

Road Safety
Analysis



Too Much, Too Young,
Too Fast

*Understanding the risks of living
and driving in the countryside*

Made in Rural Britain



Full Report

Report Author: Tanya Fosdick

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Rees Jeffreys Road Fund



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FOREWORD

Many of the inequalities facing young people in rural areas are well known, issues such as access to education, employment and affordable housing have emerged over recent years as issues that particularly affect younger members of our rural communities. In recent months, however, another form of inequality has been emerging and it is one which in many ways is far more serious than the rest. A cocktail of factors is coalescing around one particular activity that these young rural dwellers are engaged in placing them at much higher risk of serious injury or even death than their urban counterparts: driving.

After an initial study into the effects of rurality and youth in influencing driver risk last February, this report probes much more deeply into the issues that could be aggravating their risk of crash involvement. Narrowing the study in terms of ages of drivers, and utilising data not previously available, this report shines a light on the demands of living in more isolated communities and the concomitant lifestyle choices that are putting these young people in harm's way.

What emerges throughout the analysis is that the concurrence of risks associated with driving in the countryside and those which are factors of age and inexperience is conspiring to create an environment in which failure is almost inevitable. The skills of young drivers and decisions of young adults are scrutinised in the most unforgiving way with consequences that are all too often devastating.

The findings of this report represent a challenge to national and local government, to communities and families alike to build the infrastructure, legislative frameworks and support structures which will serve to protect these young people from the lost futures that can result from being involved in serious road traffic crashes.

The recommendations within this report are also an opportunity. An opportunity for government, industry, family and society to work in concert to address the inequality and protect our rural young.



Dan Campsall

Director

Road Safety Analysis

EXECUTIVE SUMMARY

Previous research by Road Safety Analysis identified that 16 to 29 year old rural young drivers were 37% more likely to be involved in an injury collision than their urban counterparts. This report extends that research by using collision data to compare the factors identified in incidents involving rural young drivers; urban young drivers; rural adult drivers; and urban adult drivers, with a view to determining why rural young drivers* are at higher risk. By refining the age group to 17 to 26 years old, **it has shown that rural young drivers are 44% more likely to be involved in an injury collision than their urban counterparts.**

The research found that many of the attributes of young driver collisions are far more over-represented amongst rural young drivers than urban young drivers. Rural young drivers are more likely than urban young drivers to be involved in collisions involving:

Factors which are a function of living in the countryside

- **Rural roads** – rural young drivers are **58%** more likely to be involved in a collision on rural roads than urban young drivers (and 1% more likely than rural adults)
- **60mph roads** – rural young drivers are **68%** more likely to be involved in a collision on 60mph roads than urban young drivers (and 11% more than rural adults)
- **Away from junctions** – rural young drivers are **27%** more likely to be involved in a collision not at a junction than urban young drivers (and 12% more than rural adults)

Factors which are a function of age/inexperience

- **No other vehicles** – rural young drivers are **28%** more likely to be involved in a single vehicle collision than urban young drivers (and 45% more than rural adults)
- **Providing positive breath tests** – rural young drivers are **16%** more likely to provide a positive breath test in a collision than urban young drivers (and 46% more than rural adults)

Factors which appear to be unique to rural young drivers

- **Bends** – rural young drivers are **52%** more likely to be involved in a collision on a bend than urban young drivers (and 42% more than rural adults)
- **Darkness** – rural young drivers are **63%** more likely to be involved in a collision in the dark than urban young drivers (and 45% more than rural adults)
- **Loss of control being the top contributory factor** – rural young drivers are **28%** more likely to have 'Loss of Control' as a contributory factor than urban young drivers (and 34% more than rural adults)
- **Wet road surfaces** – rural young drivers are **16%** more likely to be involved in a collision on a wet road surface than urban young drivers (and 13% more than rural adults)
- **Earlier driving licensure** – rural young people are **89%** more likely to hold a full driving licence than urban young people.

* Young drivers are defined as 17 to 26 years old for the purposes of this study to coincide with the upper age limit of the National Federation of Young Farmers Clubs. Adult drivers are therefore classed as 27 years and over.

Some of these factors appear to be a function of living in the countryside (rural roads, 60mph roads and not at junctions) and feature in rural adult driver collisions (but to a lesser degree). Other factors appear to be age-related (single vehicle collisions and providing positive breath tests) as these are over-represented amongst urban young drivers, although again to a lesser extent. Certain factors, such as collisions on bends; in darkness; wet road surfaces; and having 'Loss of Control' as the contributory factor; appear to be due to a combination of age and rurality, indicating that rural young drivers have environmental and inexperience-based challenges to face when driving that expose them to higher risks than their urban or older counterparts. Given their earlier licensure and country residency, rural young drivers are exposed to higher risks at a younger age than young people from urban areas.

Recommendations

The findings of this research could be used to argue the case for:

- **Graduated driving licences** – Graduated driving licensing (GDL) schemes involve the introduction of an intermediate driving stage, post-test, which limits some of the situations in which new drivers can drive. These can include no night-time driving and restrictions on passenger numbers and blood alcohol concentrations. Rural young drivers are particularly over-represented in these elements and so the introduction of GDL could be beneficial to reducing rural young driver collision risk.
- **Rural driving tests** - Currently, there is no requirement to demonstrate ability to drive on rural roads within the driving test. It means that novice rural drivers can be tested in an environment in which they will rarely drive whilst never demonstrating the skills on the roads that they commonly will be travelling on. This research has shown that rural roads present particular challenges to new and young drivers and demonstrating competency on such roads could help ameliorate risk.
- **For rural communities to provide more transport options for young residents** - Rural communities could work with young drivers to limit the risky situations they find themselves in by offering alternative forms of transport. The research revealed that rural communities often have limited bus services and taxis are expensive and therefore in order to access employment, education and leisure, rural young drivers have little option to drive. Community-based transport schemes could be used to take young people to evening events or to locations during poor weather to mitigate the risks of driving in these situations where they are over-represented within the collision statistics.
- **Telematics based insurance products** - A number of major and niche insurers are now offering the option of telematics based insurance products. Through the use of a 'black box' fitted to the car, the insurer receives a complete record of the vehicle's journeys including measures that indicate certain driving behaviours such as rate of acceleration or deceleration as well as G-force experienced whilst cornering. Insurance products can therefore be developed which, through their financial payments and penalties structure, discourage driving at certain times and in certain ways. The effect is to incentivise policy holders to drive in a manner that directly avoids excessive risk taking. This technology, when used in conjunction with the findings of

this report, would afford an insurance company the opportunity to build a product that was particularly tailored to the needs and risks of the rural young driver.

- **Alcolocks** – Alcolocks are alcohol testers which act as vehicle immobilizers and prevent the vehicle from being started until the driver has successfully passed a breath test. Evaluations have shown that they are effective in preventing drink driving recidivism. The installation of alcolocks by young drivers could be used to enforce a lower alcohol limit under GDL. Alternatively, rural young drivers could voluntarily install an alcolock system, perhaps in conjunction with insurance companies, where night-time driving is not restricted but alcohol consumption is strongly discouraged. The temptation to drink and drive would be greatly reduced if there was a chance that the vehicle would be immobilised and the young driver stranded and unable to return to their rural home.

INTRODUCTION

The high rate of collision involvement amongst young drivers has been researched for many years, concluding that a mixture of inexperience and age-based behavioural differences could lead to increased young driver risk.^{1 2 3} In-depth research undertaken in 2012 by Road Safety Analysis (RSA) identified differences in risk, based on how rural the area is in which young drivers live. The report stated that:

Nationally, the research found that young drivers who are from rural areas are significantly over-represented within the collision statistics compared to their urban counterparts.....This would suggest that urban young drivers are involved in injury collisions slightly less often than we would have expected and that rural young drivers are 37% more likely to be involved in an injury collision than their urban counterparts.⁴

The report concluded that further research ought to be undertaken to understand the factors leading to the increased risk of young drivers who live in rural areas, including looking “at home rurality against blood alcohol levels; contributory factors; vehicle manoeuvres; other vehicles involved; and to see if there are regional differences in collision involvement.”⁵

In November 2012, the National Federation of Young Farmers’ Clubs (NFYFC) launched their *Drive It Home* campaign, aimed at delivering road safety education and training to its members.⁶ RSA teamed up with NFYFC to undertake further analysis into the rural young driver issue and thereby assist in informing and refining the *Drive It Home* campaign. External funding for the research was awarded by the Rees Jeffreys Road Fund and Michelin Tyre PLC.

This report, therefore, sets out analysis undertaken using 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 how rural their home area is and which Mosaic Groups and Types these individuals are likely to belong to as this can be used by road safety professionals to understand who needs to be targeted in road safety interventions. The report looks at differences in collision involvement between rural and urban young drivers and also rural and urban adult drivers. The intention of this report is to provide the road safety practitioner with a full understanding of the types of collision involving rural young drivers and to equip them with the tools to target the issue.

The report works through a needs analysis by determining the what, when, where, how and who of rural young driver collisions (in comparison to the other 3 groups of urban young drivers, rural adult drivers and urban adult drivers). The needs analyses 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 rural young driver, with the aim of producing an insight that can be used to visualise the target audience. This insight is created using a variety of socio-demographic data, including looking at Indices of Multiple Deprivation, rurality and Mosaic Groups.

External evidence from other research; from existing road safety schemes; and the rural communities themselves is also used to put the findings into context.

RISK PROFILE

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

The analyses focus on car (not taxi or minibus) drivers involved in injury collisions between 2007 and 2011. For young drivers, they were aged between 17 and 26 years old (as NFYFC covers up to this age). Adult drivers are aged 27 years and over in the analysis.

As with the previous research, rurality of the home postcodes of car drivers were defined as per Government classifications at Lower Layer Super Output Areas in England and Wales and Data Zones in Scotland.⁷

The analysis has also been split to look at the overall involvement of the four groups: rural young drivers (RYD); urban young drivers (UYD); rural adult drivers (RAD); and urban adult drivers (UAD). It also explores the circumstances of these four groups' involvements in collisions at junctions; on urban and rural roads; and on motorways, in order to identify any differences in behaviour at different locations.

COLLISION PROFILES

WHAT?

Most of the analysis in this report is based on known postcodes, where the rurality of the driver is therefore also known. However, in order to put the figures into context, correction factors were created to account for unknown driver postcodes within the Police collision reports. A formula was devised that calculated the percentages of known drivers from each Geographical County who were involved in collisions which occurred in each Police Force area and distributed the unknowns based on these percentages. Without such corrections, those areas with high reporting rates would also have high collision involvement rates. The 'corrected' number of drivers living in each Geographical County were then categorised as Rural or Urban and annual rates per head of population were calculated. 100-based indices were also created, which show how over- or under-represented drivers from certain areas are in collision statistics compared to the national average.

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 by 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 of over 100 indicate an over-representation and indices under 100 indicate under-representations. The larger the number, the more over-represented that group is.

The following chart shows the different indices for the four age and rurality groups. 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. To put the indices into context, the research has found that, on average, one-in-104 young drivers from rural areas are involved in an injury collision each year compared to one-in-185 for urban young drivers. It means that rural young drivers are 44% more likely to be involved in an injury collision than their urban counterparts and 62% more likely than their rural adult neighbours.

FIGURE 1- COLLISION INVOLVEMENT INDICES FOR THE FOUR AGE AND RURALITY GROUPS

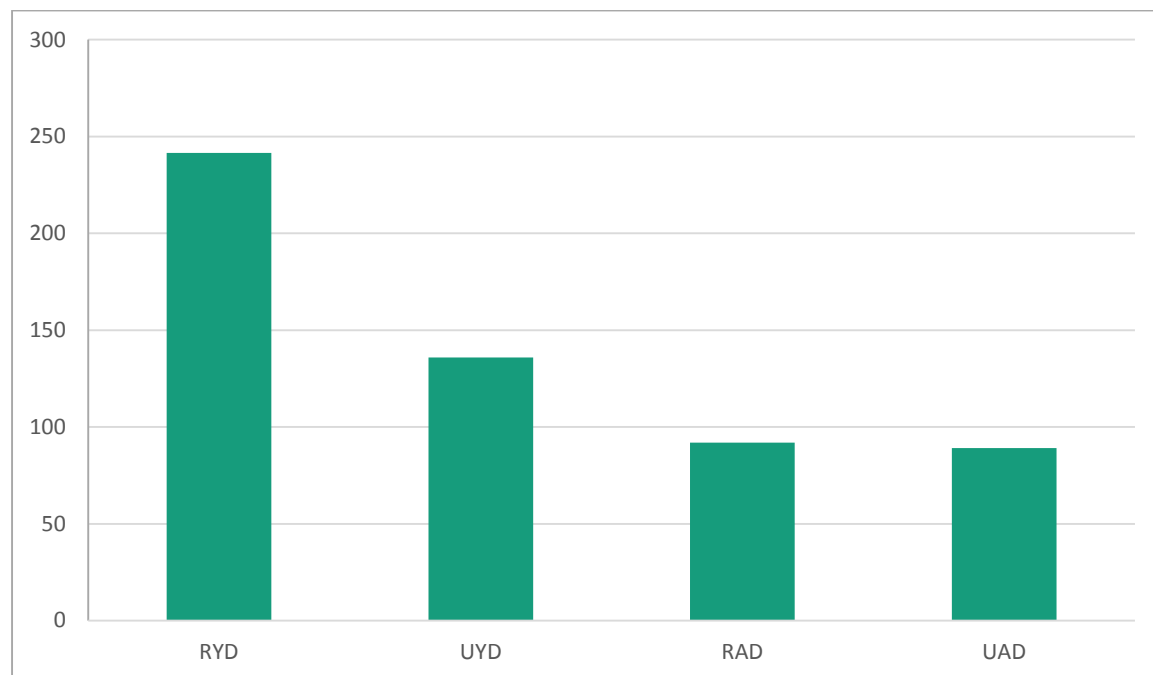


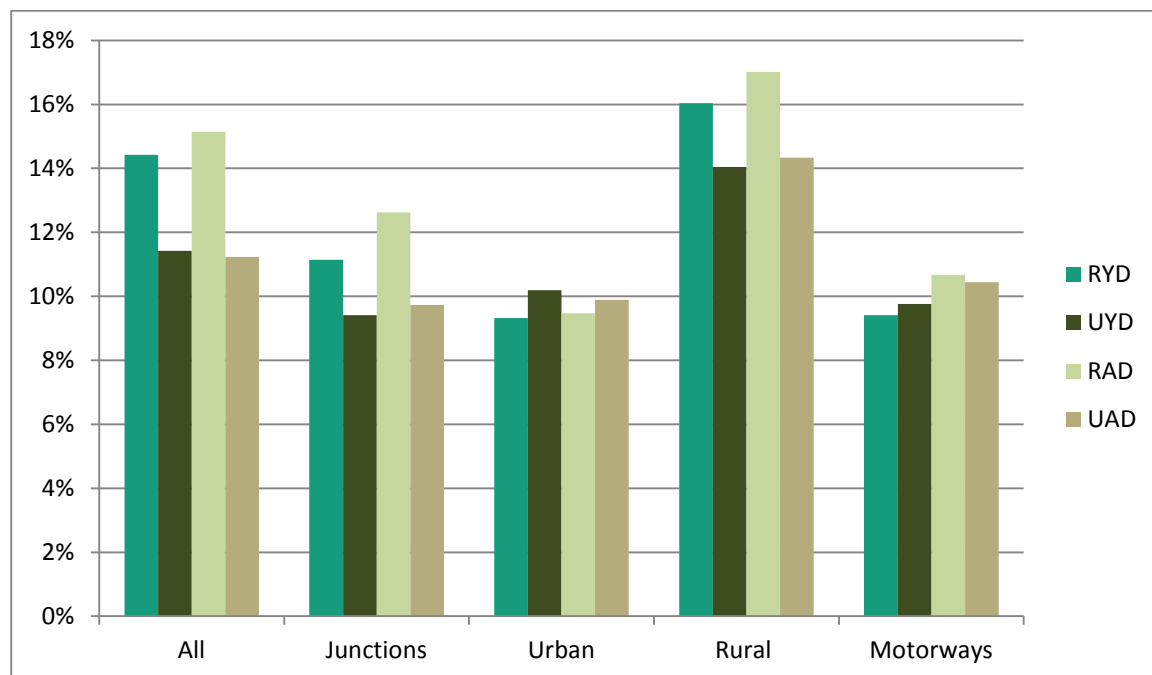
FIGURE 2- SEVERITY BY RURALITY



There were 57,039 rural young drivers involved in injury collisions between 2007 and 2011. Of these, 1,033 were involved in fatal collisions; 7,194 in collisions resulting in serious injury; and 48,812 in collisions with slight injuries. Figure 2 shows the severity distribution for each of the four groups. It shows that rural drivers of both age groups are involved in higher severity collisions than their urban counterparts with 14% of the rural young drivers and 15% of the rural adult drivers involved in collisions resulting in someone being killed or seriously injured (KSI).

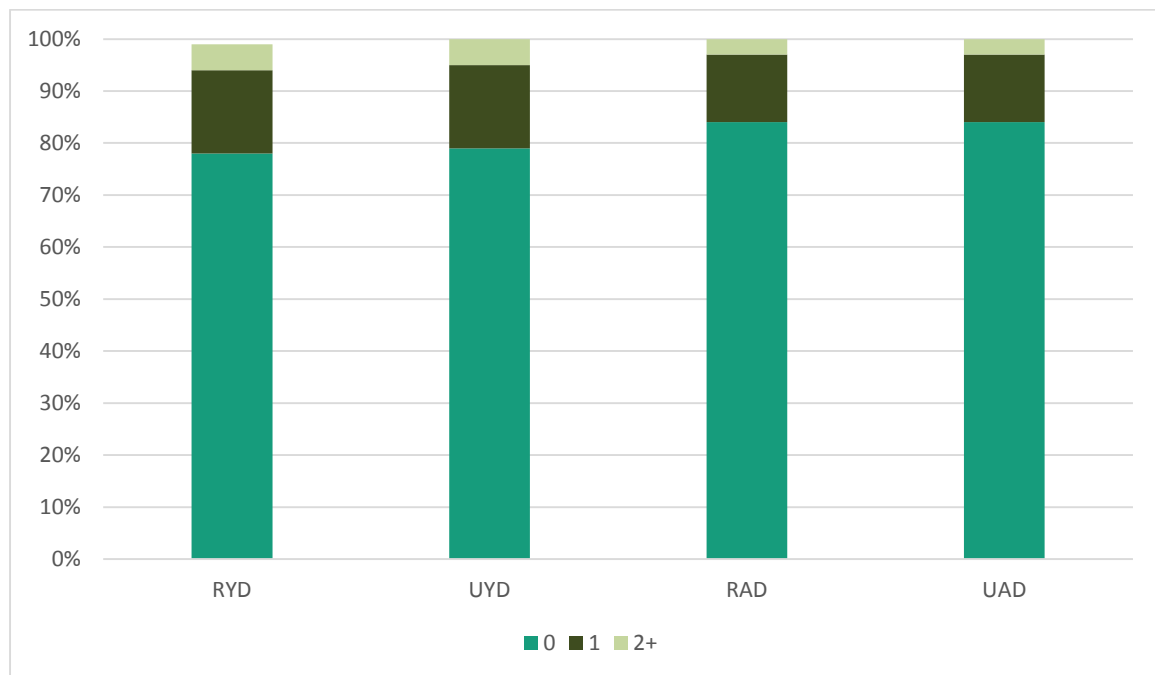
The severity of the collisions differs over the four location types specified earlier (junctions, urban and rural roads and motorways). Driver involvement in KSI collisions is shown in the chart below and shows that there are higher percentages of KSI involvement for all drivers on rural roads but especially for rural residents of both age groups (where 16% of the RYD involved in collisions on rural roads were in KSI collisions, as were 17% of RAD). It should be noted that the same drivers will be counted in more than one of the four location types as junctions will have occurred on either rural or urban roads. It shows that the KSI collision involvement for rural drivers is similar across the two age groups across all location types.

FIGURE 3 - KSI COLLISIONS BY GROUP AND ROAD TYPE



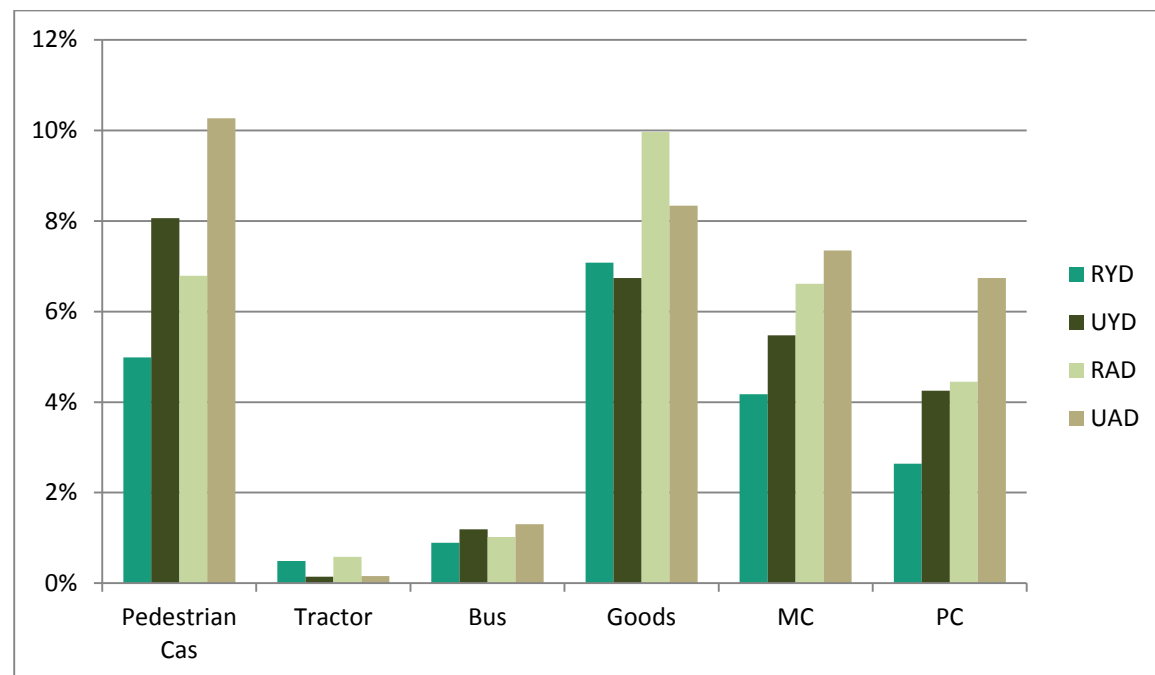
The number of injured passengers for each driver was analysed as it has been previously determined that higher numbers of passengers can increase the likelihood of young drivers having a collision.⁸ A recent Association of British Insurers report found that “young drivers are far more likely to make a catastrophic claim that includes 3-5 bodily injury claims, indicating that their crashes involve a greater number of people.”⁹ The number of injured passengers cannot provide information on the total number of passengers within each vehicle but can give a general impression of the types of collisions they are involved in. The chart shows that young drivers have similar numbers of injured passengers, regardless of rurality, and that younger drivers are more likely to have injured passengers than adult drivers.

FIGURE 4 - NUMBERS OF INJURED PASSENGERS



Looking at the other participants involved in these collisions, it shows that rural young drivers are involved in the lowest percentage of collisions where there are pedestrian casualties, buses, motorcycles and pedal cycles. Only small percentages of rural young drivers were involved in collisions with tractors and goods vehicles. Involvement with pedestrian casualties, pedal cyclists and motorcyclists is most likely amongst older urban drivers.

FIGURE 5 - OTHER PARTICIPANTS INVOLVED



For all age groups, the smallest percentages of drivers where there were pedestrian casualties were on motorways and rural roads, with urban roads being highest. Bus and tractor involvement remained

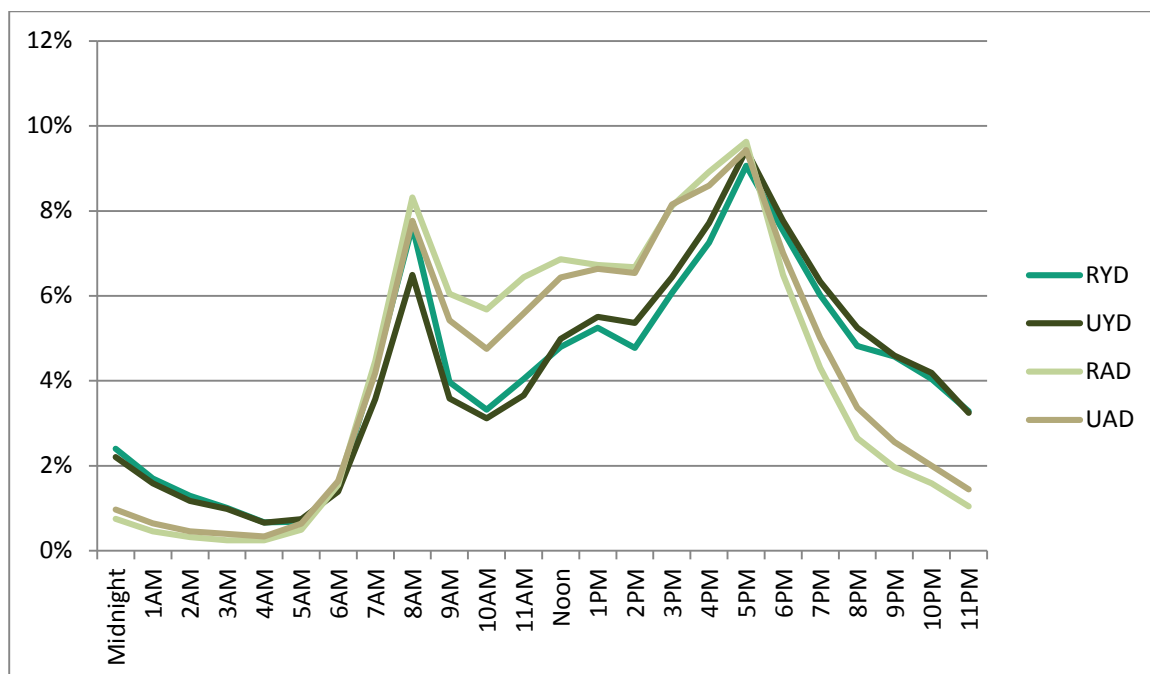
low across all location types for all age groups. The involvement of goods vehicles was highest on motorways and lowest on urban roads for all groups. Collisions involving motorcyclists and pedal cyclists were most likely on urban roads and at junctions for all of the age groups.

The ‘What?’ analysis has shown that rural young drivers are significantly more over-represented in injury collisions than urban young drivers and that this rural-urban difference does not exist amongst adult drivers. It suggests that rural residency alone cannot account for rural young drivers’ increased risk. The analysis shows that rural young drivers have similar involvement in high severity collisions as rural adult drivers and that rural drivers of both age groups tend to have KSI collisions at the same types of location. Younger drivers have higher rates of injured passengers and this applies to those from rural and urban areas. One area where unique characteristics for rural young drivers were observed related to the other participants involved in the collisions. Rural young drivers had low collision involvement with pedestrians, tractors, buses, goods vehicles, motor cycles and pedal cycles and instead, single vehicle collisions appear to be more of an issue. This didn’t appear to be attributable to age or rurality.

WHEN?

The next part of the needs analysis looks at when drivers were involved in collisions. Figure 6 shows the time of day when the four age groups were involved in collisions. It shows that there are commuter time peaks for all of the groups and that the adult drivers have slightly higher percentages of daytime collision involvement than young drivers. Young drivers have higher percentages of collision involvement at night-time than older drivers and the patterns are similar regardless of rurality.

FIGURE 6 - TIME OF DAY OF COLLISION INVOLVEMENT

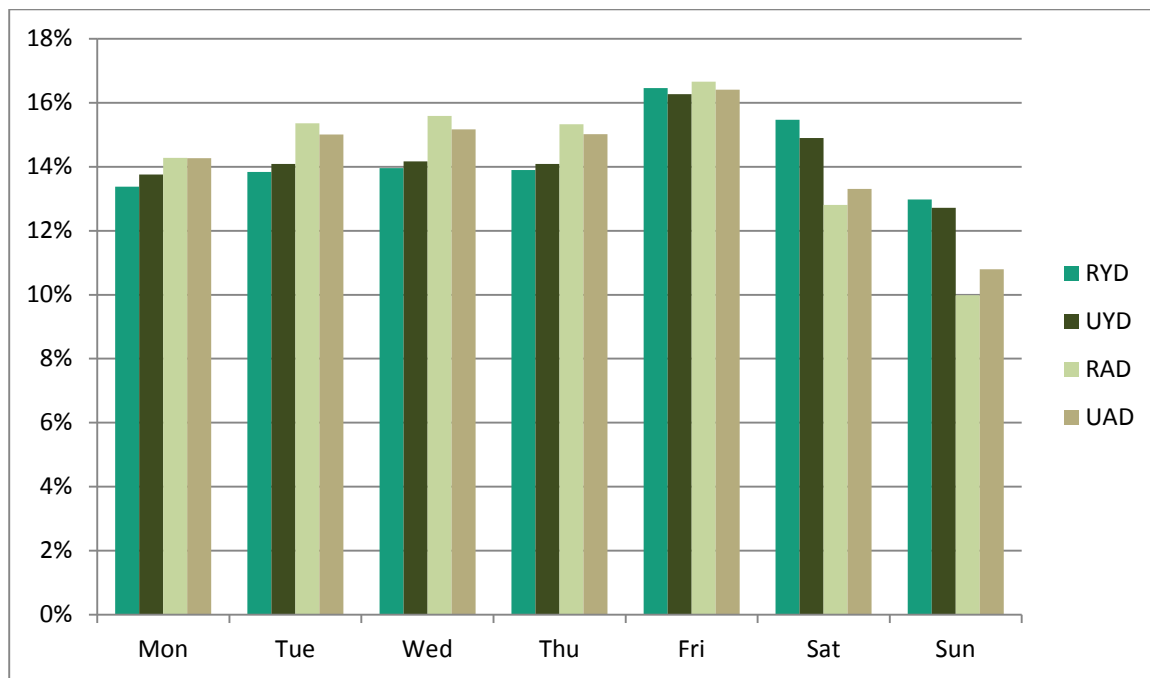


For the different location types, rural young drivers have slightly higher collision involvement at junctions in the morning rush hour period than urban young drivers and slightly lower collision involvement at junctions between 6pm and midnight than urban young drivers. Young drivers from urban and rural areas have similar time distributions of collisions on urban roads and rural roads as

each other. The pattern for rural young drivers is similar across the different location types, apart from motorways where there is lower collision involvement between 7pm and midnight.

When looking at day of week of collision involvement, young drivers of either rurality have higher rates at weekends than older drivers of either rurality. For rural young drivers, the highest percentage of collision involvement at junctions, on urban roads and on motorways occurred on Fridays. There were peaks on rural roads for rural young drivers on Fridays and Saturdays.

FIGURE 7 - DAY OF WEEK OF COLLISION INVOLVEMENT

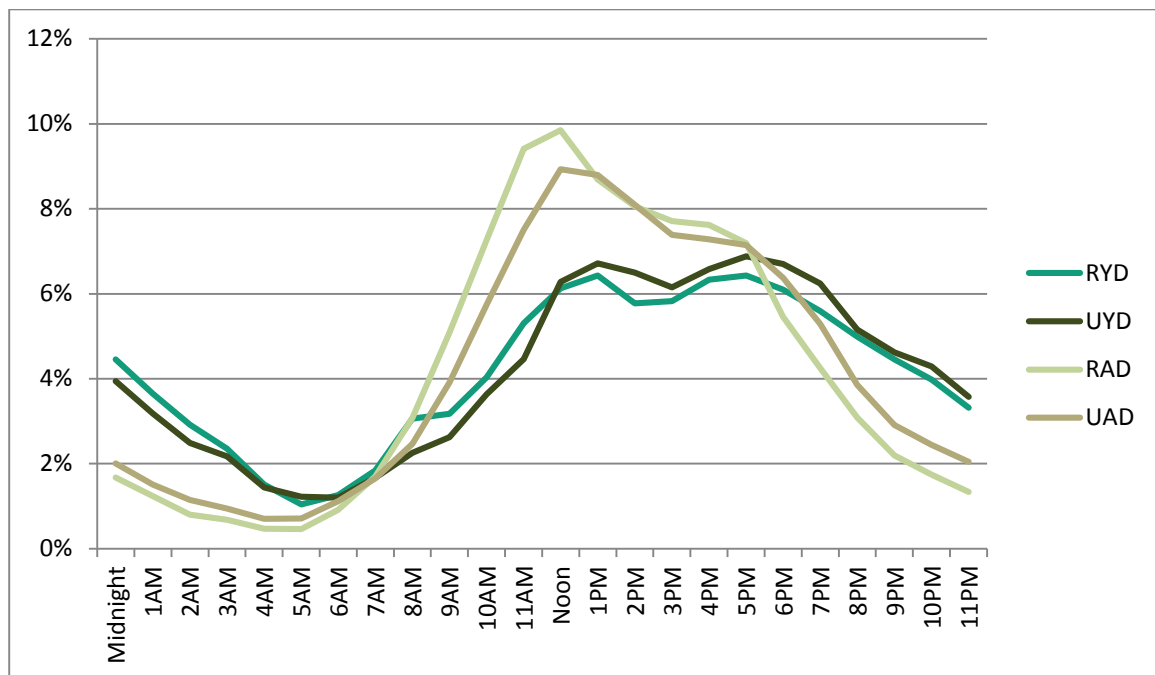


Looking at time of day in terms of weekdays versus weekends produced distinct patterns. Figure 8 shows the time of day of collisions on weekdays and Figure 9 shows the same information for weekends. The charts show that on weekdays, all groups have peaks in collision involvement at rush hours and that the young drivers have higher collision involvement between 6pm and 4am than older drivers. At weekends, the young driver peaks start later in the day than older drivers and have higher collision involvement between 7pm and 5am than older drivers. Urban young drivers have a slightly higher distribution of collision involvement before midnight than rural young drivers; and rural young drivers have a slightly higher distribution after midnight than urban young drivers. There were no significant divergences from these trends for the different location types of junctions, urban and rural roads and motorways.

FIGURE 8 - TIME OF DAY FOR WEEKDAY COLLISION INVOLVEMENT

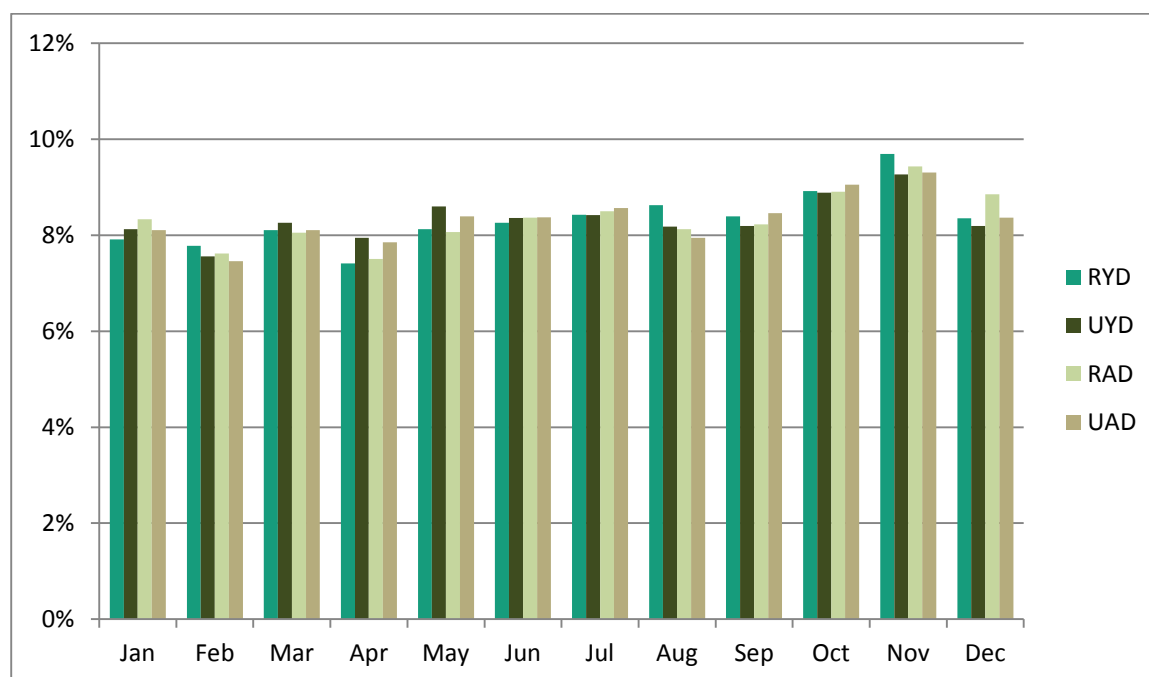


FIGURE 9 - TIME OF DAY FOR WEEKEND COLLISION INVOLVEMENT



The time of year when the different groups were involved in collisions was analysed and the results are shown in Figure 10. There are very slight differences between the groups but generally all four follow the same pattern. All of the groups had a peak in collision involvement in November and this was highest for rural young drivers. The patterns are similar for the four driver groups across the different location types. For rural young drivers, there were peaks in motorway collision involvement in October, November and December.

FIGURE 10 - TIME OF YEAR OF COLLISION INVOLVEMENT



The conditions at the time of the collisions for the four different driver groups were analysed. Starting with lighting, there are distinct patterns regarding whether the collisions occurred in daylight, with streetlights lit and present or whether they occurred in darkness. Table 1 shows that rural young drivers have the same rate of daylight collisions as urban young drivers. However, when it comes to night-time collisions, rural young drivers are more likely to be on roads with no streetlights than urban young drivers. The only incidence where rural young drivers do not have significantly higher darkness involvement than the other groups is on urban roads. For rural roads, 22% of the rural young drivers were involved in collisions in darkness. These patterns are not reflected in the involvement of rural adult drivers, which suggests that the difference cannot be attributed to residency alone but are due to the times that they are likely to be driving and their ability to drive in darkness. The recent Association of British Insurers' (ABI) report into the safety of young drivers found that:

Driving in the dark requires different skills from driving during daylight hours. Young drivers travelling late at night are more likely to crash for a variety of reasons:

- driving at night is more difficult;
- many newly licensed drivers will have had less practice of driving at night;
- fatigue – thought to be a problem for teenagers at all times of the day – may be more of a factor at night;
- recreational driving that is considered to be high risk, sometimes involving alcohol use, is more likely to take place at night.¹⁰

The table appears to indicate that these are greater issues for rural young drivers than those who live in urban areas.

TABLE 1 - LIGHTING CONDITIONS AT TIME OF COLLISION INVOLVEMENT

| Lighting Conditions | RYD | UYD | RAD | UAD |
|---------------------------|-----|-----|-----|-----|
| Daylight | 66% | 66% | 80% | 77% |
| Night with lights lit | 15% | 26% | 10% | 19% |
| Night with lights unlit | 0% | 0% | 0% | 0% |
| Night with no lights | 17% | 6% | 9% | 4% |
| Night with lights unknown | 1% | 1% | 1% | 1% |

The next condition to be analysed was road surface. Table 2 shows that rural young drivers have a lower percentage of collision involvement on dry road surfaces than the other driver groups. Urban young drivers and rural adult drivers have similar collision involvement on the different road surfaces and therefore it would imply that the difference with rural young drivers is not solely down to age or rurality. On rural roads, the percentage of young rural driver collision involvement on dry roads falls to 55%, suggesting that road surface plays an even bigger part in these areas (urban young drivers also have a lower percentage of dry road surface collisions on rural roads). The ABI suggested that “wet roads require a different driving style from dry, clear conditions and statistics from... [a] DfT survey...show that young drivers are twice as likely to have a crash on slippery roads than a driver aged over 25.”¹¹ As with lighting, this analysis appears to indicate that road surface is a greater issue for rural young drivers than young drivers from urban areas.

TABLE 2 - ROAD SURFACE CONDITIONS AT TIME OF COLLISION INVOLVEMENT

| Surface Conditions | RYD | UYD | RAD | UAD |
|--------------------|-----|-----|-----|-----|
| Dry | 57% | 64% | 63% | 69% |
| Flood | 0% | 0% | 0% | 0% |
| Frost/ice | 4% | 3% | 4% | 2% |
| Snow | 1% | 1% | 1% | 1% |
| Wet/damp | 37% | 32% | 32% | 28% |

Interestingly, looking at weather conditions, there is little difference in collision involvement across the four driver groups or on the four location types for the percentages of wet weather collisions versus dry. For rural young drivers, 76% of them were involved in collisions when it was not raining or snowing. This compares to 78% for urban young drivers and 79% for rural adult drivers.

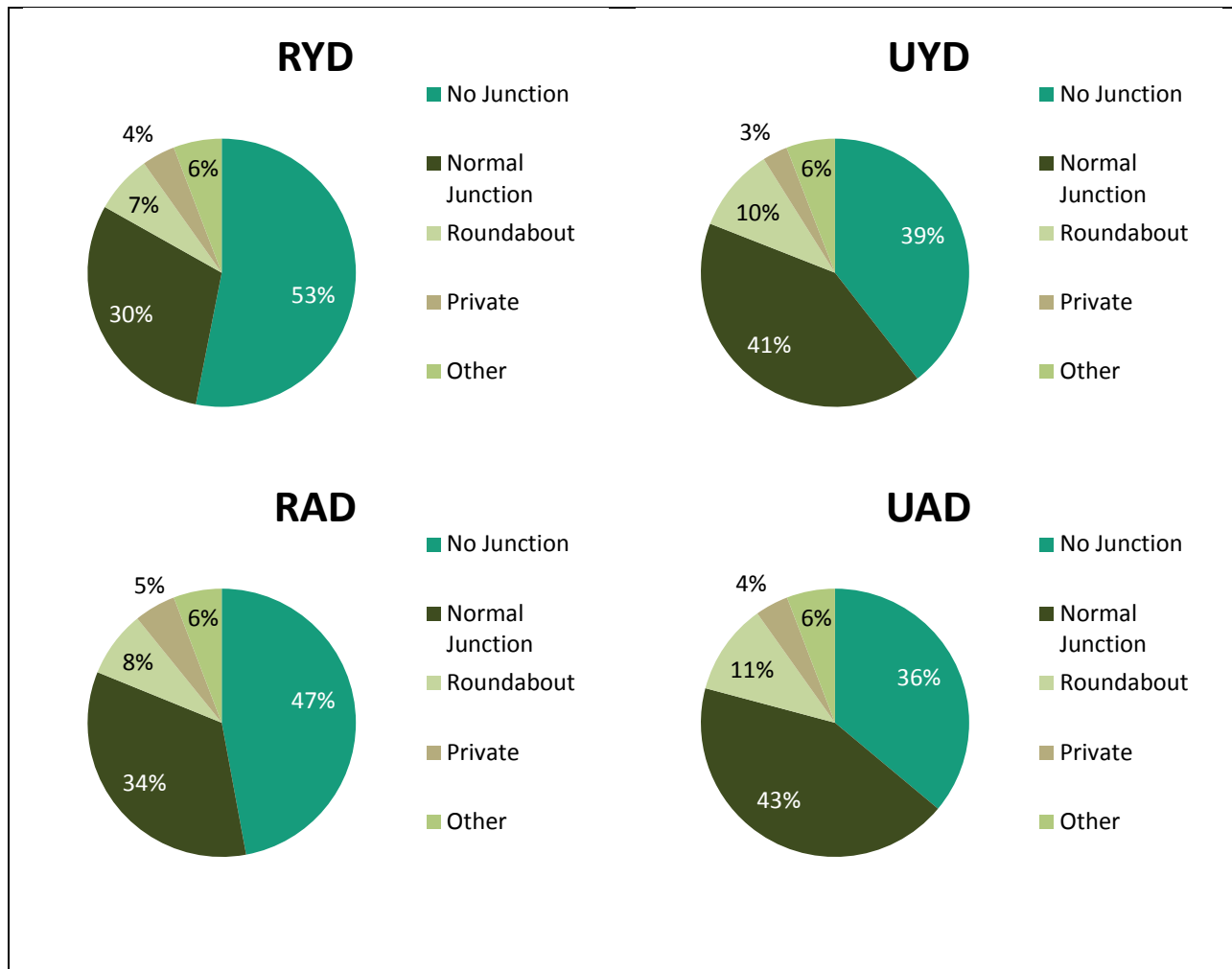
The ‘When?’ analysis has shown that rural young drivers do not have particularly unique patterns of collision involvement by time of day, day of week, month of year or adverse weather conditions, although there is a small peak in collisions between midnight and 4am and a higher peak than the other groups in November. Rural young drivers do, however, appear to have higher incidences of collisions in darkness and on wet road surfaces that are not reflected amongst the urban young drivers or rural adult drivers, suggesting that these factors are not solely attributable to age or rurality.

WHERE?

The next section looks at where the four driver groups were involved in collisions. It appears that rural young drivers have a lower rate of collision involvement at junctions than the other groups. This seems

to be more related to rurality than age but cannot be solely attributed to where they live. The rates of collisions at different junctions are more similar for the four groups on urban roads (with 32% of rural young drivers not being at a junction at the time of the collision). Around 60% of both rural and urban young drivers were not at a junction at the time of their collision on rural roads.

FIGURE 11 - JUNCTION TYPES AT TIME OF COLLISION INVOLVEMENT



Looking at the types of road the collisions were on, 76% of the rural young drivers crashed on rural roads. This compares to 32% for urban young drivers; 75% for rural adult drivers; and 30% for urban adult drivers. It suggests that drivers are most likely to crash on rural roads if they live in rural areas and urban roads if they live in urban areas. Only 3% of the rural young drivers had their collisions on motorways, which is slightly lower than urban young drivers, rural adult drivers and urban adult drivers with 5%, 5% and 6% respectively.

FIGURE 12 - ROAD TYPE, JUNCTION TYPE ON URBAN ROADS

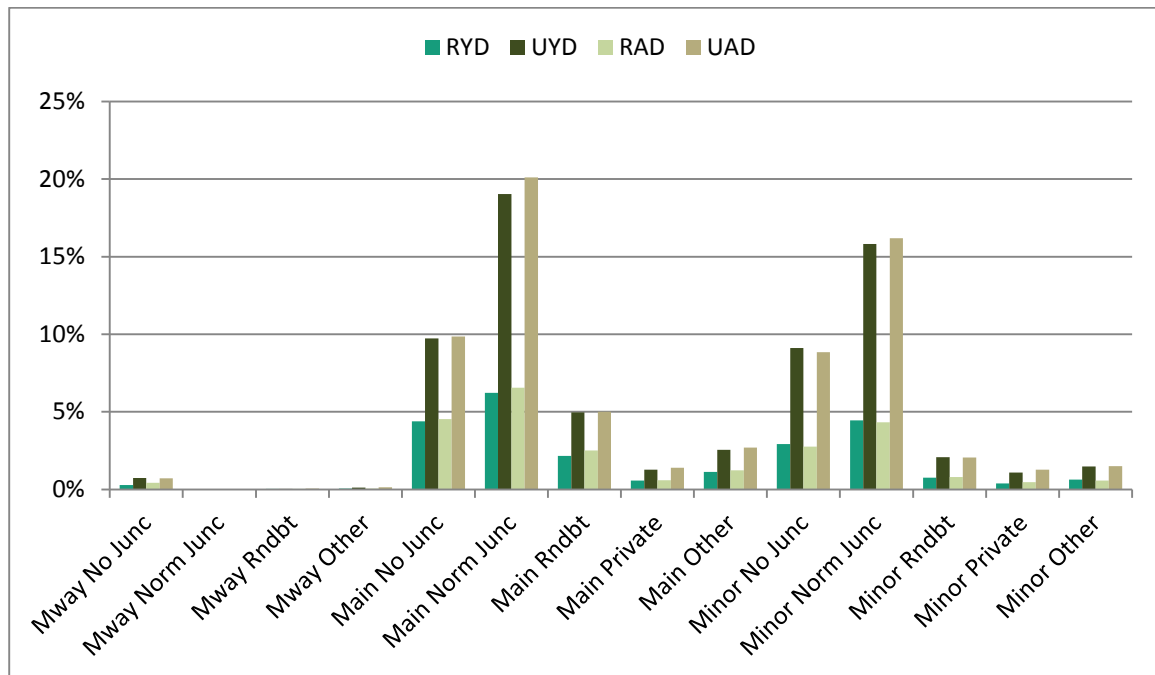
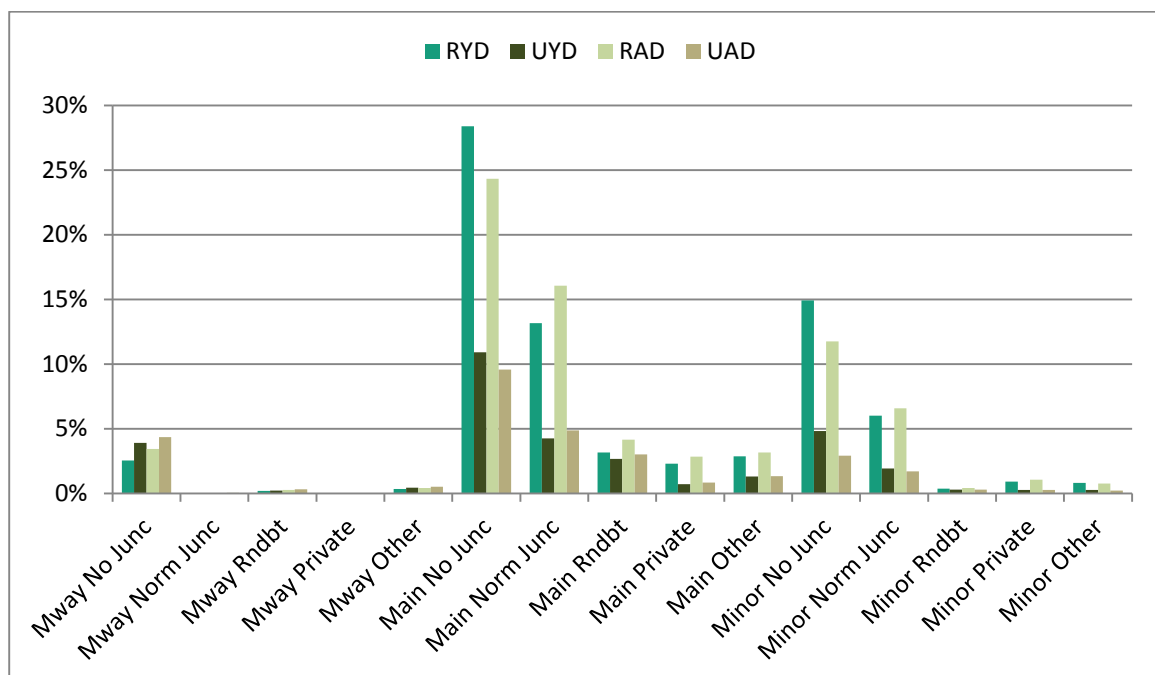


FIGURE 13 - ROAD TYPE, JUNCTION TYPE ON RURAL ROADS



Analysis was carried out to look at a combination of road type, junction type and whether it was urban or rural. Figures 12 and 13 shows all these possible combinations and indicates that rural main roads, not at a junction, were the most common location for collisions for rural young drivers with 28%. This compares to 11% for urban young drivers (where the highest percentage were on urban main roads at normal junctions – 19%); 24% for rural adult drivers (the highest percentage for this group); and 10% for urban adult drivers (where 20% were on urban main roads at normal junctions). It suggests

that home location leads to collisions occurring on certain types of road but that younger rural drivers have slightly more issues on rural main roads, especially away from junctions.

Rural young drivers also appear to have a higher percentage of their collisions on 60mph roads. The following table shows the speed limit of the four driver groups at the various location types. Motorways have not been included as over 90% of the drivers from all groups were in 70mph limits on these roads. It shows that rural young drivers have slightly higher percentages of collisions in 60mph limits (especially on rural roads) than older rural drivers and significantly higher than those from urban areas.

TABLE 3- SPEED LIMIT AT COLLISION LOCATIONS

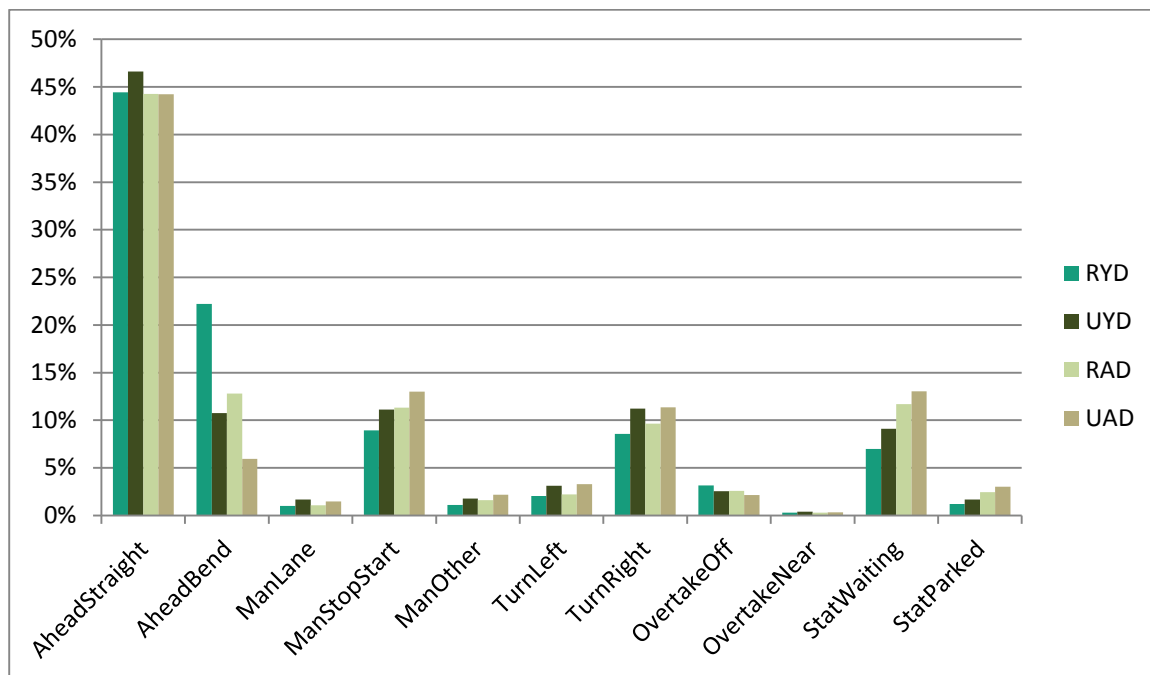
| | All | | | | Urban Roads | | | | Rural Roads | | | | Junctions | | | |
|----|-----|-----|-----|-----|-------------|-----|-----|-----|-------------|-----|-----|-----|-----------|-----|-----|-----|
| | RYD | UYD | RAD | UAD | RYD | UYD | RAD | UAD | RYD | UYD | RAD | UAD | RYD | UYD | RAD | UAD |
| 20 | 0% | 1% | 0% | 1% | 1% | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 1% | 1% | 0% | 1% |
| 30 | 36% | 63% | 38% | 65% | 78% | 84% | 77% | 85% | 23% | 18% | 26% | 18% | 50% | 75% | 48% | 75% |
| 40 | 10% | 10% | 10% | 10% | 12% | 9% | 13% | 9% | 9% | 11% | 9% | 12% | 12% | 10% | 12% | 10% |
| 50 | 5% | 4% | 5% | 4% | 3% | 2% | 3% | 2% | 5% | 7% | 5% | 8% | 5% | 3% | 5% | 3% |
| 60 | 42% | 13% | 37% | 11% | 3% | 1% | 3% | 1% | 54% | 39% | 48% | 35% | 29% | 8% | 30% | 8% |
| 70 | 8% | 9% | 9% | 10% | 3% | 2% | 4% | 2% | 9% | 25% | 11% | 28% | 4% | 3% | 5% | 4% |

The ‘Where?’ analysis has shown that rural drivers tend to have incidents on rural roads; and urban drivers tend to have incidents on urban roads; and this is the case, regardless of the age of the driver. Rural young drivers appear to have higher incidences of collisions on rural main roads (not at junctions) and on 60mph roads, and whilst rural adult drivers have similar patterns, the age difference appears to increase the likelihood of collisions in these locations.

HOW?

The manoeuvres of collision involved drivers were analysed. It shows that most commonly all drivers are heading straight ahead at the time of their collision. Twenty-two percent of the rural young drivers were going ahead on a bend and this was much higher than for other young and rural drivers. On rural roads, the percentage of rural young drivers going ahead on a bend was 27%; this compares to 21% for urban young drivers and 16% for rural adult drivers.

FIGURE 14- DRIVER MANOEUVRES



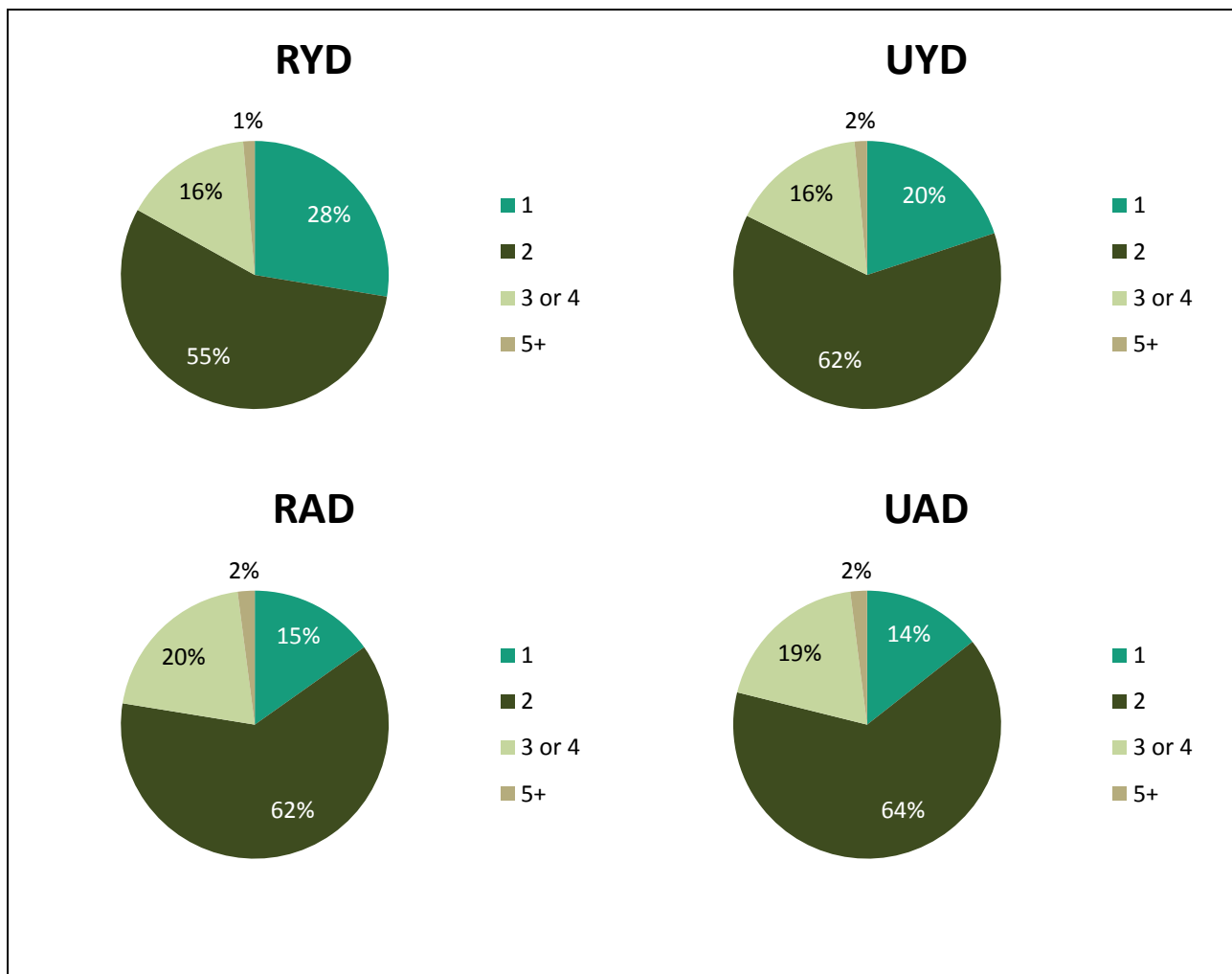
The number of vehicles involved in the collisions was analysed and these are shown in the following charts. It shows that rural young drivers have a higher percentage of single vehicle collisions (28%) than urban young drivers and rural adult drivers. This would imply that age or rurality is not solely responsible for this issue. Looking at a combination of vehicle count and manoeuvre, the analysis shows that 13% of the rural young drivers were involved in a single vehicle collision whilst going ahead on a bend. This combination accounts for 6% for urban young drivers; 4% for rural adult drivers; and 2% for urban adult drivers and so is much higher for rural young drivers.

Interestingly, other research has identified single vehicle collisions and bends as particular issues for younger drivers.

The proportion of single vehicle accidents is much higher for younger drivers than for older drivers. STATS19 (UK) data for 1995 reveals that over 1 in 5 (22%) of injury accidents for males aged 17-19 involved no other vehicle but the driver's own... When the type of manoeuvre in aggregate records such as STATS19 (UK) is examined, it can be seen that younger drivers (17-19) are involved in twice the proportion of accidents while negotiating a bend than older drivers are (in this example, those aged 30-39). This is a feature associated with the over-representation of younger drivers in single vehicle accidents.¹²

So whilst single vehicle collisions and bends are over-represented in young drivers in general, those from rural areas appear to be particularly involved in these types of collisions.

FIGURE 15 - NUMBER OF VEHICLES INVOLVED



An Australian study found that the risk of a crash reduced significantly with increasing rurality but that the chances of being involved in a single vehicle collision did increase in more rural areas. “Among those who crashed, the proportion who had injurious crashes, single vehicle crashes and sustained an injury due to a single versus multiple vehicle crash increased with increasing rurality.”¹³ Collision factors were analysed one at a time in order to identify any regional variations.

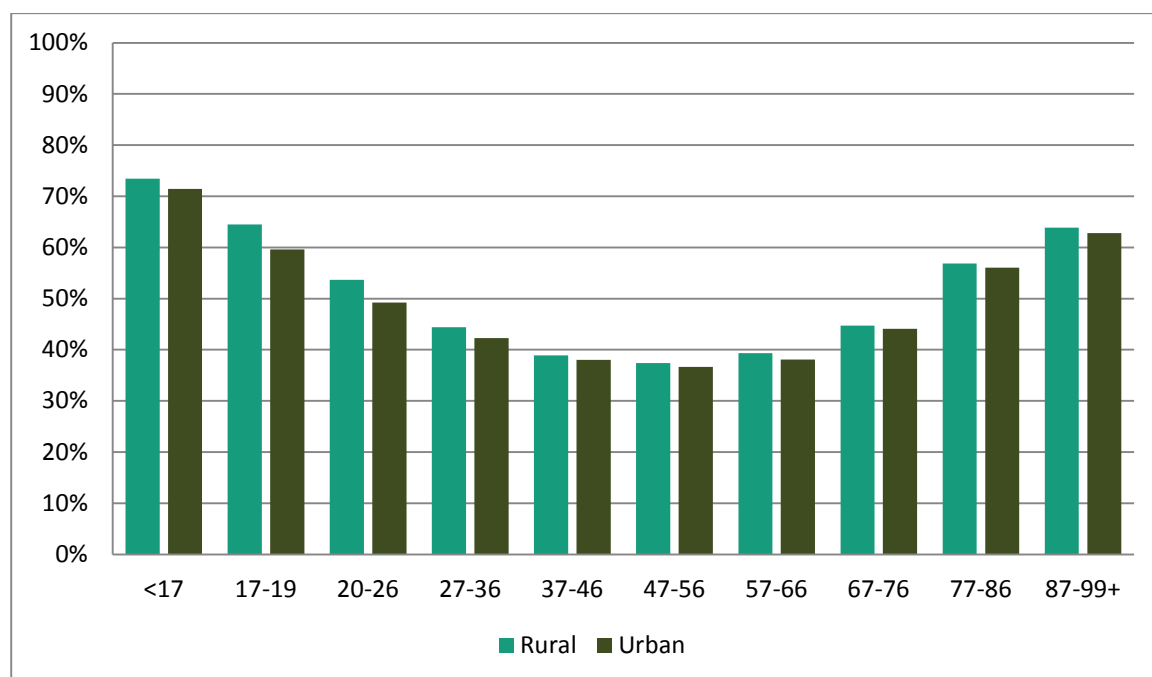
The increased risk of single vehicle crash for rural drivers was attenuated by two types of factors relating to the crash: road infrastructure (inter-section, road alignment, darkness and road surface) and speeding (posted speed limits, vehicular speed and speeding involvement). Of these contributing factors, road alignment (presence of curvature) and speeding involvement had the most impact on the impact of rural region.¹⁴

It is possible to analyse the contributory factors (CF) recorded by a police officer when completing the collision records. Individual CFs can be attributed to individual vehicles, which allows a basic analysis of the reasons for collisions. 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 may not be the result of extensive investigation.

Analysis shows that 58% of rural young drivers were considered to have contributed in some way to the collisions in which they were involved. The next chart shows that contributory factors assigned to rural and urban drivers initially decreases from a peak with young drivers down to a plateau at 37 years old. Contributing to collisions then increases when people reach their mid-sixties. The patterns are similar for urban and rural drivers, with rural drivers having slightly higher percentages of CFs assigned in every age group.

As contributory factors are subjective and are the reporting Police Officer's opinion at the time of the incident, there is the potential for prejudices within reporting which could potentially account for the higher percentages of contributory factors attributed to younger and older drivers. It could also be the case that incidents involving younger and older drivers are more clear-cut and therefore it is easier to attribute CFs or that because of higher casualty severities, there is more extensive investigation.

FIGURE 16 - CONTRIBUTORY FACTORS ATTRIBUTED TO DRIVERS BY AGE



Unusually, the most assigned contributory factor for rural young drivers was 'Loss of Control'. 'Failed to look properly' is normally the most assigned CF and this is the case with the three other groups. 'Loss of control' accounted for 10% of the CFs assigned to urban young drivers and for 9% of those used with rural adult drivers. It would suggest that neither age nor rurality is solely responsible for this higher percentage. Rural young drivers also have a higher percentage of driver contributed CFs attributed to them than the other groups, although this appears to be more age-related than a product of rurality. Conversely, the assignation of environment contributed CFs appears to relate to rurality, although once again, rural young drivers have a higher percentage. Rural roads appear to present particular challenges to young drivers, regardless of where they live.

TABLE 4 - CONTRIBUTORY FACTOR ANALYSIS SUMMARY

| | RYD | UYD | RAD | UAD |
|------------------------------------|-----------------------|-------------------------------|-------------------------------|-------------------------------|
| Most assigned CF | Loss of control – 14% | Failed to look properly – 17% | Failed to look properly – 20% | Failed to look properly – 24% |
| Driver contributed CFs | 67% | 62% | 46% | 47% |
| Environment contributed CFs | 34% | 26% | 31% | 24% |
| Rural roads CFs | Loss of control – 16% | Loss of control – 16% | Failed to look properly – 18% | Failed to look properly – 17% |

Contributory factors were analysed to see if there were any age-based differences for rural young drivers. The following table shows the different contributory factors assigned to 17-18 year old rural drivers; 19-26 year old rural drivers; and for comparison, 17-18 year old urban drivers. It shows that 17 to 18 year old rural drivers appear to have a combination of inexperience and behaviour CFs assigned to them.

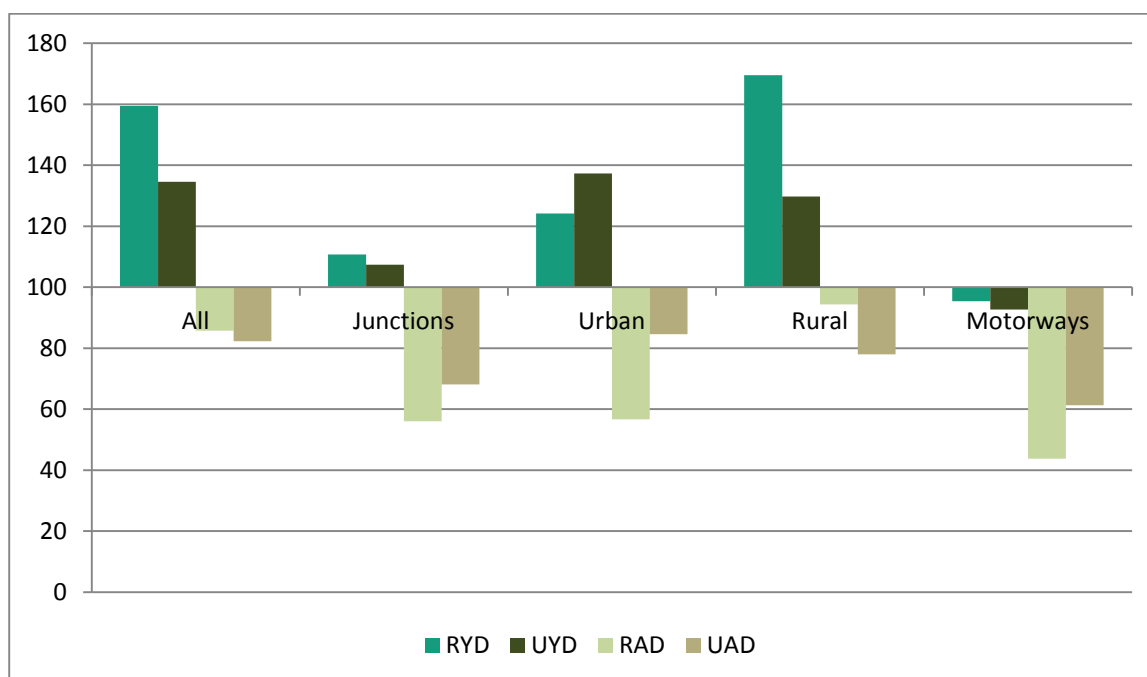
TABLE 5 - TOP 3 ASSIGNED CFS

| 17-18 year old Rural Drivers | 19-26 year old Rural Drivers | 17-18 year old Urban Drivers |
|-------------------------------------|-------------------------------------|-------------------------------------|
| Learner or inexperienced driver | Loss of control | Learner or inexperienced driver |
| Loss of control | Failed to look properly | Failed to look properly |
| Travelling too fast for conditions | Travelling too fast for conditions | Loss of control |

The Department for Transport has given permission to analyse breath test data to determine if there are any rural/urban and young/adult differences in the provision of positive breath tests. For this analysis, drivers were only included if a police officer attended the collision (in order to filter out those who were not given the opportunity to provide a breath test). On average, 86% of the drivers in the analysis were in collisions where an officer attended. Only drivers who provided a breath test were included in the analysis, so those who were not asked; were not contacted; or were not able to provide a sample because of medical reasons; were excluded. Drivers who refused to provide a breath test were grouped with positive breath tests.

The following chart shows 100-based indices to illustrate the differences in positive breath tests provided across the four driver groups at the different collision locations. These indices are created using the average percentage of positive breath tests provided across all drivers. It shows that rural young drivers are 60% more likely to provide a positive breath test at a collision than all drivers and that this is a higher over-representation than for urban young drivers. The index is even higher on rural roads, where rural young drivers are 70% more likely to provide a positive breath test than all drivers, compared to 30% for urban young drivers. In urban areas, urban young drivers are 37% more likely to provide a positive breath test so it can't be said that the local environment alone is the key influence on likelihood to drink and drive. Age, rather than rurality, appears to be the biggest factor influencing likelihood to provide a positive breath test – rural and urban adult drivers are both under-represented at the various locations.

FIGURE 17- POSITIVE BREATH TEST INDICES



The ‘How?’ analysis has shown that rural young drivers have higher percentages of single vehicle collisions and collisions on bends than the other groups. The most commonly attributed CF to young rural drivers is ‘Loss of control’, which fits with the occurrence of single vehicle collisions on bends. Rural young drivers are significantly more likely to provide a positive breath test at the time of the collision than the other groups. These are known factors for young drivers and it appears that the addition of rural residency increases these factors further.

FACTOR ANALYSIS

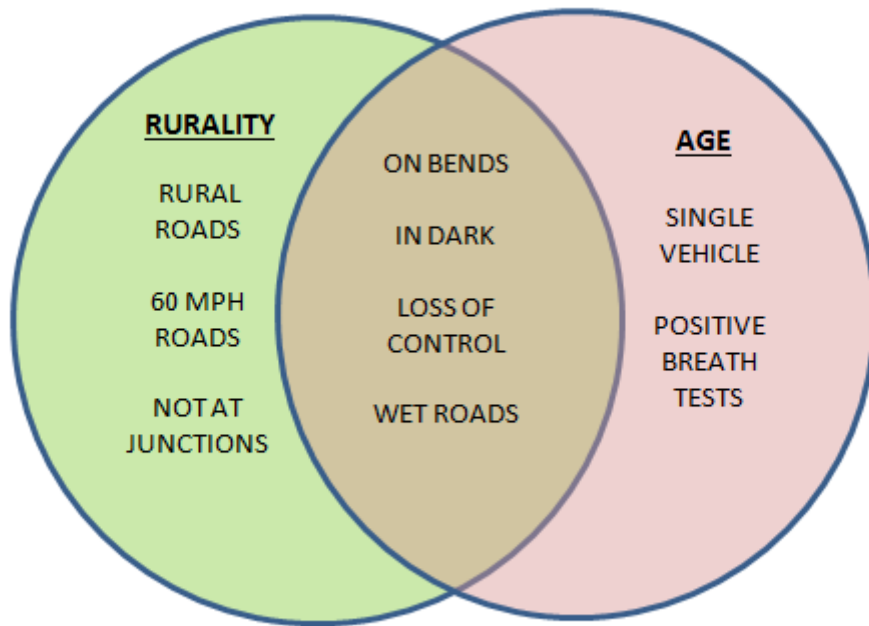
The following table shows the results of analysing the various over-represented factors of rural young driver collisions and combining them to see which of these factors had the greatest influence. Based on the results (which are shown as 100-based indices in Appendix A), the factors are ordered to provide an order of influence.

TABLE 6 - FACTORS OVER-REPRESENTED IN RURAL YOUNG DRIVER COLLISIONS IN ORDER OF INFLUENCE

| Order | Factor | Affected by |
|-------|---------------------------|---------------------------------|
| 1 | Rural roads | Rurality |
| 2 | 60mph | Rurality |
| 3 | Bends | Combination of rurality and age |
| 4 | Darkness | Combination of rurality and age |
| 5 | Single vehicle collisions | Age |
| 6 | Loss of control | Combination of rurality and age |
| 7 | Positive breath tests | Age |
| 8 | Non dry road surfaces | Combination of rurality and age |
| 9 | Not at junctions | Rurality |

A Venn diagram shows whether it is age, rurality or a combination of the two that is the reason why these factors are over-represented amongst rural young drivers.

FIGURE 18 - OVER-REPRESENTED FACTORS AMONGST YOUNG DRIVERS



The following chart shows the percentage differences in the rural young driver indices for these factors, compared to both urban young drivers and rural adult drivers. It shows how certain factors appear to be more related to rurality or age and also shows how much they are over-represented amongst rural young drivers. It shows that:

Factors which are a function of living in the countryside

- **Rural roads** – rural young drivers are **58%** more likely to be involved in a collision on rural roads than urban young drivers (and 1% more likely than rural adults)
- **60mph roads** – rural young drivers are **68%** more likely to be involved in a collision on 60mph roads than urban young drivers (and 11% more than rural adults)
- **Away from junctions** – rural young drivers are **27%** more likely to be involved in a collision not at a junction than urban young drivers (and 12% more than rural adults)

Factors which are a function of age/inexperience

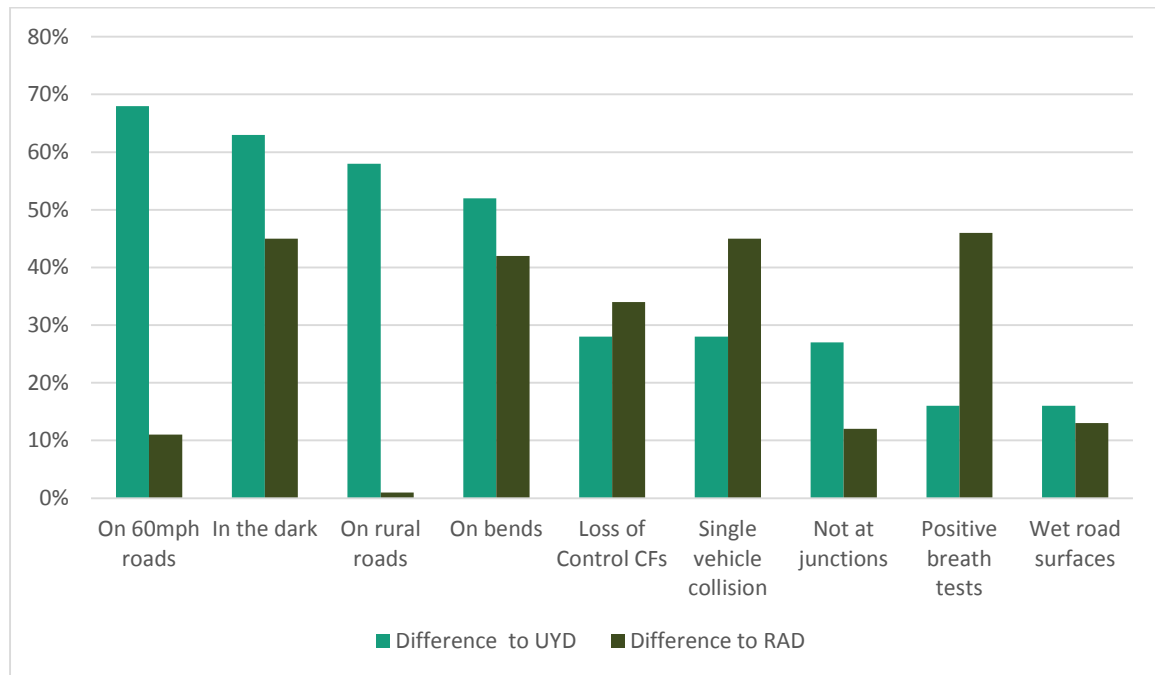
- **No other vehicles** – rural young drivers are **28%** more likely to be involved in a single vehicle collision than urban young drivers (and 45% more than rural adults)
- **Providing positive breath tests** – rural young drivers are **16%** more likely to provide a positive breath test in a collision than urban young drivers (and 46% more than rural adults)

Factors which appear to be unique to rural young drivers

- **Bends** – rural young drivers are **52%** more likely to be involved in a collision on a bend than urban young drivers (and 42% more than rural adults)

- **Darkness** – rural young drivers are **63%** more likely to be involved in a collision in the dark than urban young drivers (and 45% more than rural adults)
- **Loss of control being the top contributory factor** – rural young drivers are **28%** more likely to have ‘Loss of Control’ as a contributory factor than urban young drivers (and 34% more than rural adults)
- **Wet road surfaces** – rural young drivers are **16%** more likely to be involved in a collision on a wet road surface than urban young drivers (and 13% more than rural adults)

FIGURE 19 - PERCENTAGE DIFFERENCES IN FACTOR INVOLVEMENT FOR RYD

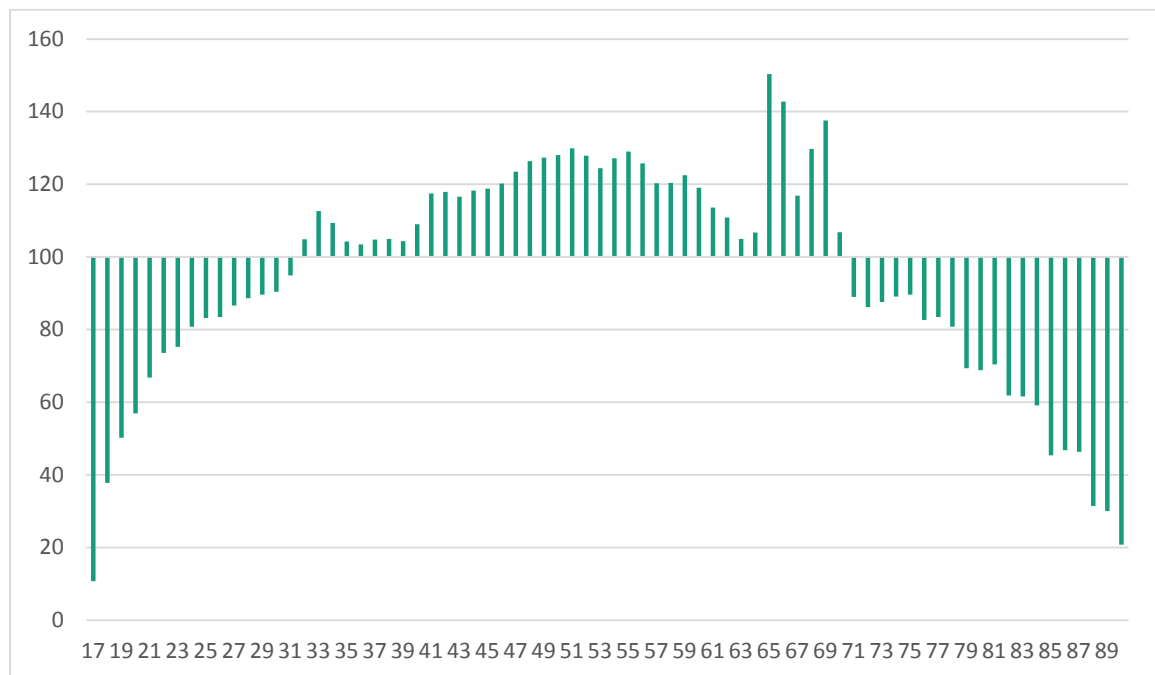


DRIVER LICENSING

In addition to using DfT and socio-demographic data for this report, the DVLA has kindly shared driver licence holding information by age and Lower Super Output Area with RSA so that analysis can be undertaken to determine any rural/urban differences in licensure. These data are not widely available and therefore this represents a unique opportunity to put collision involvement in context. Analysis has been undertaken on English and Welsh residents only as age-based population data are not available for Scotland. Driver age was determined by taking date of birth from the DVLA database and determining exact age as at 25th April 2013.

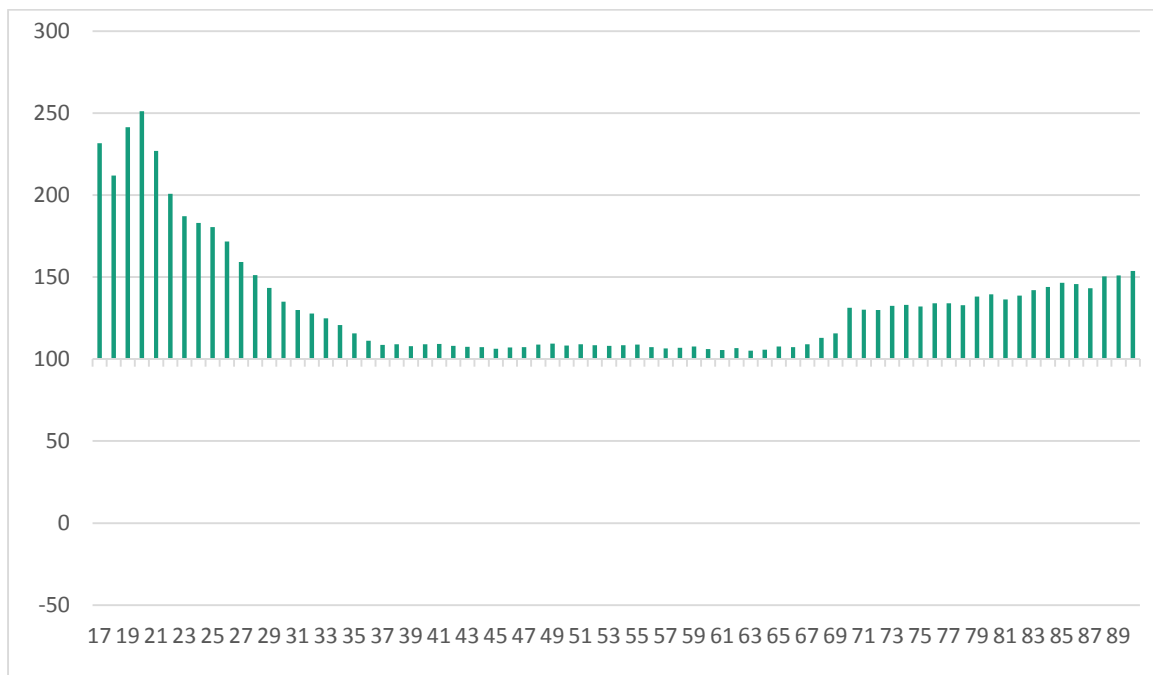
In order to put age-based licensure into context, the first chart shows licence holding by population indexed by the national average for all ages. It shows that young people slowly become full licence holders between 17 and 30 years old and that large sections of the population have and retain a licence until aged 70 years old. At aged 70, when licence renewal is required, it appears that older people start to relinquish their licence in clear steps every five years.

FIGURE 20 - LICENCE HOLDING BY POPULATION AGAINST THE NATIONAL AVERAGE



Analysis of the DVLA data shows that a much higher percentage of younger rural residents have full driving licences than their urban counterparts. The following chart shows the rural licence holding indices by age, which is comprised of the number of licence holders by age per population in rural areas compared to the same measure for urban residents. It shows the earlier peak in rural licensure and that urban young drivers slowly start to obtain their licences from aged 23 years onwards. The delay in urban licensing rates could be due to college/university attendance, where student status and urban dwelling make driving unnecessary. It could be that urban young people are prompted to learn to drive when they begin to seek employment or start families. There is then a period between the ages of 35 to 70 years where rural/urban licensing is similar in terms of percentages of the population with a licence. Interesting differences start to emerge at aged 70, when rural licensing again starts to increase compared to urban. This last difference could be due to driving licence renewal at aged 70 and that urban older drivers are more likely to self-regulate and relinquish their licences because they have alternative public transport available to them. The licensing data cannot provide an insight into the frequency of driving or mileage rates driven but the clear rural/urban differences in licence holding does show the necessity of having a driving licence across all ages for those living in the countryside.

FIGURE 21 - RURAL LICENSING BY AGE COMPARED TO URBAN RESIDENTS - INDEX



The following chart is a reminder that young drivers (from both levels of rurality) are over-represented when looking at collision involvement by population and Figure 23 shows that collision involvement for young people by licence holding is even higher, reflecting lower licensure frequency amongst that age group. 17 year old licence holders appear to have particularly high risk.

FIGURE 22 - COLLISION INVOLVEMENT BY POPULATION AGAINST THE NATIONAL AVERAGE

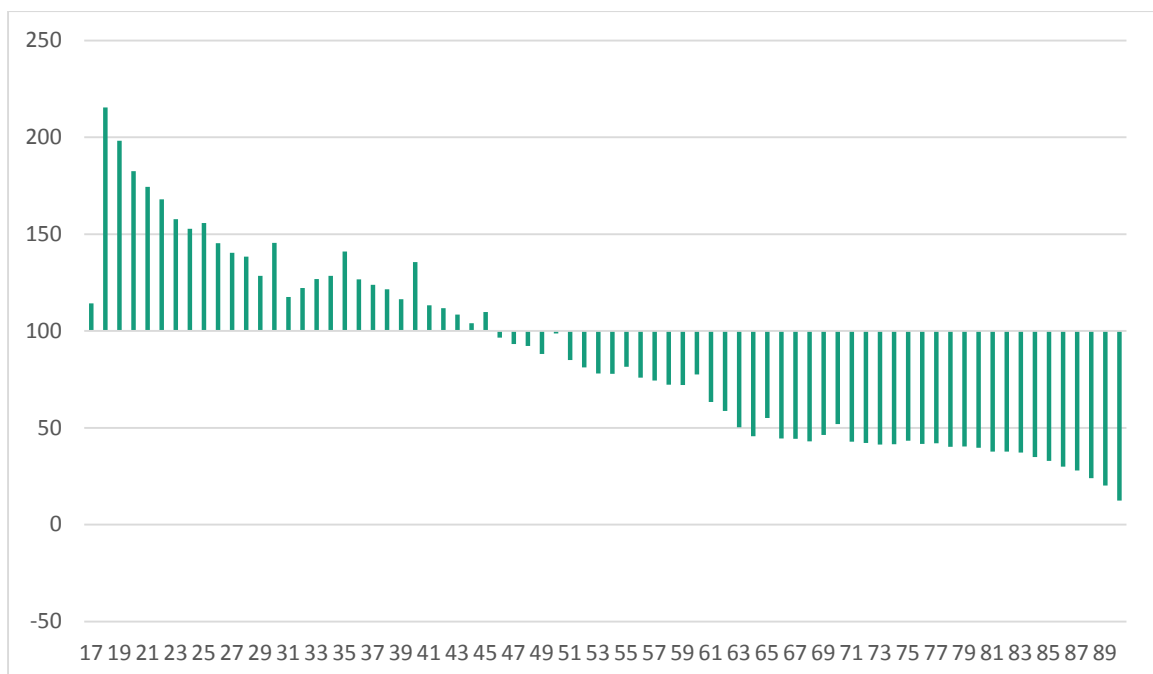
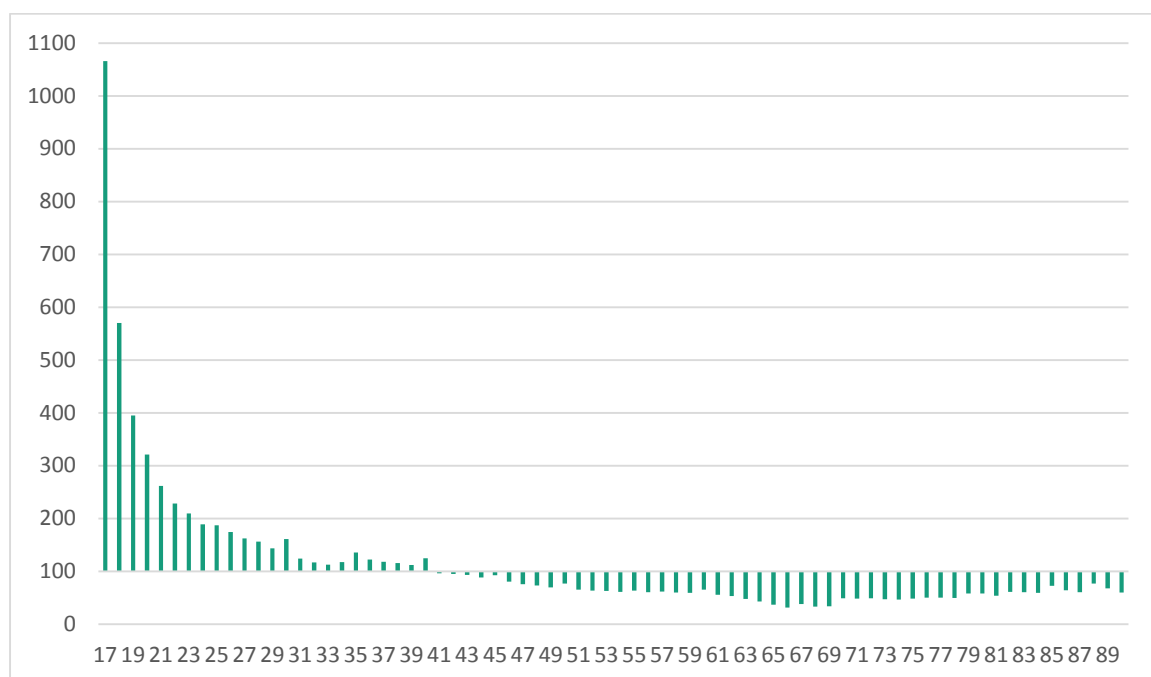
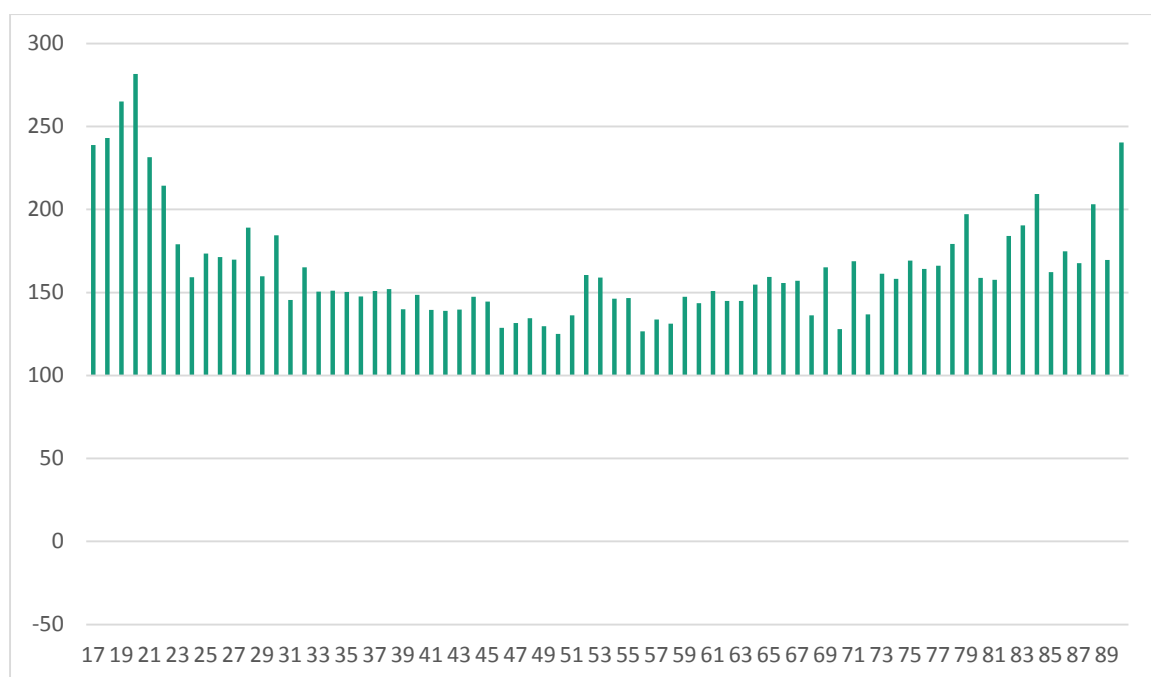


FIGURE 23 - COLLISION INVOLVEMENT BY LICENCE HOLDING AGAINST THE NATIONAL AVERAGE



Further analysis has shown that involvement in collisions of all severities per licence holder differs little between urban and rural residents. However, fatal and serious collision involvement by licence holding and by population is considerably higher for rural residents than for those living in urban areas, as shown in the next chart, and this is particularly true amongst younger drivers.

FIGURE 24 – RURAL KSI COLLISION INVOLVEMENT BY POPULATION - COMPARED TO URBAN



The conclusions of the driver licensing analysis are that age-based differences between rural and urban young people can be explained to some extent by earlier licensure amongst the rural population, as proportionally many more of them hold a full driving licence. In addition to this, rural

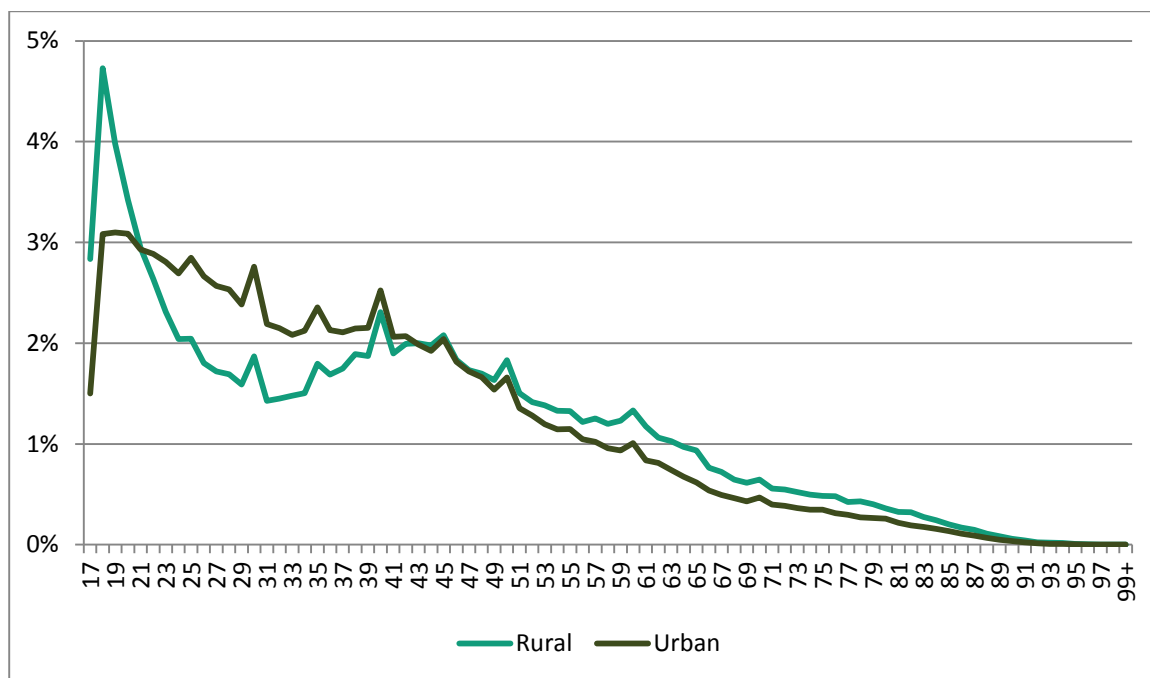
residents are more likely to be involved in higher severity collisions due to the environment in which they drive. Living in the countryside leads to exposure of a riskier road environment and rural young drivers, who are forced to learn to drive earlier because there are few transport alternatives, are therefore disproportionately exposed to this higher risk.

RURAL 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.

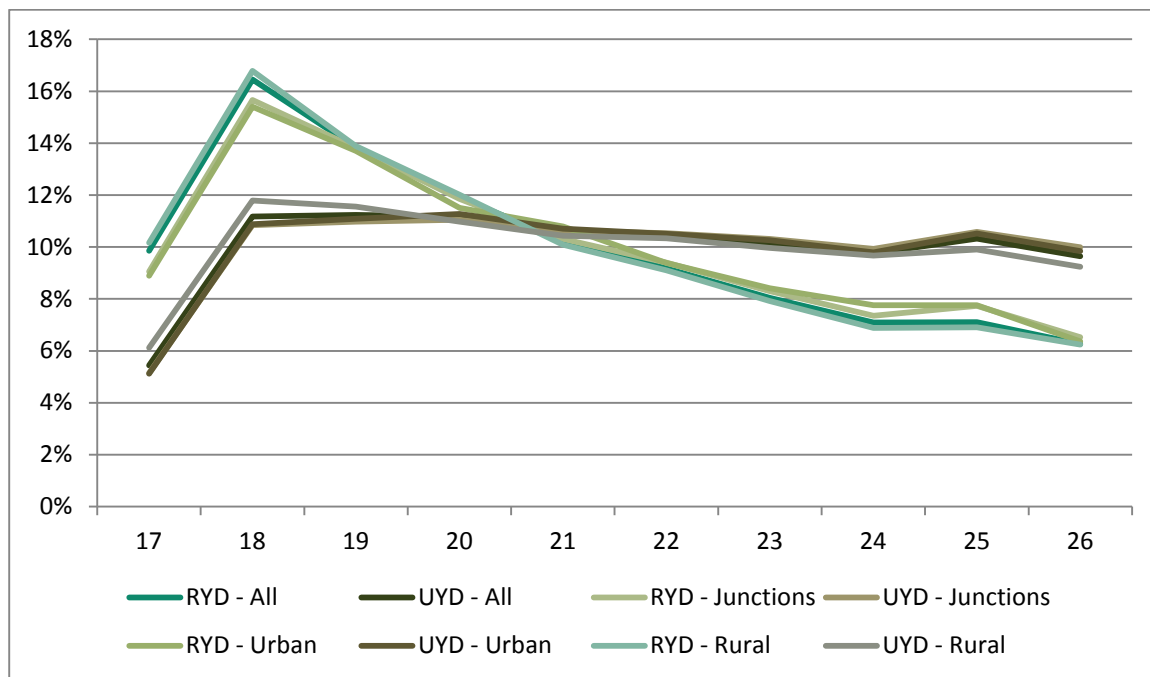
Figure 24 shows the age distribution of rural and urban drivers and demonstrates the need to focus on young drivers. Residents from both levels of rurality have peaks at aged 18 but there is a more pronounced peak for those from rural areas. The peak tails off quicker for rural young drivers than it does for urban young drivers. This reflects the higher licensure at this age for rural residents.

FIGURE 25 - AGE OF RURAL AND URBAN COLLISION INVOLVED DRIVERS



Looking more closely at the age profiles, the following chart shows the ages of young drivers across both types of rurality and for the different location types. It shows more clearly that there is a peak in rural young driver collision involvement at aged 18 that is more pronounced than for urban young drivers and that this peak exists, regardless of the collision location type.

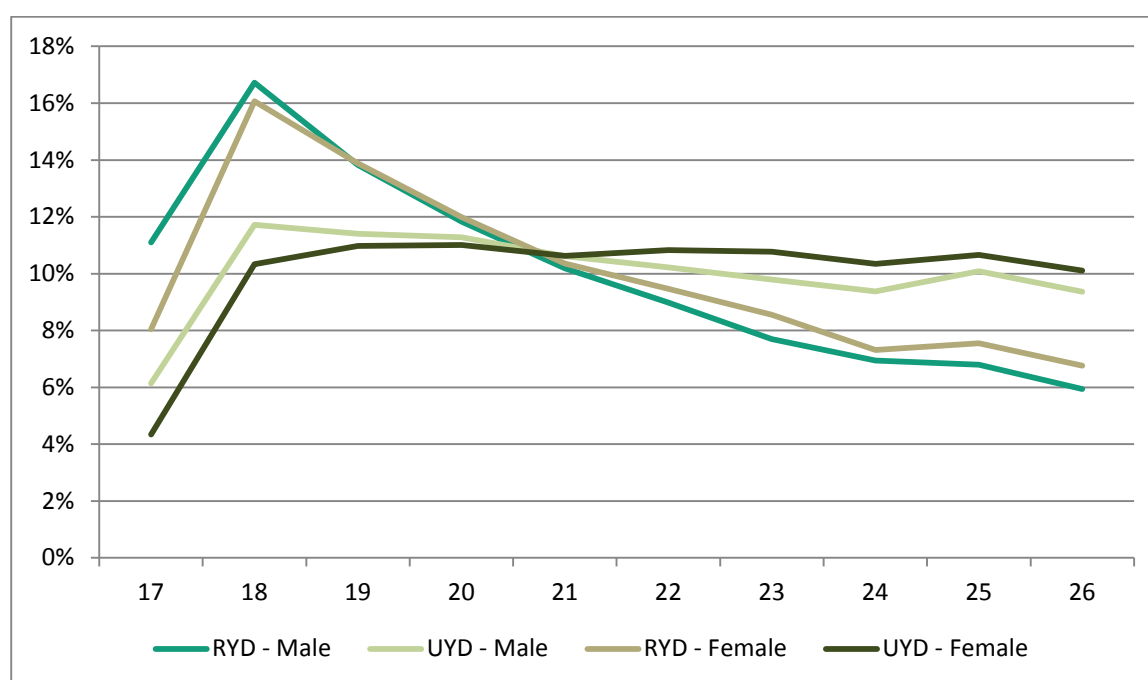
FIGURE 26 - YOUNG DRIVER AGE BY RURALITY & LOCATION TYPE



Journey purpose analysis did not reveal any unique features for rural young drivers. Twelve percent of rural young and rural adult drivers were recorded as commuting (compared to 11% for urban young and urban adult drivers). The same percentage of young drivers were recorded as driving for work (8%), regardless of rurality, whereas 11% of rural adult and 12% of urban adult drivers were recorded as driving for work. There was little difference between those driving on the school run: 1% for the young drivers and 2% for the adult drivers, regardless of rurality. It means that in all cases, over 75% of journey purpose was not recorded or was deemed 'other'.

There was little difference in the gender distribution between the four driver groups. Of the rural young drivers, 60% were male and this compares to 61% for urban young drivers; 57% for rural adult drivers and 62% for urban adult drivers.

FIGURE 27 - AGE AND GENDER OF YOUNG DRIVERS BY RURALITY



Looking at the age distribution of the young drivers by gender, the same patterns observed earlier by age are present for both sexes. It suggests that there is similar behaviour or exposure to risk for young drivers, regardless of gender.

The gender analysis suggests that male rural young drivers should be the focus of an intervention but that female rural young drivers should also be targeted and that their collision exposure isn't different to their male counterparts.

Geographical County of residency was analysed, using the corrected figures discussed at the beginning of the report. Population data from the 2011 Census was used to get the most up-to-date picture of where rural young drivers live. Scottish data were not available at the time of the research so Scottish young drivers are excluded from this analysis. The table in Appendix B shows the annual average number of rural drivers from each county who are involved in injury collisions; the annual rate; and the relative indices. The following table is a summary of those with the ten highest and the ten lowest indices.

FIGURE 28 - TEN COUNTIES WITH HIGHEST RURAL YOUNG DRIVER INDICES

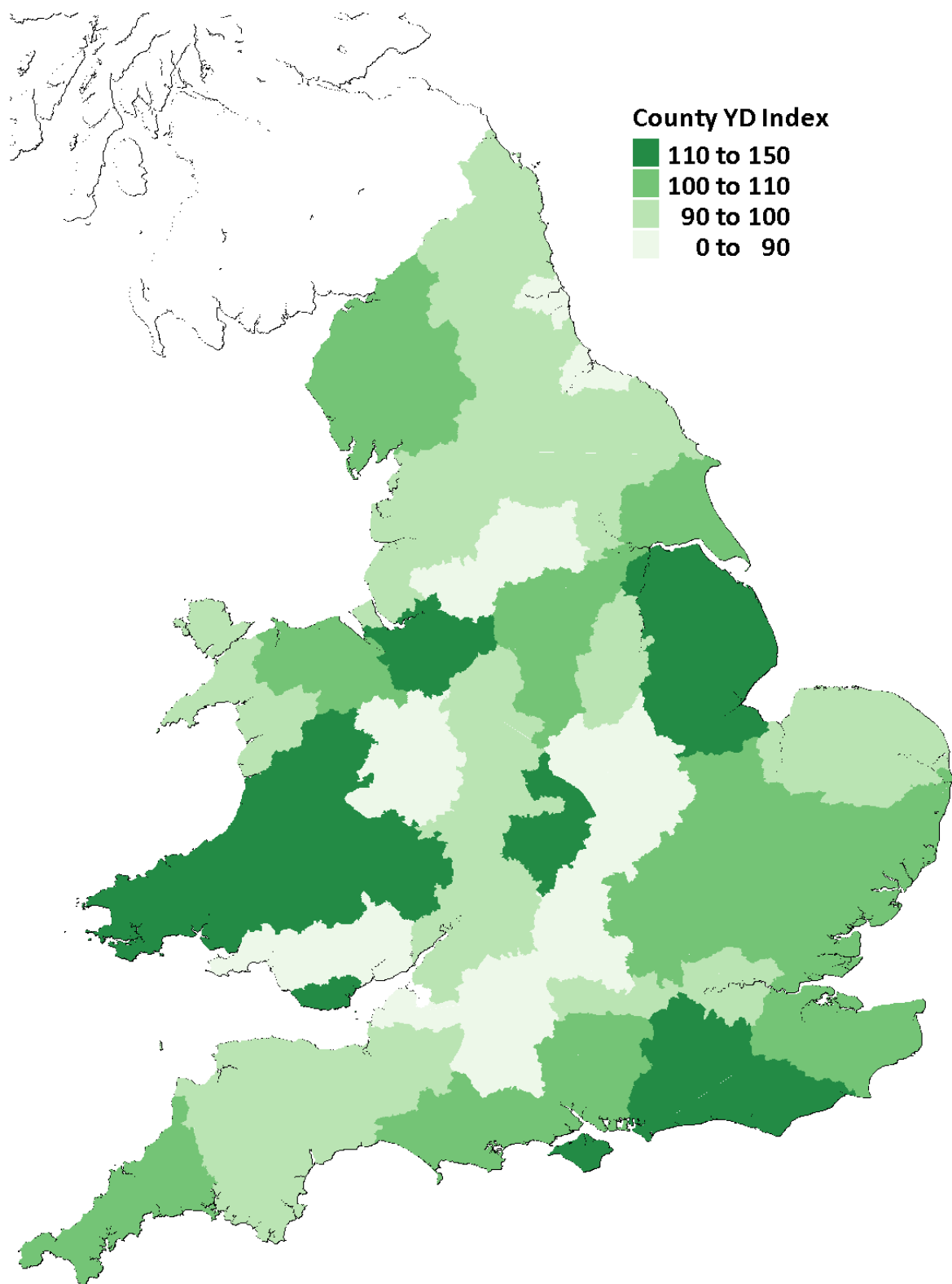
| Geographical County | Annual Average | One-in-Rate | Index |
|-----------------------------------|----------------|-------------|-------|
| North and North East Lincolnshire | 126 | 74 | 140 |
| South Glamorgan | 35 | 77 | 135 |
| Lincolnshire | 396 | 78 | 134 |
| Surrey | 179 | 83 | 125 |
| East Sussex | 151 | 83 | 125 |
| Dyfed | 297 | 89 | 117 |
| Isle of Wight | 39 | 90 | 115 |
| Cheshire | 203 | 92 | 113 |
| Hereford | 95 | 92 | 113 |
| West Sussex | 184 | 92 | 113 |

FIGURE 29 - TEN COUNTIES WITH LOWEST RURAL YOUNG DRIVER INDICES

| Geographical County | Annual Average | One-in-Rate | Index |
|--------------------------|----------------|-------------|-------|
| Tyne and Wear | 38 | 125 | 83 |
| Wiltshire | 213 | 126 | 83 |
| Leicestershire | 155 | 126 | 82 |
| Northamptonshire | 172 | 126 | 82 |
| Mid Glamorgan | 117 | 131 | 79 |
| Greater Manchester | 40 | 141 | 73 |
| North Yorkshire Teesside | 35 | 144 | 72 |
| Rutland | 26 | 160 | 65 |
| Gwent | 79 | 175 | 59 |
| North Glamorgan | 34 | 203 | 51 |

The next map shows the indices from the two tables and shows the areas where interventions for rural young drivers might be prioritised. The darker the green on the map, the higher the index. It appears to indicate that rural young drivers from more remote rural areas are generally at higher risk of being involved in an injury collision.

MAP 1 - RURAL YOUNG DRIVER INDICES FOR ENGLISH AND WELSH COUNTIES



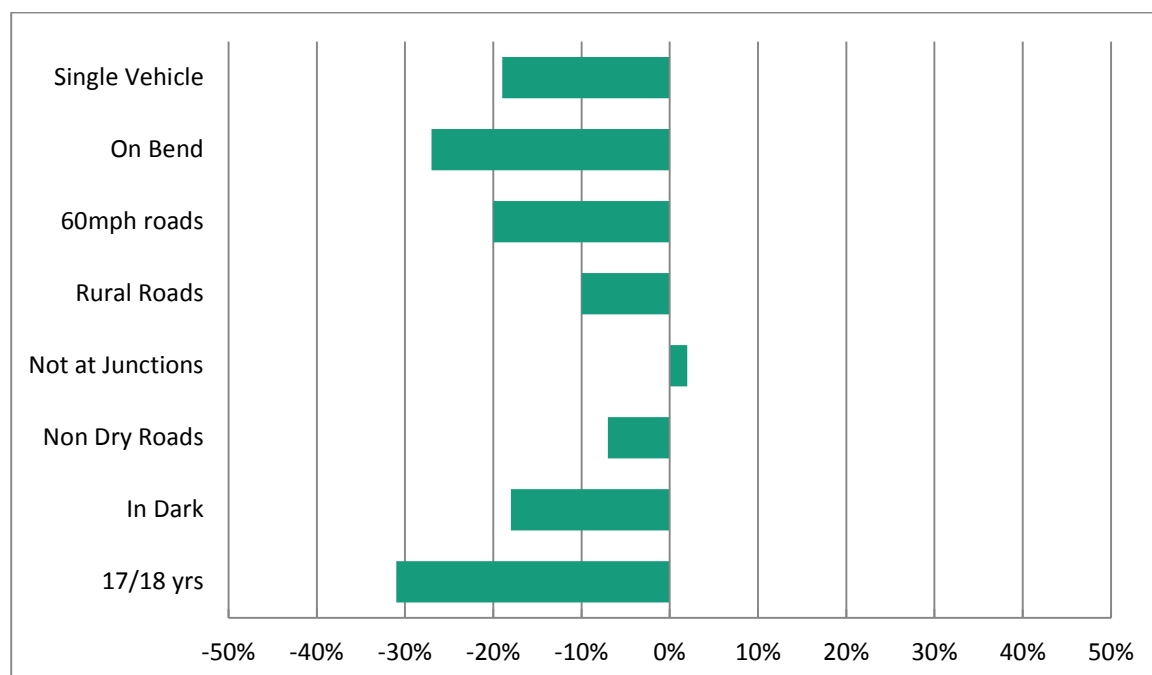
All the previous needs analyses suggest that there are certain factors involved in rural young driver collisions which are not similarly over-represented in urban young drivers or rural adult drivers collisions and therefore cannot be attributed to either age or rural residency alone. These factors are probably due to a combination of being young and living in the countryside (with all the challenges that presents, such as higher speed roads, bends, and longer distances to access services). These factors are:

- Younger age group – a peak at aged 17 and 18 years old
- Collisions occurring in the dark
- Collisions occurring on wet road surfaces
- Collisions occurring away from junctions
- Collisions occurring on rural roads
- Collisions occurring on 60mph roads
- Collisions occurring on bends
- Single vehicle collisions

Analysis has been carried out on socio-demographic attributes for these various factors to see if the same type of rural young driver is involved in collisions involving all of these factors (shown in the next section).

Using this technique to look at average distance from home for rural young drivers produces the chart below. On average, rural young drivers are 17.7km away from home when they are involved in a collision. This compares to 14.1km for urban young drivers; 21.4km for rural adult drivers and 16.2km for urban adult drivers. The chart shows that under 19 year old rural young drivers were in collisions over 30% closer to home than the RYD norm; while rural young drivers typically crash on bends over 25% closer to home than the RYD norm.

FIGURE 30 - AVERAGE DISTANCE FROM HOME FOR DIFFERENT RYD ELEMENTS COMPARED TO OVERALL RYD AVERAGE DISTANCE FROM HOME



MOSAIC ANALYSIS

As well as demographic and spatial analysis of rural young drivers, it is also possible to 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 the rural young driver community into one of **15 groups** or **69 types** and analyse their relative representation in the statistics based on population figures. A full list of Mosaic Types are provided in Appendix C.

Population data from the most recent census has been used to determine the 17 to 26 year old population distribution across the Mosaic Types. Scotland has been excluded because population data are not yet available to the required level. It should be borne in mind that there will be a slight distortion caused by young adults living at home as they will have their parents' Mosaic Type.

When carrying out Mosaic analysis the approach is to initially look for levels of high representation and high index scores in individual groups and this is the case with types B6 (4715 rural young drivers with an index of 120); A4 (with 3777 rural young drivers and an index of 150); A3 (with 2772 rural young drivers and an index of 134); D15 (with 3452 rural young drivers and an index of 123); and A1 (with 3223 rural young drivers and an index of 150) D13 has a high number of rural young drivers (3265) but is represented slightly less often than expected, with an index of 94.

The Mosaic distribution is similar across the various over-represented collision factors, suggesting that the same types of rural young driver are involved in these collisions.

FIGURE 31 - MOSAIC FOR RURAL YOUNG DRIVERS

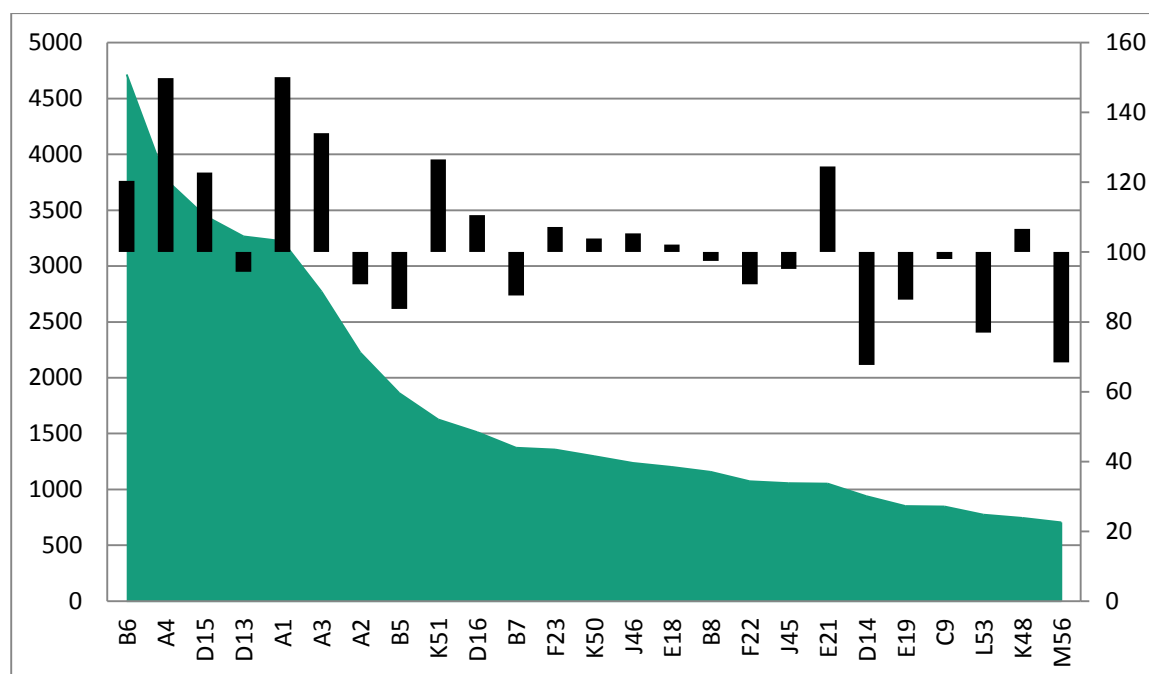


Table 7 shows these groups in terms of certain relevant characteristics of household composition and lifestyle along with their communication preferences. It shows that there are some great similarities between the family compositions within these Types and that there is a high dependence on the car

in these communities. Regarding the communication preferences, there are some modes that most of the Types are receptive or unreceptive to and this can be used to direct interventions.

TABLE 7 - MOSAIC CHARACTERISTICS AND COMMUNICATION PREFERENCES

| | B6 | A4 | A3 | D15 | D13 | A1 |
|--|----|----|----|-----|-----|----|
| Presence of adult children | | | | | | |
| 2+ cars | | | | | | |
| High mileage | | | | | | |
| Further education | | | | | | |
| High internet use | | | | | | |
| High income | | | | | | |
| Commute by car | | | | | | |
| Communication Preferences (of adults within the home) | | | | | | |
| Face-to-face | | | | | | |
| Local newspapers | | | | | | |
| Interactive TV | | | | | | |
| National newspapers | | | | | | |
| Magazines | | | | | | |
| Telephone | | | | | | |
| Mobile phone | | | | | | |
| Post | | | | | | |
| SMS text | | | | | | |
| Internet | | | | | | |

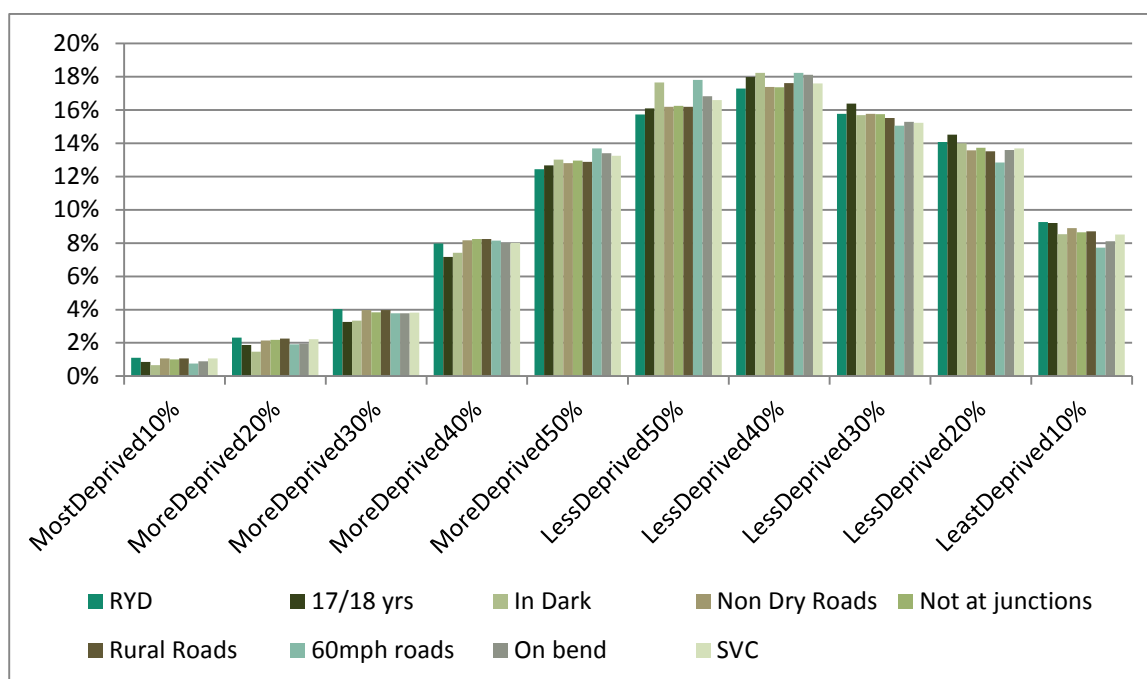
The six featured Mosaic Types share common characteristics that fit with the rural young driver profiles. These Types are all based in villages or farming communities. There is a high presence of adult children within these Types, which supports their over-representation amongst young drivers. In addition to this, these Types are multiple car owning households and have high mileage – suggesting the adult children within these families are likely to have access to a car and be able to drive. The adults within most of the families are likely to have undertaken further education and most have reasonably high incomes. Most of them have comfortable or spacious homes. Internet usage is high across most of the Types.

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.

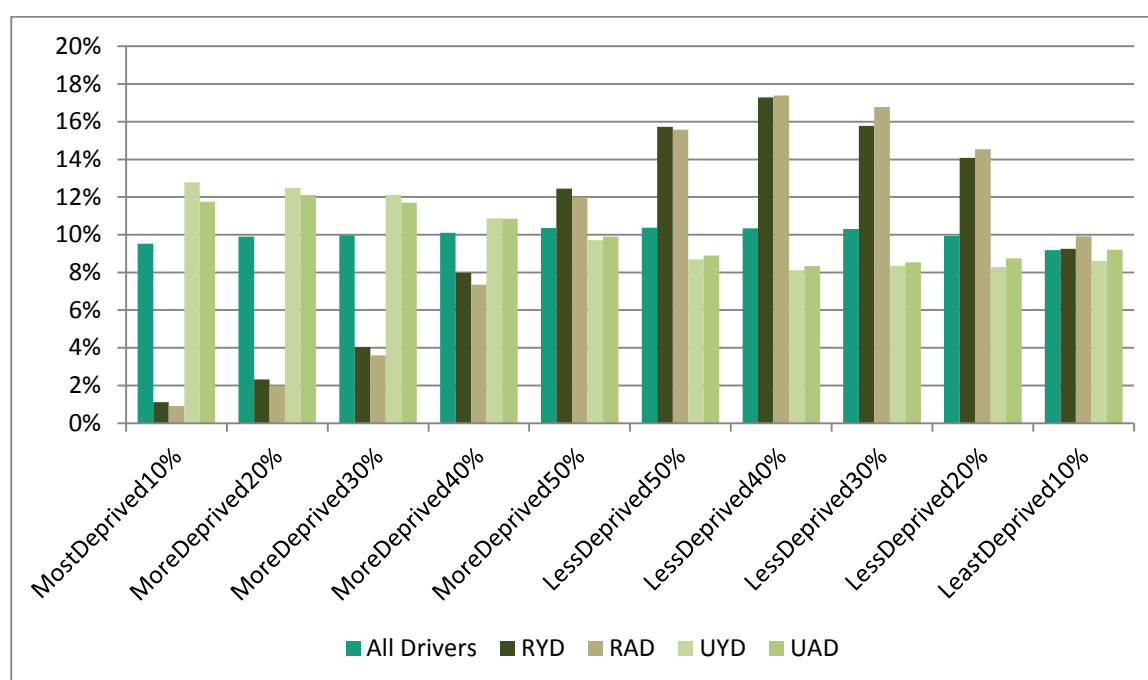
Indices of multiple deprivation for rural young drivers have also been looked at across the over-represented collision factors to determine if those factors are common to certain types of rural young drivers. Figure 27 shows that regardless of the over-represented factor in collisions, rural young drivers tend to live in the 30-50% least deprived areas of the country.

FIGURE 32 - INDEX OF MULTIPLE DEPRIVATION FOR RURAL YOUNG DRIVERS



To put the analysis into context, the next chart shows the index of multiple deprivation for all drivers and for the four driver groups. As would be expected, all drivers are reasonably evenly spread across the deciles, with slightly lower percentages at either end of the spectrum. Rural adult drivers follow a similar pattern to the rural young drivers and tend to live in the 30-50% least deprived areas of the country. In comparison, urban drivers of both age groups tend to be more evenly spread across the deciles, with a slight peak in the more deprived areas.

FIGURE 33 - INDEX OF MULTIPLE DEPRIVATION FOR ALL GROUPS OF DRIVERS



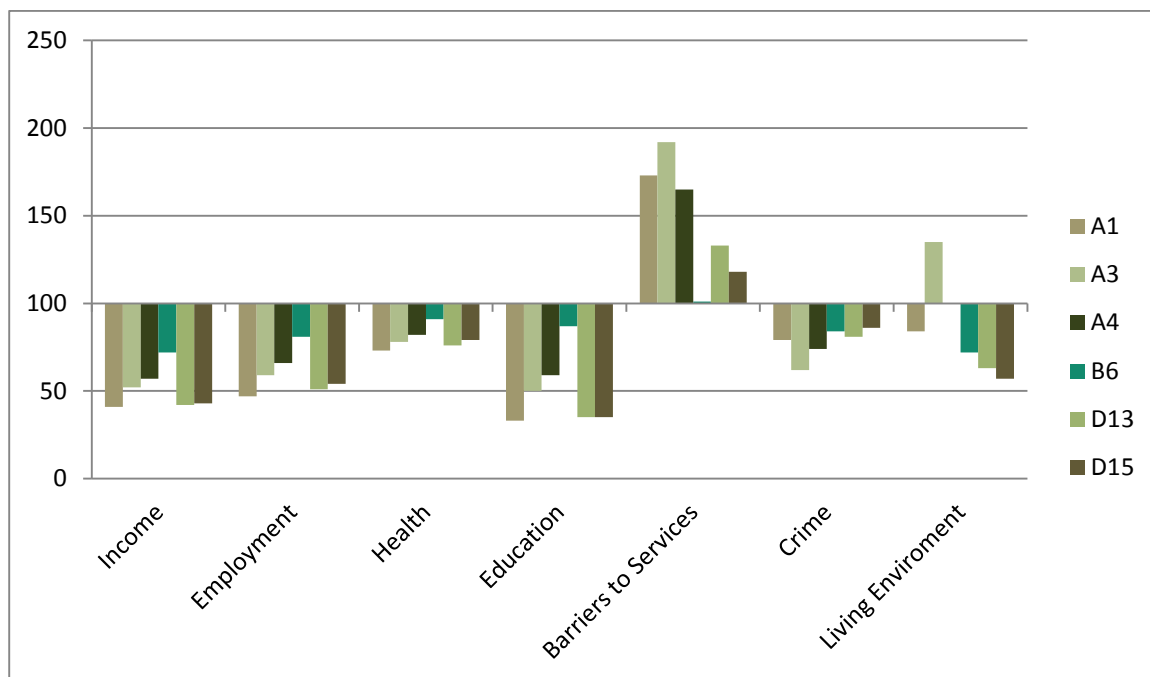
Whilst the analysis indicates that the rural young drivers are not particularly deprived according to the overall index of multiple deprivation; there are seven different indicators which make up the index and which measure different types of deprivation. These indicators are:

- Income – relates to the proportion of the population living in low income families, that is those reliant on means tested benefits
- Employment – defined as involuntary exclusion of the working age population from work
- Health and Disability – premature death and the impairment of quality of life by poor health
- Education, Skills and Training – the extent of deprivation in education, skills and training in an area.
- Barriers to Housing and Services – the physical and financial accessibility of housing and key local services
- Crime – measures the rate of recorded crime for four major crime types – violence, burglary, theft and criminal damage
- Living Environment – the quality of individuals' immediate surroundings both within and outside the home.¹⁵

Looking at the Mosaic Types identified in the previous section by each of these indicators reveals that all but one of the Types are deprived when it comes to the 'Barriers to Housing and Services' indicator. This indicator refers to geographical barriers related to the proximity of local services and also access to housing such as affordability. The housing aspect of this indicator refers to overcrowding, homelessness and housing affordability; none of which are likely to be over-represented amongst these Mosaic Types, given their economic positions. The over-representation of these Types within this indicator is likely to be based on the road distances to the key services of a GP surgery, food shop, primary school and Post Office. "Individuals who have to travel long distances to key local services are also disadvantaged."¹⁶ Whilst young people may not specifically want to access these particular

services, the high distances from them may indicate similarly high distances from services they do want to access, such as leisure, employment and education.

FIGURE 34 - INDEX OF MULTIPLE DEPRIVATION INDICATORS BY MOSAIC TYPE



The ‘Who?’ analysis has shown that rural young drivers have a significant peak in collision involvement at 17 and 18 years old. There was little difference between rural/urban and young/adult drivers in terms of journey purpose and gender. Regarding distance from home, rural young drivers are, on average, 17.7km from home at the time of their collision and there are slight variations in the distance depending on the over-represented collision factors analysed. In terms of the Index of Multiple Deprivation, rural young drivers tend to live in the 30 to 50% least deprived areas, which provides a similar pattern to rural adult drivers. Rural young drivers live in some of the most deprived areas when it comes to the ‘Barriers to Housing and Services’ indicator. There are certain Mosaic Types that rural young drivers tend to belong to and these are the same Types for all the over-represented collision factors.

SUMMARY OF OTHER EVIDENCE AND SUCCESSFUL SCHEMES

This section looks at other research and evidence into young drivers and/or rural driving to identify similarities with this report’s findings and to highlight any differences in conclusions.

There has been minimal UK research into young drivers who live in rural areas, as opposed to those who crash on rural roads. Australia, however, has been exploring the issue of young driver rural residency for a couple of years. In 2009, an article was published detailing the results of a study of 20,822 young drivers who were all aged between 17 and 24 years old, had a first-stage provisional driving licence and lived in New South Wales, Australia. The study involved the completion of a questionnaire requesting details “on demography, driving experience and training, risky driving behaviours, sensation seeking behaviour, alcohol use and mental health.”¹⁷ The participants gave permission for their data to be retrospectively linked to police-reported collisions. The postcodes of the young drivers were used to classify rurality into three levels: urban (metropolitan cities), regional

(country towns and surrounds) and rural (including remote) areas. There were some interesting findings which will be tested for UK young drivers in the *Drive It Home* questionnaire.

Fewer rural than urban participants were characterised by high level of risk driving, lower amounts of sleep (less than 7h per day), or driving more than 10h per week, but a higher proportion reported high sensation seeking and high alcohol dependency. Rural drivers also had more experience driving motorised vehicles before their learner licence, but fewer had held that licence for more than 1.5 years or had been trained by a professional instructor.¹⁸

One aspect of the demographics of the Australian cohort that reflects the collision data in this UK research is a younger age of those from rural areas: “two-thirds of participants in rural areas were age 17, compared to less than half of urban participants.”¹⁹ Other research has found higher collision rates for younger drivers and it has been argued that those who start driving at 18 years old will have 9% fewer crashes than those who start driving at 17 years old. This was reinforced in Canada after a change in licensure age from 18 years down to 16 years old. Analysis of before and after data found that collision involvement increased among new drivers by 12% and that fatalities increased by 24% because of the younger age of licensure.²⁰ “And it is this early licensure that leads to increased exposure and greater risk.”²¹

The Australian research was the first to examine the risk of single versus multiple vehicle collisions by rurality of young drivers and, as with this UK study, analysed the various collision factors in order to isolate those unique to rural young drivers. Interestingly, the Australian study found that:

a higher risk of single versus multiple vehicle crash for those living in regional or rural areas remained after adjusting for known risk factors such as driving experience, risky driving behaviours and driving exposure, which indicates that there are other unique aspects of rural residency that contribute to the increased risk.²²

This reflects the findings of this study where the high risk factors were present amongst rural young drivers but not their urban counterparts or their older rural neighbours. It suggests that age and residency affect risk levels and if the Australian results apply here, that risk is not just a function of experience, behaviour and exposure.

The paper concluded that initiatives to prevent single vehicle collisions should be adopted, including behavioural, engineering and policy change measures.

The findings illustrate that interventions to reduce speeding behaviours and manage driving at curved road sections, such as intelligent speed adaptation to alert or force drivers to reduce speeds, wider road shoulders and/or greater use of protective barriers, visual countermeasures, speed cameras or reduced speed limits at rural road curves, may help prevent vehicle crashes among rural young drivers and thereby reduce their over-representation in road crash statistics.²³

The same team of Australian researchers also analysed collisions involving young drivers between 1997 and 2007. The data showed an overall reduction in young driver fatality rates that was due to a significant decline amongst urban young drivers but that rural drivers experienced a higher rate of fatalities, which didn't change over time. “High posted speed limits ($\geq 90\text{km/h}$), fatigue, drink driving,

and not wearing a seatbelt were found to be related to this constant high fatality risk for rural drivers.”²⁴

In 2006, the Scottish Government and Road Safety Scotland commissioned research to gain an insight into rural drivers and rural driving. It was comprised of multiple facets, including an omnibus survey to assess the proportion of the Scottish population driving on rural roads; collision analysis; a survey of 1020 car drivers who had driven on a rural road in the previous 12 months; and focus groups of 17 to 34 year old men who drove on rural roads.²⁵ The research found that 17% of the main survey respondents had experienced a ‘near miss’ collision on a rural road in the previous 12 months and that young drivers; men; people from higher social grades; and drivers with points on their licence were all more likely to report a near miss.

In the survey of rural road drivers, only around half correctly understood the National Speed Limit sign to mean 60mph for car driving. Significantly more male drivers and younger drivers reported exceeding the speed limit on all road types (including rural roads)... Younger males in the focus groups generally saw driving on rural roads as an enjoyable activity in comparison to urban driving, and as an opportunity to test out their driving skills. This was reflected in the way they drove on rural roads, which was generally more carefree and at higher speeds.²⁶

Recommendations from the study included increasing speed enforcement on rural roads; extending driver training to include situations encountered on rural roads; that raising the age of learning to drive to 18 years old wasn’t supported by younger male drivers (neither was imposing curfews or limiting the number of passengers that new drivers can carry); and that campaigns focusing on collision statistics were ineffective and that challenging young males’ own self-belief in their driving abilities is likely to be ignored. It was suggested that adult-to-adult approaches would be more effective than adopting an authoritarian tone and that speed-related statements should focus on safe speeds, rather than legal limits, as this would be seen as advice, rather than criticism.²⁷ This approach has been adopted in the recently launched ‘Don’t Risk It’ campaign, where former Formula One racing driver, David Coulthard, shows how “even the best drivers in the world adjust their speed on country roads.”²⁸

The Scottish Executive and the Scottish Road Safety Campaign commissioned TRL in 2005 to review rural road safety literature as almost three-quarters of all fatalities on Scottish roads occurred outside built-up areas.²⁹ The review summarised the main factors in rural road collisions into three groups: “human factors (driver behaviour); environment factors (the road); and vehicle factors (defects).”³⁰ It found that there were two main driver behaviour factors associated with rural road collisions: speed and speeding; and driver fatigue and sleepiness. With speed, the report pointed out that there is a clearly-established link between speed and collision frequency and that higher speeds increase the severity of the collisions. It also suggested that young male drivers are the most likely group to drive at excessive speeds. With fatigue and sleepiness,

this is almost exclusively a problem on rural roads due to the greater driver stimulation on urban roads. It has long been associated with motorways, but recent research suggests that it could be the main factor in up to 20% of accidents on non-motorway rural roads.³¹

Other driver behaviour factors identified in the review were alcohol and drug use; driver distraction; and low seat belt usage, but there was no evidence to suggest that any of these factors were more

prevalent in rural areas than in urban areas.³² These studies are concentrating on the collision location rather than the driver residency, which might explain the difference in findings in this report.

The literature review identified many road factors associated with rural collisions:

- “The most common accident types on rural roads are head-on, run-off-the-road and junction accidents.
- Over 97% of Scotland’s road network is single carriageway – this is a higher proportion than the rest of Great Britain.
- Modern roads (of all types) are safer than older designs because they contain hard-strips, safety barriers, as well as fewer and better-designed junctions.
- Most accidents on single carriageways occur on A roads in 60mph speed limits away from junctions. They tend to be more severe than accidents in built-up areas.
- Single vehicle accidents account for around one third of all rural single carriageway accidents. They are more likely to occur on B or C class roads at night, on bends, and involve young drivers.
- Young drivers and motorcyclists are identified as being particularly at risk on rural roads.
- Road width, horizontal and vertical alignment, roadside characteristics, and junction frequency and design are all identified as factors contributing to rural road safety.”³³

They also identified that darkness; wild animals (especially deer); tourist activity and emergency service response can increase the number of collisions and survivability in some rural areas of Scotland. The review identified a great deal of literature dealing with engineering measures for rural areas and suggested that automatic speed enforcement may be particularly useful on rural roads. There was very little evidence regarding specific education, publicity and training interventions targeting rural roads and no evaluations found for those international campaigns that were identified. It also found that:

Driver training has been found to focus on basic control skills, but there is evidence to suggest that attitude rather than skill is related to crash involvement. This will be particularly the case on rural roads because of higher speeds. Driver training, therefore, should address driving style.³⁴

The review made some recommendations for action on Scottish rural road safety, including the development of a rural road safety strategy (that includes campaigns, enforcement and engineering); targeting young drivers in education and publicity campaigns; highlighting the dangers of rural roads to all drivers through campaigns, concentrating on changing the belief that less traffic on rural roads makes them safer; developing campaigns reminding drivers of the dangers of impairment through alcohol, fatigue and mobile phone use; and targeting motorcyclists.³⁵

Devon County Council undertook a review of the evidence on education, training and publicity (ETP) for young and new drivers. The review looked at international, national, regional and local collision data and examined evidence surrounding the various aspects of young driver collision involvement.

Whilst the study was not specifically looking at rural young drivers, the behavioural and psychological conclusions are applicable to recipients of the rural young driver campaigns.

A number of recommendations can be made from the evidence on young driver ETP initiatives:

Parental Involvement

- Parents' driving behaviour influences children from a young age, therefore parents could promote safe driving whilst carrying passengers
- Parents' knowledge could be increased about how risky driving may be for young drivers as they often lack information about the risk involved
- Parent-driver agreements could be developed and negotiated which indicate promises about driving behaviour over a set period of time
- Parent-driver agreements could focus on the main risky factors related to young drivers such as, night time driving and the number of passengers in the vehicle

Skills

- Research could examine the influence log books have on young drivers during the learning process
- Mental elaboration methods of training could be used where young drivers are required to reflect on their actions as they have been shown to be effective

Risky Behaviours

- Young males should be targeted specifically as they tend to be more prone to being involved in a road collision compared to females
- The issues of speeding and night time driving could be addressed as these are shown to be the highest contributing factors for collisions involving young drivers
- Young drivers' awareness of risky driving behaviours needs to be increased so that even though it might not be the intent, there is increased understanding that risky driving behaviour may lead to harm
- Young drivers could be informed that if they are carrying passengers they are not the only ones at risk

Attitudes and social norms

- Attitudes to driving could be changed from a focus on driving from a mainly physical activity towards incorporating elements of driving as an emotional and social activity
- Young drivers' social norms and culture could be influenced so that risk taking whilst driving is seen as being undesirable
- Young drivers' perceptions could be challenged in terms of what characteristics are related to being a good driver

Considerations and caveats

- Evaluation could usefully be carried out on current pre and post driver interventions to establish which are most effective at increasing road safety in order to build an evidence base in this area
- Groups of young drivers that are particularly exposed to road collisions could be established in order to inform road safety professionals which groups to target

- Initiatives could be based on conceptual frameworks of young driver behaviour in order to increase the likelihood of changing risky driving behaviour towards safer driving
- The potential of peer-to-peer initiatives could be researched and evaluated to examine the successfulness of this approach
- Investigation into developing technology, such as electronic monitoring devices, that could be used to examine and monitor young driver behaviour is required
- Incentives could be evaluated in order to assess their potential to encourage young drivers to adopt safe driving behaviour following licensure
- Theory of planned behaviour could be adopted into young driver initiatives to provide a base for behaviour change³⁶

Regarding parental involvement from the previous list, several studies have shown that greater parental involvement and control has a direct effect on the risky driving behaviour of their teenage child. One study found that:

traffic violations were four times as likely for teens with lenient parental supervision and crashes were almost seven times as likely for teens with lenient supervision. Parents do not appear to appreciate the risks for young novice drivers and tend to exert less control over their children's driving than one might expect.³⁷

One particularly relevant finding related to training. The traditional method of driver training takes place in-vehicle and focuses on handling and control skills, with a view to improving the physical vehicle manoeuvring and cognitive skills. However, this type of training fails to “address high order skills and the motivational factors behind driving. In comparison, insight training focuses on the motivations of driving and identifies risky behaviour including ‘overconfidence, overestimation of skills and underestimation of risk.’”³⁸ The skills-based aspects of young driver campaigns should ensure that hazard perception, information processing and attention control are integrated into the training. Elaboration-based training, where participants imagine a severe collision scenario and visualise their feelings and the consequences for their future lives, could be included.

Insight driver training focuses on providing drivers with ‘greater insight and awareness of potential risks when driving’. This is a particularly important approach for younger drivers as it aims to target issues of over confidence.... There are some types of initiatives that have been shown to increase young drivers’ risk of being involved in a collision. Skills programmes such as skid training have been shown to increase young drivers’ confidence of coping with difficult driving situations, increasing their exposure to collisions.³⁹

Insight training is an off-road based training programme where a driver moves around a number of different ‘stations’ where they will encounter a range of situations. These could include an assessment of stopping distances; avoiding a sudden hazard on the road (such as an animal); a discussion whereby they self-diagnose their personal strengths and weaknesses; and peer discussions of the attitudes and personality factors that can influence driving. Whilst the aim is to provide reflection of driving competence; there has been no substantial evidence that it can specifically reduce young driver

collision risk. However, Insight Training has proved successful amongst fleet drivers and therefore it has the potential to work with young drivers.⁴⁰

The Devon study examined international and national young driver collisions and found that the factors over-represented in this study for rural young drivers are reflected elsewhere. It appears that rural young drivers are particularly exposed to the factors that are likely to increase the risk of a collision for all young drivers.

The key points from the collision data from countries around the World, Great Britain and Devon relating to young drivers suggest there is strong evidence that:

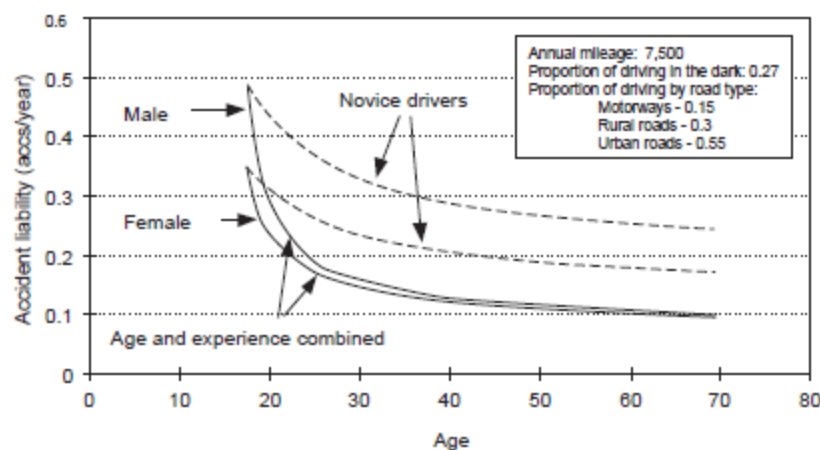
- Over-representation of those aged 16-24 years old in road traffic collisions compared to other age groups
- Males tend to be more prone to being involved in road collisions compared to females
- Speeding is a key contributory factor to collision involvement with exceeding the speed limit and driving too fast for conditions
- Collisions are likely to occur in the night time hours, rural roads, single vehicle and on Fridays and Saturdays
- Young drivers are involved in collisions where they failed to cope with unexpected situations due to their inexperience, have distraction from passengers and during the night time⁴¹

The Devon study examined the evidence surrounding age and inexperience. A lack of experience of novel driving situations means that young drivers tend to be more error-prone. "As driving experience develops this improves drivers' awareness of hazards and guides driver's eye movement towards locations in which potential hazards may arise."⁴²The study cited evidence from the US Department of Transportation Federal Highway Administration, which identified characteristics related to under-developed young driver skills. "This included:

- *Visual search* – young drivers tend to be more vehicle focused than looking ahead for hazards
- *Automaticity* – young drivers have a lack of experience and therefore have not acquired fluid switching of driving tasks under stressful conditions
- *Hazard detection* – young drivers detect hazards slower compared to older more experienced drivers. Young drivers with a lack of experience are likely to have deficiencies in their hazard perception compared to those more experienced older drivers
- *Perception of risk* – risk tends to be underestimated by young drivers
- *Attention allocation* – young drivers are easily distracted by passengers and in car electronics
- *Self assessment* – young drivers tend to overestimate their ability to drive
- *Vehicle control* – young drivers have less experience at making emergency manoeuvres and are vulnerable to over compensating and losing control
- *Anticipation* – young drivers are less likely to look ahead for developing situations and emerging hazards⁴³

The Devon study examined a paper which looked at 13,500 collision-involved drivers to identify collision liability. It found a “fall in collision liability in the first few years of driving, this may be due to young drivers increasing their experience on the roads and having a greater ability to cope with demanding situations.”⁴⁴ However, as shown in the figure below, it found that the collision liability of newly-qualified 30 year old drivers was half of that of 17 year old drivers and that in the first couple of years of driving, collision liability falls significantly with increasing age.⁴⁵ It suggests that age is a greater factor than inexperience and this would reflect the findings in this report, where rural young drivers involved in collisions tend to be younger than their urban counterparts.

FIGURE 35 - THE INFLUENCE OF AGE AND EXPERIENCE ON THE COLLISION LIABILITY OF MAKE AND FEMALE DRIVERS⁴⁶



In terms of inexperience, it has been estimated that in the UK and Europe, the best casualty reduction achievable through driver training was only 5-10%. It has been argued that reductions in collision risk at around 40 years old are likely to be due to increased experience, which leads to greater competence; and increased maturity, which leads to a more considered attitude to risk-taking. As providing greater skills at a younger age through driver training haven't been shown to greatly improve experience and thus competency, “perhaps maturity and attitudes to risk-taking may be the key to unlocking the reasons behind young drivers’ disproportionate crash risk.”⁴⁷

Rather than focusing on improving driving skills, attention should be paid to behaviour and attitudes. The Driver Behaviour Questionnaire provides an insight into driver behaviour through self-reported likelihood to perform certain driving actions. These actions are separated into lapses, errors and violations and it has been found that violations are linked to collision-risk, whereas errors and lapses are not. Young drivers and male drivers are more likely to commit violations than other groups and that violation-prone drivers are also overconfident and are more likely to have an aggressive driving style.⁴⁸ Personality traits can affect driver behaviour – sensation seeking is common in youth and declines with age and it has been found that those with higher sensation seeking tendencies have a higher collision risk. “Data suggested what driver characteristics are linked to sensation seeking. These included inexperienced drivers, male drivers and those from households with higher earnings.”⁴⁹

Analysis of other evidence has shown that there are general rural young driver characteristics which have been observed internationally. In Australia, rural young drivers were more likely to report higher sensation seeking and alcohol dependency as well as being younger, holding their licence for a shorter period of time and having more pre-licence experience. Elsewhere, younger ages of

licensure have been seen to lead to higher collision rates. Studies in Scotland have shown that young drivers are amongst some of the groups more likely to have reported near misses on rural roads and that speed and fatigue are particular issues. These studies mostly support the conclusions reached in this report that rural young drivers are presented with particular driver challenges. Unlike this study, no evidence was found in the Scottish report to show that alcohol was more of a contributory factor in rural areas than urban. A review of young driver interventions provided a number of recommendations, ranging from encouraging parental involvement; addressing young driver attitudes; through to an increased use of insight driver training.

SELF-REPORTED EVIDENCE FROM RURAL YOUNG DRIVERS

On 14th February 2013, AgriChatUK hosted a Twitter conversation for NFYFC on rural road safety. A series of questions were asked over the evening to gauge the opinions of residents of rural (especially farming communities) about road safety issues. It generated a total of 630 tweets from 109 participants.⁵⁰

The following are some of the Tweets generated during the conversation. Estimations on age and gender have been made, based on the participants' Twitter profiles.

Question 1: what issues/situations do you come across when driving on rural roads?

"Driving too fast for the road & weather conditions."

"Drivers overtaking when they can't see what is coming."

<25, F

"People driving too fast, not looking beyond the ends of their noses."

<25, M

"Speeding drivers are often local people... not people who are unfamiliar with the roads."

>25, M

"Unfortunately young lads show off (I was one of them) makes the new equal insurance very interesting."

"Speed mentality with very limited experience in car control, boys think it's cool & think girls impressed by it"

<25, M

"Re young driver accidents. Would b interesting 2 see drink driver arrests in rural areas. From experience sadly occurs far more."

<25, M

"In my not-inconsequential experience younger rural drivers are incredibly blasé about drink-driving. Potholes and flooded roads cause most grief this time of year"

>25, M

Question 1b: why are rural roads more dangerous at night?

"Dangers get hidden in the dark especially sharp bends, road flooding, black ice on smaller rural roads."

>25, M

"Think at night drivers expect roads to be emptier, so take more risks."

<25, M

Question 2a: have you ever been involved in a road traffic accident? What was the main cause?

"Speed and ice, speed and narrow road. Inexperience is the key factor IMHO"

>25, M

"Down to me... I had just passed and too cocky on the road. Cost my mum n dad a fortune ☹ didn't speak to me for weeks"

<25, F

"Touch wood haven't had accident, but plenty of friends have flipped cars, crashed into brick walls, ditches etc on rural rds."

<25, F

Question 2b: what was the impact on you? Have you lost a loved one?

"Don't like to be sexist, but three close guy mates have written off cars (one three times), but no girls as yet."

"I started refusing lifts when younger from boy mates due to their showing off. Terrifying."

<25, F

"To be fair though, not every young guy shows off; it's the vast majority though unfortunately."

<25, M

Question 3b: how can we make a difference to improve road safety?

"Hopefully can change young drivers attitude to speed and be more patient. Car full of youngsters always a problem."

>25, M

"Not sure it is, unless cars can be made to go slower/restricted. I'm dreading my children taking to the road."

>25, M

"Include rural roads in driving test and support post test training."

>25, F

Question 4: living in rural areas means a bigger reliance on the use of car/public transport. What issues does that cause for U?

"Rural isolation in the Highlands leads to drink/drive offences and accidents. No transport to socialise with neighbours/friends"

<25, F

"Night taxis and buses in some areas are few and far between, too many risk drink and drive policy."

<25, M

"Reliance on a car is vital for social life, education, opportunities."

>25 F

"Always reliant on taxis (v expensive) or a designated driver. Know several people who have driven while drunk. Not cool."

<25, F

"I work in local pub & drink driving levels are shocking. Belief "can handle it" but several times over the limit."

<25, F

Question 6: RTA's are the biggest cause of death in 15-24 yr olds, how can we change attitudes?

"Reading through all the tweets, definitely going to take it more steady now, some wrenching facts!"

<25, F

"The majority of young drivers are trained to pass the test but not how to drive in various circumstances."

>25, M

Question 7: do we need to increase perception to the public about hazards/risks on rural roads? If so, how to do it?

"Rural roads not racetracks – flowers at the roadside says it all"

>25, F

"We need to make drink drivers realise they are repulsive. No ifs, no buts"

>25, M

"Tell them 2 read the road. Is it wet/dry? Look as far ahead as you can see, not just the end of the bonnet. Look 4 the dangers"

>25, M

"Horrible cliché I know but can "Expect the unexpected" on rural roads be used? You never know what's around the next corner."

<25. M

The rural young drivers themselves support the findings of this report. When asked about the causes of collisions, they cite bends, wet road surfaces and driving too fast for conditions. Drink driving was frequently mentioned and there is the perception that there are attitudinal issues amongst young, particularly male, drivers. Analysis of the survey results will shed further light onto the self-reported attitudes, behaviour and knowledge of rural and urban young drivers and the effect of the Drive It Home campaign.

EXISTING SCHEMES

The following are a selection of evaluated young driver schemes.

2young2die - <http://www.2young2die.org.uk/>

Brake's pilot young driver project was evaluated in 2004. The scheme involved a presentation to young people and included a hard-hitting DVD. Whilst there were issues with the evaluation design in that there was no control group; no way of matching respondents in before and after questionnaires; and no repeated questions to track behaviour change; the study did reveal higher rates of crash involvement; speeding detections; and more dangerous driving behaviours amongst young people who admitted to driving unlicensed. Positive feedback was received about the session and there were high levels of promised compliance with the Brake pledges.

AAMI/Skilled Drivers - <http://www.aami.com.au/skilled-drivers>

This Australian project offers insight training, rather than the traditional skills training. It involves a one-day course, with classroom and track elements. "Theory sessions include discussions of crash factors, including human and defensive factors, with a focus on the role of the driver... Participants take part in the practical exercises using the vehicle that they usually drive (their own or parents' car, for example), with an instructor in the front passenger's seat and other participants in the rear seats. Through repetition of exercises at different speeds and allowing for different stopping distances on courses marked by cones, the exercises allow the participants to experience some loss of control while driving and tend to arouse mild anxiety levels. The result is a personal learning experience of distances needed to stop safely and speeds required to avoid sudden hazards. At the end of the day, the key messages and lessons of the day are reviewed in a plenary session."⁵¹

Evaluation of the project found that confidence in driving ability did not increase and there were positive findings in relation to dangerous driving behaviours, as measured by the Driver Behaviour Questionnaire. The likelihood to speed was reduced post-training. Recommendations included that a variety of teaching mediums are used and the tendency to arise mild anxiety levels should continue. It suggested that training programmes like this should involve groups of young drivers, rather than individuals, to capitalise on making participants aware of their inexperience and the inexperience of their peers and also to include social factors.

Safe Drive Stay Alive - <http://www.safedrive.org.uk/>

Safe Drive Stay Alive (SDSA) is a theatre in education project that has been running in Thames Valley for 6 years. Over 50,000 young people have witnessed “a film of a crash in the local area which has been specially prepared, with roads and hospitals familiar to local students. As the drama unfolds and the emergency services arrive on the scene, the faces on film literally step onto stage. Pausing the film for a moment, they speak to the audience about their experiences, the reactions of the driver and passengers, the medical implications and how seeing such trauma affects them personally. Until the end, the audience is unsure which of the car’s occupants will make it.”⁵²

Questionnaires have been distributed yearly to attendees and to control groups, who are not subject to the intervention. In the most recent study, SDSA attendees demonstrated more conservative views towards drink-driving; mobile phone use; speeding; carrying passengers; and as a passenger, than the control group. 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.⁵³

Safe Drive Stay Alive is also run in Stirling, Surrey and Wiltshire.

For My Girlfriend - <http://www.fmq.org.uk>

For My Girlfriend is an internet, radio and poster/card campaign that has been running for a number of years in various locations across the country. The message “confronts a young male driver with the awful prospect of killing his girlfriend who is travelling as a passenger in his car while he is driving too fast. The key campaign resource is a Valentine Card, which is distributed primarily through educational establishments.”⁵⁴ The campaign was launched in 2002 and has run every year since.

An evaluation was undertaken in 2008, which found there was high recall of the poster, Valentine card and radio adverts. Over 85% respondents thought the card and poster elements of the campaign were “thought provoking and effective; memorable; hard hitting; and made them think about the consequences of driving too fast.”⁵⁵ With the radio advert, over 85% of respondents felt the “campaign has made me more aware of the speed at which I drive; is thought provoking and effective; is hard hitting; makes me think about the consequences of driving too fast; and has made me more aware of the speed people drive when I am a passenger.”⁵⁶

RECOMMENDATIONS

The findings of this research could be used to argue the case for:

Graduated driving licences

Graduated driving licensing (GDL) schemes have been in place since the 1970s and are a method of controlling risks and collision rates amongst young drivers by gradually introducing more complex driving situations.

The ideal GDL program has three stages. The beginning stage requires that an adult with a valid license be present at all times; under GDL this stage should last for an extended, mandatory amount of time. The intermediate stage allows the new driver to drive alone but with certain restrictions (e.g. no night-time driving, limitations on extra passengers, restrictions on blood alcohol concentration – BAC). The final stage is full licensure, whereby the individual is free to drive independently under the usual laws and regulations.⁵⁷

A Cochrane Review of graduated driving licencing looked at 34 evaluation studies of various types of GDL schemes. “All of the studies reported positive findings, with reductions for all types of crashes among all teenage drivers. However, the size of the reductions varied, and based on the included studies it is not possible to say which aspects of GDL programs have the biggest effect.”⁵⁸ Amongst the positive findings are 6 to 41% reductions in injury collision involvement after one year (adjusted), with a median 25% reduction.⁵⁹

The Association of British Insurers have recently undertaken an international review of GDL evidence and are calling for the introduction of graduated driving licensing to restrict the number of young passengers that can be carried by young drivers; to limit their night-time driving and a lowering of the blood alcohol concentration for young drivers.⁶⁰ This study has shown that rural young drivers are particularly over-represented in all of these elements and so the introduction of GDL could be particularly beneficial to reducing rural young driver collision risk.

Rural driving tests

Currently, there is no requirement to demonstrate ability to drive on rural roads within the driving test. Many driving test centres are located within town and city centres and driving tests, for practical reasons, tend to take place within a set distance of the test centre. It means that novice rural drivers can be tested in an environment in which they will rarely drive whilst never demonstrating the skills on the roads that they commonly will be travelling on.

The Institute of Advance Motorists are recommending that the driving tests should be made more difficult and that driving on rural A roads should be a mandatory part of the driving test.⁶¹ This research has shown that rural roads present particular challenges to new and young drivers and demonstrating competency on such roads could help ameliorate risk.

For rural communities to provide more transport options for young residents

Rural communities could work with young drivers to limit the risky situations they find themselves in by offering alternative forms of transport. As the deprivation element of the research has shown, rural

young drivers are deprived in terms of access to services, which could be forcing them to drive in situations which their urban counterparts do not find themselves.

The Agrichat Twitter discussion revealed that rural communities have limited bus services and taxis are expensive and therefore in order to access employment, education and leisure, rural young drivers have little option to drive. Community-based transport schemes could be used to take young people to evening events or to locations during poor weather to mitigate the risks of driving in these situations where they are over-represented within the collision statistics.

Telematics based insurance products

A number of major and niche insurers are now offering the option of telematics based insurance products. Through the use of a 'black box' fitted to the car, the insurer receives a complete record of the vehicle's journeys including measures that indicate certain driving behaviours such as rate of acceleration or deceleration as well as G-force experienced whilst cornering. Insurance products can therefore be developed which, through their financial payments and penalties structure, discourage driving at certain times and in certain ways. The effect is to incentivise policy holders to drive in a manner that directly avoids excessive risk taking.

This technology, when used in conjunction with the findings of this report, would afford an insurance company the opportunity to build a product that was particularly tailored to the needs and risks of the rural young driver.

Alcolocks

Another new technology assistance option could be the installation of Alcolocks or alcohol interlock systems.

An alcolock is an alcohol tester which is connected to the start-up mechanism of the car. The tester acts as a vehicle immobilizer. It is not possible to start the car until the driver has successfully passed a breath test. Until now, the most widely used and most reliable testers are breath testers with an electrochemical fuel cell as a sensor.... A recent development are sensors in the steering wheel that function as testers by measuring the amount of alcohol from perspiration in the palm of the hand.⁶²

Alcolocks were first installed in California in the United States in 1986 where those caught drink-driving had to have an alcolock installed in their car. Other countries have since replicated the programme. Sweden is the only European country that has introduced alcolocks on a wider scale and used them for preventative measures in trucks, buses, school buses and taxis. "Large scale quantitative research on alcohol ignition interlocks in use has shown that alcolocks are 40 to 95 per cent more effective in preventing drink driving recidivism than traditional measures such as license withdrawal or fines."⁶³

The installation of alcolocks by young drivers could be used to enforce a lower alcohol limit under GDL. Alternatively, rural young drivers could voluntarily install an alcolock system, perhaps in conjunction with insurance companies, where night-time driving is not restricted but alcohol consumption is strongly discouraged. The temptation to drink and drive would be greatly reduced if there was a chance that the vehicle would be immobilised and the young driver stranded and unable to return to their rural home.

APPENDIX A

FIGURE 36 - FACTOR ANALYSIS

| | Rural Young Drivers | Urban Young Drivers | Rural Adult Drivers | Urban Young Drivers |
|--|---------------------------|---------------------------|---------------------------|---------------------------|
| Rural Roads and Darkness | 289 | 103 | 160 | 60 |
| Rural Roads not in Darkness | 169 | 74 | 188 | 76 |
| Urban Roads and Darkness | 86 | 135 | 57 | 101 |
| Urban Roads not in Darkness | 40 | 115 | 42 | 118 |
| Rural Roads and Bends | 307 | 101 | 177 | 53 |
| Rural Roads not at Bends | 162 | 74 | 185 | 78 |
| Urban Roads and Bends | 61 | 163 | 35 | 99 |
| Urban Roads not at Bends | 40 | 133 | 42 | 119 |
| Rural Roads and 60mph | 239 | 72 | 213 | 62 |
| Rural Roads and not 60mph | 148 | 82 | 164 | 83 |
| Urban Roads and 60mph | 93 | 109 | 93 | 99 |
| Urban Roads and not 60mph | 40 | 115 | 41 | 118 |
| 60mph and Darkness | 348 | 100 | 178 | 48 |
| 60mph and not in Darkness | 203 | 68 | 214 | 67 |
| Not 60mph and Darkness | 175 | 112 | 119 | 81 |
| Not 60mph and not in Darkness | 68 | 105 | 75 | 109 |
| 60mph and Bends | 339 | 97 | 188 | 48 |
| 60mph and not at Bends | 196 | 67 | 213 | 69 |
| Not 60mph and Bends | 148 | 138 | 93 | 82 |
| Not 60mph and not at Bends | 67 | 104 | 76 | 110 |
| 60mph and Single Vehicle Collisions | 400 | 117 | 157 | 42 |
| 60mph and not Single Vehicle | 185 | 62 | 221 | 70 |
| Not 60mph and Single Vehicle | 94 | 121 | 71 | 101 |
| Not 60mph and not Single Vehicle | 67 | 103 | 78 | 109 |
| 60mph and Loss of Control | 311 | 101 | 157 | 45 |
| 60mph and not Loss of Control | 190 | 70 | 207 | 68 |
| Not 60mph and Loss of Control | 101 | 145 | 69 | 86 |
| Not 60mph and not Loss of Control | 62 | 101 | 74 | 114 |
| 60mph and Positive Breath Tests | 305 | 90 | 170 | 53 |
| 60mph and Negative Breath Tests | 206 | 74 | 192 | 66 |
| Not 60mph and Positive Breath Tests | 119 | 147 | 62 | 91 |
| Not 60mph and Negative Breath Tests | 70 | 105 | 76 | 110 |
| 60mph and Non Dry Road Surfaces | 263 | 79 | 207 | 58 |
| 60mph and Dry Road Surfaces | 207 | 70 | 206 | 68 |
| Not 60mph and Non Dry Road Surfaces | 83 | 113 | 79 | 103 |
| Not 60mph and Dry Road Surfaces | 66 | 102 | 76 | 110 |
| Bends and Darkness | 155 | 172 | 99 | 66 |
| Bends and not in Darkness | 243 | 117 | 140 | 65 |
| Not Bends and Darkness | 89 | 109 | 93 | 100 |
| Not Bends and not in Darkness | 86 | 98 | 96 | 104 |

| | Rural Young Drivers | Urban Young Drivers | Rural Adult Drivers | Urban Young Drivers |
|---|---------------------------|---------------------------|---------------------------|---------------------------|
| Bends and Single Vehicle | 339 | 149 | 113 | 50 |
| Bends and not Single Vehicle | 176 | 96 | 159 | 76 |
| Not Bends and Single Vehicle | 116 | 112 | 85 | 98 |
| Not Bends and not Single Vehicle | 81 | 96 | 98 | 104 |
| Bends and Non Dry Road Surfaces | 267 | 121 | 144 | 60 |
| Bends and Dry Road Surfaces | 213 | 114 | 134 | 72 |
| Not Bends and Non Dry Road Surfaces | 101 | 103 | 103 | 98 |
| Not Bends and Dry Road Surfaces | 78 | 96 | 93 | 106 |
| Bends and Positive Breath Tests | 244 | 144 | 109 | 59 |
| Bends and Negative Breath Tests | 223 | 117 | 132 | 66 |
| Not Bends and Positive Breath Tests | 134 | 132 | 79 | 89 |
| Not Bends and Negative Breath Tests | 84 | 97 | 97 | 105 |
| Bends and Loss of Control | 259 | 134 | 113 | 51 |
| Bends and not Loss of Control | 193 | 107 | 139 | 68 |
| Not Bends and Loss of Control | 135 | 125 | 97 | 82 |
| Not Bends and not Loss of Control | 75 | 94 | 96 | 109 |
| Darkness and Single Vehicle | 405 | 141 | 119 | 43 |
| Darkness and not Single Vehicle | 195 | 85 | 171 | 74 |
| Not Darkness and Single Vehicle | 127 | 117 | 87 | 94 |
| Not Darkness and not Single Vehicle | 81 | 97 | 98 | 104 |
| Darkness and Non Dry Road Surfaces | 279 | 102 | 160 | 61 |
| Darkness and Dry Road Surfaces | 266 | 109 | 141 | 65 |
| Not Darkness and Non Dry Road Surfaces | 107 | 106 | 103 | 96 |
| Not Darkness and Dry Road Surfaces | 79 | 97 | 93 | 106 |
| Darkness and Not at Junctions | 289 | 110 | 144 | 61 |
| Darkness and at Junctions | 225 | 91 | 172 | 68 |
| Not Darkness and Not at Junctions | 114 | 97 | 115 | 95 |
| Not Darkness and at Junctions | 73 | 101 | 95 | 107 |
| Single Vehicle and Loss of Control | 210 | 132 | 104 | 63 |
| Single Vehicle and not Loss of Control | 133 | 106 | 102 | 91 |
| Not Single Vehicle and Loss of Control | 140 | 123 | 101 | 81 |
| Not Single Vehicle and not Loss of Control | 77 | 93 | 99 | 108 |
| Single Vehicle and Non Dry Road Surfaces | 221 | 131 | 104 | 73 |
| Single Vehicle and Dry Road Surfaces | 129 | 113 | 83 | 96 |
| Not Single Vehicle and Non Dry Road Surfaces | 102 | 99 | 110 | 97 |
| Not Single Vehicle and Dry Road Surfaces | 80 | 95 | 97 | 105 |
| Single Vehicle and Not at Junctions | 216 | 122 | 105 | 76 |
| Single Vehicle and at Junctions | 94 | 118 | 67 | 104 |
| Not Single Vehicle and Not at Junctions | 107 | 90 | 126 | 95 |
| Not Single Vehicle and at Junctions | 76 | 99 | 89 | 107 |

| | Rural Young Drivers | Urban Young Drivers | Rural Adult Drivers | Urban Young Drivers |
|--|---------------------------|---------------------------|---------------------------|---------------------------|
| Loss of Control and Non Dry Road Surfaces | 203 | 129 | 111 | 64 |
| Loss of Control and Dry Road Surfaces | 158 | 127 | 94 | 78 |
| Not Loss of Control and Non Dry Road Surfaces | 105 | 100 | 107 | 97 |
| Not Loss of Control and Dry Road Surfaces | 75 | 92 | 95 | 110 |
| Loss of Control and Not at Junctions | 207 | 124 | 114 | 65 |
| Loss of Control and at Junctions | 116 | 140 | 76 | 84 |
| Not Loss of Control and Not at Junctions | 119 | 97 | 119 | 93 |
| Not Loss of Control and at Junctions | 67 | 94 | 89 | 112 |

APPENDIX B

FIGURE 37 - RURAL YOUNG DRIVER INVOLVEMENT BY COUNTY OF RESIDENCY

| Geographical County | Annual Average | One-in-Rate | Index |
|-----------------------------------|----------------|-------------|-------|
| North and North East Lincolnshire | 126 | 74 | 140 |
| South Glamorgan | 35 | 77 | 135 |
| Lincolnshire | 396 | 78 | 134 |
| Surrey | 179 | 83 | 125 |
| East Sussex | 151 | 83 | 125 |
| Dyfed | 297 | 89 | 117 |
| Isle of Wight | 39 | 90 | 115 |
| Hereford | 95 | 92 | 114 |
| Cheshire | 203 | 92 | 113 |
| West Sussex | 184 | 92 | 113 |
| Warwickshire | 168 | 93 | 111 |
| Powys | 119 | 95 | 110 |
| Cumbria | 253 | 96 | 109 |
| East Yorkshire | 172 | 95 | 109 |
| Bedfordshire | 147 | 97 | 108 |
| Suffolk | 301 | 97 | 108 |
| Cornwall | 316 | 98 | 107 |
| Kent | 450 | 99 | 105 |
| Dorset | 184 | 100 | 104 |
| Clwyd | 187 | 100 | 104 |
| Buckinghamshire | 163 | 102 | 102 |
| Derbyshire | 256 | 102 | 102 |
| Hampshire | 255 | 102 | 102 |
| South Yorkshire | 148 | 102 | 102 |
| Cambridgeshire | 327 | 103 | 101 |
| Essex | 399 | 103 | 101 |
| Hertfordshire | 117 | 103 | 101 |
| Worcestershire | 135 | 104 | 100 |
| Lancashire | 294 | 106 | 99 |
| Nottinghamshire | 215 | 105 | 99 |
| Devon | 330 | 106 | 98 |
| Durham (North of Teesside) | 246 | 107 | 98 |
| Northumberland | 143 | 106 | 98 |
| Staffordshire | 221 | 106 | 98 |
| Gwynedd | 158 | 107 | 97 |
| Berkshire | 101 | 109 | 96 |
| Central, South and East Somerset | 232 | 109 | 96 |
| Central and North Gloucestershire | 161 | 110 | 95 |
| South Gloucestershire | 32 | 110 | 95 |

| Geographical County | Annual Average | One-in-Rate | Index |
|-------------------------------------|----------------|-------------|-------|
| North Yorkshire (South of Teesside) | 342 | 111 | 94 |
| Merseyside | 16 | 112 | 93 |
| Norfolk | 380 | 112 | 93 |
| Greater London | 9 | 113 | 92 |
| West Midlands | 19 | 114 | 91 |
| North Somerset and Bath | 69 | 117 | 89 |
| Durham Teesside | 8 | 118 | 88 |
| Oxfordshire | 186 | 118 | 88 |
| West Yorkshire | 207 | 122 | 85 |
| Shropshire | 174 | 124 | 84 |
| Leicestershire | 155 | 126 | 83 |
| Tyne and Wear | 38 | 125 | 83 |
| Wiltshire | 213 | 126 | 83 |
| Northamptonshire | 172 | 126 | 82 |
| Mid Glamorgan | 117 | 131 | 79 |
| Greater Manchester | 40 | 141 | 74 |
| North Yorkshire Teesside | 35 | 144 | 72 |
| Rutland | 26 | 160 | 65 |
| Gwent | 79 | 175 | 59 |
| North Glamorgan | 34 | 203 | 51 |

APPENDIX C

| Mosaic Type | Description |
|-------------|---|
| A01 | Rural families with high incomes, often from city jobs |
| A02 | Retirees electing to settle in environmentally attractive localities |
| A03 | Remote communities with poor access to public and commercial services |
| A04 | Villagers with few well paid alternatives to agricultural employment |
| B05 | Better off empty nesters in low density estates on town fringes |
| B06 | Self employed trades people living in smaller communities |
| B07 | Empty nester owner occupiers making little use of public services |
| B08 | Mixed communities with many single people in the centres of small towns |
| C09 | Successful older business leaders living in sought-after suburbs |
| C10 | Wealthy families in substantial houses with little community involvement |
| C11 | Creative professionals seeking involvement in local communities |
| C12 | Residents in smart city centre flats who make little use of public services |
| D13 | Higher income older champions of village communities |
| D14 | Older people living in large house in mature suburbs |
| D15 | Well off commuters living in spacious houses in semi rural settings |
| D16 | Higher income families concerned with education and careers |
| E17 | Comfortably off suburban families weakly tied to their local community |
| E18 | Industrial workers living comfortably in owner occupied semis |
| E19 | Self reliant older families in suburban semis or industrial towns |
| E20 | Upwardly mobile South Asian families living in inter war suburbs |
| E21 | Middle aged families living in less fashionable inter war suburban semis |
| F22 | Busy executives in town houses in dormitory settlements |
| F23 | Early middle aged parents likely to be involved in their children's education |
| F24 | Young parents new to their neighbourhood, keen to put down roots |
| F25 | Personnel reliant on the Ministry of Defence for public service |
| G26 | Well educated singles living in purpose built flats |
| G27 | City dwellers owning houses in older neighbourhoods |
| G28 | Singles and sharers occupying converted Victorian houses |
| G29 | Young professional families settling in better quality older terraces |
| G30 | Diverse communities of well educated singles living in smart, small flats |
| G31 | Owners in smart purpose built flats in prestige locations, many newly built |
| G32 | Students and other transient singles in multi-let houses |
| G33 | Transient singles, poorly supported by family and neighbours |
| G34 | Students involved in college and university communities |
| H35 | Childless new owner occupiers in cramped new homes |
| H36 | Young singles and sharers renting small purpose built flats |
| H37 | Young owners and rented developments of mixed tenure |
| H38 | People living in brand new residential developments |
| I39 | Young owners and private renters in inner city terraces |
| I40 | Multi-ethnic communities in newer suburbs away from the inner city |
| I41 | Renters of older terraces in ethnically diverse communities |
| I42 | South Asian communities experiencing social deprivation |
| I43 | Older town centre terraces with transient, single populations |
| I44 | Low income families occupying poor quality older terraces |

| Mosaic Type | Description |
|-------------|---|
| J45 | Low income communities reliant on low skill industrial jobs |
| J46 | Residents in blue collar communities revitalised by commuters |
| J47 | Comfortably off industrial workers owning their own homes |
| K48 | Middle aged couples and families in right-to-buy homes |
| K49 | Low income older couples long established in former council estates |
| K50 | Older families in low value housing in traditional industrial areas |
| K51 | Often indebted families living in low rise estates |
| L52 | Communities of wealthy older people living in large seaside houses |
| L53 | Residents in retirement, second home and tourist communities |
| L54 | Retired people of modest means commonly living in seaside bungalows |
| L55 | Capable older people leasing/owning flats in purpose built blocks |
| M56 | Older people living on social housing estates with limited budgets |
| M57 | Old people in flats subsisting on welfare payments |
| M58 | Less mobile older people requiring a degree of care |
| M59 | People living in social accommodation designed for older people |
| N60 | Tenants in social housing flats on estates at risk of serious social problems |
| N61 | Childless tenants in social housing flats with modest social needs |
| N62 | Young renters in flats with a cosmopolitan mix |
| N63 | Multicultural tenants renting flats in areas of social housing |
| N64 | Diverse homesharers renting small flats in densely populated areas |
| N65 | Young singles in multi-ethnic communities, many in high rise flats |
| N66 | Childless, low income tenants in high rise flats |
| O67 | Older tenants in low rise social housing estates where jobs are scarce |
| O68 | Families with varied structures living in low rise social housing estates |
| O69 | Vulnerable young parents needing substantial state support |

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PO Box 142
Banbury
Oxfordshire
OX17 1UZ
t 01295 731810
f 01295 731811
info@roadsafetyanalysis.org
www.roadsafetyanalysis.co.uk

Road Safety
Analysis

