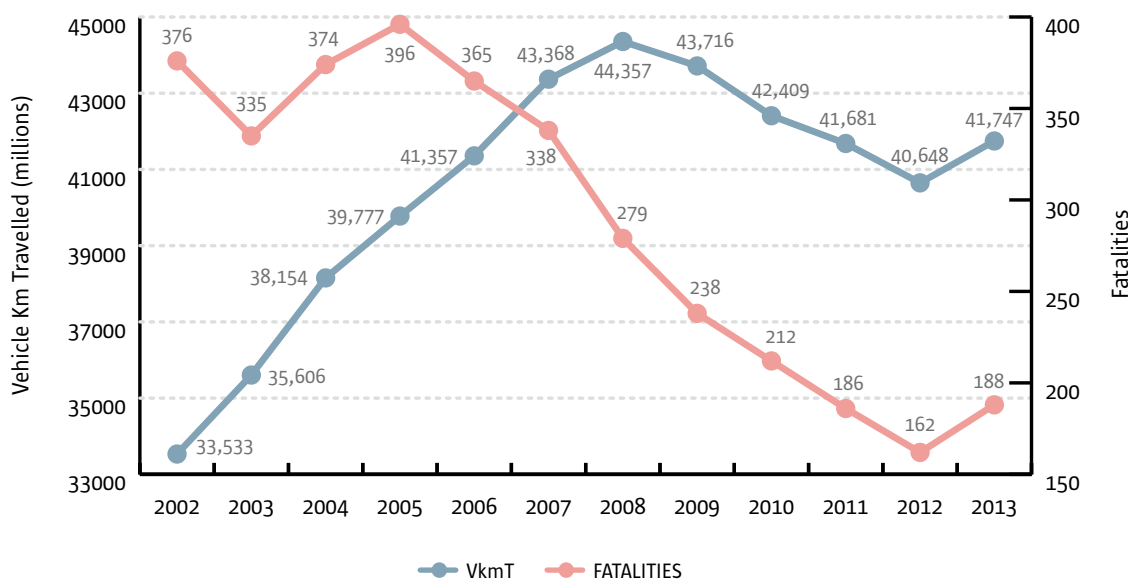
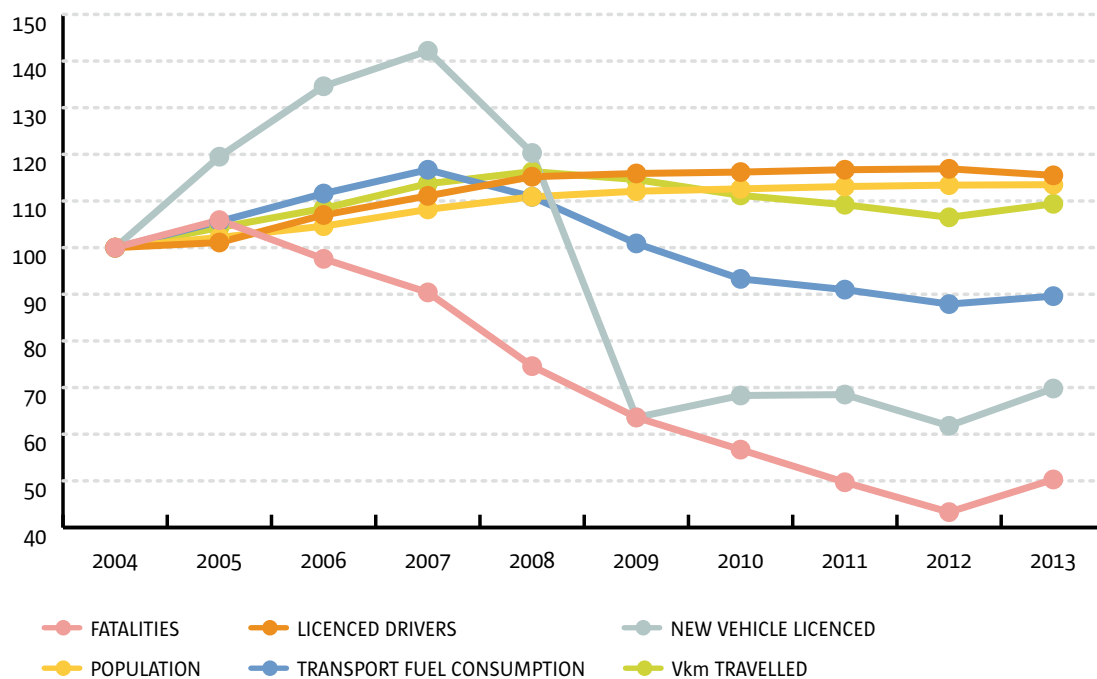


Figure 26 above shows the movement of both VkmT and fatalities in recent years. From 2008-2012 VkmT declined steadily, there was also a steady but stronger decline in the number of fatalities. From 2012 to 2013 an increase in VkmT was recorded, as was an increase in the number of fatalities on Irish roads. However, from 2004 to 2008, increases in VkmT were recorded, but this was not reflected in consistent corresponding increases in the fatality rate, which confirms that other factors were likely involved.

Economic and other activity

Between 2004 and 2013, Ireland has experienced a population increase of approximately 14%. The number of drivers (both full licence and learner permit holders) has increased by approximately 15% with new licenced vehicles decreasing by approximately 30% since 2004. This reduction followed a series of increase between 2004 and 2007. Transport fuel consumption has experienced a decline between 2004 and 2013 overall. With vehicle kilometres travelled experiencing a slight increase on 2004 figures in 2013.

Figure 27. Index of road fatalities and data trends in Ireland 2004-2013

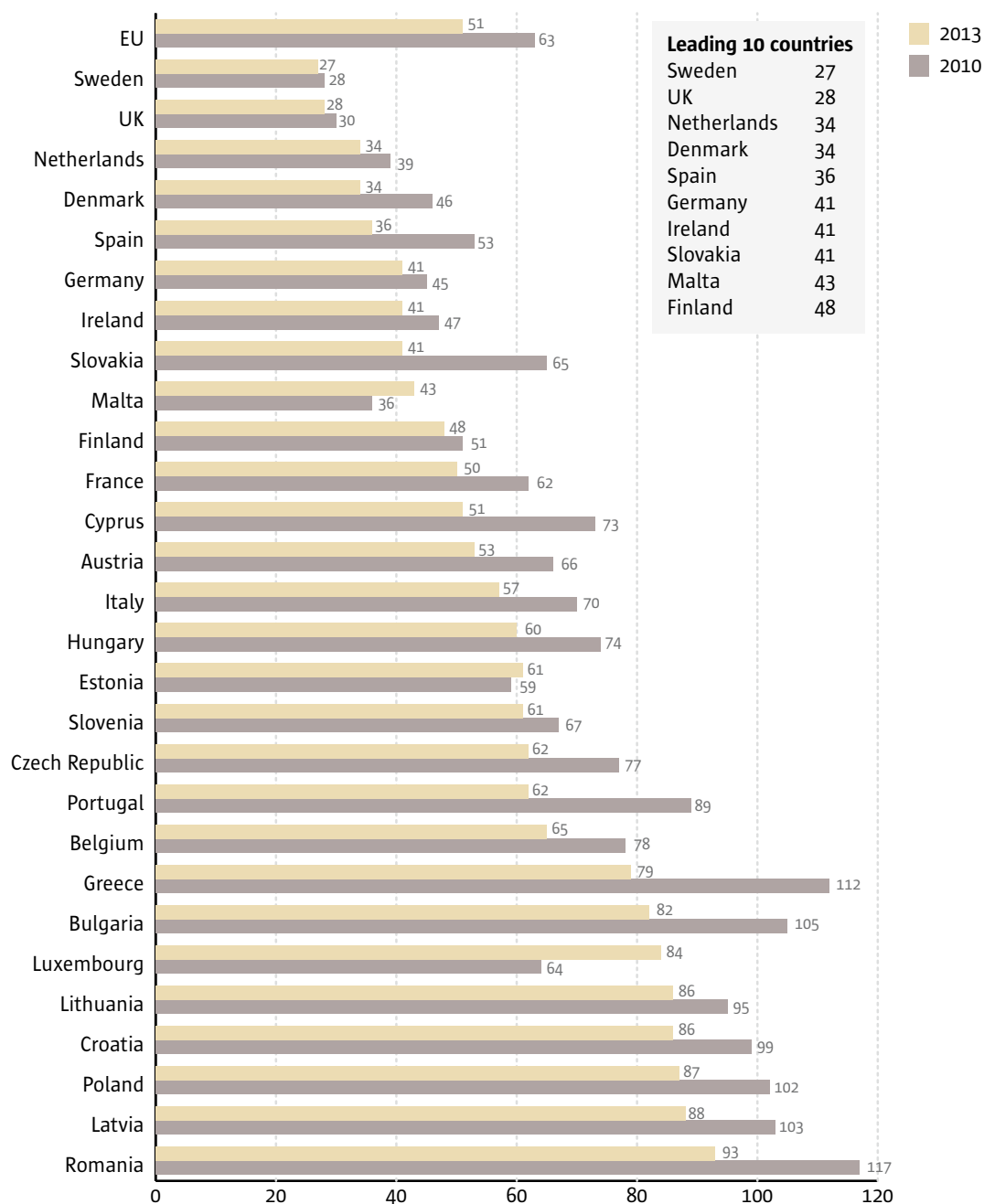


Sources: Road Safety Authority; Central Statistics Office and Transport Omnibus; Sustainable Energy Authority of Ireland.

European Context

In 2013 there was an increase in the number of road deaths of 16% compared to 2012 in Ireland. However, fatalities per million inhabitants declined between 2010 (47 per million) and 2013 (41 per million; figure 28).

Figure 28. Road deaths per million inhabitants in the EU28, 2013 and 2010⁴



- Ireland ranked 6th out of the EU28 in road deaths per million of population with 41 deaths per million in 2013
- Countries such as the United Kingdom, Sweden, and The Netherlands consistently sit towards the top in respect of their road safety record.

4 8th Annual Road Safety Performance Index (PIN) Report, ETSC, June 2014.
<http://etsc.eu/8th-annual-road-safety-performance-index-pin-report/>

Targets for 2020

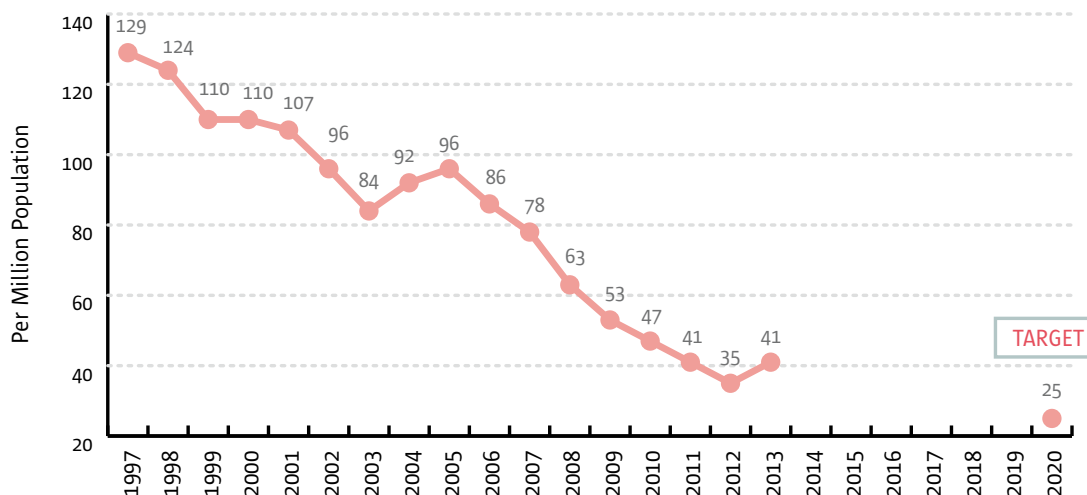
Government Road Safety Strategy 2013-2020



The position in relation to fatalities in 2013 was 41 deaths per million (figure 21).

- In order to meet the target of 25 per million population, or 124 deaths by 2020, a 34% decline in fatalities between 2013 and 2020 is required.
- This is equivalent to a reduction of 6% per annum.

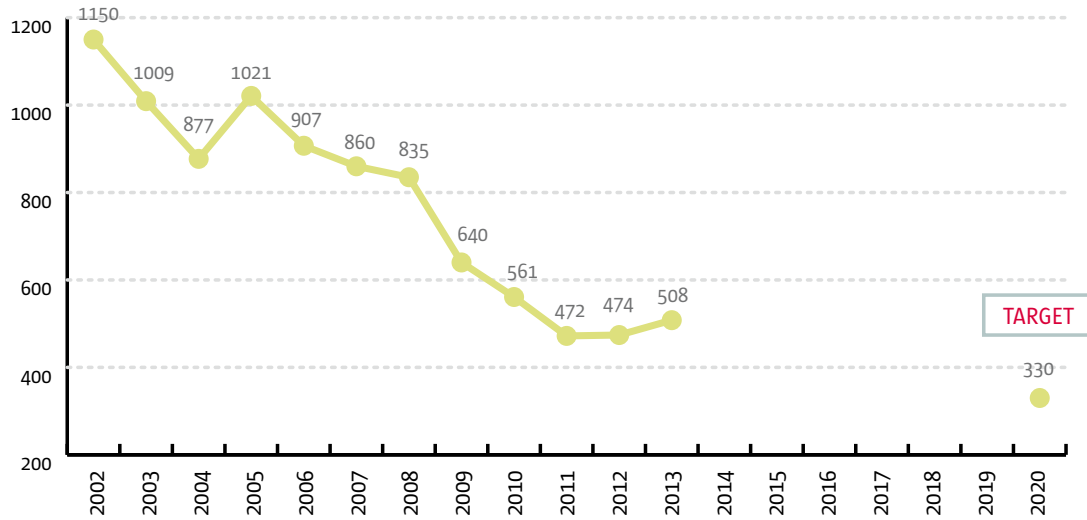
Figure 29. Fatalities per million in Ireland and the 2020 Target



There were 508 serious injuries reported in 2013 (figure 30).

- The target set for serious injury was a 30% reduction between 2011 and 2020. This equates to a target figure of 330 serious injuries by 2020.
- In order to meet this target based on 2013 figures, which are higher than those in 2011, a reduction in serious injuries of 35% is now required to reach the 2020 target of 330.
- This is equivalent to a reduction of 6% per annum.

Figure 30. Number of serious Injuries in Ireland and the 2020 Target



Appendix 1

Cost of road collisions 2013

The cost of collisions was based on those outlined in the 2004 Goodbody Economic consultant’s report entitled ‘Cost Benefit Parameters and Application Rules for Transport Project Appraisal’ which was commissioned by the Department of Transport. Using the updating mechanism as set out in the Goodbody Economic consultant’s report which is to inflate the year 2002 cost values to 2013 values using the growth in Gross National Product per person employed, the estimated cost of all fatal and injury road collisions reported is €863,058,141.

Type of Collision	Number of Collisions	Cost per collision	Total cost
Fatal	179	2,776,494	€496,992,463
Serious	398	370,930	€147,630,094
Minor	4,399	36,533	€160,707,869
Material	21,734	2,923	€63,520,342
Total	26,710		€868,850,768

Notes and definitions

All Road Collisions

'All reported Road collisions' means all collisions investigated by or brought to the notice of An Garda Síochána where the exact location of the collision can be determined.

Collisions and Casualties

Road Collisions are classified as fatal, serious, minor or material damage. Fatal, serious, and minor collisions are those where an injury has occurred. A material damage collision is one where no deaths or injuries occur but damage is caused to a vehicle or property.

Fatal Collision: an injury collision resulting in a person killed.

Serious Injury Collision: an injury collision where there are no deaths but a person or persons are seriously injured.

Minor Injury Collision: an injury collision where there are no deaths or serious injuries.

Casualty: any person killed or injured.

Fatality: any person killed immediately or dying within 30 days of the date of the collision as a result of an injury collision. This definition is used an International definition used by many EU countries.

Seriously injured: a person who, as a result of an injury collision, sustained an injury for which the person is detained in hospital as an 'in-patient', or any of the following injuries whether or not detained in hospital: fractures, concussion, internal injuries, crushings, severe cuts and lacerations, severe general shock requiring medical treatment.

Minor injury: a person who as a result of an injury collision sustained an injury of a minor character such as a sprain or bruise.

For those with unspecified injuries, the injury cannot be classed as serious or minor and no further details, such as age or gender, are available.

Learner Driver

A learner driver is a driver holding a learner permit.

Vehicles

Vehicles are classified as follow

1. Pedal Cycle

A pedal cycle is a two or three-wheeled road vehicle fitted with pedals deriving its sole means of propulsion from human power.

2. Motorcycle

A motorcycle is any mechanically propelled two-wheeled machine and includes mopeds and motor scooters.

3. Car

A passenger road motor vehicle, other than motor, seating not more than eight passengers (excluding the driver).

4. Public Service Vehicle (PSV)

A passenger road motor vehicle having seating accommodation for more than eight passengers (excluding the driver), and used for the carriage or passengers for reward.

5. Goods Vehicle

A road motor vehicle designed, exclusively or primarily, to carry goods.

6. Other Motor Vehicle

Other motor vehicles are miscellaneous types of motor vehicle not falling into any of the main categories (e.g. Agricultural Tractors).

Dark

By 'dark' is meant the hours of darkness which begin half an hour after sunset and end half an hour before sunrise.

Working to Save Lives

February 2016

Údarás Um Shábháilteacht Ar Bhóithre Road Safety Authority

Páirc Ghnó Ghleann na Muaidhe, Cnoc an tSabhaircín, Bóthar Bhaile Átha Cliath, Béal an Átha, Co. Mhaigh Eo.
Moy Valley Business Park, Primrose Hill, Dublin Road, Ballina, Co. Mayo.

local: 1890 40 60 40 fax: (096) 25 000 email: info@rsa.ie website: www.rsa.ie