



# Young Drivers Study

Safer Roads Berkshire



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## EXECUTIVE SUMMARY

This report sets out analysis undertaken on STATS19 collision data for 2012 to 2016, focusing on young drivers (17 to 24 years) in Berkshire who were either driving a car or a light goods vehicle. It focuses on the unitary authority members of Safer Roads Berkshire (SRB): Bracknell Forest, Royal Borough of Windsor and Maidenhead, Slough, West Berkshire and Wokingham.

The majority of young drivers who crash in Safer Roads Berkshire are from the area. In total, 1,136 young drivers who were resident to the area were involved in collisions on local roads between 2012 and 2016. This represents 61% of all young drivers crashing in the SRB authorities.

Of all fatal collisions involving Safer Roads Berkshire drivers, 14% involved young driver residents. There have been gradual reductions in the numbers of collisions involving young drivers and drivers of all ages from Safer Roads Berkshire in the last 10 years.

The annual average rate of young drivers from SRB involved in collisions per head of population is higher in SRB than for the whole of Great Britain, with Slough having the highest rate and Wokingham the lowest.

Home rurality increases risk for young drivers. There is little difference in collision involvement rates for adults from rural and urban areas of SRB. However, rural young drivers from SRB are 55% more likely to be involved in a collision than their urban counterparts and 151% more than their rural adult neighbours.

Collisions involving young drivers follow a similar pattern to all drivers, occurring in morning and afternoon rush hours. However, greater proportions of young drivers are involved in collisions at night-time. There is a peak in young driver involvement (both urban and rural) on Fridays, which is not present for adult drivers.

Urban drivers, both young and adult, show little variation in their collision rates throughout the year, whilst rural drivers show more seasonal variation, with slightly fewer collisions in April, May and June. There are peaks for rural young drivers in July and August.

Rural young drivers have greater proportions of collisions at night without lights than urban drivers, who in turn experience a greater proportion of collisions at night with lights lit.

For four of the five SRB authorities, most resident drivers are likely to crash in their own authority. This is not the case for rural drivers from Bracknell Forest, for whom 29-33% of their collisions are in Bracknell Forest and 65-67% in the neighbouring authority of Wokingham.

The majority of rural driver collisions in SRB occurred in West Berkshire (for young and adult groups). Urban SRB resident driver collisions were more evenly spread, with collisions for both age groups occurring in Slough and Windsor and Maidenhead.

Collisions most commonly occurred away from junctions for all age and rurality groups, with a slightly higher percentage (48%) for rural young drivers.

Most collisions, for all groups, occur when the driver is travelling straight ahead (43-45%), however, a larger proportion of rural young drivers are involved in collisions when travelling ahead at a bend (18%) compared to the other groups.

Analysis of the number of collisions per 1,000km of road find that urban areas of Slough, Windsor, Maidenhead, Bracknell and Wokingham, as well as Newbury and Thatcham and major routes such as the A4 and A404 have the highest rates of young car driver collisions.

Young car drivers, especially rural young drivers, are much more likely to be involved in single-vehicle collisions.

The majority of single vehicle collisions occur when the vehicle is travelling straight ahead, although ahead at a bend features much more frequently for young drivers, especially rural ones.

Young drivers are more likely to be assigned a contributory factor in their collision than adult drivers, showing that the attending police officer believed that these younger drivers played a part in their collisions occurring.

All age groups are most likely to be assigned 'Failed to look properly', with 'Loss of control' being assigned to rural young drivers more frequently than to adult drivers and slightly more often than urban young drivers.

There is a higher percentage of 17-year-old rural young drivers involved in collisions than 17-year-old urban young drivers. Collision rates for rural young drivers increase to a peak of 21 years whilst the number of collision-involved urban young drivers is more sustained from the age of 18 and peaks later at 23 years.

Compared to SRB population by age and rurality, young drivers, especially rural ones, are over-represented in injury collisions.

Analysis of home locations show that whilst higher rates of residents can be found in the urban areas of Slough, Windsor, Maidenhead and Bracknell, there are also higher rates in the rural areas of to the West of the county.

Within SRB, Mosaic Types I36 *Thriving families with good incomes in multi-cultural urban communities*, *High-achieving families living fast-track lives, advancing careers, finances and their school-age children's development* (Type B07) and *Stable families with children renting better quality homes from social landlords* (Type M56) all represent high numbers of young collision-involved drivers and are over-represented compared to the local population. *Prosperous owners of country houses including the rural upper class, successful farmers and second-home owners* (Type A03) are particularly over-represented amongst rural young drivers.

Both rural and urban young drivers tend to be from the least deprived communities, although urban young drivers involved in collisions are more likely than their rural counterparts to be from deprived communities.

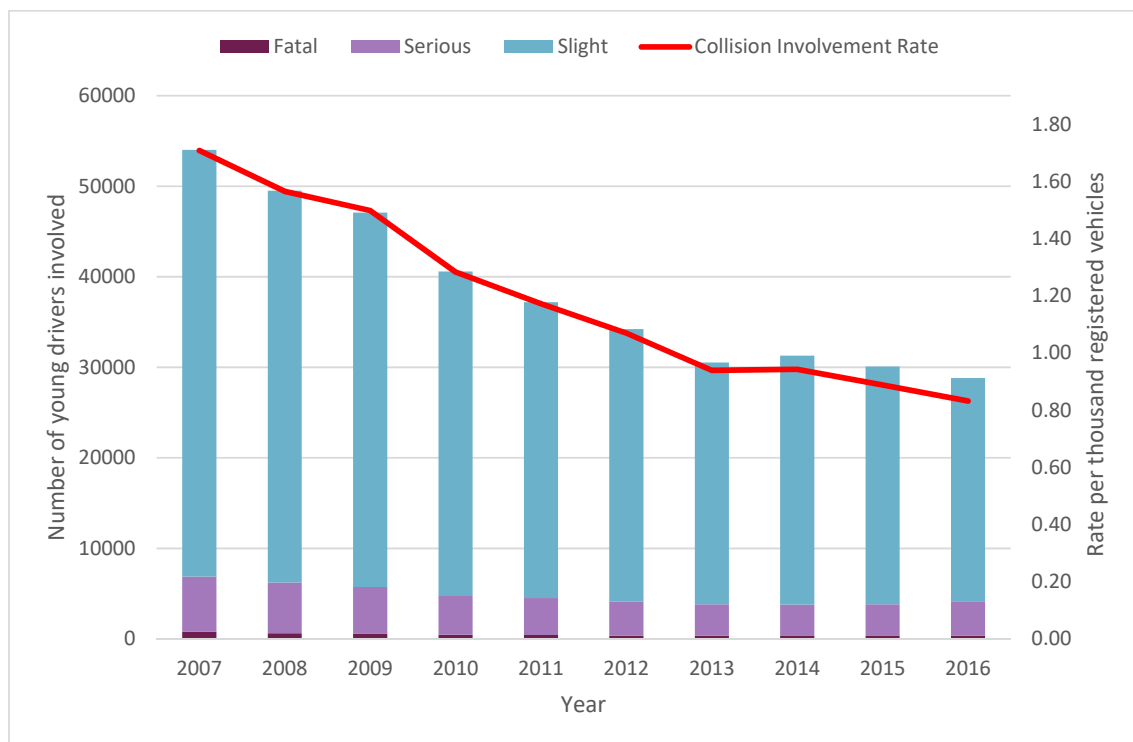
Three personas emerged from the analysis: *Tarquin*, who is a wealthy rural resident in his late teens and who is involved in collisions on country roads, especially at night and in single vehicle collisions on bends; *Dick*, who is in early twenties, lives in an urban area, is working and who is most likely to be involved in a collision on 30mph roads, especially at night and when the roads are wet; and *Yasmin*, who is in her early 20s and lives with her large family in a multi-cultural city suburb, has just started

working full-time and has recently passed her driving test so inexperience and failure to look properly are common causes of her collisions.

## INTRODUCTION

In Great Britain in 2016, 355 young drivers aged 17-24 were involved in fatal collisions, and a further 3,374 in serious and 24,730 in slight collisions. The casualties in these collisions could be the young driver themselves or another party. Figure 1 puts the involvement figures for Great Britain in context. It shows the number of young drivers involved in collisions, by severity, since 2007 in columns; the red line indicates the young driver involvement rate per thousand licensed cars or light goods vehicles. It shows a general downward trend in involvement from 2007 until 2016.

FIGURE 1 - GB YOUNG DRIVERS INVOLVED IN COLLISIONS BY SEVERITY AND RATE PER THOUSAND REGISTERED VEHICLES



This report sets out analysis undertaken using STATS19 collision data for 2012 to 2016 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* 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 focuses on young drivers (aged 17-24) in Berkshire who were driving either a car (excluding taxis, private hire vehicles and minibuses) or a light goods vehicle (under 3.5 tonnes mgw). The intention of this report is to provide the road safety practitioner in the Safer Roads authorities with a full understanding of the collisions involving young drivers and equip them with the tools to target the issues.

At the outset, this report identifies the nature of the collisions on Safer Roads Berkshire (SRB) roads. This includes the unitary authorities of Bracknell Forest, Royal Borough of Windsor and Maidenhead, Slough, West Berkshire and Wokingham. The residency of all young drivers will be examined to determine if they are from Safer Roads Berkshire (SRB), neighbouring authorities, or in other parts of Britain.

Other factors, such as when, where and how the drivers 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 young drivers, with the aim of producing 'personas' that can be used to visualise the target audience. These personas 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 young drivers will respond to a road safety intervention and in what way it should be delivered.

## RISK PROFILE

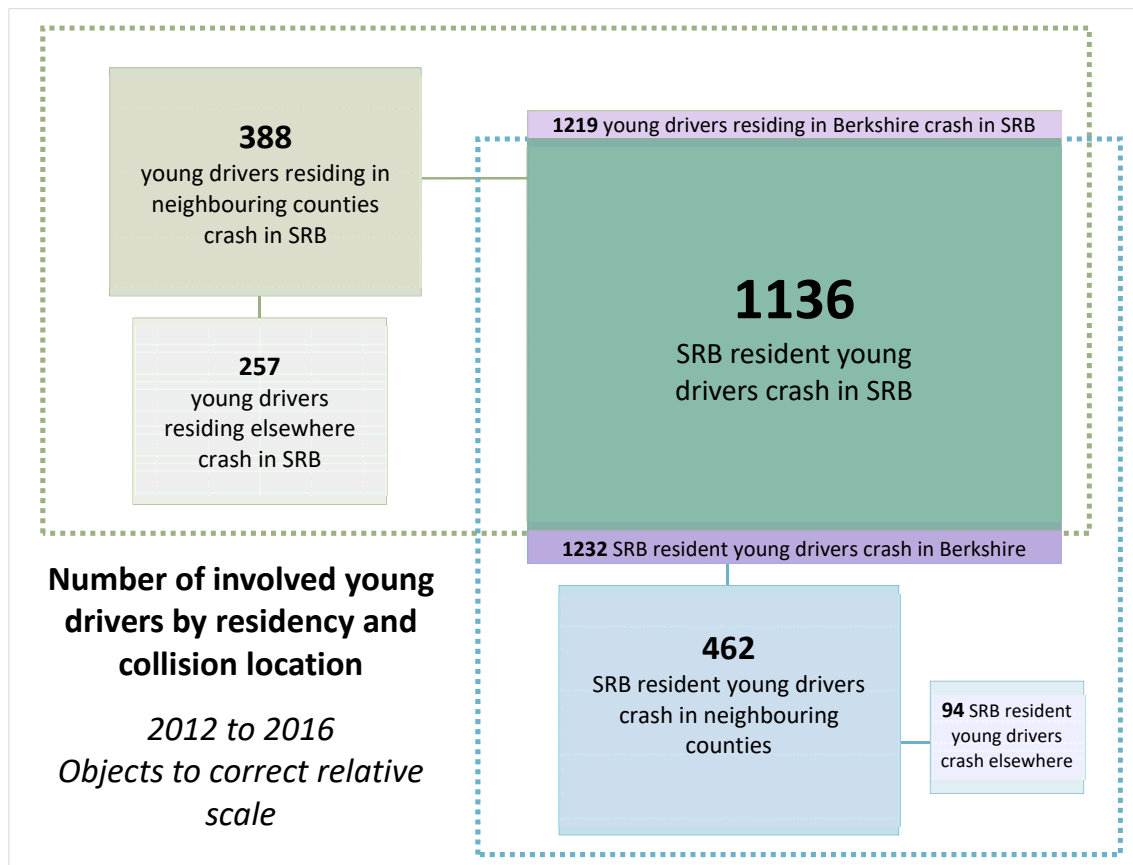
This profile covers two distinct areas: information about the collision and about the person involved. Both are relevant to the analysis and are considered separately.

The analyses focus on car (not taxi or minibus) and light goods vehicle drivers involved in injury collisions between 2012 and 2016. Young drivers are aged between 17 and 24 years old. The rurality of the home postcodes of the drivers has also been defined as per government classifications at Lower Layer Super Output Areas in England and Wales.

The collision analysis predominantly focuses on young drivers involved in collisions in Safer Roads Berkshire regardless of where they live. The numbers are illustrated in figure 2. The neighbouring counties of Berkshire consist of Oxfordshire, Buckinghamshire, Surrey, Hampshire, Wiltshire and Greater London.

There were 1136 young drivers resident in Safer Roads Berkshire involved in collisions on Safer Roads Berkshire roads between 2012 and 2016. This represents 61% of all young drivers crashing in Safer Roads Berkshire authorities. Thirty-nine percent of young drivers crashing in Safer Roads Berkshire live outside the 5 SRB boroughs, and 36% of collision involved young drivers who reside in Safer Roads Berkshire crash elsewhere.

FIGURE 2 - COLLISION INVOLVED YOUNG DRIVERS FROM AND IN SAFER ROADS BERKSHIRE



The analysis has been split to look at the overall involvement of three groups; All young drivers from SRB (SRB YD); rural young drivers from SRB (SRB RYD); urban young drivers from SRB (SRB UYD). Conversely, drivers aged 25 and over have been termed 'adult drivers', and therefore are described as SRB AD, SRB RAD and SRB UAD. The rurality of drivers' home postcodes were defined as per government classifications at Lower Layer Super Output Areas in England and Wales.



## COLLISION PROFILES

### WHAT?

This study seeks to uncover what the collision issues are in Safer Roads Berkshire (SRB) in relation to young drivers resident in SRB; how these findings compare to the national picture and what interventions could be adopted to reduce Safer Roads Berkshire's younger drivers' collision involvement.

Looking at driver data from 2012 to 2016, there were 14 fatal collisions involving young drivers aged 17 to 24 who were resident in SRB. This represents 15% of all fatal collisions involving SRB drivers. In terms of serious and slight collisions, 17 to 24 years olds represented 16% and 17% of SRB's resident drivers respectively. Figure 3 below shows that the number of young drivers from SRB involved in collisions has reduced gradually over the last 10 years, as has the number of drivers of all ages involved in collisions in SRB.

**FIGURE 3 - NUMBER OF COLLISIONS INVOLVING YOUNG DRIVERS AND ALL DRIVERS FROM SAFER ROADS BERKSHIRE**

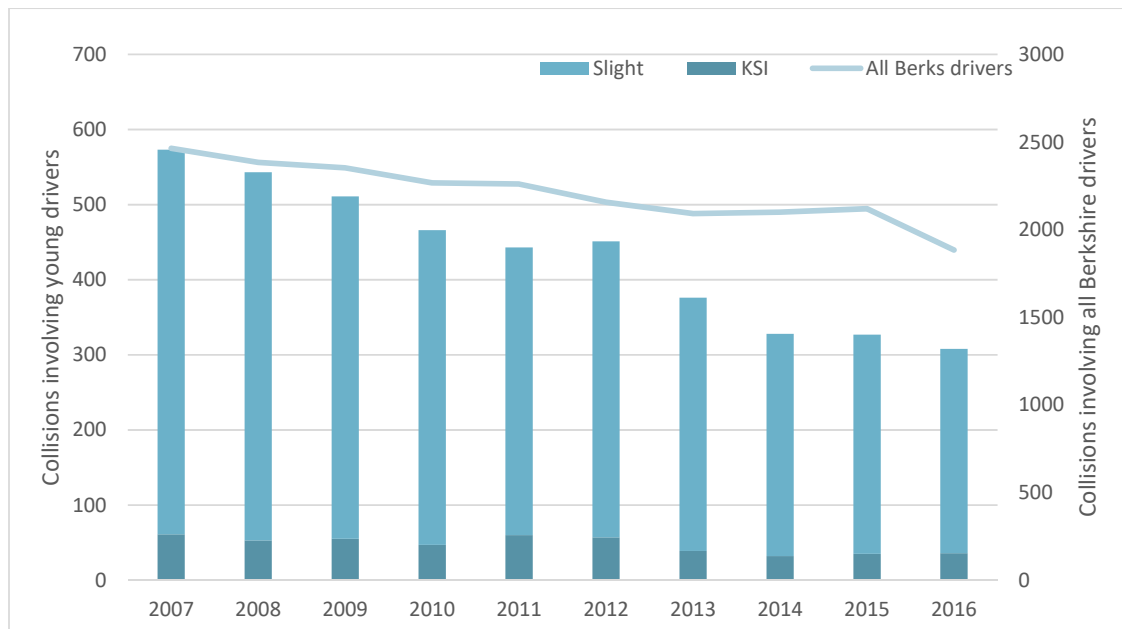
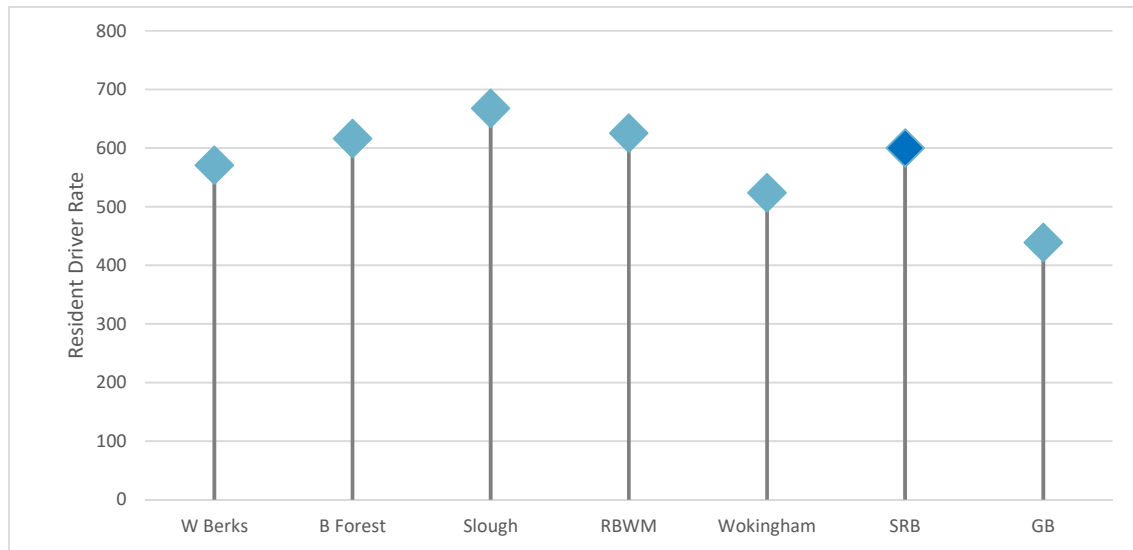


Figure 4 below shows the average annual risk rate for young drivers resident in SRB is actually higher than the rate for Great Britain as a whole, and that there are differences in the rate for the individual Safer Roads boroughs with Slough having the highest rate and Wokingham the lowest.

**FIGURE 4 - AVERAGE ANNUAL RATE OF YOUNG DRIVERS 2012-2016 (PER 100,000 POPULATION)**



Indices were calculated by determining the annual average number of drivers involved in injury collisions from both levels of rurality as a percentage of that level of rurality’s population by age and dividing this by the average annual number of that age group involved in collisions by the overall population of the age group. This is then multiplied by 100 to create an index. If 20% of young people live in rural areas and 20% of young drivers involved in collisions came from rural areas then they would be behaving exactly as we would expect and would have an index of 100. If, however 40% of young drivers involved in collisions came from rural areas (but still represented 20% of the young people population) then the index would be 200, which would indicate that twice as many of these young people were involved in collisions than the norm. Index values over 100 indicate an over-representation and indices under 100 indicate under-representations. The larger the number, the more over-represented that group is.

Figure 5 shows the different indices for the four age and rurality groups from SRB. It shows that there is very little difference in collision involvement between the two groups of adult drivers and that whilst urban young drivers are at increased risk of collision involvement, compared to all drivers’ rural young drivers are substantially over-represented in injury collisions. It means that rural young drivers from SRB are 55% more likely to be involved in an injury collision than their urban counterparts and 151% more likely than their rural adult neighbours.

**FIGURE 5 - COLLISION INVOLVEMENT INDICES FOR FOUR AGE AND RURALITY GROUPS IN SRB**

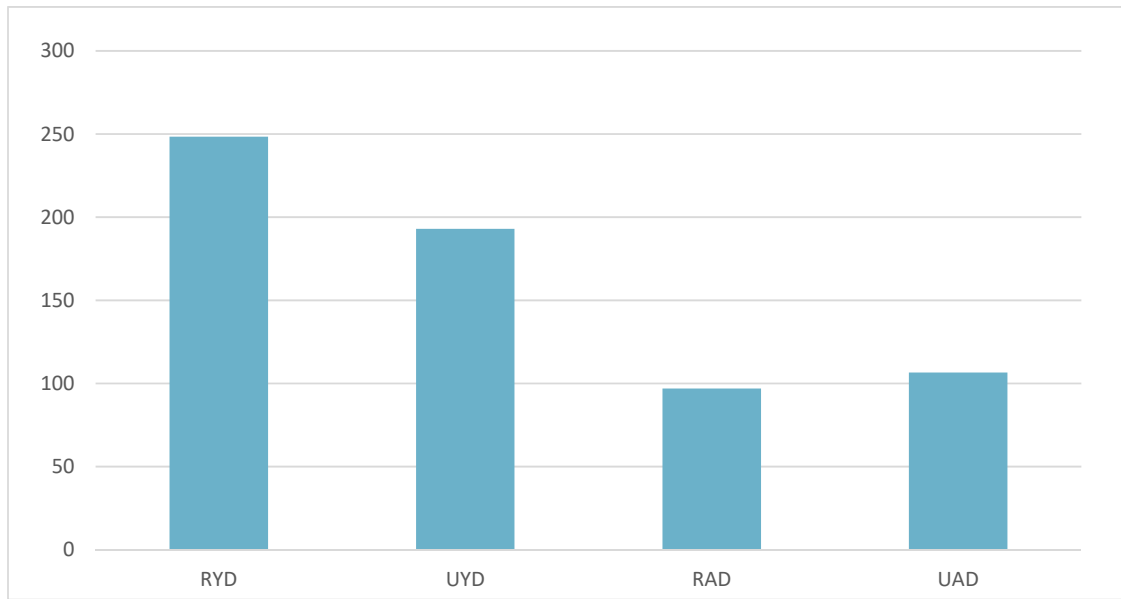
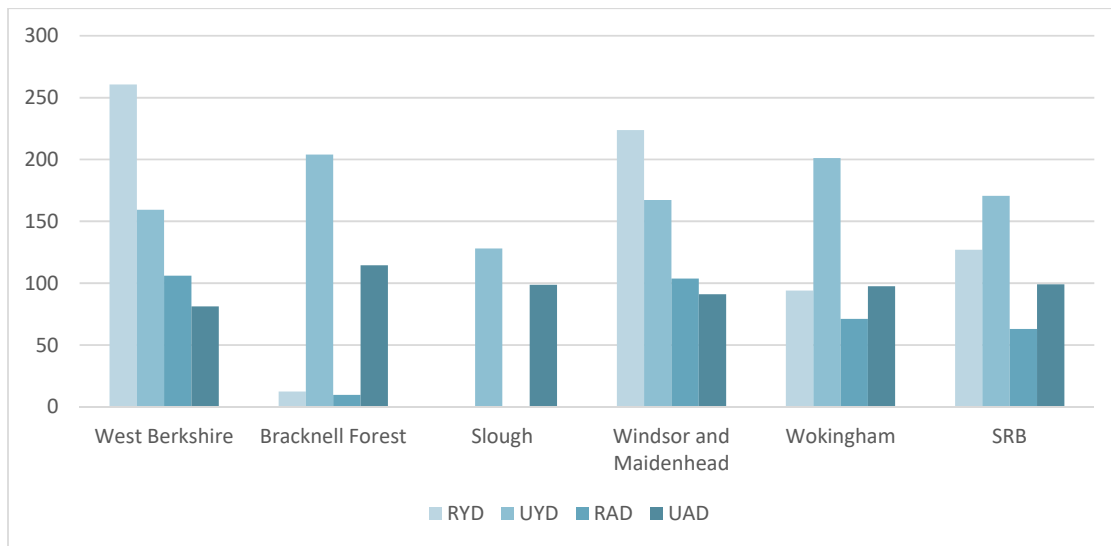


Figure 6 shows these risk rates broken down by authority. This chart shows that young driver collision involvement is mainly an urban issue in Slough, Bracknell Forest and Wokingham, whilst West Berkshire and Windsor and Maidenhead have issues with both rural and urban young drivers.

**FIGURE 6 - COLLISION INVOLVEMENT INDICES IN SRB BY AUTHORITY**



## WHEN?

This section of the analysis looks at when young drivers from Safer Roads Berkshire were involved in collisions between 2012 and 2016.

There are clear peaks in young driver collision involvement at 'rush hours' on weekdays, as shown in Figure 7. There are fewer drivers involved in collisions at weekends and these tend to be spread across the day. Seventy-six percent of young drivers from SRB were involved in collisions on weekdays. This is similar to all drivers in SRB where 77% of drivers were involved in collisions on weekdays. We can break these figures down into the RYD and UYD cohorts and compare them with their adult counterparts.

**FIGURE 7 - TIME OF DAY WHEN YOUNG DRIVERS FROM SRB ARE INVOLVED IN COLLISIONS**

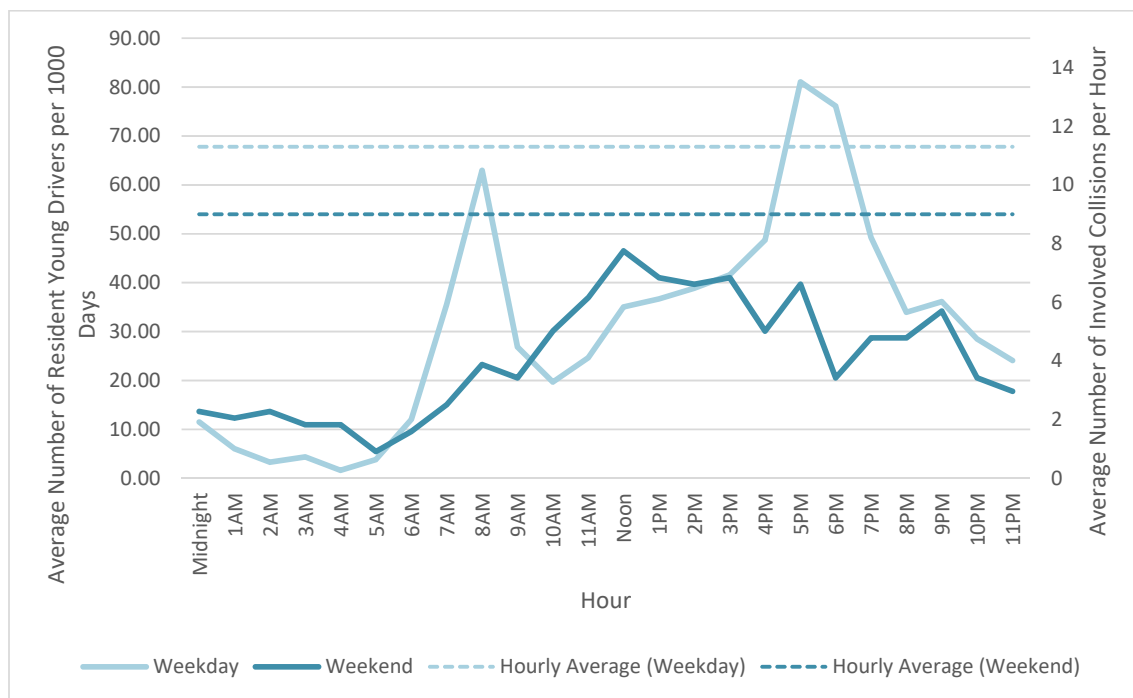


Figure 8 shows that all four groups exhibit broadly similar trends on weekdays, with peaks around the usual commuting times. The younger groups have a less pronounced peak around morning rush hour, however Rural Young Drivers in particular display a sharp peak around 6pm before a sharp drop around 7pm. The chart also shows that young drivers have a higher proportion of collision involvement at night than their adult counterparts.

**FIGURE 8 - TIME OF DAY OF COLLISION INVOLVEMENT (WEEKDAYS)**

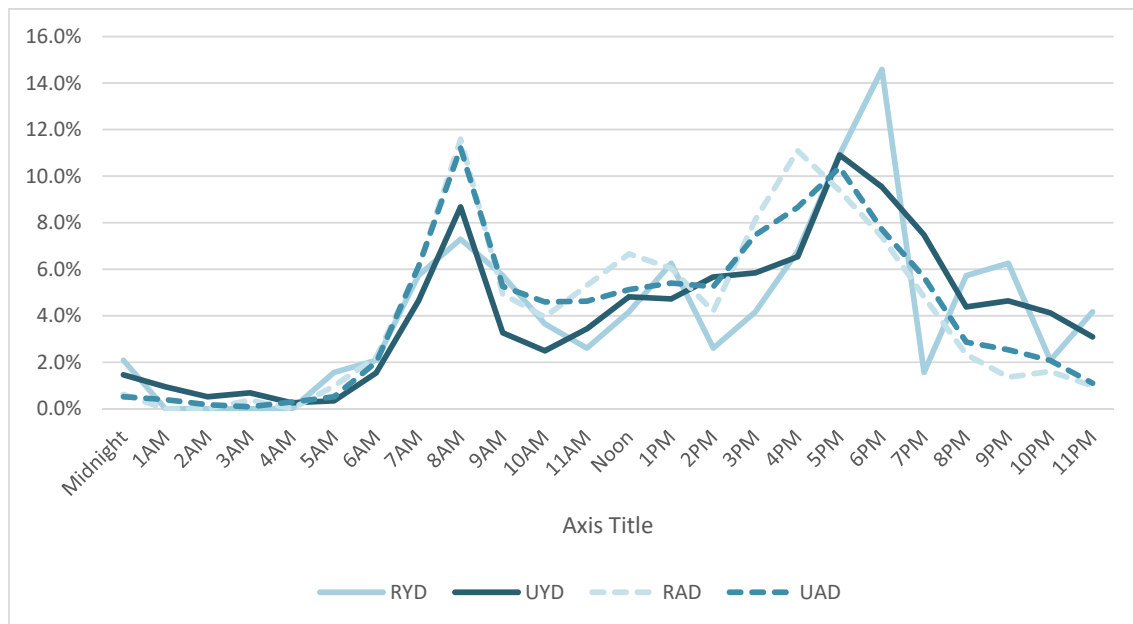
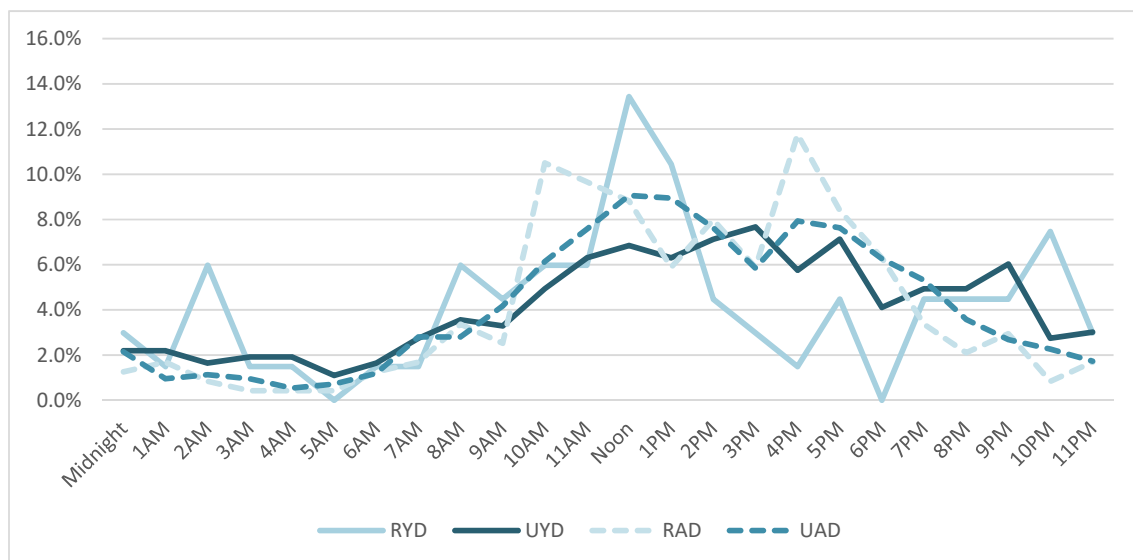


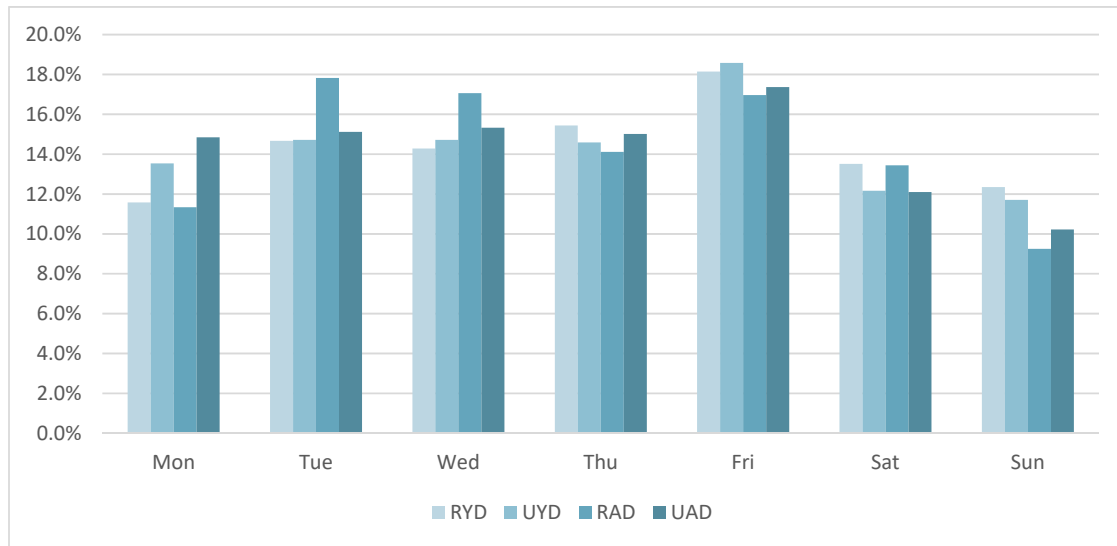
Figure 9 shows that, at weekends, there is no clear trend across all four cohorts. Urban drivers, both young and old, have an even distribution of collisions throughout the day, however rural drivers appear to have more pronounced peaks of collisions. For Rural Young Drivers, collisions seem to peak around noon, whereas Rural Adult Drivers experience collision peaks at around 10am and 4pm. As with Figure 8, we also see a greater involvement in night-time collisions for younger drivers.

**FIGURE 9 - TIME OF DAY OF COLLISION INVOLVEMENT (WEEKENDS)**



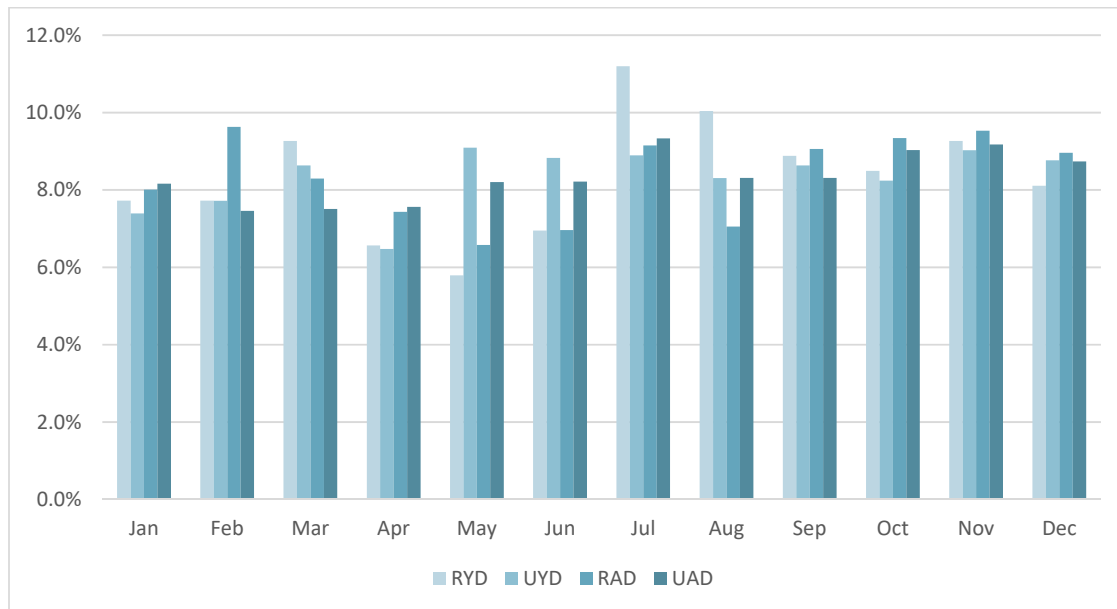
When looking at collision involvement by day of week, there are slight difference in trends for the four cohorts. Figure 10 shows that young drivers, both rural and urban, tend to be involved in collisions more frequently on Fridays than any other day. This trend is less pronounced for their adult counterparts, whose collision involvements are spread more evenly throughout the week.

**FIGURE 10 - COLLISION INVOLVEMENT BY DAY OF THE WEEK**



The time of year when each cohort was involved in collisions was analysed and is presented in Figure 11. Urban drivers, both young and adult, show little variation in their collision rates throughout the year, although Urban Young Drivers do have a slight dip in collisions in April. Rural drivers, however, see more of a seasonal variation, with slightly fewer collisions in April, May and June. It is notable that collisions for Rural Young Drivers show a considerable peak around July and August that neither their urban peers nor their adult neighbours experience.

**FIGURE 11 - COLLISION INVOLVEMENT BY MONTH OF THE YEAR**



The conditions at the time of the collisions for each of the four driver groups were analysed, starting with lighting conditions in Figure 12. This analysis shows that a greater proportion of the collisions young drivers were involved in occur in at night when compared to adult drivers. In particular, Rural

Young Drivers have greater proportions of collisions at night without lights than urban drivers, who experience a greater proportion of collisions at night with lights lit.

FIGURE 12 - LIGHTING CONDITIONS AT THE TIME OF THE COLLISION

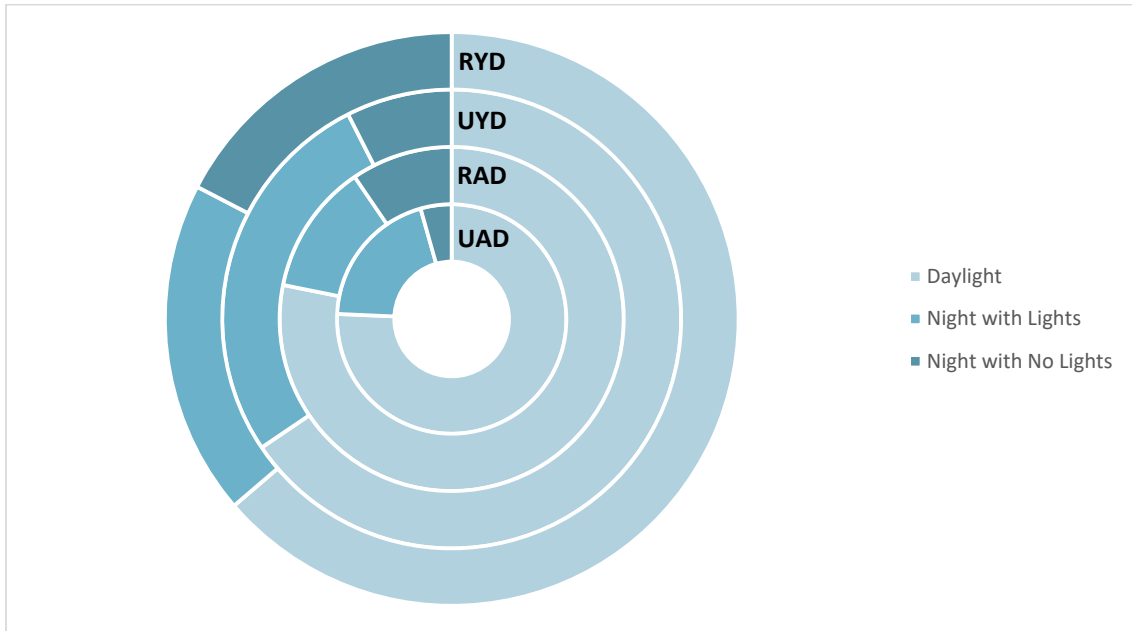
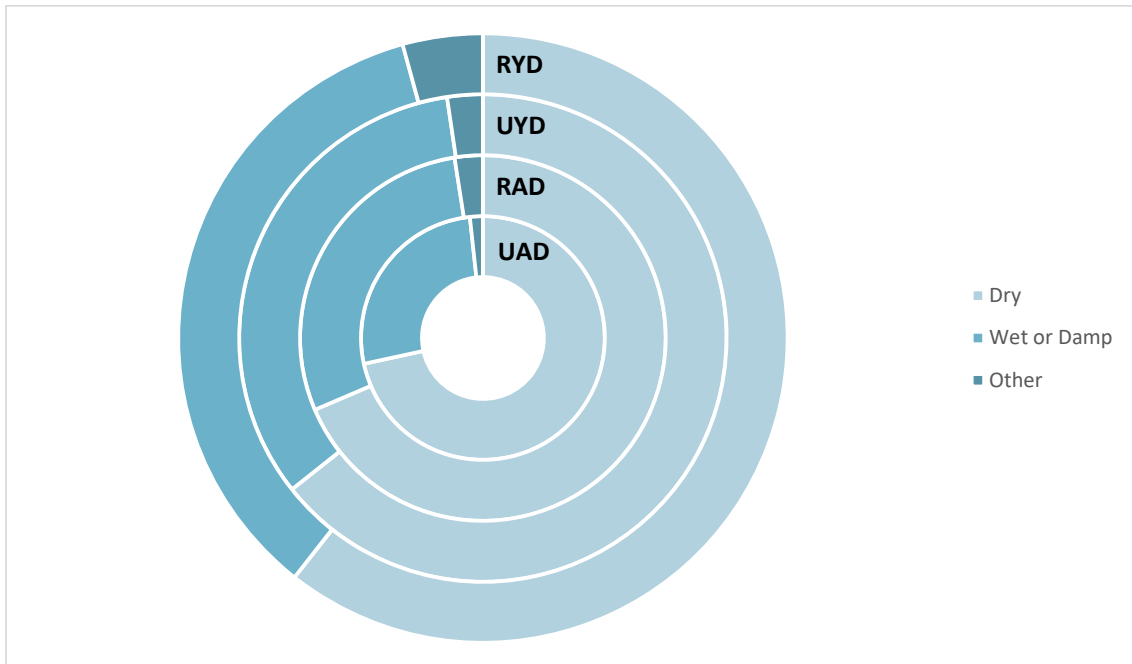


FIGURE 13 show an analysis of collision involvement in different road surface conditions. All cohorts show a similar trend, although young drivers, in particular rural ones, exhibit slightly higher proportions of collisions in wet surface conditions.

FIGURE 13 - ROAD SURFACE CONDITIONS AT THE TIME OF COLLISION



## WHERE?

The next section looks at where the four driver groups were involved in collisions.

Figure 14 shows the locations within SRB in which drivers from each cohort were involved in collisions. This is additionally broken down into the driver's home authority. For four of the five authorities we see that drivers from SRB involved in collisions in SRB were most likely to collide within their home authority (66-92%), however rural drivers from Bracknell Forest had only 29-33% of these collisions in Bracknell Forest whilst 65-67% occurred in the neighbouring authority of Wokingham. Looking at all SRB resident involved drivers, the majority of rural driver collisions in SRB occurred in West Berkshire for both the young and adult groups. Urban SRB resident involved drivers, however, had collisions more evenly spread throughout the authorities for both age groups, with slightly more collisions in Slough (27-32%) and Windsor and Maidenhead (24%) than the remaining authorities (11-18%).

**FIGURE 14 - CRASH LOCATION OF INVOLVED DRIVERS**

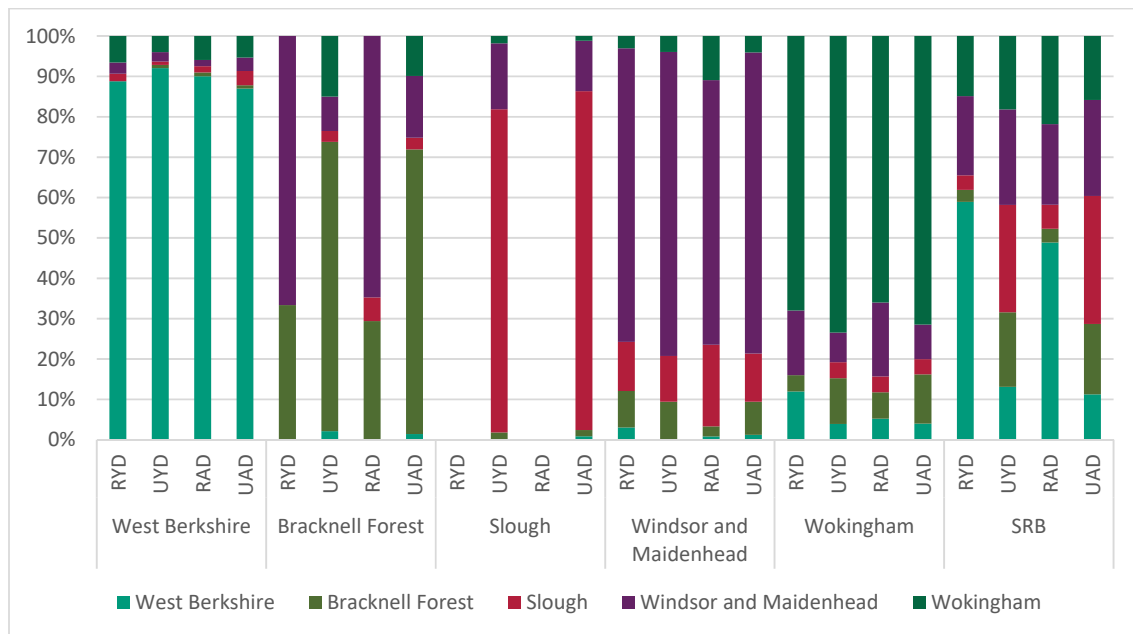


Figure 15 charts the average distance from the drivers' homes for collisions involving drivers from each cohort. This shows that young drivers, both rural and urban, have similar average distances of roughly 16km. This is lower than the average distance for both adult driver groups – by 30% compared to rural adult drivers and by 17% compared to urban adult drivers.



FIGURE 15 - DRIVER'S AVERAGE DISTANCE FROM HOME

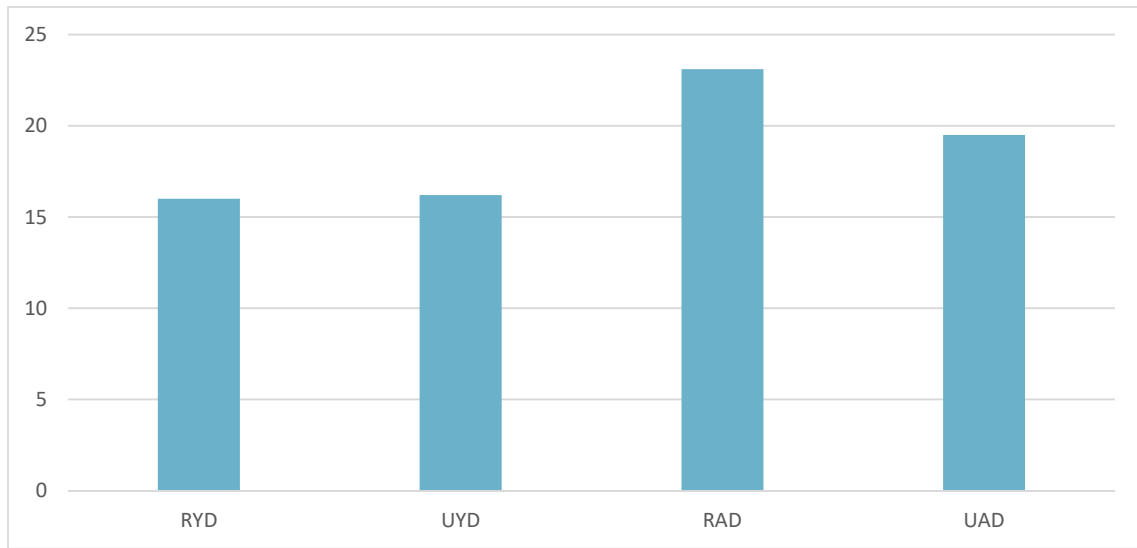
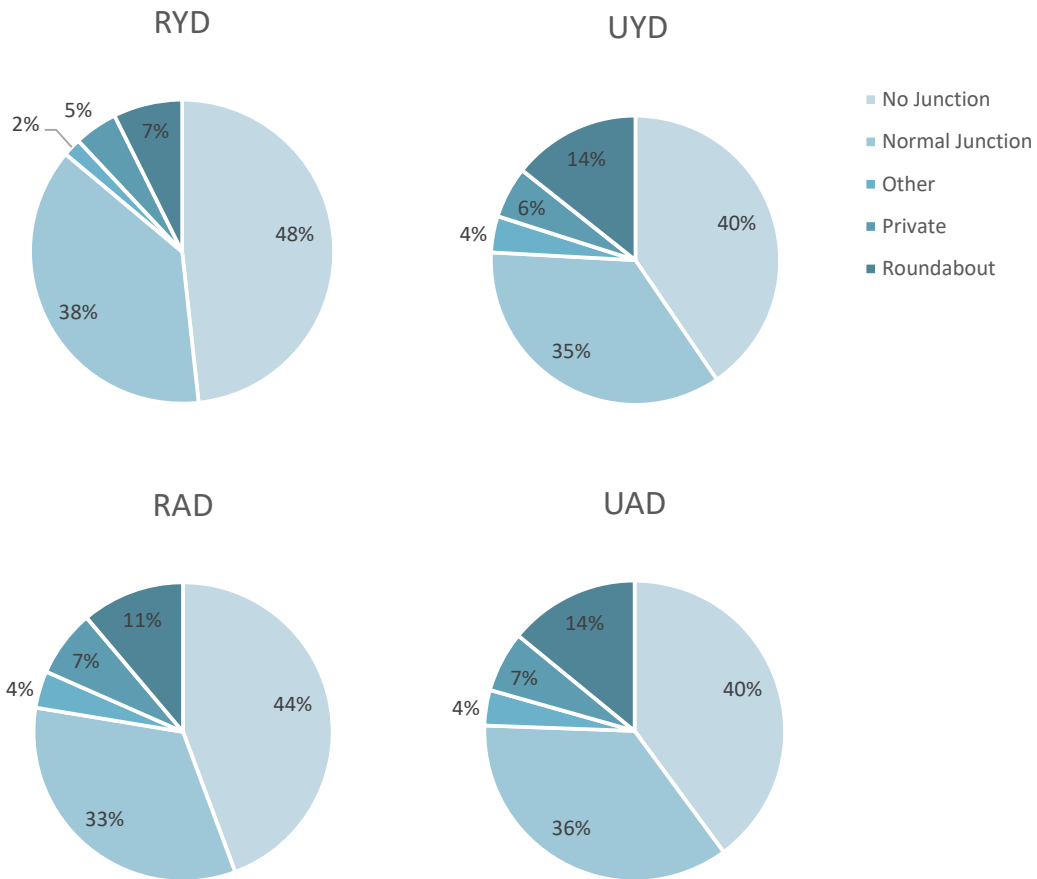


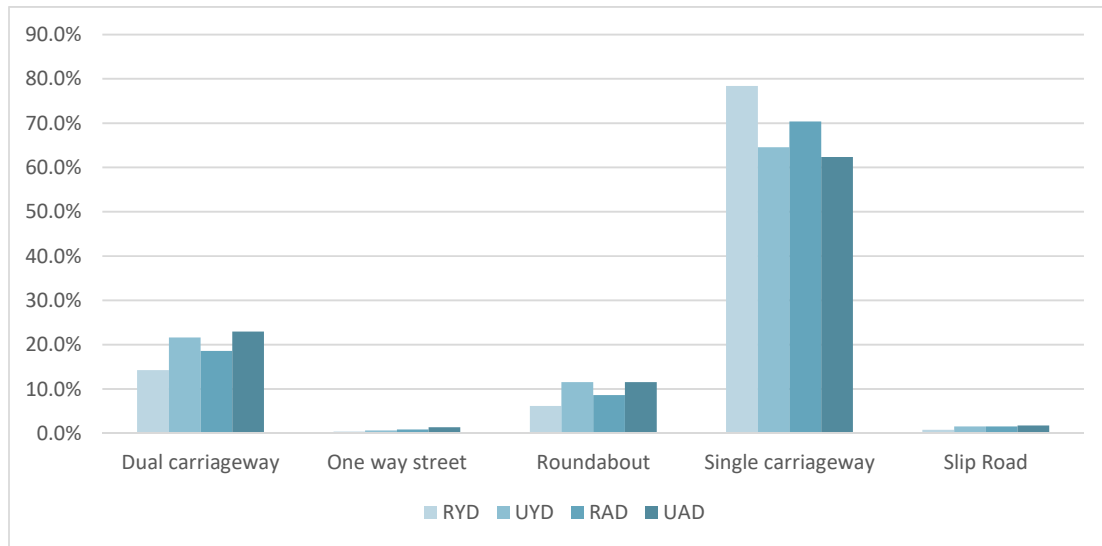
Figure 16 shows the proportions of collisions occurring at each type of junction for each cohort. The majority of collisions for all drivers occurred where no junction is present, followed closely by normal junctions. Although Urban Young Drivers follow similar trends to adult drivers, both rural and urban, Rural Young Drivers showed a higher propensity for colliding in the absence of a junction than urban drivers and, to a slightly lesser extent, their adult neighbours.

FIGURE 16 - JUNCTION TYPES AT COLLISION LOCATION



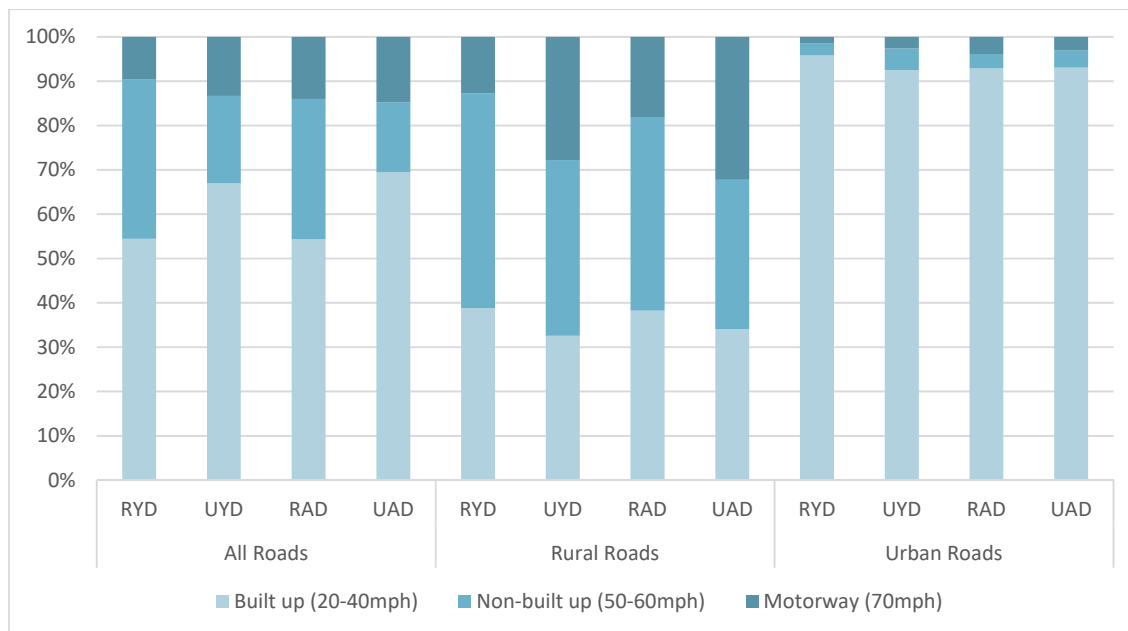
Looking at the types of road on which collisions involving each cohort occur in Figure 17, young drivers, in particular Rural Young Drivers, experience more collision involvement on single carriageways than other road types. This is shared to a lesser extent by the other three groups. Urban Young Drivers showed higher proportions of collisions on dual carriageways and roundabouts than their rural counterparts, in line with the involvement of their adult neighbours.

**FIGURE 17 - ROAD TYPES AT COLLISION LOCATIONS**



An analysis was carried out to look at the speed limits in which young driver involved collisions occur on both rural and urban roads. Figure 18 shows the result of this analysis, where young drivers are again split into Rural Young Drivers and Urban Young Drivers and compared alongside their adult counterparts. On rural roads, all groups are involved in more collisions with higher speed limits (60mph and 70mph). Rural drivers, in particular Rural Young Drivers, have a smaller proportion of collisions on 70mph rural roads than their urban counterparts, with more collisions on 60mph roads. On Urban roads, all groups have a considerably higher proportion of involved collisions on 30mph roads than at other speed limits. This is particularly pronounced for Rural Young Drivers. The overall data on all roads reflects this trend too, with most collisions occurring on 30mph roads for all groups.

**FIGURE 18 - SPEED LIMITS AT COLLISION LOCATION**



An analysis of collision involvement by various driver manoeuvres in Figure 19 shows that all four groups follow a similar trend; by far the largest proportion of collision involvement is when travelling straight ahead (43-45%), with travelling ahead at a bend, stop-start manoeuvres, static waiting and turning right sharing more similar frequencies (5-18%), and the remaining manoeuvres accounting for less than 5% of collisions each. Notably, however, there is a larger proportion of collisions involving Rural Young Drivers when travelling ahead at a bend (18%) than for any of the other groups of drivers (5-11%).

**FIGURE 19 - DRIVER MANOEUVRE AT COLLISION LOCATION**

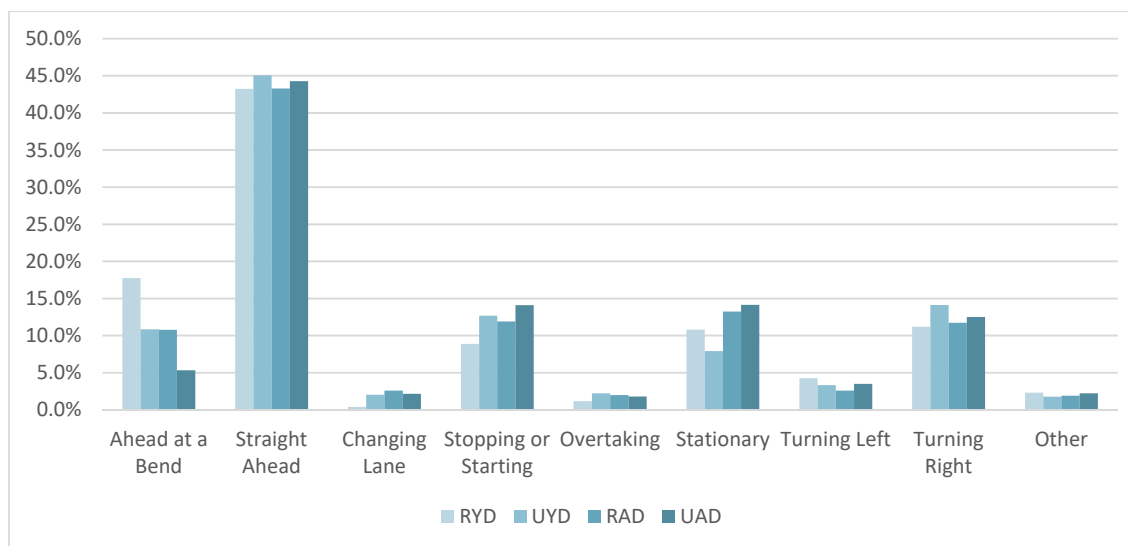
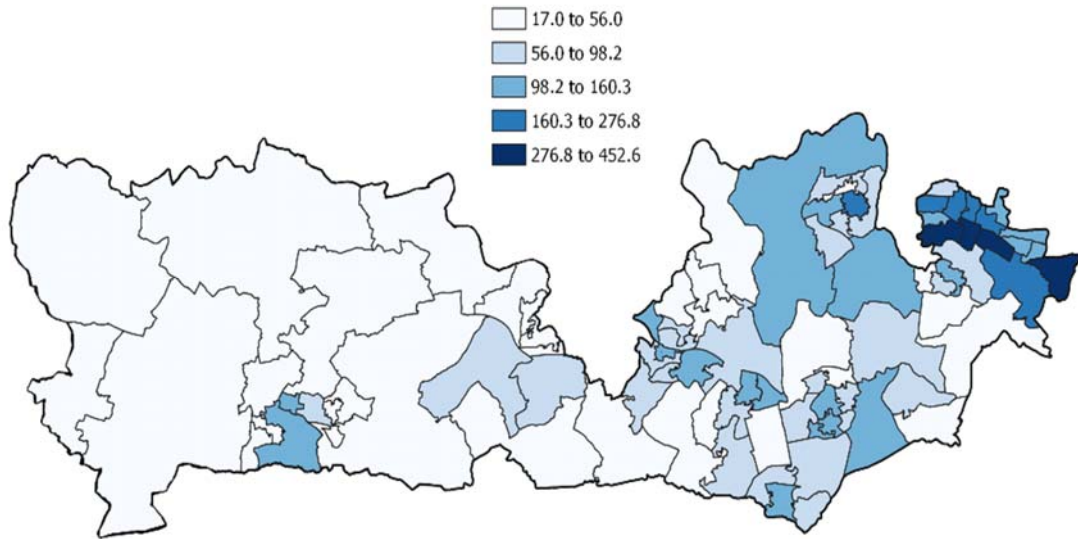


Figure 20 uses a thematic map to illustrate the location of collisions taking place in SRB over the last 5 years which involved young car drivers. The number of collisions has been calculated as a rate per 1,000 km of road length in that middle super output area (MSOA). The highest collision rates can be found in the urban areas of Slough, Windsor, Maidenhead, Bracknell and Wokingham, as well as Newbury and Thatcham and major routes such as the A4 and the A404.

**FIGURE 20 – COLLISIONS INVOLVING YOUNG DRIVERS IN SRB (CALCULATED AS A RATE PER 1,000KM ROAD LENGTH BY MSOA)**

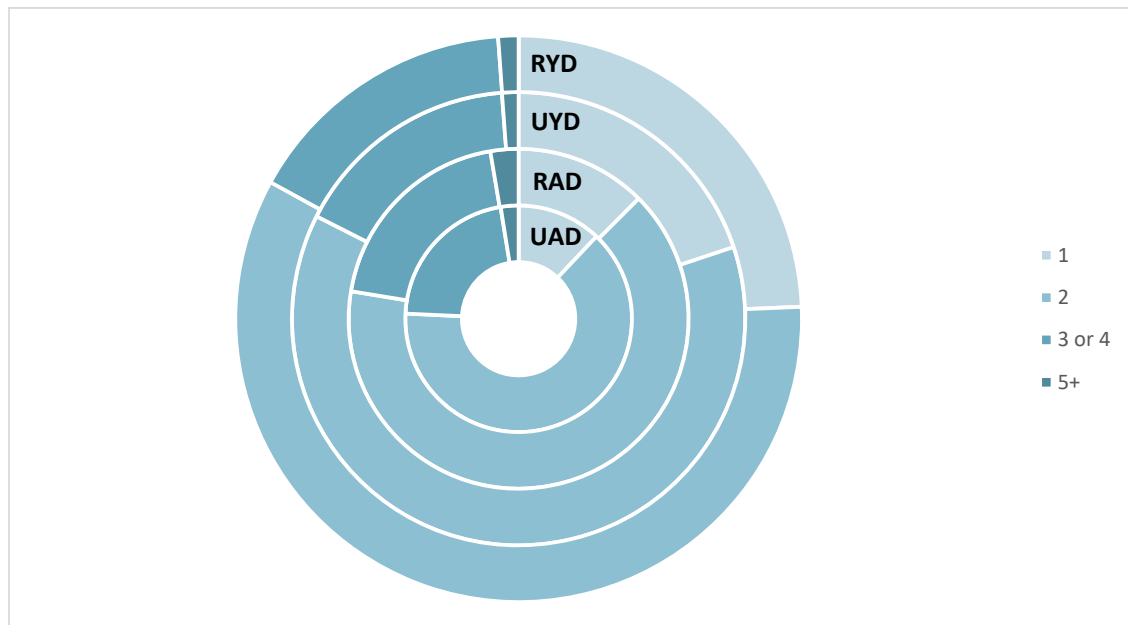


## HOW?

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

Figure 21 charts the number of vehicles involved in collisions involving drivers from each cohort. Although all four groups have similar levels of collisions involving three or more vehicles, young drivers are involved in a considerably higher proportion of single-vehicle collisions. This is particularly the case with Rural Young Drivers whose proportion of single-vehicle collisions (24.3%) is almost double that of both Rural Adult Drivers (12.5%) and Urban Adult Drivers (12.1%).

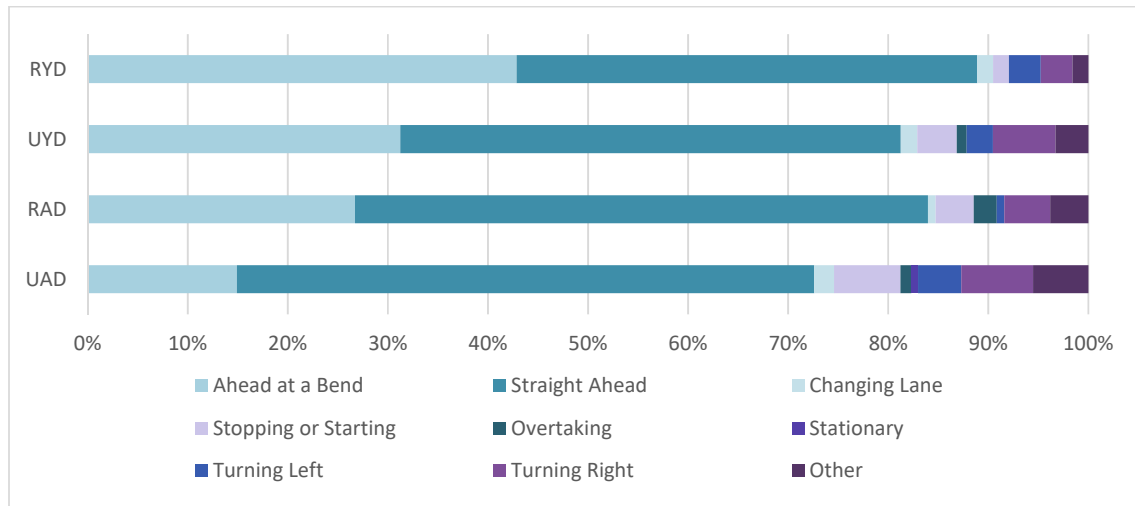
**FIGURE 21 - NUMBER OF VEHICLES INVOLVED IN COLLISIONS**



As single-vehicle collisions pose as a problem to both rural and urban young drivers, an analysis was carried out of driver manoeuvres for vehicles involving only one vehicle. The chart in Figure 22 shows that the majority of single-vehicle collisions involving drivers from each group occur when vehicles are travelling ahead (73-89%), with both rural and urban young drivers experiencing these with roughly the same proportions as their adult neighbours. However, the analysis also shows that higher proportions of young driver involved single-vehicle collisions occur when driving ahead at a bend (43%

for rural drivers, 31% for urban drivers) than their adult counterparts (27% for rural drivers, 15% for urban drivers). This echoes the results shown in Figure 19.

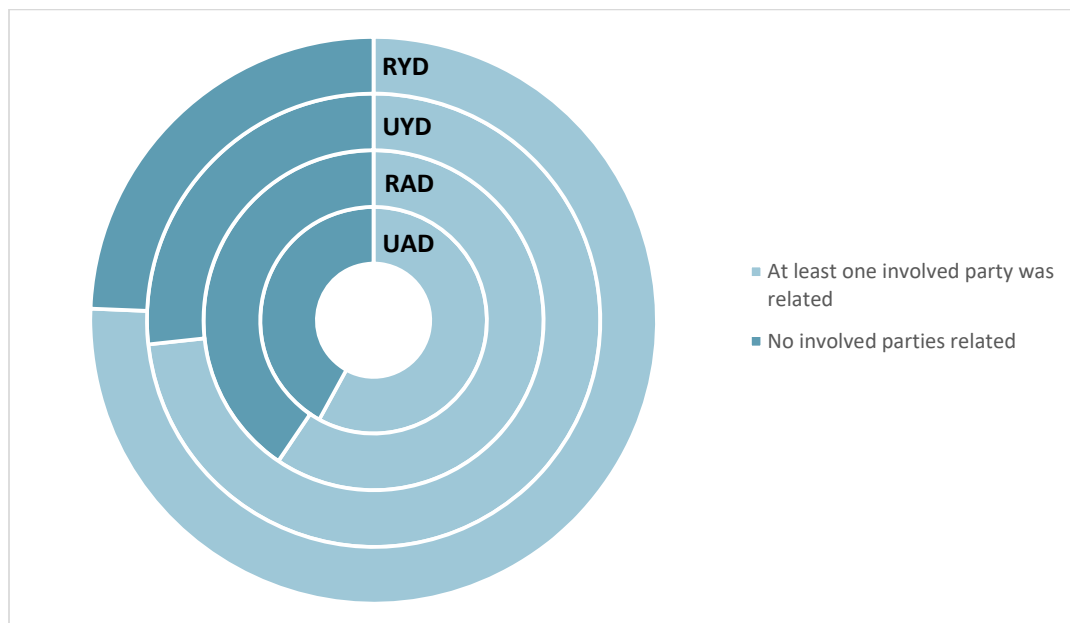
**FIGURE 22 - DRIVER MANOEUVRE AT THE LOCATION OF SINGLE VEHICLE COLLISIONS**



It is possible to analyse the contributory factors (CF) recorded by an attending police officer when completing the collision records. In SRB, 86% of collision involved cars and light goods vehicles in 2012-2016 had police attendance. The following analyses consider only these instances.

The chart in Figure 23 shows the proportions of involved drivers in each cohort to which a contributory factor was assigned to the driver. These proportions are notably higher for young drivers than for adult drivers. Figure 24 expands further on this, showing that the assignment of contributory factors peaks at both young drivers and older drivers, but plateaus from 35 to 54 years old.

**FIGURE 23 - CONTRIBUTORY FACTORS ATTRIBUTED TO DRIVERS**





**FIGURE 24 - CONTRIBUTORY FACTORS ATTRIBUTED TO DRIVERS BY AGE**

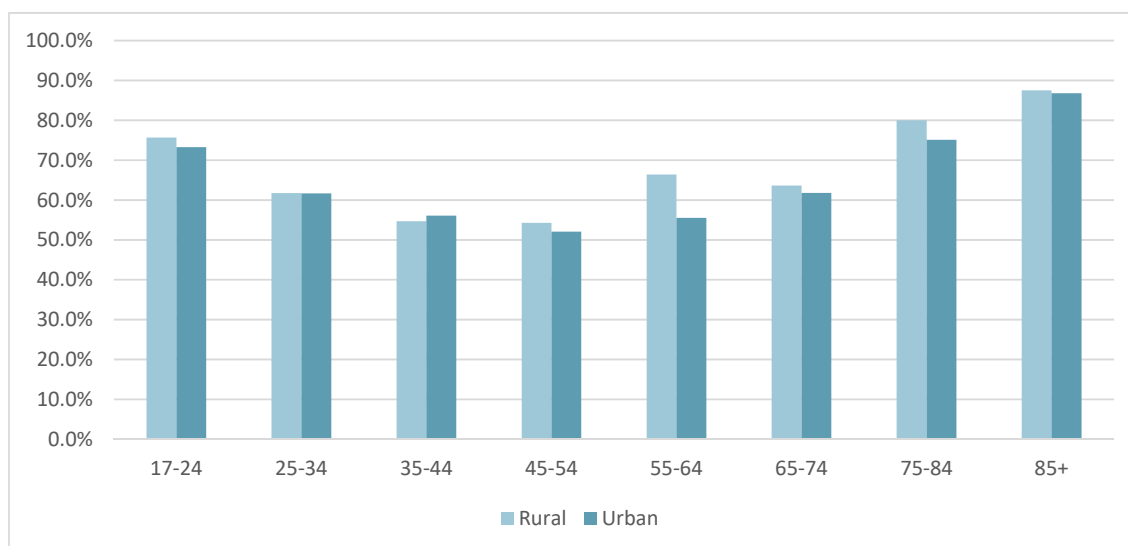


Table 1 lists the top 5 most common contributory factors assigned to each cohort. Across all drivers ‘Failed to look properly’ is the most assigned contributory factor, being assigned to 20-28% of collisions depending on age and home rurality. Other contributory factors that appear across all four groups include *Loss of control*, *Failed to judge other person’s path or speed*, and *Careless, reckless or in a hurry*. *Loss of control* is considerably more likely to be assigned to Rural Young Drivers (20%), and to a lesser extent to Urban Young Drivers (13%), than to adult drivers (5-6%). *Travelling too fast for conditions* appears only in the top 5 factors assigned to Rural Young Drivers, whereas *Learner or inexperienced driver/rider* appears only for Urban Young Drivers. Adult drivers, both urban and rural, are assigned *Poor turn or manoeuvre* for 7% of their involved collisions. Although this factor does not feature in the top 5 for young drivers, young drivers are still more likely to be assigned this contributory factor than their adult counterparts (10% for RYD, 9% for UYD).

**TABLE 1 - TOP 5 ASSIGNED CONTRIBUTORY FACTORS**

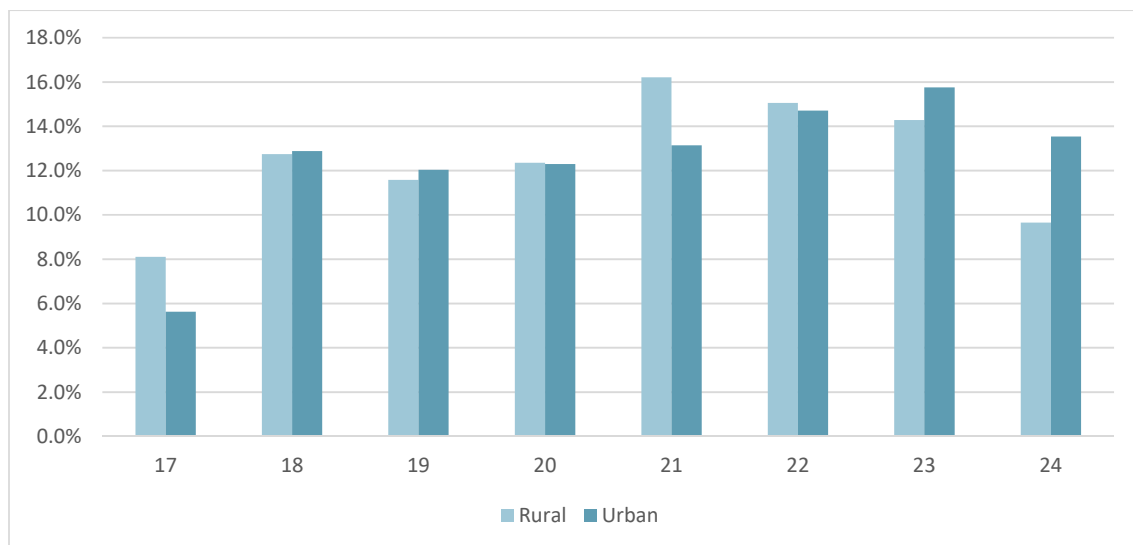
RYD	UYD	RAD	UAD
Failed to look properly (20%)	Failed to look properly (25%)	Failed to look properly (28%)	Failed to look properly (26%)
Loss of control (20%)	Failed to judge other person’s path or speed (15%)	Failed to judge other person’s path or speed (13%)	Failed to judge other person’s path or speed (14%)
Failed to judge other person’s path or speed (13%)	Careless, reckless or in a hurry (14%)	Careless, reckless or in a hurry (8%)	Careless, reckless or in a hurry (8%)
Careless, reckless or in a hurry (13%)	Loss of control (13%)	Poor turn or manoeuvre (7%)	Poor turn or manoeuvre (7%)
Travelling too fast for conditions (13%)	Learner or inexperienced driver/rider (13%)	Loss of control (6%)	Loss of control (5%)

## YOUNG 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 chart in Figure 25 shows the breakdown of involved vehicle collisions by age for both Rural Young Drivers and Urban Young Drivers. This shows that rural drivers have a greater proportion of collisions at age 17 (8%) than urban drivers (6%). Collision rates for Rural Young Drivers then increase to a peak of 16% around age 21 before declining to 10% by age 24. On the other hand, the number of collision involved Urban Young Drivers is more sustained from the age of 18 and peaks later at the age of 23 (16%).

FIGURE 25 - INVOLVED VEHICLE COLLISIONS FOR RURAL AND URBAN YOUNG DRIVERS BY AGE



Average annual risk rates for both rural and urban drivers were calculated at each age between 17 and 24 and in five year bands over 25. This was done as the average number of collisions involving urban or rural drivers in each age band per year, per 100,000 people in SRB of that age and of that home rurality. These risk rates were then compared to the overall risk rates of rural and urban drivers and are shown as 100-based indices in Figure 26. An index of 100 indicates that the number of involved drivers is proportional to the population of SRB of that age and from that home rurality. A value of 200 would mean that this group is involved in collisions at twice the expected rate, whilst a value of 50 would imply half the expected rate. This chart highlights that young drivers, in particular Rural Young Drivers, are over-represented when looking at collision involvement by population.

**FIGURE 26 - INVOLVED VEHICLES BY AGE**

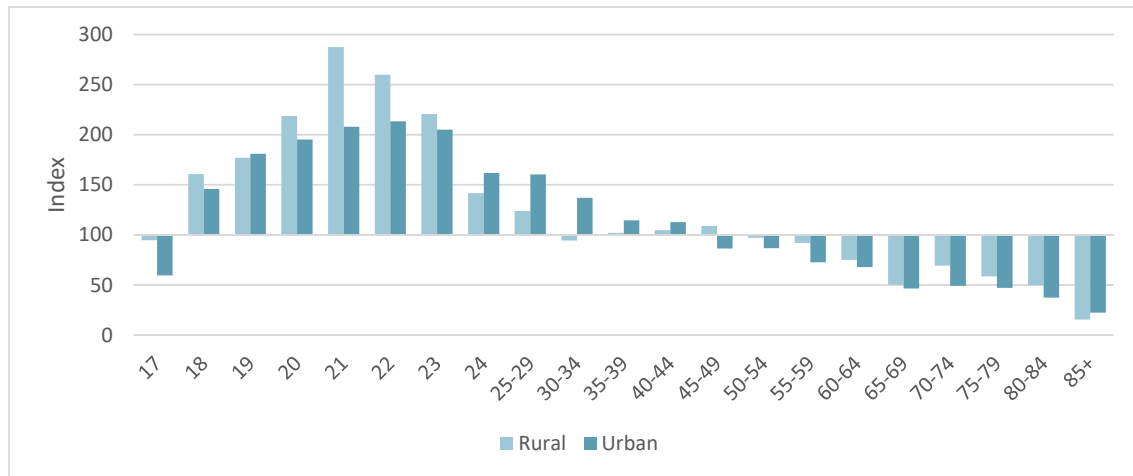
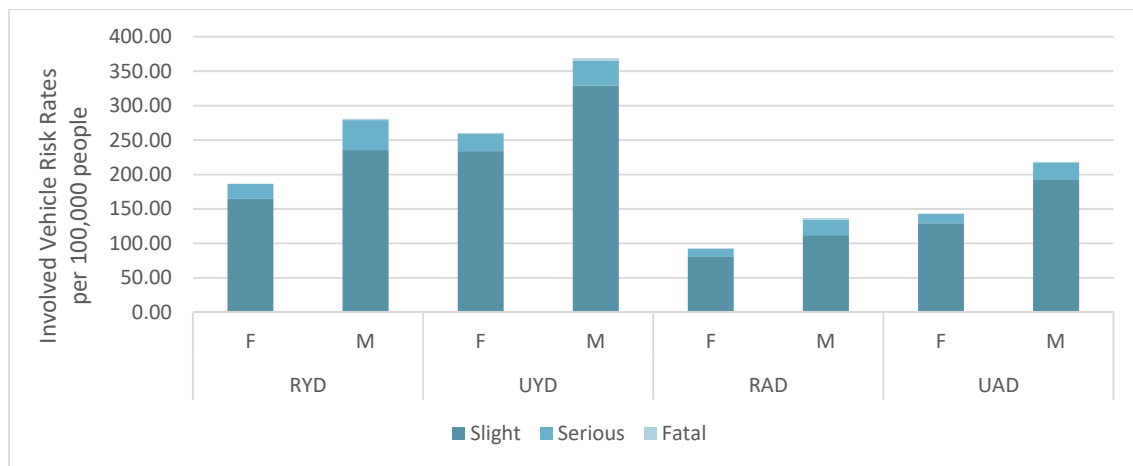


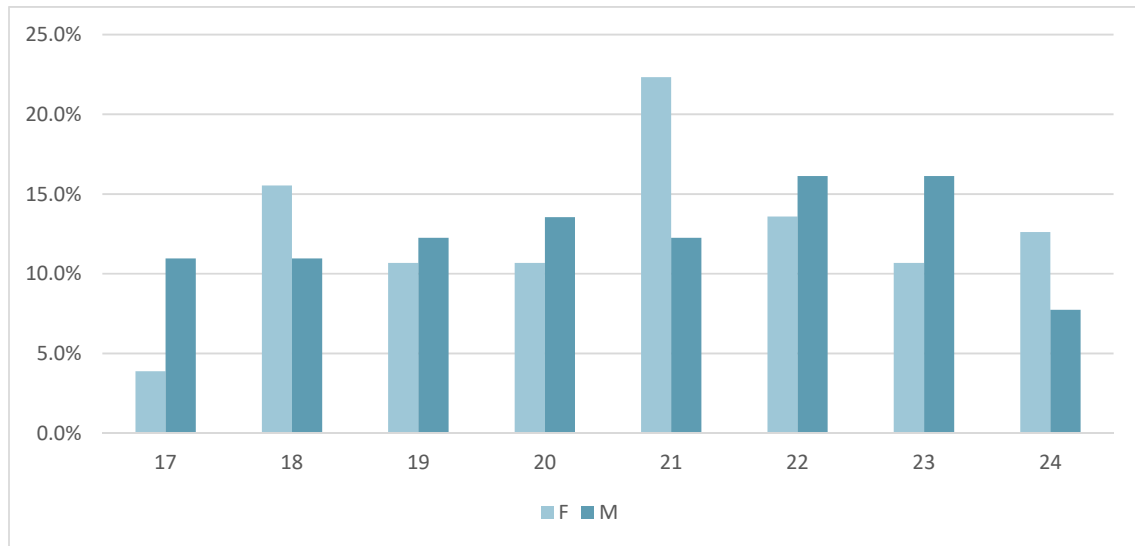
Figure 27 compares the risk rates for female and male members of each cohort. In each case, the risk rate for males is roughly 50% higher than that of females, although this is slightly less pronounced for Urban Young Drivers where this gap is only 42%.

**FIGURE 27 - INVOLVED VEHICLE RISK RATE BY GENDER**



The charts in Figure 28 and Figure 29 breakdown the proportions of involved drivers by age from Figure 26 further into genders. For rural drivers, Figure 28 shows that involvement rates of male drivers grow slowly to a peak of 16% at ages 22 and 23 before declining to 8% at age 24. Female rural drivers, however, experience a lower rate of collision involvement at age 17 (4%) but experience a peak of 16% at age 18. Involvement for female rural drivers then remains at a steady proportion of 11-14% apart from a sharp peak of 22% at the age of 21. In Figure 29 we see less disparity between female and male Urban Young Drivers, both exhibiting a trend similar to that of Figure 27.

**FIGURE 28 - RURAL INVOLVED VEHICLE RISK RATED BY AGE AND GENDER**



**FIGURE 29 - URBAN INVOLVED VEHICLE RISK RATED BY AGE AND GENDER**

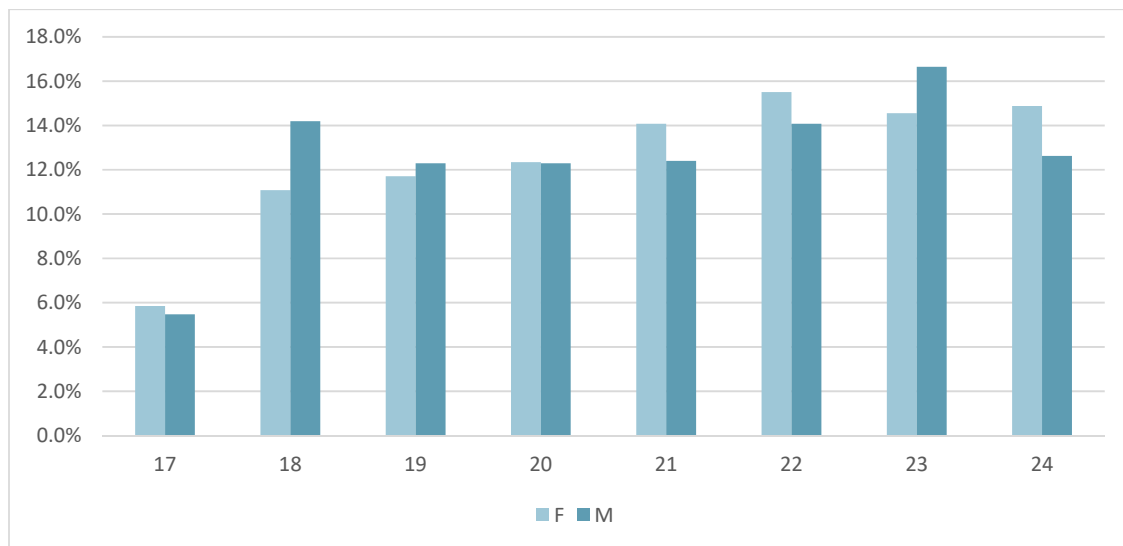
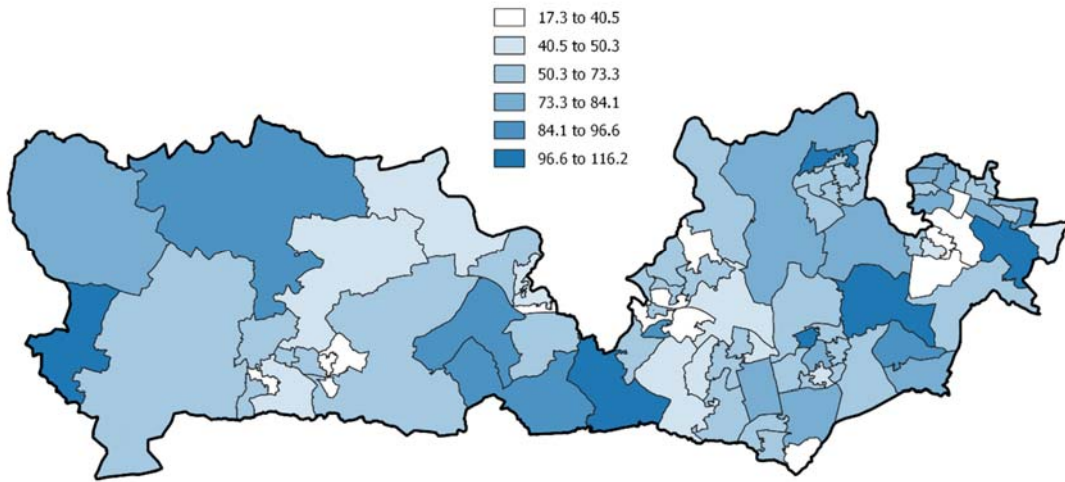


Figure 30 is a thematic map illustrating the home location of young drivers from SRB who were involved in collisions in the five year period from 2012 to 2016. This has been calculated as a rate per 10,000 population aged 17-24 from that MSOA. It shows that whilst higher rates can be found in the urban areas of Slough, Windsor, Maidenhead and Bracknell, there are also higher rates in the rural areas of to the West of the county.

FIGURE 30 - HOME LOCATION OF INVOLVED DRIVERS



## MOSAIC ANALYSIS

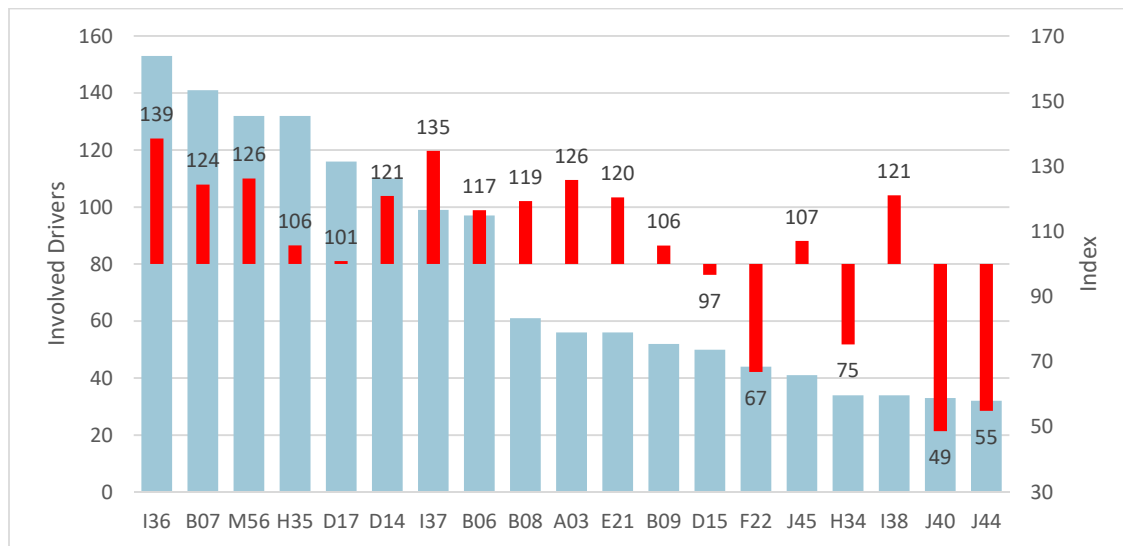
As well as demographic and spatial analysis of young drivers, we can also undertake socio-demographic analysis using Mosaic. Mosaic is intended to provide an accurate and comprehensive view of citizens and their needs by describing them in terms of demographics, lifestyle, culture and behaviour. By matching 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 rider and uses the Experian Mosaic socio-demographic classification system (for details see <http://www.experian.co.uk/marketing-services/products/mosaic-uk.html>). Typically, 85% of postcodes can be matched to a Mosaic Type, so this analysis is based on about five out of six of all young drivers.

Figure 31 shows SRB resident young drivers involved in collisions, grouped by the Mosaic Type of the community in which they live, in the order in which they feature. The light blue bars indicate the number of young drivers for each Mosaic type, with figures corresponding to the left hand vertical axis. The dark blue bars show the “index” for each Mosaic type. An index value of 100 indicates that the number of involved young drivers is in proportion to the population of SRB’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 young drivers and relative risk. The index value becomes less significant as the number of pedestrians decreases and random change lowers confidence levels. Index values are not calculated for types which contain 30 or fewer pedestrians as the number is too low to be meaningfully interpreted.

When carrying out Mosaic analysis the approach is to look for both levels of high representation and high index scores in individual and this is the case with Types I36, B07, M56 and I37.

FIGURE 31 - MOSAIC TYPE ANALYSIS OF INVOLVED YOUNG DRIVERS



The highest numbers of young involved drivers are from *Thriving families with good incomes in multi-cultural urban communities* (Type I36) and this Type is over-represented based on their population within SRB. *High-achieving families living fast-track lives, advancing careers, finances and their school-age children's development* (B07), *Stable families with children renting better quality homes from social landlords* (M56) and *Established older households owning city homes in diverse neighbourhoods* (I37) also represent high numbers of young involved drivers and are over-represented compared to the local population. Although *Prosperous owners of country houses including the rural upper class, successful farmers and second-home owners* (A03) do not represent high numbers of young driver involvement, this type are considerably over-represented compared to the local population.

A breakdown of collisions from each Mosaic Type by home rurality in Figure 32 shows that, apart from A03, involved drivers from these Types are predominantly urban. To better understand the mosaic types of both Rural and Urban Young Drivers, Figure 33 and Figure 34 chart Mosaic Type Analyses for each of these cohorts.

**FIGURE 32 - BREAKDOWN OF MOSAIC ANALYSIS BY DRIVER HOME RURALITY**

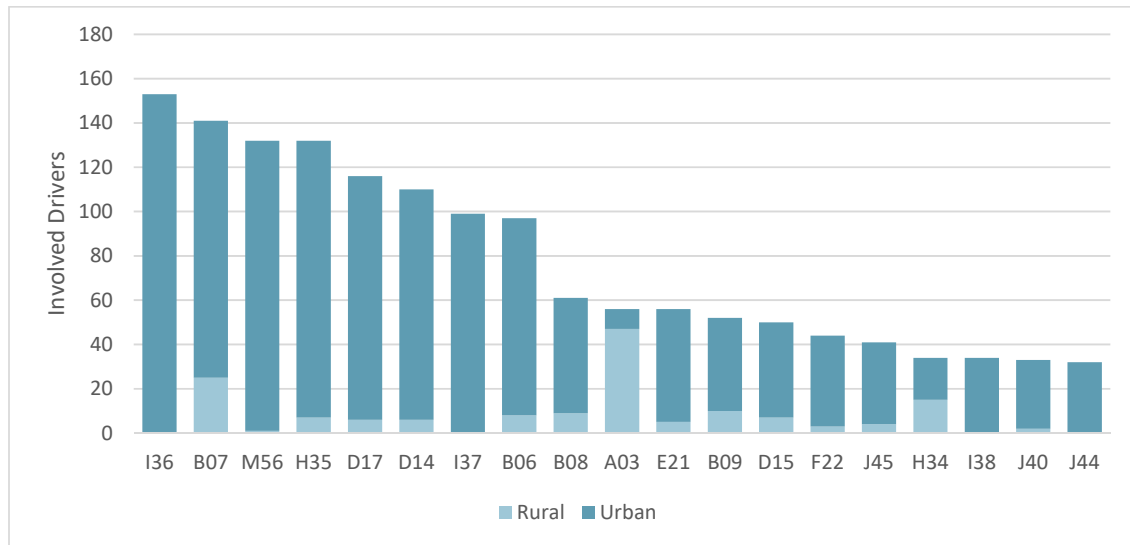


Figure 33 shows that Type A03 represent a relatively large number of young rural involved drivers and are considerably over-represented.

FIGURE 33 - MOSAIC TYPE ANALYSIS OF INVOLVED RURAL YOUNG DRIVERS

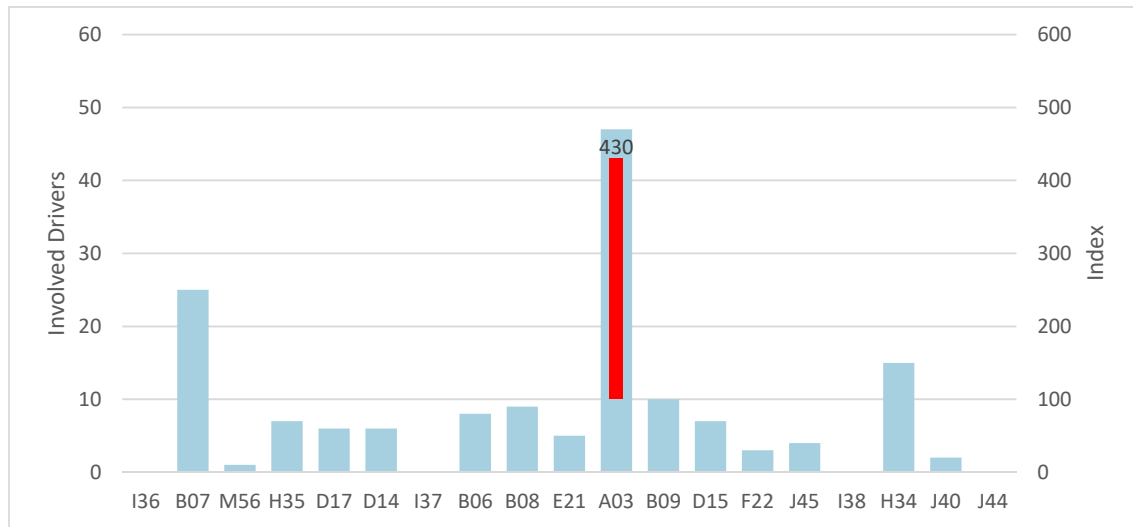


Figure 34 shows that, in addition to the Types highlighted by Figure 31 *Forward-thinking younger families who sought affordable homes in good suburbs which they may now be out-growing* (Type H35) and *Affluent families with growing children living in upmarket housing in city environs* (Type D14) are both over-represented and represents a high number of involved urban young drivers. *Active families with teenage and adult children whose prolonged support is eating up household resources* (Type E21) are also over-represented for Urban Young Drivers, although they represent a lower number of involved drivers.

FIGURE 34 - MOSAIC TYPE ANALYSIS OF INVOLVED URBAN YOUNG DRIVERS

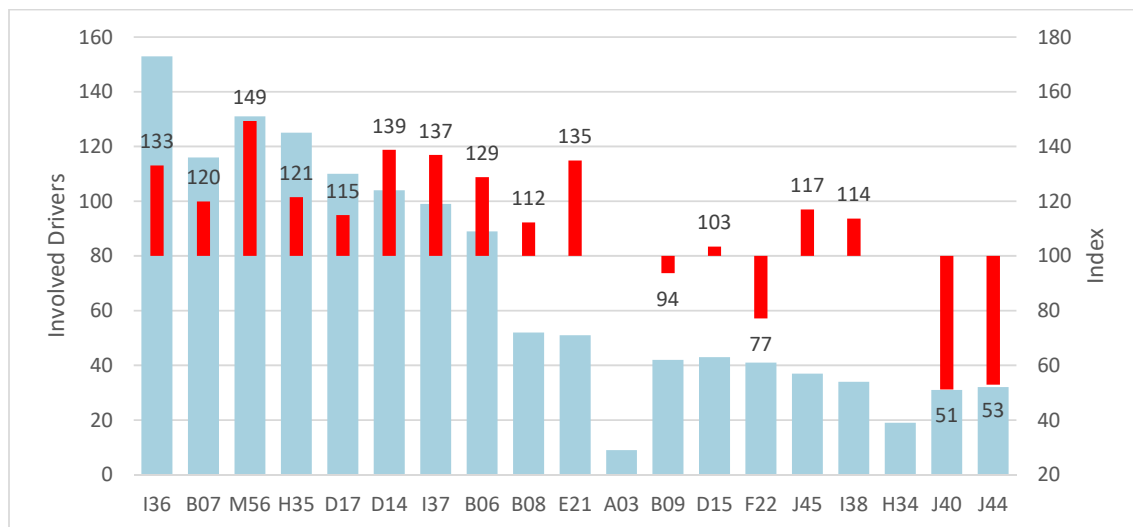


Table 2 shows the over-represented groups in terms of certain relevant characteristics of household composition and lifestyle along with their communication preferences. It shows that Types B07 and A03 share many similarities, both of which differ considerably from Types I36 and M56. Types I36 and M56 have a number of differences but also some similarities, in particular the level of deprivation and communication preferences. Mosaic Types I36 and M56 prefer communication by phone and SMS, whereas Types B07 and A03 prefer not to be contacted but are most receptive to communication by



email. It is notable that all the Mosaic Types that appear significantly in this analysis correspond to older cohorts. This implies that the young drivers from these Types are living at home with their parents. As a result, it is hard to separate their exact socio demographics from those of their parents. The STATS19 and Mosaic analysis are used to create ‘personas’ later in this document to provide complete insight into the types of young drivers involved in collisions.

TABLE 2 - MOSAIC CHARACTERISTICS AND COMMUNICATION PREFERENCES

	I36	M56	B07	A03
Urban	Green	Light Blue	Red	Red
Home-sharers	Green	Green	Red	Red
Deprived	Green	Green	Red	Red
Employed	Green	Light Blue	Green	Red
Further Education	Green	Red	Green	Green
Low Income	Red	Green	Red	Red
Medium Income	Green	Red	Light Blue	Light Blue
High Income	Green	Red	Green	Green
	<b>Communication Preferences</b>			
Mobile Phone Call	Green	Green	Red	Red
SMS	Green	Green	Light Blue	Red
Email	Light Blue	Light Blue	Light Blue	Light Blue
Post	Light Blue	Light Blue	Red	Light Blue
Landline	Green	Green	Light Blue	Red
Not Contacted	Red	Light Blue	Green	Green

TABLE 3 - MOSAIC TYPE DESCRIPTIONS

Type I36	Type B07
Cultural Comfort	Alpha Families
<p>Cultural Comfort are 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.</p> <p>They are often extended families who will also have an elderly parent living with them. They 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. People are settled in these neighbourhoods and have lived, on average, at the same address for 8 years. Incomes and lifestyles are comfortable thanks to good levels of education and full-time jobs.</p> <p>Cultural Comfort like to be amongst 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</p>	<p>Alpha Families are high-achieving married couples mostly in their 40s, living fast-track lives advancing their careers, their financial security and the progress of their school-age children. Alpha Families are typically married couples, both with professional careers, predominantly aged between 36 and 50 living with their children.</p> <p>These affluent families live in sought after locations in high value spacious, detached homes, most with four bedrooms or more. High outgoings are matched by equally large salaries. With two working parents, household incomes are amongst the highest in the country.</p> <p>The challenge of maintaining a work-life balance while advancing their careers and spending quality time together as a family means that these busy Alpha Families live their lives at a hectic pace.</p>

internet. They are fans of online gaming, frequently do their grocery shopping online and read online reviews before making purchases for their homes and gardens. Levels of health are reasonable amongst this type and fewer people than average smoke or drink.	Drinking alcohol is a regular occurrence for many – nearly 50 per cent drink two or three times a week or more frequently.
--	--

Type M56	Type A03
Solid Economy	Wealthy Landowners
<p>Solid Economy are stable families with children renting better quality homes from social landlords.</p> <p>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. 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. 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.</p> <p>They 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. On the whole they drink alcohol significantly less often than average.</p>	<p>Wealthy Landowners are the moneyed owners of highly desirable country houses located in sought after villages in some of the UK's finest countryside.</p> <p>Generally married couples over the age of 45 with older children, this well-heeled country set is a combination of rural grandees, successful farmers and affluent business people. Wealthy Landowners live in attractive properties in rural locations. They are typically older families, with high incomes and very comfortable standards of living and their grown-up children may well still be living with them in their substantial homes. These detached properties are high value, character homes often built before 1870, with some more modern grand designs. Some 15 per cent are called Farms and this will also include country estates and large expansive second homes as well as successful working farms.</p> <p>Car ownership is high reflecting their rural locations and country lifestyles and they are likely to own several cars. Many Wealthy Landowners do drink fairly regularly – 45 per cent do so two or three times a week.</p>

The following maps show the dominance of mosaic types A03, I36, B07 and M56 in the Lower Layer Super Output Areas (LSOAs) of SRB. With type A03, there are concentrations of residents living in the rural areas of West Berkshire, Wokingham, and Windsor and Maidenhead. Communities which are Type I37 is concentrated mostly in the urban areas of Slough. There is also an area dominated by type I37 in Wokingham, near the border with Reading. Areas with dominance of type M56 are more spread out, with concentrated areas near Slough, Windsor, Maidenhead, Bracknell and Newbury, as well as in Wokingham near the Reading border. Type B07 is concentrated out of the main urban areas such as on the outskirts of Wokingham, the south of Newbury, between Bracknell and Ascot and the outskirts of Eton and Windsor, as well as in rural areas to the north and south of Newbury and Thatcham.

FIGURE 35 - AREAS OF RESIDENCE FOR MOSAIC TYPE A03 IN SRB

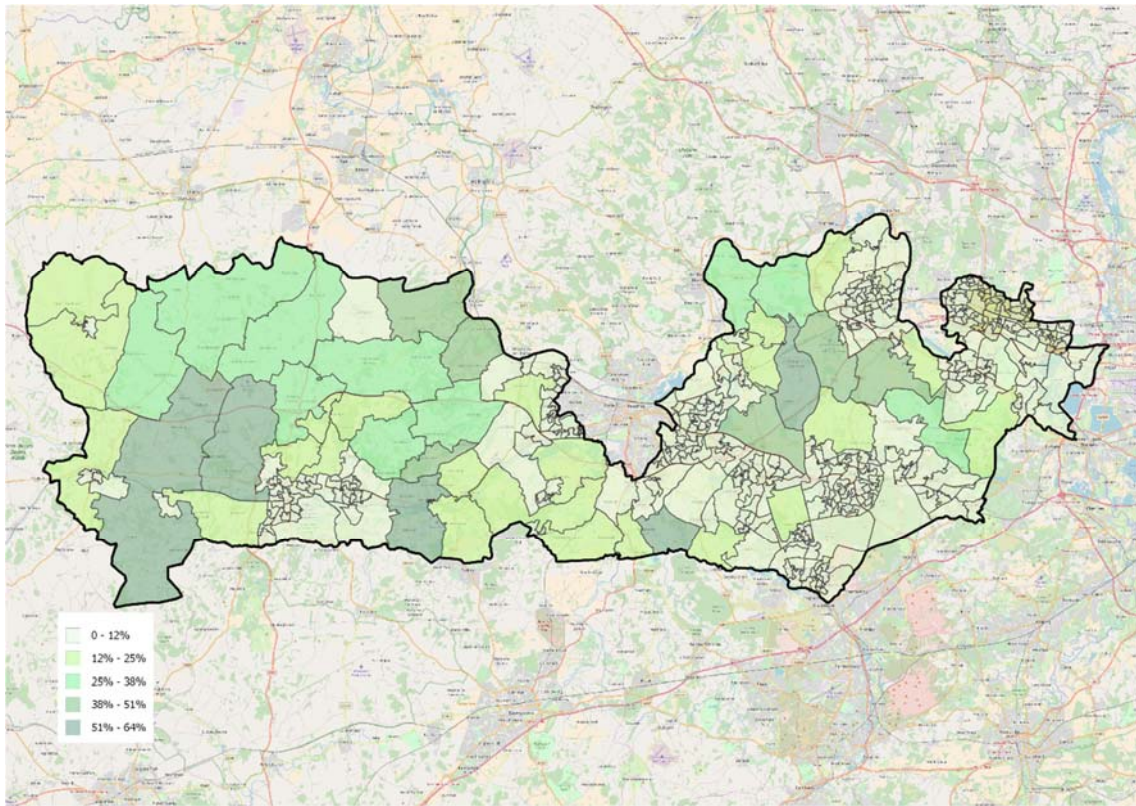


FIGURE 36 - AREAS OF RESIDENCE FOR MOSAIC TYPE I36 IN SRB

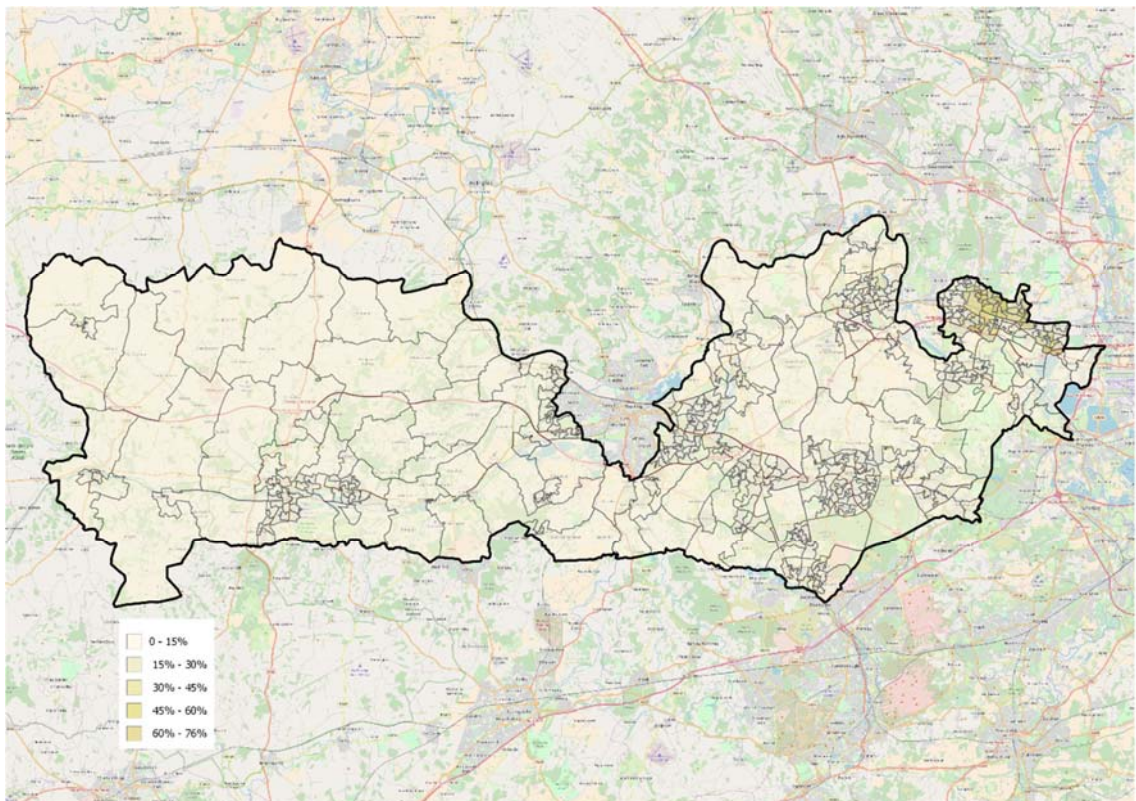


FIGURE 37 - AREAS OF RESIDENCE FOR MOSAIC TYPE B07 IN SRB

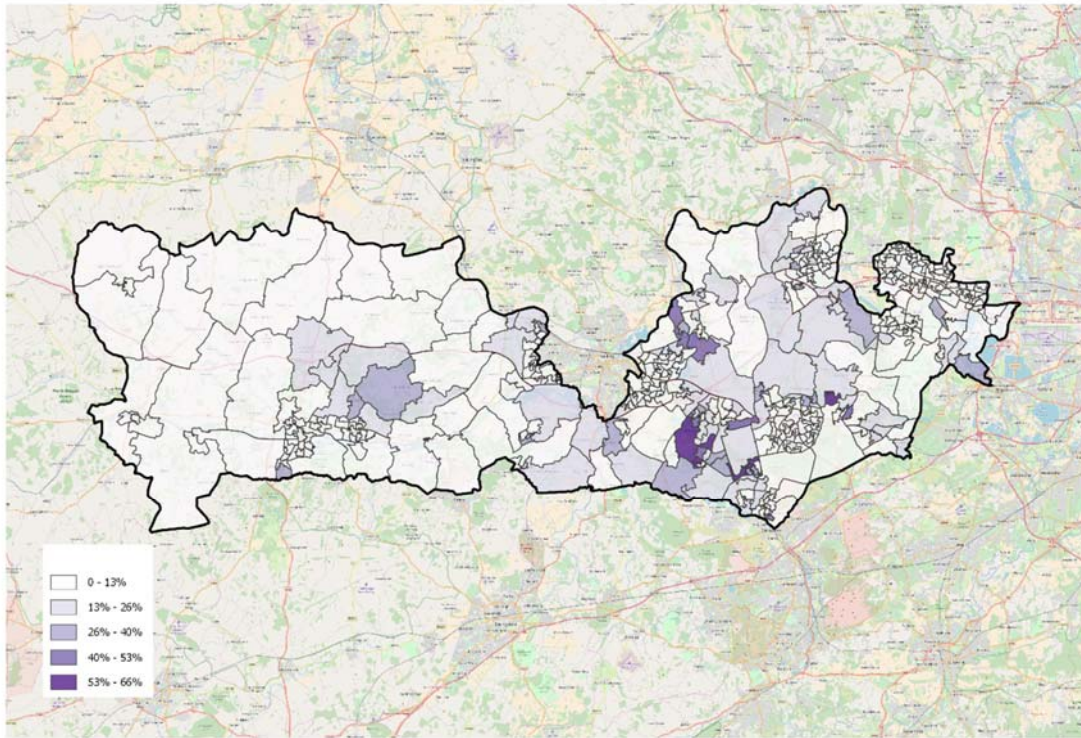
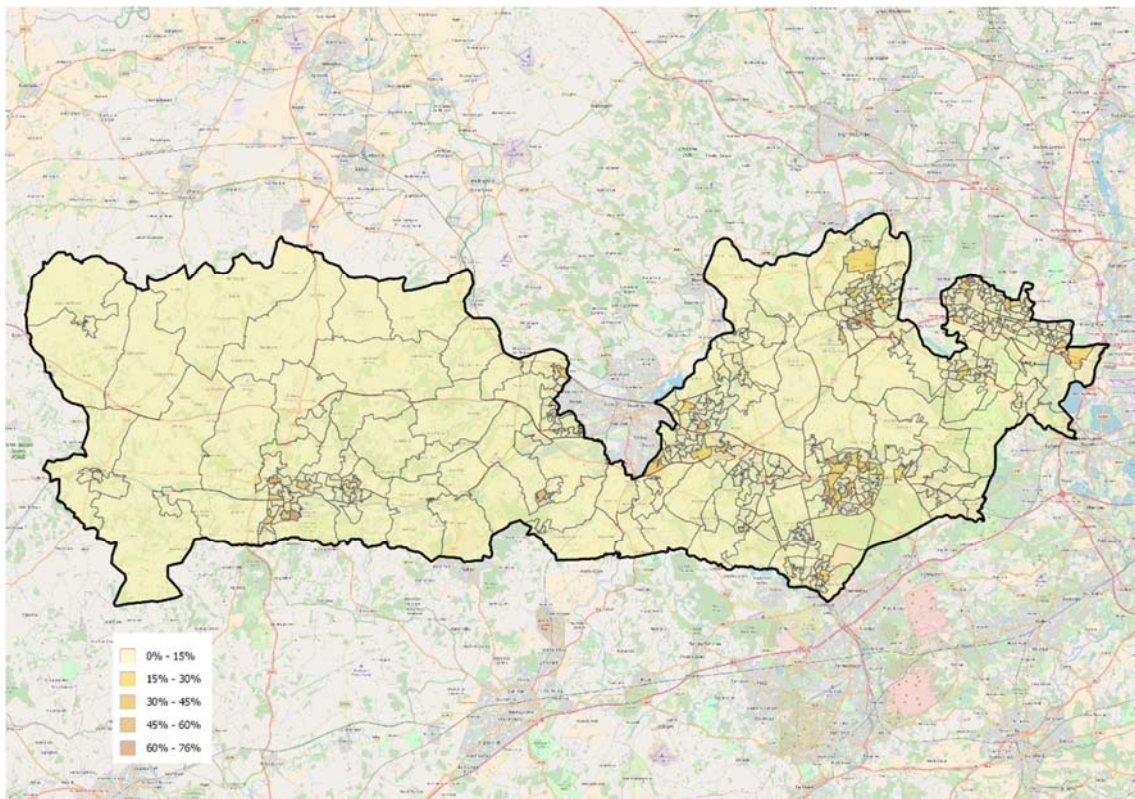


FIGURE 38 - AREAS OF RESIDENCE FOR MOSAIC TYPE M56 IN SRB

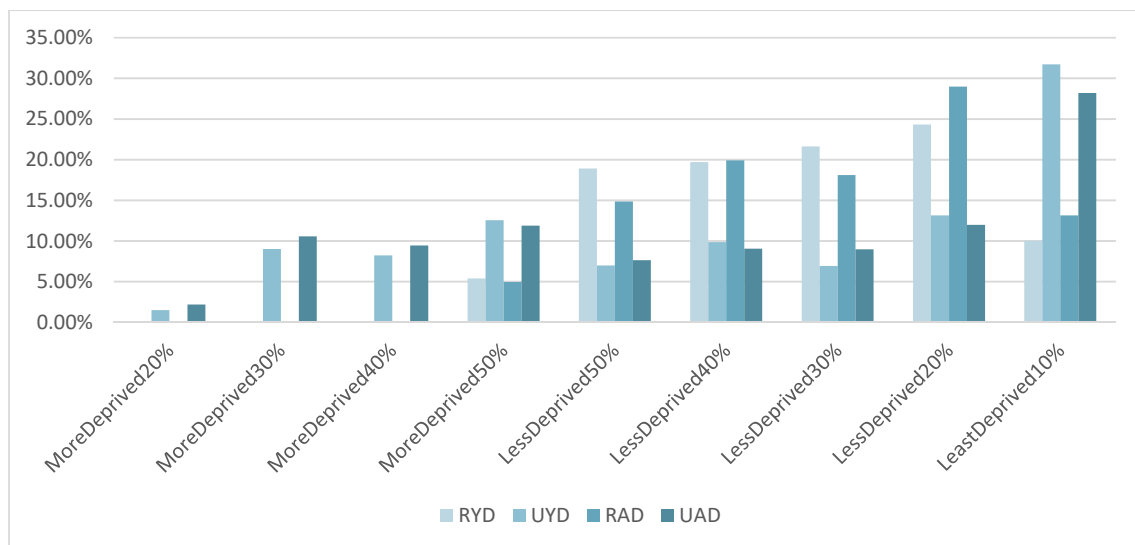


## INDEX OF MULTIPLE DEPRIVATION (IMD)

As well as looking at the Mosaic socio-demographic classifications, it is also possible to look at relative wealth using the UK 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 of the country. The analysis uses deciles, which creates ten groups of equal frequency, ranging from the 10% most deprived areas to the 10% least deprived areas.

Figure 39 shows that collisions involving Rural Young Drivers tend to be from the less deprived 20-50% of areas of the country. A high proportion of involved Urban Young Drivers are from the least deprived 10% of areas, although compared to Rural Young Drivers they also have relatively high proportions of involvement from the more deprived 30-50% of areas.

**FIGURE 39 - BREAKDOWN OF MOSAIC ANALYSIS BY DRIVER HOME RURALITY**



## PERSONAS

Following the analysis of risk, the elements of casualty and collision profiling can be combined to create a persona or personas which capture the key characteristics of those communities or groups most at risk. Although a persona will not typify all, or perhaps even a majority of those involved in collisions, it should represent a significant proportion of those who are 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 young drivers from SRB who are involved in collisions. More than one type of young driver has emerged. The findings allow key characteristics to be collated into personas. Parallels have been drawn from the multiple datasets in the creation of these personas to ensure alignment along clear data points.

There are 3 personas which have emerged from the analysis:

1. **Tarquin**– is in his late teens and lives with his parents in their large farmhouse in the countryside. He has lived there for his entire life. His community identifies most with the Mosaic Types A03 – ‘Wealthy Landowners’ – and B07 – ‘Alpha Families’ - and as such benefits from a high household income and very comfortable living standards. He is a full-time college student and has regular access to one of the family’s cars. During the week he commutes to and from college by car and regularly uses his car during his lunch break. Tarquin’s use of the family car increases in the school vacations, in particular in early summer. He does not smoke but does drink regularly. On weekends he uses his car for nights out and is more likely to be involved in night-time collisions when there is no lighting. Tarquin is also disproportionately likely to be involved in a single-vehicle collision, particularly when driving towards a bend in the road. He has often contributed to the cause of collisions, by losing control of his car or driving too fast. Tarquin does not respond particularly well to phone calls or SMS and prefers to not be contacted. Of all the communication channels Tarquin is most likely to respond to emails and post.
2. **Dick** – is in his early 20s and lives at home with his parents in their 3-bedroom terrace house. His community belong to the Mosaic Type M56 – ‘Solid Economy’. Dick has a full-time job in the service industry, which allows him to contribute to his family’s income. He commutes by car during the week, but it less likely to drive on weekends. The majority of collisions Dick is involved in are on single carriageway 30mph roads and away from a junction. His occasional careless and hurried driving, coupled with a poor judgement of other drivers’ actions, has contributed to the cause of collisions. The relative likelihood of Dick being involved in a collision increases at night and when the roads are wet. Dick texts frequently and is invested in social media and is also receptive to phone calls.
3. **Yasmin**– is in her early 20s and lives with her large family in a multi-cultural city suburb. Her community belongs to the Mosaic Type I36 – ‘Cultural Comfort. She has a bachelor’s degree and has just started working full time. Although she has only recently obtained her driving licence, she owns her own car which she uses to commute to and from work. Her inexperience and frequent failure to look properly or judge the behaviour of other drivers has contributed to the cause of collisions. Yasmin likes to be among the first to adopt new technology and is a fan of online gaming. The channels of communication she is most receptive to are mobile phone calls and SMS. She does not smoke and drinks infrequently.

## SUMMARY OF OTHER EVIDENCE AND SUCCESSFUL SCHEMES

### SUMMARY OF OTHER EVIDENCE

There are a few themes that arise from the Berkshire young drivers' collision analysis that are also analysed in several research papers in the UK or other areas of the world. This section presents a synthesis of some of the research and the main findings, organised by themes. Throughout this section similarities will be made to the report's findings and will attempt to highlight any differences in the conclusion.

#### Young, Novice Driver Collisions

It is well known that young drivers are significantly overrepresented among all drivers involved in traffic collisions and fatalities (Barry and Bragg, 1986). It is also commonly recognised that road traffic collisions are the primary cause of death for young people; as studies have found that in OECD countries traffic collisions are the single greatest killer of 15-24-year olds. It was estimated that over 8,500 young drivers of passenger vehicles were killed in 2004 (Road Safety Observatory). Death rates for young, novice drivers have decreased in many countries in recent decades. However, OECD (2006) found that these reductions mirrored overall improvements in road safety, and death rates for 18-24-year-old drivers typically remain more than double those of older drivers. Data from the Netherlands, Sweden and the UK have shown that young male drivers' relative risk of crash fatality, compared with that of older drivers, has increased considerably over the last decade (this was measured by fatal collisions per million kilometres driven) (Road Safety Observatory).

These overwhelming statistics have forced governments and local authorities to take action and to delve deeper into why figures for young drivers remain high. Studies have also investigated what driving means to young people and have observed/explored young drivers' behaviours and attitudes, as well as if factors such as time of day/week play a part. Green, Steinbach, Garnett, Christie and Prior (2017) study has found that for young people driving is generally perceived as a certain "rite of passage" to adulthood as driving is considered the key to their independence, their feeling of freedom and in practical terms making their day-to-day life easier (Big Island Research and Planning, 2015). Moreover, evidence from a range of studies suggest that across the first years of licensure, drivers' deviant behaviours seem to be taken on more frequently (Fosdick, 2013; Road Safety Observatory). As a result, a correlation of age and experience has been found, and studies have highlighted that the experience drivers gain in the first six to twelve months after their test plays a more significant role in reducing their collision rates (Road Safety Observatory). However, evidence from a range of empirical studies conducted on young drivers has found that in the young drivers' perspective, the experiences do not seem to be a key quality of a good driver. Young road users often overrate their driving ability and see driving as a matter of "natural talent" which can be judged on how confident a driver feels. When they were asked to judge themselves, the majority of young drivers chose the term "safe driver" (Road Safety Observatory). Therefore, these studies have demonstrated the importance of understanding young drivers' attitudes concerning road safety and various interventions have attempted to understand and address this which will be further discussed in the following section on existing schemes. The evidence of several studies has illustrated that being a younger age and male, proved to be predictors for higher levels of deviant actions (Road Safety Observatory). It has been found by many studies that male young drivers drive more miles than females and are involved in more road collisions (Road Safety Observatory).

## Urban and Rural Roads

The Road Safety Observatory and DfT (2017) have highlighted that most collisions involving young car drivers happened in urban areas (57%), reflecting heavier traffic flows on urban roads. This is in contrast to the findings in this report, as we found that young rural drivers are more likely to collide than their urban counterparts (55% more likely). However, the Road Safety Observatory and DfT (2017) have also recognised that young driver collisions in urban areas were, on average, less severe than those in the rural areas (8% of casualties in urban areas were killed or seriously injured, compared with 12% in rural areas). Therefore, a more significant number of fatal crashes involving young people occur in rural areas. Studies in the EU have found that in 2015, over 60% of the road users losing their lives in Single Vehicle Collisions (nearly 7,300) occurred on rural roads. Young drivers and riders are at a higher risk of becoming involved in fatal single-vehicle collisions than any other road user age group. This risk is twice as high for the 18-24 age group compared to the 25-49 age group (RAC Foundation 2017). The Road Safety Observatory found a similar pattern on both rural and urban roads that young car drivers were most often driving straight ahead immediately before the collision (46%); the percentage was slightly lower for older drivers (43%). Negotiating a curve, bending left or right, accounted for twice the proportion of young car driver manoeuvres compared to older car drivers prior to a crash. The figures were 14% for young car drivers versus 7% for older car drivers. Young drivers were most often not at a junction when they were involved in a collision (43%); the corresponding percentage was 38% for older car drivers (Department for Transport, 2011). "In 2009, most accidents involving young drivers took place in urban locations but were less serious than those in rural places. Young Drivers were also most likely to be driving straight ahead and most often were not at a junction. These proportions were only slightly higher than those for older drivers with the exception of negotiating a curve." (Road Safety Observatory).

This insight study has highlighted that crashes involving young rural drivers occur more commonly on local rural roads, and as a result concentrates on residency rather than solely on roads. This is in line with Fosdick (2013) findings, which show that rural young drivers are 58% more likely to be involved in a collision on rural roads than their urban counterparts. Studies have also shown that the oldest and youngest drivers, and drivers from rural areas, are at particularly high risk on rural roads (Road Safety Observatory; Fosdick, 2012). Fosdick (2012) research further implies that rural roads were not the sole reason why young drivers have higher collision involvement. Her research suggests that young rural drivers' increased road risk lies with the 'combination of inexperience and increased exposure to risk, through higher mileage and the types of road on which they drive' (Fosdick, 2012). Therefore, it is dependent on how one tackles the problem. Stevenson and Palamara (2007) study on young drivers in Australia found that regardless if they were driving in rural or urban roads, they had an elevated risk of collision in the first 12 months of driving.

## Time of Day/Week

In this report it was demonstrated that collisions involving young drivers in Berkshire follow a similar pattern to all drivers, as they tend to occur in morning and afternoon rush hours. It also found that greater proportions of young drivers are involved in collisions at night-time. Moreover, this report has identified that there is a peak in young driver involvement (both urban and rural) on Fridays, which is not present for adult drivers. Other studies have similarly found that collisions are likely to occur in



the night-time hours, on rural roads, particularly on Fridays and Saturdays (Fosdick, 2013). Fosdick (2013) study found that young drivers are involved in collisions where they failed to cope with unexpected situations due to their inexperience during the night-time.

Focant and Martensen (2016) study found that the absence of light (morning and evening darkness periods) is associated with an increased risk of crashes, for both rural and urban areas. They found that depending on the study, the injury risk is from 10 – 60% higher in darkness (night without light) than in daytime (Road Safety Observatory). However, many have challenged the idea that the lack of visibility is the sole reason as to why there is a higher proportion of crashes in the evenings and early mornings among young drivers. As demonstrated by Brake, they found that male drivers aged 17-20 are seven times more likely to crash than all male drivers, but between the hours of 2am and 5am their risk is 17 times higher. However, they rationalised this not just by lack of visibility but also because young drivers are more likely to be driving for recreational purposes; more likely to be drunk or drugged; or taking risks such as speeding due to peer pressure. They also indicate that it may be because drivers at night are more likely to be driving tired. Their study further argues that driving at night also requires extreme care. Young drivers may be under the impression that because roads are generally quieter at night it is safer for them to speed or pay less attention. However, in reality, driving at night takes more care due to poorer visibility, and greater likelihood of drink drivers or drunk pedestrians on the roads (Brake org). Therefore, these studies suggest that the problems of collisions in darkness are not a matter of visibility and lack of artificial lighting, but a consequence of the way young drivers use the roads at night (Clark et al. 2006). Clark et al. (2006) also highlight that during the hours of darkness, different groups of road-users are about, who travel for different reasons and use the roads in different ways, therefore suggesting that the problems of collisions in the dark are not a matter of visibility, but rather a matter of those who use the road at night, and why and how.

As stated, collisions for all drivers per unit of distance travelled are much higher during the hours of darkness than during the daylight. Laapotti and Keskinen (1998) found that fatal loss of control crashes involving young male drivers typically took place during evenings and nights (Road Safety Observatory). Ward *et al.* (2004) found that the casualty rate for the youngest group of males (aged 17-20 years) remained much higher (even when exposure had been taken into account) than for other male drivers, with a large increase in the early evening becoming larger again between 10PM and 01.59AM (Clark *et al.* 2006). Williams (2003) similarly found that the hours of 9PM to midnight have both high fatal crash risk and high miles of teenage driving (Clark *et al.* 2006). IAM RoadSmart 'Licensed to Skill' study also found that behaviour or inexperience, impairment or distraction and injudicious actions are often reported in larger proportions of crashes during night time hours compared to during the day. Interestingly, they also found that 'vision affected' is reported in a larger proportion of collisions between 7am and 7pm than at night. Whereas, 'road environment' is reported in a larger proportion of collisions at night and in the morning rush hour than between 10am and 7pm.

### Contributory Factors

Many studies have examined and analysed the contributory factors of reported collisions. In 2009, when a contributory factor was recorded, most collisions were attributed to "failed to look properly" (Department for Transport, 2011). However, young driver collisions were more likely to be attributed to factors related to 'inexperience' or 'learner', therefore highlighting the importance of inexperience in contributing to young driver collisions (Department for Transport, 2011). There were also

differences in reported contributory factors for males and females. Although impairment by alcohol was also a contributory factor, it was only present in a very small percentage of young driver collisions, however, young drivers were again overrepresented compared with older drivers (Road Safety Observatory). Another contributory factor frequently recorded for young drivers compared to older drivers was 'loss of control'. Factors such as 'careless, reckless', 'in a hurry' and 'exceeding speed limit' were more often attributed to young male drivers compared with young female drivers. Young female drivers were slightly more frequently assigned factors such as 'nervous, uncertain' or 'panic' or 'failed to judge other person's path or speed', but the percentage differences between males and females were small (Department for Transport, 2011). The Department for Transport (2011) also found that 'Impaired by alcohol' was attributed to 4% of young drivers, compared with 2% of older drivers. Young car drivers had more drink drive collisions per 100,000 licence holders and per 100 million miles travelled than any other age group in 2005.

Studies such as Fosdick (2013) have further examined the contributory factors of rural collisions and found that speeding was a key contributory factor as well as loss of control on curves and driving in darkness being a particular problem for young drivers on rural roads. IAM RoadSmart also found the above contributory factors ('failure to look properly'; 'failure to judge the path or speed of other road users correctly'; careless, reckless or in a hurry'; 'loss of control'; and 'travelling too fast for the conditions') being significantly overrepresented in collisions, especially among young drivers. Therefore, it is argued that these factors need to be 'addressed by a more measured style of driving, taking greater account of the traffic and road conditions prevailing' (IAM RoadSmart).

## Concluding Thoughts

In the literature on young drivers, a common theme emerged that age and inexperience, in most cases, go hand in hand; with the youngest new drivers being at most risk. Fosdick (2013) study reports that rural drivers get their license at a younger age than urban drivers, as they often have alternative transport restrictions. Also, the evidence of studies has shown that the experience drivers gain in the initial six months after passing their test plays a significant role in reducing their collision rates (Stevenson and Palamara, 2007). Road safety professionals/authorities in Great Britain have been calling for Graduated Driver Licensing (GDL) for several years. Evidence based on collision statistics in Great Britain advocate that the introduction of multiple components of GDL will result in saving at least an estimation of 4,478 casualties (Road Safety Observatory). Some components of Graduating Driver Licensing include the limitations of passenger numbers and the limitations on driving between midnight and 5 a.m., which the Road Safety Observatory reports is supported by over 60% of the British population.

Another common theme which was apparent throughout the literature reviewed for this report was the importance of examining young drivers attitudes and behaviours, which existing road safety schemes have incorporated to alter social norms, perceived vulnerability and willingness in road safety (which will be further examined in the following section). Campsall *et al.* (2017) found that young drivers not only present a higher risk of road traffic collisions and injuries because of their lack of experience but also because of their greater inclination for adopting unsafe driving behaviours and disregarding traffic regulations. Studies have found that social norms are of central importance to adolescents and young people in the finding of one's self (TRL). They claim that those who treat this lightly or unsympathetically will immediately lose contact with the young people they are trying to reach. It is important to note that 'for young people, peers are a highly valued group and beliefs about what behaviours peers are engaging in or abstaining from as well as beliefs about what behaviours

peers think the individual should engage in or abstain from are strong influences on intentions or willingness to engage in the behaviour' (TRL). Therefore, highlighting that the social environment is a highly influential one for adolescents must be considered in interventions involving them.

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## EXISTING SCHEMES

Many interventions on young drivers have adopted behaviour change models in their design such as the Prototype Willingness Model (PWM) as the most appropriate approach. There are many types of interventions such as class-room based education/learning; hazard perception training; telematics; logbook and parent-young driver agreement, to name a few (Senserrick and Kinnear, 2007).

The following are examples of existing high profile or long running schemes and interventions, designed to address the young drivers' collision issue, in particular, their attitudes and behaviours. However, it is worth noting that whilst pre and young drivers are the subject of many interventions, few have been fully evaluated. Therefore, it is difficult to recommend effective interventions.

### **Safe Drive, Stay Alive –**

<http://www.safedrive.org.uk/>

Safe Drive Stay Alive (SDSA) is an example of a live educational performance event, with similar interventions being delivered for many years across the country at various. Over 220,000 young people have witnessed this theatre in education in the Thames Valley area alone. There are several different versions (including SDSA), however, they tend to be live educational performance events, featuring a series of films and live speakers sharing their experiences, medical implications and how such traumas have affected them personally. The speakers often include emergency service personnel and victims or relative of victims of road collisions.

The performances are often delivered to large numbers of students at a time, in theatres or large venues. They tend to be emotional and often hard-hitting, focusing on raising awareness of the consequences of collisions. The students tend to be pre or learner drivers.

Questionnaires have been distributed yearly to attendees and to control groups, who are not subject to the intervention. SDSA attendees have demonstrated, in recent studies, a more conservative view towards drink-driving; mobile phone use; speeding; as a passenger and so forth, compared to the control group (Fosdick, 2013). 'Positive feedback was provided by SDSA attendees where over 75% felt that the interventions would make young drivers safer; it was informative; and it made them more aware of how driving affects others. Interestingly, only a third thought SDSA was enjoyable, showing that the experience isn't a comfortable one.' (Fosdick, 2013).

### **Braking Point -**

<https://www.pie.uk.com/young-driver-and-passenger-safety-KS4-and-KS5.asp>

An alternative to the live performances is theatre in education. These interventions are based on a play, performed by actors, of a fictional story. The focus of the stories differs but are often targeting attitudes and behaviours and can vary in how hard hitting they are. They tend to be performed in schools and colleges. Braking Point is an example of a theatre in education play aimed at this audience. The play is often followed by a workshop where the issues raised in the play are discussed with the students; as students are expected to 'investigate their own attitudes to personal safety and

responsibility whenever they are in a vehicle as either a passenger or young driver' (Performance in Education). Therefore, using multiple doses to reinforce the message, and encourages students to think/reflect on the issues drawn and the consequences if they were involved in a collision. Pilot-evaluation has been conducted and found that students wanted posters and leaflets to reinforce the message further, therefore demonstrating how effective a multidose approach is.

#### **For My Girlfriend-**

<https://www.walsall.gov.uk/News/Story/2017/2/9/'For My Girlfriend' road safety campaign>

'For My Girlfriend' is a radio, internet and poster/card campaign which has been running for several years across the country. For My Girlfriend message confronts a young male driver, who is driving too fast, about the prospect of killing his girlfriend who is in the passenger seat. The key campaign resource is a Valentine Card, which is distributed primarily in schools and colleges. An evaluation was undertaken in 2008 and found that there was a high recall of the poster, radio adverts and Valentine card. Many respondents thought that the campaign was thought provoking, effective, memorable, and made them think about the consequences of driving too fast, as well as being a passenger of someone who is driving too fast (Fosdick, 2013).

#### **DriveStart-**

<http://drivestart.co.uk/experience/>

West Berkshire council have introduced the DriveStart intervention which consists of multiple interactive workshops. It is targeted for 15-19-year olds and provides experience on how to be a safe driver. The aim of DriveStart was to move away from how the media portrays young drivers as this arguably reinforces (negative) social norms. Therefore, DriveStart's aim is to re-educate young people on social norms to be a good driver. They do so through multiple interactive workshops which is more experience-led. They not only get experience in the driver's seat (in a controlled environment) and gain tips on buying a car and car maintenance, but also carry out activities to educate them on the dangers of multitasking on the road for example using a mobile phone and driving. This campaign also addresses the fact that young drivers are inexperienced and reinforce positive choices to influence better skills and safety and good driving habits; as well as how to mitigate pressures from their peers by incorporating behaviour change theories. Furthermore, they have a driving stimulator which talks through what they are doing, and which hazards they need to recognise, which helps them to prepare for their theory and practical tests. The evaluation on the pilot intervention, although on a small sample size, showed better results than previous or comparator interventions, and met all its objectives and successfully promoting positive social norms (Campsall, *et al.* 2017).

## APPENDIX A – MOSAIC GROUPS

Group	Group Name	Group Definition
A	Country Living	Well-off owners in rural locations enjoying the benefits of country life
B	Prestige Positions	Established families in large detached homes living upmarket lifestyles
C	City Prosperity	High status city dwellers living in central locations and pursuing careers with high rewards
D	Domestic Success	Thriving families who are busy bringing up children and following careers
E	Suburban Stability	Mature suburban owners living settled lives in mid-range housing
F	Senior Security	Elderly people with assets who are enjoying a comfortable retirement
G	Rural Reality	Householders living in inexpensive homes in village communities
H	Aspiring Homemakers	Younger households settling down in housing priced within their means
I	Urban Cohesion	Residents of settled urban communities with a strong sense of identity
J	Rental Hubs	Educated young people privately renting in urban neighbourhoods
K	Modest Traditions	Mature homeowners of value homes enjoying stable lifestyles
L	Transient Renters	Single people privately renting low cost homes for the short term
M	Family Basics	Families with limited resources who have to budget to make ends meet
N	Vintage Value	Elderly people reliant on support to meet financial or practical needs
O	Municipal Challenge	Urban renters of social housing facing an array of challenges

## APPENDIX B – CONTRIBUTORY FACTOR GROUPINGS

Injudicious Action	Driver Errors or Reactions	Driver Impairment or Distraction	Behaviour or Inexperience	Other
<b>Traffic Contraventions</b>	<b>Manoeuvre Errors</b>	<b>Substance Impairments</b>	<b>Nervous Behaviour</b>	<b>Vehicle Defects</b>
<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>
<b>Speed Choices</b>	<b>Control Errors</b>	<b>Distraction</b>	<b>Unsafe Behaviour</b>	<b>Road Surface</b>
<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>
<b>Close Following</b>	<b>Observation Error</b>	<b>Health Impairments</b>	<b>Pedal Cycle Behaviour</b>	<b>Affected Vision</b>
<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>
	<b>Junction Errors</b>	<b>Fatigue Impairment</b>	<b>Pedestrian Behaviour</b>	<i>Dazzling headlights</i>
	<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>	

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