

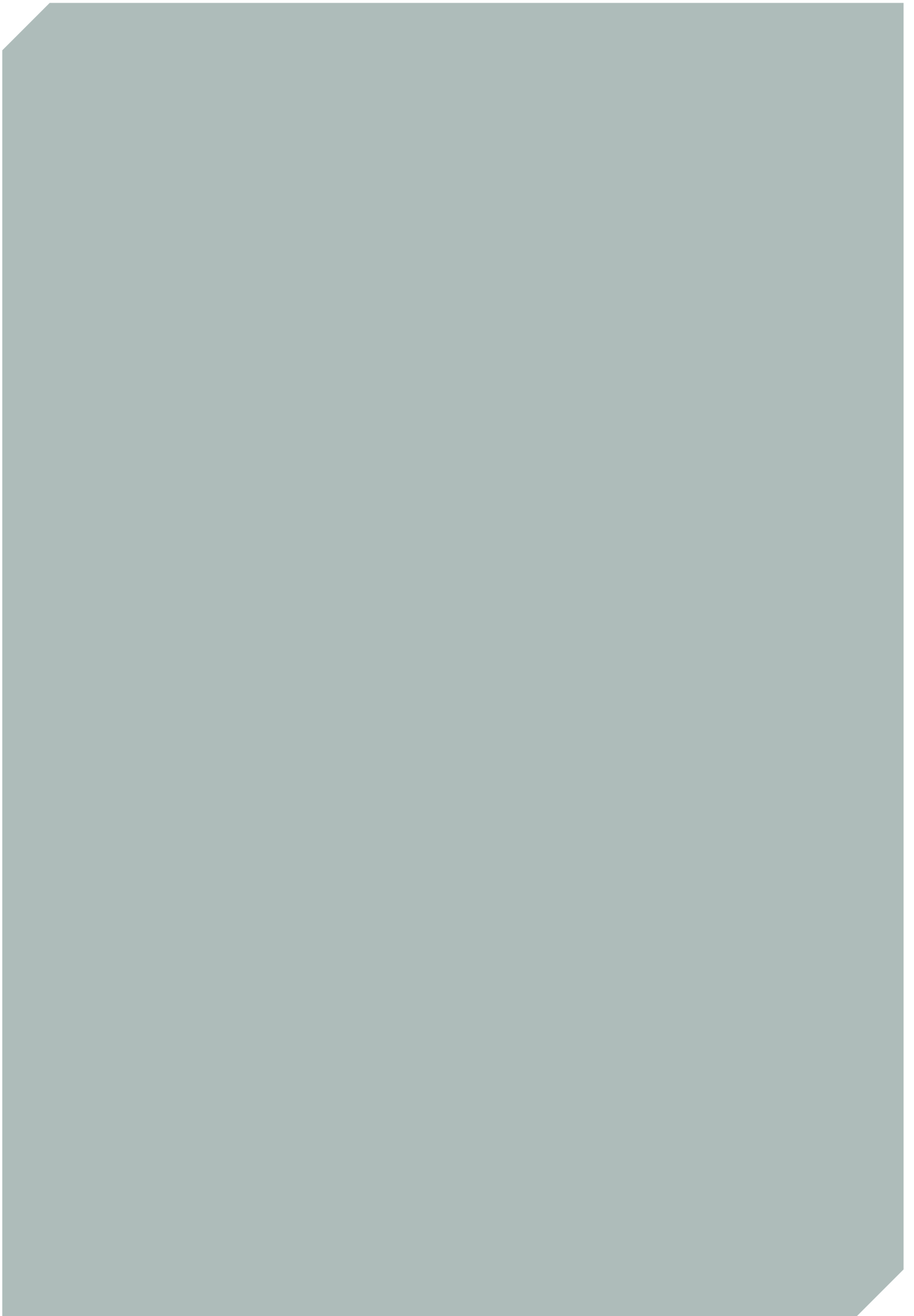


Cyclist Injuries

A Review of 2012 Casualties

Research Department, 6th August 2014

Údarás Um Shábháilteacht Ar Bhóithre
Road Safety Authority



A review of cyclist casualties in 2012

This report has been prepared by the Research Department of the Road Safety Authority in response to an increase in cyclist injuries recorded in 2012.

The collision data included in this report is based on cyclist collisions that occurred on public roads in Ireland in 2012 and were reported to An Garda Síochána, and these reports were subsequently transferred to the Road Safety Authority for analysis.



Summary of main findings

- In 2012 there was a 59% increase in the number of cyclists injured on Irish roads. A total of 630 cyclists were injured, the highest number in the last 10 years. By contrast, there was a decline in cyclist fatalities in 2012 (down from 9 to 8).
- The 2011 CSO Census Report has indicated that cycling is most popular among men, also in Dublin rather than in any other county. It noted a 9.6% increase in the number of people cycling to work between 2006 and 2011.
- Three quarters of cyclists injured in 2012 were male, while over half were aged 25-49.
- The evening and morning rush-hour, followed by lunchtime, are the times of day when cyclists are most likely to be injured.
- The months May through to September represent the most dangerous months of the year for cyclists to be injured on our roads.
- Over 4 in 10 cyclists who were injured in 2012 were cycling for leisure purposes at the time of the collision, while almost 1 in 10 were cycling to/from work.
- Over 8 in 10 cyclist injuries occurred in built up, rather than in rural areas. Over half of cyclists injured in 2012 were injured when cycling in Dublin, by far the most dangerous county for cyclists.
- The most dangerous manoeuvres taken by drivers include right turns, followed by left turns. These manoeuvres by drivers account for almost 4 in 10 injuries to cyclists.
- Almost half of cyclists injured in 2012 were injured at junctions, with T-junctions representing the most dangerous type of junction.
- Three quarters of cyclists injured in 2012 were injured in daylight hours of good visibility.

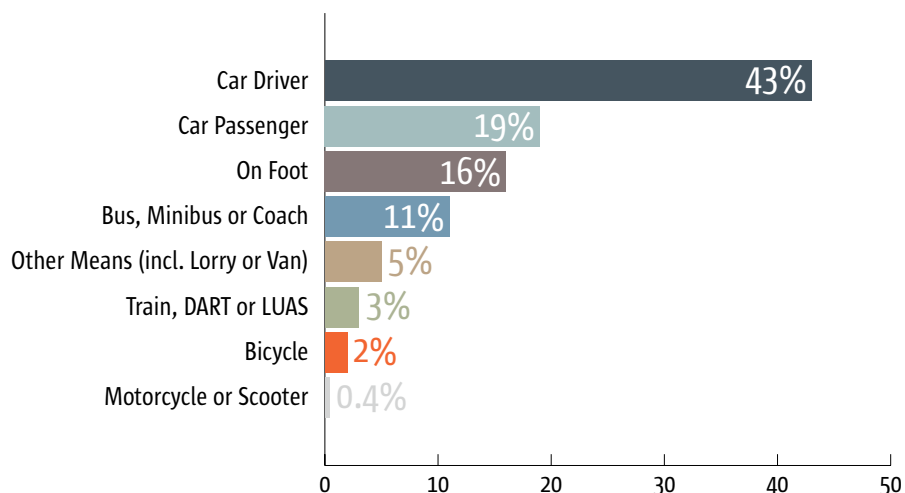
Context: growing popularity of cycling

Cycling is well known to be cheap, causes little pollution, and sustains health but cyclists are at risk of road traffic injuries from other road users.¹

According to the Central Statistics Office 2011 Census Report, there was a 9.6% increase in the number of people cycling to work between 2006 and 2011 (nationally), rising from 36,306 to 39,803. A further 21,374 people cycled to school or college in 2011. The 2011 census report showed men accounted for the majority (75%) of those cycling: 45,810 of the total of 61,177 cyclists were male. 2% of the Irish population cycled to work or school in 2011 (see Figure 1 below).

In 2011, 5% of all road users injured on the road were cyclists (see figure 2 overleaf). Injuries among cyclists are therefore disproportionately high relative to the cycling population.

Figure 1: Means of travel (%), 2011 census



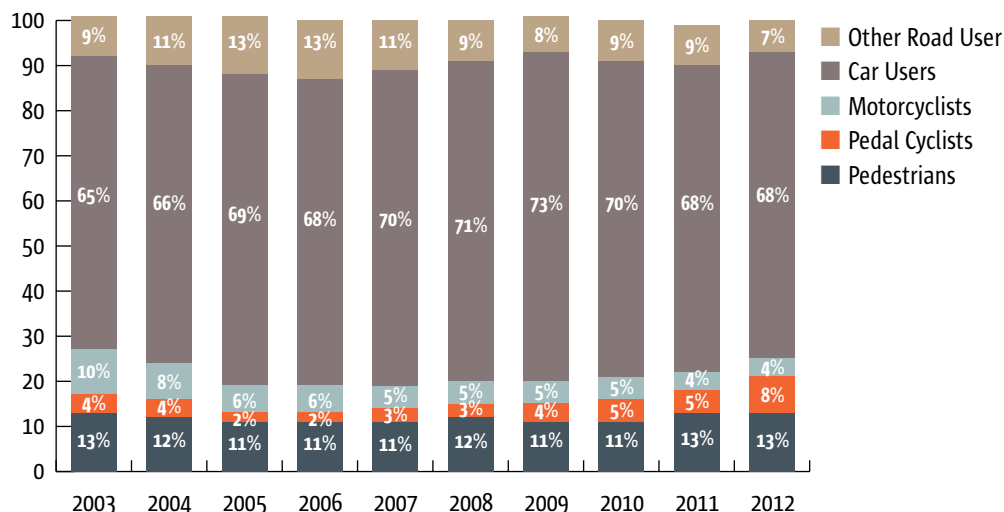
1. British Medical Association, 1992. *Cycling: Towards Health and Safety*. Wiley-Blackwell.

World Health Organization, 2013. Quantifying the health benefits of cycling and walking. <http://www.euro.who.int/en/what-we-do/health-topics/disease-prevention/physical-activity/activities/quantifying-the-health-benefits-of-cycling-and-walking>.

Trends in injuries among cyclists

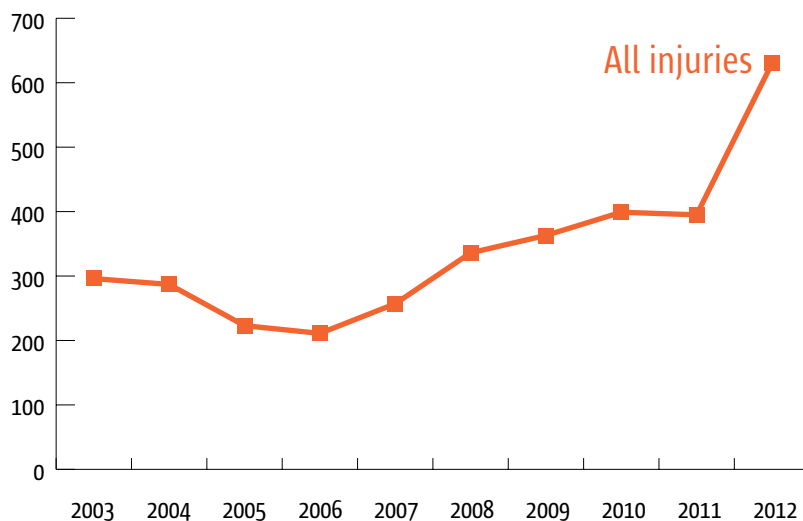
Prior to 2012, cyclist injuries represented approximately 2%-5% of all road users injured annually. In 2012, however, there was a marked increase in the number of cyclists injured, up from 395 to 630, a 59% increase. Cyclists share of injuries (relative to other road user groups) increased from 5% in 2011 to 8% of all road users injured in 2012 (see figure 2a). This is the highest level of cyclist injuries observed since 2003.

Figure 2a: Share of injuries by road user type, 2003-2012



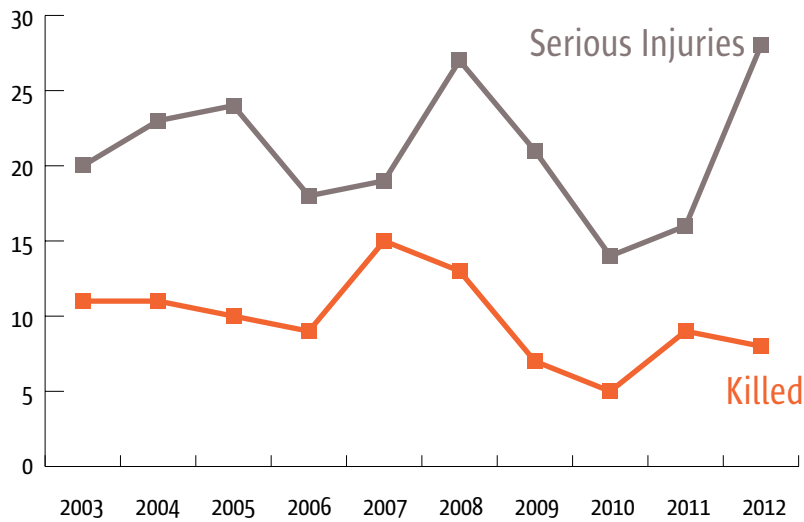
The trend in the number of cyclists injured in collisions over the last 10 years is shown below. There were 630 cyclists who were classified by An Garda Síochána as sustaining a minor/serious injury in 2012.

Figure 2b: Trend in cyclist injuries, 2003-2012



As illustrated in Figure 2c, the number of cyclists killed annually over the last 10 years peaked in 2007 (15 deaths); but since then there has been a declining trend in number of fatalities occurring annually. The number of serious injuries among cyclists declined in the period 2008 to 2010 but rose sharply in 2012, with almost 30 cyclists seriously injured in that year. (Note: An injury is deemed 'serious' by the Garda, and not a medical professional, at the scene of a collision. Serious injuries are underestimated, and a proportion of 'minor' injuries are likely to be serious.)

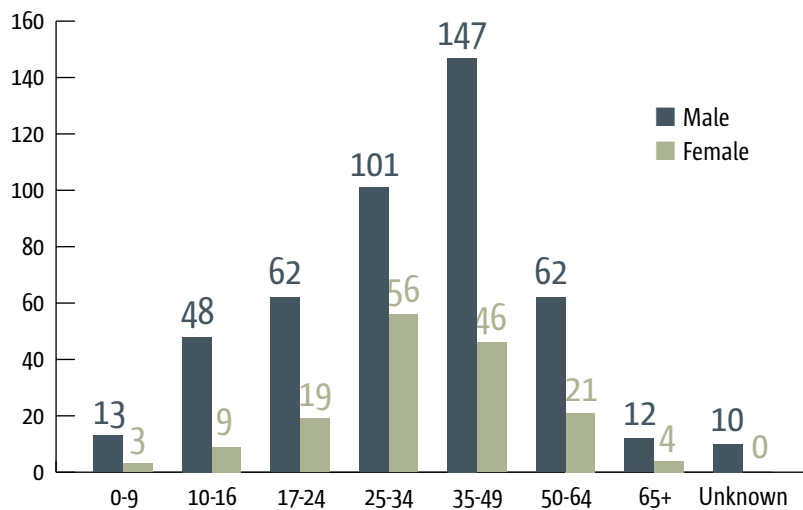
Figure 2c: Cyclist deaths/ serious injuries, 2003-2012



Gender and Age of Cyclist Casualties (All injuries; minor & serious)

Three in four cyclists injured in 2012 were male (74%), while over half (57%) were aged 25-49 years as illustrated in figure 3 below. Given the greater popularity of cycling among men (as per CSO), it stands to reason that the greater majority of injury collisions also occur among men. Significantly more males than females were injured in every age category.

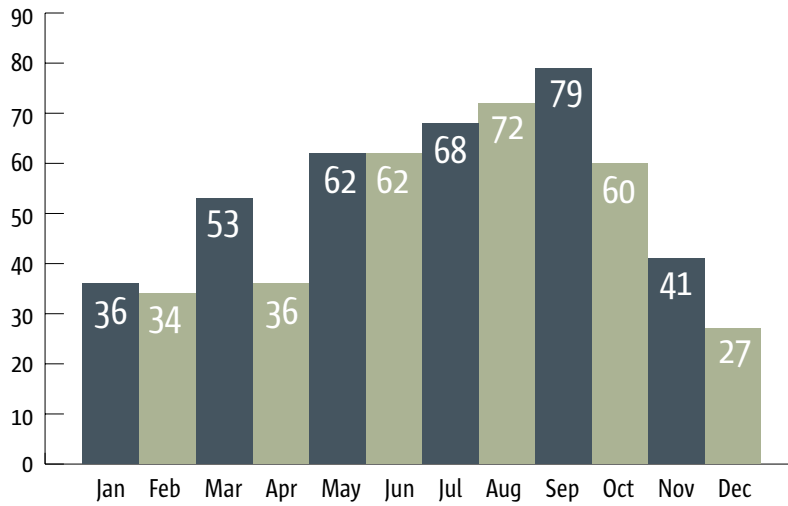
Figure 3: 2012 cyclist injuries by age & gender



When cyclists were injured

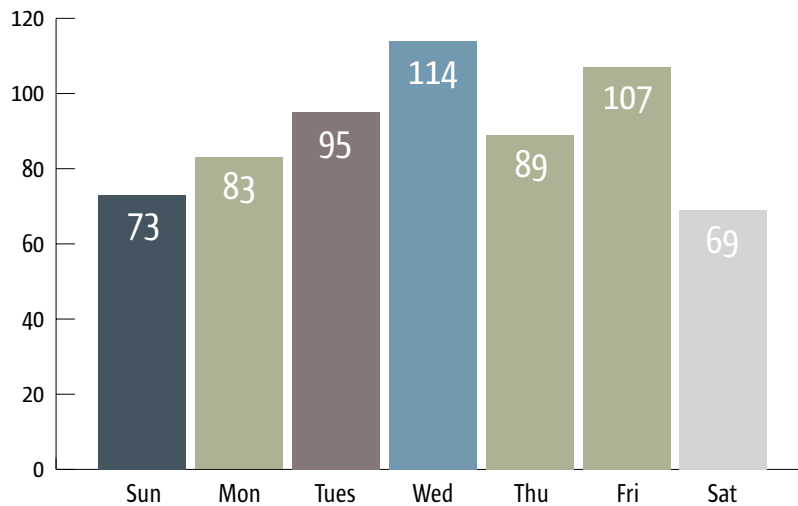
Cyclist injuries peaked during May through to September. Over half (54%) of cyclists injured in 2012 were injured during these months.

Figure 4: 2012 cyclist injuries by month



More cyclist injuries occurred mid-week than on the weekend, most likely reflecting commuting patterns to and from work/school and habitual cycling routines.

Figure 5: 2012 cyclist injuries by day of week

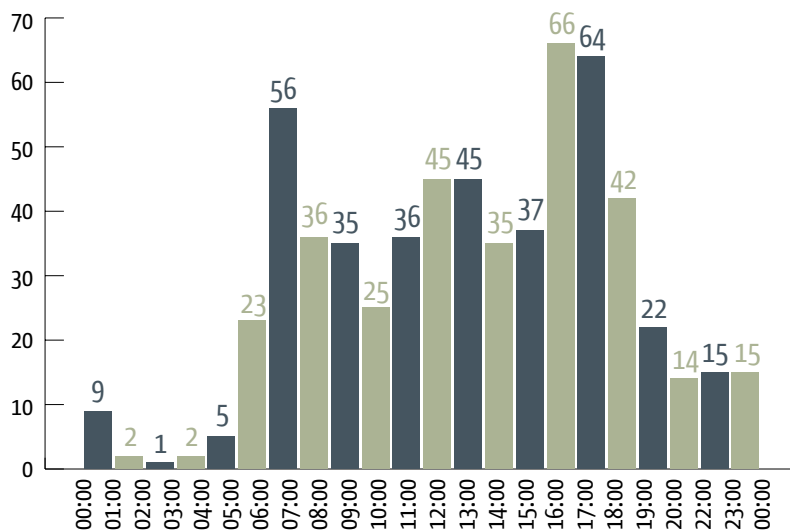




Time of day

The greatest number of cyclist injuries occurred in the evening rush hour between 17.00 and 19.00 (21%), but peaks were also observed early morning from 8am to 9am, and at lunchtime between 13.00 and 15.00.

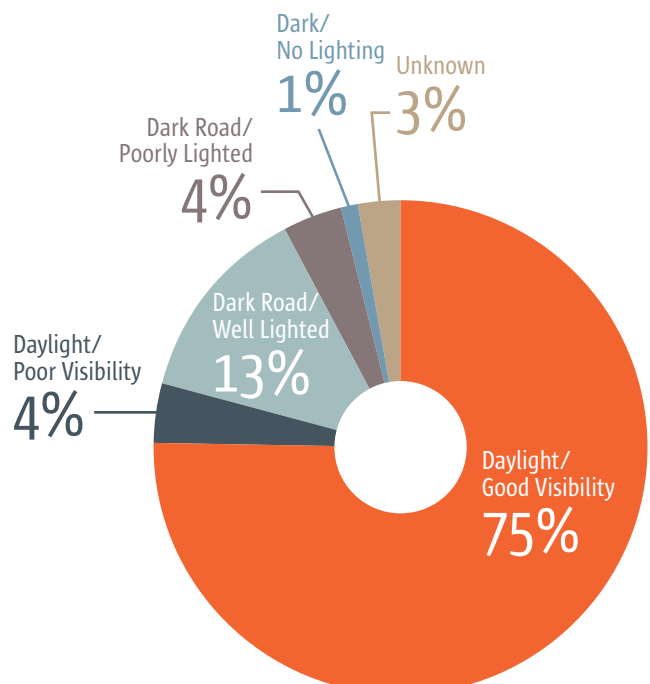
Figure 6: 2012 cyclist injuries by hour



Light conditions

The vast majority (75%) of cyclist injuries occurred in daylight hours with good visibility. Fewer than a quarter of injuries occurred in any type of poor lighting conditions.

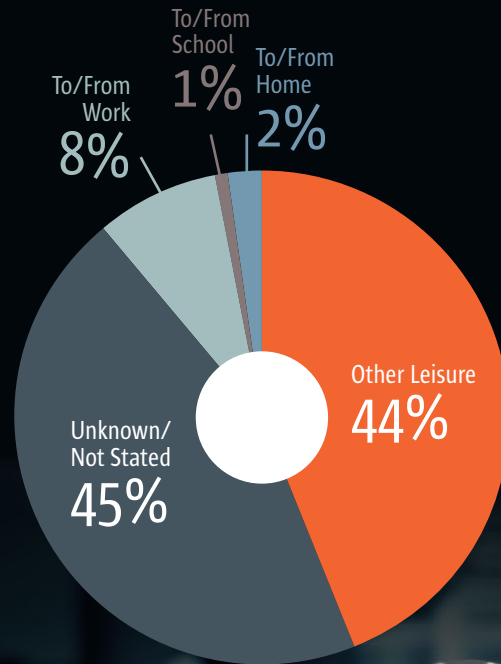
Figure 7: 2012 cyclist injuries by Light Conditions



Trip purpose

There was limited information available on the purpose of the trip of the cyclists who were injured in 2012. Where the purpose was stated, over 4 in 10 cyclists (44%) stated that they were cycling for leisure purposes when the collision occurred. Almost 1 in 10 (8%) were travelling to/from work, with a minority stating they were travelling to/from home (2%) or to/from school (1%). In case of almost half of the collisions, trip purpose was unknown.

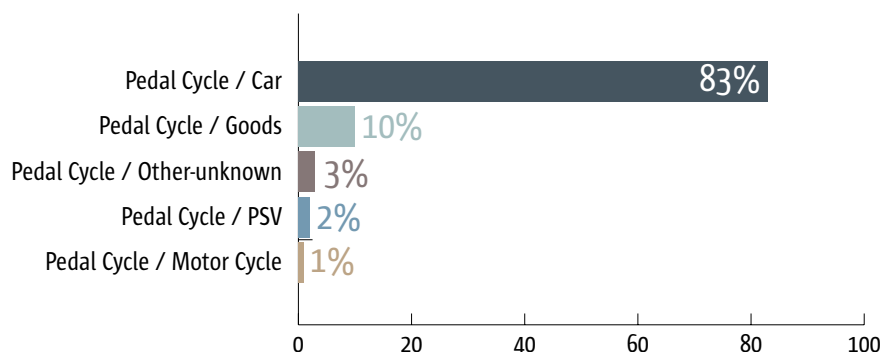
Figure 8: 2012 cyclist injuries by trip purpose



Vehicle manoeuvres of drivers

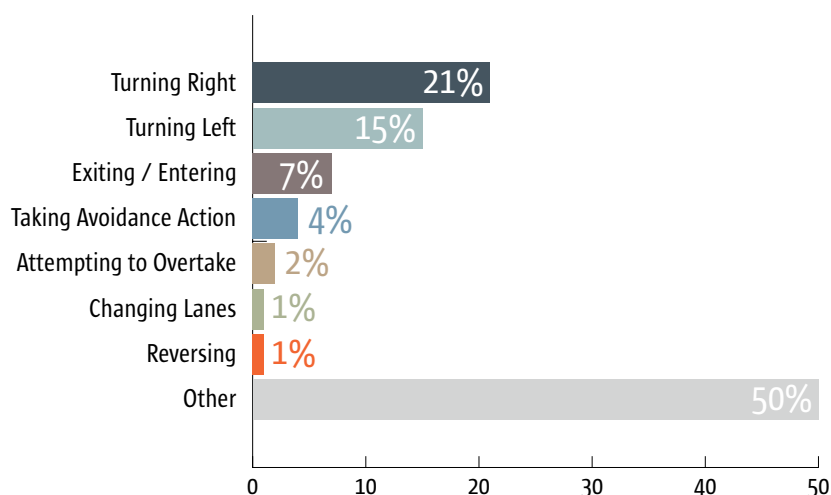
In the vast majority of cases, cyclists were injured due to a collision with another vehicle. Where another vehicle was involved, over 8 in 10 (83%) of the cyclists injured in 2012 were injured due to a collision with a car while 1 in 10 (10%) were injured due to a collision with a goods vehicle.

*Figure 9: 2012 cyclist injuries by vehicles involved in two vehicle collisions
Base: All cyclists injured in two vehicle collisions (n=586)*



An analysis of the manoeuvres taken by drivers at the time of the collision shows that the most dangerous manoeuvres for cyclists in 2012 were a right turn taken by a driver (responsible for 1 in 5 injuries), followed by a left turn taken by a driver (1 in 6 injuries). Entering/exiting junctions and taking avoidance actions also represent high risk driver actions for vulnerable cyclists as illustrated in Figure 10.

*Figure 10: 2012 cyclist injuries by manoeuvres of drivers involved
Base: All cyclists injured where driver manoeuvre is specified (n=486)*



Note: there was insufficient information available to report on the manoeuvres taken by cyclists at the time of the collision.

Location

Over 8 in 10 (83%) cyclists injured were injured in collisions occurring in urban or built-up areas; and almost 9 in 10 (88%) occurred on two way single carriageways.

Figure 11: 2012 cyclist injuries by urban/rural

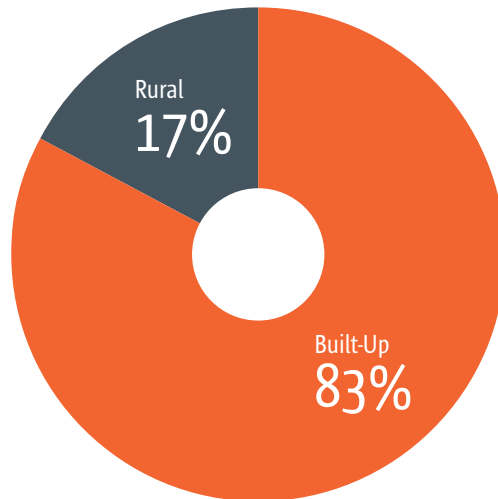
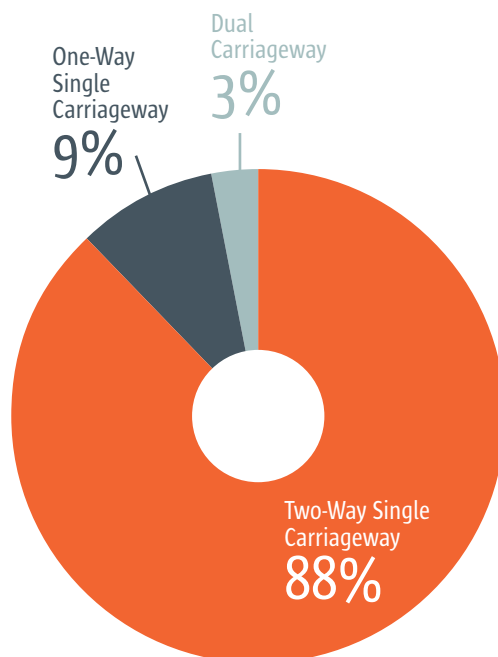


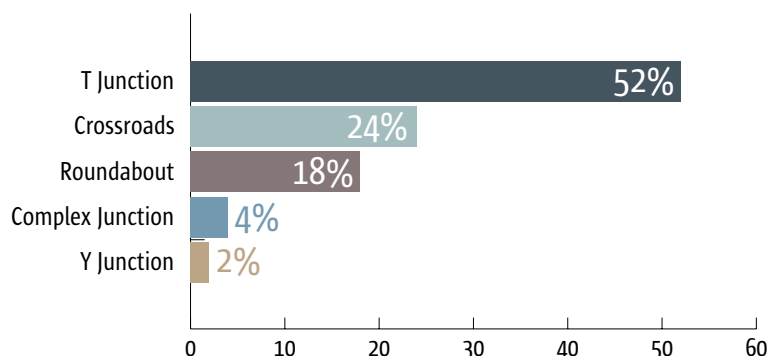
Figure 12: 2012 cyclist injuries by road type



Junction type

Almost half (49%) of cyclists injured in 2012 were injured in collisions occurring at a junction; where the junction type was specified, it appears that T-junctions are the most dangerous junction types for cyclist injuries (52% of collisions at junctions occurred at this junction type), followed by cross-roads and roundabouts.

Figure 13: 2012 cyclist injuries by junction type
Base: All cyclists injured where junction of collisions is specified (n=308)

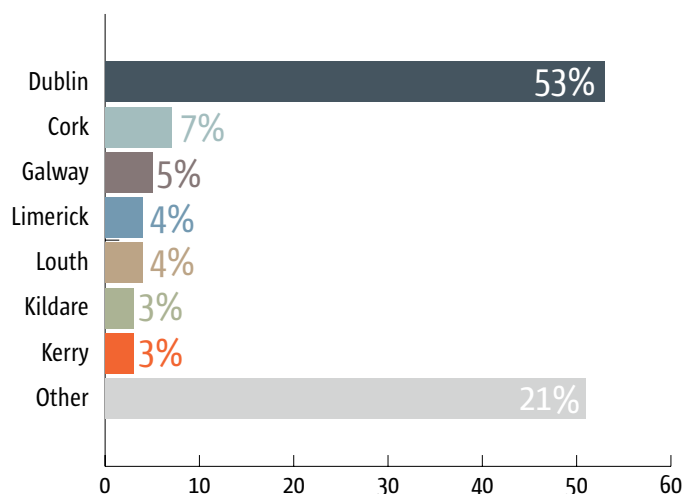


Injury breakdown by county

Just over half (53%) of cyclists injured in 2012 were injured in a collision occurring in Dublin. The capital represents by far the greatest proportion of injury collisions involving cyclists, as other major urban centres such as Cork, Galway and Limerick represent a much smaller proportion of injury collisions.

According to the 2011 census report, 6% of those living in Dublin cycle to work (see Figure 16 appendix). However, given that 17% of those injured on our roads in Dublin in 2012 were cyclists (figure 15 appendix), this indicates that cyclists in Dublin are over-represented in injury figures by almost a factor of three. Cycling is therefore a particularly dangerous mode of travel in Dublin per cyclist population.

Figure 14: 2012 cyclist injuries by county



Note: see table 1 in appendix for full county breakdown

Appendix

Figure 15: Share of injuries by road user type and county in 2012

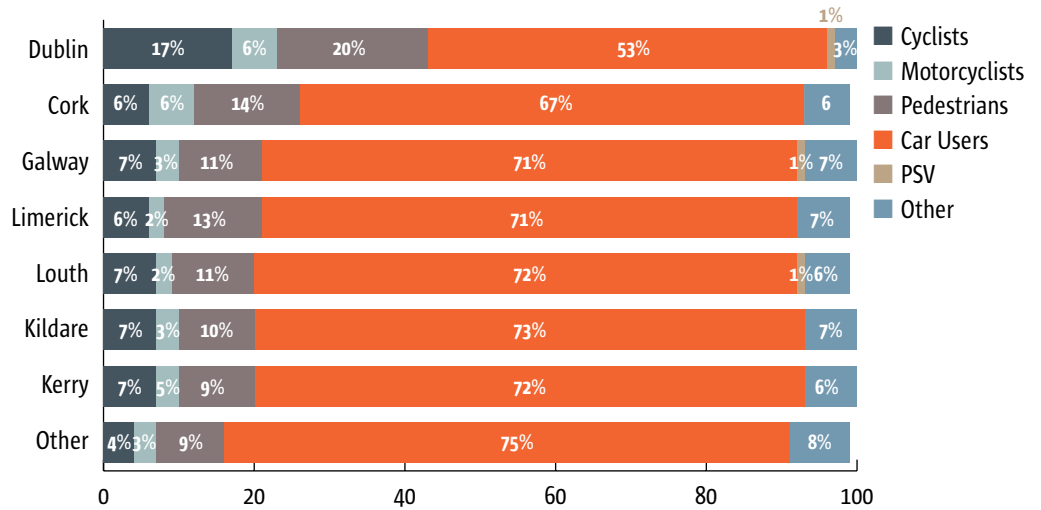


Figure 16: % share of means of travelled to work by main population centres in 2011 (census data)

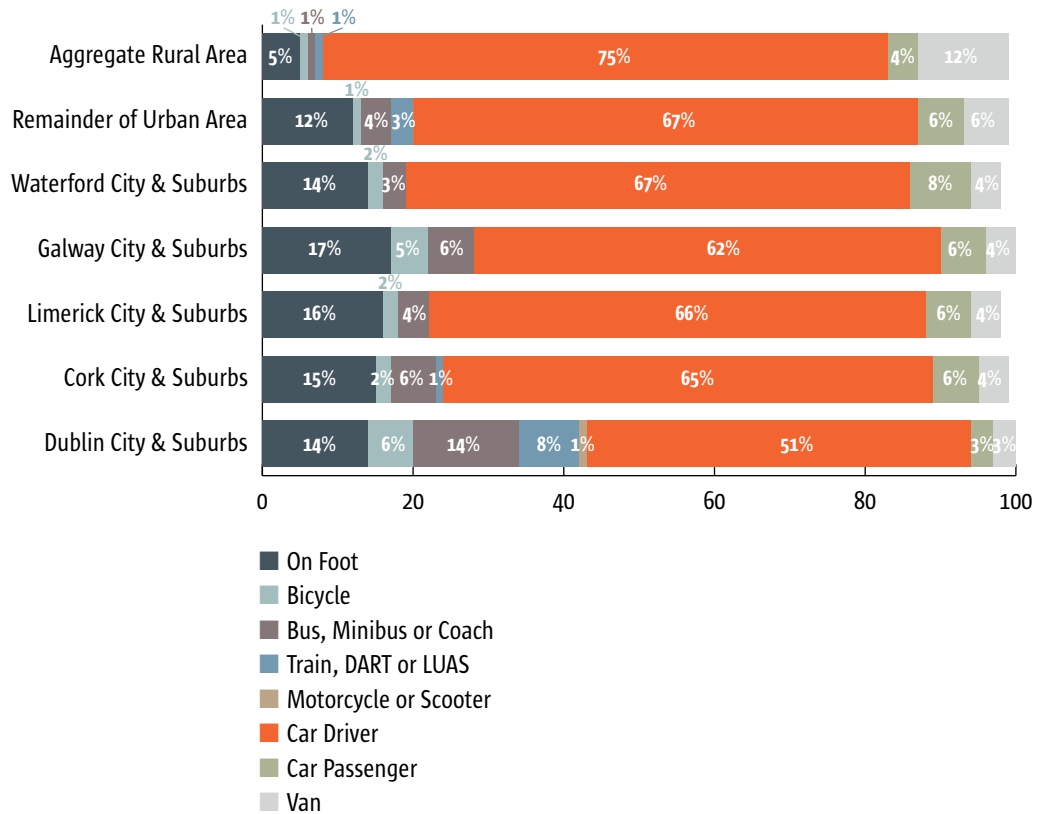
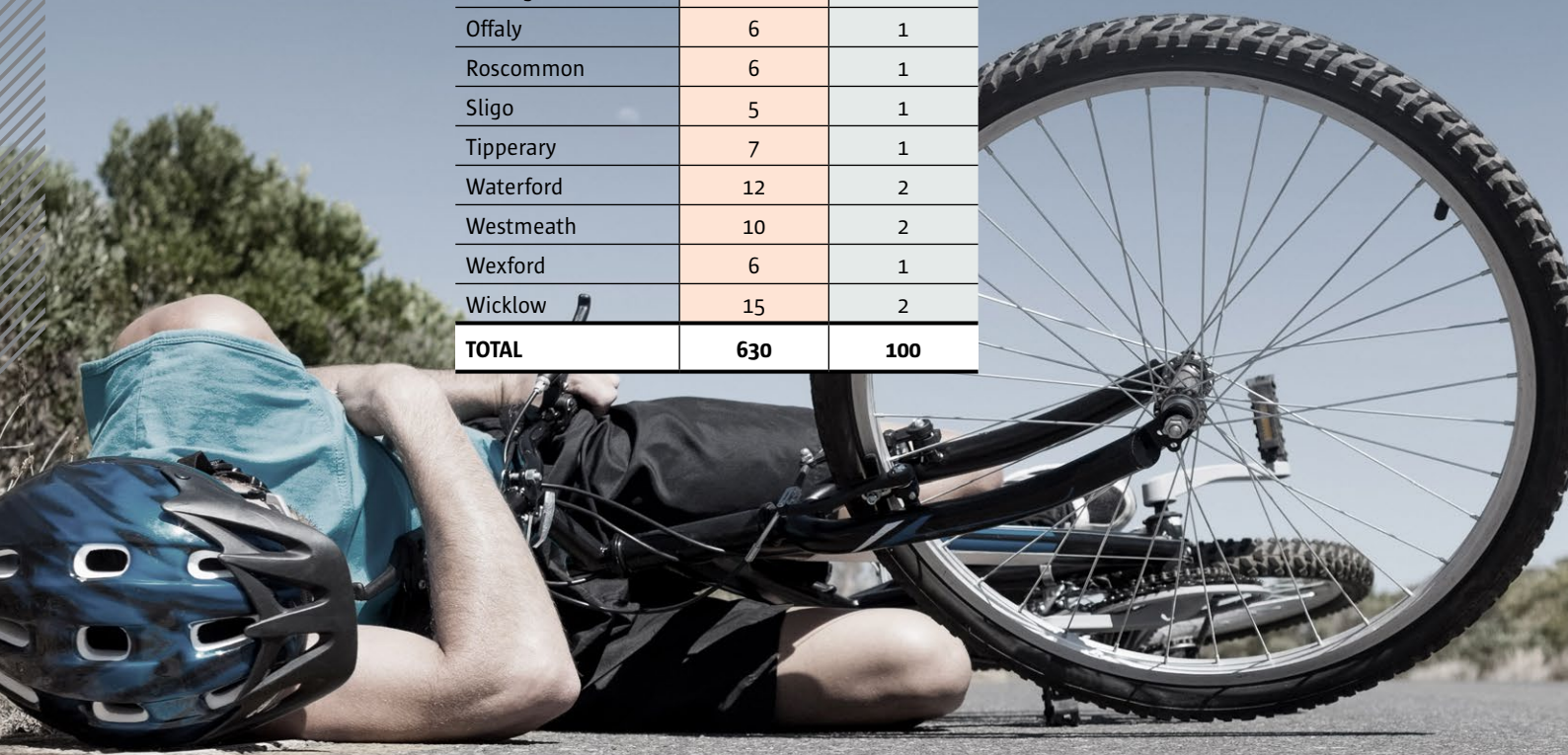
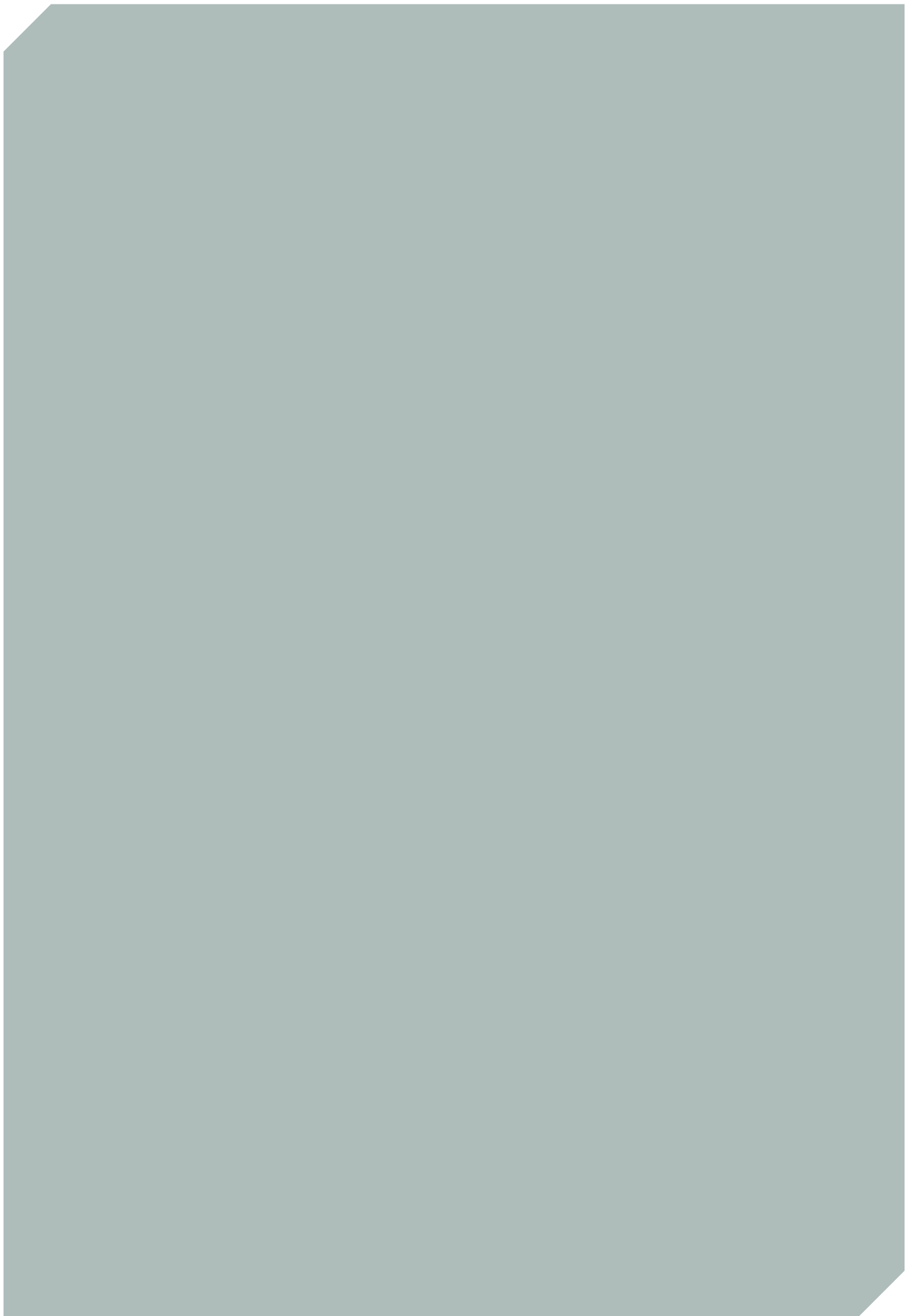


Table 1: 2012 cyclist injuries by county

County	Injuries	%
Carlow	1	0
Cavan	1	0
Clare	13	2
Cork	46	7
Donegal	7	1
Dublin	335	53
Galway	33	5
Kerry	17	3
Kildare	19	3
Kilkenny	8	1
Laois	11	2
Limerick	25	4
Longford	3	0
Louth	24	4
Mayo	5	1
Meath	13	2
Monaghan	2	0
Offaly	6	1
Roscommon	6	1
Sligo	5	1
Tipperary	7	1
Waterford	12	2
Westmeath	10	2
Wexford	6	1
Wicklow	15	2
TOTAL	630	100





Working to Save Lives

Údarás Um Shábháilteacht Ar Bhóithre Road Safety Authority

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