



YOUNG DRIVERS' ROAD RISK AND RURALITY

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Executive Summary

Introduction

Road Safety Analysis (RSA), a not-for-profit company which specialises in analysis, insight reporting, social marketing communications and partnership development, was approached to explore the issue of young drivers and their crash risk. Young and inexperienced drivers are over-represented within collision statistics globally and are often the focus of road safety interventions. It was hypothesised that young drivers who live in rural areas are more at risk of collision-involvement than their urban cousins. This hypothesis was based on studies which have identified common factors within young driver collisions; many of these factors centre on rural driving.

RSA was ideally placed to explore this hypothesis – as creators of MAST, an online analysis tool for road safety professionals which combines Department for Transport collision data with socio-demographic profiling; the organisation had the expertise and tools to carry out the analysis.

Methodology

Rurality classifications systems have been developed by the Government which define the rurality of small area geographies (known as Lower Layer Super Output Areas in England and Wales and Data Zones in Scotland and have average populations of 1,400 people). Each of these small areas was defined as either 'Rural', 'Town' (which is a sub-class of 'Rural') or 'Urban' (which are settlements with over 10,000 residents).

Postcode data from young drivers who had been involved in injury collisions in Great Britain from 2006 to 2010 were used to determine the number of drivers from each rural, urban and town small areas of the country. For the purposes of the analysis, young drivers were classified as 16 to 29 years as this is the age range for which population data is provided at the small area level. Numbers of drivers per area were compared to population figures to determine collision rates for each class of rurality.



Findings

The research identified the following:

- Rural young drivers are 37% more likely to be involved in an injury collision than their urban counterparts.
- Rural drivers who are over 30 years old are only 8% more likely to be involved in an injury collision than their urban counterparts so rural residency alone cannot account for young rural drivers' increased risk.
- Young rural drivers are two-thirds more likely to be involved in an injury collision than their older neighbours.
- Of all the vehicle types, young rural car drivers are most at risk of being involved in an injury collision and are 40% more likely to be involved in a collision than their urban counterparts.
- Rural drivers have 31% higher mileage than their urban counterparts which probably accounts for a significant part of the increased risk to young rural drivers'; though average annual mileage travelled appears to have little effect on adult collision risk.
- Rural young drivers are most at risk across all vehicle types (car, motorcycle and goods) except pedal cycles, where urban young drivers are more at risk (although the collision involvement for pedal cycles per head of population is low across all categories of rurality).
- Rural drivers of all ages tend to have collisions on rural roads and urban drivers of all ages tend to have collisions on urban roads. There is almost no difference in collision involvement by road type across the two age groups.
- The research implies that rural roads themselves are not the reason why young rural drivers have a higher collision involvement.
- Rural drivers of all ages are most likely to be involved in collisions on 60mph roads whereas Town drivers are slightly more likely to be involved on 30mph roads. Urban drivers of all ages are most likely to be involved in collisions on 30mph roads.
- Analysis of deprivation levels shows that rural drivers tend to come from the 30 to 50% least deprived areas of the country and so are neither the most affluent or most deprived. This stands true for both young and older rural drivers.

The research indicates that the reasons for young rural drivers' increased road risk could lie with the combination of inexperience and increased exposure to risk, through higher mileage and the types of road on which they drive.

Further research to explore common factors within young driver collisions should be undertaken to try to shed further light on this issue. It would be useful to look 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.

This research implies that there is a pressing need to address the increased risk that young drivers in rural areas are exposed to. It could signal that increased driver training and testing on rural roads is needed for the young and inexperienced. It also highlights the need to consider how younger driver



mileage rates might be reduced, especially at times when risks are known to be elevated such as night-time hours.

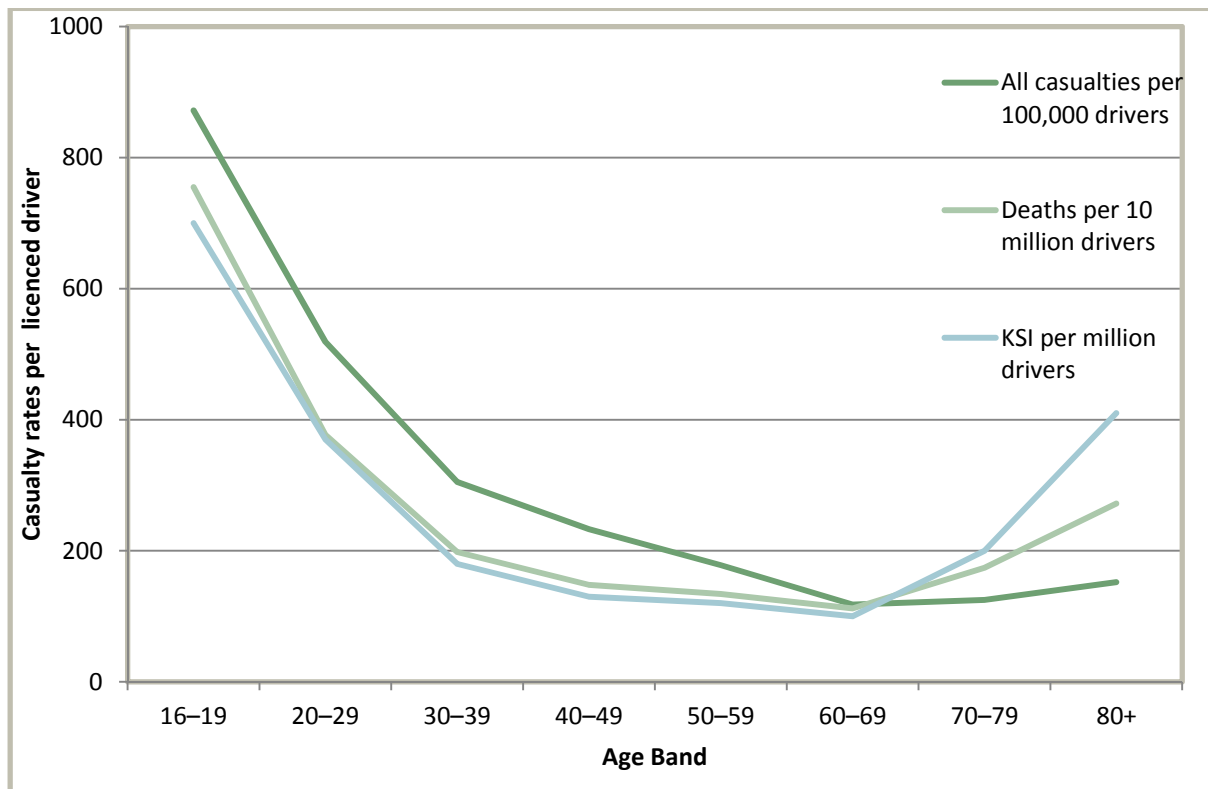
Introduction

The issue of young drivers and their involvement in road traffic collisions has been analysed for many years globally in an attempt to reduce their risk and decrease the number of casualties their collisions cause.

Drivers under 25 are involved in a disproportionately large number of road accidents when compared with the proportion of drivers who are over 25. The youngest drivers are even more at risk. The riskiest time for all new drivers is the first year after passing the driving test. The number of young drivers involved in accidents falls with each year of age as they gain in both maturity and experience.¹

Figure 1 shows that young drivers are over-represented as casualties as a proportion of all licence holders across all injury severity.² Driver casualty rates per 100,000 population were also examined and it was discovered that 16 to 19 year old drivers had a total casualty rate of 316.8 per 100,000 population compared to 196 per 100,000 population for 40 to 49 year olds.³ Of all motor vehicle drivers involved in collisions in Great Britain between 2006 and 2010, 30% were aged between 16 and 29 year olds, however, this age group only made up 18% of the population in 2010.⁴

Figure 1 - Casualty Rates for Car Drivers by Age

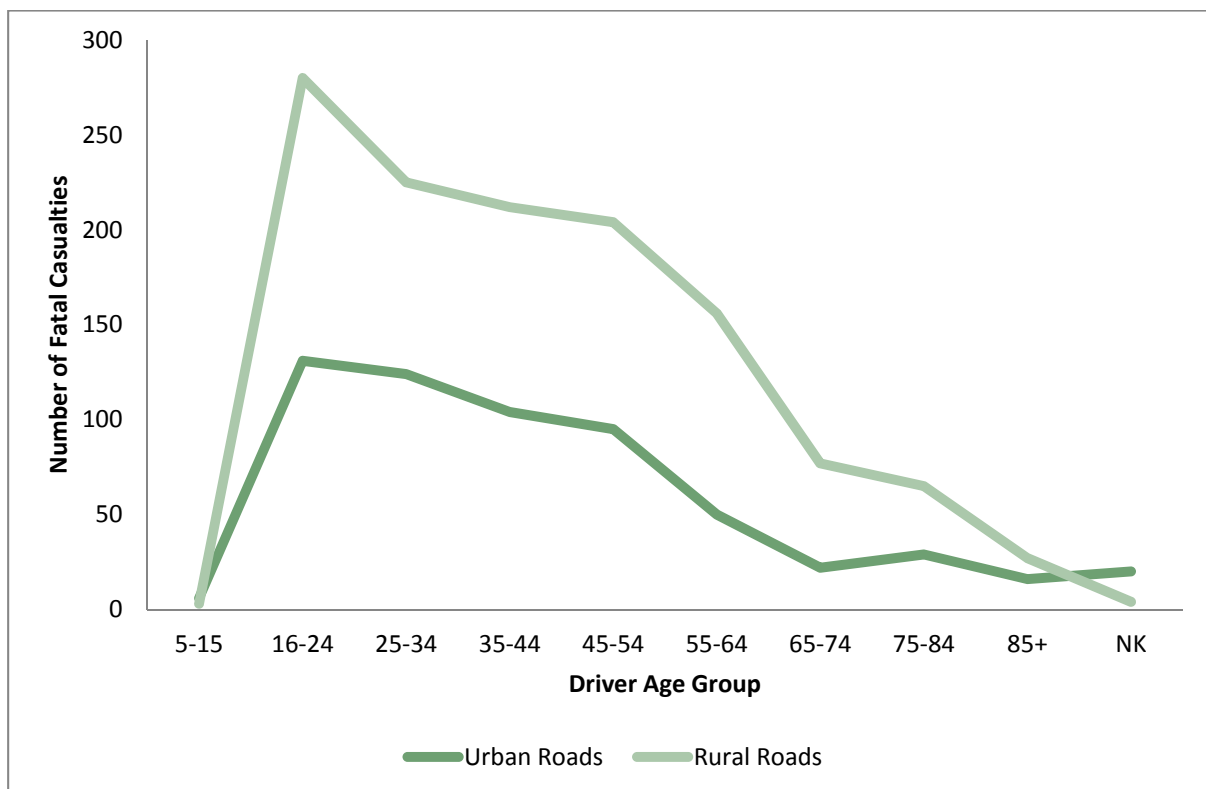


Analysis has identified a number of common factors present in young driver collisions, including the following⁵:

- They tend to drive older cars with less crash protection
- There are often three or more casualties in their collisions
- Their collisions often occur at night and at weekends
- Their collisions often occur on wet roads
- Their collisions often occur on minor roads in rural areas with a 60mph speed limit
- Their collisions are often single vehicle so involve no other road user
- They often occur on bends, particularly on rural roads
- Their vehicle often skids, and in some cases then overturns
- Their vehicle often leaves the road, and in many cases hits a roadside object or enters a ditch

Interventions to try to reduce the impact of these factors have been developed over the years, including pre-driver education within schools; insurance incentives through the installation of data recorders to monitor young driver behaviour within the car; and some countries have imposed restrictions on the number of passengers young drivers can carry, which roads they can drive on and times of day they can venture out. A number of the above factors relate to rural roads and there have recently been calls in the UK to include more rural training within the driving test and to have compulsory post-test training that includes driving on rural roads.⁶

Figure 2 - Number of Fatal Casualties by Driver Age



Rural roads are classified by the Department for Transport as “major roads and minor roads outside urban areas and having a population of less than 10 thousand... The definition is based on the 1991 Office of the Deputy Prime Minister definition of urban settlements. The urban areas...are based on 2001 census data.”⁷ Figure 2 is taken from MAST⁸ and shows the number of road traffic fatalities in 2010 by the age of the related driver. Casualties are classified in three ways in Department for



Transport statistics: as a driver, passenger or pedestrian. The casualties in this chart are therefore categorised according to the age of the driver casualty; the age of the driver in whose vehicle the passenger was in; or the age of the driver who hit the pedestrian casualty. The number of casualties is further divided into whether or not the collision occurred on an urban or rural road. The chart clearly shows that not only is there a peak in the number of casualties who are killed by drivers aged 16 to 24 years old but within this group, significantly more people are killed on rural roads than urban roads. Sixty-eight percent of people killed in collisions where the related driver was aged between 16 and 24 years old were on rural roads.

The findings suggest that there is something about rural roads that young, inexperienced drivers find difficult to cope with. It could be the lack of training on these types of road; a focus in driving training on being aware of vulnerable road users in urban areas without as much emphasis on pointing out the “unforeseen hazards [on rural roads] such as blind bends, hidden dips, animals and mud on the road”⁹; or it could be that these roads are considered safer because there is less traffic and therefore drivers believe it is more appropriate to break the speed limit on these roads than in urban areas. It could, of course, be a combination of these factors. Or, it could be the young drivers themselves and that where they come from affects their likelihood to crash on rural roads.

MAST Online combines casualty and collision data from the Department for Transport with socio-demographic insights created by Experian through Mosaic Public Sector. The postcodes of drivers and casualties involved in collisions are used to determine which Mosaic Groups and Types these individuals are likely to belong to and this can be used by road safety professionals to understand who needs to be targeted in road safety interventions. Road Safety Analysis was approached to explore whether or not the home area of young drivers played any part in their likelihood to be involved in a collision and to determine whether living in a rural area made them more at risk than their urban cousins. Road Safety Analysis were in the perfect position to work on this project as MAST Online could be used to determine whether young drivers lived in rural or urban areas and further analysis could be undertaken in the form of socio-demographic profiling and looking at the relationships between home address, mileage and the type of road that collisions take place on.

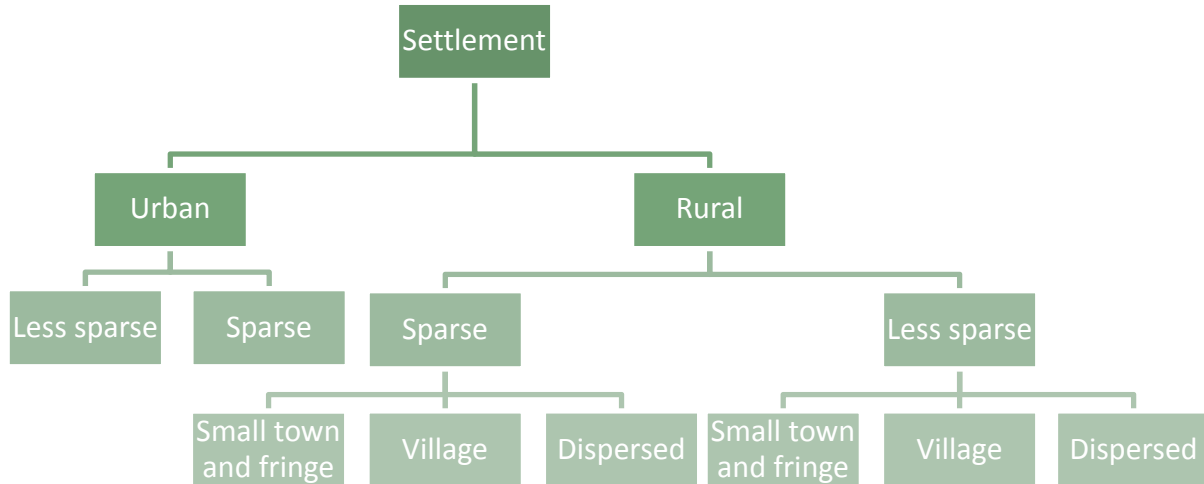
Methodology

The first stage of the project was to find a classification system for rurality. In England and Wales, the Rural/Urban Definition was introduced as an official National Statistic in 2004, and defines the rurality of very small census based geographies¹⁰. These small area geographies are known as Lower Layer Super Output Areas in England and Wales and Data Zones in Scotland; and each small area has an average population of around 1,400. At Super Output Area (SOA) level, there are three settlement types: Urban (population over 10,000); Small Town and Fringe; and Village and Dispersed; where all but Urban are sub-categories of Rural.

In England and Wales, these settlement types are aggregated from lower level categories which are based on the population of an area and how sparse it is. Figure 3 shows how the various classifications are applied to English and Welsh Super Output Areas.¹¹



Figure 3 - English and Welsh Rurality Classification System



In Scotland, Data Zones are also defined by rurality. Unfortunately, England and Wales do not use the same methodology as Scotland to define rurality. In Scotland, rurality is determined by a combination of population and accessibility instead of sparseness. Figure 4 shows the 8-fold classification used in Scotland for Data Zones and shows the differences to the English and Welsh classifications. However, both systems share the top two layers so that there is a top layer of Rural and Urban and beneath this, Rural is divided into Town and Rural (to identify the differences between small rural towns and rural villages and dispersed communities). Data sets allocating a level of rurality to each SOA and Data Zone are available to download from the respective government websites.

Figure 4 - Scottish Rurality Classification System

Class	Class Name	Description
1	Large Urban Areas	Settlements of over 125,000 people
2	Other Urban Areas	Settlements of 10,000 to 125,000 people
3	Accessible Small Towns	Settlement of between 3,000 and 10,000 people, and within a 30 minute drive time of a Settlement of 10,000 or more
4	Remote Small Towns	Settlement of between 3,000 and 10,000 people, and with a drive time of 30 minutes to a Settlement of 10,000 or more
5	Accessible Rural Areas	Areas with a population of less than 3,000 people, and within a 30 minute drive time of a Settlement of 10,000 or more
6	Remote Rural Areas	Areas with a population of less than 3,000 people,, and with a drive time of 30 minutes to a Settlement of 10,000 or more

The classification data were used in conjunction with MAST Online data to determine the number of young drivers involved in injury collisions between 2006 and 2010 from each Rural, Town or Urban



area of each Local Authority in the country. It was decided to analyse data from the most recent five year period for which collision data are available and to look at all severities in order to gain a large enough data set. For this analysis, young drivers are classified as aged between 16 and 29 years old as this is the age band used in government population data at SOA and Data Zone level and population data are essential to determining the extent of over- or under-representation of drivers in collisions. Data were extracted by area; age; and vehicle type for analysis.

Postcode recording in collision reports is inconsistent across the country and in some areas, up to one-third of postcodes are not recorded for drivers involved in collisions. In order to account for the unknown postcodes, a formula was devised that calculated the percentages of known drivers from each Local Authority who were involved in collisions which occurred in each Police Force area and distributed the unknowns based on these percentages. Whilst this will never be 100% accurate as foreign drivers, for example, are not accounted for, it was deemed the fairest way of dealing with postcodes. Without such corrections, those areas with high reporting rates would also have high collision involvement rates. The 'corrected' number of drivers per Local Authority area were then categorised as per the rurality classification system of Rural, Town and Urban. Annual Rates per head of population were calculated as were 100-based indexes, which show how over- or under-represented drivers from certain areas are in collision statistics in comparison to the national average.

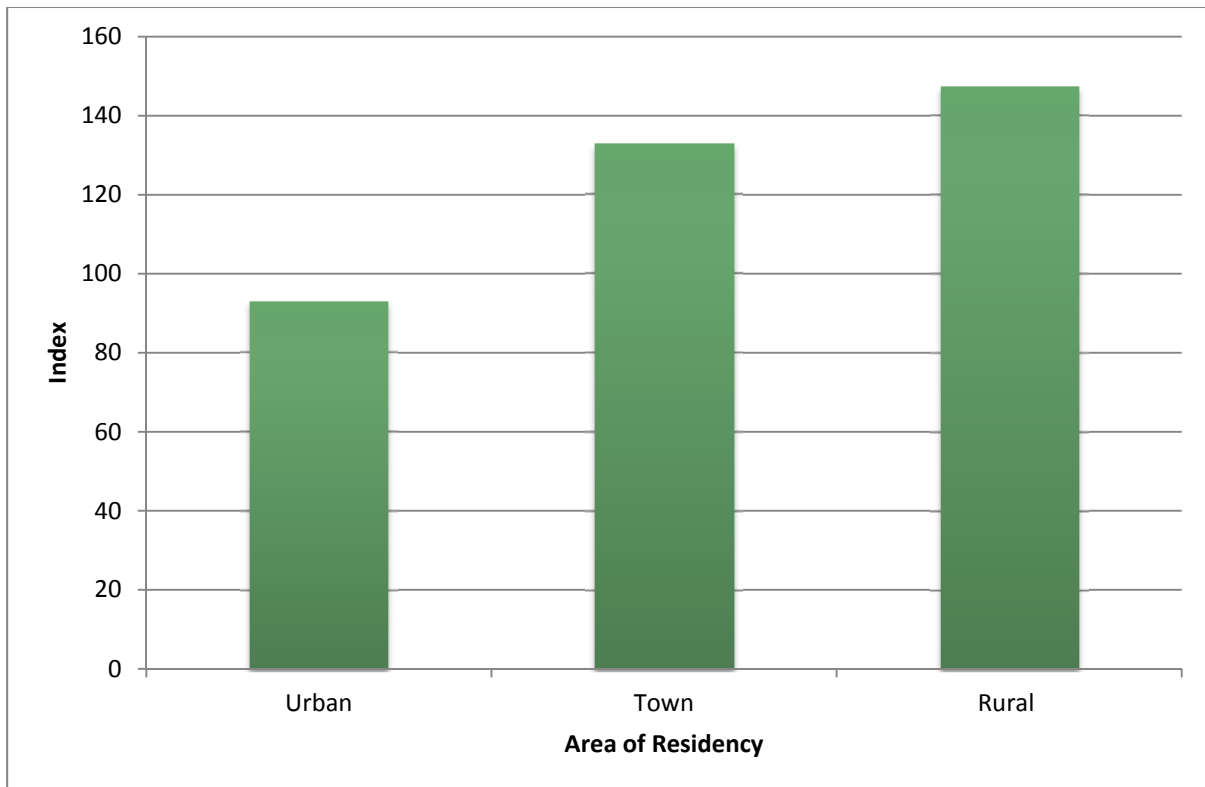
Indices were calculated by determining the annual average number of young drivers involved in injury collisions from each rurality sub-group as a percentage of that rurality sub-group's population of young people and dividing this by the average annual number of all young drivers involved in collisions by the population of all young people. This is then multiplied by 100 to create an index. If 20% of young people lived in rural areas and 20% of the 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 indexes under 100 indicate under-representations. The larger the number, the more over-represented that group is.

Findings

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, they have an index value of 147, compared to 133 for those from small towns and 93 for those from urban areas. 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 as their urban counterparts. On average, 1-in-82 young drivers from rural areas are involved in an injury collision each year compared to 1-in-130 for urban young drivers. Figure 5 shows the index values for each of the rurality categories.



Figure 5 - Indexes for Young Drivers by Rurality



An American study into rurality and collision involvement (see below) found that drivers from rural areas were more likely to be involved in collisions than their urban counterparts across numerous measures (age, alcohol use and child restraint use, for example). However, this does not appear to be the case in the UK. The collision involvement of 16 to 29 year old drivers was compared to the collision involvement of drivers over the age of 30 years by rurality, in order to determine if rural drivers are overall more at risk. Total population across all age bands was used as a base.

Figure 6 shows that young rural drivers are substantially over-represented in injury collisions, with an index of 267, and that for over 30 year olds, the rurality of a driver's home address does not play a significant part in crash involvement (with indexes of 80 for urban areas and 87 for rural areas). It would imply that the rurality of a home address does not necessarily lead to high collision involvement and instead that there is something about the combination of young drivers and rurality that is the issue. Rural young drivers are just over three times as likely to be involved in an injury collision as rural mature adults.



Figure 6 - Indexes by Rurality by Driver Age

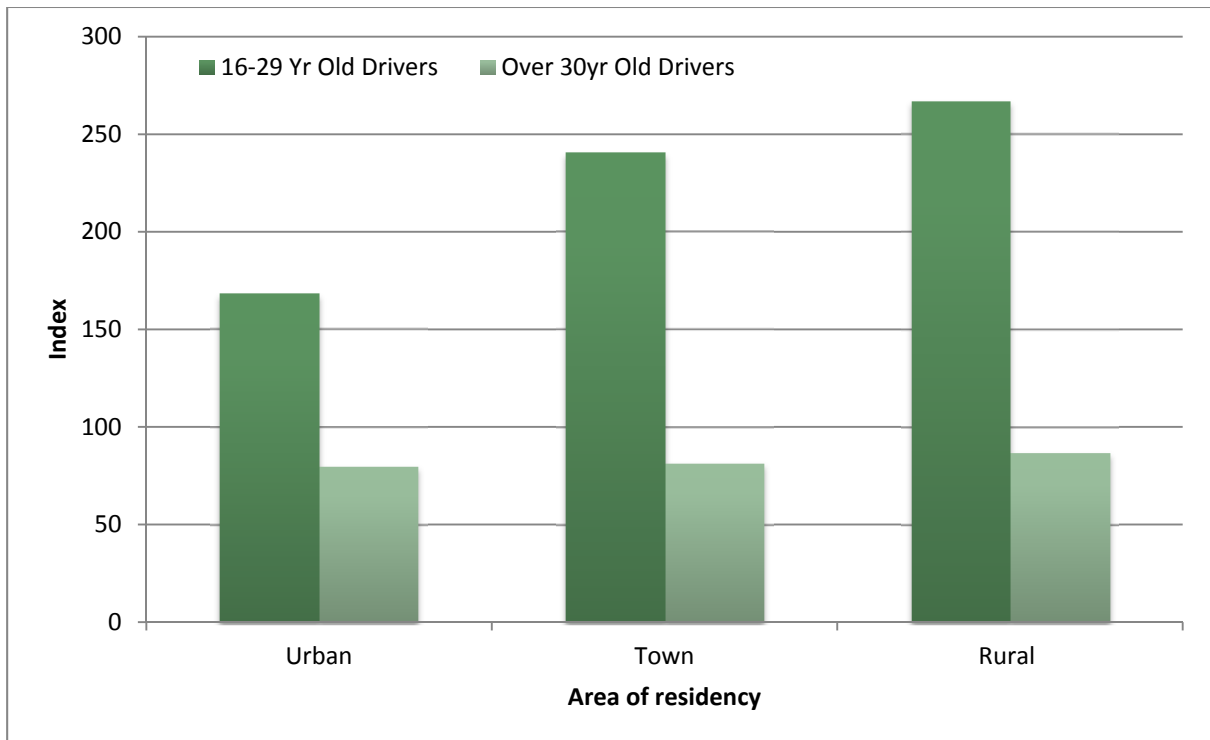
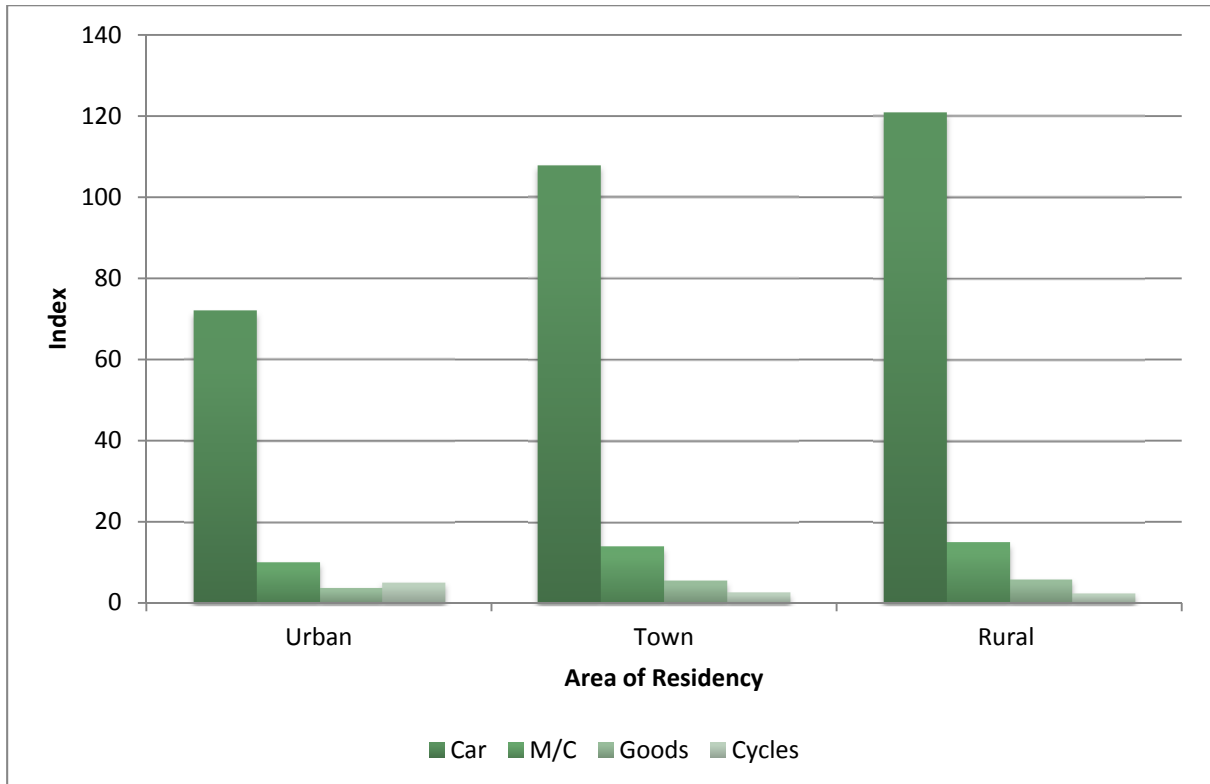


Figure 7 - Young Driver Rurality and Vehicle Type



The vehicles in which young drivers were travelling were analysed. The results are displayed in Figure 7. It shows that cars show the greatest variance across the rural divide with urban young car



drivers having an index of 72 compared to 121 for rural young car drivers. Rural young car drivers are 1.7 times as likely to be involved in an injury collision as urban young car drivers. Collision involvement is much lower for each of the other vehicle types and the differences across rurality are less marked, with the indexes being very similar for motorcycles and goods vehicles across the three rural categories. Pedal cycles, unsurprisingly, are the only vehicle type where urban young drivers have a higher collision involvement than rural young drivers.

Many of the studies which have looked into rural road risk and young drivers have cited particular characteristics of rural roads which make them more hazardous (such as bends, hills, animals and higher speeds). The table below shows the percentages of drivers from each of the rural categories who were involved in collisions on each type of road. In total, 39% of 16 to 29 year old drivers involved in collisions were on rural roads. This is the same percentage for the over 30 year olds. The table shows that the same percentage of young and mature drivers from rural areas were involved in collisions on rural roads (76%) and that all the other percentages were very similar between the two age groups. It shows that rural drivers tend to be involved in collisions on rural roads and urban drivers tend to be involved in collisions on urban roads, regardless of age. It would therefore suggest that rural roads themselves are not responsible for the increased collision involvement of rural young drivers.

Figure 8 - Road Type by Rurality

Home Rurality	Age Group	Rural Roads	Urban Roads
Rural	16-29 years	76%	24%
	Over 30 years	76%	24%
Town	16-29 years	74%	26%
	Over 30 years	72%	28%
Urban	16-29 years	29%	71%
	Over 30 years	30%	70%

The speed limit on the roads on which they crashes was also explored to see if there was a tendency for rural young drivers to be involved in collisions on faster roads. There is very little difference between young and older drivers for the speed limit of the road on which they were involved in collisions.

Figure 9 - Speed Limit by Rurality

Home Rurality	Age Group	30mph	60mph
Rural	16-29 years	34%	45%
	Over 30 years	34%	43%
Town	16-29 years	42%	35%
	Over 30 years	43%	32%
Urban	16-29 years	66%	12%
	Over 30 years	66%	12%

It could be the case that increased exposure to risk through higher mileage is a factor that leads to rural young drivers being over-represented within collision statistics. The following table shows



average annual mileage for each of the rurality categories in England and Wales (Scottish mileage wasn't available at time of writing). It uses Urban figures as a base to compare Rural and Town mileage and collision involvement.

Figure 10- Average Mileage by Rurality

Home Rurality	Average Mileage	Comparison to Urban Mileage	Comparison to Urban Adult Crash Risk	Comparison to Urban Young Driver Crash Risk
Rural	10,156	31%	6%	37%
Town	9,609	24%	2%	30%
Urban	7,765	0%	0%	0%

The mileage data shows that rural residents have 31% higher annual average mileage than their urban counterparts. For adult drivers, this does not lead to a higher collision risk – rural adults are only 8% more likely to be involved in a collision than urban adults. Young rural drivers, however, are 37% more likely to be involved in a collision than urban young drivers. It implies that increased mileage accounts for a significant part of the increased risk but in the case of both rural and town young drivers, there are other factors which are leading to collisions.

Deprivation levels of the young drivers were examined using data provided by the Office of National Statistics at small area level. The Index of Multiple Deprivation (IMD) is constructed from a variety of measures, including income, employment, health, education, crime and barriers to housing.¹² Various elements, such as road and vehicle type, were measured against the IMD for both young drivers and those over 30 years old. Distinct patterns for each category of rurality were identified (as shown in the next three charts).

It found that rural young drivers, across all measures, tended to come from the 30 to 50% least deprived areas and so were neither very poor nor very affluent. This also held true for drivers over the age of 30 years old. For young rural drivers, there were two areas where slightly more of them came from the very least deprived deciles and these were where the collisions occurred on urban roads or when the young people were pedal cyclists. These groups could well be students for whom their involvement in a collision might be more likely to have happened whilst they were away at university.

For young drivers from Town areas, they tended to be from the most affluent areas, particularly as pedal cyclists involved in collisions on urban roads and so could again suggest that some of these young drivers are university students. A similar pattern of deprivation exists for older Town drivers.

A third, distinct pattern exists for urban young drivers, where they are most likely to come from the most deprived areas of the country. The only exception is when collisions occurred on rural roads, where the young urban drivers came from the least deprived areas. Over 30 year olds from Urban areas tended to be more evenly distributed across the deciles and were less deprived than their younger neighbours.



Figure 11 - Rural Young Drivers by IMD

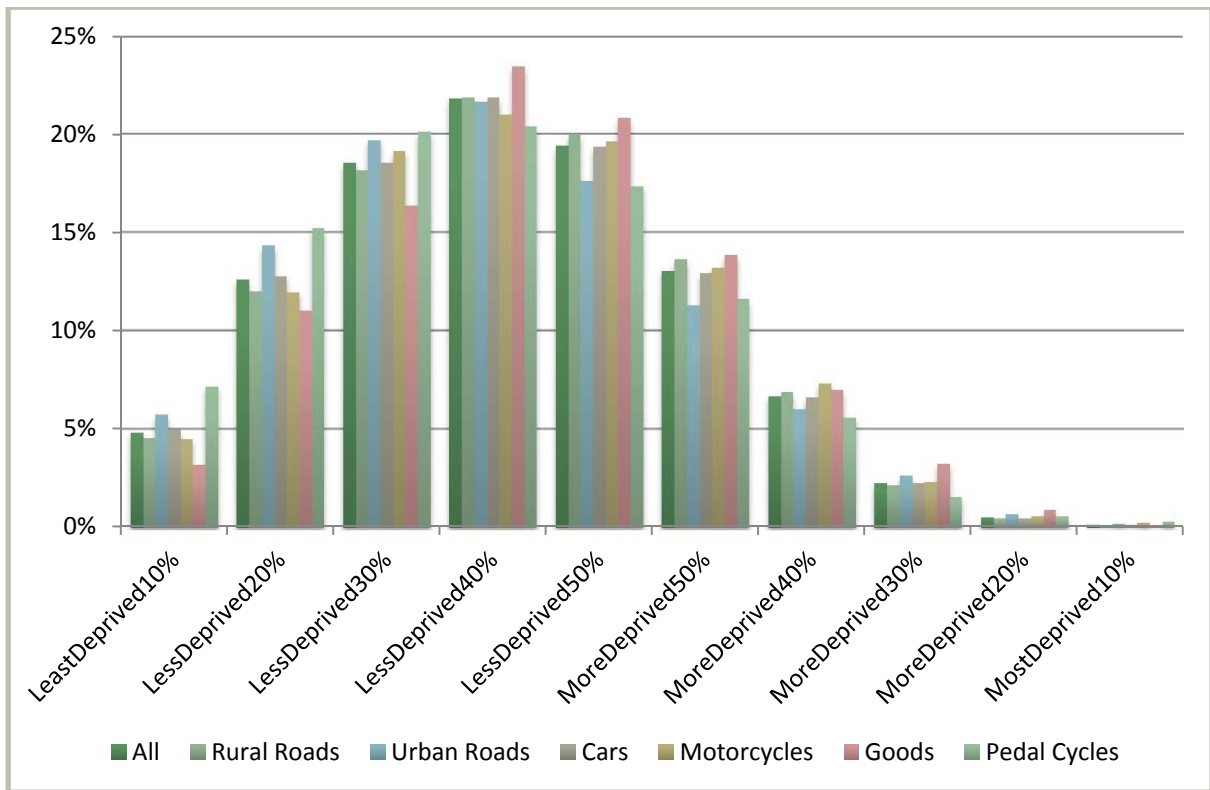


Figure 12 - Town Young Drivers by IMD

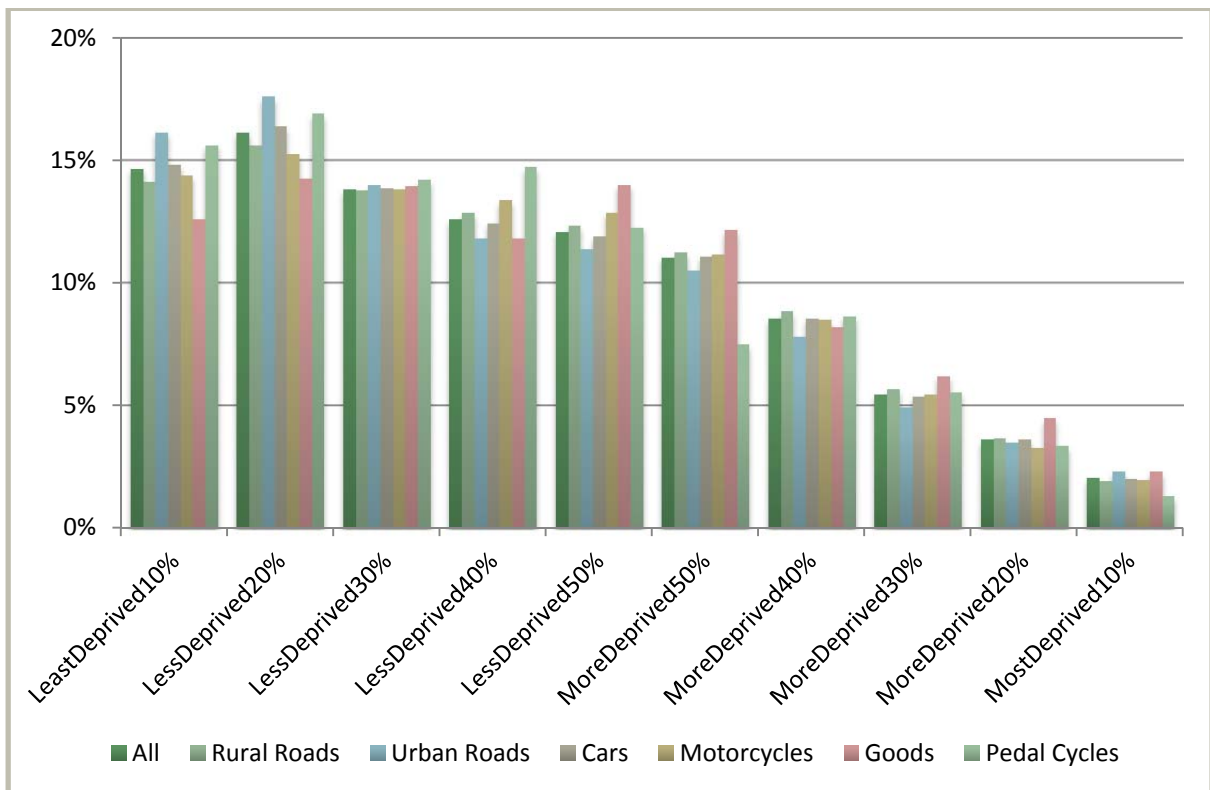
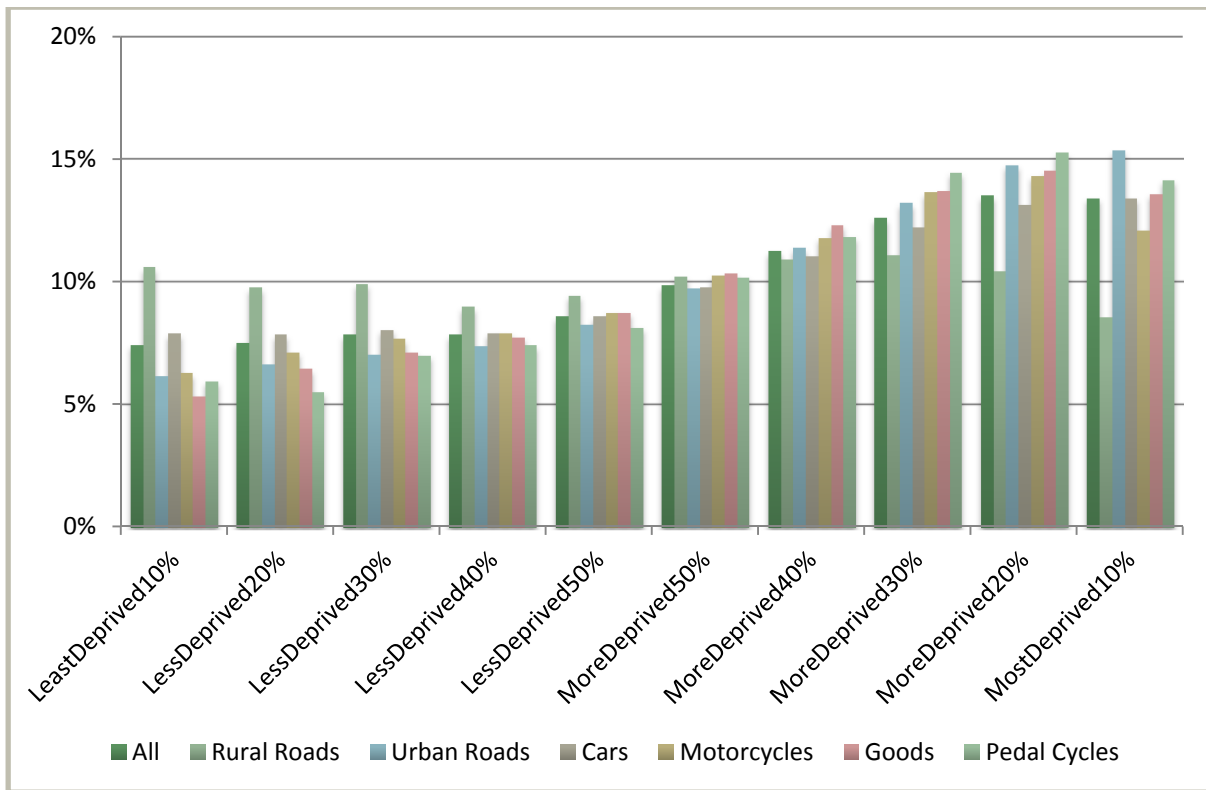


Figure 13 - Urban Young Drivers by IMD



Young Driver Risk Map

Figure 14 shows a national map of young driver risk rates calculated against a 100-base index. Yellow, orange and red local authority districts have young driver risk rates above the national average (per head of population) and green and blue districts are lower than average.

It can clearly be seen that the major metropolitan areas and cities have lower risk rates with more urban districts and counties showing elevated resident risk. The full breakdown of indexes by local authority district is included in Appendix 1.

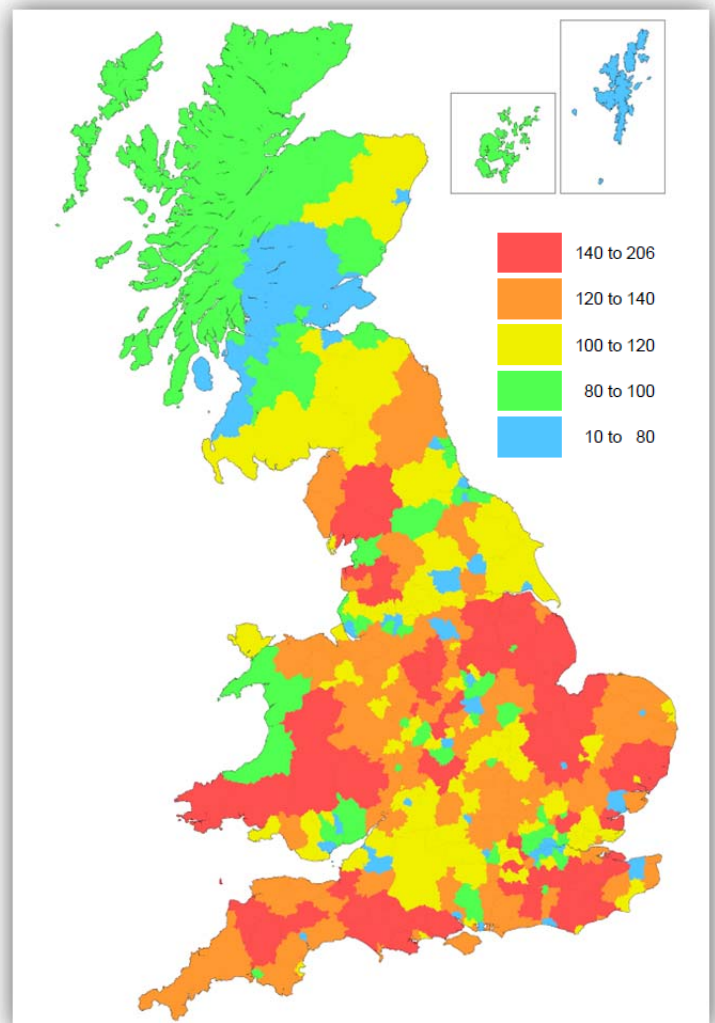
The bottom ten districts all have indexes over 170 and are as follows:

- South Holland District
- Fenland District
- Staffordshire Moorlands District
- North Dorset District
- Wealden District
- Boston Borough
- Woking Borough
- Maldon District
- Surrey Heath Borough
- East Dorset District

The top ten districts have indexes of less than 54 and are comprised exclusively of urban areas.

- City of London
- Westminster London Borough
- Camden London Borough
- Islington London Borough
- Kensington and Chelsea London Borough
- Edinburgh City
- Oxford City
- Norwich City
- Dundee City
- Newcastle City

Figure 14 – Young Driver Risk Rate



Other Studies

A literature review was conducted in order to identify studies which looked at rural road safety. Many of the studies focused on rural roads themselves and the particular risks they present. The European Transport Safety Council (ETSC)'s Road Safety Performance Index (PIN) conducted a comparative study of European countries and their performance in reducing road deaths on rural roads. It produced a number of recommendations to Member States in order to improve rural road safety; most of these recommendations focused on improving infrastructure, enforcement and data collection rather than looking at the casualties and drivers involved in rural collisions.¹³

A Department for Transport study in 2001/2002, undertook a critical review of research and literature on child road safety in rural areas in order to better inform policy decisions. It identified many gaps in existing research into child rural road safety; several of the analytical techniques suggested to improve child road safety knowledge have been used in this study into young drivers' road risk:¹⁴

- Geo-demographic analysis of those involved in rural collisions could be used to provide a clearer picture of who to target for interventions. Postcode data from Stats 19 collision data could be used but a clear and consistent definition of 'rural' will necessary for this.
- Collisions involving children are generally classified by the road type, using the distinction between built-up and non built-up roads (where built up roads have a speed limit of 40mph or less). However, looking at rural roads by speed limit does not take into account villages where 30mph or 40mph limits apply and therefore a new definition of rural road may need to be devised.
- A simultaneous breakdown of casualty residence and collision location could be carried out to determine if, for example, for collisions in "large conurbations, children who lived in rural areas fared better or worse in terms of injury severity than children who lived in urban areas. If they fared worse, this might point to unfamiliarity with urban traffic conditions and the need for greater road safety training for children in rural areas."¹⁵
- In-depth research which profiles the relative risk of children as car occupants, cyclists and pedestrians in terms of their exposure to risk in their environment and which socio-economic factors affect this risk. An area to focus on would be rural children and their road risk as car occupants. "Further research is needed to examine driver behaviour with child passengers and child restraint use. Interventions that focus on the behaviour of the driver, especially with regard to speed and alcohol use may be particularly important."¹⁶
- An understanding of the importance of socio-economic factors is needed when considering road risk of children from rural areas. Children in areas of rural poverty are less likely to be vulnerable road users than their urban counterparts as despite living in poverty, car ownership is higher.

Since 2002, postcode recording on Stats 19 collision forms has improved and therefore the geo-demographic analysis suggested can be undertaken, as in this study.

In 2004, the National Highway Traffic Safety Administration (NHTSA) in United States of America undertook a study to identify the residence of people involved in fatal collisions on rural roads. It used zip code data from fatal collisions which occurred between 1988 and 1992 and a geo-demographic tool categorised levels of rurality. As in this study into young drivers, the NHTSA study



indexed collision involvement against population. It also looked at particular collision scenarios to determine how over- or under-represented rural drivers were.¹⁷

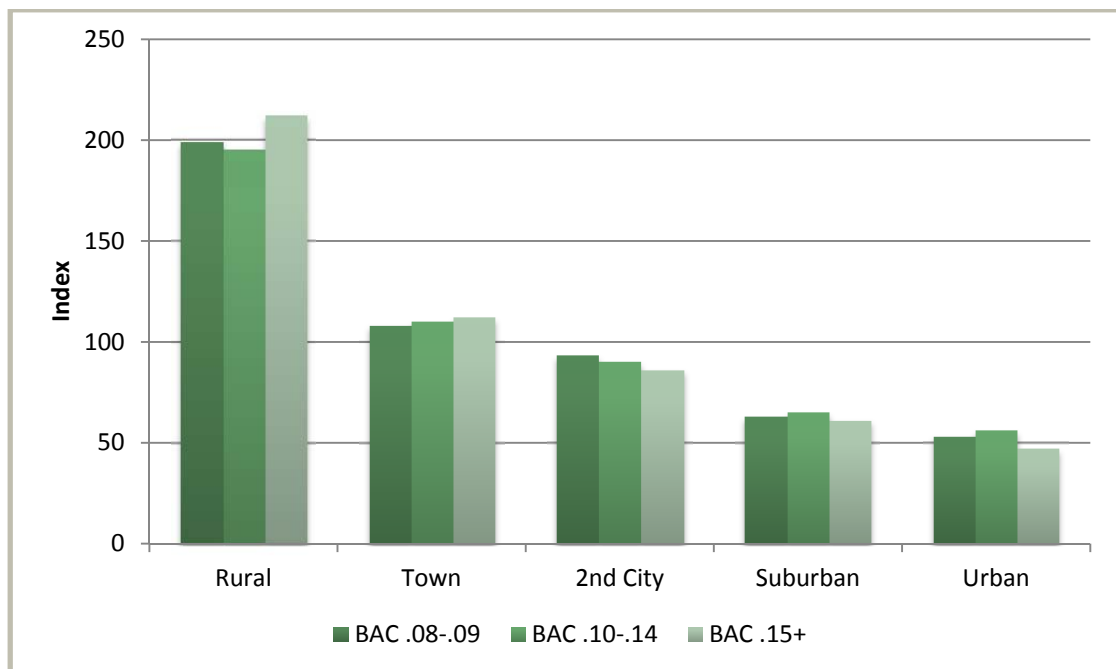
- Young rural drivers were over-represented in American fatal crashes. Only 16% of 18 to 24 year olds lived in the Rural areas but 32% of the 15 to 20 year olds and 27% of the 21 to 25 year old fatal crashes involved Rural residents. The percentages and indexes for the young drivers are provided in Figure 14 below. Rural residents from the younger age group had a particularly high index.

Figure 15 - Young Drivers and Rurality in USA

Group	18-24 YO Population		15-20 YO Fatalities			21-25 YO Fatalities		
	N	%	N	%	Index	N	%	Index
Urban	4,932,636	18.7	4,031	10	51	5,344	12.7	68
Suburb	5,557,352	21	7,570	18	85	8,192	19.4	92
2nd City	6,595,589	25	6,721	16	63	7,704	18.2	73
Small Town	5,127,973	19.4	10,476	25	127	9,507	22.5	116
Rural	4,221,230	16	13,720	32	202	11,492	27.2	170
Total	26,434,780		42,518			42,239		

- Rural residents were over-represented in crashes where a child aged 5 years or under died (index of 199) and especially where no child restraint was used (index of 204).
- Blood alcohol concentration levels were analysed by level of rurality and found that rural drivers were involved in the majority of fatal crashes for each of the BAC levels (.08 to .09; .10 to .14; and .15 and above). Figure 15 shows the indexes for blood alcohol concentration by rurality.

Figure 166 - Alcohol Concentration by Rurality in USA



- It found that 62% of the total population lived in Suburban, Urban or 2nd City locations but 61% of fatal crashes involved Rural and Small Town residents. Rural drivers had an index of 230.
- Licence holder figures were used instead of population rates to see if this affected the indexes (as urban residents are less likely to be licence holders). However, using this measure had only a small effect on the index (229 for rural residents).
- Annual miles driven were analysed against the number of licensed drivers and found almost no difference between those drivers living outside of metropolitan statistical areas (MSAs are regions of relatively high population density) and those living in MSAs that are not central cities (13.71 and 13.45 thousand vehicle miles per licensed driver respectively). Those living within central city MSAs had a lower rate of personal vehicle miles.
- It found that the majority of fatal collisions involved rural residents travelling on rural roads. “Nearly 3 out of 4 fatal crashes occurring on rural roads involved Rural and Small-town residents. While the number of crashes was smaller, the pattern of urban residents in urban crashes was the mirror image of the rural pattern: About 3 out of 4 fatal crashes on urban roads involved drivers residing in Suburban, Urban or 2nd City clusters.”¹⁸
- The study concluded that there were a number of possible reasons for the increased collision involvement of rural residents:
 - Design of rural roads (two lane highways, narrow shoulders, hills and curves)
 - Higher speeds on rural roads
 - Lower rates of seat belt and child seat use amongst rural residents
 - Delays in discovery and extended emergency service response times to rural crashes
 - Lack of nearby emergency and trauma care facilities

Whilst the socio-demographic profiles of rural Americans and the American road network are likely to differ from British resident profiles and British roads, it is interesting to see that the same methodology was used and similar conclusions reached across both sides of the Atlantic.

Conclusions

Previous research has identified that young drivers are an area of road safety concern, especially on rural roads. This research, by looking at the residency of drivers rather than the location of collisions, has shown that rural roads themselves don't appear to be the issue. Instead, it has shown that young people who live in rural areas are significantly more likely to be involved in injury collisions than their urban cousins, especially if they drive a car.

This research has shown that the rurality of the driver is not as relevant when older drivers are analysed and so this would imply that there is something about rurality and young drivers (through inexperience and/or attitude) that leads to increased collision risk.

The research has shown that rural and town drivers tend to have collisions on rural roads and urban drivers tend to have crashes on urban roads and this is the case, regardless of age. Speed limit also does not appear to be a factor in young rural driver collisions.



Increased mileage of rural residents does play a part in young driver collision risk but this doesn't apply to older drivers.

And lastly, rural deprivation is not responsible for young rural driver collision involvement.

The findings of this piece of research found similar results to the American study into rurality in all areas apart from mileage (which didn't differ across rurality categories in the USA) and that American rural drivers were over-represented regardless of age, unlike this research. The American study found that blood alcohol levels were higher in rural drivers than their urban counterparts and this should be explored in the UK. Other areas of further research should include looking at contributory factors; vehicle manoeuvres; and the other vehicles involved in the collisions. There should be research to see if there are regional differences across the UK.

Where this research does differ from the American study is in the possible reasons for the increased collision involvement of rural residents. As this study looked at all collisions, regardless of severity of injury, the issues of emergency service response time and lack of nearby emergency facilities don't apply.

It seems likely that by eliminating a range of factors which could affect collision involvement, this study has shown that the most likely causes of rural young driver road risk are a combination of inexperience and increased exposure (through higher mileage and the type of road on which they drive).

This research would imply that a first step in reducing the crash involvement of rural young drivers might be to deal with their inexperience on the more demanding rural roads – it could signal that increased driver training and testing on rural roads is needed for the young and inexperienced. The report also points to a need to consider ways in which reducing the mileage driven by these young drivers could be managed. Improved access to alternative transport could represent a key to improving safety among this vulnerable road user group.



Appendix 1 – Young Driver Risk Rate Index

Name	Index	Name	Index
South Holland District	205	Reigate and Banstead Borough	149
Fenland District	195	Slough	149
Staffordshire Moorlands District	195	Carmarthenshire County	149
North Dorset District	185	Maidstone Borough	148
Wealden District	182	Rossendale Borough	148
Boston Borough	180	Powys County	147
Woking Borough	177	Mid Suffolk District	147
Maldon District	176	Peterborough	146
Surrey Heath Borough	173	South Bucks District	146
East Dorset District	171	Hyndburn Borough	146
East Staffordshire Borough	169	Tunbridge Wells Borough	146
Derbyshire Dales District	167	Horsham District	145
West Dorset District	165	Tonbridge and Malling Borough	145
Christchurch Borough	164	Bassetlaw District	145
Mansfield District	163	Newark and Sherwood District	145
East Cambridgeshire District	163	Sedgemoor District	145
West Lindsey District	162	Mid Devon District	145
Pembrokeshire County	161	North Warwickshire Borough	144
Purbeck District	161	Sevenoaks District	144
Rother District	161	New Forest District	144
West Devon Borough	160	Swale Borough	144
North Lincolnshire	160	North West Leicestershire District	143
Tandridge District	160	North Kesteven District	143
Torridge District	160	Cannock Chase District	142
Herefordshire, County of	158	Lewes District	142
South Ribble Borough	158	Huntingdonshire District	141
East Lindsey District	157	South Cambridgeshire District	141
Babergh District	156	Doncaster	140
Ribble Valley Borough	156	Epping Forest District	140
Eden District	155	Blackburn with Darwen	140
Spelthorne Borough	154	East Hampshire District	140
Wyre Borough	153	Amber Valley Borough	139
Waverley Borough	152	Pendle Borough	139
King's Lynn & West Norfolk Borough	152	South Derbyshire District	139
Ashfield District	152	Teignbridge District	139
Suffolk Coastal District	152	Ashford Borough	139
South Lakeland District	151	East Devon District	138
Bolsover District	151	Waveney District	138
Chorley Borough	151	Mendip District	138
Mole Valley District	150	Eastleigh Borough	138
South Somerset District	150	Broadland District	138
Stratford-on-Avon District	149	North Norfolk District	137
		Lichfield District	137



Stoke-on-Trent	137
Warrington	137
Aylesbury Vale District	137
Gosport Borough	137
Selby District	136
North East Derbyshire District	136
Harborough District	136
Stafford Borough	136
Cornwall (from 2009)	136
Hastings Borough	136
Medway	135
Stroud District	135
Poole	135
South Hams District	135
Wychavon District	135
Cheshire East (from 2009)	134
Broxbourne Borough	134
South Kesteven District	134
North East Lincolnshire	134
Blackpool	134
Havant Borough	134
Hinckley & Bosworth Borough	133
Rugby Borough	133
Rotherham Metropolitan Borough	133
Dover District	132
Allerdale Borough	132
Arun District	132
St. Edmundsbury Borough	132
South Oxfordshire District	132
Northumberland (from 2009)	132
Mid Sussex District	132
Worthing Borough	132
Tendring District	131
Malvern Hills District	131
Adur District	131
South Staffordshire	131
Central Bedfordshire (from 2009)	130
Flintshire County	130
Chiltern District	130
Forest of Dean District	130
South Norfolk	129
Conwy County Borough	128
Castle Point Borough	128
Hart District	128
North Hertfordshire District	128
Neath Port Talbot County Borough	128

Gravesham Borough	128
Fylde Borough	128
Isle of Wight	128
Shropshire (from 2009)	128
Denbighshire County	127
Braintree District	127
Halton	127
Bridgend County Borough	127
Barnsley Metropolitan Borough	126
Wycombe District	126
Tamworth Borough	126
Dacorum Borough	126
High Peak Borough	126
Burnley Borough	126
St. Albans District	125
Copeland Borough	125
Taunton Deane Borough	125
West Somerset	125
Thanet District	125
West Oxfordshire District	124
North Devon	124
Hambleton District	123
Breckland	123
Preston City	123
Bromsgrove District	123
Melton Borough	122
Chichester District	122
Craven District	122
Cheshire West and Chester (from 2009)	122
Test Valley Borough	122
Elmbridge Borough	122
Redditch Borough	121
Uttlesford District	121
Weymouth and Portland Borough	121
South Northamptonshire District	120
Milton Keynes	120
Eastbourne Borough	120
Nuneaton and Bedworth Borough	120
Chesterfield Borough	120
Shepway District	119
Cotswold District	119
Rochford District	119
Dumfries and Galloway	119
Stevenage Borough	119
Isle of Anglesey County	118
Fareham Borough	118



Cherwell District	118
Hertsmere Borough	118
Gedling Borough	118
East Northamptonshire	118
Rushmoor Borough	118
Dudley Metropolitan Borough	118
Torbay	118
Blaenau Gwent County Borough	117
Windsor and Maidenhead	117
Telford and Wrekin	117
Scottish Borders	117
Dartford Borough	117
Three Rivers District	117
West Lancashire District	116
Wyre Forest District	116
Tewkesbury Borough	115
Thurrock	114
Sandwell Metropolitan Borough	114
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Wrexham County Borough	114
Aberdeenshire	113
Darlington	113
Forest Heath District	113
Bolton Metropolitan Borough	113
Wakefield	113
Basildon District	112
West Berkshire	112
Bradford Metropolitan Borough	112
Barrow Borough	112
Erewash Borough	112
East Herts	112
Bedford	112
Rhondda Cynon Taff County Borough	111
Watford Borough	111
Calderdale	111
Vale of White Horse District	111
Bury Metropolitan Borough	111
Sutton London Borough	111
Carlisle City	110
Gloucester City	110
Rochdale Metropolitan Borough	110
Harrogate Borough	109
Havering London Borough	109
Vale of Glamorgan	109
Midlothian	109
Wiltshire (from 2009)	109

East Riding of Yorkshire	109
Chelmsford Borough	109
Luton	108
Bournemouth	108
Daventry District	108
Merthyr Tydfil County Borough	108
Ryedale District	108
Blaby District	107
Croydon London Borough	107
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Walsall	107
Durham County (from 2009)	106
Brentwood Borough	106
Wellingborough Borough	106
Swindon	106
Kettering Borough	105
Kirklees	105
Oldham Metropolitan Borough	105
Bracknell Forest	104
Ipswich Borough	104
Swansea City and County	104
South Gloucestershire	104
Gateshead	103
Newcastle-under-Lyme Borough	103
Corby Borough	103
Tameside Metropolitan Borough	103
Solihull Metropolitan Borough	103
Basingstoke and Deane Borough	103
Runnymede Borough	103
Waltham Forest London Borough	102
West Lothian	102
Bexley London Borough	102
Scarborough Borough	102
Derby	102
Guildford Borough	102
Wirral Metropolitan Borough	101
Southend-on-Sea	101
Great Yarmouth Borough	100
Worcester City	100
Wolverhampton City	99
Winchester City	99
Harlow	99
Stockport Metropolitan Borough	98
Knowsley Metropolitan Borough	98
Newham London Borough	98
Rutland	97



Bromley London Borough	97
Epsom and Ewell Borough	97
Clackmannanshire	97
Redcar and Cleveland	96
Brent London Borough	95
Trafford Metropolitan Borough	95
Angus	95
St Helens Metropolitan Borough	95
Lancaster City	94
Monmouthshire County	94
Gwynedd	94
Enfield London Borough	94
Crawley Borough	93
North Tyneside	93
Hounslow London Borough	93
Sefton Metropolitan Borough	93
Rushcliffe Borough	92
Argyll and Bute	91
Caerphilly County Borough	91
Sunderland City	91
North Lanarkshire	91
Wokingham	90
Ceredigion County	90
Ealing London Borough	90
Broxtowe Borough	90
Redbridge London Borough	90
Inverclyde	90
Lincoln City	89
Western Isles	89
Highland	89
Barking and Dagenham London Borough	88
Plymouth	88
Moray	88
Leicester	87
Hillingdon London Borough	87
Birmingham City	87
Harrow London Borough	85
South Tyneside	85
Lewisham London Borough	84
Orkney Islands	83
South Lanarkshire	83
Stockton-on-Tees	83
Welwyn Hatfield Borough	83
Richmondshire District	83
Barnet London Borough	83
East Ayrshire	83

Oadby and Wigston Borough	82
Newport City	82
Northampton Borough	82
Merton London Borough	82
Haringey London Borough	82
Falkirk	81
Warwick District	81
East Lothian	80
Renfrewshire	80
Greenwich London Borough	80
West Dunbartonshire	79
South Ayrshire	79
Lambeth London Borough	78
Hackney London Borough	77
Southampton	77
Kingston upon Hull, City of	76
Shetland Islands	76
Bristol, City of	75
North Ayrshire	75
Coventry City	74
Colchester Borough	73
Portsmouth	73
Brighton and Hove	72
Hartlepool	72
East Dunbartonshire	72
Torfaen County Borough	72
Salford City	71
Wandsworth London Borough	71
Reading	71
Charnwood Borough	70
East Renfrewshire	68
Canterbury City	68
Cheltenham Borough	68
Richmond upon Thames London Borough	67
Exeter City	67
Bath and North East Somerset	67
Liverpool City	67
Sheffield City	66
Fife	66
Middlesbrough	65
Leeds City	64
Hammersmith and Fulham London Borough	63
Tower Hamlets London Borough	62
Stirling	61
Perth and Kinross	59



Kingston upon Thames London Borough	59
York	58
Cambridge City	57
Cardiff	57
Manchester City	55
Glasgow City	55
Nottingham	55
Southwark London Borough	54
Aberdeen City	54
Newcastle City	53

Dundee City	52
Norwich City	51
Oxford City	50
Edinburgh City	49
Kensington and Chelsea London Borough	45
Islington London Borough	43
Camden London Borough	32
Westminster London Borough	29
City of London	12

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² Mitchell, C. G. B, *IAM motoring facts 2011: Younger and older road users*, (Institute of Advanced Motorists Ltd, London, 2011), p.3

³ *ibid.*, p.3

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<http://news.bbc.co.uk/1/hi/england/sussex/8523597.stm>

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⁸ MAST Online

⁹ *Rural Road Safety*, http://www.rospa.com/roadsafety/adviceandinformation/highway/rural_roads.aspx

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¹⁶ *ibid.*, p.52

¹⁷ Blatt, J. And Furman, S., *Residence Location of Drivers Involved in Fatal Crashes*, (National Highway Traffic Safety Administration, Washington, DC, 2004), p.2

¹⁸ *ibid.*, p. 9

