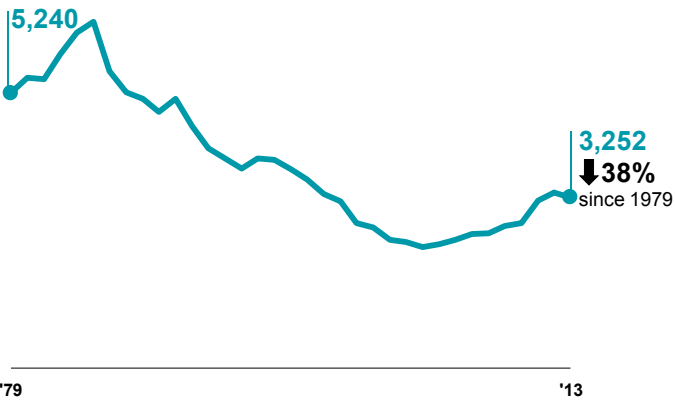




Overview

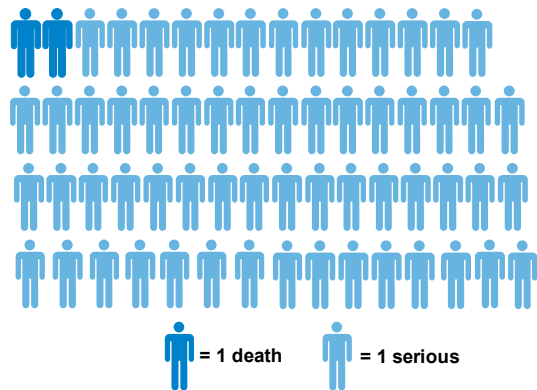
Pedal cyclists are one of the vulnerable user groups, along with motorcyclists, horse riders and pedestrians. These groups are not protected by a vehicle body in the same way car users, etc., are, and tend to be harder for other drivers to see on the road. They, therefore, are particularly vulnerable to injuries and accidents. In contrast with motorcyclists, pedal cyclists are less able to use acceleration to keep them safe in traffic.

Killed or seriously injured, 1979-2013



Average per week, 2013

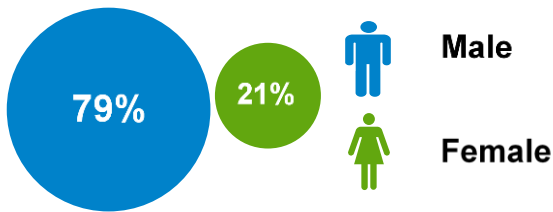
An average of 2 deaths and 60 serious injuries per week



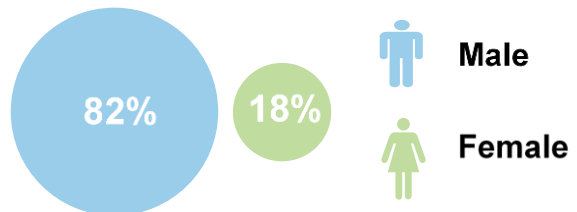
Gender differences

Male pedal cyclists account for the majority of the average distance travelled and the of KSI casualties

Pedal cyclist average distance travelled by gender

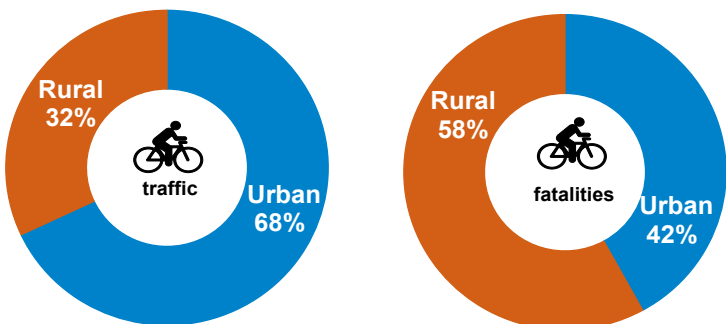


Pedal cyclist KSIs by gender



Pedal cycle traffic and fatalities

Rural roads account for 32% of pedal cycle traffic, but account for 58% of pedal cyclist fatalities.



Contributory factors allocated

23% of pedal cyclists involved in accidents failed to look properly.

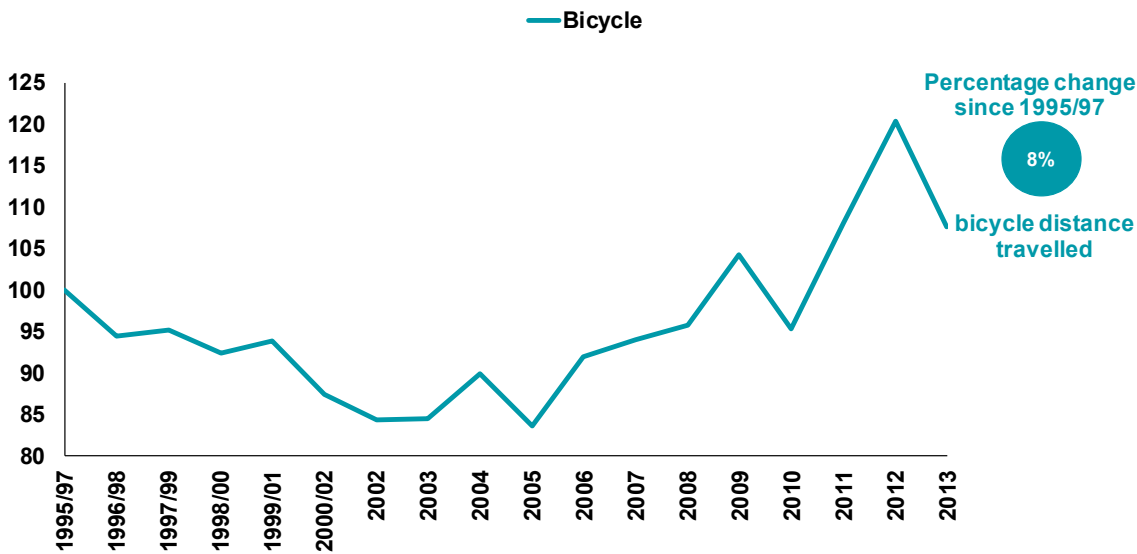
10% of pedal cyclists involved in accidents failed to judge a vehicle's path or speed

KSIs by time and day of week

78% of pedal cyclist KSIs occur during the week (Monday to Friday) between the morning hours of 7-9am and 3-7pm.

How far do pedal cyclists travel?

Average distance travelled by bicycle, England, 1995/97 to 2013



- Estimates from the National Travel Survey (NTS) show that despite cycling accounting for only 2 per cent of trips made in 2013, the average distance travelled by cyclists has increased however.
- The average distance travelled by bicycle increased by 8 per cent from 46 miles per person per year in 1995/97 to 49 miles in 2013.
- The average distance travelled by London residents has also increased by 55 per cent since 1995/97

Casualty rates per mile cycled

Relative risk of different forms of transport, Great Britain: 2013

	Casualty rate ¹ per billion vehicle miles	
	Killed	Killed or seriously injured
Car occupants	2	21
Pedestrian ²	34	463
Pedal cyclist	34	1,036
Motorcycle users	114	1,789

¹ Rates calculated using traffic figures

² National Travel Survey data used to calculate pedestrian rates. NTS data based on England only resident sample

pedestrians and 49 times higher than for car occupants.

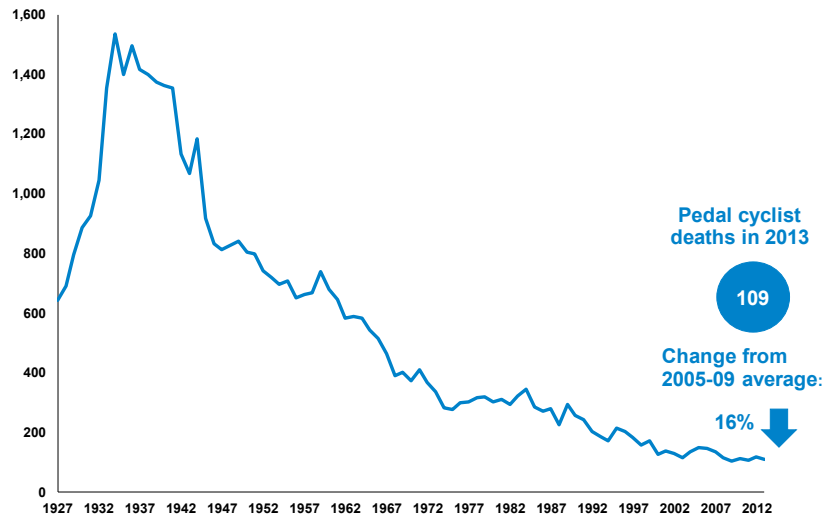
- Despite cycling being less safe relative to some other modes of transport, at an absolute level, it is, nevertheless, a safe way of travelling and serious accidents are rare. In 2013 there was roughly **1 KSI casualty per 1 million miles cycled** and **1 KSI casualty per roughly 100,000 hours of cycling**.

- Pedal cyclists have a higher **fatality rate** in comparison with car occupants. However it is still a lower risk than for a motorcyclist.

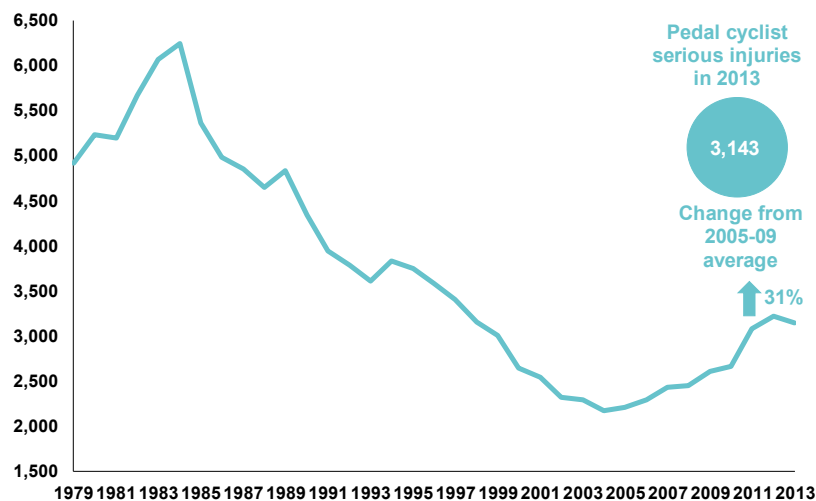
- The **fatality rate for cyclists** is the same as for pedestrians per mile travelled. However, the rate per mile travelled for a pedal cyclist **KSI casualty** is double the rate for

Reported pedal cyclist fatalities, GB: 1930 – 2013

- Since the peak number of cyclist deaths in the 1930s, the number of pedal cyclists **killed** in reported road accidents has had a long term fall. Over the last six years it has levelled out and fluctuated between roughly 100 and 120 a year.
- The highest number of **cyclist deaths** was 1,536 in 1934 and the lowest annual figure was 104 in 2009, 93 per cent lower than the 1934 high.



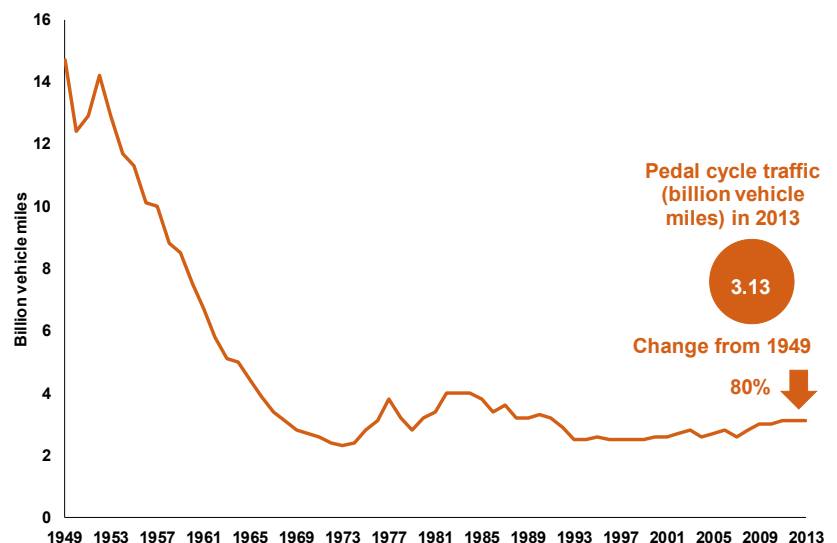
Reported pedal cyclists serious injuries, GB: 1979 – 2013



- The number of pedal cyclists **seriously injured** in reported road accidents reached a record low of 2,174 in 2004. Since then, serious injuries have increased in most years. In 2013 there were 3,143 pedal cyclist serious injuries, 3 per cent lower than in 2012.

Reported pedal cycle traffic, GB: 1949-2013

- The highest annual figure recorded for **pedal cycle traffic** was 14.7 billion vehicle miles in 1949, the first year road traffic estimates were recorded. Pedal cycle traffic accounted for 35 per cent of road traffic in GB. The lowest annual figure was 2.3 billion vehicle miles in 1973.
- Pedal cycle traffic accounted for 1 per cent of road traffic in GB in 2013, but the total distance cycled has been increasing over recent years. This might at least partly explain the increase in pedal cyclist casualties.



Reported pedal cyclist casualties by severity, GB: 2000 – 2013

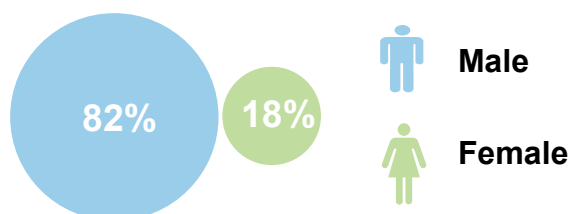
- Pedal cyclist **casualties of all severities** fell each year from 2000 to 2007. Since then there has been an upward trend with the exception of 2012.
- It has been long known that a considerable proportion of non-fatal casualties are not reported to the police. Pedal cyclist non-fatal casualties are amongst the most likely to be **under-reported** in road accident data. This should be borne in mind when analysis and interpreting the data.
- Pedal cyclist casualties account for 17 per cent of HES road traffic accident casualties in England, but only 8 per cent in the STATS19 dataset. This suggests that twice as many cyclists end up in hospital than are reported in STATS19 dataset.

	Killed	Serious	Slight	All	Traffic
2000	127	2,643	17,842	20,612	2.57
2001	138	2,540	16,436	19,114	2.61
2002	130	2,320	14,657	17,107	2.71
2003	114	2,297	14,622	17,033	2.76
2004	134	2,174	14,340	16,648	2.56
2005	148	2,212	14,201	16,561	2.68
2006	146	2,296	13,754	16,196	2.80
2007	136	2,428	13,631	16,195	2.55
2008	115	2,450	13,732	16,297	2.84
2009	104	2,606	14,354	17,064	2.97
2010	111	2,660	14,414	17,185	3.00
2011	107	3,085	16,023	19,215	3.07
2012	118	3,222	15,751	19,091	3.11
2013	109	3,143	16,186	19,438	3.13

Gender differences

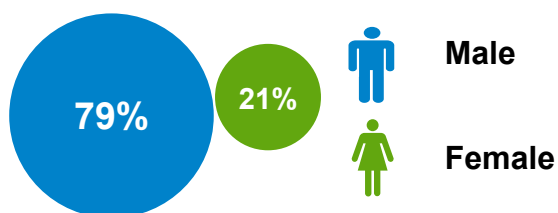
- **Males** make up the majority (82 per cent) pedal cyclist KSI casualties and females make only 18 per cent.

Pedal cyclist KSI casualties by gender

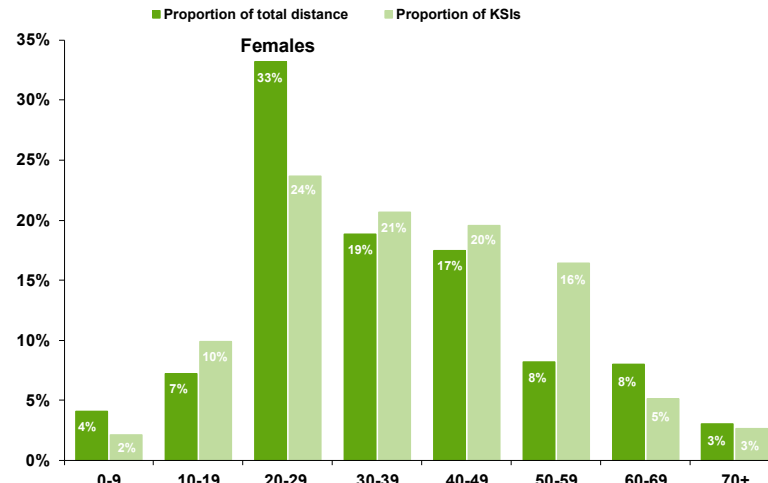
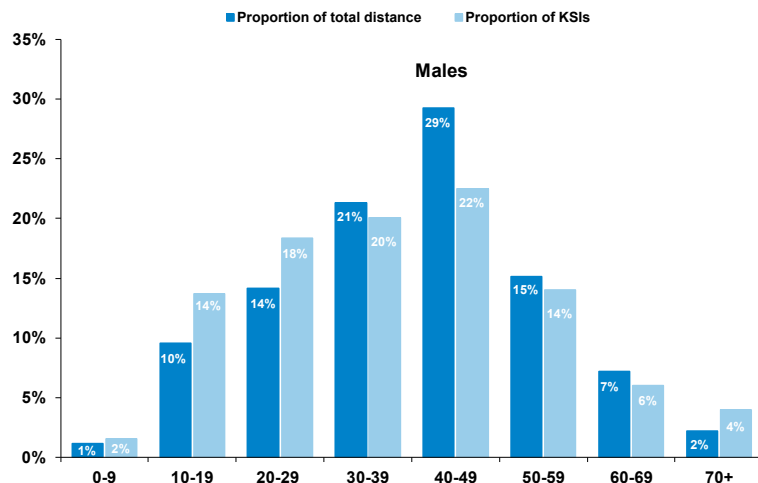


- The difference largely reflects the difference in **cycling prevalence** between males and females. In 2013, on average the cycling prevalence was **three times higher** amongst males than females (22 trips per male per year vs 7 trips per female or in distance terms, 80 miles vs 20 miles).

Pedal cyclist average distance travelled by gender








The proportion of total distance cycled and the proportion of killed or seriously injured casualties by gender and age group, GB: 2013



- The proportion of KSI casualties is in-line with proportion of male to female cyclists, given that males account for the majority of casualties of all severities in comparison with females.
- The step change from the 0 to 9 age group to the 10 to 19 age group for both males and females can probably be explained by the increase in more children aged 11 and over cycling to school.
- **Young male cyclists** in between the ages of 10 and 19 and those in their 20s are the most over-represented age group as cycling KSI casualties. In 2013 they accounted for 30 per cent of male pedal cyclist KSIs but only 25 per cent of miles cycled.
- In comparison, male pedal cyclists in their 30s and 40s are the most prevalent age groups for cycling, accounting for 50 per cent of miles cycled in GB. However, these age groups only account for 42 per cent of all male pedal cyclist KSIs in 2013.
- The pattern for **females** is very different. The most over-represented age groups for **female cyclist KSIs** are aged between 50 and 59. This group accounts for 8 per cent of miles cycled by females yet account for 16 per cent of casualties.

Which other vehicles types are involved in accidents?

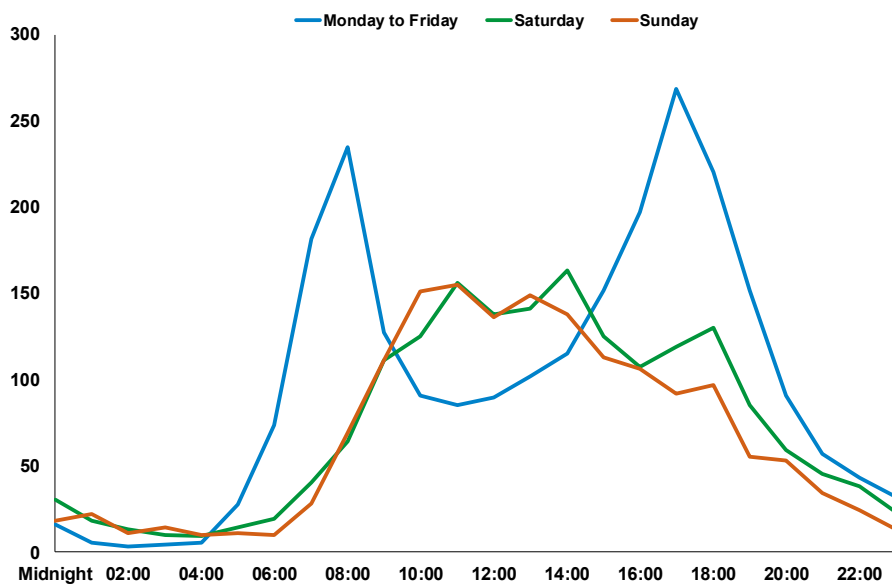
Proportion of traffic in Great Britain for each of the main road user types and the proportion of pedal cyclist fatalities and non-fatal injuries in which those vehicles were involved in, GB: 2009 to 2013

					
% of GB traffic	5	13	1	78	1
% of cycle deaths involved in	23	8	5	58	2
% of cycle serious injuries involved in	3	7	2	84	2
% of cycle slight injuries involved in	2	6	2	88	1
% of cycle casualties involved in	2	7	2	87	1

- The **distribution of involvement in accidents** involving pedal cyclists does not directly reflect the **distribution of traffic**.
- **HGVs** are disproportionately more likely to be involved in a pedal cyclist death: between 2009 and 2013 they were involved in around a quarter of deaths despite comprising only 5 per cent of traffic in GB.
- Unsurprisingly, collisions between **cars** and cyclists are the most common type of accident and result in the greatest number of both fatalities and injuries. Between 2009 and 2013 car traffic accounted for 78 per cent of traffic on the road, but only 58 per cent of cyclist fatalities. Cars are also involved in 87 per cent of overall pedal cyclist casualties and are therefore considerably over-represented in such accidents.
- The **size of the vehicle** involved in an accident with a pedal cyclist will be the key factor in determining the type of injury to the cyclist. A collision between a car and cyclist, for instance, is more likely to result in a cyclist injury than a cyclist death, whereas a collision between an HGV and a pedal cyclist even at low speeds is more likely to lead to crushing injuries that can be fatal to the pedal cyclist.
- The most common contributory factor allocated to vehicles involved in accidents with pedal cyclist is **'failed to look properly'**. Between 2009 and 2013, around half of light vans and cars involved in accidents with a pedal cyclist failed to look properly. A further 42 per cent of HGVs and 33 per cent of buses also failed to see a pedal cyclist.
- The contributory factor **'passing too close to pedal cyclist'** is also commonly recorded for **buses** and **HGVs**. Between 2009 and 2013, 23 per cent of HGVs and 21 per cent of buses involved in accidents with a pedal cyclist were allocated the contributory factor 'passing too close to pedal cyclist'.
- **HGVs** in particular are most commonly allocated the **'vehicle blind spot'** contributory factor in accidents they are involved with pedal cyclists. It is far harder for an HGV to see a pedal cyclist when **manoeuvring** in comparison with other vehicles such as cars. Between 2009 and 2013, 12 per cent of HGVs involved in accidents with pedal cyclists were allocated the vehicle blind spot contributory factor. Any improvements that can be delivered with regards to HGV safety, therefore, could have the potential to save a significant proportion of cyclist deaths.

Time of day of accidents

Reported pedal cyclist KSIs by time of day and day of week, GB: 2009 to 2013

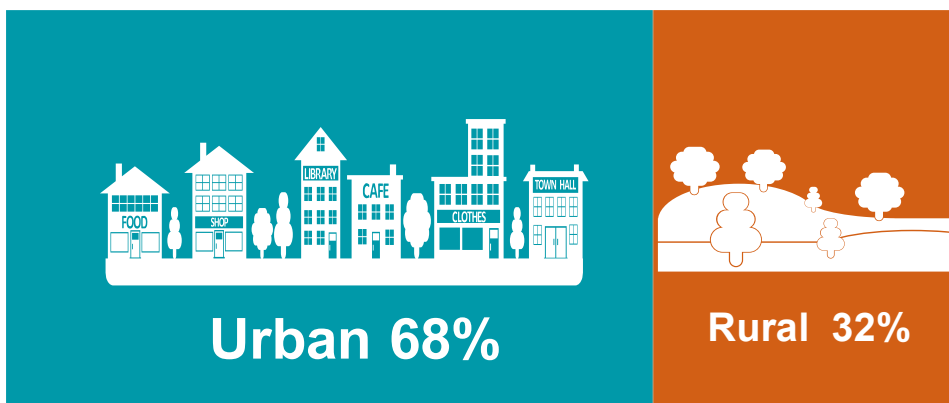


- The majority of pedal cyclist KSI casualties (78 per cent) occur during the week between **Monday and Friday**. The peak time for pedal cyclist KSIs is from **7am to 9am** and from **3pm to 7pm**. Accidents during these hours account for around 34 per cent of all pedal cyclist KSIs.

- This can be partly explained by the peak periods in which the greatest number of trips occur. The National Travel Survey records that the peak time for trips is during the week from 7am to 9 am or from 3pm to 7pm, which are work and school commuting times.
- In contrast, the pattern differs for **Saturday** and **Sunday**. Rather than having two distinct peaks during the day, over the weekend the number of accidents remains at a roughly equal level from 9 am through to around 4 pm before trailing off in the evening.

What type of road?

Pedal cycle traffic by road type, GB 2013

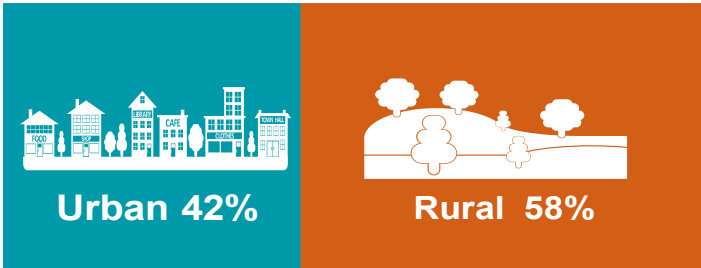


- **Pedal cycle traffic** is largely, but not exclusively, an urban phenomenon. Around 68 per cent of on-road pedal cycle traffic occurs on urban roads in comparison with 32 per cent on rural roads.

- Accidents that occur on rural roads are more likely to be of a fatal nature in comparison with those on urban roads. This is because of the difference in the **average speed on different roads**.
- Rural roads have a much higher average speed than urban roads. Rural roads are often also much more sinuous and narrow in nature, with blind bends, dips and other distractions. Accidents at lower speeds on urban roads are less likely to result in serious injuries (or no injuries at all).
- Mile for mile the risk of death on rural roads is around 1.7 times that on urban roads.

Pedal cyclist casualties by severity and road type, GB: 2013

Killed (109)



- Despite carrying only 32 per cent of pedal cycle traffic, over half (58 per cent) of **pedal cyclist deaths** occur on rural roads. Accidents that occur on rural roads are more likely to be of a fatal nature compared to those on urban roads.

Serious injuries (3,143)



- The pattern differs for **non-fatal casualties**. Accidents at lower speeds on urban roads are more likely to result in serious injuries. Around 72 per cent of pedal cyclist **serious injuries** occurred on urban roads in 2013.

Slight injuries (16,185)



- The same applies for **slight injuries**, 83 per cent of pedal cyclist slight injuries occurred on urban roads and only 17 per cent occurred on rural roads.

All casualties (19,436)



- It is unsurprising that the majority of **pedal cyclist casualties** occur on urban roads (81 per cent) given that the majority of cycling takes place here and there are many more opportunities for cyclists to interact with other vehicles.

- In addition, urban areas include many more junctions which increase the risk of other drivers not observing cyclists.
- In 2013, 13 per cent of pedal cyclist fatalities and 15 per cent of pedal cyclist KSIs occurred in **London**. London carries around 10 per cent of pedal cycle traffic, meaning that cyclist deaths and injuries are slightly more common in London than would be expected given the distance cycled.

Vehicle movement on the road

- Junctions are particularly dangerous for vulnerable road users especially pedal cyclists as it can be hard for other road users to see them.
- Most pedal cyclists are killed or seriously injured at **crossroads** and **t-staggered junctions** (a t-staggered junction is a place where several roads meet a **main road** at a slight distance apart). Between 2009 and 2013, 50 per cent of pedal cyclist KSI casualties occurred at crossroads and t-staggered junctions.
- Pedal cyclists involved in two vehicle accidents with at least one motor vehicle were more likely to be at a junction and recorded as **'going ahead'** than any other vehicles involved in accidents.
- Between 2009 and 2013, 40 per cent of the pedal cyclist killed or seriously injured casualties that occurred at **crossroads** and **t-staggered junctions** happened as a result of the pedal cyclist 'going ahead' and the other motor vehicle involved turning right or turning left and 20 per cent were as a result of both the pedal cyclist and the other vehicle 'going ahead'.



Why do pedal cycle accidents happen?

- Contributory factors provide an insight into how and why accidents occur. The factors are largely subjective as they reflect the opinion of the reporting officer, therefore they should be interpreted with caution. A maximum of six factors can be recorded for each accident.

Contributory factors in accidents involving at least one pedal cyclist, GB: 2013

Contributory Factor ³	Pedal cycle		Motor Vehicles ²		All vehicles	
	Number	Percent	Number	Percent	Number	Percent
No CF recorded	6,523	50	3,404	27	9,961	39
Failed to look properly	3,046	23	6,291	50	9,375	37
Failed to judge other person's path or speed	1,369	10	2,066	17	3,447	13
Careless, reckless or in a hurry	1,038	8	1,560	13	2,605	10
Poor turn or manoeuvre	746	6	1,632	13	2,392	9
Cyclist entering road from pavement	880	7	23	0.2	905	4
Passing too close to cyclist, horse rider or pedestrian	54	0.4	1,203	10	1,278	5
Stationary or parked vehicle(s)	310	2	499	4	810	3
Loss of control	689	5	86	1	776	3
Disobeyed 'Give Way' or 'Stop' sign or markings	167	1	515	4	688	3
Total number of vehicles	13,078	100	12,476	100	25,663	100

1. Includes only accidents where a police officer attended the scene and in which a contributory factor was reported.

2. Includes motor vehicles such as cars, motorcycles, lorries and cases where the vehicle type was not reported

3. Top 10 most frequently reported contributory factors for pedal cycles and other vehicles.

4. Excludes accidents involving just pedal cyclists and pedestrians

- The proportion of vehicles involved in personal injury accidents that have not been allocated a contributory factor varies by vehicle type. In 2013, pedal cyclists were less likely to have a **contributory factor** recorded in comparison with other vehicles – 50 per cent compared with only 27 per cent for other vehicles.

-
- Contributory factors are largely subjective, assigned quickly at the occurrence of the accident and often without extensive investigations. These differences therefore may be in part due to **preconceptions police officers** have of certain vehicle user groups.
 - The most common contributory factor assigned to pedal cyclists and other vehicles was **'failed to look properly'**. This is commonly referred to as the 'looked but failed to see' problem in road safety literature. In 2013, 23 per cent of pedal cyclists involved in accidents 'failed to look properly' as well as half of other vehicles involved in accidents.
 - The second most common contributory factor assigned to both pedal cyclists and other vehicles is **'failed to judge other person's path or speed'**. In 2013, 17 per cent of other vehicles involved in accidents failed to judge the other person's path or speed. The comparative figure for pedal cyclists is 10 per cent.
 - In 2013, 7 per cent of pedal cyclist casualties were allocated the contributory factor **'entering road from pavement'**.

References and further information

Further information about the Reported Road Casualties Great Britain 2013 can be found at: [Reported road casualties Great Britain: annual report 2013 - Publications - GOV.UK](#)

Notes and definitions used in Stats19 can be found at: [Road accidents and safety statistics guidance - Publications - GOV.UK](#)

Further information on the average distance travelled is published by the National Travel Survey can be found at: [National Travel Survey: 2013 - Publications - GOV.UK](#)

More information on traffic estimates used in this factsheet are published by the Road Traffic statistics team at: [Road traffic statistics - GOV.UK](#)

Detailed statistics on (tables and charts) contributory factors for reported road accidents can be found at: [Contributory factors for reported road accidents \(RAS50\) - Statistical data sets - GOV.UK](#)