



agilysis.co.uk

Adult Pedestrian



20
20

ADULT PEDESTRIAN INSIGHT STUDY

TABLE OF CONTENTS

Executive Summary.....	2
Introduction	5
Comparator Authorities	7
Selected Comparator Authorities	7
Risk Profile	7
Collision Profiles.....	8
What?.....	8
When?	11
Where?.....	16
How?	23
Pedestrian and Related Driver Profiles	26
Mosaic Analysis	27
Index of Multiple Deprivation (IMD).....	33
Profiles	Error! Bookmark not defined.
Summary of Other Evidence and Successful Schemes	37
Appendices.....	43
Appendix A - Contributory Factor Groupings	43
Appendix B - Complete List of Mosaic Types	44

EXECUTIVE SUMMARY

This report sets out analysis undertaken on STATS19 collision data for 2014 to 2018, focusing on adult pedestrian casualties (18 years and over) who were either resident or injured in the Safer Roads Berkshire authorities. These are defined as the authorities of Slough, Bracknell Forest, West Berkshire, Wokingham and the Royal Borough of Windsor and Maidenhead.

Most of adult pedestrians who were killed or seriously injured in Safer Roads Berkshire are from the area. In total, 468 adult pedestrians who were resident to the area were involved in collisions on local roads between 2014 and 2018. This represents 72% of all adult pedestrian casualties in the Safer Roads Berkshire authorities.

In Safer Roads Berkshire in 2018, 6 adult pedestrians were killed; a further 28 were seriously injured and 74 were slightly injured. Whilst the overall casualty trend for these areas has decreased overall since 2014, the number of fatalities has increased.

Slough has the highest adult pedestrian rates per head of population against all comparator groups in this study. Bracknell Forest, West Berkshire, Windsor and Maidenhead and Wokingham all have rates which are lower than the rate for Great Britain and the South East as a whole. Overall the rate for Berkshire is lower than Great Britain as a whole and the South East region.

Adult pedestrian casualties averaged about 7% of all adult casualties from Safer Roads Berkshire over the last ten years, a figure that has increased slightly in recent years.

On weekdays, adult pedestrians were more likely to be injured between 7 and 10 am, particularly between 8 and 9am. At weekends, adult pedestrians were more likely to be injured during the day between noon and 7pm but interestingly there was a small peak in casualties between the hours of 11pm and 2am, which suggests late night pedestrian activity, possibly around pubs and clubs.

Adult Pedestrians from Safer Roads Berkshire were more likely to be injured on Wednesdays and Fridays, with the fewest pedestrians injured on Sundays (11%). Fatalities and serious injuries were most likely to occur on Fridays. These numbers were higher in the winter months of November, December and January.

Most of Safer Roads Berkshire resident adult pedestrian casualties were injured in fine and dry weather conditions. Overall, 31% of the casualties were injured at night; interestingly, this was higher for Slough (40%) compared with the other four Safer Roads Berkshire authorities.

In terms of road class, 31% of the resident pedestrian casualties were on 'A' roads at the time of their collision, with 56% on unclassified roads. Interestingly, however, the proportion of those injured on unclassified roads was higher for West Berkshire than the other four Safer Roads Berkshire authorities. Notably, West Berkshire also had the highest proportion of resident pedestrian casualties injured on 20mph roads.

Adult Pedestrians from Safer Roads Berkshire, for the most part, had collisions on one-way (41%) and dual carriageway (37%) roads. Slough, specifically, had a higher percentage of collisions on dual

carriageways than the other Safer Roads Berkshire areas, whilst Wokingham had a higher percentage on one-way roads than the other four authorities.

Many of the adult pedestrian casualties were not on a crossing facility at the time of their collision and the collision locations were concentrated in the urban areas of Slough, Maidenhead and Wokingham. Fifty-two percent of casualties were injured when the related vehicle was going straight ahead and 11% were injured when the vehicle was turning right.

The highest percentages of casualties were on unclassified routes (357 casualties): the A4, the A329 and the A308.

For 487 of the adult pedestrian casualties from Safer Roads Berkshire who were injured between 2014 and 2018, the related driver was in a car and this represents 78% of the collisions. Thirteen percent were injured by goods vehicles. A further 2% of the casualties were injured in collisions with a bus and a further 6% with either a motorcycle or pedal cycle.

Whilst the highest number of adult pedestrian casualties from Safer Roads Berkshire were assigned Contributing Factor (CF) *CF802 Failed to Look Properly* (178), this CF was assigned to Safer Roads Berkshire residents in fewer proportions than in Great Britain as a whole. Three CFs have been recorded more frequently for Safer Roads Berkshire resident adult pedestrian casualties than in Great Britain as a whole. These are *CF809 Pedestrian wearing dark clothing at night*, *CF806 Pedestrian impaired by alcohol* and *CF810 Pedestrian with disability or illness*.

The single largest group of adult pedestrian casualties were aged 25 to 34 years. Notably, there were more female than male pedestrian casualties aged 65 to 74 and 75 to 84 years.

Four profiles emerged from the analysis: **Priya**, who resides and works in town, is in her late 30's, doesn't own a car and either walks or uses public transport to get to work. She might be involved in collisions in the mornings or early evenings when she is in a hurry to get to and from work; **Marius**, who is in his late 20's and lives in a multi-cultural neighbourhood close to the city centre. He doesn't own a car and commutes to work by foot. He is most likely to be involved in a collision on 30mph roads, especially at night when he is out socialising. Improving his visibility as a pedestrian at night could reduce his risk of collisions; **Billy**, lives in a rented terraced house with his wife and two children. He is in his mid-30's. He comes from a low-income household and doesn't own a car, which makes walking a necessity. Billy is more likely to be involved in collisions in towns when walking to and from work or the supermarket. A focus on increasing personal visibility and carefulness might help reduce his likelihood of collisions; **Abdul**, owns a large terraced house with his wife and grown up daughter. He is retired and has paid off his mortgage early. He owns a car but rarely uses it for short trips. Abdul and his wife have lots of friends and socialise regularly. They tend to walk home. It is possible that Abdul may have failed to look properly when crossing the road (usually not at a designated pedestrian crossing) and these are factors which could be addressed.

The findings in the report are consistent with existing literature on the topic, suggesting that younger males have a higher likelihood of exhibiting riskier behaviour and be injured as pedestrians. Nevertheless, although older pedestrians are not the riskier group in the analysis, along with children, they are the most frequently addressed pedestrian target group in pedestrian safety interventions.

Research on adult pedestrian behaviour suggests that pedestrian risk predictors can be found amongst demographic variables such as age, gender, marital status and having children. Women, older adults, married individuals and individuals with children are more compliant to pedestrian traffic rules.

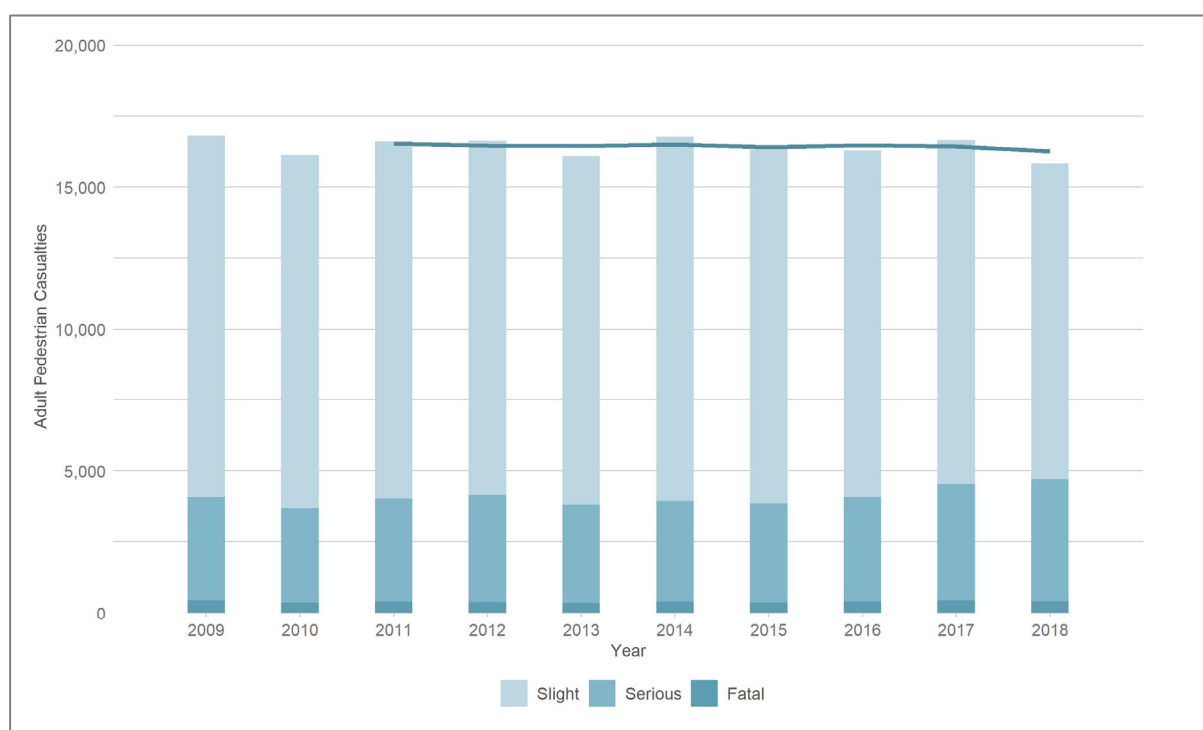
Existing research explores learnings from several successful and large-scale interventions. They make suggestions for further interventions and for using behaviour change techniques, educational measures, engineering measures and enforcement strategies and techniques to address risk to pedestrians. Although some measures were proven to be highly effective, the literature review and the review of best practice examples underline the complexity and the specificity of adult pedestrian road safety challenges. This suggests that careful and thorough analysis should be employed for every case or place, and tailored solutions should be developed.

INTRODUCTION

Pedestrian safety is an issue which affects all, from those who choose to walk for recreational and exercise purposes to those who only walk to their car or use public transport. There are significant health benefits to be realised through the promotion of walking as a form of active transport. It is therefore important that walking is encouraged and that the experience is positive and feels safe. The promotion of safe walking needs to be managed carefully as there is a balance to be had between discouraging people by over-emphasising the risks facing pedestrians and placing them in danger by not training and educating them on the safest ways to use the roads.

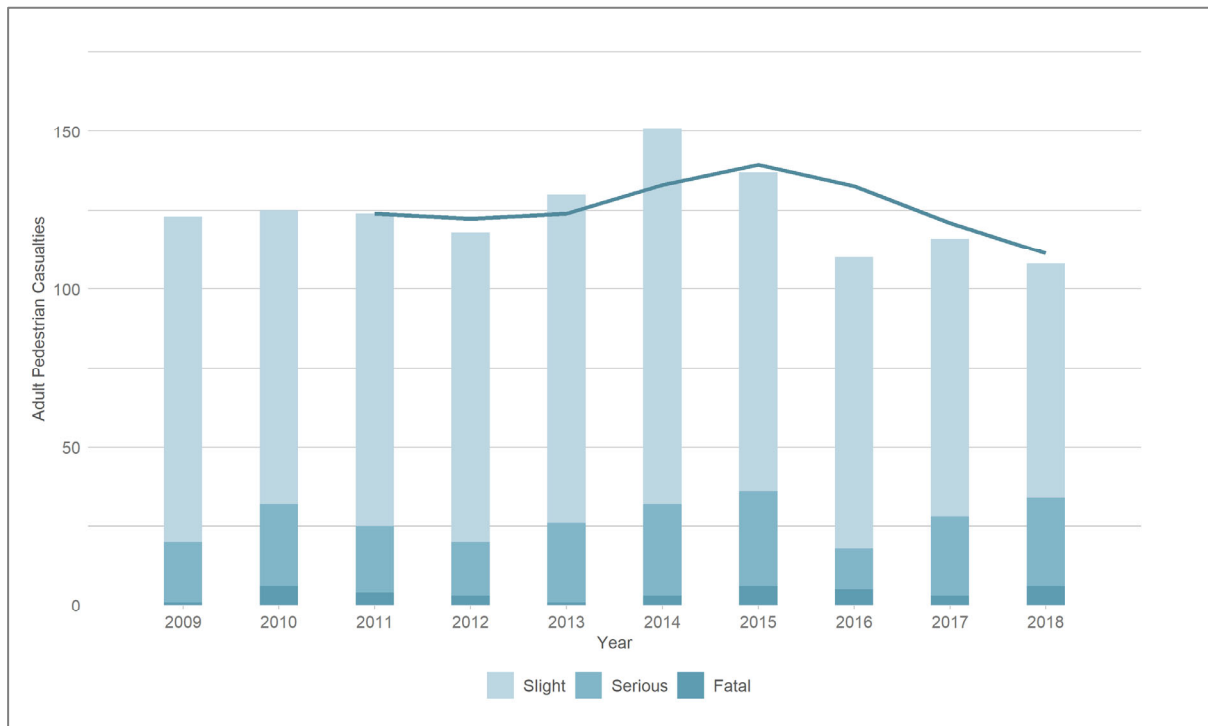
In Great Britain in 2018, there were 421 adults who were killed as pedestrians; a further 4,284 were seriously injured and 11,119 were slightly injured. Figure 1 illustrates that the trend of adult pedestrian casualties has been static from 2011 until 2018, although numbers decreased slightly in 2018.

FIGURE 1 - GB ADULT PEDESTRIAN CASUALTIES BY YEAR AND SEVERITY



In Safer Roads Berkshire in 2018, there were 6 adult pedestrians killed; a further 28 were seriously injured and 74 were slightly injured. Figure 2 shows that whilst the casualty trend for these areas has decreased overall since 2014, the number of fatalities has not.

FIGURE 2 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY YEAR AND SEVERITY (2009-2018)



This report sets out analysis undertaken using STATS19 collision data for 2014 to 2018 from MAST, an online analysis tool which combines casualty and collision data from the Department for Transport with socio-demographic insights created by Experian through Mosaic Public Sector. The postcodes of drivers and casualties involved in collisions are used to determine which Mosaic Groups and Types these individuals are likely to belong to, which can be used by road safety professionals to understand who should be targeted in road safety interventions.

The report works through the analysis by first determining the extent to which adult pedestrians from Safer Roads Berkshire are involved in collisions and in what context they are involved. The location of the collisions will be examined to determine if the pedestrians are involved in collisions on Safer Roads Berkshire's roads or elsewhere.

Other factors, such as when, where and how the adult pedestrians were involved in collisions are explored to provide information on the topics and issues that could be focused upon within an intervention.

A large part of the analysis focuses on profiling the adult pedestrians, with the aim of producing 'profiles' that can be used to visualise the target audience. These profiles are created using a variety of socio-demographic data, including looking at Indices of Multiple Deprivation and Mosaic Groups. Profiling in this way allows the practitioner to understand how adult pedestrians will respond to a road safety intervention and in what way it should be delivered.

Comparator authorities are used, where appropriate, to place the analysis of pedestrians injured from Safer Roads Berkshire into context. These authorities were carefully selected based on network and socio-demographic similarities and the selection process is explained below.

COMPARATOR AUTHORITIES

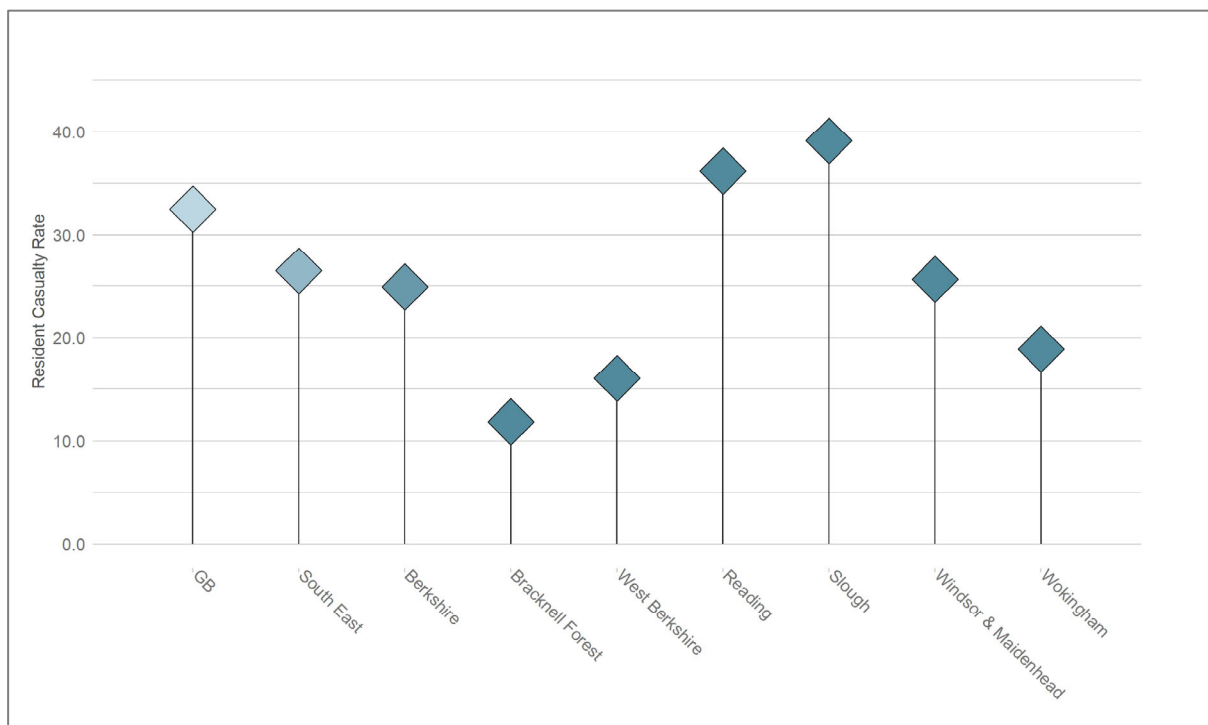
In order to understand whether the challenges facing pedestrians are typical of those facing pedestrians elsewhere, it is helpful to compare the analysis for the Safer Roads Berkshire authorities against each other and also Reading (which, although is in Berkshire, is not included in Safer Roads Berkshire). A National and regional comparator has also been included. Data for Safer Roads Berkshire, and Great Britain has been taken from MAST Online, which matches Road Casualties Great Britain.

SELECTED COMPARATOR AUTHORITIES

The chart shows that Slough has the highest adult pedestrian rates per head of population against all comparator groups in this study. Bracknell Forest, West Berkshire, Windsor and Maidenhead and Wokingham all have rates which are lower than the rate for Great Britain and the South East as a whole. Overall the rate for Berkshire is lower than Great Britain as a whole and the South East region.

Figure 3 shows the annual average number of resident adult pedestrian casualties per 100,000 adult population. The number of resident casualties, rather than casualties occurring on local roads, is used to ensure the relevance of the population data. The chart shows that Slough has the highest adult pedestrian rates per head of population against all comparator groups in this study. Bracknell Forest, West Berkshire, Windsor and Maidenhead and Wokingham all have rates which are lower than the rate for Great Britain and the South East as a whole. Overall the rate for Berkshire is lower than Great Britain as a whole and the South East region.

Figure 3 - ANNUAL AVERAGE SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES PER 100,000 POPULATION (2014-2018)



RISK PROFILE

This profile covers two distinct areas: information about the collision and about the person involved. Both are relevant to the analysis and are considered separately. Any analysis carried out on adult

pedestrian casualties from Safer Roads Berkshire is illustrated in **blue**, whilst analysis related to casualties occurring on Safer Roads Berkshire’s road network are illustrated in **green**.

The collision analysis looks at adult pedestrians from Safer Roads Berkshire who were injured in collisions between 2014 and 2018.

Looking at residency, 72% of the adult pedestrians injured in collisions in Safer Roads Berkshire live in that location.

COLLISION PROFILES

WHAT?

Between 2014 and 2018, pedestrians accounted for 10% of all casualties from Safer Roads Berkshire and 8% of adult resident casualties. The actual numbers are shown in Table 1. These casualties are those who live in Safer Roads Berkshire and who were involved in collisions anywhere in the country. ‘Driver’ refers to any driver or rider who was injured including pedal cyclists, whilst ‘passenger’ refers to passengers who are injured in a vehicle (including motorcycle and pedal cycle pillion passengers).

TABLE 1 - SAFER ROADS BERKSHIRE RESIDENT CASUALTIES BY CLASS

	Crash Year	Driver or rider	Pedestrian	Vehicle or pillion passenger	Total	Percentage Pedestrian
Child	2014	69	50	105	224	22%
	2015	74	54	98	226	24%
	2016	74	57	100	231	25%
	2017	57	49	67	173	28%
	2018	50	47	62	159	30%
	Total	324	257	432	1013	25%
Adult	2014	1378	151	251	1780	8%
	2015	1360	137	270	1767	8%
	2016	1313	110	247	1670	7%
	2017	1036	116	194	1346	9%
	2018	937	108	151	1196	9%
	Total	6024	622	1113	7759	8%
Total		6348	879	1545	8772	10%

Table 2 shows the number of casualties who were injured on Safer Roads Berkshire’s roads by casualty class. These casualties could live anywhere in the country. As some residents could be injured outside of the area, it is not possible to say that the difference between the two tables shows the number of non- Safer Roads Berkshire residents who were injured in Safer Roads Berkshire.

TABLE 2 - CASUALTIES IN SAFER ROADS BERKSHIRE BY CLASS

	Crash Year	Driver or rider	Pedestrian	Vehicle or pillion passenger	Total	Percentage Pedestrian
Child	2014	71	59	129	259	23%
	2015	70	65	103	238	27%
	2016	80	64	116	260	25%
	2017	63	60	82	205	29%
	2018	50	50	84	184	27%
	Total	334	298	514	1146	26%
Adult	2014	1424	154	305	1883	8%
	2015	1401	141	341	1883	7%
	2016	1316	126	275	1717	7%
	2017	1068	107	217	1392	8%
	2018	853	119	169	1141	10%
	Total	6062	647	1307	8016	8%
Total		6396	945	1821	9162	10%

Table 3 shows the number of Safer Roads Berkshire resident pedestrian casualties each year, the total number of Safer Roads Berkshire resident casualties in each age group (of all modes) and the percentage of the total which are pedestrians. It shows that whilst the absolute number of child pedestrian casualties is low, they represent a large proportion of Safer Roads Berkshire’s child casualties. Adult pedestrian casualties average about 7% of all adult casualties from Safer Roads Berkshire over the last ten years, although in recent years this has been slightly higher.

TABLE 3 - PERCENTAGE OF PEDESTRIAN SAFER ROADS BERKSHIRE RESIDENT CASUALTIES BY YEAR (2009-2018)

Year	Children			Adult		
	Pedestrians	All	Percentage Pedestrians	Pedestrians	All	Percentage Pedestrians
2009	67	265	25%	123	1942	6%
2010	65	275	24%	125	1842	7%
2011	62	279	22%	124	1906	7%
2012	56	254	22%	118	1841	6%
2013	49	217	23%	130	1804	7%
2014	50	224	22%	151	1780	8%
2015	54	226	24%	137	1767	8%
2016	57	231	25%	110	1670	7%
2017	49	173	28%	116	1346	9%
2018	47	159	30%	108	1196	9%

Error! Not a valid bookmark self-reference. below illustrate that, over the last five years, all 5 of the Safer Roads Berkshire authorities had a resident adult pedestrian rate lower than that of Great Britain as a whole, although Wokingham, Slough and Windsor and Maidenhead had a rate slightly higher than the South East region.

FIGURE 4 - ADULT PEDESTRIAN CASUALTIES AS A PERCENTAGE OF ALL ADULT CASUALTIES FROM SAFER ROADS BERKSHIRE AND COMPARATORS (2014-2018)

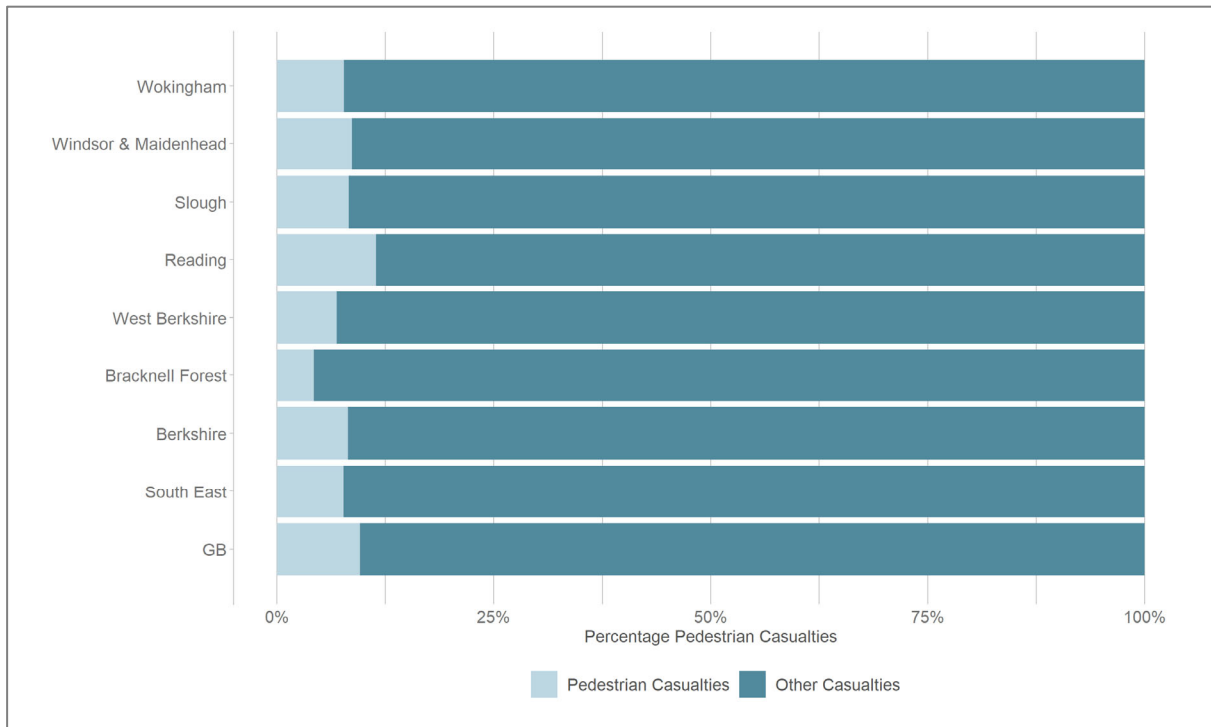
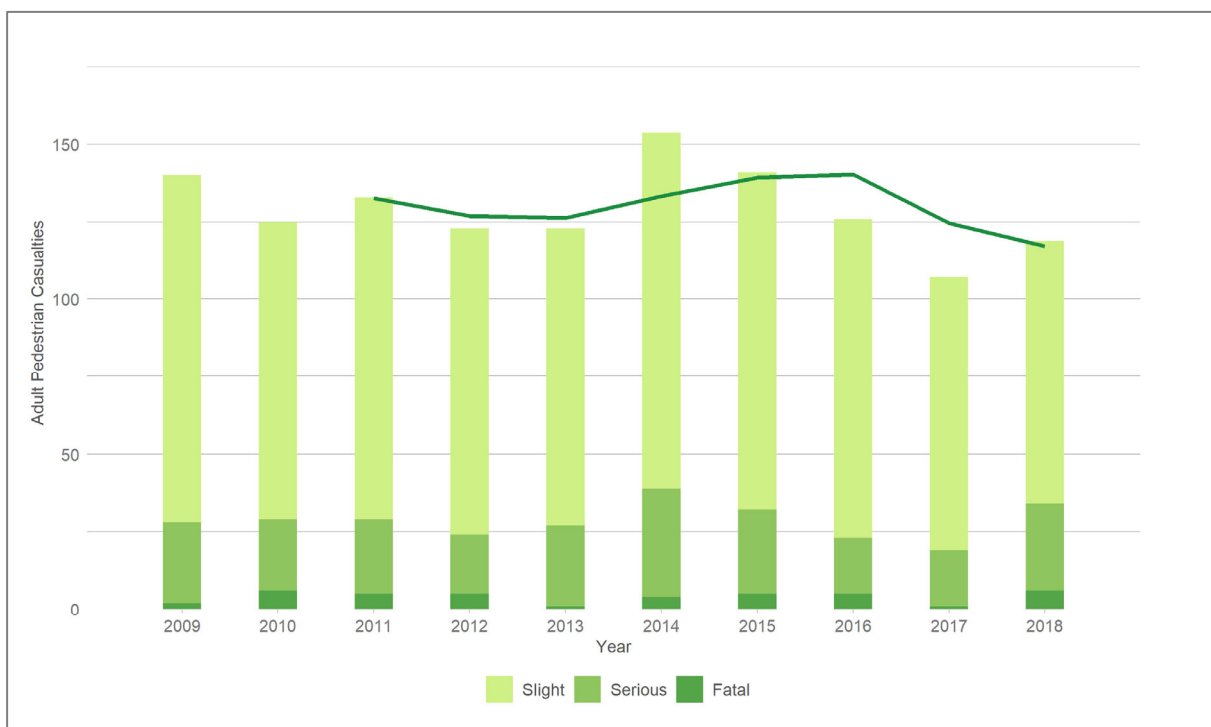


Figure 5 shows the number of adult pedestrian casualties in Safer Roads Berkshire each year by severity. There is a rolling average trend line which shows an increase to 2014 and then a decrease in trend between 2014 and 2017. Interestingly 2018 has seen an increase in overall numbers and a marked increase in fatalities. The lowest number of adult pedestrians killed or seriously injured was in 2017 (19) and the highest was in 2014 (39).

FIGURE 5 - ADULT PEDESTRIAN CASUALTIES IN SAFER ROADS BERKSHIRE BY YEAR (2009-2018)



WHEN?

This section of the analysis looks at when Safer Roads Berkshire adult pedestrians were injured in collisions between 2014 and 2018.

There are two clear weekday 'rush hour' peaks in the number of adult pedestrians from Safer Roads Berkshire injured on the roads as shown in Figure 6. The first peak is between 7 and 10 am (124 casualties on weekdays) and is mainly concentrated between 8 and 9am. The most casualties were injured in the second longer peak between 2 and 6pm (201 casualties in total on weekdays between 2014 and 2018).

FIGURE 6 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY TIME OF DAY ON WEEKDAYS (2014-2018)

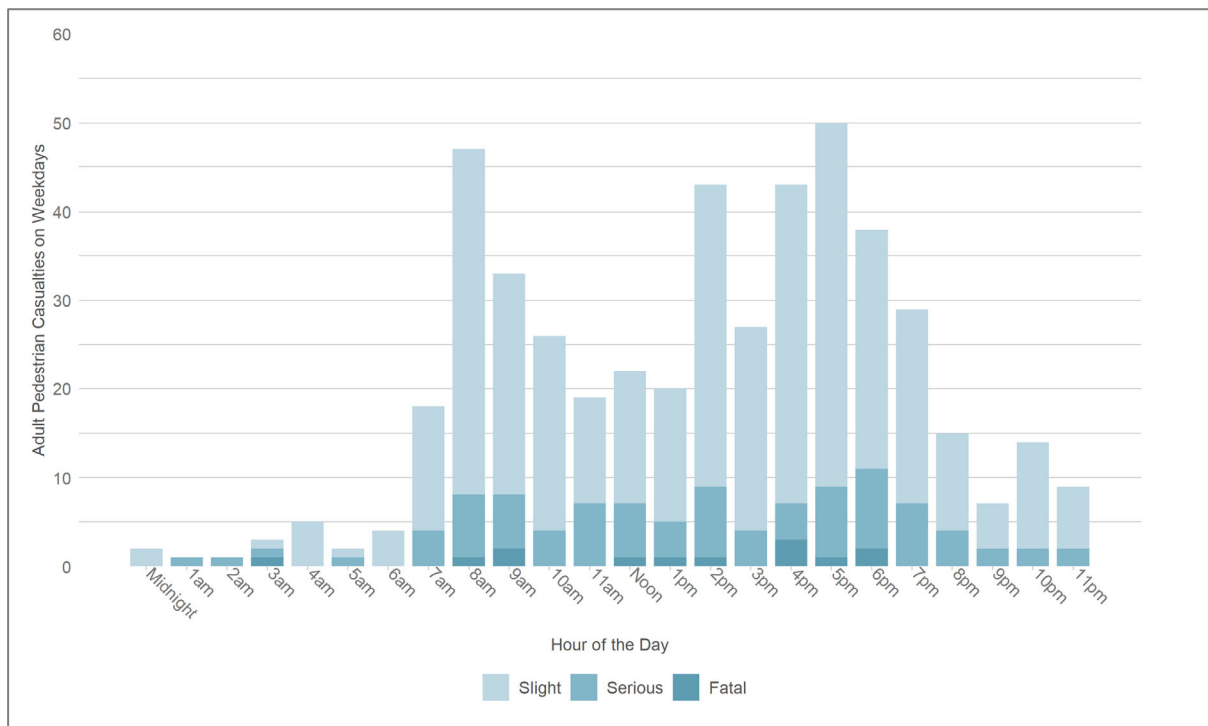
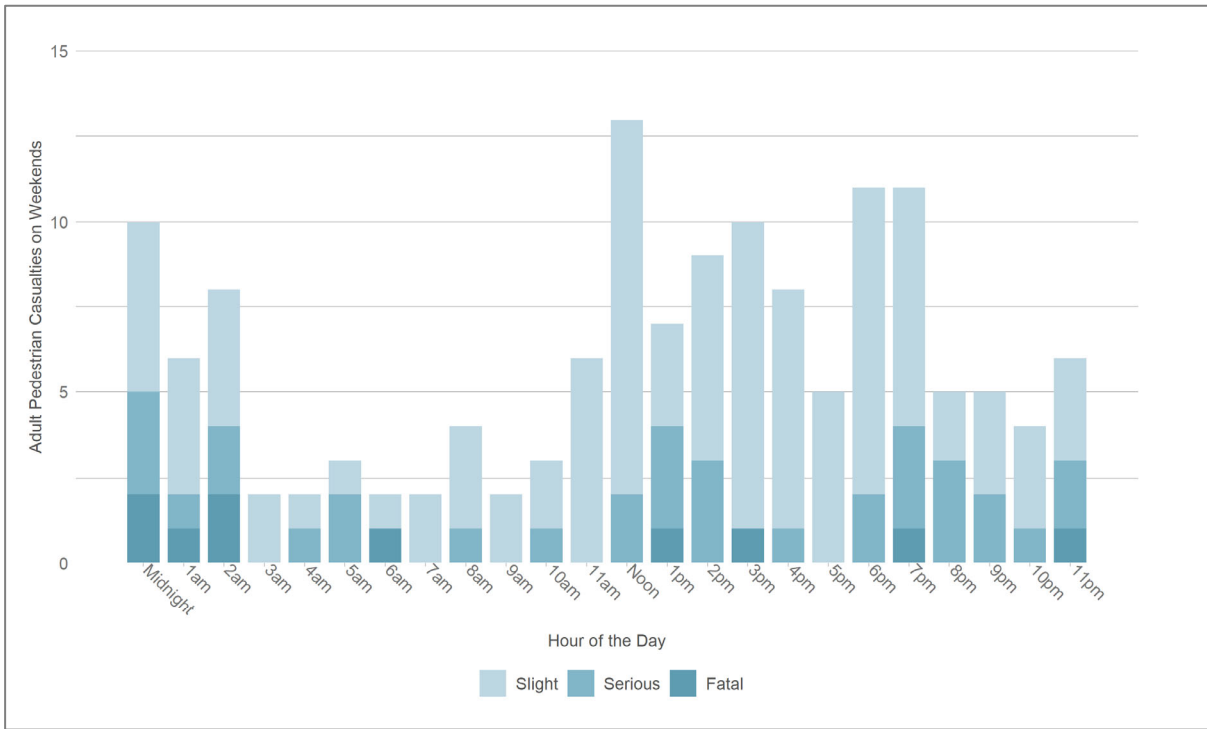


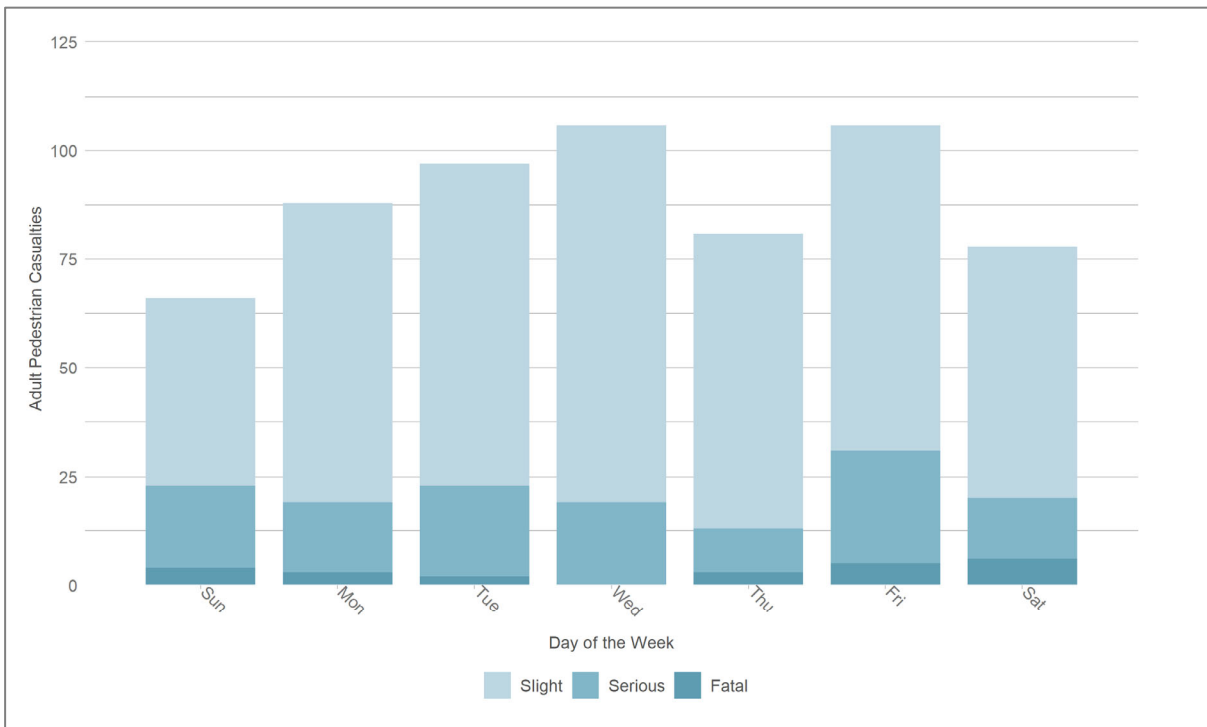
Figure 7 illustrates that at weekends adult pedestrians are more likely to be injured during the day between noon and 7pm but interestingly there is a small peak in casualties between the hours of 11pm and 2am which suggests late night pedestrian activity around pubs and clubs.

FIGURE 7 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY TIME OF DAY ON WEEKENDS (2014-2018)



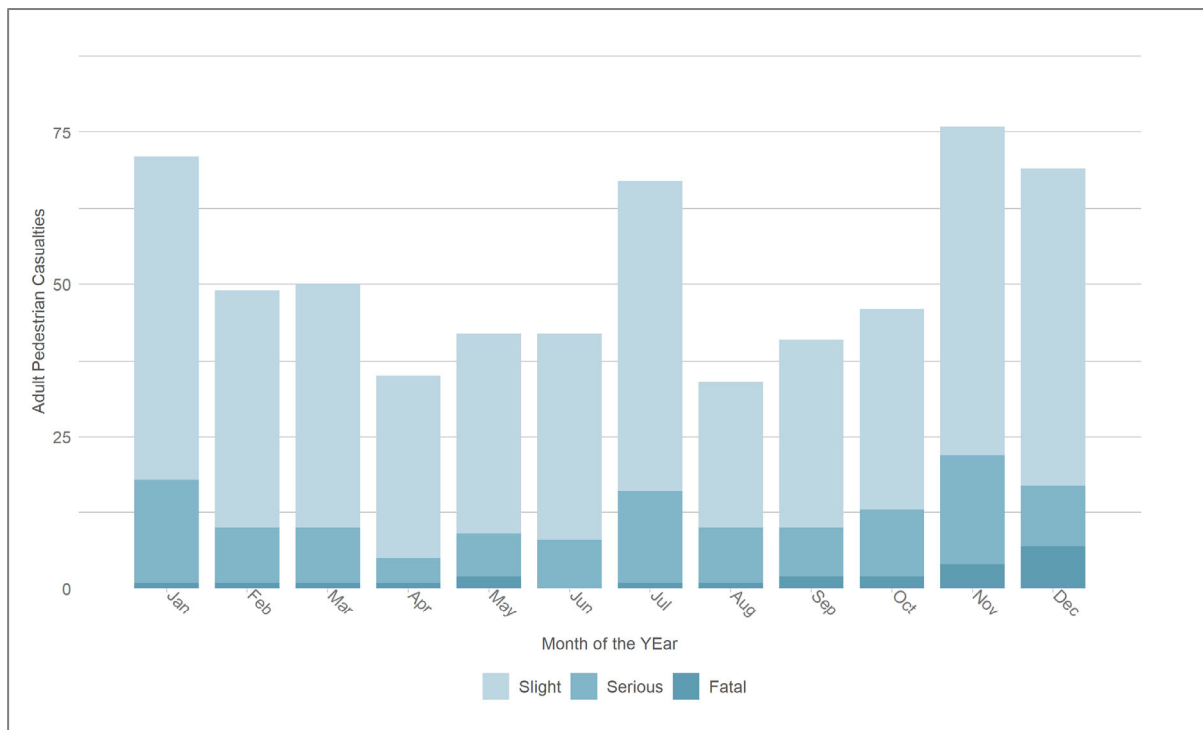
The days of the week on which the adult pedestrians were involved in collisions are shown in Figure 8. Adult Pedestrians from Safer Roads Berkshire tend to be injured on Wednesdays and Fridays, with the fewest pedestrians injured on Sundays (11%). Those who were killed or seriously injured were most likely to be on Fridays.

FIGURE 8 - SAFER ROADS BERKSHIRE ADULT PEDESTRIAN CASUALTIES BY DAY OF THE WEEK (2014-2018)



The month of the year in which the adult pedestrians were involved in collisions was analysed (Figure 9). It shows a peak in the winter months of November, December and January. There is also an increase in July.

FIGURE 9 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY MONTH OF THE YEAR (2014-2018)



The weather conditions at the time the adult pedestrians were involved in collisions were examined. (Table 4) Eighty-six percent of the pedestrians were involved in collisions in fine weather, when perhaps more people are likely to choose to spend more time walking.

TABLE 4 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY WEATHER CONDITIONS AND SEVERITY (2014-2018)

Weather Conditions	Fatal	Serious	KSI	Slight	Total
Fine	21	109	130	403	533
Not Known	0	3	3	6	9
Other	0	3	3	16	19
Wet	2	10	12	49	61

The weather conditions at the time Safer Roads Berkshire adult pedestrians were injured have also been compared for the five Safer Roads Berkshire authorities and Reading, the South East region and Great Britain. This shows that a higher proportion of pedestrians were injured in wet conditions in all comparators. Windsor and Maidenhead and Wokingham are the highest (92%).

TABLE 5 - RESIDENT ADULT PEDESTRIAN CASUALTIES BY WEATHER CONDITIONS FROM SAFER ROADS BERKSHIRE AND COMPARATORS (2014-2018)

Weather	GB	South East	Berkshire	Bracknell Forest	West Berkshire	Reading	Slough	Windsor & Maidenhead	Wokingham
Fine	85%	87%	86%	78%	83%	85%	85%	92%	92%
Wet	13%	11%	10%	15%	11%	12%	13%	6%	6%
Other	2%	2%	3%	7%	5%	4%	2%	3%	2%

Associated with the weather is the road surface condition (Table 6). For adult pedestrian casualties, 89% were on roads with a dry surface.

TABLE 6 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY ROAD SURFACE CONDITIONS BY SEVERITY (2014-2018)

Road Surface Conditions	Fatal	Serious	KSI	Slight	Total
Dry	15	99	114	349	463
Flood (surface water over 3cm deep)	0	0	0	1	1
Frost or Ice	0	2	2	5	7
Wet or Damp	8	24	32	117	149

A noticeably higher proportion of Bracknell Forest’s resident adult pedestrian casualties occurred in wet conditions (36%) than all other comparators (Table 7).

TABLE 7 - RESIDENT ADULT PEDESTRIAN CASUALTIES BY ROAD SURFACE CONDITIONS FROM SAFER ROADS BERKSHIRE AND COMPARATORS (2014-2018)

Road Surface	GB	South East	Berkshire	Bracknell Forest	West Berkshire	Reading	Slough	Windsor & Maidenhead	Wokingham
Dry	74%	77%	74%	62%	76%	72%	73%	77%	79%
Wet or Damp	24%	22%	25%	36%	23%	28%	26%	21%	21%
Frost or Ice	1%	1%	1%	2%	1%	0%	1%	1%	1%

We are also able to analyse the lighting conditions at the time of the collision to see whether any patterns emerge. (Table 8) Thirty-one percent of Safer Roads Berkshire’s resident adult pedestrian casualties were injured at night.

TABLE 8 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY LIGHTING CONDITIONS AND SEVERITY (2014-2018)

Light Conditions	Fatal	Serious	KSI	Slight	Total
Daylight	11	77	88	322	410
Night with lights lit or unlit	6	34	40	129	169
Night with no lights or unknown	6	14	20	23	43

A noticeably higher proportion of Slough’s resident adult pedestrian casualties occurred at night when compared with the other four Safer Roads Berkshire authorities and comparators. (Table 9)

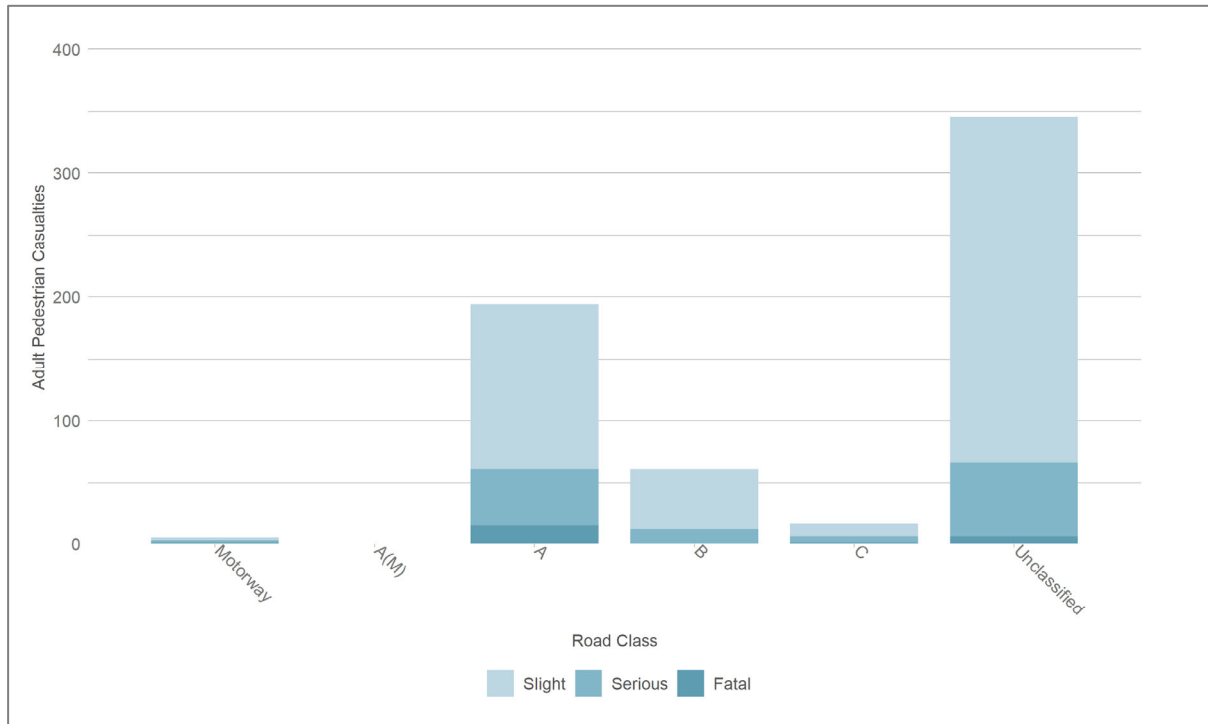
TABLE 9 - RESIDENT ADULT PEDESTRIAN CASUALTIES BY LIGHTING CONDITIONS FROM SAFER ROADS BERKSHIRE AND COMPARATORS (2014-2018)

Light Conditions	GB	South East	Berkshire	Bracknell Forest	West Berkshire	Reading	Slough	Windsor & Maidenhead	Wokingham
Daylight	66%	69%	64%	65%	68%	61%	60%	69%	72%
Night with lights lit or unlit	30%	25%	29%	28%	23%	34%	34%	23%	24%
Night with no lights or unknown	4%	6%	7%	7%	9%	6%	6%	8%	4%

WHERE?

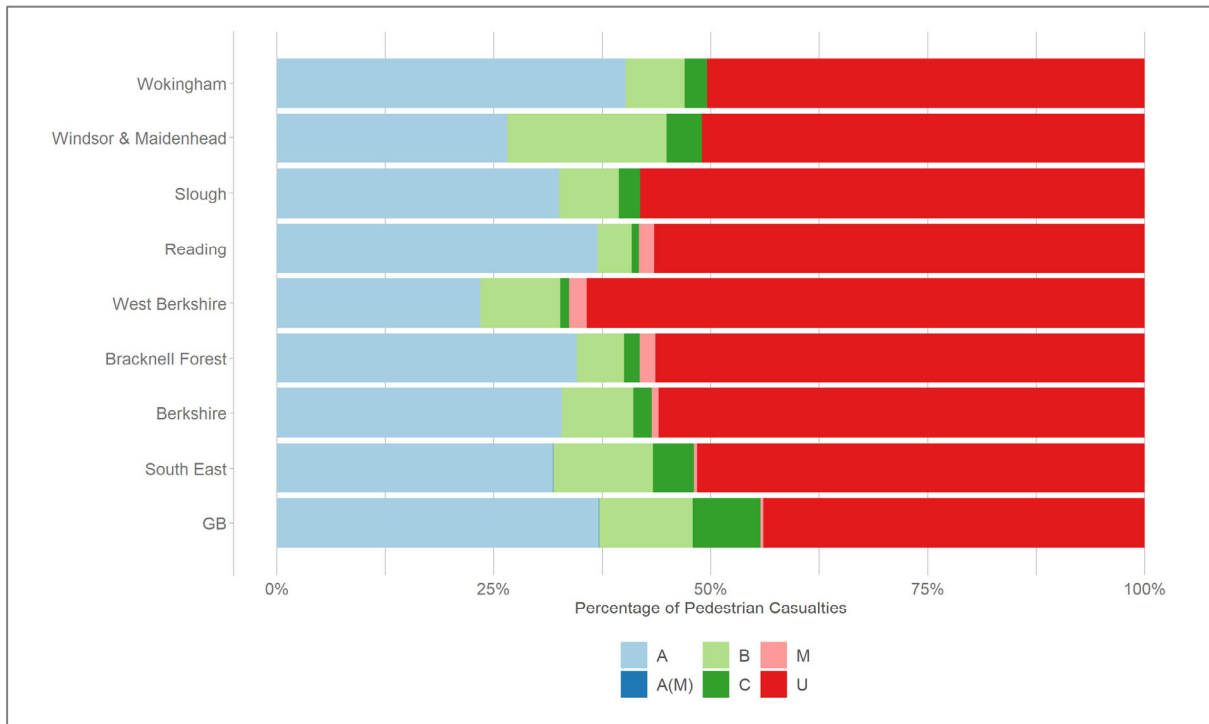
The next section looks at the road characteristics of where Safer Roads Berkshire resident adult pedestrians were involved in collisions. In terms of road class, 31% of the pedestrians were on 'A' roads at the time of their collision, with 56% on unclassified roads.

FIGURE 10 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY ROAD CLASS (2014-2018)



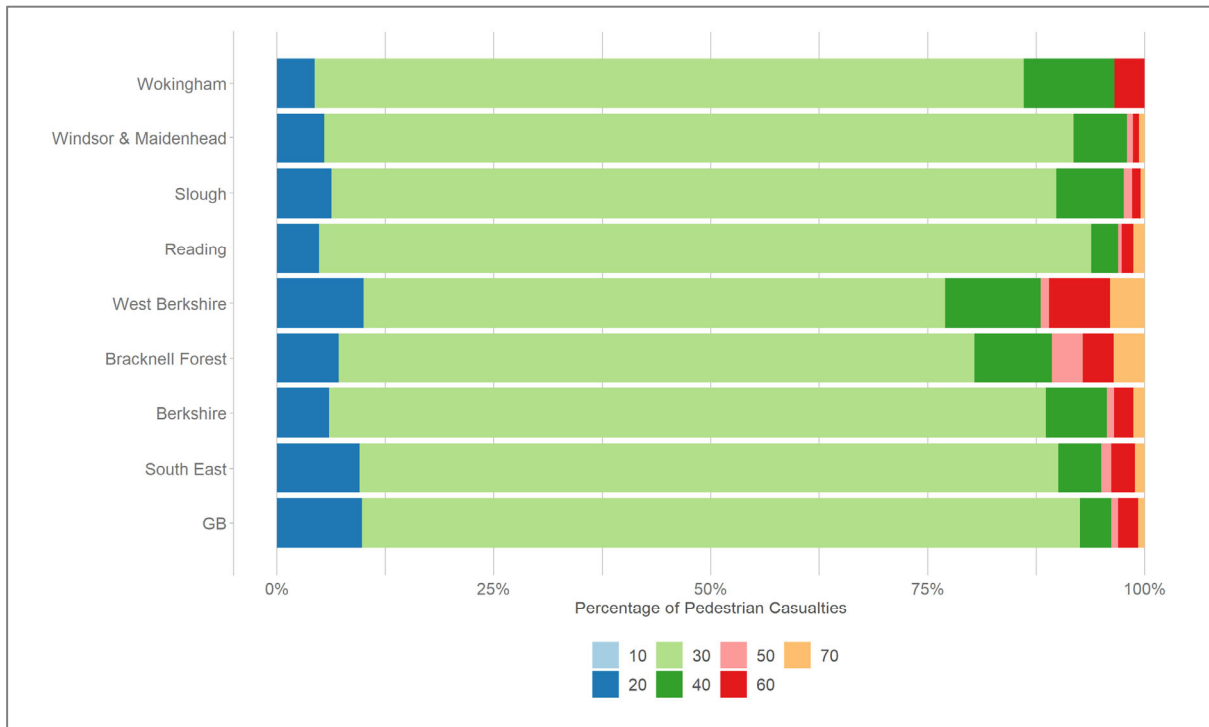
The proportion of those injured on unclassified roads was much higher for West Berkshire residents than any of the Safer Roads Berkshire authorities or comparators, as shown in Figure 11. This could be either a reflection of the road network in West Berkshire or the socio-demographic makeup of the pedestrians involved in collisions.

FIGURE 11 - RESIDENT ADULT PEDESTRIAN CASUALTIES BY ROAD CLASS FROM SAFER ROADS BERKSHIRE AND COMPARATORS (2014-2018)



The vast majority (80%) of adult pedestrian casualties from Safer Roads Berkshire were injured on 30mph roads. (Figure 12) According to STATS19 data, there were 40 adults injured as pedestrians on 20mph roads between 2014 and 2018 and 82 on roads with a speed limit of 40mph or higher. West Berkshire has the highest proportion of adult pedestrian casualties killed or injured on roads with a speed limit of 20mph, which fits with the trend in West Berkshire of a higher proportion taking place on unclassified roads.

FIGURE 12 - RESIDENT ADULT PEDESTRIAN CASUALTIES BY SPEED LIMIT FROM SAFER ROADS BERKSHIRE AND COMPARATORS (2014-2018)



Adult Pedestrians from Safer Roads Berkshire, for the most part, had collisions on one way (41%) and dual carriageway (37%) roads. (Table 10)

Slough has a higher percentage of pedestrians injured on dual carriageways than the comparators, whilst Wokingham has a higher percentage injured on one way roads (55%) (**Error! Reference source not found.**)

TABLE 10 - RESIDENT ADULT PEDESTRIAN CASUALTIES BY ROAD TYPE FROM SAFER ROADS BERKSHIRE AND COMPARATORS (2014-2018)

Road Type	GB	South East	Berkshire	Bracknell Forest	West Berkshire	Reading	Slough	Windsor & Maidenhead	Wokingham
Roundabout	10%	16%	20%	21%	32%	23%	12%	15%	32%
One way	39%	45%	37%	43%	37%	37%	23%	46%	55%
Dual carriageway	50%	40%	43%	36%	32%	40%	65%	38%	14%
Single carriageway	0%	0%	0%	0%	0%	0%	0%	0%	0%
Slip road	0%	0%	0%	0%	0%	0%	0%	0%	0%

TABLE 11 - RESIDENT ADULT PEDESTRIAN CASUALTIES BY JUNCTION DETAIL FROM SAFER ROADS BERKSHIRE AND COMPARATORS (2014-2018)

Junction detail	GB	South East	Berkshire	Bracknell Forest	West Berkshire	Reading	Slough	Windsor & Maidenhead	Wokingham
No junction	43%	45%	46%	57%	55%	43%	44%	44%	46%
Roundabout	4%	5%	6%	6%	8%	7%	4%	6%	8%
T-junction or cross roads	45%	42%	39%	30%	25%	44%	44%	41%	36%
Private	3%	5%	6%	7%	9%	3%	7%	6%	5%
Other	5%	3%	2%	0%	3%	2%	1%	3%	5%

Junction details were also analysed and are displayed in Table 11. For all adult pedestrian casualties from Safer Roads Berkshire 35% were at some sort of junction at the time of their crash, the most common being T-junctions and crossroads. Adult pedestrians are more likely to be away from a junction at the time of their collision (49%). These differences could provide insight into the types of roads adults walk on and where they choose to cross the road.

It is important to understand where the pedestrians from Safer Roads Berkshire were crossing when they were injured. Figure 13 illustrates the pedestrian’s location at the time of the collision. The majority of the casualties were not on a crossing facility at the time of their collision.

FIGURE 13 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY PEDESTRIAN LOCATION (2014-2018)

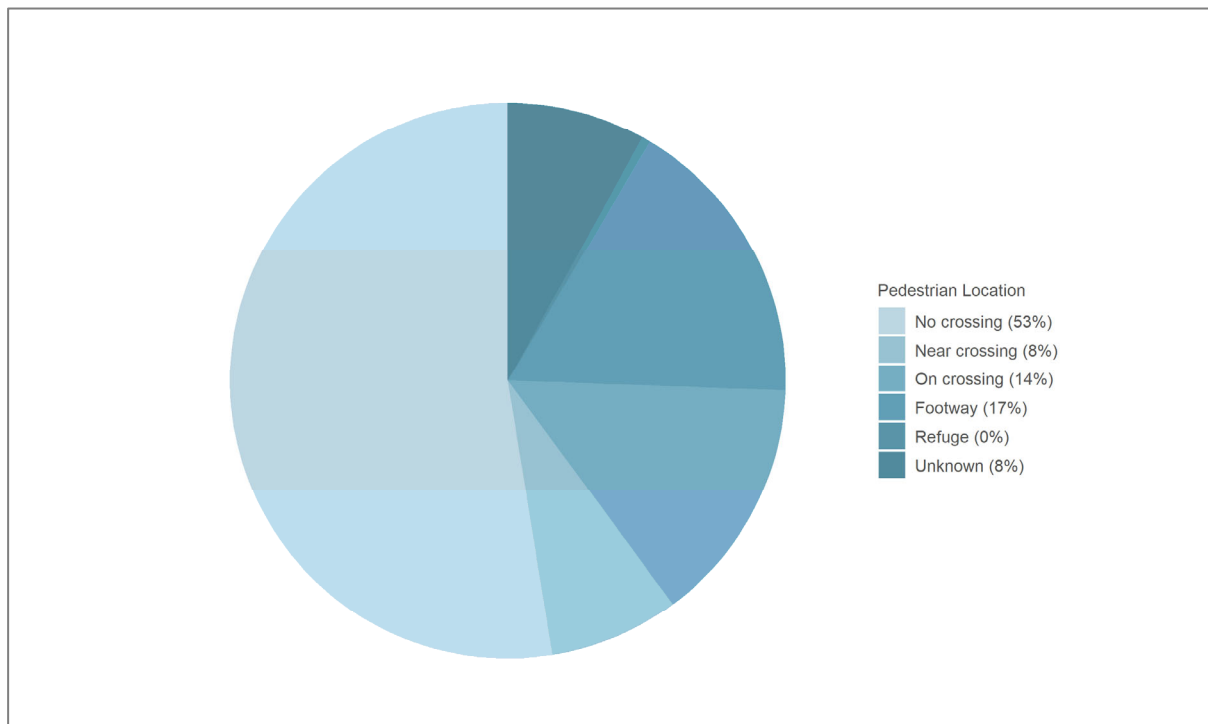
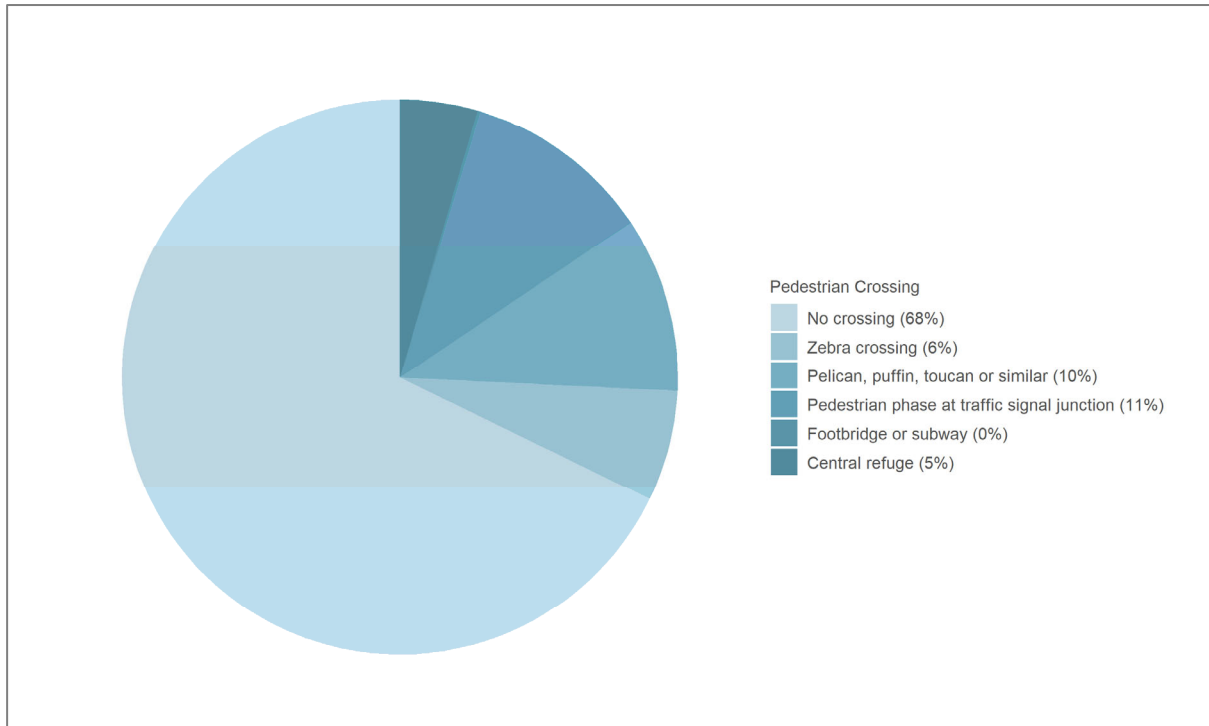


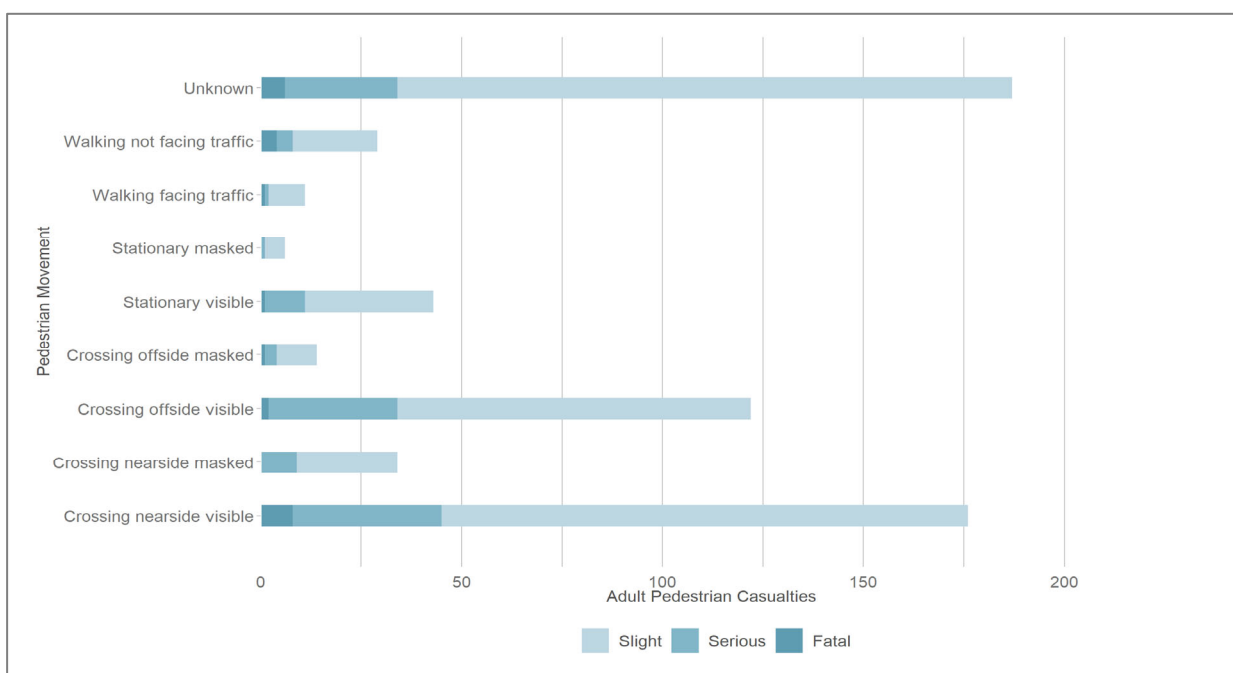
Figure 14 shows the crossing type at the locations where the pedestrians from Safer Roads Berkshire were injured. The highest percentages on a crossing were at pedestrian crossings, pelican, puffin, toucan or similar crossings (21%).

FIGURE 14 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY PEDESTRIAN CROSSING FACILITIES (2014-2018)



Following on from pedestrian crossing facilities, the location and movement of the casualties was also analysed. (Figure 15) Adult pedestrians are more to cross from the driver's nearside and off-side (48%). It is worth pointing out that this information has not actually been recorded in 30% of cases.

FIGURE 15 - SAFER ROADS RESIDENT ADULT PEDESTRIAN CASUALTIES BY PEDESTRIAN MOVEMENT (2014-2018)



As well as the road and junction types, it is possible to examine the physical locations where Safer Roads Berkshire adult resident pedestrians were injured. Analysis of the top middle layer super output areas where adult pedestrian casualties from Safer Roads Berkshire were injured are shown in Figure 16.

FIGURE 16 - LOCATION OF SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY MSOA (2014-2018)

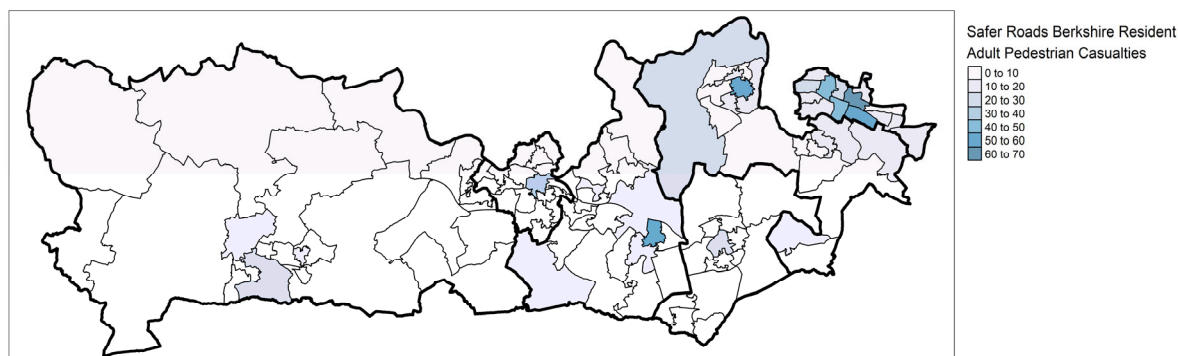


Figure 16 shows that concentrations of adult pedestrian casualties from Safer Roads Berkshire were involved in collisions in the urban areas of Slough, Maidenhead and Wokingham.

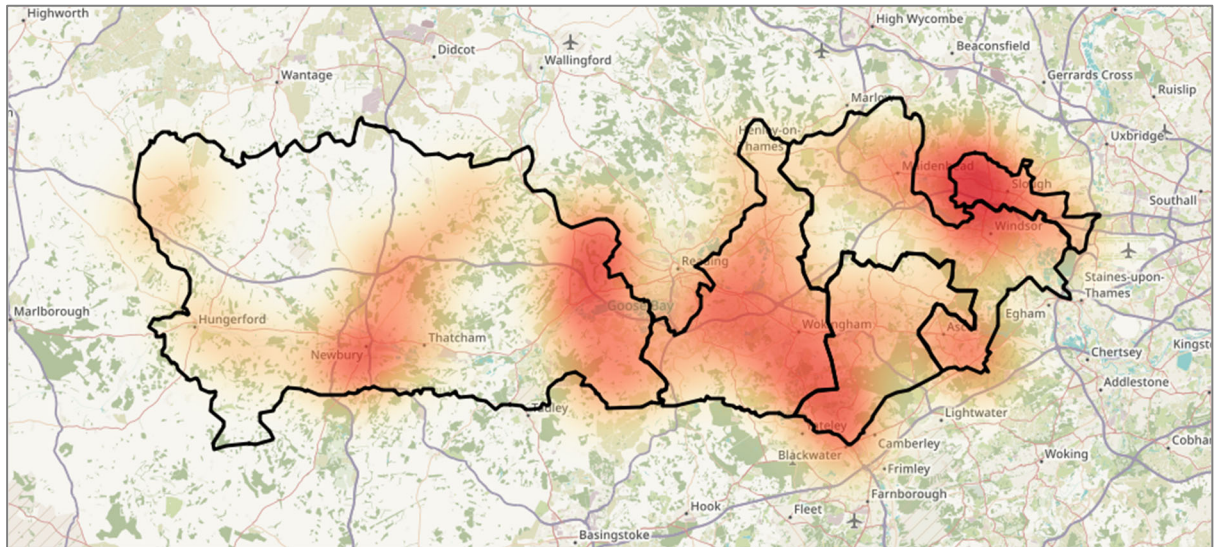
In addition to mapping the wards where adult pedestrian casualties from Safer Roads Berkshire were injured, it is possible to analyse the route numbers where those pedestrians were injured. Table 12 shows the number of adult pedestrian casualties from Safer Roads Berkshire who were injured on specific routes. These casualties could have been involved in collisions on these routes outside of Safer Roads Berkshire. Where the route number is specified, the A4 has the highest number of casualties. The highest percentages of casualties were on unclassified routes (357 casualties), the A4 and the A329 and the A308.

TABLE 12 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY ROUTE (2014-2018)

Crash Location Road Number	Casualties	Percentage Casualties
Unclassified	362	58.20
A4	47	7.556
A329	35	5.627
A308	16	2.572
A321	12	1.929
A355	12	1.929
B416	10	1.608
A412	9	1.447
B4447	6	0.9646
A332	5	0.8038

The heat map in Figure 17 shows where the highest densities of adult pedestrian casualties occur in Safer Roads Berkshire, shown in red. The heat map illustrates that the highest concentration of adult pedestrian casualties is found in the city centres of Slough, Eton and Windsor. Wokingham, Theale, Newbury and Bracknell.

FIGURE 17 - LOCATION OF ADULT PEDESTRIAN CASUALTIES IN SAFER ROADS BERKSHIRE (2014-2018)



HOW?

After looking at when and where adult pedestrians from Safer Roads Berkshire were involved in collisions, the analysis now explores how these collisions occurred.

In order to understand the circumstances surrounding how Safer Roads Berkshire residents were injured as pedestrians, it is important to look at the other vehicles involved. This is achieved by looking at the related driver for the casualty – for injured drivers this is themselves; for injured passengers it is the driver of the vehicle they were in; and for pedestrians it is the driver of the vehicle which hit them. For 487 of the adult pedestrian casualties from Safer Roads Berkshire who were injured between 2014 and 2018, the related driver was in a car and this represents 78% of the casualties. Thirteen percent were injured by goods vehicles. A further 2% of the casualties were injured in conflicts with a bus and a further 6% with either a motorcycle or pedal cycle.

FIGURE 18 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY RELATED VEHICLE TYPE (2014-2018)

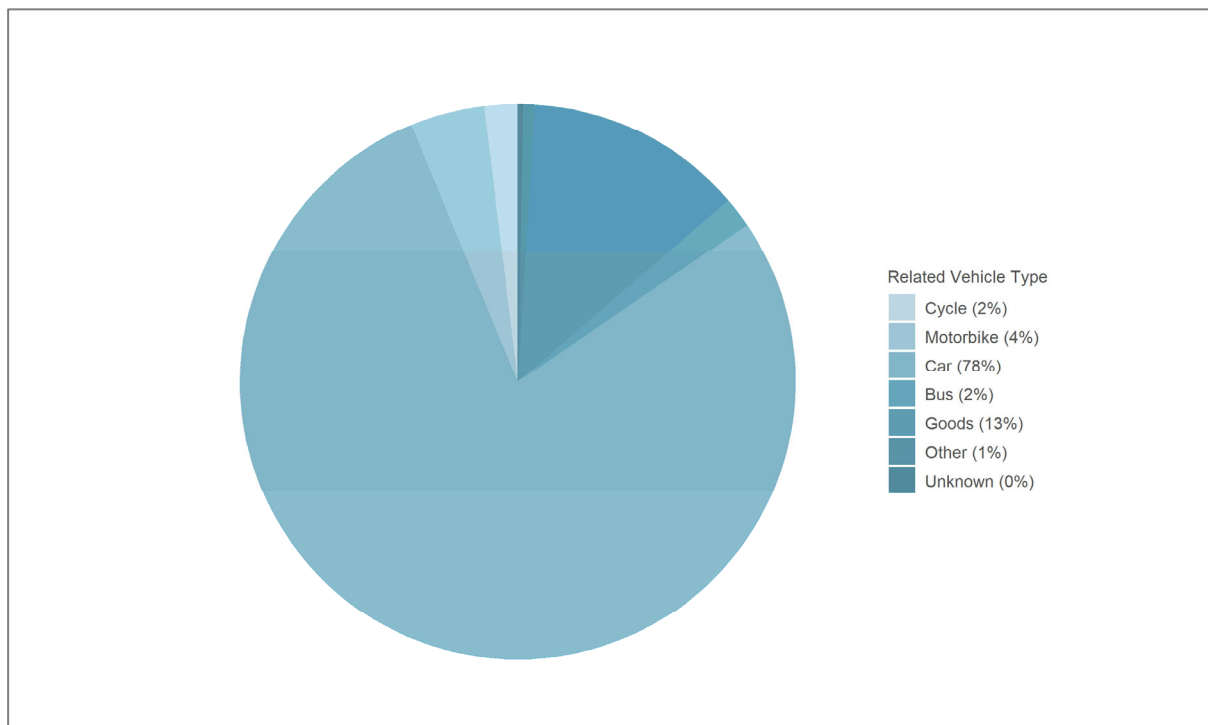


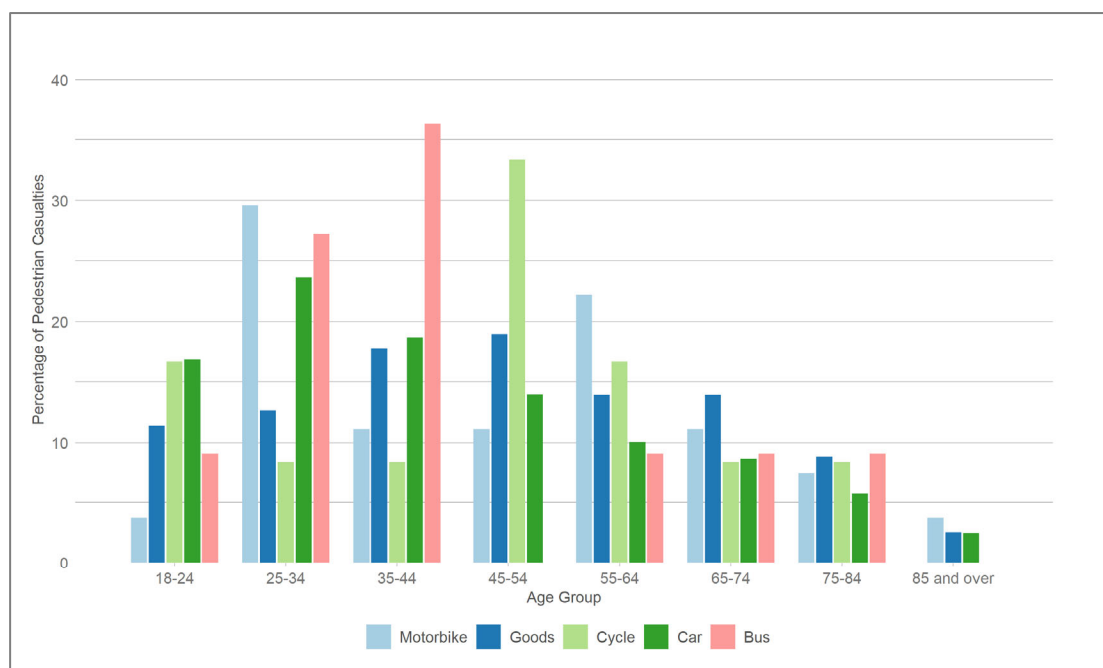
Table 13 shows the percentages of adult pedestrian casualties who were hit by each vehicle type for the individual Safer Roads Berkshire authorities and comparators. It shows that the majority of adult pedestrian casualties in the comparator authorities were also in conflict with car drivers.

TABLE 13 - RESIDENT ADULT PEDESTRIAN CASUALTIES BY RELATED VEHICLE TYPE FROM SAFER ROADS BERKSHIRE AND COMPARATORS (2014 - 2018)

Related Vehicle	GB	South East	Berkshire	Bracknell Forest	West Berkshire	Reading	Slough	Windsor & Maidenhead	Wokingham
Cycle	2%	3%	2%	4%	2%	2%	1%	3%	0%
Motorbike (Up to 125cc)	3%	2%	2%	0%	1%	2%	2%	2%	3%
Motorbike (Over 125cc)	2%	2%	2%	6%	2%	3%	2%	1%	3%
Car	72%	73%	71%	74%	69%	66%	79%	70%	71%
Taxi	6%	5%	6%	2%	6%	9%	5%	5%	3%
Minibus	0%	0%	0%	0%	2%	0%	1%	0%	0%
Goods Light	7%	8%	9%	7%	10%	7%	5%	12%	16%
Goods Heavy	3%	3%	3%	2%	2%	4%	3%	4%	2%
Bus	4%	4%	3%	2%	5%	8%	0%	1%	3%
Other	1%	1%	0%	4%	0%	0%	0%	1%	0%

Analysis of the adult pedestrian casualties by the related drivers involved reveals some interesting trends. Figure 19 shows the adult pedestrian casualties by the age distributions of the related drivers. For those injured by motorbikes and cars, the related driver tended to be aged between 25 and 44 years old. The percentage of casualties injured by buses (between 35 and 44 years old) were higher, whilst cyclists were slightly older (peak in related casualties for cyclists aged 45 to 54 years old).

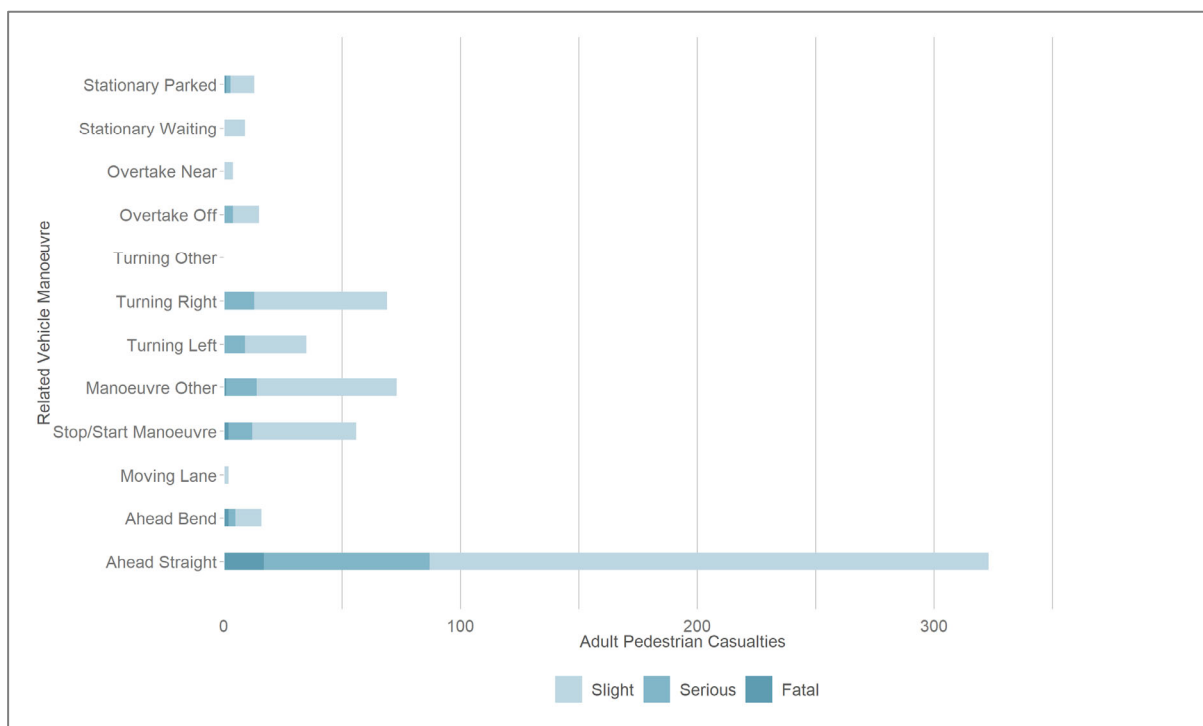
FIGURE 19 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY AGE BAND AND RELATED VEHICLE TYPE (2014 - 2018)



The manoeuvres of the related vehicles can be analysed. **Error! Reference source not found.** shows Safer Roads Berkshire resident adult pedestrian casualties by the manoeuvre of the related vehicle.

Fifty-two percent were injured when the related vehicle was going straight ahead and 11% were injured when the vehicle was turning right.

FIGURE 20 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES BY RELATED VEHICLE MANOEUVRE (2014-2018)



It is possible to analyse the contributory factors (CFs) recorded by a police officer when completing the collision records. The following analysis only looks at collisions investigated at the scene by an officer and even then, it needs to be remembered that these factors reflect the officer’s opinion at the time of reporting and might not be the result of extensive investigation. Analysis has been undertaken on pedestrian casualties by the CFs assigned to them and by those assigned to the related driver. This analysis was conducted using MAST Professional, with data sourced from the Department for Transport; consequently, it may not be an exact match with similar data from Transport Scotland. Pedestrian casualties in comparator authorities have also been analysed to provide a comparison.

Table 14 shows the proportions of adult pedestrian casualties from Safer Roads Berkshire authorities and Great Britain who were assigned any contributory factor. It shows that sixty-two percent of the adult pedestrian casualties, from Safer Roads Berkshire were thought to have contributed to their collision in some way. The percentages receiving CFs were slightly lower for Safer Roads Berkshire residents than for residents of Great Britain as a whole. It shows that adult pedestrians from West Berkshire are more likely to receive a CF than Bracknell Forest.

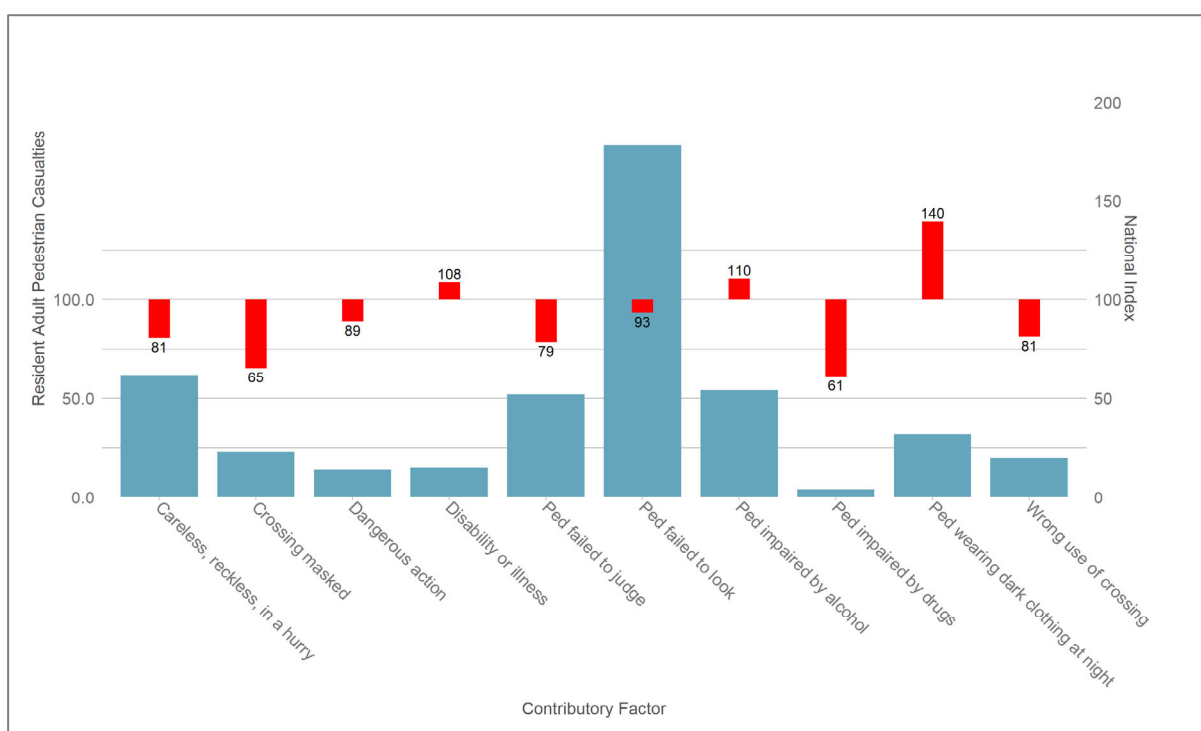
TABLE 14 - PROPORTION OF RESIDENT ADULT PEDESTRIAN CASUALTIES ATTRIBUTED A CF FROM SAFER ROADS BERKSHIRE AND COMPARATORS (2014 - 2018)

Casualty Home	Pedestrian attributed CF	Percentage
Bracknell Forest	22	52.38
West Berkshire	43	70.49

Slough	96	67.61
Windsor & Maidenhead	58	55.24
Wokingham	44	56.41
GB	38269	64.69

Figure 21 **Error! Reference source not found.** shows the contributory factors assigned to Safer Roads Berkshire adult pedestrian casualties as a percentage of that age group’s casualties and indexed against CFs assigned to national resident adult pedestrian casualties. Indices were not calculated for CFs representing less than 2% of casualties. It should be noted that participants in collisions can be assigned more than one CF, so the percentages of casualties add up to more than 100%.

FIGURE 21 - SAFER ROADS BERKSHIRE RESIDENT ADULT PEDESTRIAN CASUALTIES ATTRIBUTED CONTRIBUTORY FACTORS, WITH NATIONAL INDICES (2014 - 2018)



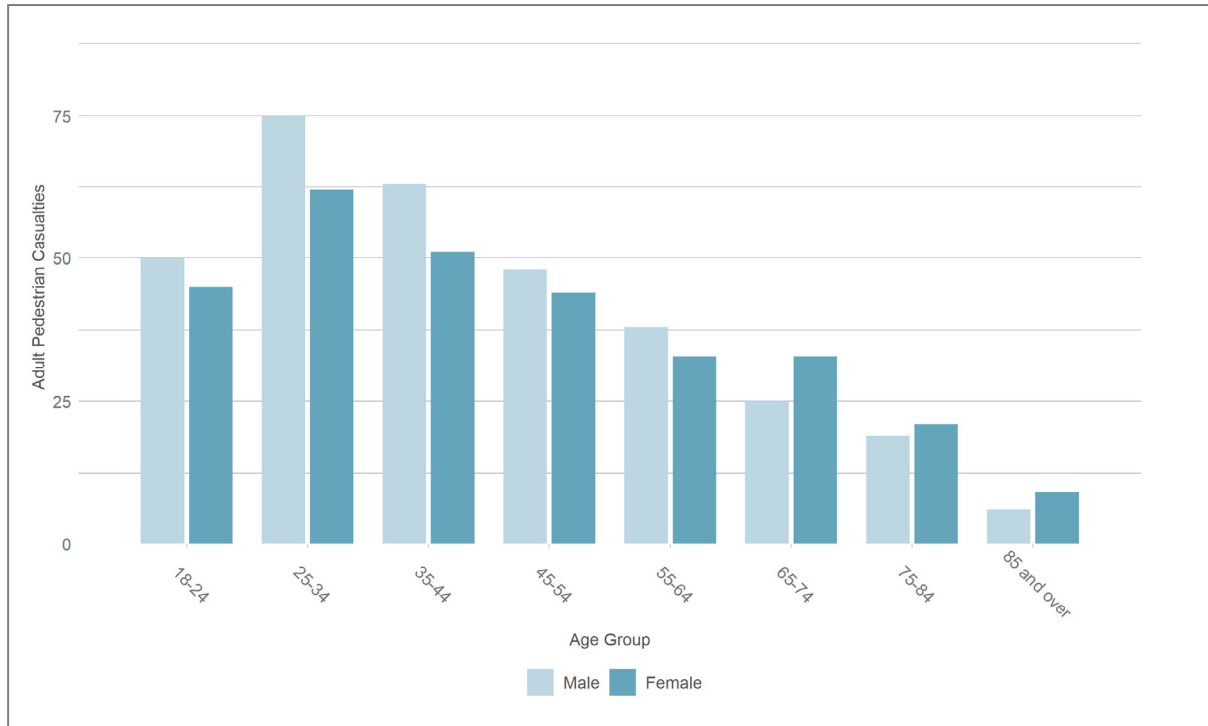
It shows that the highest number of casualties from Safer Roads Berkshire were assigned CF802 *Failed to Look Properly* (178) however this CF was assigned to SRB residents in fewer proportions than Great Britain as a whole (as shown by indices less than 100). Three CFs have been recorded more frequently for Safer Roads Berkshire resident adult pedestrian casualties than Great Britain as a whole. These are CF809 *Pedestrian wearing dark clothing at night*, CF806 *Pedestrian impaired by alcohol* and CF810 *Pedestrian with disability or illness*.

PEDESTRIAN AND RELATED DRIVER PROFILES

Moving away from the ‘when, where and how’ questions, we can now explore the ‘who’ question. It is essential to understand more about the people involved in the collisions, including information about their everyday lives, as well as demographics.

The ages of adult pedestrian casualties from Safer Roads Berkshire by severity are shown in Figure 22. It shows that the single largest group of adult pedestrian casualties were aged 25 to 34 years. It also shows that there were more female than male pedestrian casualties aged 65 to 74 and 75 to 84 years.

FIGURE 22 - SAFER ROADS BERKSHIRE RESIDENT PEDESTRIAN CASUALTIES BY AGE BAND AND GENDER (2014 - 2018)



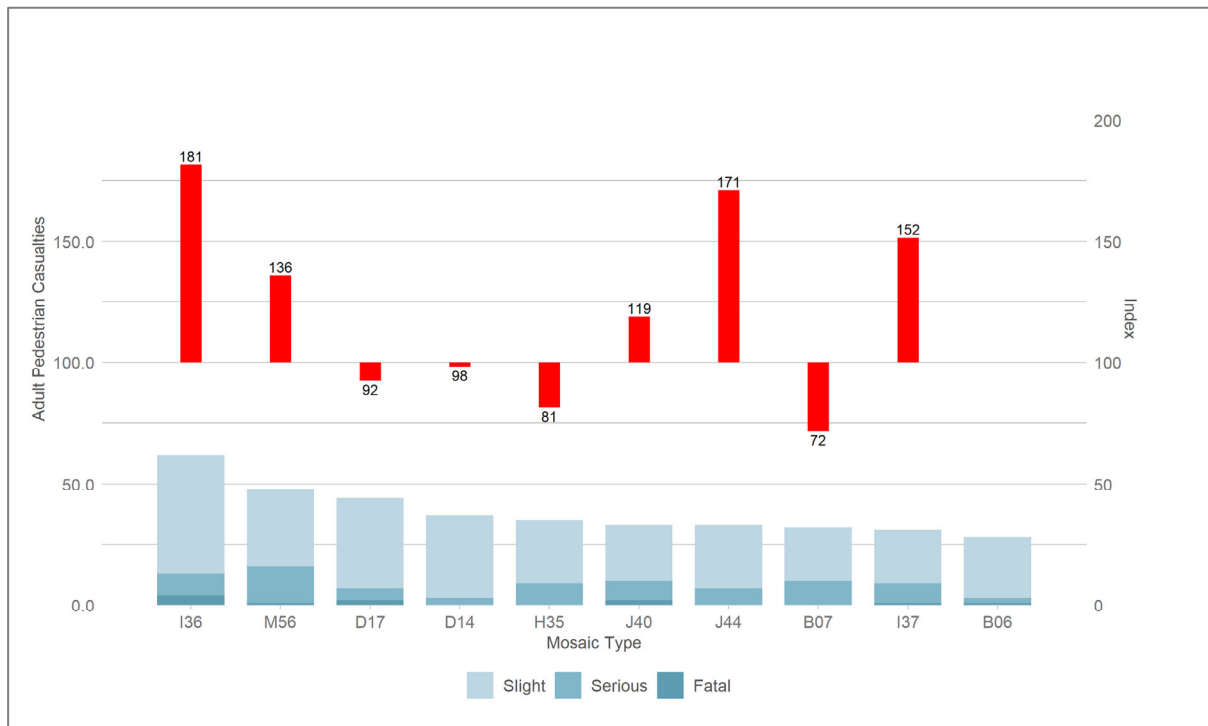
MOSAIC ANALYSIS

As well as demographic and spatial analysis of pedestrians, we can also undertake socio-demographic analysis using Mosaic. Mosaic is intended to provide an accurate and comprehensive view of citizens and their needs by describing them in terms of demographics, lifestyle, culture and behaviour. By matching postcodes, we can segment pedestrians into one of 15 groups which can then be split into 66 types; and analyse their relative representation in the statistics based on population figures.

Mosaic classification is based on the individual postcodes provided in STATS 19 records for each casualty and uses the Experian Mosaic socio-demographic classification system [See <https://www.experian.co.uk/marketing-services/products/mosaic/mosaic-in-detail.html>]. Typically, 85% of postcodes can be matched to a Mosaic group, so this analysis is based on about five out of six of all Safer Roads Berkshire resident pedestrians.

The shaded area indicates the number of pedestrians for each Mosaic type, with figures corresponding to the left-hand vertical axis. The red bars show the 'Index' for each Mosaic type. An Index value of 100 indicates that the number of pedestrians is in proportion to the population of Safer Roads Berkshire's communities where that group predominates. A value of 200 would mean that this group is involved in collisions at twice the expected rate; a value of 50 would imply half the expected rate. Displaying the data overlaid on a single chart allows quick and easy analysis of total pedestrians and relative risk. The Index value becomes less significant as the number of pedestrians decreases and random change lowers confidence levels.

FIGURE 23 - SAFER ROADS BERKSHIRE RESIDENT PEDESTRIAN CASUALTIES BY MOSAIC TYPE (2014 – 2018)



When carrying out Mosaic analysis the approach is to look for both levels of high representation and high index scores in individual types. Index values are not calculated for types which contain 30 or fewer pedestrians as the number is too low to be meaningfully interpreted. The highest numbers of adult pedestrians are from Type **I36** *Thriving families with good incomes*, Type **M56** *Stable families with children renting better quality homes from social landlords*, Type **J44** *Young self-starters prepared to move to follow worthwhile incomes from service sector jobs* and Type **I37** *Established older households who own city homes in multi-cultural neighbourhoods*. These types are over-represented based on their population within Safer Roads Berkshire.

Table 15 overleaf summarises some of the main characteristics of the Mosaic types over-represented amongst Safer Roads Berkshire’s pedestrian casualties.

TABLE 15 - CHARACTERISTICS OF MOSAIC TYPES OVER-REPRESENTED AMONGST PEDESTRIAN CASUALTIES

Mosaic Types				
	Type I36 – Culture & Comfort	Type M56 – Solid Economy	Type J44 – Flexible Workforce	Type I37 – Community Elders
Multicultural	✓	✓	✓	✓
18-25 years old	✗	✓	✗	✗
26-34 years old	✗	✗	✓	✗
36-40 years old	✓	✗	✗	✗
61-65 years old	✗	✗	✗	✓
Own motorbike	✓	✓	✓	✗
Car ownership	✗	✗	✗	✓
Exercise 4+ hours a week	✗	✗	✗	✗
Low Income	✗	✓	✗	✓
Degree or higher	✗	✗	✓	✓
Employed Full-time/other	✓	✓	✓	✗
Student/Unemployed	✓	✓	✓	✗
Part-time/Housewife	✓	✓	✗	✗
Retired	✓	✗	✗	✓
Works in: Information and Communication	✗	✗	✓	✗
Works in: Professional, Scientific and Technical	✗	✗	✓	✗
Works in: Own businesses	✓	✗	✗	✗
Works in: Transport and storage	✗	✓	✓	✗
Confidence in Police	✓	✗	✓	✗
Use internet every day	✓	✗	✓	✓
Ethnicity	Asian/Asian British: Indian, Pakistani, Bangladeshi and Black/African/Caribbean/Black British	Gypsy/Traveller/ Irish Traveller and Black/African/Caribbean/Black British	Black/African/Caribbean/Black British and Asian/Asian British: Bangladeshi, Pakistani, Indian	Asian/Asian British: Indian, Pakistani, Other Asian and other mixed ethnic groups
Communication Preferences (of adults within the home)				
Mobile call	✓	✓	✓	✓
SMS	✓	✓	✓	✓
Email	✗	✗	✓	✗
Post	✓	✓	✓	✓
Landline	✓	✓	✓	✓
Prefer not to be contacted	✗	✗	✗	✗
Like new technology	✓	✓	✓	✗
Use Facebook weekly	✓	✓	✓	✓
Use Twitter weekly	✓	✗	✓	✓

The following maps show the Lower Layer Super Output Areas (LSOAs)¹ where Mosaic types I36, I37, J44 and M56 are the dominant types.

FIGURE 24 - SAFER ROADS BERKSHIRE RESIDENT PEDESTRIANS DOMINANT MOSAIC TYPES (2014-2018)

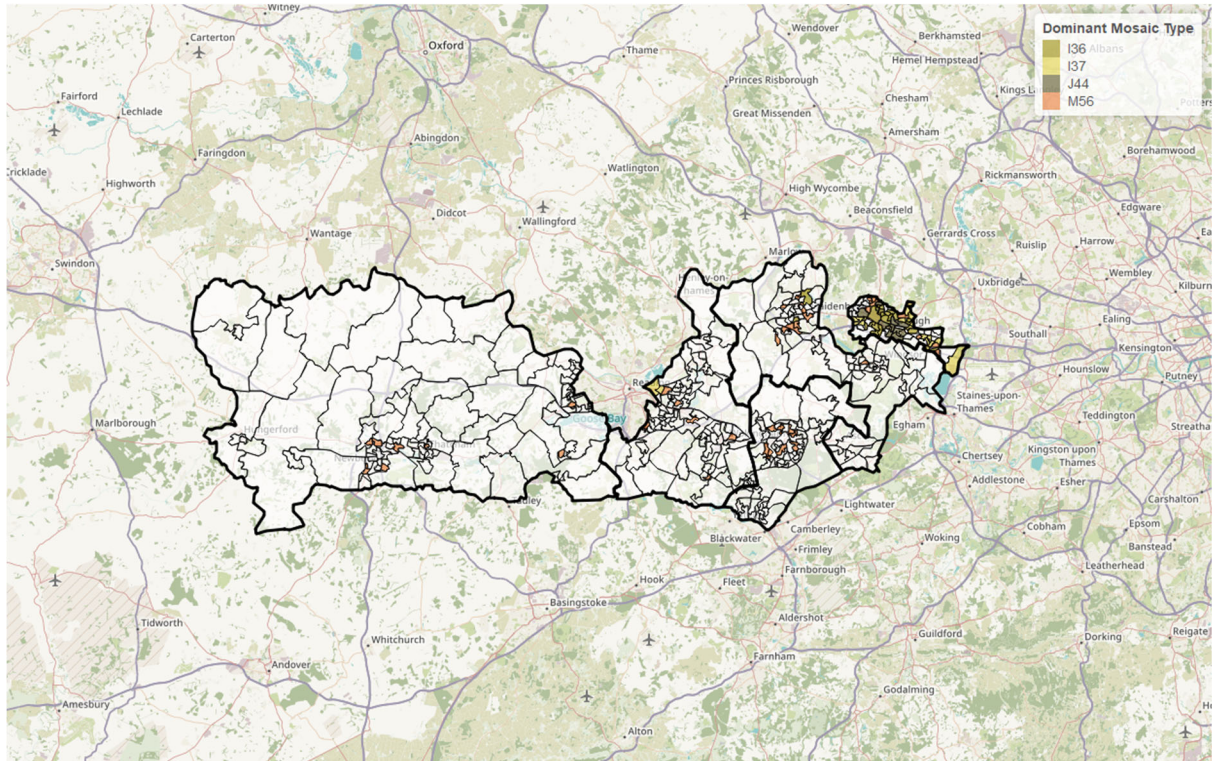


Table 16 provides a summary of some main characteristics of the over-represented types and these can be used to create a picture of the target audience in terms of economic and educational position, and family life. This information is invaluable for understanding target audiences and knowing how to communicate with them.

¹ For further information about super output areas, refer to <http://neighbourhood.statistics.gov.uk/dissemination/>

TABLE 16 - SUMMARY OF CHARACTERISTICS OF OVER-REPRESENTED MOSAIC TYPES

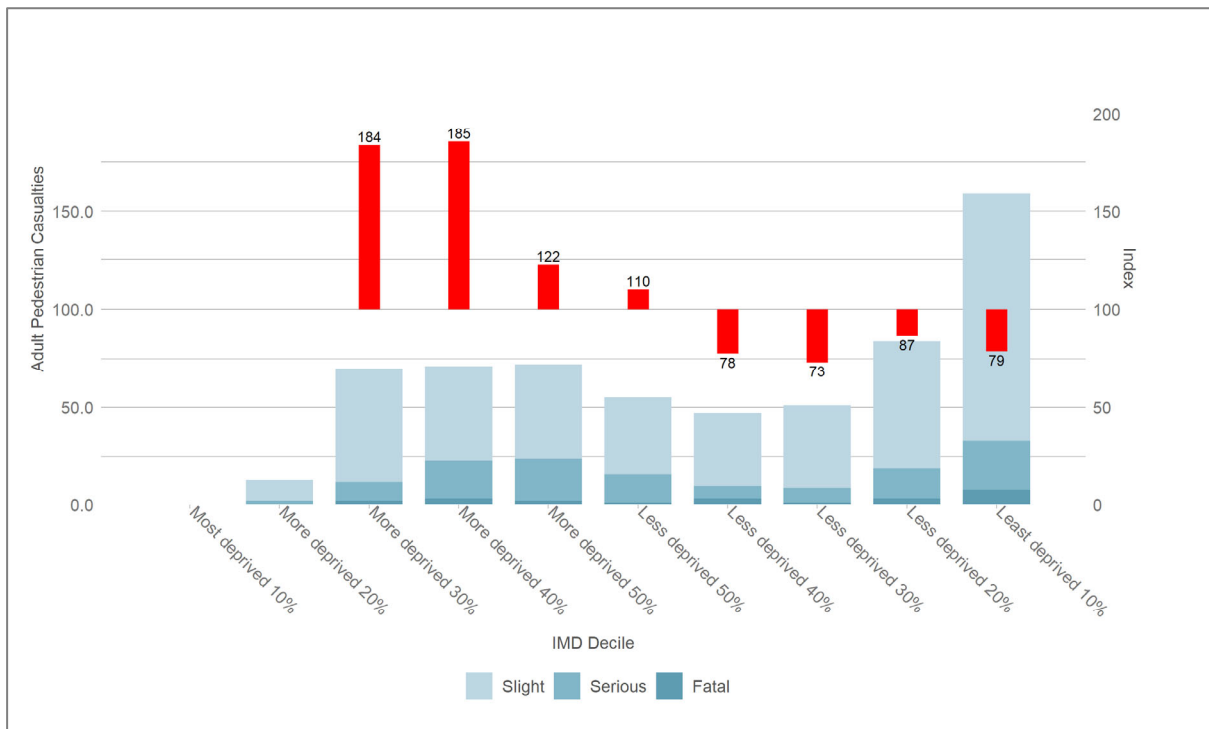
Type I36	Type M56
Culture & Comfort	Solid Economy
<p>Thriving families with good incomes, enjoying comfortable lifestyles living in multi-cultural city suburbs where there are high proportions of people of South Asian backgrounds. Due to the location, housing is expensive in these urban residential areas.</p> <p>Mostly aged 35 to 55 and married, typically living with school aged children. They are often extended families who will also have an elderly parent living with them.</p> <p>Live in neighbourhoods of semi-detached and terraced suburban homes usually with three bedrooms which, because of their locations in pleasant city suburbs are reasonably expensive. Seventy percent own their homes – many with no or only a comparatively small mortgage.</p> <p>Incomes and lifestyles are comfortable thanks to good levels of education and full-time jobs. Employment is often in their own small businesses. Like to be the first to have new consumer technology; they are the most likely group to have a smart TV with almost half of this type owning one. However, they are light TV viewers spending more time on the internet. They are fans of on-line gaming, frequently do their grocery shopping online and read online reviews before making purchases for their homes and gardens.</p> <p>Overall have a slightly higher than average dependency on working age state benefits, such as Job Seeker’s Allowance.</p>	<p>Stable families with children renting better quality homes from social landlords. Rather than living on the largest council estates, these families are more likely to be found in smaller pockets of social housing in more advantaged areas.</p> <p>Typically headed by adults in their mid 30s to mid 50s. Families are large, commonly with two or more children and are sometimes headed by lone parents. They are stable households with adults mainly in employment and most families have lived at their address for several years. Their homes are usually 3 bedroomed terraces or semi-detached houses and are typically part of small developments of social housing.</p> <p>Although overall educational attainment is below average, most adults are able to find work, often in lower wage service industry roles or in industries such as retail. As a result, the finances of Solid Economy are also reasonably stable. But with household incomes below average, unexpected bills can sometimes be a struggle. Family finances are topped up with child benefits and tax credits and most feel it is difficult to cope on their incomes and aspire to a better standard of living. Some use credit cards to afford larger purchases, but all are price conscious.</p> <p>Send a lot of texts and some keep in touch on social networks. They don’t frequently shop using the internet but go online for entertainment such as bingo.</p> <p>More likely than average to receive support from a range of state benefits, but less so than some other less affluent families. In addition to Income Support, they mainly rely on Tax Credits.</p>

Type J44	Type I37
Flexible Workforce	Community Elders
<p>Young self-starters prepared to move to follow worthwhile incomes from service sector jobs. Comprising singles and homesharers privately renting flats in city centres, particularly London with its thriving service economy, these young people come from a range of ethnic backgrounds.</p> <p>Typically aged in their late 20s and 30s, Flexible Workforce live in highly transient areas alongside other relatively short-term renters. A combination of single households and homesharers, 70 per cent rent from private landlords and will tend to stay at an address for between one and three years before moving on. Live in one- and two-bedroom flats, either purpose-built or older properties converted into smaller, more rentable flats and bedsits. These are in reasonably high value locations from which they can easily commute to jobs in the city centre.</p> <p>Many are educated to degree level; Flexible Workforce tend to be employed in intermediate service and support sector roles where they can earn reasonable but not high incomes. They have made progressing at work a priority and many dream of one day owning their own businesses.</p> <p>From a range of backgrounds, this type includes people of South Asian origin as well as people who have more recently relocated, particularly from Eastern Europe.</p> <p>Big fans of technology and highly connected via their smartphones, particularly for banking, checking prices online while in store and keeping up-to-date with job opportunities. They are more inclined to respond to email offers and notice internet ads but they also believe you have to be careful about the quality of things you buy on the internet, and are not loyal to particular shops.</p> <p>Need more support from the state than average, particularly accessing Job Seeker's Allowance and Income Support.</p>	<p>Established older households who own city homes in multi-cultural neighbourhoods. Long-settled members of these communities, some have adult children still living at home.</p> <p>People aged 55-plus, many already retired, who have lived in their present homes for some time, often twenty years or more. Some are now widowed, others continue to live with their spouses. Around a third of these extended households will have an adult child still living with their parents.</p> <p>Continue to live in their inter-war city terraces and semi-detached homes, most usually with three-bedrooms and now of above average value due to their accessible city location. Home ownership is high and mortgages have often been paid off.</p> <p>Live in culturally diverse neighbourhoods and are themselves more likely to be of South Asian origin. Household income levels depend on whether people have retired, although in general these are households that live comfortably within their means. Those that are still in employment are in a range of roles, with a good number self-employed.</p> <p>Shop in high street supermarkets and are inclined towards ethical products. They are light internet users but are unlikely to purchase online, and try to keep up with developments in technology even if they require some help to do so.</p>

INDEX OF MULTIPLE DEPRIVATION (IMD)

As well as looking at the Mosaic socio-demographic classifications, it is possible to look at relative wealth using the IMD values for each postcode. IMD uses a range of economic, social and housing data to create a single deprivation score for each small area. The analysis (Figure 25) uses deciles, which creates ten groups of equal frequency, ranging from the 10% most deprived areas to the 10% least deprived areas.

FIGURE 25 - SAFER ROADS BERKSHIRE RESIDENT PEDESTRIAN CASUALTIES BY HOME IMD DECILE (2014-2018)



For adult pedestrian casualties from Safer Roads Berkshire, the largest numbers live in the 'Least Deprived 10%' of communities however these numbers are actually under-represented against the population as a whole living in these areas. The more deprived 30% and more deprived 40% are over-represented against the population of Safer Roads Berkshire as a whole.

PROFILES

Following the analysis of risk, it is necessary to combine the elements of casualty and collision profiling to create a persona or profiles which capture the key characteristics of those communities or groups most at risk. Although a profile will not typify all, or perhaps even a majority of those involved in collisions, it should represent a significant proportion of those most vulnerable.

The analysis of the socio demographic data as well as the collision information has allowed a picture to be built up about the kinds of pedestrians from Safer Roads Berkshire who are injured in collisions. More than one type of pedestrian has emerged. The findings allow key characteristics to be collated into profiles. Parallels have been drawn from the multiple datasets in the creation of these profiles to ensure alignment along clear data points.

There are **4** profiles which have emerged from the analysis:

1. **'Priya'** – In her late 30's, owns a semi-detached house in Mosaic Type I36, a predominately South Asian neighbourhood. She works part-time within the family business which is a short walk from her home. She lives with her husband, two children and her elderly mother. She doesn't own a car but the family own a work van. She relies upon public transport to travel to work and take the children to school. Priya tends to be injured in collisions whilst crossing the residential (unclassified) roads close to home. As well as being on a local bus route, these roads have an abundance of parked cars as houses are mostly terraced with no driveways. This would suggest that visibility may be an issue. Roads tend to not have pedestrian crossing facilities but quite regularly feature on a bus route. Collisions can occur in the morning between 8 and 9am or in the afternoon between 4 and 6pm when Priya is in a hurry. There could also be a skills deficit that might need to be addressed – Priya is often considered to have contributed to her collisions through failing to look properly or failing to judge the speed of a car, motorbike or bus. These contributory factors suggest that some training could be beneficial. However, it should be remembered that only 65% of the pedestrians were thought to have contributed to their collision. Priya has a positive view of the police, and prefers to be contacted by post or landline, so these could be used to deliver messages to her.
2. **'Marius'** – in his late 20s, rents a flat in Mosaic Type J44, a multi-cultural neighbourhood close to the city centre. He is single and is educated to a degree level. He is employed full time in Information and Communication. Marius is generally ambitious, keen to further his position and adventurous in trying new things. He doesn't own a car as there is nowhere convenient to park it, so commutes to work either on foot or by public transport. He also walks to do his shopping either on the way to or from work. He socialises at the weekend and is often out late visiting takeaway establishments. He tends to be injured in collisions near to established crossing facilities in towns but can often be found not using those facilities. There are peaks in collisions at commuter times. Marius is often walking with his back to the traffic at the time of his collision and this might suggest that he is being careless or reckless. Alternatively, in the afternoon or evening commute, he may not be visible enough to drivers. He could perhaps be persuaded to improve how visible he is as a pedestrian in the dark (through clothing). There could also be a skills deficit that might need to be addressed – the related drivers are often considered to have contributed collisions with pedestrians through observation errors (failed to look properly or failed to judge other's path or speed). All these contributory factors

suggest that some training could be beneficial. Marius has a positive of the police and likes using new technology; he uses social media such as Facebook and Twitter weekly; his communication preference is by email for most marketing contacts with organisations. So, these could be potentially used to deliver messages to him.

3. **'Billy'** – is in his mid-30's, lives in a social rented/HA terraced house in Mosaic Type M56 with his wife and two children. He comes from a low-income household and family finances are topped up with tax credits. His family do not own a car, therefore walking for him is a necessity as he has limited alternative options for commuting to and from work. Billy and his family do not exercise and only adopt environmentally friendly practices when it can save them money. As a result, Billy does not walk for exercise or environmental reasons, but more so for being cost efficient than using public transport. Like Priya and Marius, Billy is involved in collisions in towns or when walking to and from the supermarket or the local shops. He is likely to be involved in collisions at the beginning and end of his shift which do not always correspond with the main commuter peaks in collisions. The collision circumstances are similar, both in terms of contributory factors and the involvement of cars. A focus on increasing personal visibility might help reduce collisions. Billy is a technology fan and prefers to be contacted by mobile or text message. These methods could therefore be used to deliver messages to him.
4. **'Abdul'** – is in his 60s, owns a large terraced house in Mosaic Type I37 with his wife and his grown-up daughter. This is a multicultural neighbourhood. Abdul and his wife are retired and have paid off their mortgage early. Although he owns a car, he rarely uses it for short trips and only for holidays and larger supermarket shops. He does not really exercise and likes to socialise through voluntary groups and with friends. Abdul and his wife socialise regularly and tend to walk home. Abdul tends to be injured in collisions on the residential streets near to home in the late afternoon and early evening. It is possible that Abdul may have failed to look properly when crossing the road (Usually not at a designated pedestrian crossing) and these are factors which could be addressed. is. He could perhaps be persuaded to improve how visible he is to motorists (through clothing). Abdul is not really a fan of new technology and only changes it when necessary. He prefers to be contacted by post; therefore this method could be used to deliver messages to him.

IN-DEPTH ANALYSIS

Additional to the relevant variables analysis in MAST, an in-depth analysis of the free-text representing the police officer description of the collision was undertaken, looking at any notable trends or particular elements to enrich the understanding of the people and the context. The sample analysed was represented by collisions with Adult Berkshire (excluding Reading) Resident Pedestrian injured in collisions in Berkshire (excluding Reading), between 2014 and 2018.

For a significant proportion (23%) of the sample collisions, the police officer had recorded driver failing to stop. Though, these collisions produced less severe collisions compared to the entire sample (11% compared to 19%) and no fatal collisions, and occurred to younger pedestrians (average of 38 years old compared to 46 years old for the entire sample). These findings might suggest that, at least for the slight injuries (the biggest proportion), the pedestrian could have appeared to be well, so the driver might have considered that nothing significant happened and continued driving.

A proportion of 13% of the collisions assumed the driver in a reversing manoeuvre. These collisions ended up with a similar severity distribution as the entire sample and occurred to older pedestrians (average of 58 years old compared to 46 years old for the entire sample). This might suggest a deficit of attention from either side, and less agility and conspicuity for the pedestrians.

Looking at the average age for the three different severity levels, we can see that the higher the age, the more severe the injury is. For the slight injuries casualties, the average age is 44 years old, for the severe injuries the average is 50 years old and for the fatal casualties the average age is 57 years old. This difference can be explained by the deterioration of vision and audible abilities and by the deterioration of motor abilities and the slower reactions at older ages.

For a proportion of 8% of the analysed sample, the police officer recorded aspect indicated that the driver was intoxicated by either alcohol or drugs. These collisions were significantly more severe with 8% of them ending up in killing the pedestrian (compared to 3% for the entire sample and to 2% for the sample excluding these intoxicated cases) and 39% producing serious injuries for the pedestrian (compared to 19% for the entire sample and to 17% for the sample excluding these intoxicated cases). These findings are worrying and indicate that driving while intoxicated is a very significant risk for vehicles colliding with pedestrians, causing a significant proportion of severe and killed pedestrians.

Other key terms, such as pedestrian hit with the mirror, pedestrian sitting on the carriageway or pedestrian running on the carriageway, were also analysed but they represented only a small number of the collisions, therefore no conclusions could be drawn.

SUMMARY OF OTHER EVIDENCE AND SUCCESSFUL SCHEMES

The evidence unveiled by the analysis is very consistent with literature finding, exhibits similar demographic characteristics but also similar risk factors and risky behaviour as the majority of the academic literature on the topic. This section starts by giving more context to the topic of adult pedestrian casualties (from existing literature), exploring a series of potential risk-increasing factors, and continues with a brief description of successful interventions.

Risk factors

When talking about pedestrian casualties there are two main groups of factors facilitating the increase of (road) injury risk: infrastructure related factors and pedestrian behaviour related factors.

Infrastructure related risk factors:

- ✓ lack of pedestrian facilities,
- ✓ timing of signalisation phases,
- ✓ insufficient responsiveness of signalisation,
- ✓ button induced pedestrian phase at signalised crossings,
- ✓ long walking distances when crossing multi-stage junctions,
- ✓ excessively wide or multiple lane roads,
- ✓ insufficient width of crossings,
- ✓ high speed limits,
- ✓ location of parking or bus areas, which obstruct pedestrians' view,
- ✓ lack or insufficient width of pavements,
- ✓ insufficient lightning.

Pedestrian behaviour related factors:

- ✓ pedestrians' insufficient attention, or distraction,
- ✓ misjudgement of the traffic situation, distance of the oncoming vehicle and/or its position,
- ✓ intoxication,
- ✓ insufficient conspicuity, lack of high-visibility clothes or equipment,
- ✓ walking off the crossings,
- ✓ jaywalking,
- ✓ misjudgement of locations with high crash-risks along the walking routes,
- ✓ violating the traffic lights,
- ✓ misunderstanding of right-of-way rules,
- ✓ lack of communication or misunderstanding with the driver.

Consistent with the present analysis, the literature on the topic suggests that younger male have a higher likelihood of exhibiting riskier behaviour and be injured as pedestrians (Caraballo, 2016). Nevertheless, although older pedestrians don't seem to be the riskier group in the analysis, they are still considered to be a desirable subject of interventions (Dunbar, et al., 2004; Teanby et al., 1993; Martin, 2006; Polders et al., 2015) and along with children, are the most frequently addressed pedestrian target group.

In the case of older people, typical injuries resulting from an impact with an oncoming vehicle usually translate into more severe and life-threatening injuries in comparison to other age groups

(Hagenzieker, 1996; Centers for Disease Control and Prevention, 2013). Their increased likelihood to experience collisions is related to the physical disadvantages such as:

- ✓ slower reactions,
- ✓ deteriorated motor abilities and responses,
- ✓ decrement in visual acuity,
- ✓ peripheral vision and useful field of view,
- ✓ impairment in the distance perceptions at low luminance level.

These disadvantages could explain for example why older pedestrian have higher involvement rates in collisions where the drivers are reversing.

Older pedestrians also tend to overestimate the vehicles' velocity at lower speed and underestimate it at higher speeds (Scialfa et al., 1991). It appears that some of their behaviour patterns may not be risk limiting ones. Older pedestrian strategies are not narrowed to maximise their safety but according to the theory of selection, optimisation and compensation (Baltes, 1997) they are rather focused on maximising their potential gains (the safety) and minimising potential losses (the physical effort). On one hand they do display more cautious behaviour and preparation when interacting with the vehicles' traffic (which may be related to the age-related physical limitations), but on the other hand they are found to stick to some own, tried and tested, rules and habits (Transport for London, 2013), that are not necessarily in compliance with the formal ones. Other undesired behaviours result from older pedestrians' over-caution (Dunbar et al., 2004; Ewert, 2012). It was found that older people are likely to:

- ✓ walk onto the street away from pedestrian crossings,
- ✓ keep a relatively far but not necessarily optimal distance from the kerb when looking for a crossing opportunity,
- ✓ looking to the ground when crossing and directing less attention to the surrounding traffic.

There is limited specific evidence related to pedestrian groups aged older than children and teenagers but younger than the elderly.

Research on adult pedestrian behaviour suggests that pedestrian risk predictors can be found amongst demographic variables such as age, gender, marital status and having children (Caraballo, 2016). Women are more compliant than men, and respondents aged twenty-five years or younger are more compliant to the pedestrian traffic rules. Married pedestrian or pedestrians with children are more compliant than unmarried ones those who don't have children.

Another paper finds that pedestrians drastically overestimate their own visibility at night (Tyrrell et al., 2016), which might explain their increased involvement in collisions during night-time economy.

Interventions

A significant number of the interventions that were intended to increase pedestrian safety (apart from the ones addressed at the child or teenage pedestrians) were not targeting any specific, explicitly defined and selected socio-demographic groups. If any prevailing criterion could be indicated, this would be the geographical area where the individuals have their origin or destination points or the areas that link them or the undesired behaviour (but this is a consequence of spatial analysis).

The most complex, multipronged interventions (i.e. implementing engineering, enforcement and educational measures) were conducted in the United States. One of the most large-scale one was delivered in Miami-Dade county (Zegeer *et al.*, 2008), covering several target groups and addressing a range of pedestrian hazards and a range of risk facilitating behaviours. It also included modules dedicated to ethnic minorities, but these actions did not appear to be successful (Zegeer *et al.*, 2007). The most beneficial areas were those receiving a wide spectrum of actions - selective police enforcement, a variety of educational measures, as well as a few engineering treatments (Zegeer *et al.*, 2007).

Another example of effectiveness of the combined approach was the SMART Baltimore project, aimed primarily at reducing alcohol-involved pedestrian crashes (Blomberg *et al.*, 2000). Due to the anticipated inability or reluctance of the target group to accept potential direct countermeasure approaches, the education was channelled via intermediaries, mostly social and health services. A guide was prepared for use by jurisdictions that wanted to mount a programme targeting alcohol impaired pedestrians. It includes five steps: 'assessing the local problem'; 'establishing a community coalition'; 'designing the programme'; 'implementing the programme'; and 'evaluating programme results'.

A team from the University of North Carolina, supported by the National Traffic Safety Administration implemented a program for Advancing Pedestrian Safety Using Education and Enforcement Efforts in Pedestrian Focus Cities and States. "The goal of this effort was to assist selected communities in North Carolina in implementing and evaluating education and enforcement activities. The team worked with communities in the Triangle area of North Carolina to develop a comprehensive, community-wide pedestrian safety program. The program was influenced by an understanding of health behaviour theories and best practices and informed by several data sources, including an analysis of pedestrian crash data, site visits, stakeholder input, and pedestrian safety action plans. The intervention used several strategies including radio ads, printed material, paid advertising, community engagement, earned media, and training of law enforcement officers to build their level of effectiveness in the project. Program evaluation included multiple measures, including tracking program implementation records, self-reporting by law enforcement regarding their knowledge, attitudes, and capacity, and driver yielding behaviours. Results identified significant use of paid media to spread pedestrian safety messages and large amounts of positive earned media coverage. The officer training course resulted in significant improvements in knowledge, self-reported behaviours, and capacity to perform enforcement operations to support the campaign. While first-year enforcement operations were noteworthy, more effort is needed to maximize the visibility of the enforcement and plan more routine, sustained efforts throughout the region. Driver yielding behaviours varied by location but significant changes from the pre-enforcement period to the post-enforcement period were not observed in the first-year time frame. The exception was at sites where law enforcement was at its highest intensity. Yielding rates were associated with site characteristics such as crossing placement and speed limits, which may be affected by seasonal trends. (Sandt *et al.*, 2016)

As tailoring proper top-down messages within above the line (ATL) or below the line (BTL) campaigns appears to be challenging, it is worth recommending the implementation of methods which would directly involve the participants and enable permanent interaction with them. As most of them do not have professional obligations, recruiting them may be easier in comparison to other groups. Pedestrian Safety Training Workshops conducted in 2017 for local communities in California (Barajas

et al., 2018; Safe Transportation Research & Education Center University of California, California Walks, 2010) could be a model solution, since they also include modules in which the participants are expected to present their opinions on local pedestrian infrastructure and propose relevant solutions, which would not only result in avoiding patronisation but also in benefiting from this effect's reversal.

In the case of all potential adult target groups, it is in general suggested to use the fact that a considerable share of pedestrians are also drivers at other times (and at the same time all drivers are occasionally in the role of pedestrians). Thus, the attention may be drawn to the drivers' perspective to facilitate an understanding of the limitations and challenges the drivers face and resolve the potential conflict.

Behavioural change techniques that have been implemented in the educational interventions or modules included:

- ✓ information on consequences,
- ✓ facilitating understanding on the perspective of other road users,
- ✓ prohibiting and penalizing undesired behaviours,
- ✓ raising and highlighting drivers' family pressure and the sense of responsibility for the relatives,
- ✓ fear appealing,
- ✓ shame appealing,
- ✓ involving potential beneficiaries in discussion and shaping the infrastructure.

Following educational measures have been implemented:

- ✓ classroom-based training or workshops,
- ✓ walking audits,
- ✓ walking parades,
- ✓ personal electronic devices for pedestrians,
- ✓ disguised campaigners on the streets,
- ✓ personal guides,
- ✓ digital boards,
- ✓ stencils for painting,
- ✓ paintings on the pavement,
- ✓ television, radio, print, web advertisements,
- ✓ social media measures,
- ✓ leaflets,
- ✓ posters and banners,
- ✓ cards with promises and commitments to sign,
- ✓ reflective items,
- ✓ flags at pedestrian crossings to use by them and signalize crossing intentions to drivers,
- ✓ items recalling campaign symbols or messages (coffee cup sleeves, magnets, tote bags, T-shirts, car air fresheners),
- ✓ cinema slides.

Following engineering measures related to the road infrastructure have been applied:

- ✓ separating pedestrians and vehicles by time:
 - installation of traffic signal,
 - exclusive pedestrian signal phase,
 - early release signal timing,
 - traffic signal change interval timing,
 - pedestrian prompting devices,
 - automatic pedestrian detection for display of walk signal,
- ✓ separating pedestrians and vehicles by space:
 - pedestrian overpasses,
 - advance stop lines,
 - pedestrian barriers and fences,
 - sidewalks,
 - median islands,
 - refuge islands.
- ✓ increasing visibility, conspicuity of pedestrian facilities:
 - increased intensity of roadway lighting,
 - installation of internally illuminated warning signs,
 - bus stop relocation,
 - diagonal parking,
 - crosswalk markings,
 - road studs with flashing lights or reflectors,
 - elevating crossings,
 - clearing right of way for pedestrians on pedestrian crossings,
- ✓ mats on the surface of the road reducing speed of approaching vehicles,
- ✓ traffic calming,
- ✓ real-time speed advisory signs,
- ✓ traffic calming markings,
- ✓ erecting concrete bollards,
- ✓ rough surface at the edge of the pavement.

Following non-standard enforcement measures have been implemented:

- ✓ employing decoy officers,
- ✓ employing pedestrian officers,
- ✓ feedback flyers,
- ✓ written and verbal warnings.

REFERENCES:

Baltes, P. (1997), *On the incomplete architecture of human ontogeny. Selection, optimization, and compensation as foundation of development theory*, *American Psychologist*, 52, 366-380

Barajas, M., Beck, K., Cooper, J. (2018), *How Effective are Community Pedestrian Safety Training Workshops?* Safe Transportation Research and Education Center, University of California

Blomberg, R., Clevon, A. (2000), *Development, Implementation and Evaluation of a Countermeasure Program for Alcohol-Involved Pedestrian Crashes*, U.S. Department for Transportation. National Highway Traffic Safety Administration

Caraballo, F. (2016), *Identifying Association Between Pedestrian Safety Interventions and Street Safety Behaviour Considering Demographics and Traffic Context*, University of Connecticut

Centers for Disease Control and Prevention (2013), *Motor Vehicle Traffic-Related Pedestrian Deaths — United States, 2001–2010*, Morbidity and Mortality Weekly Report, 62(15)

Dunbar, G., Holland, C., Maylor, E. (2004), *Road Safety Research Report No. 37. Older Pedestrians: A Critical Review of the Literature*, Department for Transport

Ewert, U. (2012), *Faktenblatt Senioren als Fussgänger*, Bfu-Faktenblatt , No.8

Fosdick, T., Campsall, D., Owen, R. (2014), *Things That Go Bump in the Night. Adult Pedestrian in the Night-time Economy*, National Road Safety Conference Proceedings

Hagenzieker, M. (1996), *Some aspects of the safety of elderly pedestrians and cyclists*, Road Safety in Europe International Conference Proceedings, Birmingham

Martin, A. (2006), *Factors Influencing Pedestrian Safety: A Literature Review*, TRL Limited

Polders, E., Brijs, T., Vlahogianni, E., Papadimitriou, E., Yannis, G., Leopold, F., Durso, C., Diamandouros, K. (2015), *ElderSafe. Risks and countermeasures for road traffic of elderly in Europe*, European Commission

Safe Transportation Research & Education Center University of California, California Walks (2010), *Community Pedestrian Safety Training*, Results of follow up surveys from 12 participating communities

Sandt, L., Gallagher, J., Gelinne, D. (2016), *Advancing Pedestrian Safety Using Education and Enforcement Efforts in Pedestrian Focus Cities and States: North Carolina*, National Highway Traffic Safety Administration, U.S.

Scialfa, C., Guzy, L., Leibowitz, H., Garvey, P., Tyrrell, R. (1991), *Age Differences in Estimating Vehicle Velocity*, Psychology and Aging, 6(1), 60-66

Teanby, D., Gorman, D., Boot, D. (1993), *Pedestrian accidents on Merseyside: the case for criminalization of jaywalking*, Injury, 24(1), 10-12

Transport for London (2013), *Older Pedestrians and Road Safety*, Research Debrief. Mayor of London

Tyrrell, R., Patton, C., Brooks, J. (2016), *Educational Interventions Successfully Reduce Pedestrians' Overestimates of Their Own Night-time Visibility*, Human Factors, 46(1), 170-182

Zegeer, C., Henderson, D., Blomberg, R., Marchetti, L., Masten, S., Fan, Y., Sandt, L., Brown, A., Stutts, J., Thomas, L. (2007), *Evaluation of the Miami-Dade Pedestrian Safety Demonstration Project*, NHTSA

Zegeer, C., Blomberg, R., Henderson, D., Masten, S., Marchetti, L., Levy, M., Fan, Y., Sandt, L., Brown, A., Stutts, J., Thomas, L. (2008), *Evaluation of Miami-Dade Pedestrian Safety Demonstration Project*, Transportation Research Record: Journal of the Transportation Research Board, No. 2073

APPENDICES

APPENDIX A - CONTRIBUTORY FACTOR GROUPINGS

Injudicious Action	Driver Errors or Reactions	Driver Impairment or Distraction	Behaviour or Inexperience	Other
Traffic Contraventions	Manoeuvre Errors	Substance Impairments	Nervous Behaviour	Vehicle Defects
<i>Disobeyed automatic traffic signal</i>	<i>Poor turn or manoeuvre</i>	<i>Impaired by alcohol</i>	<i>Nervous, uncertain or panic</i>	<i>Tyres illegal, defective or under-inflated</i>
<i>Disobeyed double white lines</i>	<i>Failed to signal or misleading signal</i>	<i>Impaired by drugs (illicit or medicinal)</i>	<i>Learner or inexperienced driver/rider</i>	<i>Defective lights or indicators</i>
<i>Disobeyed 'Give way' or 'Stop' signs or markings</i>	<i>Passing too close to cyclist, horse rider or pedestrian</i>		<i>Inexperience of driving on the left</i>	<i>Defective brakes</i>
<i>Disobeyed pedestrian crossing facility</i>			<i>Unfamiliar with model of vehicle</i>	<i>Defective steering or suspension</i>
<i>Illegal turn or direction of travel</i>				<i>Defective or missing mirrors</i>
				<i>Overloaded or poorly loaded vehicle or trailer</i>
Speed Choices	Control Errors	Distraction	Unsafe Behaviour	Road Surface
<i>Exceeding speed limit</i>	<i>Sudden braking</i>	<i>Driver using mobile phone</i>	<i>Aggressive driving</i>	<i>Poor or defective road surface</i>
<i>Travelling too fast for conditions</i>	<i>Swerved</i>	<i>Distraction in vehicle</i>	<i>Careless, reckless or in a hurry</i>	<i>Deposit on road (e.g. oil, mud, chippings)</i>
	<i>Loss of control</i>	<i>Distraction outside vehicle</i>		<i>Slippery road (due to weather)</i>
Close Following	Observation Error	Health Impairments	Pedal Cycle Behaviour	Affected Vision
<i>Following too close</i>	<i>Failed to look properly</i>	<i>Uncorrected, defective eyesight</i>	<i>Vehicle travelling along pavement</i>	<i>Stationary or parked vehicle(s)</i>
	<i>Failed to judge other person's path or speed</i>	<i>Illness or disability, mental or physical</i>	<i>Cyclist entering road from pavement</i>	<i>Vegetation</i>
			<i>Not displaying lights at night or in poor visibility</i>	<i>Road layout (e.g. bend, winding road, hill crest)</i>
			<i>Cyclist wearing dark clothing at night</i>	<i>Buildings, road signs, street furniture</i>
	Junction Errors	Fatigue Impairment	Pedestrian Behaviour	Dazzling headlights
	<i>Junction overshoot</i>	<i>Fatigue</i>	<i>Crossing road masked by stationary or parked vehicle</i>	<i>Dazzling sun</i>
	<i>Junction restart (moving off at junction)</i>		<i>Failed to look properly</i>	<i>Rain, sleet, snow or fog</i>
			<i>Failed to judge vehicle's path or speed</i>	<i>Spray from other vehicles</i>
			<i>Wrong use of pedestrian crossing facility</i>	<i>Visor or windscreen dirty or scratched</i>
			<i>Dangerous action in carriageway (e.g. playing)</i>	<i>Vehicle blind spot</i>
			<i>Careless, reckless or in a hurry</i>	
			<i>Impaired by alcohol</i>	
			<i>Impaired by drugs (illicit or medicinal)</i>	
			<i>Pedestrian wearing dark clothing at night</i>	
			<i>Disability or illness, mental or physical</i>	

APPENDIX B - COMPLETE LIST OF MOSAIC TYPES

Type	Type Name	Description
A01	Rural Vogue	Country-loving families pursuing a rural idyll in comfortable village homes, many commuting some distance to work
A02	Scattered Homesteads	Older households appreciating rural calm in stand-alone houses within agricultural landscapes
A03	Wealthy Landowners	Prosperous owners of country houses including affluent families, successful farmers and second-home owners
A04	Village Retirement	Retirees enjoying pleasant village locations with amenities to service their social and practical needs
B05	Empty-Nest Adventure	Mature couples in comfortable detached houses who have the means to enjoy their empty-nest status
B06	Bank of Mum and Dad	Well-off families in upmarket suburban homes where grown-up children benefit from continued financial support
B07	Alpha Families	High-achieving families living fast-track lives, advancing careers, finances and their school-age kids' development
B08	Premium Fortunes	Asset-rich families with substantial income, established in distinctive, expansive homes in wealthy enclaves
B09	Diamond Days	Retired residents in sizeable homes whose finances are secured by significant assets and generous pensions
C10	World-Class Wealth	Global high flyers and moneyed families living luxurious lifestyles in London's most exclusive boroughs
C11	Penthouse Chic	City professionals renting premium-priced flats in prestige central locations
C12	Metro High-Flyers	Career-minded 20 and 30-somethings renting expensive apartments in highly commutable areas of major cities
C13	Uptown Elite	High status households owning elegant homes in accessible inner suburbs where they enjoy city life in comfort
D14	Cafés and Catchments	Affluent families with growing children living in upmarket housing in city environs
D15	Modern Parents	Busy couples in modern detached homes juggling the demands of school-age children and careers
D16	Mid-Career Convention	Professional families with children in traditional mid-range suburbs where neighbours are often older
D17	Thriving Independence	Well-qualified older singles with incomes from successful professional careers in good quality housing
E18	Dependable Me	Single mature owners settled in traditional suburban homes working in intermediate occupations
E19	Fledgling Free	Pre-retirement couples enjoying greater space and reduced commitments since their children left home
E20	Boomerang Boarders	Long-term couples with mid-range incomes whose adult children have returned to the shelter of the family home
E21	Family Ties	Active families with adult children and some teens, giving prolonged support to the next generation

F22	Legacy Elders	Financially-secure elders on good pensions, now mostly living alone in comfortable suburban homes
F23	Solo Retirees	Senior singles owning affordable but pleasant homes, whose reduced incomes are satisfactory
F24	Bungalow Haven	Peace-seeking seniors appreciating the calm of bungalow estates designed for the older owners
F25	Classic Grandparents	Lifelong couples in standard suburban homes, often enjoying retirement through grandchildren and gardening
G26	Far-Flung Outposts	Inter-dependent households living in the most remote communities with long travel times to larger towns
G27	Outlying Seniors	Pensioners living in inexpensive housing in out of the way locations
G28	Local Focus	Rural families in affordable village homes who are reliant on the local economy for jobs
G29	Satellite Settlers	Mature households living in developments around larger villages with good transport links
H30	Affordable Fringe	Settled families with children, owning modest 3-bed semis in areas where there's more house for less money
H31	First-Rung Futures	Young owners settling into the affordable homes they have bought in established suburbs
H32	Flying Solo	Independent young singles on starter salaries choosing to rent homes in family suburbs
H33	New Foundations	Occupants of brand new homes who are often younger singles or couples with children
H34	Contemporary Starts	Young families and singles setting up home in modern developments that are popular with their peers
H35	Primary Ambitions	Families with school-age children, who have bought the best house they can afford within popular neighbourhoods
I36	Culture & Comfort	Thriving families with good incomes in diverse suburbs
I37	Community Elders	Established older households owning city homes in diverse neighbourhoods
I38	Large Family Living	Large families living in traditional terraces in neighbourhoods with a strong community identity
I39	Ageing Access	Older residents owning small inner suburban properties with good access to amenities
J40	Career Builders	Professional singles and couples in their 20s and 30s progressing in their field of work from commutable properties
J41	Central Pulse	City-loving youngsters renting central flats in vibrant locations close to jobs and night life
J42	Learners & Earners	Inhabitants of the university fringe where students and older residents mix in cosmopolitan locations
J43	Student Scene	Students living in high density accommodation close to universities and educational centres
J44	Flexible Workforce	Successful young renters ready to move to follow worthwhile incomes from service sector jobs

J45	Bus-Route Renters	Singles renting affordable private flats further away from central amenities and often on main roads
K46	Self Supporters	Hard-working mature singles who own their budget houses and earn modest wages
K47	Back with the Folks	Older owners whose adult children are sharing their modest home while striving to gain independence
K48	Down-to-Earth Owners	Ageing couples who have owned their inexpensive home for many years while working in routine jobs
L49	Youthful Endeavours	Young people endeavouring to gain employment footholds while renting cheap flats and terraces
L50	Renting Rooms	Transient renters of low cost accommodation often within older properties
L51	Value Rentals	Younger singles and couples, some with children, setting up home in low value rented properties
L52	Midlife Renters	Maturing singles in employment who are renting affordable homes for the short-term
M53	Budget Generations	Families providing lodgings for adult children and gaining the benefit of pooled resources
M54	Economical Families	Busy families with children, who own their low-cost homes and budget carefully
M55	Families on a Budget	Families with children in low value social houses making limited resources go a long way
M56	Solid Economy	Stable families with children, renting higher value homes from social landlords
N57	Seasoned Survivors	Single elderly who are long-term owners of their low value properties which provide some financial security
N58	Retirement Communities	Elderly living in specialised accommodation including retirement homes, villages and complexes
N59	Pocket Pensions	Penny-wise elderly singles renting in developments of compact social homes
N60	Flatlet Seniors	Ageing singles with basic income renting small flats in centrally located developments
N61	Estate Veterans	Longstanding elderly renters of social homes who have seen neighbours change to a mix of owners and renters
O62	Mature Workers	Older social renters settled in low value homes who are experienced at budgeting
O63	Single Essentials	Singles renting small social flats in town centres
O64	High Rise Residents	Tenants of social flats located in high rise blocks, often living alone
O65	City Diversity	Households renting social flats in busy city suburbs where many nationalities live as neighbours
O66	Inner City Stalwarts	Long-term renters of inner city social flats who have witnessed many changes