Keeping Older Drivers Safe and Mobile

A Survey of Older Drivers

About the IAM

The IAM (Institute of Advanced Motorists) is the UK's largest independent road safety charity, dedicated to improving standards and safety in driving and motorcycling. Best known for the advanced test the IAM has more than 92,000 members and is supported by a local volunteer network of 200 groups in the UK and Ireland. We provide driver risk management solutions to businesses through our commercial arm, IAM Drive & Survive, and driver retraining through IAM Driver Retraining Academy.

The IAM's policy and research division offers advice and expertise on road safety, and publishes original research on road safety issues.

Foreword – Older Drivers Survey

The number of drivers over the age of 70 will double over the next 20 years and there are now over one million license holders over the age of 80. Enlightened policies and practical actions are needed now to help them keep safe and competently mobile for as long as possible, and to help them decide when the time has come to stop driving. Giving up driving too early places a direct burden on health and other services which can no longer be independently accessed. But, what do older drivers themselves think about the policy agenda and what plans are they making for their future on the road? This study seeks to answer these questions and to give older drivers a voice in this important debate. As well as giving new insights into their views on testing and assessment the report also shows the key role that medical professionals must play in informing people about their options for safe mobility. The IAM believes this report provides useful background information to allow government, insurers, health professionals and car makers to work in partnership with us to ensure that older drivers can remain safely in the driving seat for as long as possible.

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Driving Choices Survey: Keeping Older Drivers Safe and Mobile

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Executive Summary and Key Findings

Study Aims and Methods

- An online questionnaire was used to survey a large group of adult drivers to obtain information on current driving habits, driver training, self-regulation in avoiding difficult driving conditions, driver confidence and ability, and to gather their views on giving up driving.
- Drivers and ex-drivers who were either members of a market research opinion panel or members of a University research volunteer panel were invited to take part. The questionnaire was available online for a period of 20 days in March/April 2015.
- The questionnaire explored attitudes to a range of potential methods to increase the safety of older drivers such as optical and medical assessments, driving assessments and more flexible driver licensing.
- For current drivers, we aimed to examine whether they have considered stopping driving, for how much longer they intend to keep driving, and to identify those circumstances which may influence their decision to give up driving.
- For ex-drivers, we aimed to identify the reasons for giving up driving and the influences on their decision to cease driving.

Key Findings

1. Participants

- Completed questionnaires were received from 2619 drivers and ex-drivers. 1990 (76%) responders were from the market research panel and 629 from the University research volunteers panel.
- Equal numbers of men and women took part.
- The age range was 55 to 101 years, with an average age of 69.5 years.
- Approximately half the respondents were aged under 70 (52%) and half were aged 70 or over (48%)
- Most respondents were currently driving (2402 people, 92%). Two hundred and seventeen people (8%) had given up driving (ex-drivers).

2. Ex-Drivers

- Of the ex-drivers, only 38% (83 people) had surrendered their driving licence. The remainder had given up driving, but still held a valid licence.
- Ex-drivers were more likely than current drivers to live in towns or cities with frequent public transport.
- Ex-drivers were more likely to have held lower level occupations and live in less prosperous areas.
- Ex-drivers were most likely to have a medical condition which may affect driving.
- Factors outside their control were most likely to have influenced their decision to give up driving.

3. Current drivers

- Most drivers (84%) rated their driving ability as good to excellent.
- Most drivers (86%) rated their confidence as a driver as good to excellent.
- Drivers aged 55 – 69 years drove an average of 7070 miles/year.

- Drivers aged 70 and over drove an average of 5511 miles/year.
- Most drivers (82%) said that driving was very or extremely important to them.
- Women were significantly more likely to rate driving as extremely important than men.
- Around half of current drivers said they never avoided driving in difficult conditions, such as driving at night, driving in bad weather, driving long distances, or driving in rush hour.
- Over half said they never avoided driving on busy or unfamiliar roads or on motorways.
- Older drivers were significantly more likely than younger drivers to avoid driving at night, at night in the rain, and driving long distances.
- Over 40% of all current drivers said they had forgotten where they left their car, albeit rarely.
- 45% of current drivers had not checked the current driving regulations for over 5 years.
- Drivers aged 70 and over had checked the current driving regulations more recently than younger drivers, probably because they had visited the DVLA website to renew their licence at age 70.
- The majority of current drivers (98%) say they intend to continue driving for the foreseeable future.
- Only 6% of current drivers (163 of 2402) had ever considered giving up.
- Overall, drivers expected to continue driving for an average of 12.9 years.
- Drivers aged 55 – 69 years expected to continue driving for an average of 16 years.
- Drivers aged 70 and over expected to continue driving for an average of 9 years.
- Overall, the average age at which people think they will give up driving was 82. For drivers aged under 70 the average age for giving up was 79.8 and for drivers aged 70 and over the age of giving up was 84.7.
- The most important reasons to continue driving were for independence and convenience.
- Most current drivers would consider giving up driving if they had a health condition or a health professional advised them to stop driving.
- General Practitioners (GPs)/Doctors and Opticians/Optometrists are the most influential people to give advice on giving up driving.

4. All Respondents – Attitudes to potential methods to increase the safety of older drivers

- Almost 60% said drivers should take driving test again around age 70.
- 85% said that drivers should pass an eyesight test every 5 years after age 70.
- 84% agreed that all drivers should pass an eyesight test every 10 years after first passing their driving test.
- Over half the respondents said that drivers aged around 70 should be required to have a medical examination. A quarter were neutral, and 17% disagreed.
- 94% agreed that GPs should be required to inform patients if their medical condition may affect their fitness to drive.
- Half of all respondents agreed that a flexible licensing system should be introduced which, for example, might restrict drivers to using local roads, or driving in daylight hours. Younger drivers were more in favour of flexible licensing than older drivers.
- 72% said that if there a DIY kit was available to test their driving fitness they would use it, 20% were neutral and 8% said they would not use it.

5. Comparisons with previous study published in 1996

5.1 Participants

- The average age of participants was very similar for both the 1996 study (71.5) and the current study (69.5), with a similar age range.
- Fewer participants in the current study had given up driving (8%) than in the 1996 study (16%).
- In the 1996 study, the average intended age of giving up driving was 79 years.
- In the current study, the average intended age of giving up driving was 82 years.

5.2 Ex-drivers and Current drivers

- In the current study 91% of drivers have their eyes tested at least every 2 years, compared to 80% in the 1996 study.
- In both the current and 1996 studies, ex-drivers were less healthy than current drivers.
- In both studies nearly 70% of current drivers were taking medications. In 2015, 81% of ex-drivers were taking medications compared to 75% in 1996.
- In both the current and 1996 studies, more ex-drivers than current drivers had a low socio-economic status.
- Both studies found that poor health is a strong factor in causing people to give up driving.
- Both studies found that ex-drivers were significantly more likely than current drivers to describe their ability to carry out demanding driving tasks as 'poor'.

5.3 Attitudes to potential methods to increase the safety of older drivers

- Overall, participants in the current study were more amenable to suggested methods to increase road safety than participants in the 1996 study.
- Participants in the current study showed greater agreement (45%) than participants in the 1996 study (24%) with the suggestion that drivers should be re-tested every ten years after passing their first driving test.
- The 1996 study had a cut-off of age 60 for 'older drivers' compared to the current study which used age 70 which is when the normal driving licence expires.
- Participants in the current study showed greater agreement (56%) with a medical examination for drivers when they reach age 70, than participants in the 1996 study had for a medical examination for drivers reaching age 60 (47%).
- Participants in the current study showed greater agreement (94%) than participants in the 1996 study (60%) with the suggestion that GPs should be required to inform patients if their medical condition may affect their fitness to drive.
- Participants in the current study showed greater agreement (52%) than participants in the 1996 study (35%) for a flexible licensing system.
- Participants in the current study were more likely to use a DIY fitness to drive test kit (72%) than participants in the 1996 study (47%).

Conclusions and Recommendations

Most current drivers wish to continue driving for as long as they are physically able. The majority had never considered giving up driving, believing themselves to be competent and confident drivers. Most current drivers said they never avoided driving in difficult or stressful situations, for example driving at night, on busy roads or in bad weather. Being able to drive gave them independence and mobility, and the convenience of driving was important for most. Many said that driving enabled them to maintain their lifestyle and quality of life. However, if a doctor or optometrist were to advise them to stop driving, most drivers said they would act on that advice.

Many ex-drivers had retained their driving licence, even though they had stopped driving. Poor health was the most important factor in deciding to give up driving, followed by the cost of motoring and lack of confidence. Women were more likely to believe they had given up driving too early, whereas more men thought they may have left it too late. It is likely that older drivers would benefit from driver training aimed at building confidence and driving competence. The results of this survey suggest that older women may benefit most.

Health, and particularly visual health, was found to be very important to fitness to drive. The vast majority of respondents agreed that doctors should be required to inform patients if their medical condition may affect their fitness to drive, and most respondents said that after age 70, drivers should pass an eyesight test and have a medical examination in order to renew their driving licence. The results of this survey indicate widespread acceptability for a change from the current system of self-certification for driver licence renewal at age 70 to a system which requires either an eye test, medical examination or both. It appears that attitudes towards such testing have become more positive in the twenty years between the 1996 study and the current study.

Research Objectives

- To provide an update of the research carried out by Rabbitt et al in 1996 ‘When and Why Older Drivers Give Up Driving’.
- To survey a large group of adult drivers aged 55 and over in order to obtain information on current driving habits, driver training, self-regulation in avoiding difficult driving conditions, driver confidence and ability, and to gather their views on giving up driving.
- To examine attitudes to a range of potential methods to increase the safety of older drivers such as optical and medical assessments, driving assessments and more flexible driver licensing.
- For current drivers, to examine whether they have considered stopping driving, and how much longer they intend to keep driving. To identify those circumstances which may influence their decision to give up driving.
- For ex-drivers, to identify the reasons for giving up driving and influences on their decision to cease driving.
- To compare current drivers with ex-drivers according to criteria identified in the Rabbitt study.

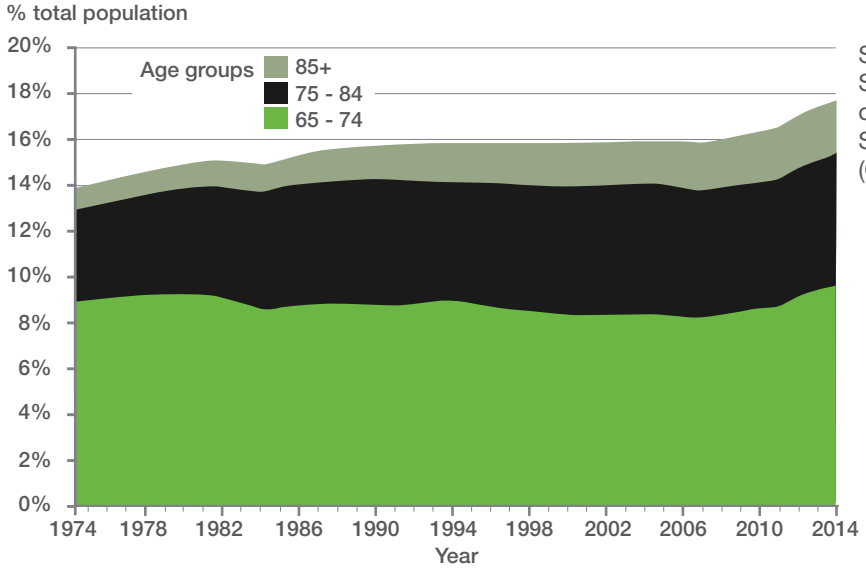
1. Background

In common with most developed countries, the UK has an aging population. Latest figures from the Office for National Statistics (ONS) show that in 2014 there were over 11.4 million people aged 65 or over in the UK, representing 17.7% of the population (Figure 1) (ONS, 2015a). Within this total, 7.84 million people were aged 70 or over. The UK is a car-based society, and the proportion of driving licence holders aged 70 and over has increased from 15% in 1975 to 62% in 2013 (Department for Transport, 2014). There are currently almost 4.5 million drivers aged 70 and over who hold a valid driving licence (DVLA, 2015).

Improved life expectancy has led to an increase in the number of people living into their 80s and beyond. Car ownership increased significantly during the twentieth century, and those who learned to drive in the 1940s, '50s and '60s are today's 'older drivers'. The UK system of driver licensing through self-declaration means that a person can pass their driving test in their teens and their fitness to drive need not be assessed again. Although the driving licence needs to be renewed when the driver reaches the age of 70, it is the responsibility of the driver to declare that they are fit to drive by means of self-certification. Whilst most people will make honest declarations, some may be unaware of gradual physical, sensory or cognitive changes which may affect their ability to drive safely. Furthermore, not all older drivers are able to recognise when they are no longer fit to drive and when it is time to stop driving. Health professionals have an important role in advising patients when their physical or mental health may affect their fitness to drive, but there is evidence that they do not routinely provide such advice (Hawley, 2010).

Access to a car and the ability to drive is important for continuing mobility and quality of life for older drivers (Whelan et al 2006). Driving provides freedom and independence, and having one's own car reduces reliance on other people or public transport (Molnar et al, 2013). It has been suggested that older drivers compensate for declines in cognitive or psychomotor skills through self-regulation, by avoiding risky or difficult driving situations such as driving at night in the rain or parallel parking (Baldock et al, 2006). When driving becomes more difficult or impossible due to health constraints, drivers will need to make a decision about whether to keep driving. Giving up driving has been associated with increased social isolation (Liddle et al, 2004, Ragland et al, 2004) and even depression (Ragland et al, 2005). Consequently, a decision to stop driving requires careful consideration and planning. If negative consequences, such as social isolation, are to be avoided, alternatives to the car should be available. However, public transport alternatives tend to be limited, especially for people living in rural or semi-rural locations (Box et al, 2010), and not always accessible to older people with limited mobility or disability.

Figure 1: Proportion of people at older ages, UK population mid-1974 to 2014



Source: Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency (ONS, 2015a)

The current study was undertaken to examine the driving habits of current drivers, and their attitudes towards self-regulation and giving up driving. We also wished to study ex-drivers to find out when and why they gave up driving and which factors were involved in their decision. The aims of this study were therefore:

a) to survey a group of current drivers to find out if they had ever considered giving up driving and which factors would influence their decision to stop driving;

and

b) to survey a group of ex-drivers to explore their reasons for giving up driving.

2. Methods

The starting point for this research was the study conducted by Rabbitt, Carmichael, Jones and Holland (1996) for the AA Foundation for Road Safety Research. The current study used a broadly similar methodology, but the survey questionnaire was significantly shortened and modified to allow presentation in an online format. The original paper questionnaire was very comprehensive and contained many complex multi-part questions which were sometimes difficult to answer and would also be difficult to analyse. The original questionnaire also required participants to answer the same questions in three ways: in relation to themselves, in relation to others their age, and in relation to themselves three years previously. The whole questionnaire would have been time consuming to complete. In the current study the questionnaire was streamlined so that it could be completed in ten minutes or less.

The target age group for the previous and current study was 55 and over.

The original study had 2134 completed questionnaires from participants ranging in age from 54.9 to 101. The current study aimed to equal or improve on this.

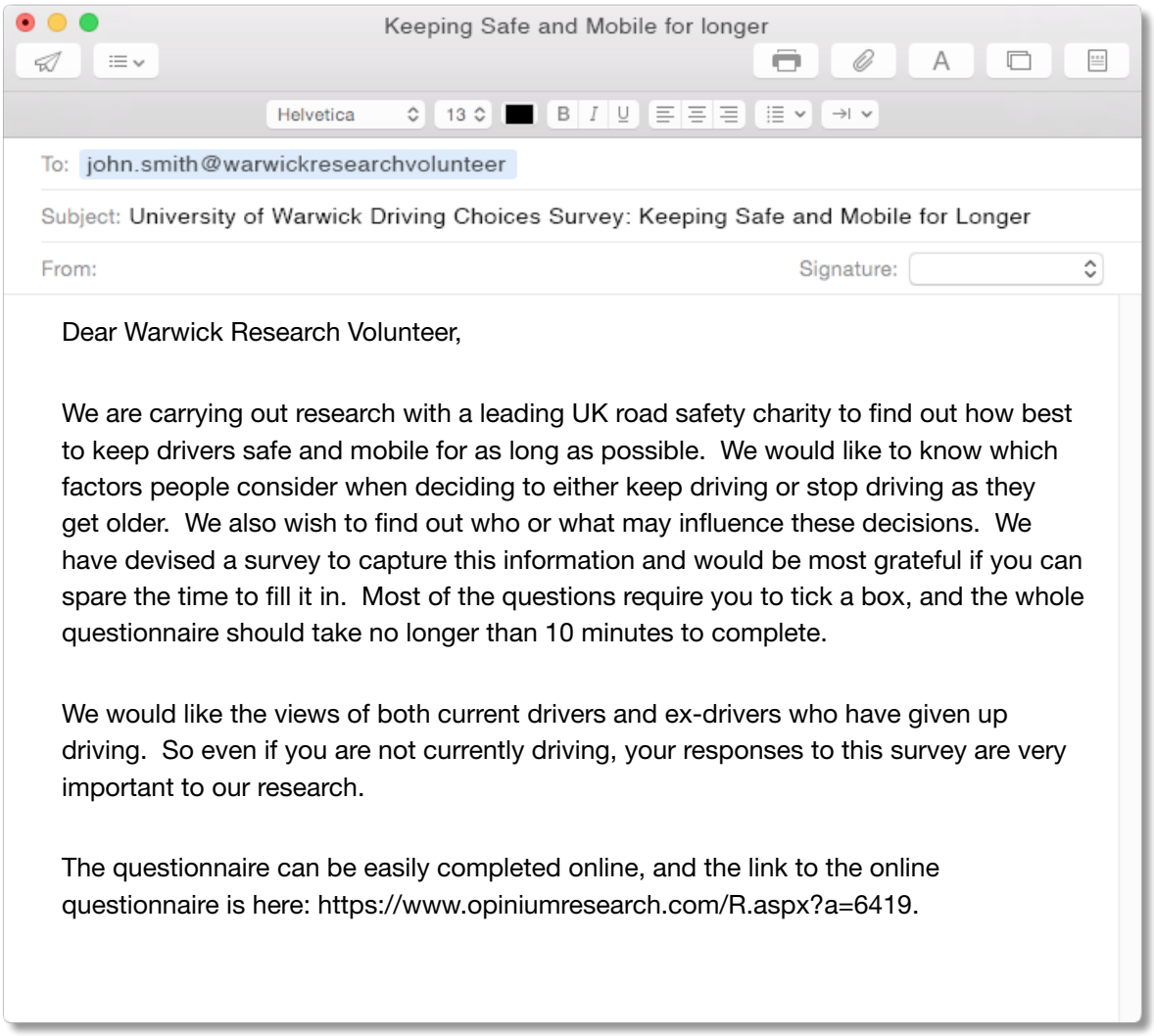
2.1 Recruitment

The study carried out by Rabbitt et al recruited participants by three main means:
a) a University research volunteer panel
b) media appeals via advertisements in newspapers, magazines, radio and television
c) AA index of withdrawn members

The current study also used a University research volunteer panel. Additionally a panel of volunteers from the University of the Third Age (U3A) was invited to participate. There was no advertising budget, instead a market research company, Opinium, was commissioned to provide access to adult drivers and ex-drivers within the required age group from their Research Panel. Opinium also out-sourced a further group of older adults to ensure that drivers aged 75 and over were reached. The use of IAM's register of members and ex-members was considered, but it was decided that this group of drivers would not be typical of ordinary drivers.

In the current study, individuals from the University research volunteer panels were approached by email (reproduced below, Figure 2) and provided with a link to the online survey. The volunteer panels are hosted by Professor Maylor from the University of Warwick Psychology Department.

Figure 2: Invitation email to Warwick research volunteer panel members



2.2 Questionnaire development

At an initial meeting with IAM, all questions in the original questionnaire were discussed and key questions identified. Superfluous or complex questions were discarded. Where appropriate, questions requiring lengthy free-text answers were revised to multiple-choice requiring a ticked box. As the original questionnaire was devised twenty years previously, some questions needed to be updated and modified for drivers in the 21st Century. The original questionnaire used a cut off of age 60 for some questions, such as 'drivers should be assessed every five years after the age of 60'. In the current questionnaire, this cut-off was raised to age 70, in line with the age when drivers need to reapply for their driving licence from the DVLA. Furthermore, in the intervening twenty years, there has been a significant increase in the number of older people driving beyond age 70 (Department for Transport, 2014).

A questionnaire was devised and piloted with a group of older drivers aged between 60 and 75. Following the pilot study, the questionnaire was revised and refined. An on-line version was created from the resulting questionnaire. A screening question was introduced to screen out people who had never driven. The online version was also pilot-tested and subsequently modified. The final version went live online on 31st March 2015. The survey closed on 19th April 2015. This period covered the Easter holidays which potentially meant that invitations may be overlooked. Responses were monitored continually by Opinium and the Warwick volunteers were sent a reminder email on 13th April 2015 to boost responses.

A paper version was available for individuals from the volunteer panels who required it (Appendix I).

2.3 Calculation of socio-economic status and social classification

Socio-economic status and social class were calculated for each respondent based on their current or most recent job title using the Office for National Statistics Coding Tool (ONS, 2015b). Socio-economic status was determined using the National Statistics Socio-economic Classification (NS-SeC) 8 class version, shown in Table 1 below (ONS, 2015c). Social class was determined using the Standard Occupational Classification (SOC2010) (ONS, 2015d) and is reproduced in Appendix II. These classifications are similar to, but more detailed than, the classifications used by Rabbitt et al in the 1990s.

Table 1: NS-SEC 8 Class version (ONS, 2015)

Class	Title
1	Higher managerial administrative and professional occupations
2	Lower managerial, administrative and professional occupations
3	Intermediate occupations
4	Small employers and own account workers
5	Lower supervisory and technical occupations
6	Semi-routine occupations
7	Routine occupations
8	Never worked and long-term unemployed

2.4 Calculation of social deprivation

Levels of deprivation were calculated using postcode data. Respondents were asked to provide their postcode, either full or partial, with an option to not provide their postcode at all: 'prefer not to say'. Where a valid full postcode was provided, a deprivation score was calculated using the most up-to-date Indices of Deprivation for each nation: English Indices of Multiple Deprivation (IMD 2010); Scottish Indices of Multiple Deprivation (SIMD 2012); and Welsh Indices of Multiple Deprivation (WIMD 2014).

The English Indices of Deprivation (IMD2010) use 38 separate indicators, organised across seven domains of socioeconomic disadvantage: income, employment, health and disability, education, housing, environment, and crime (Department for Communities and Local Government, 2011). IMD2010 divides England into nine regions. England has been further divided into 32,482 small geographical areas known as Lower Layer Super Output Areas (LSOAs). Each LSOA comprises approximately 1,500 inhabitants and has a unique IMD2010 score calculated from census data across the seven domains.

A comparable methodology is used to determine deprivation levels in LSOAs in Wales (Welsh Index of Multiple Deprivation (WIMD 2014), Welsh Government, 2014) and Data Zones in Scotland (Scottish Index of Multiple Deprivation (SIMD 2012), The Scottish Government, 2015). Data Zones have a slightly smaller average population than LSOAs.

2.5 Data analysis

At the close of the survey, Opinium provided SPSS and Excel spreadsheets of the results, together with a summary report. Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) Version 21. Continuous data were analysed using comparison of means (independent samples t-test). Relationships between categorical data were analysed using Chi-squared cross-tabulations. Where appropriate, analysis of variance statistics (ANOVA) were carried out on grouped variables.

For the purpose of analysis, the deprivation scores were placed into one of five groups of equal frequency (quintiles), ranging from the 20% least deprived areas to the 20% most deprived areas.

3. Results

The online survey was available for 20 days. In this period a total of 2615 questionnaires were completed. A further four paper questionnaires were added a week later from volunteers without internet access. This provided a total of 2619 completed questionnaires for analysis. This compares favourably with the original study which achieved 2134 completed questionnaires.

Of the two main sources of respondents, 1990 (76%) were from the market research panels, and 629 (24%) were from the Warwick University research volunteer panels.

3.1 Age, Gender and Driving Status

Responses were received from equal numbers of men and women, 1313 men (50.1%) and 1306 women (49.9%).

Overall, the age range was 55 to 101 years, with a mean age of 69.45 (standard deviation (SD): 7.24). This is very similar to that of the original survey which had an age range of 54.9 – 101, mean of 71.5, SD of 7.0).

In the current survey, there were similar numbers of respondents aged under 70 (1362, 52%) and aged 70 or over (1257, 48%). For men, the age range was 55-101, mean age 69.81, SD = 7.29. For women, the age range was 55-94, mean age 69.08, SD = 7.17.

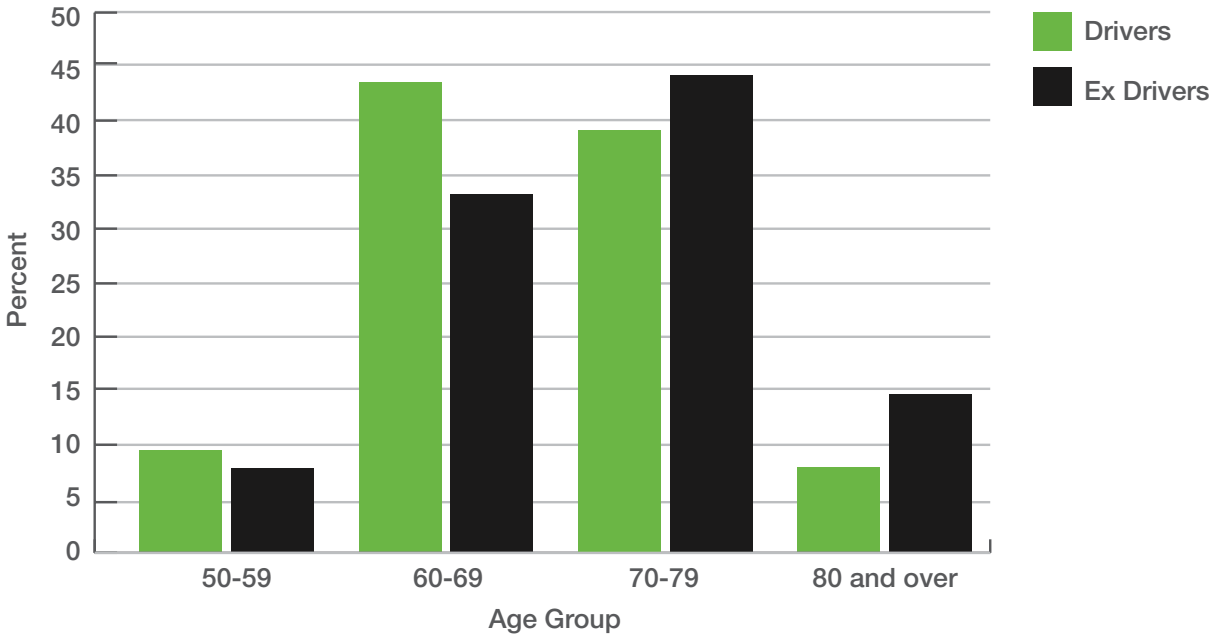
Table 2 shows the driving status of respondents. Of the 2619 respondents, 2402 (91.7%) were currently driving and 217 (8.3%) were ex-drivers. Of the ex-drivers only 83 had surrendered their driving licence. There was a strong bias towards women among the ex-drivers, two thirds of ex-drivers were women (143, 66%) and only 74 ex-drivers were men (34%). There was a highly significant difference between males and females for driving status ($p = 0.001$, $X^2 = 24.33$, $df = 1$).

The ex-drivers were not significantly older than current drivers. The age range was 55 to 101, mean age of 71.39 (SD = 8.12). However, Figure 3 shows that, when grouped by age, there were higher proportions of ex-drivers in the older age groups. In the Rabbitt study, the ex-drivers were an average of 6 years older than current drivers, in the current study the ex-drivers are an average of 2 years older. There were 339 ex-drivers in the original study, 16% of the respondents, probably because ex-drivers were specifically targeted through the AA withdrawn member list.

Table 2: Current driving status

Respondent statement	Frequency	Percent
I am a current driver and hold a valid driving licence	2402	91.7
I am no longer driving but still hold a valid driving licence	134	5.1
I am no longer driving and I do not hold a valid driving licence	83	3.2
Total	2619	100.0

Figure 3: Age Profile of Drivers and Ex-drivers



3.2 Driving history and driver training

3.2.1 Driving test

All respondents were asked to give the year when they passed their driving test. 2596 people had passed their driving test and dates ranged from 1939 to 2008. Figure 4 shows the dates when drivers and ex-drivers passed their test. Ex-drivers had passed their test more recently than current drivers ($p = 0.01$, $X^2 = 18.52$, $df=6$). Figure 5 shows the dates when men and women passed their test. Women passed the test significantly more recently than men ($p = 0.0001$, $X^2 = 156.0$, $df=6$).

Most respondents had passed their driving test between the ages of 16 and 20. Men had passed their driving test at a significantly younger age than women ($p = 0.0001$, $X^2 = 203.86$, $df=10$). Figure 6 shows the ages when men and women passed their test. Those who were currently driving had passed their driving test at a significantly younger age than ex-drivers ($p = 0.0001$, $X^2 = 69.95$, $df=10$). Figure 7 shows the results. These results show similar trends to those in the 1996 study.

Twenty-three people had not taken a driving test. Of these 23, ten were currently driving (43.5%) and thirteen were ex-drivers (56.5%). The mean age was 75 years, with a range of 56 to 92 years.

Figure 4: Dates when drivers and ex-drivers passed their driving test

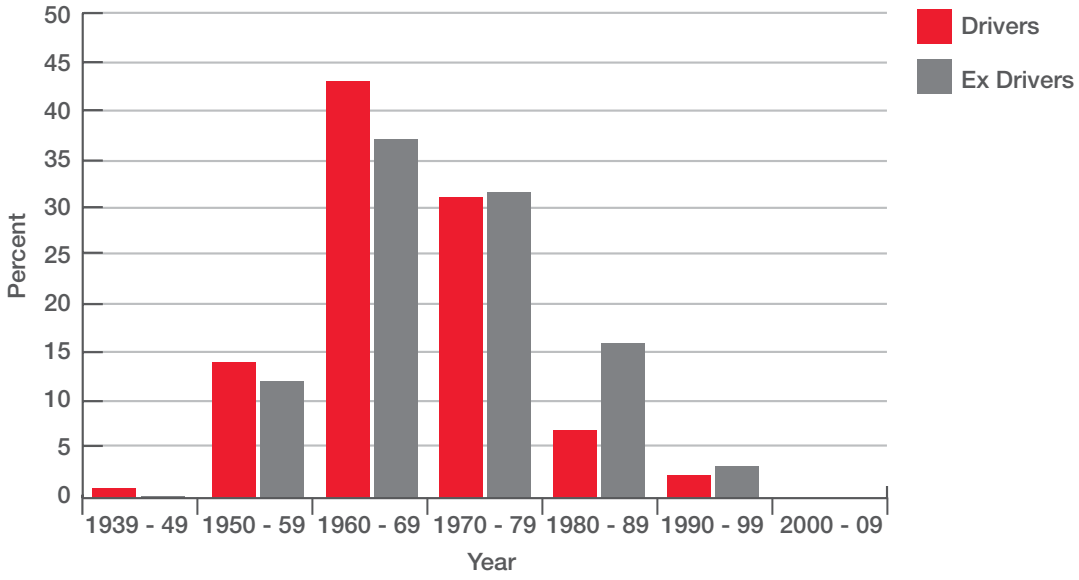


Figure 5: Dates when drivers and ex-drivers passed their driving test

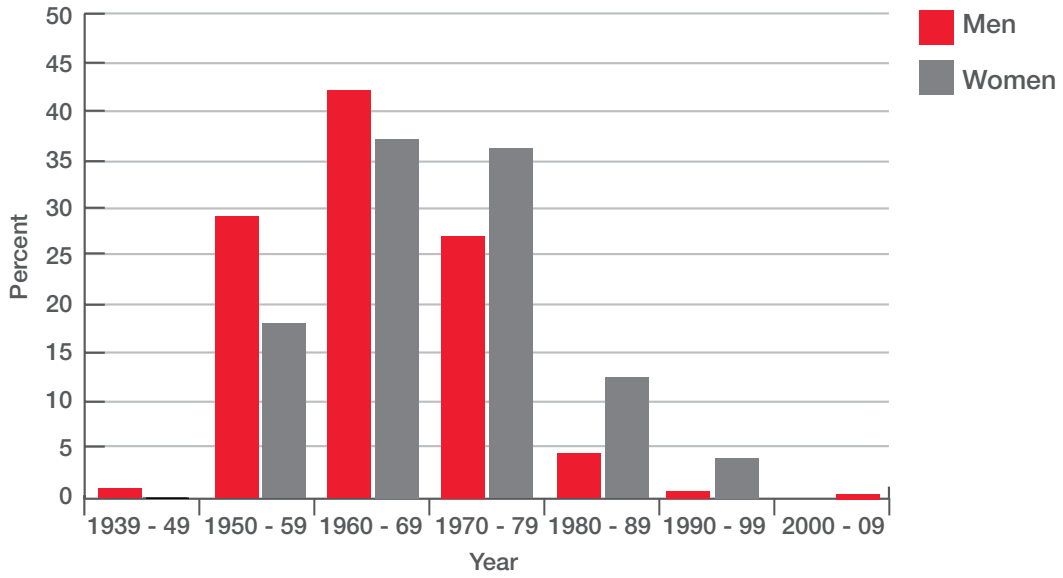
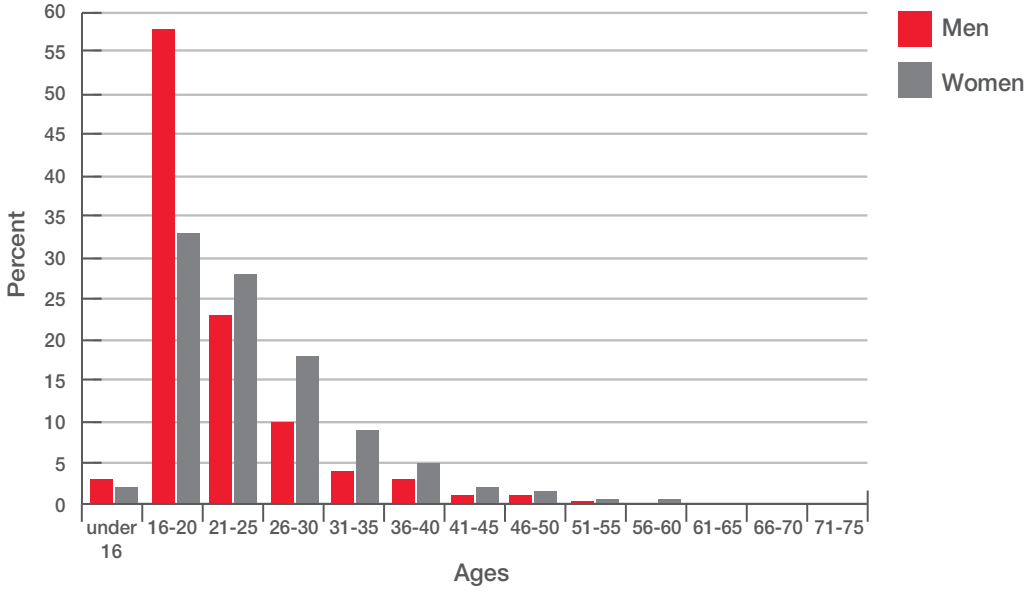


Figure 6: Ages at which men and women passed the driving test (drivers and ex-drivers)



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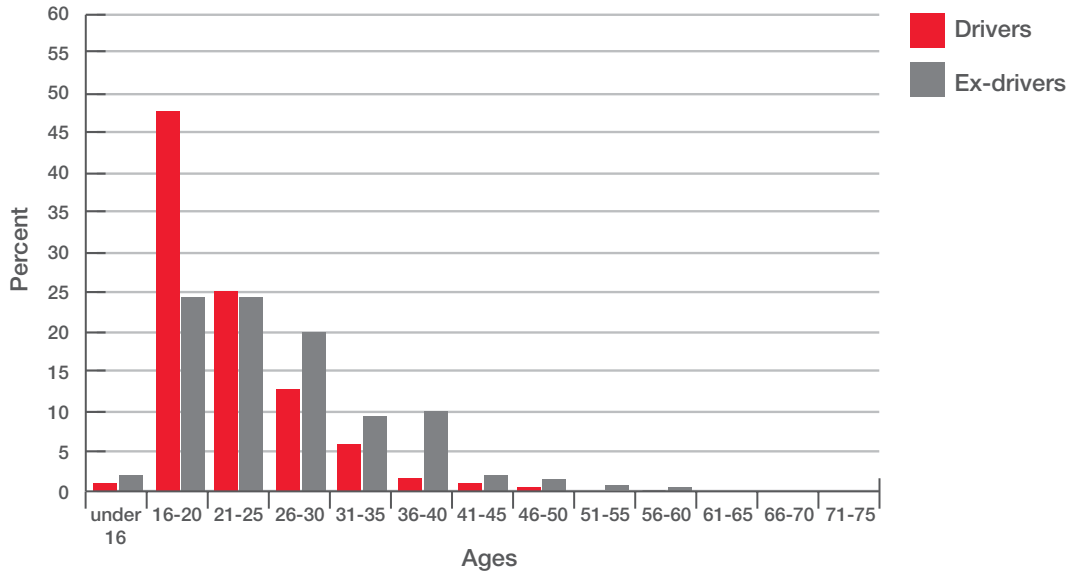


3.2.2 Driver training

All respondents were asked if they had ever held a professional driving licence (e.g. lorry driver, bus driver, taxi driver). Most respondents had not held a professional licence (2408, 91.9%), 211 (8.1%) had.

All respondents were asked if they had ever received any additional driver training since they passed their driving test. Examples given were advanced driver training; professional driver training; Institute of Advanced Motorists (IAM); Driver Awareness Scheme; or a driving refresher course. Most respondents had not received any additional training (2058, 78.6%), and 561 (21.4%) respondents had received some training. Table 3 lists the training which was received. The most frequently mentioned form of training was various forms of 'advanced driver training'. The second most frequent was training from the Institute of Advanced Motorists. The third most frequent was via a driver awareness scheme, presumably as part of the National Driver Offender Retraining Scheme. Similarly 26 people said they had received training via a speed awareness course.

3.3 Geographical distribution

The geographical distribution of our respondents was widespread. Table 4 shows the distribution by region and country.

Respondents were asked about the type of area they lived in. The results are presented for current and ex-drivers (Table 5 and Figure 8). There was a significant difference between drivers and ex-drivers ($p = 0.001$, $X^2 = 28.27$, $df = 3$) with current drivers more likely to live in a rural area and ex-drivers more likely to live in a city or town. The original study had similar findings. Living in a city or town is likely to provide access to regular public transport and thus make it easier to remain active without driving. Table 6 and Figure 9 show the availability of public transport for drivers and ex-drivers. A significantly higher proportion of ex-drivers lived in areas with frequent public transport than current drivers ($p = 0.02$, $X^2 = 8.08$, $df = 2$).

Drivers in the East of England and East Midlands were most likely to say it was difficult to get around without a car (67% difficult) while those in London said it was easiest (49% easy). This reflects the access to frequent public transport; 97% of London respondents said public transport was frequent, while only 56% of those in the East of England said the same.

Table 3: Additional driver training (n = 2619)

Additional driver training	Frequency	Percent
No additional training	2068	79.0
Additional driver training	42	1.6
Advanced driver training	91	3.5
Defensive Driving Course	20	0.8
Driver Awareness Scheme	80	3.1
Driving assessment	7	0.3
Driving Instructor Training	12	0.5
Emergency Services driver training	8	0.3
Extra lessons	6	0.2
Institute of Advanced Motorists	87	3.3
Military Driver Training	18	0.7
Minibus driving	23	0.9
Older driver course	6	0.2
Police Driver Training	32	1.2
Police-run course	16	0.6
Professional Driver Training	2	0.1
Professional Driver Training HGV	27	1.0
Professional Driver Training LGV	2	0.1
Professional Driver Training PSV	10	0.4
Refresher course	36	1.4
Speed Awareness Course	26	1.0
Total	**2619**	**100.0**

Table 4: Regional and national distribution of respondents

Region	Frequency	Percent
North East	111	4.2
North West	295	11.3
Yorkshire & Humberside	225	8.6
East Midlands	209	8.0
West Midlands	212	8.1
East of England	293	11.2
London	224	8.6
South East	434	16.6
South West	299	11.4
Wales	123	4.7
Scotland	169	6.5
Northern Ireland	25	1.0
Total	**2619**	**100.0**

Table 5: Area of residence: Drivers and Ex-drivers

Area of residence	Drivers (%)	Ex-drivers (%)	Total (%)
City	286 (11.9%)	37 (17.1%)	323 (12.3%)
Town	717 (29.9%)	89 (41%)	806 (30.8%)
Suburban	622 (25.9%)	55 (25.3%)	677 (25.8%)
Rural or Village	777 (32.3%)	36 (16.6%)	813 (31%)
Total	**2402 (100%)**	**217 (100%)**	**2619 (100%)**

Figure 8: Area of Residence: Percentage of current and ex-drivers

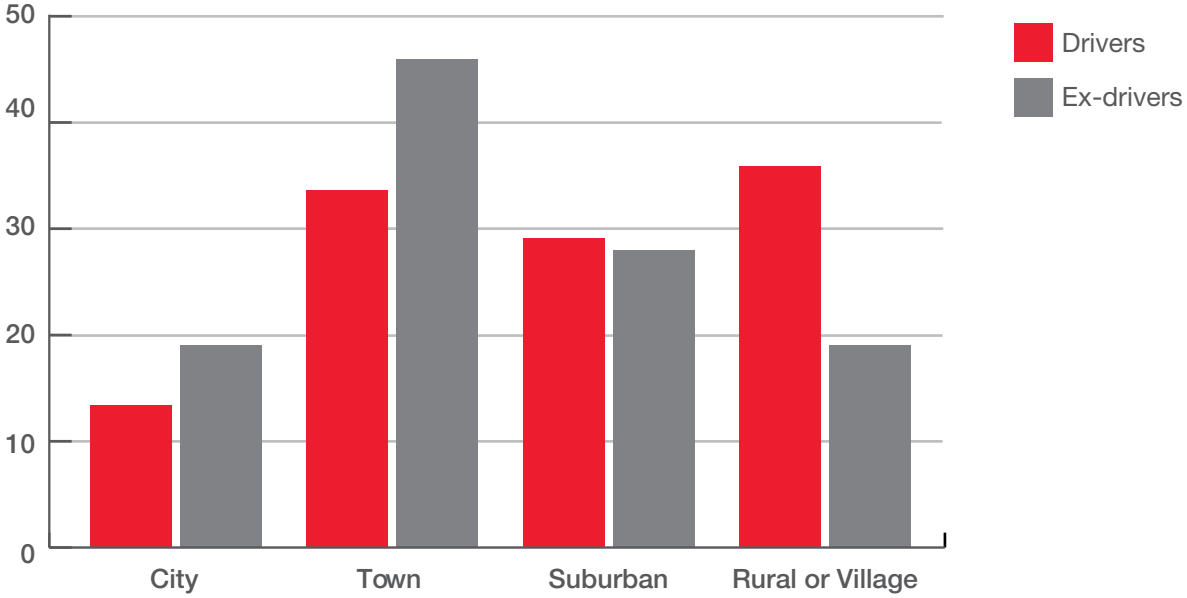
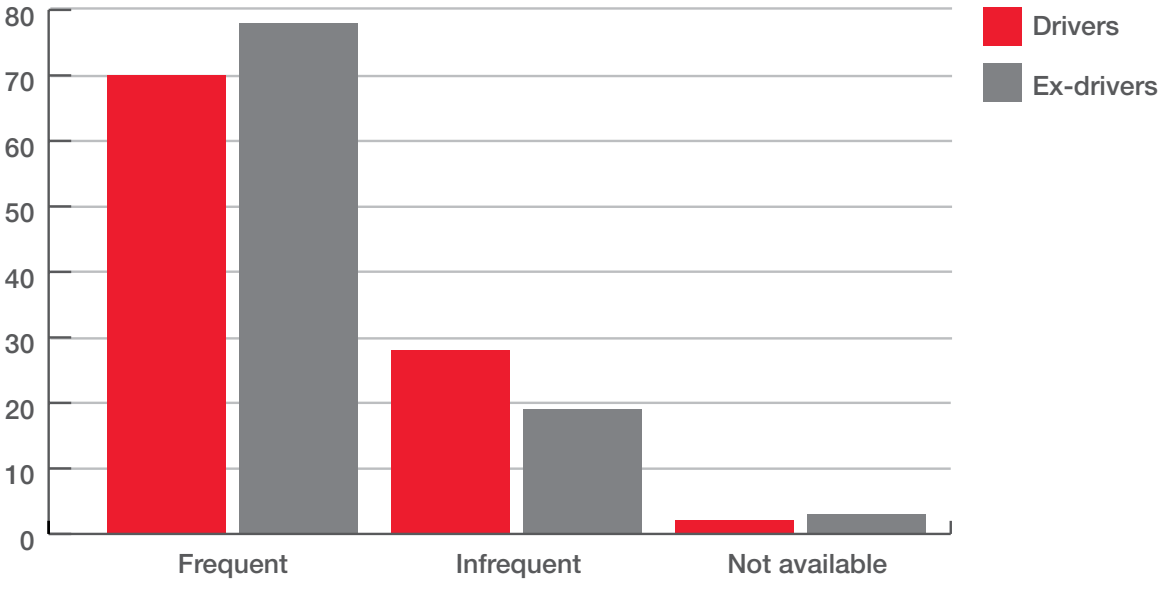


Table 6: Frequency of public transport: Drivers and Ex-drivers

Frequency of public transport	Drivers (%)	Ex-drivers (%)	Total (%)
Frequent	1674 (69.7%)	170 (78.3%)	1844 (70.4%)
Infrequent	669 (27.9%)	41 (18.9%)	710 (27.1%)
No available public transport	59 (2.5%)	6 (2.8%)	65 (2.5%)
Total	**2402 (100%)**	**217 (100%)**	**2619 (100%)**

Figure 9: Frequency of Public Transport: Percentage of Drivers and Ex-drivers



3.4 Socio-economic status and social classification

Respondents described their current employment or final employment before retirement. All respondents provided a detailed job title which was then used to calculate their socio-economic status and social classification. The majority of respondents had retired from employment (1994, 76.1%). Three hundred and eighty-three respondents (14.6%) had not retired, and 242 (9.2%) said they had partially retired. Significantly more ex-drivers (180, 82.9%) had retired than current drivers (1814, 75.5%) ($p = 0.03$, $X^2 = 7.03$, $df = 2$).

Table 7 shows the socio-economic status of current and ex-drivers using the NES-SEC 8 Classification system. There was a significant difference between the groups ($p = 0.0001$, $X^2 = 38.98$, $df = 8$), a higher proportion of current drivers belonged to higher socio-economic groups.

Table 8 shows the social classification for current and ex-drivers coded to SOC2010 V.31. There was a significant difference between the groups ($p = 0.0001$, $X^2 = 54.70$, $df = 8$). A higher proportion of ex-drivers were involved in lower level occupations than current drivers, particularly in caring and personal services (e.g. care workers, hairdressers and barbers, teaching assistants), sales (e.g. sales assistants, telephonists, cashiers, street traders), and elementary occupations (e.g. cleaners, postal workers, forestry or farm workers, parking attendants).

These findings are consistent with those of Rabbitt et al (1996) who also found that current drivers were from 'slightly more prosperous socio-economic groups'.

Table 7: NS-SEC 8 Class: Drivers and Ex-drivers

NS-SEC 8 Class	Drivers (%)	Ex-Drivers (%)	Total (%)
1.1: Large employers and higher managerial and administrative occupations	180 (7.5%)	10 (4.6%)	190 (7.3%)
1.2: Lower managerial and professional occupations	491 (20.4%)	30 (13.8%)	521 (19.9%)
2: Lower managerial, administrative and professional occupations	669 (27.9%)	41 (18.9%)	710 (27.1%)
3: Intermediate occupations	563 (23.4%)	67 (30.9%)	630 (24.1%)
4: Small employers and own account workers	153 (6.4%)	15 (6.9%)	168 (6.4%)
5: Lower supervisory and technical occupations	74 (3.1%)	5 (2.3%)	79 (3.0%)
6: Semi-routine occupations	164 (6.8%)	32 (14.7%)	196 (7.5%)
7: Routine occupations	72 (3.0%)	11 (5.1%)	83 (3.2%)
8: Never worked and long-term unemployed	36 (1.5%)	6 (2.8%)	42 (1.6%)
Total	**2402 (100%)**	**217 (100%)**	**2619 (100%)**

Table 8: Occupation Categories coded to SOC2010 V.31: Drivers and Ex-drivers

Occupation Category	Drivers (%)	Ex-Drivers (%)	Total (%)
1: Directors, managers, senior officials	279 (11.7%)	18 (8.3%)	297 (11.4%)
2: Professional occupations	831 (34.7%)	49 (22.7%)	880 (33.7%)
3: Associate professional and technical occupations	317 (13.2%)	25 (11.6%)	342 (13.1%)
4: Administrative and secretarial occupations	497 (20.8%)	52 (24.1%)	549 (21.0%)
5: Skilled trades occupations	157 (6.6%)	13 (6.0%)	170 (6.5%)
6: Caring, leisure and other service occupations	91 (3.8%)	22 (10.2%)	113 (4.3%)
7: Sales and customer service occupations	84 (3.5%)	14 (6.5%)	98 (3.8%)
8: Process, plant and machine operators	77 (3.2%)	6 (2.8%)	83 (3.2%)
9: Elementary trades and related occupations	60 (2.5%)	17 (7.9%)	77 (3.0%)
Total	**2393 (100%)**	**216 (100%)**	**2609 (100%)**

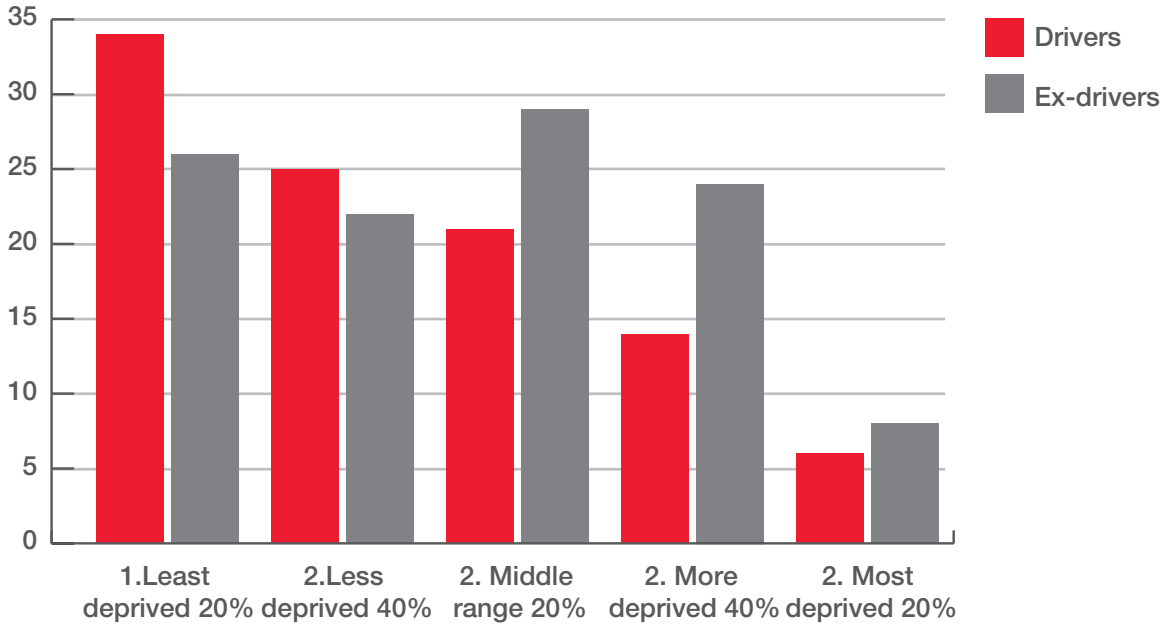
3.5 Levels of social deprivation

Deprivation scores were calculated using postcode data. A small proportion of respondents preferred not to provide their postcode (177, 6.8%). Some provided a partial or invalid postcode. Valid full postcodes were available for 2188 respondents (83.5%). Deprivation Quintiles were calculated from Indices of Multiple Deprivation (IMD 2010 for England, SIMD 2012 for Scotland and WIMD 2014 for Wales). Table 9 and Figure 10 present the results for current and ex-drivers. There were significantly more ex-drivers than current drivers in the more deprived group and more current drivers than ex-drivers in the least deprived group ($p = 0.001$, $X^2 = 17.93$, $df = 4$). However, differences should be interpreted with caution due to small numbers in the ex-driver group.

Table 9: Indices of Multiple Deprivation: Drivers and Ex-Drivers

IMD Quintile	Drivers (%)	Ex-Drivers (%)	Total (%)
1. Least deprived 20%	684 (34.1%)	48 (26.2%)	732 (33.5%)
2. Less deprived 40%	505 (25.2%)	41 (22.4%)	546 (25.0%)
3. Middle range 20%	420 (20.9%)	35 (19.1%)	455 (20.8%)
4. More deprived 40%	270 (13.5%)	44 (24.0%)	314 (14.4%)
5. Most deprived 20%	126 (6.3%)	15 (8.2%)	141 (6.4%)
Total	**2005 (100%)**	**183 (100%)**	**2188 (100%)**

Figure 10: Levels of Deprivation (English IMD*, SIMD, WIMD): Percentage of drivers and ex-drivers



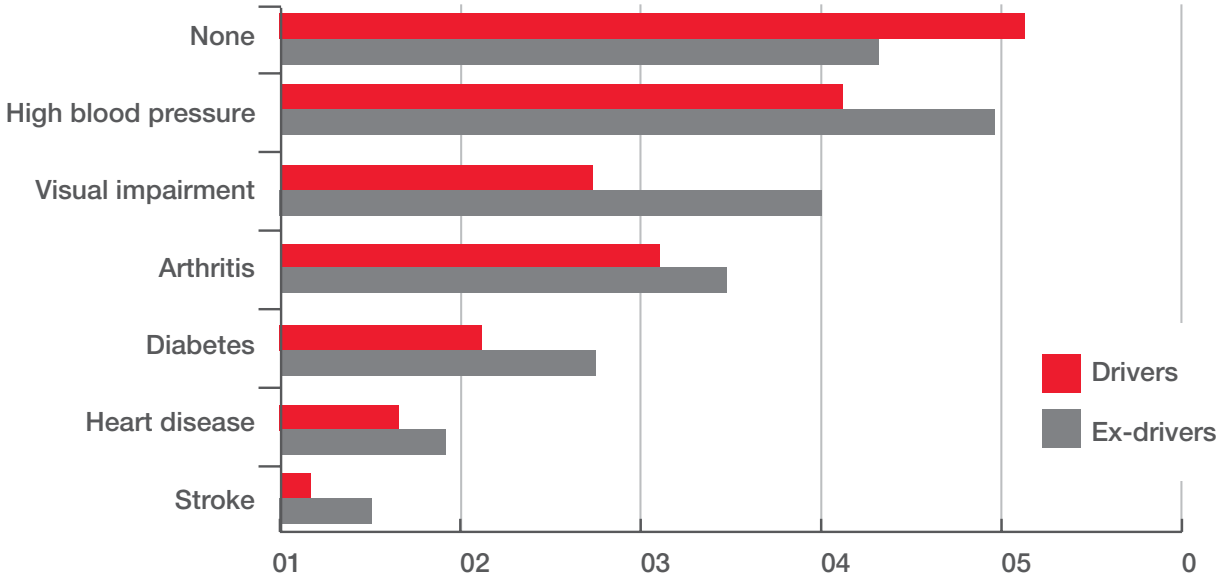
3.6 General health

Respondents were asked to state whether, in the past five years, they had been diagnosed or treated for a list of medical or visual conditions which may affect driving. Overall, 1063 (40.6%) said they had none of these conditions. Significantly more current drivers than ex-drivers reported none of these conditions ($p = 0.02$, $X^2 = 5.39$, $df = 1$). Table 10 presents the results for drivers and ex-drivers. Figure 11 illustrates the most common conditions. High blood pressure was the most frequently reported condition, and this was more of a problem among ex-drivers.

Table 10: Medical or Visual Conditions: Drivers and Ex-Drivers

Medical Condition	Drivers (%)	Ex-Drivers (%)	Total (%)	Significance level
Arthritis	496 (20.6%)	56 (25.8%)	552 (21.1%)	Not significant
Alzheimer's disease	6 (0.2%)	2 (0.9%)	8 (0.3%)	Not significant
Diabetes	270 (11.2%)	38 (17.5%)	308 (11.8%)	P = 0.006, X^2 = 7.54
Epilepsy	12 (0.5%)	1 (0.5%)	13 (0.5%)	Not significant
Head injury	12 (0.5%)	3 (1.4%)	15 (0.6%)	Not significant
Heart disease	159 (6.6%)	20 (9.2%)	179 (6.8%)	Not significant
High blood pressure	749 (31.2%)	86 (39.6%)	835 (31.9%)	P = 0.01, X^2 = 6.54
Stroke	41 (1.7%)	11 (5.1%)	52 (2.0%)	P = 0.001, X^2 = 11.56
Cataract	245 (10.2%)	35 (16.1%)	280 (10.7%)	P = 0.007, X^2 = 7.33
Glaucoma	74 (3.1%)	13 (6.0%)	67 (3.3%)	P = 0.02, X^2 = 5.25
Other eye condition	109 (4.5%)	17 (7.8%)	126 (4.8%)	P = 0.03, X^2 = 4.72
None of the above	991 (41.3%)	72 (33.2%)	1063 (40.6%)	P = 0.02, X^2 = 5.39

Figure 11: Most common medical conditions reported by drivers and ex-drivers (%)



Respondents were asked if they take any medications. Most respondents said they did (1852, 70.7%). Significantly more ex-drivers (176, 81.1%) than current drivers (1676, 69.8%) took medications ($p = 0.0001$, $X^2 = 12.34$, $df = 1$).

Respondents were then asked if a health professional had advised them that their medications may impair their driving. Of the 1852 respondents taking medications, the vast majority said they had not been advised (1762, 95.1%) and 15 (0.8%) were not sure. Only 4% had been advised. Although not all of these medications would impair fitness to drive, it is highly likely that more than 4% would affect driving ability.

3.7 Vision

All respondents were asked to state how frequently they have an eyesight test. For those aged 60 or over, or those in receipt of certain benefits, the sight test is free. Sight test are free for all in Scotland. Overall, half the respondents had an eye test every year (1325, 50.6%) and 1069 (40.8%) had one every two years. When the data were analysed by age groups there was a significant difference between the groups, with older drivers having more frequent sight tests ($p = 0.0001$, $X^2 = 172.38$, $df = 12$). Table 11 shows the results.

Table 11: Frequency of eyesight tests by age group

Frequency of sight test	Age 55-59 years	Age 60 -69 years	Age 70 – 79 years	Age 80 and over	Total
Every year	71 (29%)	463 (41.5%)	634 (61.3%)	157 (70.7%)	1325 (50.6%)
Every 2 years	143 (58.4%)	537 (48.1%)	335 (32.4%)	54 (24.3%)	1069 (40.8%)
Every 3 years	16 (6.5%)	62 (5.6%)	41 (4%)	6 (2.7%)	125 (4.8%)
Every 4 or 5 years	3 (1.2%)	24 (2.1%)	10 (1%)	2 (0.9%)	39 (1.5%)
More than 5 years	12 (4.9%)	31 (2.8%)	15 (1.4%)	3 (1.4%)	61 (2.3%)
Total	245 (100%)	1117 (100%)	1035 (100%)	222 (100%)	619 (100%)

3.8 Reasons why ex-drivers gave up driving

Ex-drivers were asked at what age they gave up driving. Some had given up driving soon after passing their driving test and had not driven since. Six respondents had given up driving in their 20s, and the youngest age of giving up was 22. The oldest age of giving up driving was 92. The mean age of giving up was 61.7 years (SD = 13.66), but the modal age was 70 years.

Asked if they had previously considered driving before they actually did, only 45 respondents (20.7% of all ex-drivers) said they had (15 men and 30 women).

Asked how many times these ex-drivers had considered giving up, 19 (42.2%) had thought about it once, 16 (35.6%) thought about it twice, and 10 (22.2%) had thought about it multiple times.

Ex-drivers were asked if they felt they had given up driving at the right time, too early, or if they felt they had left it later than they should to stop driving. There was a significant difference between men and women, women were more likely to state that they gave up driving too early ($p = 0.01$, $X^2 = 9.48$, $df = 2$). Figure 12 shows the results.

Ex-drivers were asked what was the main reason they gave up driving. Figure 13 presents the results. The main reasons were giving up due to illness, cost or lack of confidence in driving.

Figure 12: Ex-drivers, did you give up driving at the right time? (n = 217)

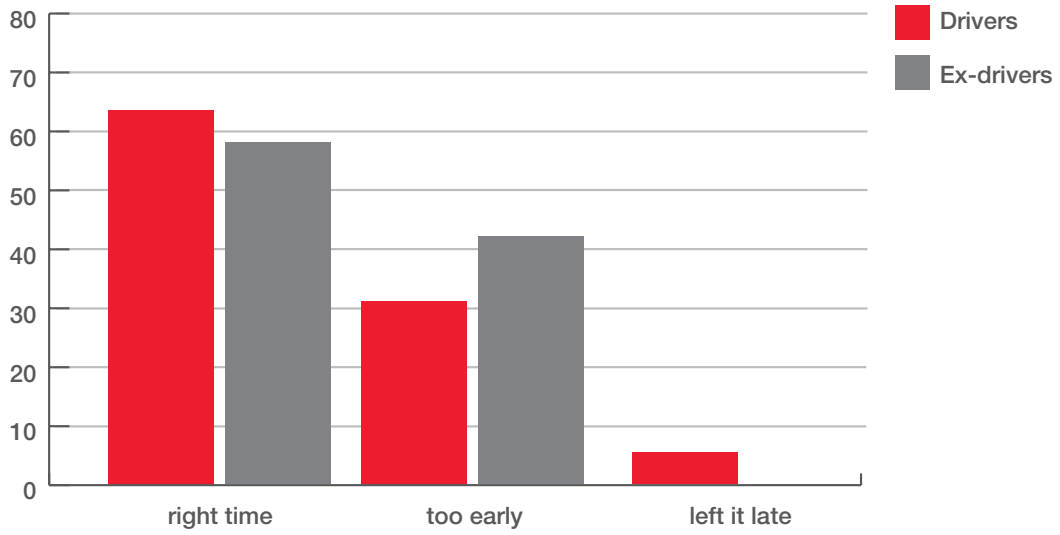
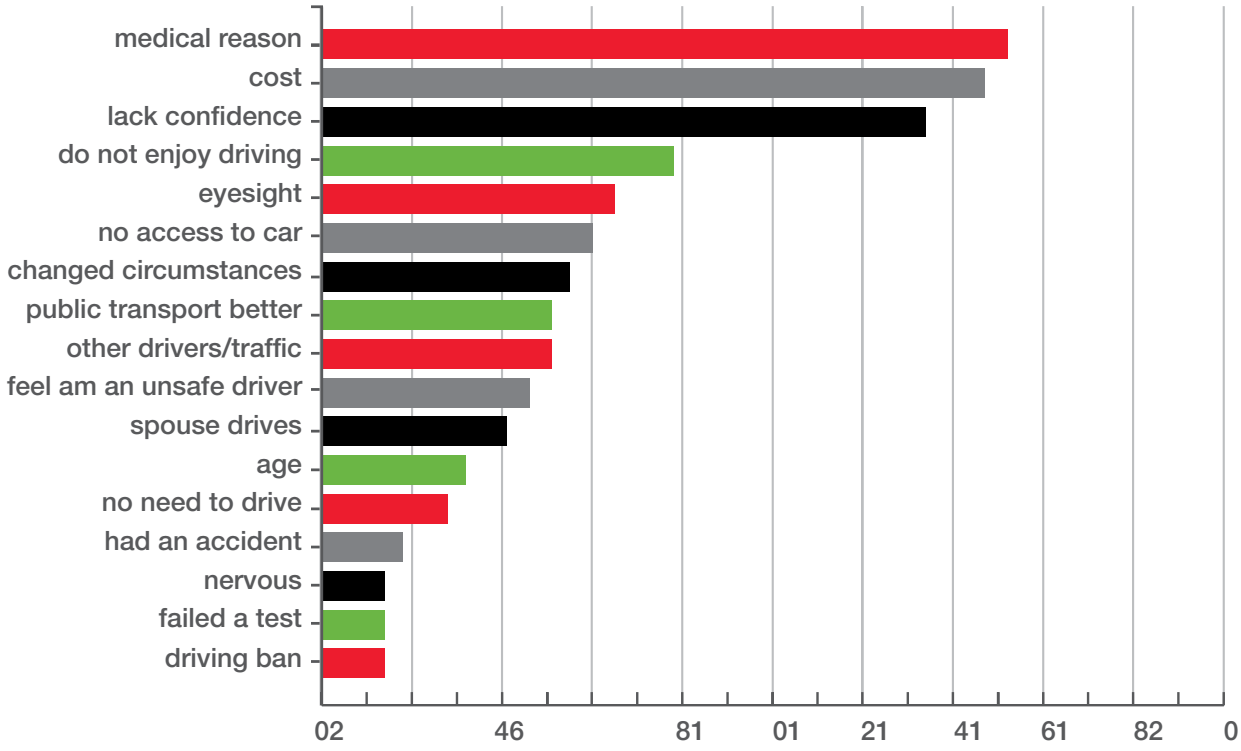


Figure 13: Reasons why Ex-Drivers gave up driving (percentages) (n = 217)

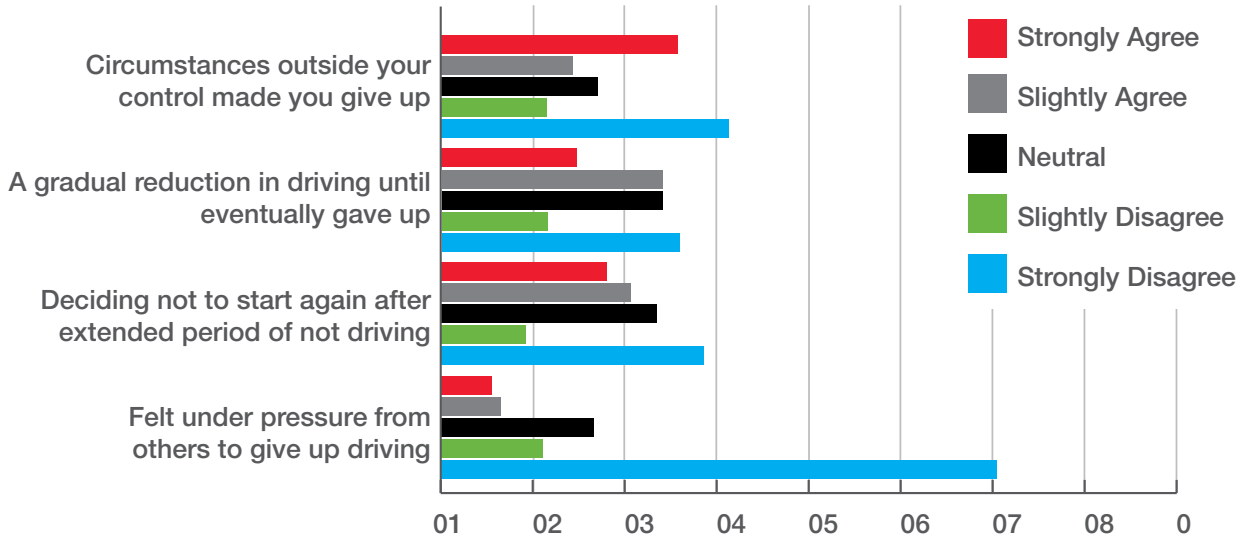


Ex-drivers were asked about their decision to stop driving, and if this was their own decision or if they felt they had been influenced or pressured into stopping driving. Table 12 and Figure 14 show the results. Very few ex-drivers said they had felt under pressure to give up driving from others (family, friends or health professionals).

Table 12: Ex-drivers levels of agreement with statements about decisions to give up driving

Statement	Strongly Agree	Slightly Agree	Neutral	Slightly Disagree	Strongly Disagree
Circumstances outside your control made you give up	56 (25.8%)	31 (14.3%)	37 (17.1%)	25 (11.5%)	68 (31.3%)
A gradual reduction in driving until eventually gave up	32 (14.7%)	52 (24%)	52 (24%)	25 (11.5%)	56 (25.8%)
Deciding not to start again after extended period of not driving	39 (18%)	45 (20.7%)	51 (23.5%	20 (9.2%)	62 (28.6%)
Felt under pressure from others to give up driving	12 (5.5%)	14 (6.5%)	36 (16.6%)	24 (11.1%)	131 (60.4%)

Figure 14: Ex-drivers levels of agreement with statements about decisions to give up driving



3.9 Ratings of driving ability with regard to specific situations: Drivers and Ex-Drivers

Questionnaire respondents were asked to rate their level of ability as a driver (either currently for drivers, or previously for ex-drivers) with regard to a list of driving situations such as ability to read road signs early enough to act upon them, and ability to react quickly in an emergency situation. Drivers and ex-drivers rated their ability in each situation as 'very good', 'good', 'adequate', 'poor' or 'very poor'. Results are presented in Table 13.

Table 13: Ratings of driving ability: Drivers and Ex-drivers

Driving Situation	Very good	Good	Adequate	Poor	Very Poor
Ability to read road signs early enough to give adequate time to act upon them	1426 (54.4%)	935 (35.7%)	231 (8.8%)	25 (1%)	2 (0.1%)
Ability to judge gaps in traffic	1436 (54.8%)	971 (37.1%)	188 (7.2%)	20 (0.8%)	4 (0.2%)
Ability to notice vehicles, cyclists and pedestrians out of the corner of your eye	1292 (49.3%)	1051 (40.1%)	254 (9.7%)	18 (0.7%)	4 (0.2%)
Ability to see clearly in very low light conditions	732 (27.9%)	1130 (43.1%)	665 (25.4%)	82 (3.1%)	10 (0.4%)
Ability to see clearly in very bright light conditions	875 (33.4)	1158 (44.2%)	523 (20%)	57 (2.2%)	6 (0.2%)
Ability to make decisions quickly (e.g. when to pull out into traffic)	1245 (47.5%)	1051 (40.1%)	287 (11%)	34 (1.3%)	2 (0.1%)
Ability to react quickly (e.g. braking in an emergency)	1407 (53.7%)	980 (37.4%)	212 (8.1%)	19 (0.7%)	1 (0.01%)
Ability to follow from memory a route driven/walked only once previously	861 (32.9%)	935 (35.7%)	636 (24.3%)	164 (6.3%)	23 (0.9%)
Ability to stay alert for long periods	932 (35.6%)	1183 (45.2%)	435 (16.6%)	64 (2.4%)	5 (0.2%)
Ability to recognise when your attention has wandered from driving	1063 (40.6%)	1253 (47.8%)	286 (10.9%)	15 (0.6%)	2 (0.1%)
Ability to judge speed of oncoming traffic	1011 (38.6%)	1200 (45.8%)	375 (14.3%)	30 (1.1%)	3 (0.1%)
Ability to divide your attention between two different tasks (e.g. talking to someone while driving)	660 (25.2%)	1131 (43.2%)	688 (26.3%)	126 (4.8%)	13 (0.5%)

The majority of respondents rated their ability in all situations as either ‘good’ or ‘very good’. For most situations, fewer than 12% of respondents rated their ability as merely ‘adequate’. Exceptions were the ability to see clearly in very low or very bright light conditions; ability to follow a route from memory after driving it only once; ability to stay alert for long periods; ability to judge speed of oncoming traffic; and ability to divide attention between two different tasks.

For all situations, younger drivers were significantly more likely than older drivers to rate their ability as good or very good ($p = 0.001$).

Comparisons were then made between the numbers of current and ex-drivers rating themselves as either ‘good or very good’, ‘adequate’, or ‘poor or very poor’. Statistically significant differences were observed between the current and ex-drivers on ratings for all of the driving situations ($p = 0001$). Ex-drivers were less likely to rate themselves as good or very good and more likely to rate themselves as adequate or poor. Figures 15a to 15k illustrate the differences.

Figure 15a Ability to read road signs early enough

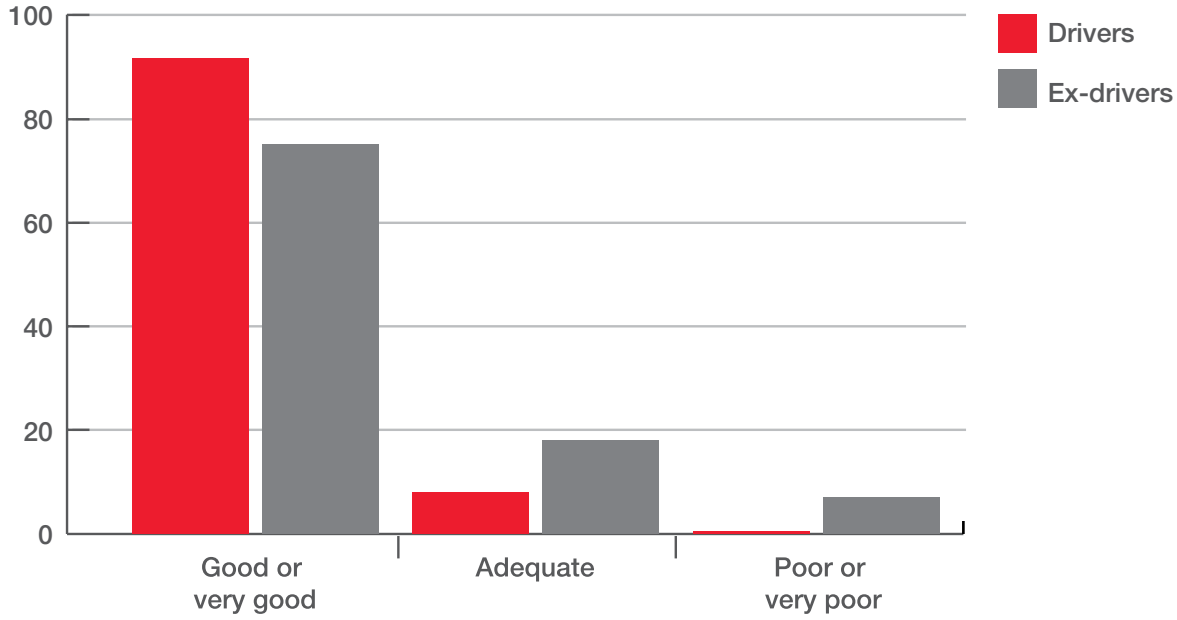


Figure 15b Ability to judge gaps in traffic

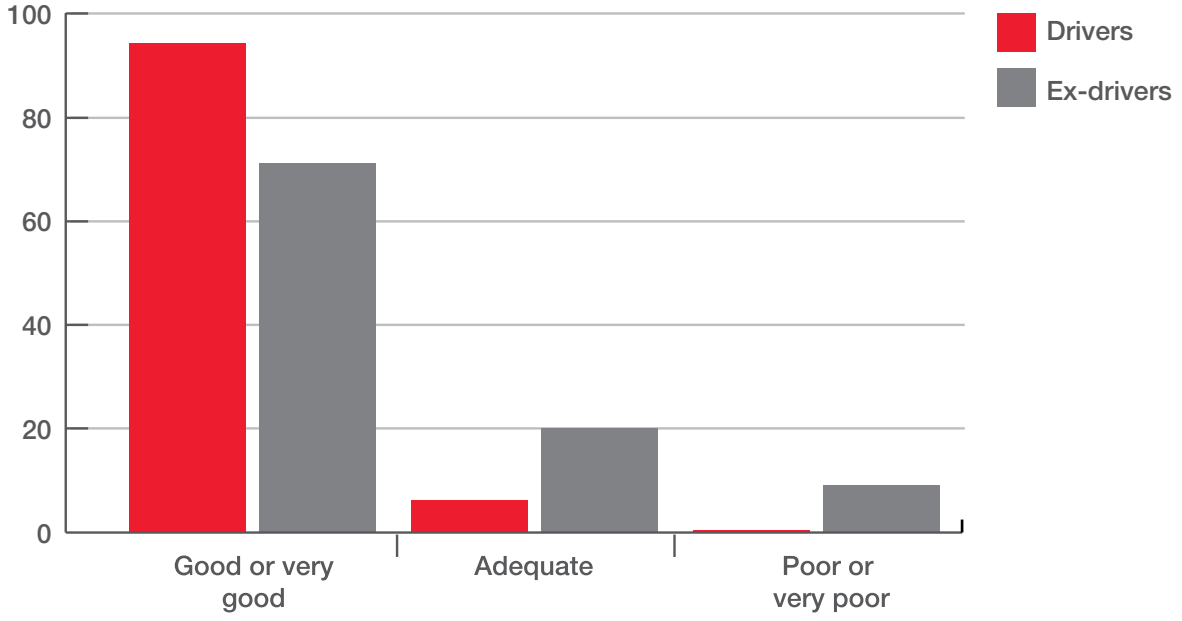


Figure 15c Ability to notice vehicles, cyclists, pedestrians

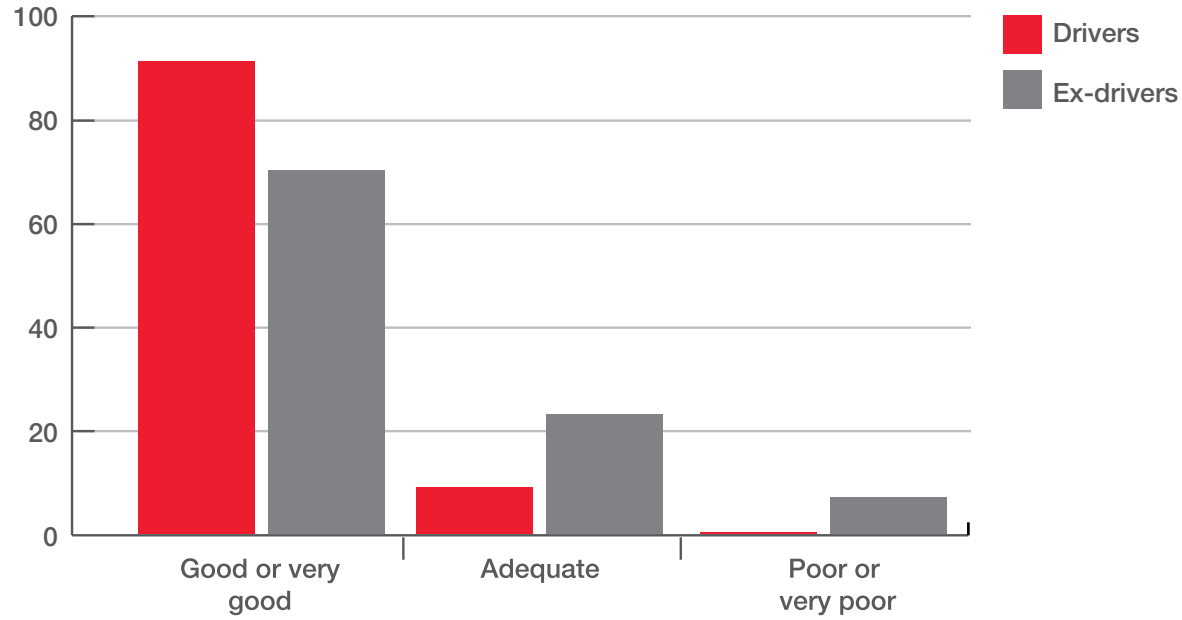


Figure 15d Ability to see clearly in low light

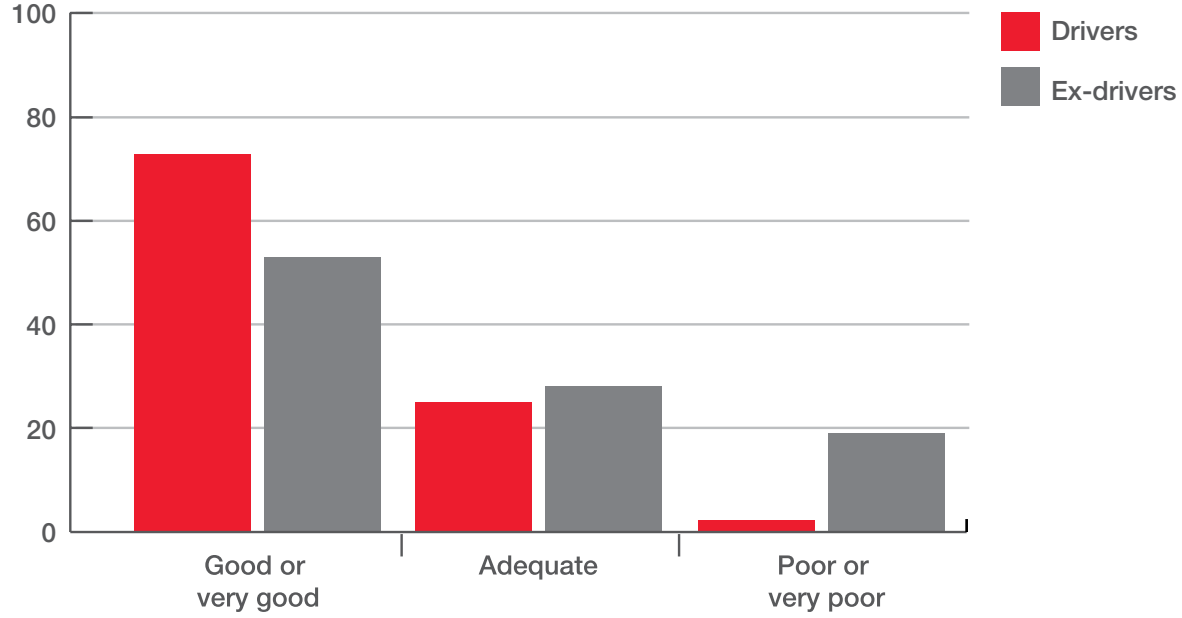


Figure 15e Ability to see clearly in bright light

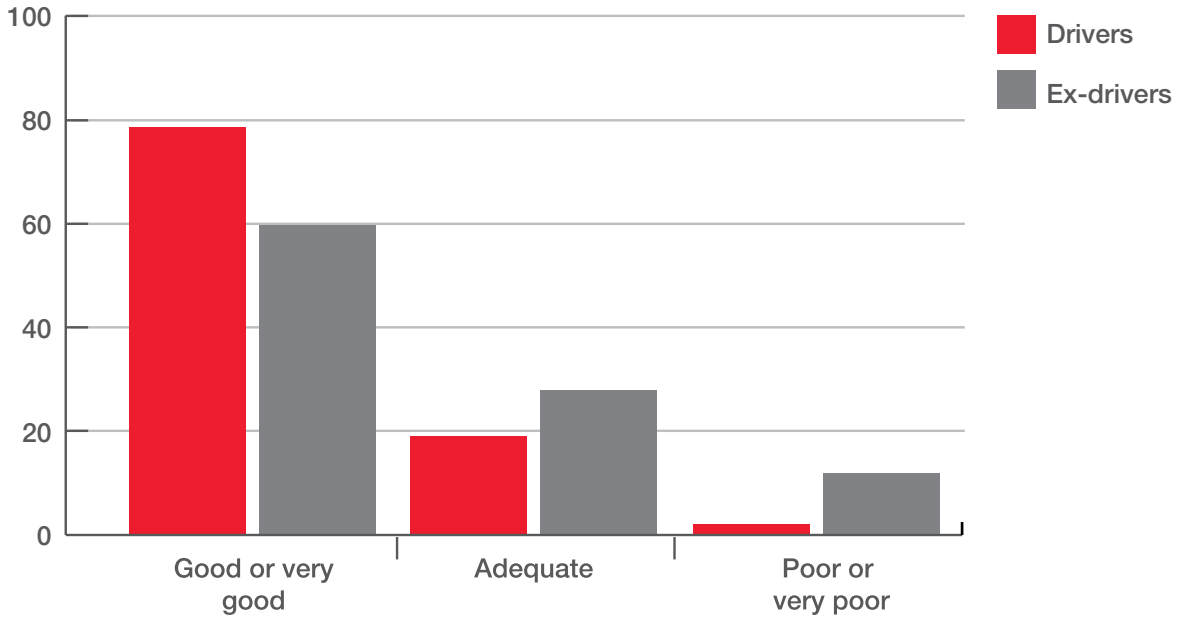


Figure 15f Ability to make decisions quickly

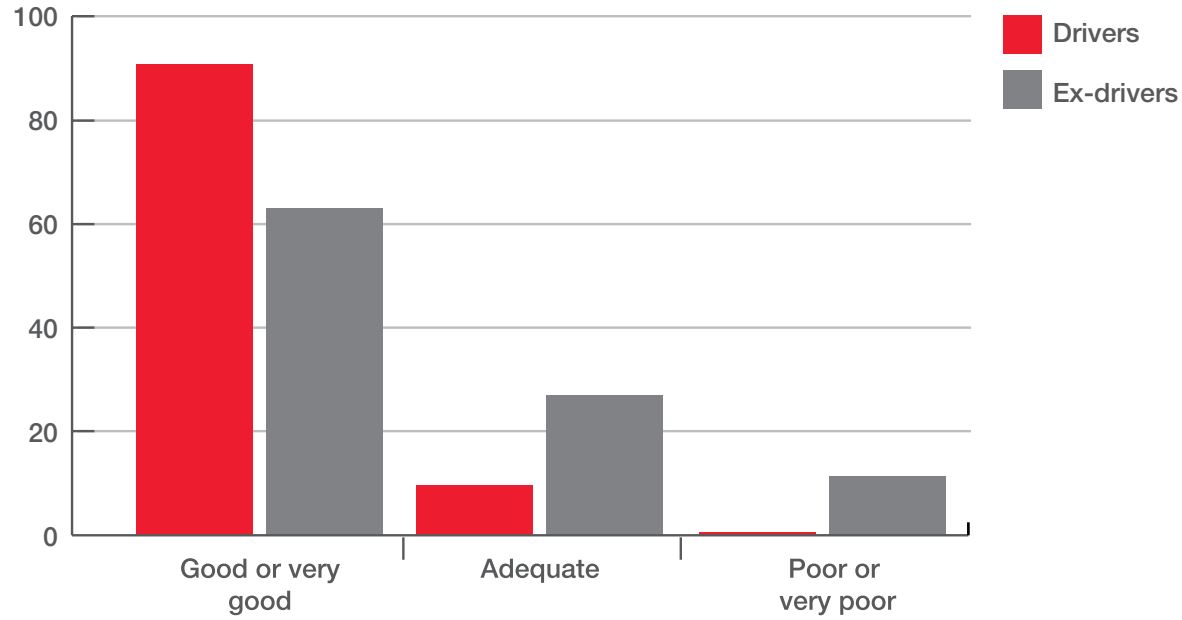


Figure 15g Ability to react quickly

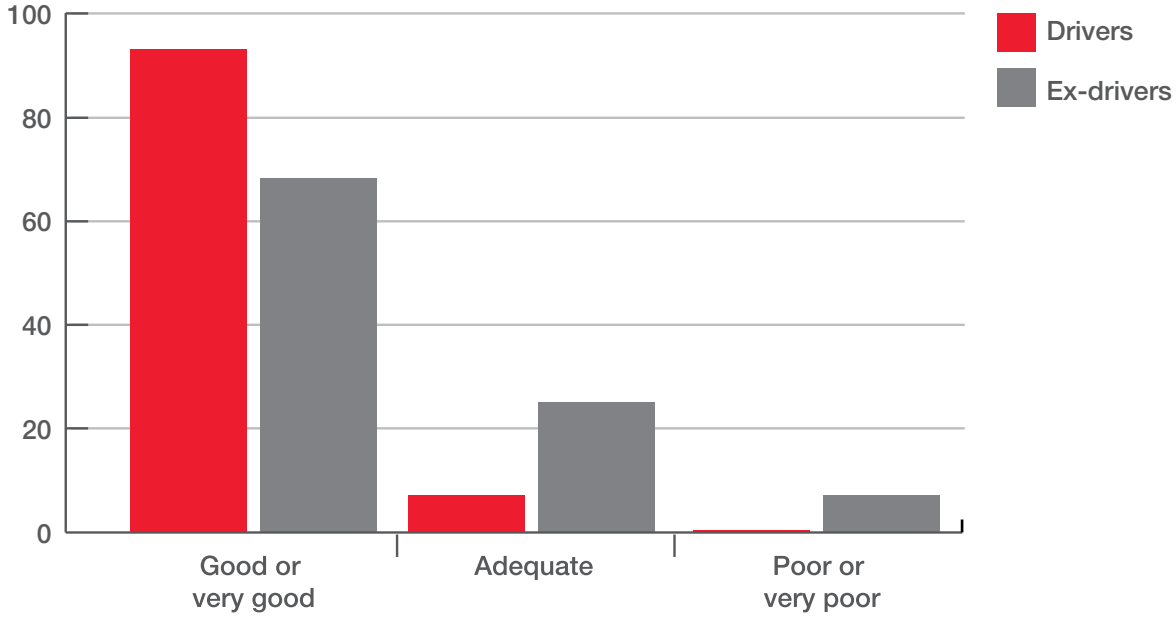


Figure 15h Ability to stay alert for long periods

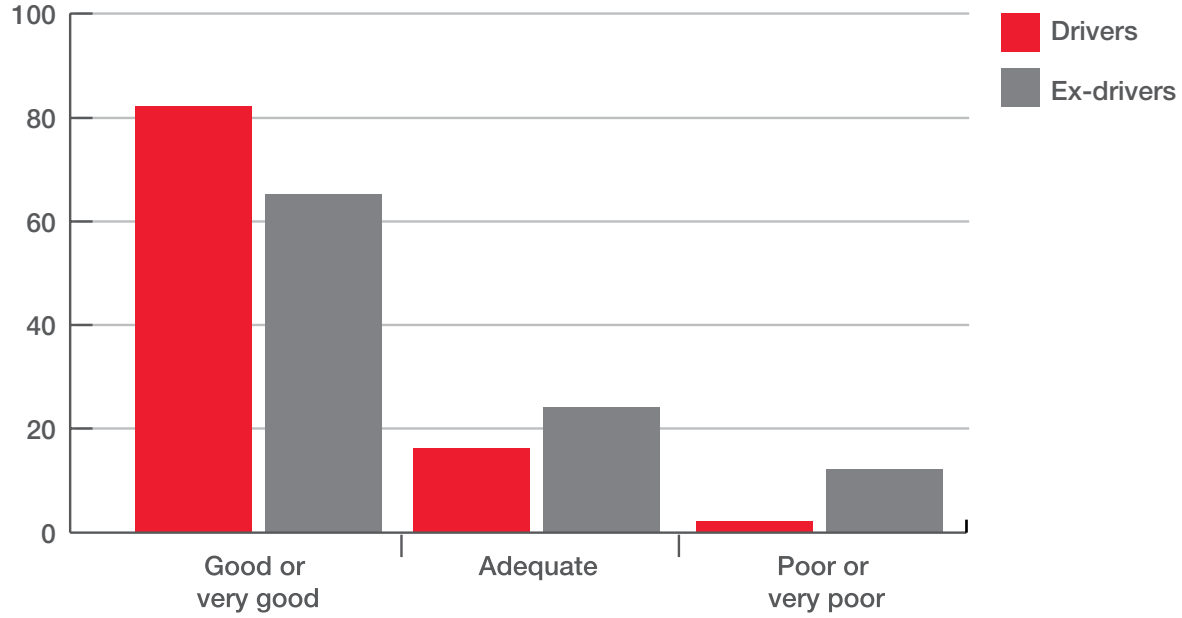


Figure 15i Ability to recognise when your attention has wandered from driving

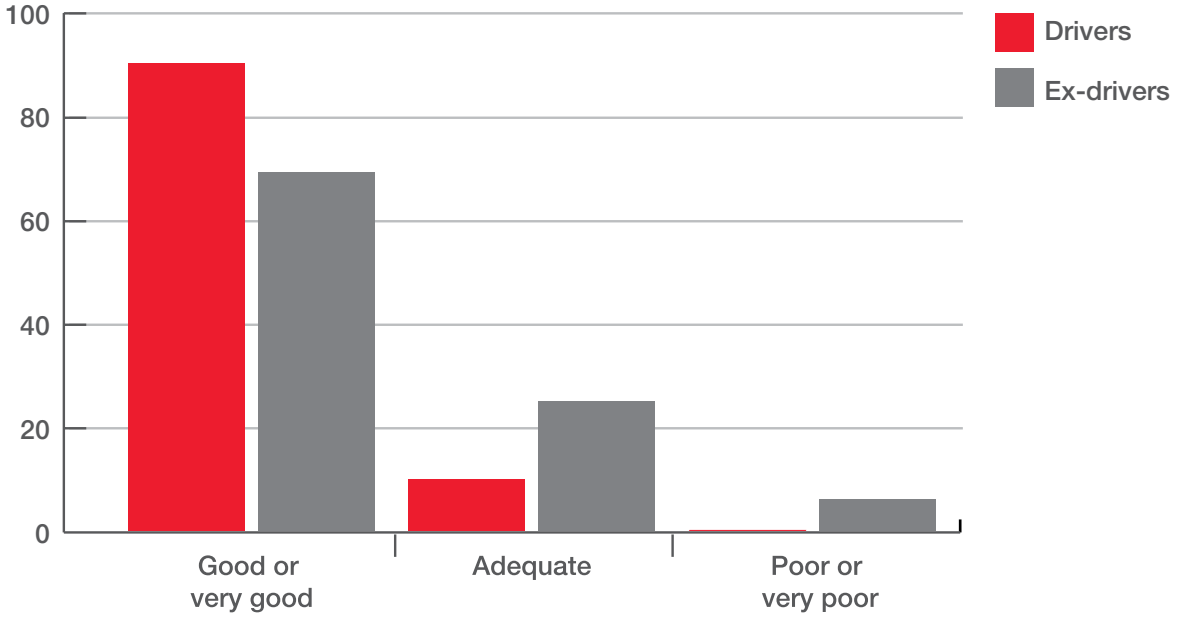


Figure 15j Ability to judge speed of oncoming traffic

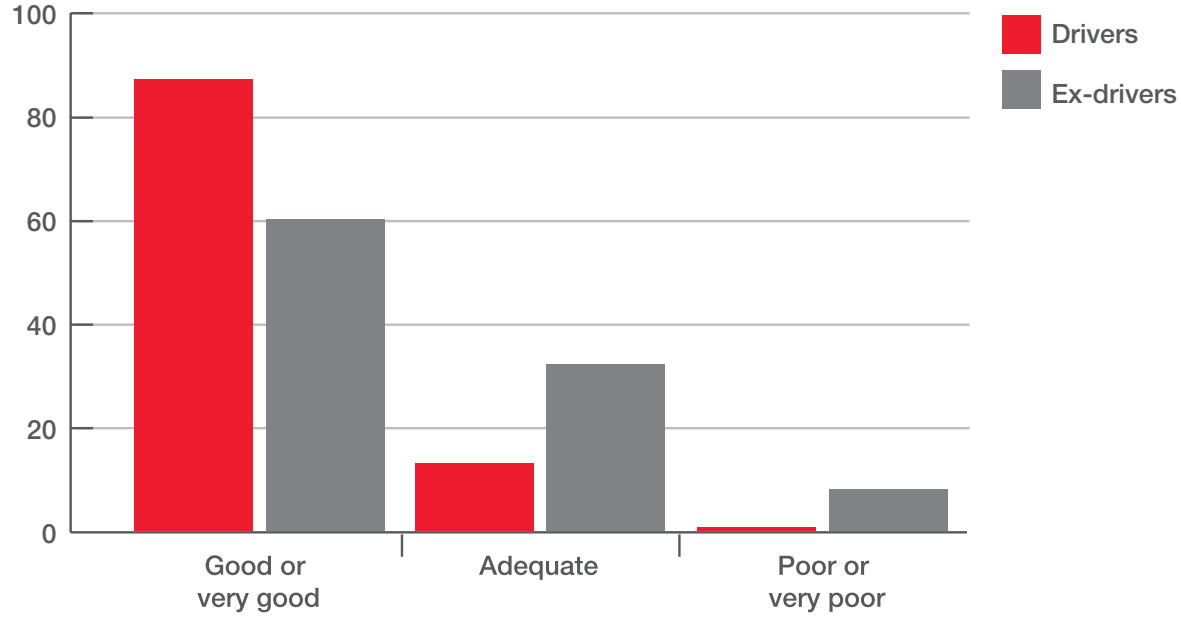
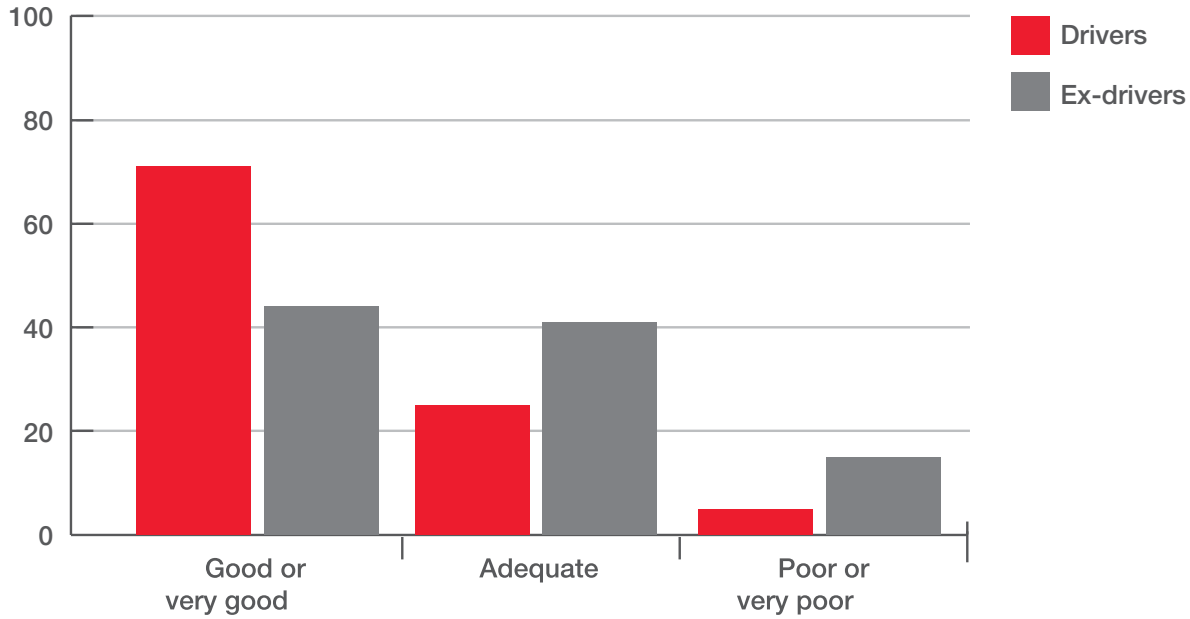


Figure 15k Ability to divide attention between two tasks



3.10 Current drivers

There were 2402 respondents who were currently driving. All drivers were grouped by age into those aged less than 70 and those aged 70 and over. Comparisons were made between groups.

3.10.1 Miles driven per annum by current drivers

Overall, current drivers had a mean annual mileage of 6337.5 miles (range 80 – 55,000; SD = 4585.3). The very high mileage rates were associated with those who were professional drivers (HGV drivers, PSV drivers, driving instructors). If these high mileage drivers are excluded from the analysis (mileage over 22,000 per year), the mean annual mileage is 6119.6 (range 80 – 22,000; SD = 3893.24; n = 2381).

There was a significant difference in the number of miles driven per annum between the older and younger groups ($p = 0.0001$, $f = 71.18$). Drivers aged under 70 (1273, 53%) had a mean annual mileage of 7070.2 miles (range 80 to 55,000). Drivers aged 70 and over (1129, 47%) had a mean annual mileage of 5511.3 miles (range 100 – 30,000).

When very high mileage drivers were excluded the average mileages become 5414.8 for those aged 70 and over (n = 1124, range 100 – 20,000, SD = 3426.53) and 6749.7 for those aged under 70 (n = 1257, range 80 – 22,000, SD = 4169.17).

When examined by gender, men had a significantly higher mean annual mileage rate than women ($p = 0.0001$, $f = 160.63$): men = 7072.9 miles/annum, (n = 1222, range 100 – 22,000, SD = 3910.97); women = 5114.4 miles/annum, (n = 1159, range 80 – 22,000, SD = 3613.05).

3.10.2 Main driver in household

There was a significant difference between men and women ($p = 0.0001$, $X^2 = 287.08$, $df = 1$). Most men said they were the main driver in their household (1097, 88.5%), but just over half the women said they were the main driver (676, 58.1%).

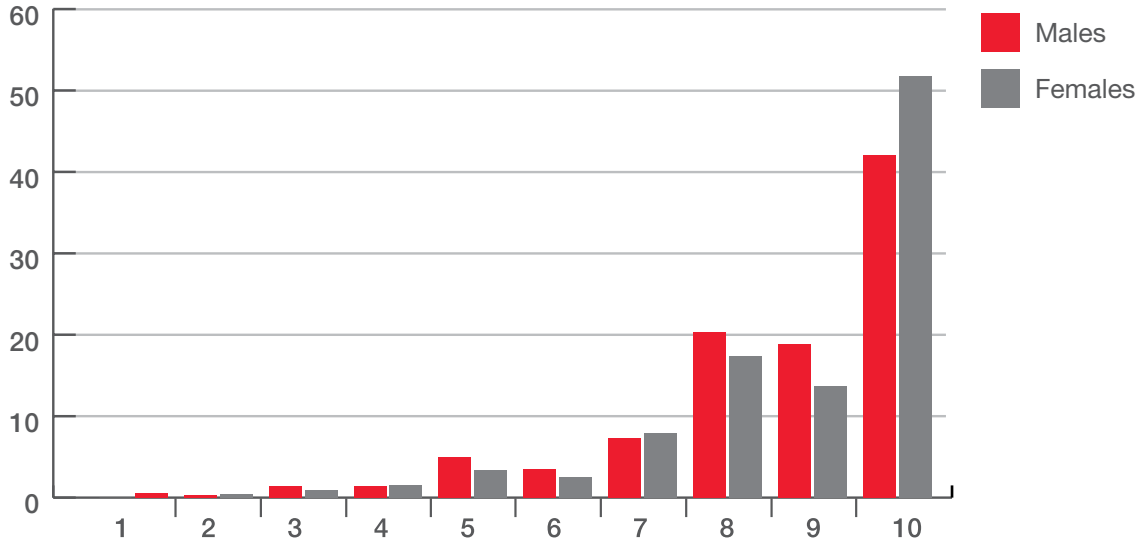
3.10.3 Importance of driving

Current drivers were asked to rate how important driving is to them, on a scale of one to ten where 1 is not at all important and 10 is extremely important. Overall, 82% of respondents rated the importance of driving between 8 and 10.

There was a significant difference between men and women, with women more likely to rate driving as extremely important ($p = 0.0001$, $X^2 = 39.36$, $df = 9$). Figure 16 shows the results.

When examined by age groups, there was no significant difference between the ratings of drivers aged under 70 and those aged 70 and over.

Figure 16 Current drivers ratings of the importance of driving (n = 2402)



When asked 'how easy would it be to get around if you did not drive?', 516 (21.5%) current drivers said it would be very difficult; 829 (34.5%) said it would be quite difficult; 513 (21.4%) said it would be neither difficult nor easy; 446 (18.6%) said it would be quite easy; 98 (4.1%) said it would be very easy.

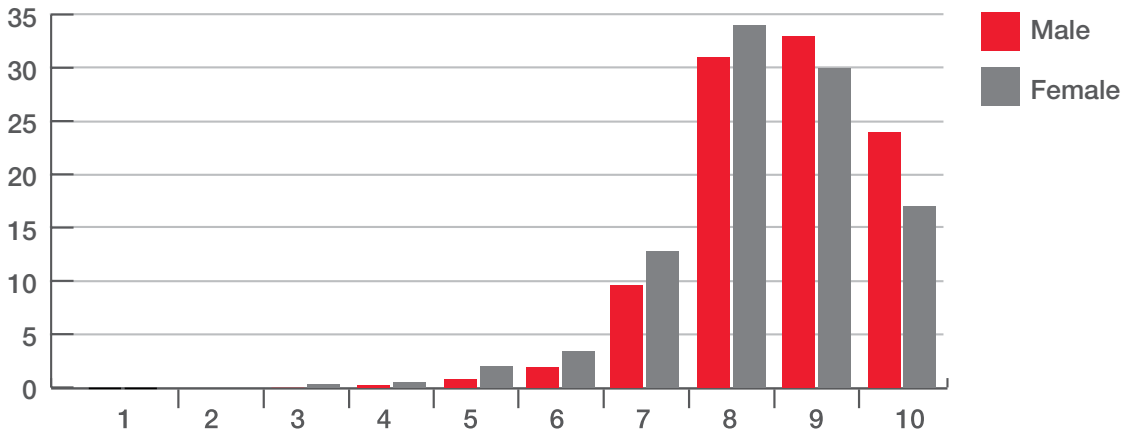
3.10.4 Driving ability

Current drivers were asked to rate their general ability as a driver on a scale of one to ten, where 1 is poor and 10 is excellent. Overall, 84% of respondents rated their driving ability between 8 and 10 (good to excellent).

There was a significant difference between men and women, with men more likely to rate driving ability as very good or excellent ($p = 0.0001$, $X^2 = 37.79$, $df = 8$). Figure 17 shows the results.

When examined by age groups, there was no significant difference between the ratings of drivers aged under 70 and those aged 70 and over.

Figure 17 Current drivers ratings of their general ability as a driver (n = 2402)



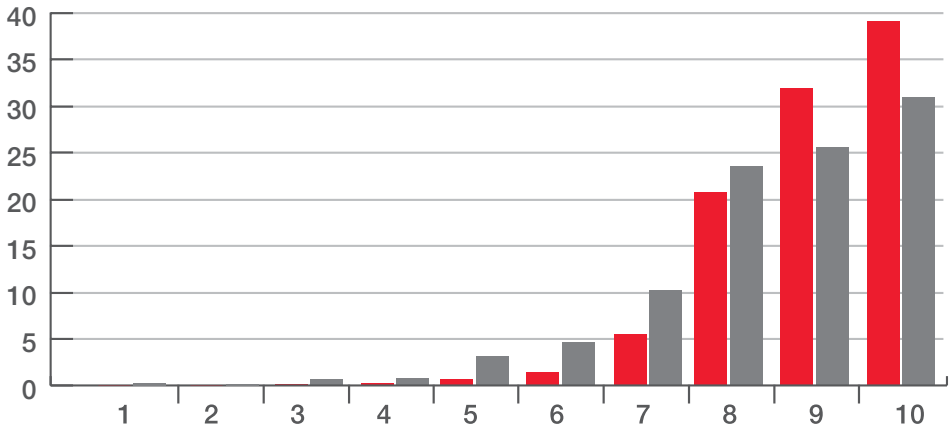
3.10.5 Driving Confidence

Current drivers were asked to rate their general confidence as a driver on a scale of one to ten, where 1 is not at all confident and 10 is extremely confident. Overall, 86% of respondents rated their confidence as a driver between 8 and 10 (high to extremely confident).

There was a significant difference between men and women, with men likely to rate their confidence more highly ($p = 0.0001$, $X^2 = 90.21$, $df = 9$). Figure 18 shows the results.

When examined by age groups, there was no significant difference between the ratings of drivers aged under 70 and those aged 70 and over, although older drivers were slightly less likely to rate themselves as extremely confident.

Figure 18: Current drivers ratings of general confidence as a driver (n = 2402)



3.10.6 Main reasons for driving

A list of reasons for driving was created from the literature on older drivers, and current drivers were asked to tick all that applied to them. Responses were analysed by age group and comparisons made between drivers aged 55 to 69 and drivers aged 70 and over. Table 14 presents the results. There were statistically significant differences between older and younger drivers for shopping; driving to meetings or services; driving to appointments; and driving to and from the workplace.

Table 14: Main reasons for driving: Older and younger current drivers (n = 2402)

Activity	Age 55-69 (%)	Age 70 and over (%)	All Ages (%)	Significant difference between age groups
Shopping or errands	1138 (89.4%)	1052 (93.2%)	2190 (91.2%)	p= 0.001 (X^2 = 10.65)
Visiting friends or relatives	1098 (86.3%)	986 (87.3%)	2084 (86.8%)	Not significant
Going to meetings or services	519 (40.8%)	546 (48.4%)	1065 (44.3%)	p= 0.001 (X^2 = 13.97)
Leisure activities	959 (75.3%)	876 (77.6%)	1835 (76.4%)	Not significant
Going to appointments	835 (65.6%)	821 (72.7%)	1656 (68.9%)	p= 0.001 (X^2 = 14.19)
To/from workplace (paid or voluntary)	438 (34.4%)	185 (16.4%)	623 (25.9%)	p= 0.001 (X^2 = 101.15)
Giving lifts to others	374 (29.4%)	345 (30.6%)	719 (29.9%)	Not significant
Other	64 (5%)	55 (4.9%)	119 (5%)	Not significant

3.10.7 Avoidance of difficult driving situations

Current drivers were asked if they had avoided certain driving situations during the past year, and if so, how often: never, rarely, sometimes, often, or always. The purpose of this question was to see if drivers regulate their driving in difficult driving situations. The list of driving situations was created from the literature on older drivers. Table 15 presents the results.

The responses were further analysed by age group, and comparisons made between drivers aged 55 to 69 and drivers aged 70 and over. For these comparisons a three-point scale was used ‘never’, ‘sometimes’ and ‘often’. There were statistically significant differences in responses for only three driving situations: driving at night; driving at night in the rain; and driving long distances. For each of these, older drivers were more likely to avoid these situations. Figures 19a to 19c illustrate these differences.

Table 15: Avoidance of difficult driving situations in the past year (n = 2402)

Driving Situation	Never	Rarely	Sometimes	Often	Always
Driving at night	1398 (58.2%	341 (14.2%)	378 (15.7%)	221 (9.2%)	64 (2.7%)
Driving in morning or evening rush hour	1353 (56.3%)	359 (14.9%)	401 (16.7%)	226 (9.4%)	63 (2.6%)
Driving in bad weather	1171 (48.8%)	543 (22.6%)	512 (21.3%)	150 (6.2%)	26 (1.1%)
Driving on busy roads	1484 (61.8%)	420 (17.5%)	322 (13.4%)	147 (6.1%)	29 (1.2%)
Driving on unfamiliar roads	1495 (62.2%)	452 (18.8%)	324 (13.5%)	103 (4.3%)	28 (1.2%)
Driving on motorways	1697 (70.6%)	256 (10.7%)	226 (9.4%)	135 (5.6%)	88 (3.7%)
Making right turns	1987 (82.7%)	186 (7.7%)	82 (3.4%)	107 (4.5%)	40 (1.7%)
Parallel parking	1561 (65%)	325 (13.5%)	253 (10.5%)	160 (6.7%)	103 (4.3%)
Driving when alone	2037 (84.8%)	150 (6.2%)	68 (2.8%)	117 (4.9%)	30 (1.2%)
Driving at night in the rain	1469 (61.2%)	374 (15.6%)	324 (13.5%)	168 (7%)	67 (2.8%)
Driving when feeling tired)	583 (24.3%)	667 (27.8%)	192 (8%)	202 (8.4%)	758 (31.6%
Driving long distances	1222 (50.9%)	453 (18.9%)	460 (19.2%)	150 (6.2%)	117 (4.9%)

Figure 19a: Avoid driving at night

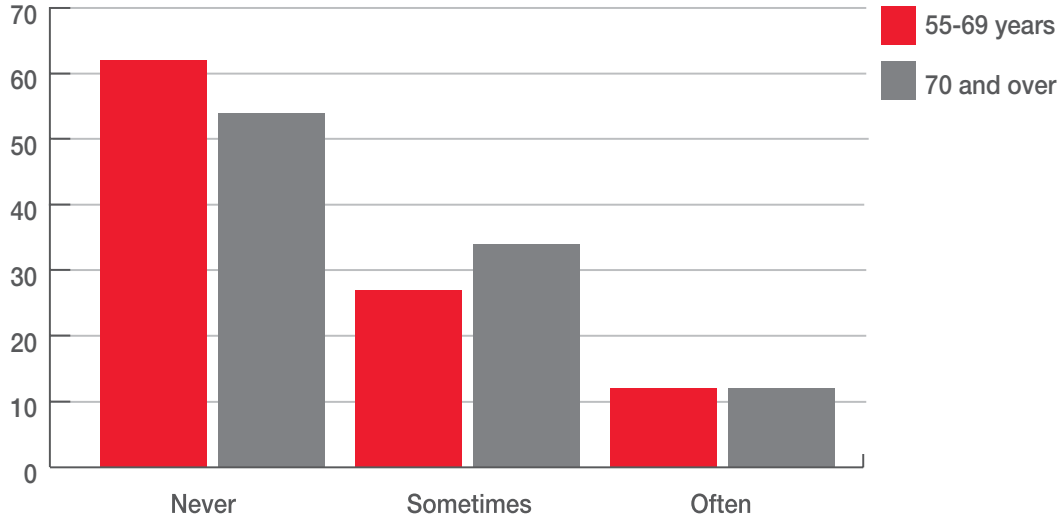


Figure 19b: Avoid driving at night in the rain

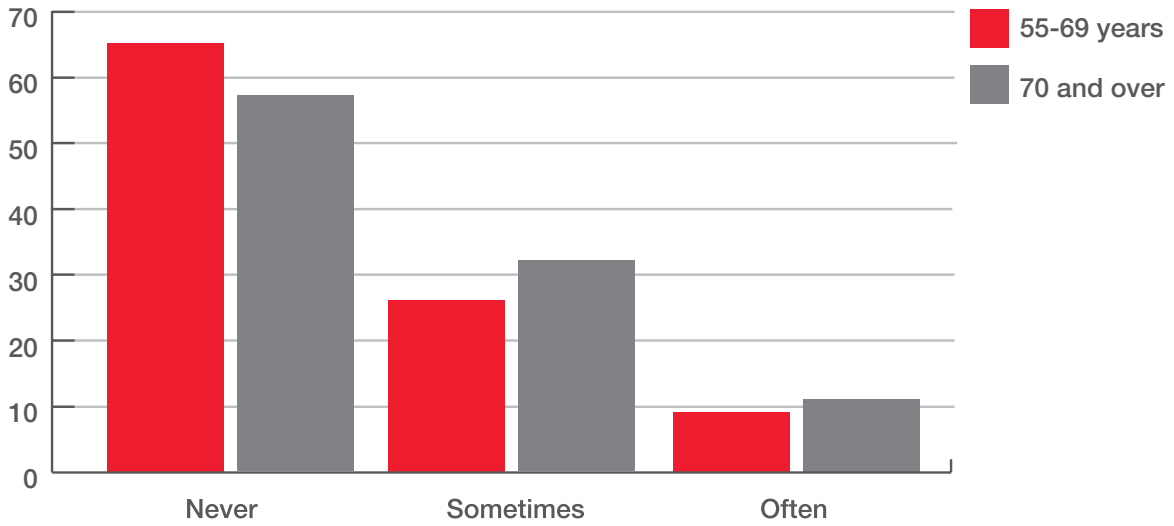
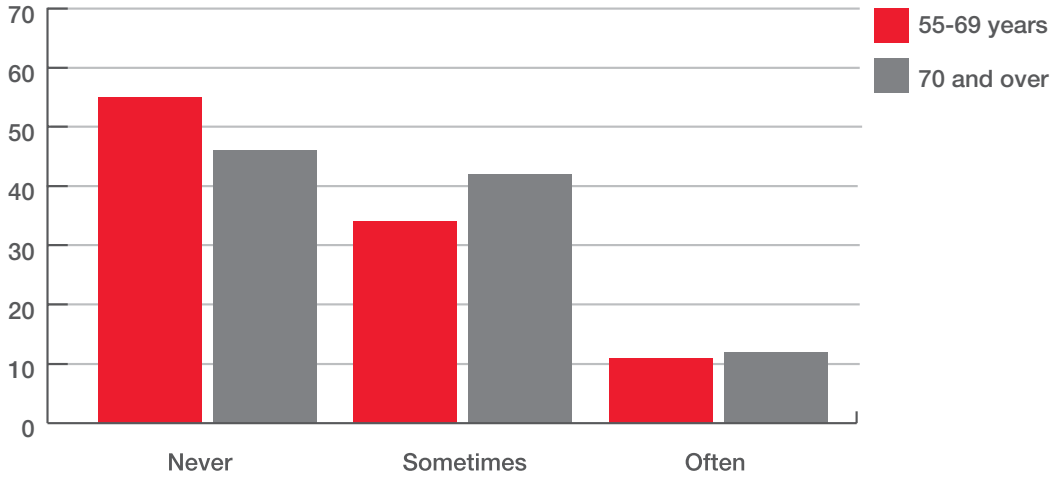


Figure 19c: Avoid driving long distances



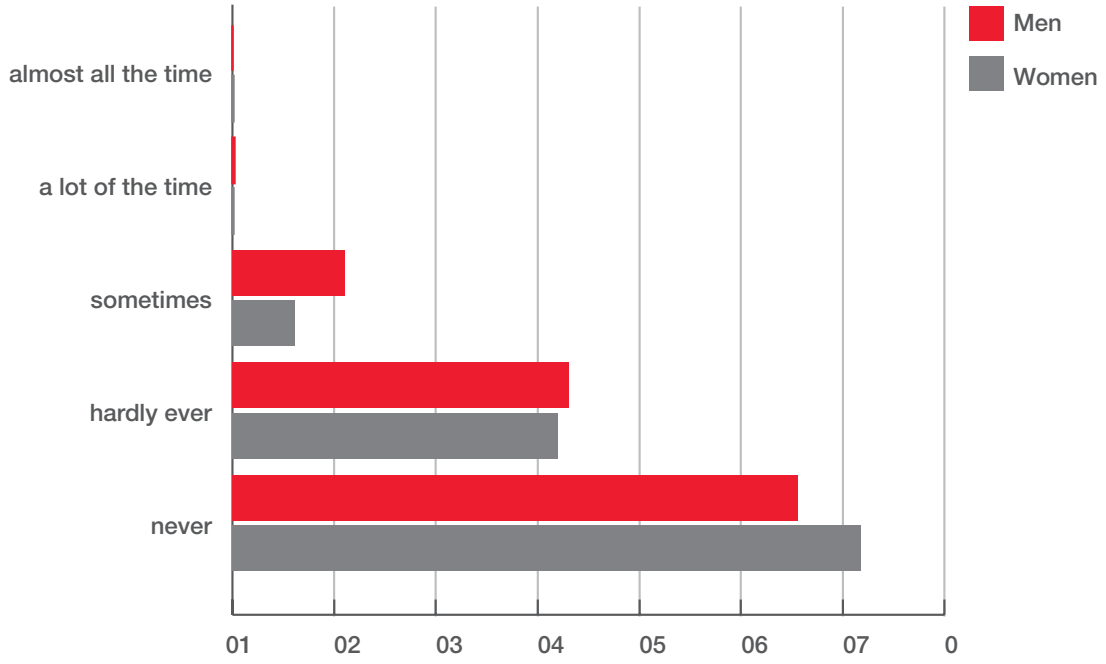
3.10.8 Driver errors

Current drivers were asked if they made various mistakes never, hardly ever, sometimes, a lot of the time, or almost all the time. These errors included poor lane positioning and forgetting where they had left their car. The results are shown in Table 16. Over 40% of all current drivers said they had forgotten where they left their car at some time. There was a significant difference between men and women, with women more likely to sometimes forget where they left their car ($p = 0.0001$, $X^2 = 22.54$, $df = 4$). Results are presented in Figure 20. There were no differences between men and women for the other three scenarios. There were no significant differences between drivers aged under 70 and those aged 70 and over.

Table 16: Current drivers: frequency of driver errors

Statement	Never	Hardly ever	Sometimes	Lot of the time	Almost all the time
Do you forget where you left your car?	1411 (58.7%)	782 (32.6%)	205 (8.5%)	3 (0.1%)	1 (0.01%)
Do you get into the wrong lane when approaching a roundabout or junction?	592 (24.6%)	1412 (58.8%)	394 (16.4%)	3 (0.1%)	1 (0.1%)
Do you misread the signs, exit from a roundabout on wrong road?	912 (38%)	1239 (51.6)	248 (10.3%)	3 (0.1%)	0
Do you switch on one thing, meaning another? (e.g. wipers instead of indicators)	1272 (53%)	903 (37.6%)	219 (9.1%)	7 (0.3%)	1 (0.01%)

Figure 20: Forgetting where I left my car: men and women (%)



3.10.9 Knowledge of current driving regulations

Drivers were asked how up to date they were with current driving regulations (e.g. the Highway Code, DVLA website). Overall, just over one quarter of current drivers (650 people) had checked current driving regulations within the last year. 45% of drivers (1073 people) had not checked the regulations at all, or it was over five years since they checked. There was a significant difference between men and women ($p = 0.002$, $X^2 = 21.15$, $df = 6$). Male drivers had checked slightly more recently than women and more women than men said they had not checked at all, or did not know when they last checked. Figure 21 shows the results for men, women and for all drivers.

There was a significant difference between older and younger drivers. Drivers aged 70 and over had checked the regulations more recently than younger drivers. ($p = 0.0001$, $X^2 = 27.34$, $df = 6$). This is likely to be because at age 70 they had to renew their driving licence and would have needed to visit the DVLA website. Figure 22 shows the results for older and younger drivers.

Figure 20: Forgetting where I left my car: men and women (%)

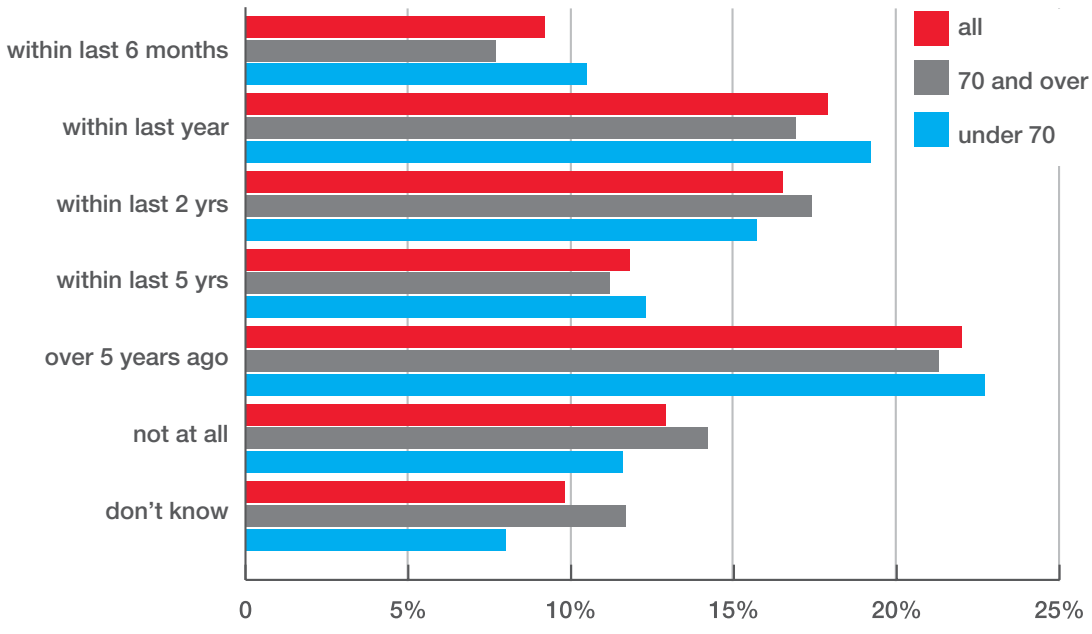


Figure 21: When did you last check current driving regulations: men and women

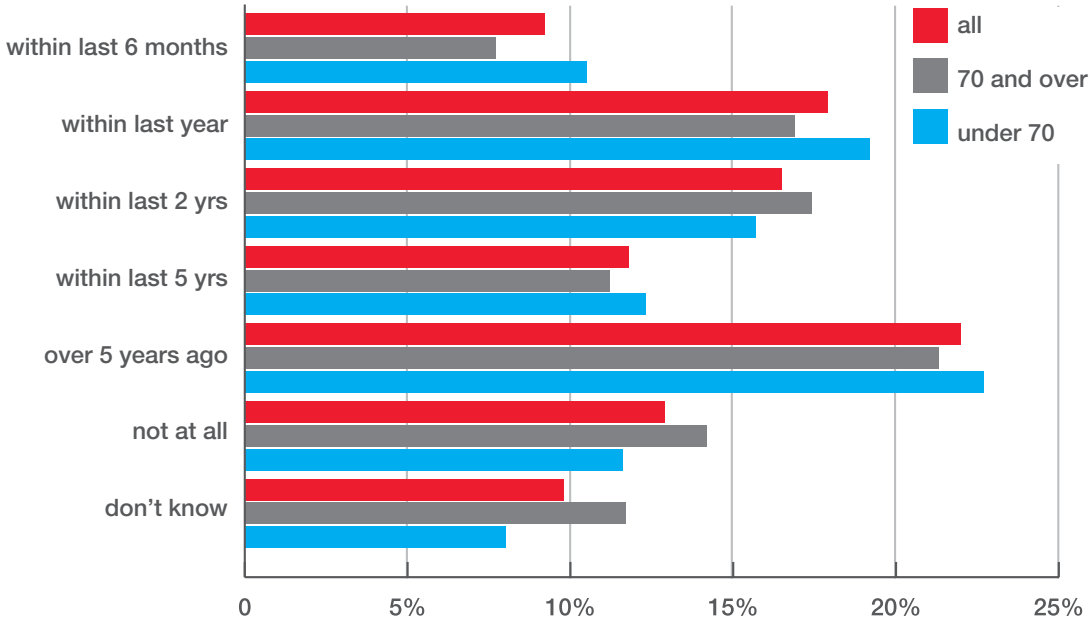
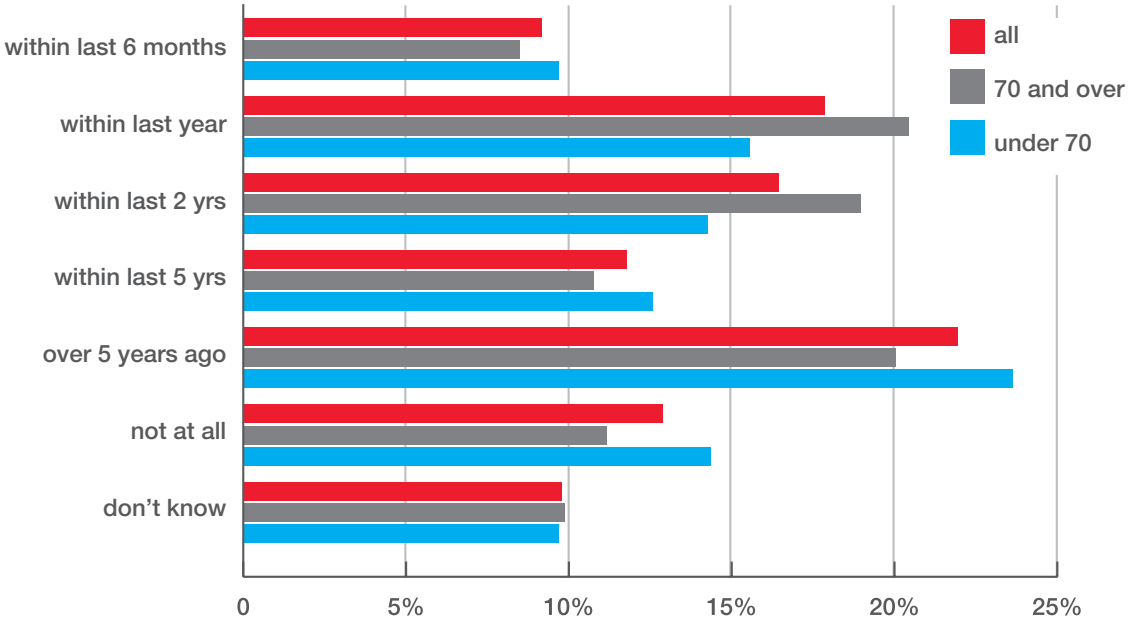


Figure 22: When did you last check current driving regulations: younger and older drivers



3.10.10 Giving up driving

Current drivers were asked to state for how many years they expected to keep driving. Overall, the mean number of years was 12.9 (SD = 6.91) with a range of 0 to 60 years. When the data were analysed by gender, there was a significant difference between men and women (p = 0.01, f = 6.12, df = 1). Men expected to keep driving for 13.2 more years (SD = 7.42) and women for 12.5 more years (SD = 6.3). The average age at which drivers intended to give up driving was 82.14 years.

When the data were analysed by age group, there was a highly significant difference between current drivers aged under 70 and those aged 70 and over (p = 0.0001, f = 766.87, df = 1). Younger drivers expected to keep driving for a further 16.1 years (SD = 6.89) and older drivers expected to keep driving for a further 9.3 years (SD = 4.85). There was a significant difference between older and younger drivers for the average age they would give up driving: age 84.7 for older drivers and 79.8 for younger (p = 0.0001, t = -20.34).

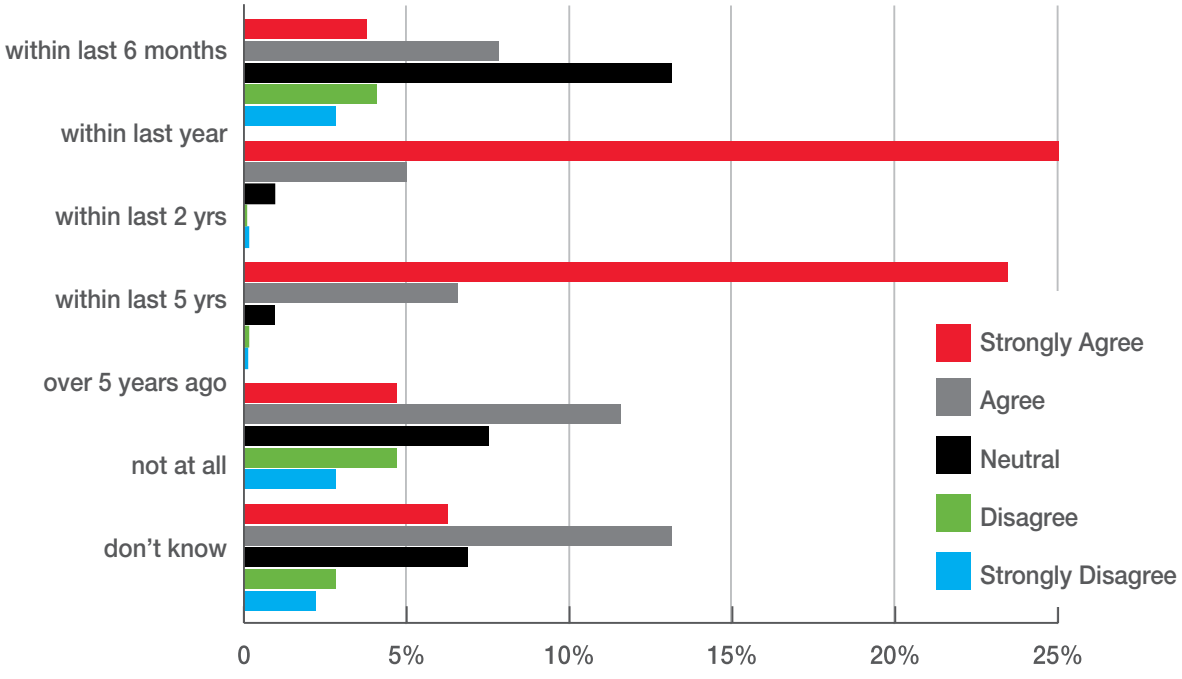
Current drivers were asked if they had ever considered giving up driving. Only 163 (6.2%) said they had. 2349 respondents (97.8%) said that they intended to continue driving for the foreseeable future.

Drivers were then asked to rate their agreement with a series of statements relating to circumstances which may cause them to consider giving up driving in the future. Ratings were on a 5 point scale from strongly agree to strongly disagree. Table 17 and Figure 23 show the results.

Table 17: Current drivers: levels of agreement relating to circumstances which may cause drivers to consider giving up driving in the future

Statement	Strongly Agree	Slightly Agree	Neutral	Slightly Disagree	Strongly Disagree
If I had difficulty getting motor insurance or it became too expensive	480 (20%)	1017 (42.3%)	529 (22%)	214 (8.9%)	162 (6.7%)
If the cost of motoring became too high	354 (14.7%)	887 (36.9%)	573 (23.9%)	365 (15.2%)	223 (9.3%)
If I had health problems which affected my driving	1812 (75.4%)	506 (21.1%)	68 (2.8%)	9 (0.4%)	7 (0.3%)
If I was advised not to drive by a health professional	1931 (80.4%)	379 (15.8%)	76 (3.2%)	6 (0.2%)	10 (0.4%)
If I was involved in a road accident	284 (11.8%)	600 (25%)	997 (41.5%)	306 (12.7%)	215 (9%)

Figure 23: Current drivers: Circumstances which may cause drivers to consider giving up driving in the future (n = 2402)



3.10.11 Most important reason to continue driving

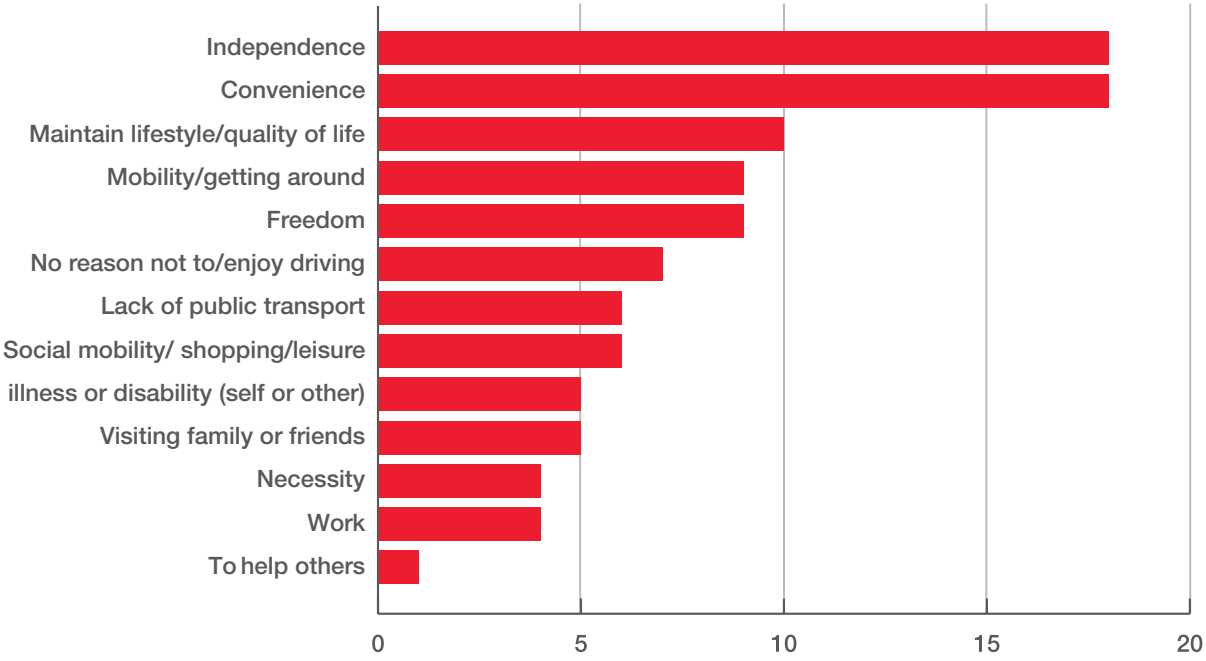
Current drivers were asked 'What do you see as the most important reason you continue to drive?' Most drivers (2344) gave a reason, 58 did not say. The results are shown in Table 18 below. The two main reasons were independence (18%, 422) and convenience (17.7%, 416). For 202 drivers, the freedom that driving gives was most important to them. The lack of public transport was the most important reason to drive for 148 people (6.3%), usually because they lived in a rural area. For 112 drivers, the most important reason to drive was because either they, or more usually a family member, had an illness or disability which meant that they needed to attend hospital appointments or were too frail to use public transport. Eighty-two drivers simply said they saw no reason not to drive.

Driving was described as being a 'lifeline' by some respondents. More specifically, for 126 drivers, not being able to drive would mean they would have to give up their current lifestyle, and for 11 drivers it would mean they would have to give up their current home. Sixty-two drivers said that driving gave them a quality of life which would otherwise be lacking. A small number of drivers said the most important reason for driving was to be safe – as opposed to using public transport. Twelve drivers said they only kept their driving licence for emergencies. Thirty-one drivers specifically said that the most important reason to keep driving was to avoid becoming socially isolated and/or housebound. Figure 24 below illustrates the results using broader categories.

Table 18: Current drivers: Most important reason to continue driving

Most important reason to continue driving	Frequency	Percent
Independence	422	18.0
Convenience	416	17.7
Mobility/getting around	203	8.7
Freedom	202	8.6
Lack of public transport	148	6.3
Maintain lifestyle	126	5.4
Illness or disability (self or other)	112	4.8
Visiting family or friends	105	4.5
Work	85	3.6
Pleasure and leisure	84	3.6
No reason not to	82	3.5
I enjoy driving	78	3.3
Necessity	63	2.7
Quality of life	62	2.6
Social mobility/shopping	61	2.6
To avoid isolation	31	1.3
To help others	24	1.0
Safety	17	0.7
Emergencies	12	0.5
Would have to move home if couldn't drive	11	0.5
Total	2344	100.0

Figure 24: Current drivers: Most important reason to continue driving (percentages) (n = 2344)



3.11 Attitudes towards possible methods of maintaining good levels of road safety

Respondents were asked to indicate their agreement or disagreement with a number of statements describing possible ways of ensuring that drivers are fit to drive. These statements included eyesight and medical testing of drivers as they get older, and re-testing of drivers at certain ages. Table 19 shows the results.

The data were further analysed by age group, for drivers aged under 70 and those aged 70 and over. There were significant differences between the groups for all but two statements: a) that General Practitioners (GPs) should inform patients if their medical condition affects their fitness to drive, and b) if there was a DIY testing kit which enabled drivers to assess their own fitness to drive. Drivers of all ages showed strong agreement with both of these statements.

3.11.1 Driver re-testing

Younger drivers showed significantly more agreement with the statement that all drivers should be re-tested every ten years after passing their first driving test ($p = 0.0001$, $X^2 = 23.72$, $df = 4$). Figure 25 shows the results. Older drivers showed significantly more disagreement with the statement that drivers should be re-tested every five years after the age of 70 ($p = 0.0001$, $X^2 = 85.29$, $df = 4$). Figure 26 shows the results.

Table 19: All respondents: Levels of agreement with suggested methods of increasing driving safety among older drivers (n = 2619)

Statement	Strongly Agree	Slightly Agree	Neutral	Slightly Disagree	Strongly Disagree
Drivers should be re-tested every 10 years after passing first driving test	452 (17.3%)	717 (27.4%)	790 (30.2%)	365 (13.9%)	295 (11.3%)
After age 70, drivers should be re-tested every 5 years	702 (26.8%)	861 (32.9%)	553 (21.1%)	274 (10.5%)	229 (8.7%)
All drivers should pass an eyesight test every 10 years	1430 (54.6%)	749 (28.6%)	310 (11.8%)	78 (3%)	52 (2%)
After age 70, drivers should pass an eyesight test every 5 years	1451 (55.4%)	772 (29.5%)	270 (10.3%)	75 (2.9%)	51 (1.9%)
Around age 70, drivers should be required to have a medical examination	620 (23.7%)	851 (32.5%)	690 (26.3%)	276 (10.5%)	182 (6.9%)
GPs should be required to inform patients if their medical condition may affect their fitness to drive	2020 (77.1%)	441 (16.8%)	113 (4.3%)	21 (0.8%)	24 (0.9%)
A flexible licensing system should be introduced to limit everyone's driving regarding health, ability, driving record	493 (18.8%)	877 (33.5%)	780 (29.8%)	249 (9.5%)	220 (8.4%)
If there was a DIY kit to test for important basics of driving ability I would use it	1005 (38.4%)	866 (33.1%)	532 (20.3%)	119 (4.5%)	97 (3.7%)

3.11.2 Eyesight testing

Over half of all respondents strongly agreed that there should be regular eyesight testing for all drivers. Younger drivers showed significantly more agreement with the statement that all drivers should have to pass an eyesight test every ten years than older drivers ($p = 0.02$, $X^2 = 12.19$, $df = 4$). Figure 27 shows the results. Younger drivers also showed significantly more agreement than older drivers regarding the statement that drivers should have to pass an eyesight test every five years after age 70 ($p = 0.0001$, $X^2 = 24.86$, $df = 4$). Figure 28 shows the results.

Figure 25: All drivers should be re-tested every ten years (n = 2619)

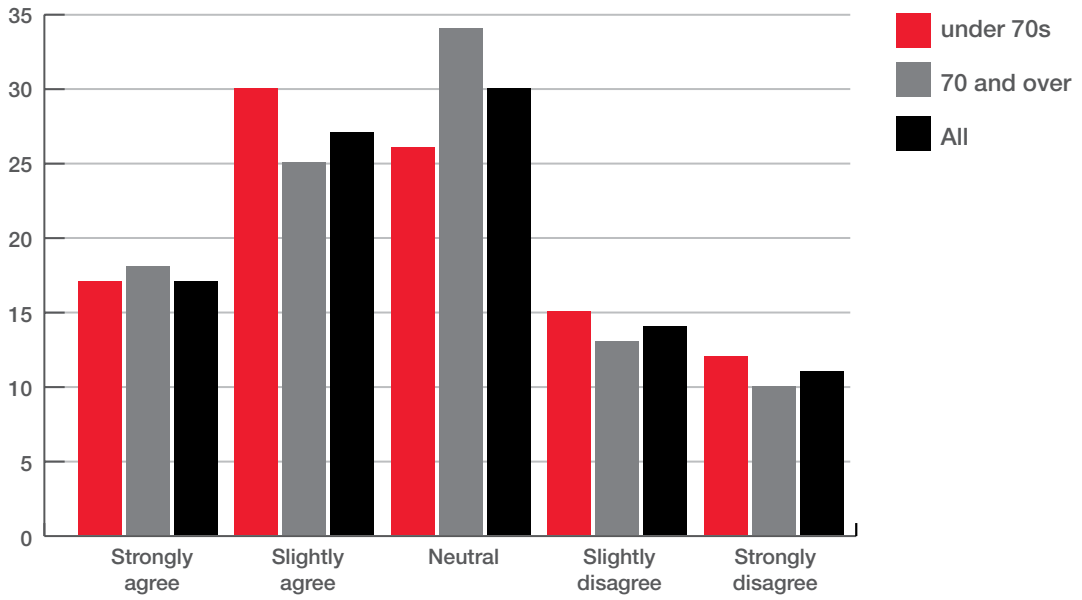


Figure 26: Drivers should be re-tested every five years after age 70 (n = 2619)

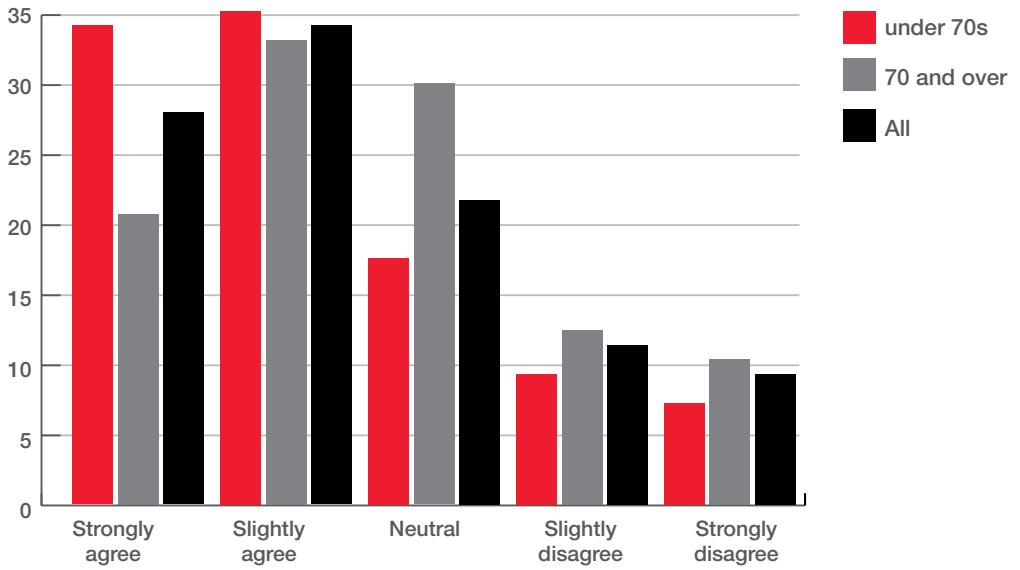


Figure 27: All drivers should have to pass an eyesight test every ten years (n = 2619)

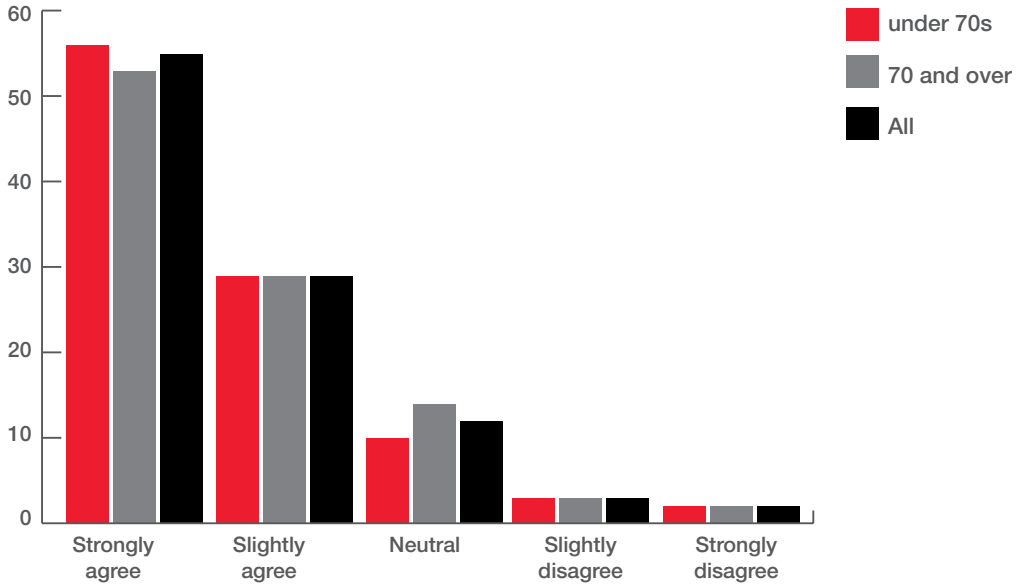
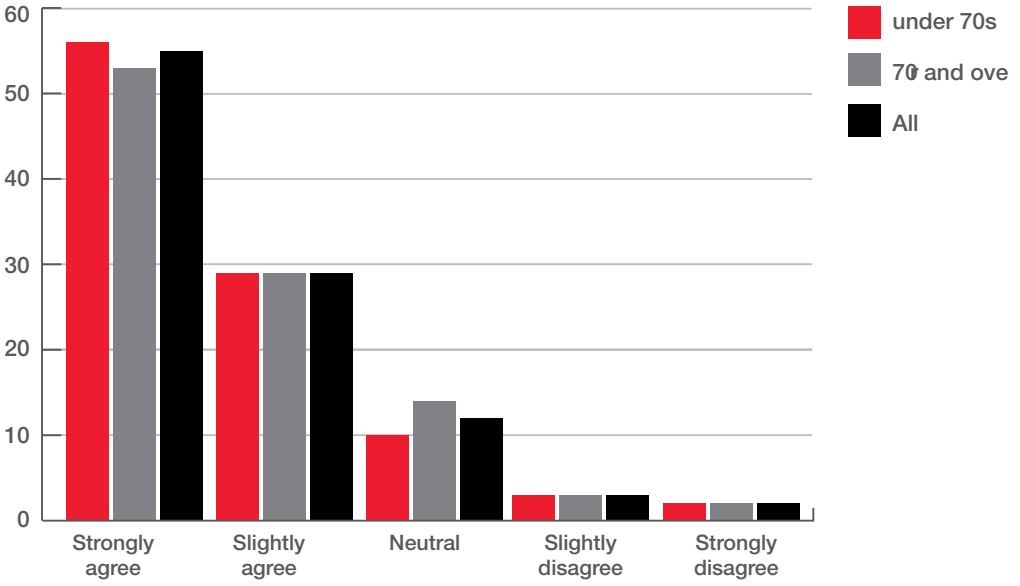


Figure 28: Drivers should have to pass an eyesight test every five years after age 70 (n = 2619)



3.11.3 Health, testing and advice

Over a quarter of respondents were neutral about the statement that drivers should undergo a medical examination around the age of 70. There was a significant difference between age groups, with more agreement among younger drivers ($p = 0.0001$, $X^2 = 35.92$, $df = 4$). Figure 29 shows the results.

There was very strong agreement by all respondents that GPs should be required to inform patients if their medical condition may affect their fitness to drive. There were no differences between age groups. Only 45 (1.7%) respondents disagreed with this statement. Figure 30 shows the results.

Figure 29: Drivers should be required to have a medical examination around age 70 (n = 2619)

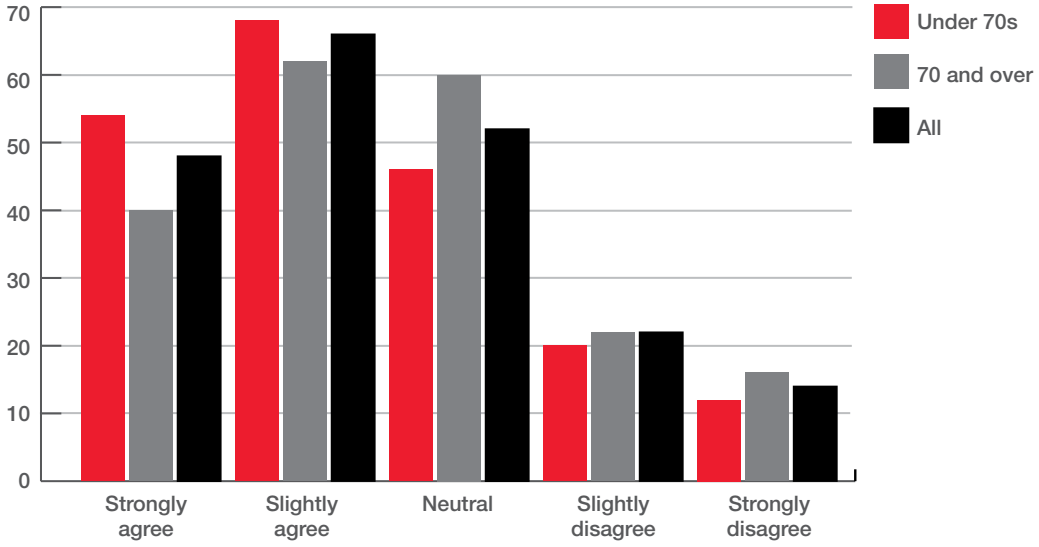
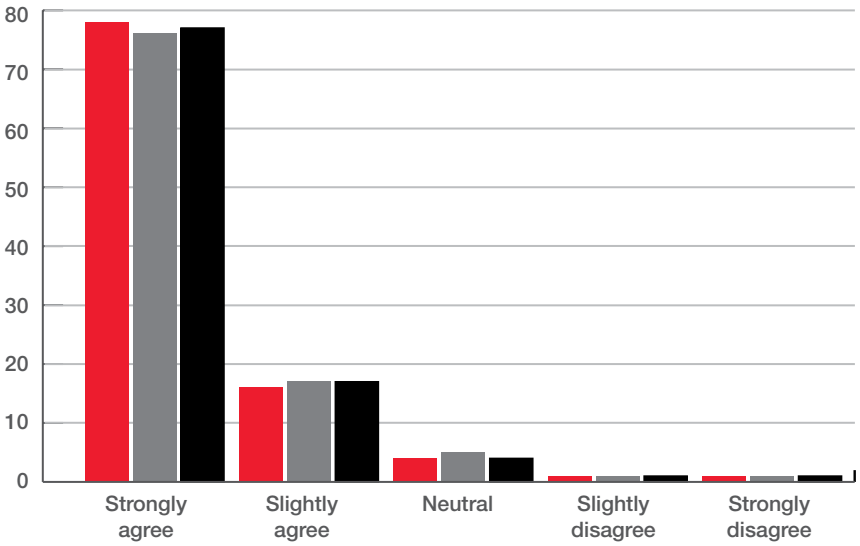


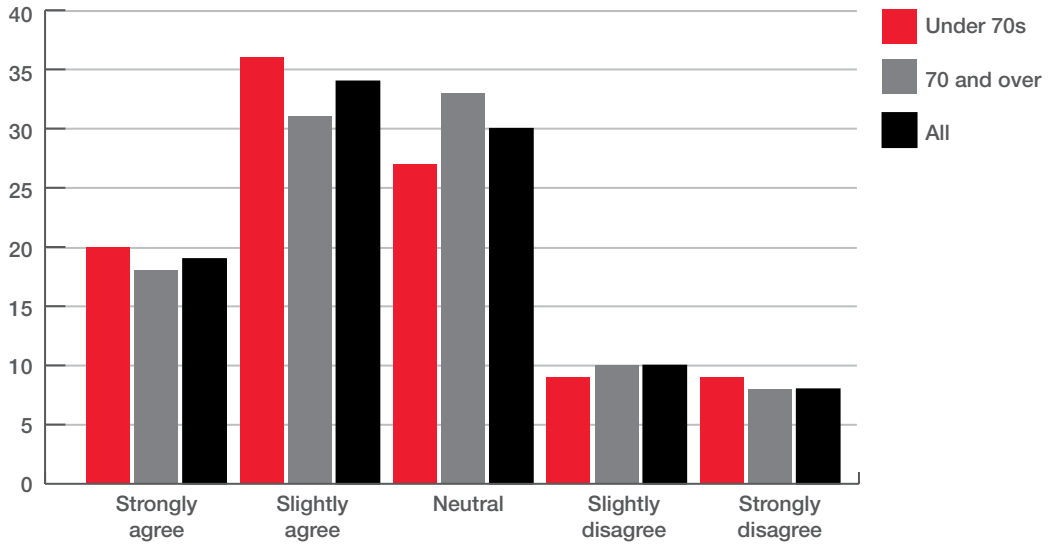
Figure 30: Figure 30: GPs should be required to inform patients if their medical condition may affect their fitness to drive (n = 2619)



3.11.4 Flexible or restricted licensing

Respondents were asked to indicate their agreement regarding the introduction of a flexible licensing system which would more flexibly limit various aspects of driving with regard to health, ability and driving record. Examples given were a restricted licence to drive only in daylight or on local roads. Only 493 (19%) of respondents strongly agreed with this statement. There was a significant difference between age groups, with younger drivers more in favour of flexible licensing than older drivers ($p = 0.02$, $X^2 = 14.64$, $df = 4$). Figure 31 shows the results.

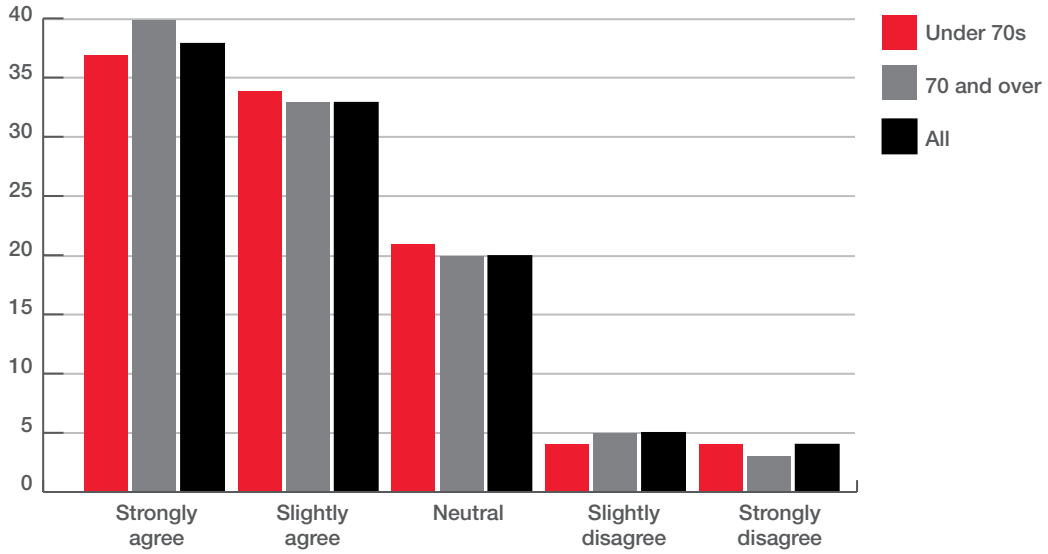
Figure 31: A flexible licensing system should be introduced to limit everyone's driving regard to health, ability, driving record (n = 2619)



3.11.5 A 'do-it-yourself' kit to assess fitness to drive

Respondents were asked if they would use a 'do-it-yourself' kit which enabled drivers to test themselves for important basics of driving ability (e.g. vision, mental quickness, etc.) if one was available. The majority of respondents (1871, 71.5%) agreed that they would use it. There was no difference between age groups (Figure 32).

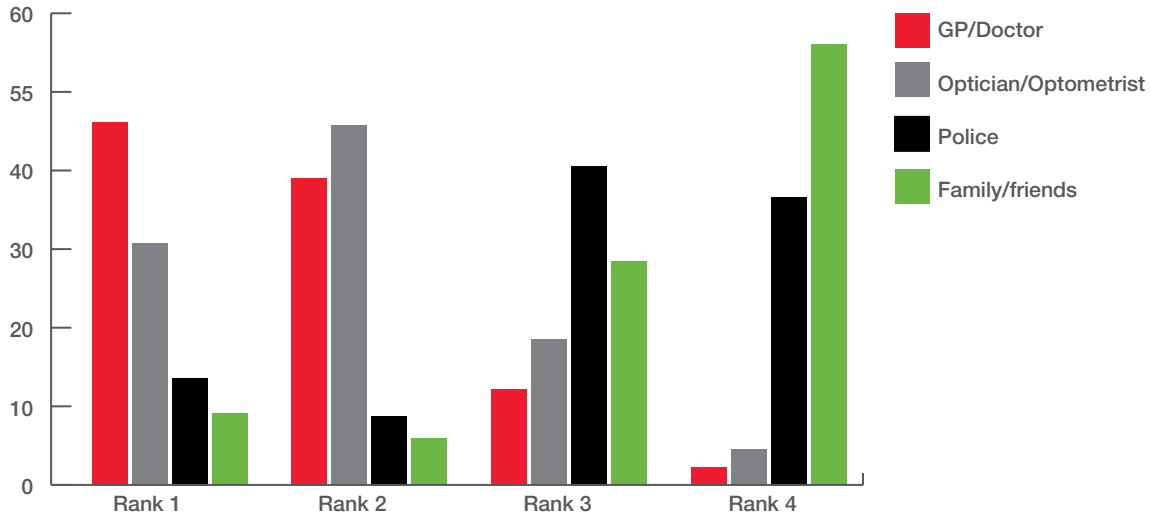
Figure 32: If there was a DIY kit to test for important basics of driving ability I would use it



3.12 Most influential people to advise on giving up driving

All respondents were asked to rank four groups of people who may give advice on giving up driving. The four groups were GP/doctor; Optician/Optometrist; Family/friends; Police. Almost half the respondents (46.3%) ranked GPs/doctors as the most influential givers of advice on giving up driving. The second highest ranking was for Opticians/Optometrists, with 806 respondents (30.8%) ranking them as most influential and 1203 (45.9%) ranking them as second most influential. Family and friends were the least influential givers of driving advice, with 1473 (56.2%) respondents ranking them lowest. Figure 33 shows the results in rank order, with rank 1 as most influential and rank 4 as least influential.

Figure 33: Rankings of the influence of different groups on giving advice on stopping driving (percentages)



4. Comparisons between results of current and 1996 studies

The current study was carried out 20 years after the study by Rabbitt and colleagues, published in 1996. The questionnaire used in the current study was a streamlined version of the original questionnaire, with some important differences. Comparisons between younger and older drivers in the original study varied between age 60, age 65 and age 75. In the current study this was simplified to a cut off of age 70. Therefore direct comparisons between study results are not always possible. However, general responses and overall trends can be compared between the two studies.

4.1 Respondents

Respondents in both studies were very similar in number, gender and age. In both studies there were more respondents from professional and managerial backgrounds than the national average. This reflects the tendency for surveys to appeal more to people from higher than lower socio-economic status. In the current study this tendency was amplified by the survey questionnaire being online, and thus respondents needed to have a computer and internet access to complete it. As this was an online survey, it is not surprising that the average age of respondents to the current study was slightly lower than that of the original study which used postal questionnaires. Nevertheless, the difference in mean ages was very small: 69.5 for the current survey and 71.5 for the original survey.

4.2 Drivers and ex-drivers

The original study attracted more ex-drivers as it targeted a list of withdrawn AA members. The current study did not select specific driver groups, and achieved smaller numbers of ex-drivers. In the original study the average age when ex-drivers had given up driving was 72.1 years. In the current study the average age was younger at 61.7 years. However this figure was skewed by several respondents giving up in their 20s soon after they had passed their driving test. The modal age was 70, much closer to the figure in the original study. In the 1996 study, the ex-drivers were an average of 6 years older than current drivers, in the current study the ex-drivers are an average of 2 years older.

4.3 Driving history

The original study found that women tended to begin driving late in life and have relatively short driving careers. This finding was confirmed in the current study, with more women than men passing their driving test in their 30s and 40s. Interestingly, the authors of the 1996 study speculated that if a survey were done in 30 years time (i.e. 2025) there would be no difference between men and women in the age of starting driving. In the original study approximately 14% of women started driving between the ages of 16 and 20, compared to 36% of men. In the current study, a higher percentage of both men and women had started driving between the ages of 16 and 20, but there was still a large difference between the sexes: 33% of women, and 57% of men.

4.4 Giving up driving

The original study gave their respondents the option of not giving an age or year when they planned to give up driving. They therefore had two groups of current drivers: those who said they would carry on indefinitely (the 'carry on' group) and those who gave an age or date for stopping driving (the 'giving up' group). In the current study, respondents were asked to state for how many years they expected to keep driving. Being an online survey, an answer was required in order to move to the next question. Consequently, in the current survey there is just one group of current drivers. Nevertheless, the proportion of current drivers who intended to continue driving for the foreseeable future was similar for both studies: between 94% and 99% for the 1996 study and 98% in the current study. It is clear that little has changed in the past twenty years and most drivers want to keep driving for as long as possible.

For those current drivers who gave a time when they would probably give up driving (2402 drivers in the current study, and 1133 in the earlier study), the average age of giving up was 82 in the current study, and 79 in the earlier study. In both studies, the older people were, the higher the age they gave for giving up driving.

In both studies, health was the most important factor when thinking about giving up driving. Cost was also found to be a major factor by both studies. However, in the 1996 study, safety or being involved in an accident was also rated as highly influential when thinking about stopping driving. In the current study only 7% of ex-drivers cited safety or an accident as a reason for giving up driving. It is possible that accident reduction schemes and increased road safety measures in the past twenty years have made drivers less worried about having an accident. Furthermore, cars are now much safer than they were twenty years ago, which is also likely to have an impact on perceived driver safety.

4.5 Avoidance of difficult driving situations

Both studies used the same list of seven specific stressful driving situations (e.g. driving at night, in bad weather or long distances) and asked respondents if they ever avoided driving in these conditions. Drivers in the 1996 study were more cautious and more likely to avoid all situations than drivers in the 2015 study. Drivers in 2015 were most likely to avoid driving when tired, which is a sensible strategy whatever the age of the driver. Table 20 presents comparisons between the two studies.

Table 20: Avoidance of difficult driving situations: Comparison between 1996 and 2015 studies (percentage of drivers reporting driving avoidance)

Driving Situation	1996	2015
Driving at night	56%	28%
Driving in morning or evening rush hour	58%	29%
Driving in bad weather	38%	29%
Driving on unfamiliar roads	47%	19%
Driving on motorways	39%	19%
Driving when feeling tired	55%	44%
Driving long distances	42%	30%

4.6 Health and Vision

In both studies, most respondents were taking medications. The percentage of current drivers taking medications was very similar in the 1996 study: 68.9%, and the 2015 study: 69.8%. In 2015, more ex-drivers (81%) were taking medications compared to 75% in 1996.

The 1996 study asked drivers and ex-drivers if they suffered from any medical condition which they felt affected their driving. This required drivers to have some understanding of which medical conditions affect driving. However, research has shown that most patients are unaware of which medical conditions can affect driving and health professionals often do not advise patients accordingly (Hawley, 2010). Therefore, in the 2015 study, respondents were given a list of medical conditions which could affect driving, and asked if they had been diagnosed with, or treated for, any of these conditions in the past 5 years. This list is given in Table 10 above. Consequently, it is not possible to make direct comparisons between results of the two studies. However, in the 1996 study just 14% of current drivers said they had a medical condition which they thought affected their driving. In the 2015 study, 59% of drivers had at least one of the medical conditions which may affect driving. In both studies there was a significant difference between current and ex-drivers, with ex-drivers more likely to have a medical condition which may affect driving: 1996 study = 44%, 2015 study = 67%.

In both studies, most drivers had taken an eye test within the past 2 years.

4.7 Attitudes towards possible methods of maintaining good levels of road safety

Respondents in the 2015 study were more accepting of suggested methods of improving driver safety than those in the 1996 study. These methods included regular tests for drivers and a medical when drivers reach the age of either 60 or 70. In 1996, 24% of respondents agreed that drivers should be re-tested every ten years after passing their test, compared to 45% of the 2015 respondents. In 1996, 24% of respondents agreed that drivers over the age of 60 should be re-tested every 5 years. In 2015, 60% of respondents agreed that drivers over the age of 70 should be re-tested every 5 years. The increase in age was to make the question more in line with DVLA licensing requirements for renewal of the licence at age 70. In 1996, 47% of respondents agreed that drivers should undergo a medical examination after the age of 60. In 2015, 56% agreed that this medical should take place around age 70.

There was more agreement in the 2015 study with the suggestion of a DIY test kit to assess fitness to drive (71.5%) compared with 46.5% in 1996. Similarly, there was more agreement in 2015 with the concept of flexible licensing (52%) compared to 35% in 1996.

It is not clear why respondents twenty years later have become more amenable to driver testing and greater regulation. It is possible that road safety is of more importance to drivers today than it was in the 1990s, perhaps as a result of safety campaigns and a greater emphasis on driver responsibility for road safety.

5. Study limitations and future research

As with all research, there were limitations to both the 1996 and 2015 studies. Both suffered some response bias, in that the majority of respondents were from administrative, professional or managerial backgrounds with very few respondents from manual and trade professions. Also, both studies recruited far more current drivers than ex-drivers. The 2015 study was online, and thus was available only to those with internet access and the ability to use it. This probably meant that we were unable to attract high numbers of older drivers in their 80s and above. It is recommended that the survey is repeated in paper form, targeting older drivers and particularly ex-drivers.

6. Summary and Conclusions

Most current drivers wish to continue driving for as long as possible, but when asked to choose an age when they might stop driving, the average age was 82. The majority had never considered giving up driving, and most felt they were competent and confident drivers. Few current drivers said they avoided driving in difficult or stressful situations. Being able to drive gave independence, convenience and the freedom to travel when and where they wanted. Importantly, it enabled many to maintain the lifestyle and quality of life they enjoyed in retirement.

Driving was described as being a 'lifeline' by some respondents, with several drivers saying that if they could not drive they would have to give up their current lifestyle, with others saying that the most important reason to keep driving was to avoid becoming socially isolated or housebound.

Many ex-drivers had retained their driving licence, even though they had stopped driving. Poor health was the most important factor in making the decision to give up driving, followed by the cost of motoring and lack of confidence. It is likely that older drivers, especially women, would benefit from driver training aimed at building confidence and driving competence.

Current drivers were most likely to consider giving up driving if they had health problems which affected their driving and if they were advised not to drive by a health professional. Furthermore, the vast majority of respondents agreed that doctors should be required to inform patients if their medical condition may affect their fitness to drive. This raises an important issue, as the literature highlights the complex nature of medical conditions, how they impact on driving performance, and the difficulty professionals face in making judgements over safety and when to advise an individual to stop driving (O'Neill, 1994; Ormerod and Heafield, 2007). It is known that health professionals are often reluctant to advise a patient to cease driving even when that patient has a medical condition which can adversely affect fitness to drive (Hawley, 2010). It is recommended that health professionals are made aware of the importance of advising their patients about driving. In busy GP practices, this advice could be given by nurses after diagnosis of a medical condition affecting driving has been made by a doctor.

This study provides some evidence that drivers who have a medical condition affecting driving do stop driving, as over two thirds of ex-drivers had such a condition. As part of this study, we asked the DVLA how many older drivers surrender their driving licence for medical reasons. Since 1990, 135,557 drivers over the age of 70 have surrendered their driving licence for medical reasons (DVLA, 2015). In the same period 5,201,676 drivers did not renew their licence, it is not know why this was, and some of these non-renewals could be due to failing health. A further 259,739 drivers surrendered their licence voluntarily, again the reason for this voluntary surrender is not known. In total, since 1990, 5,596,972 drivers over 70 have surrendered or not renewed their licence (DVLA, 2015).

In the five years up to May 2015, 58,489 drivers aged 70 and over surrendered their driving licence for medical reasons (DVLA, 2015). The top ten medical conditions associated with licence surrender were Dementia, Stroke, Macular Degeneration, Parkinson's Disease, Vision (unspecified condition), Glaucoma, Diabetes, Heart conditions, Epilepsy, and Cataract. Four of these ten conditions involve vision, which reinforces the importance of regular eyesight testing. It is recommended that the current system of self-certification for driver licence renewal at age 70 is changed to one where drivers need to pass an eyesight test. Most respondents in this study agreed that after age 70, drivers should pass an eyesight test and have a medical examination in order to renew their driving licence.

In conclusion, this study has found that in the intervening twenty years, older drivers appear to have become more safety conscious, more confident in their driving, and want to keep driving for longer. They are also more accepting of measures which would regulate drivers, such as regular tests of health, vision and driving competence.

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Appendix I Survey Questionnaire

Dear Volunteer,

We are carrying out research with a leading UK road safety charity to find out how best to keep drivers safe and mobile for as long as possible. We would like to know which factors people consider when deciding to either keep driving or stop driving as they get older. We also wish to find out who or what may influence these decisions. We have devised a survey to capture this information and would be most grateful if you can spare the time to fill it in. Most of the questions require you to tick a box, and the whole questionnaire should take no longer than 10 minutes to complete.

We would like the views of both current drivers and ex-drivers who have given up driving. So even if you are not currently driving, your responses to this survey are very important to our research.

Please note that all questionnaires are completed anonymously. We will not know your identity so all your responses are confidential. We ask for your age and postcode just so we can compare responses between people of different ages and living in different parts of the country.

1. Age last birthday _____

2. Gender Male ☐ Female ☐

2.a Are you retired? Yes ☐ No ☐ Partially ☐

3. What is your occupation (or, if retired, your previous occupation) _____

4. What kind of area do you live in?

City ☐
Town ☐
Suburban ☐
Rural or Village ☐

5. What is your postcode ☐☐☐☐ ☐☐☐

6. What is the availability of public transport in your area?

Frequent ☐
Infrequent ☐
Not available ☐

7. If you did not drive a car how easy would it be to get around?

Very difficult ☐
Difficult ☐
Neither difficult nor easy ☐
Quite easy ☐
Very easy ☐

8. **Please rate how importance driving is to you, on a scale of 1 to 10?**
Please circle a number below.

Not at all important 1 2 3 4 5 6 7 8 9 10 Extremely important

9. **Approximately how many miles do you drive in a year?** _____

10. **In which year did you pass your driving test?** (if unsure please give approximate year) ☐

11. **Have you ever held a professional driving licence** (e.g. lorry driver, bus driver, taxi driver?)
Yes ☐ No ☐

12. **Are you the main driver in your household?**
Yes ☐ No ☐

13. **Have you received any additional driver training since you passed your driving test?**
(e.g. advanced driver training; professional driver training; Institute of Advanced Motorists (IAM); Driver Awareness Scheme; driving refresher course)
Yes ☐ No ☐

If 'Yes' please state type of training

_____

14. **Approximately how often do you have an eyesight test?**
Every year ☐ Every 2 years ☐ Every 3 years ☐ Every 4 or 5 years ☐
More than 5 years ☐

15. **Have been diagnosed with, or treated for, any of the following medical conditions in the last 5 years?** (please tick all that apply to you)

Arthritis ☐
Alzheimer's disease ☐
Diabetes ☐
Epilepsy ☐
Head injury ☐
Heart disease ☐
High blood pressure ☐
Stroke ☐
Cataracts ☐
Glaucoma ☐
Other eye conditions ☐
None of the above ☐

16. **Do you take any medications?**
Yes ☐ No ☐
16a If yes, has a health professional advised you that your medications may impair your driving?
Yes ☐ No ☐

17. What are your main reasons for driving? (tick all that apply)

- Shopping or errands ☐
- Visiting friends or relatives ☐
- Going to meetings or services ☐
- Leisure activities ☐
- Going to appointments ☐
- To /from workplace (paid or voluntary work) ☐
- Giving lifts to other people ☐
- Other ☐ (please specify) _____

18. In general, how confident do you feel as a driver on a scale of 1 to 10? Please circle a number below.

Not at all confident 1 2 3 4 5 6 7 8 9 10 Extremely confident

19. In the past year, how often have you avoided any of the following situations?
Please circle the answer which best applies to you for each situation.

Driving at night	Never	Rarely	Sometimes	Often	Always
Driving in morning or evening rush hour	Never	Rarely	Sometimes	Often	Always
Driving in bad weather	Never	Rarely	Sometimes	Often	Always
Driving on busy roads	Never	Rarely	Sometimes	Often	Always
Driving on unfamiliar roads	Never	Rarely	Sometimes	Often	Always
Driving on motorways	Never	Rarely	Sometimes	Often	Always
Making right turns	Never	Rarely	Sometimes	Often	Always
Parallel parking	Never	Rarely	Sometimes	Often	Always
Driving when alone	Never	Rarely	Sometimes	Often	Always
Driving at night in the rain	Never	Rarely	Sometimes	Often	Always
Driving when feeling tired	Never	Rarely	Sometimes	Often	Always
Driving long distances	Never	Rarely	Sometimes	Often	Always

20. **Please read the statements below then give each a rating of what you feel your level of ability as a driver is (or would be if you were still driving) in general by circling the appropriate answer.**

Ability to read road signs early enough to give adequate time to act upon them.
Very good good adequate poor very poor

Ability to judge gaps in traffic (for pulling out of junctions or crossing the road).
Very good good adequate poor very poor

Ability to notice vehicles, cyclists and pedestrians out of the corner of your eye.
Very good good adequate poor very poor

Able to see clearly in very low light conditions.
Very good good adequate poor very poor

Able to see clearly in very bright light conditions.
Very good good adequate poor very poor

Ability to make decisions quickly (e.g. when to pull out into traffic or when to cross the road through traffic).
Very good good adequate poor very poor

Ability to react quickly (e.g. braking in an emergency or avoiding unexpected traffic).
Very good good adequate poor very poor

Ability to follow from memory a route driven/walked only once previously.
Very good good adequate poor very poor

Ability to stay alert for long periods.
Very good good adequate poor very poor

Ability to recognise when your attention has wandered from your driving.
Very good good adequate poor very poor

Ability to judge speed of oncoming traffic.
Very good good adequate poor very poor

Ability to divide your attention between two different tasks (e.g. talking to someone while driving).
Very good good adequate poor very poor

21. **Below are some statements about driving. Please circle the answer which applies to you.**

Do you forget where you left your car?
Never hardly ever sometimes a lot of the time almost all the time

Do you get into the wrong lane when approaching a roundabout or a junction?
Never hardly ever sometimes a lot of the time almost all the time

Do you misread the signs, exit from a roundabout on wrong road?
Never hardly ever sometimes a lot of the time almost all the time

Do you switch on one thing, meaning another? (e.g. windscreen wipers instead of indicators)
Never hardly ever sometimes a lot of the time almost all the time

22. **How do you rate your general ability as a driver on a scale of 1 to 10?** Please circle a number below

Poor 1 2 3 4 5 6 7 8 9 10 Excellent

23. **How up to date are you with current driving regulations** (e.g. the Highway Code, DVLA website)?

I checked recently ☐
Within the last year ☐
Within the last 2 years ☐
Within the last 5 years ☐
In over 5 years ☐
Not at all ☐

24. **We would like your opinion on possible methods of maintaining good levels of safety among an ageing driving population. Please indicate your agreement or disagreement by circling one answer for each statement below.**

a) drivers should be re-tested every ten years after passing their first test
Strongly agree slightly agree neutral slightly disagree strongly disagree

b) drivers should be re-tested every five years after the age of 70
Strongly agree slightly agree neutral slightly disagree strongly disagree

c) all drivers should have to pass an eyesight test every ten years
Strongly agree slightly agree neutral slightly disagree strongly disagree

d) drivers should have to pass an eyesight test every five years after age 70
Strongly agree slightly agree neutral slightly disagree strongly disagree

e) drivers should be required to undergo a medical examination around age 70
Strongly agree slightly agree neutral slightly disagree strongly disagree

f) GPs should be required to inform patients if their medical condition may affect their fitness to drive
Strongly agree slightly agree neutral slightly disagree strongly disagree

g) A licensing system should be introduced which can more flexibly limit various aspects of everyone's driving with regard to their health, ability and driving record (E.g. a restricted licence to drive only at night or on local roads)
Strongly agree slightly agree neutral slightly disagree strongly disagree

h) if there was a 'do it yourself' test kit which enabled drivers to test themselves for important basics of driving ability (e.g. vision, mental quickness, etc.) I would use it?
Strongly agree slightly agree neutral slightly disagree strongly disagree

Giving Up Driving

25. **The following groups of people may give advice on giving up driving. Please rank them 1, 2, 3 and 4 in order of how influential their advice would be to you (where 1 is most influential; 2 is second most influential; 3 is third most influential; and 4 is least influential).**

General practitioner/doctor ☐
Optician/optometrist ☐
Family/friends ☐
Police ☐

26. Current driving status. Which of the following statements applies to you?

a) I am a current driver and hold a valid driving licence ☐ **please go to question 27**

b) I am no longer driving but still hold a valid driving licence ☐ **please go to question 31**

c) I am no longer driving and I do not hold a valid driving licence ☐ **please go to question 31**

Current drivers:

27. For how many years do you expect to keep driving? _____

28. Have you ever considered giving up driving? yes ☐ no ☐

29. The following statements relate to circumstances which may cause you to consider giving up driving in the future. Please indicate your agreement by circling one answer

a) I would consider giving up driving if I had difficulty in getting motoring insurance or it became too expensive.

Strongly agree slightly agree neutral slightly disagree strongly disagree

b) I would consider giving up driving if the cost of motoring became too high.

Strongly agree slightly agree neutral slightly disagree strongly disagree

c) I would consider giving up driving if I had health problems which affect my driving.

Strongly agree slightly agree neutral slightly disagree strongly disagree

d) I would consider giving up driving if I was advised not to drive by a health professional.

Strongly agree slightly agree neutral slightly disagree strongly disagree

e) I would consider giving up driving if I was involved in a road accident.

Strongly agree slightly agree neutral slightly disagree strongly disagree

30. Please tick either (a) or (b) below and answer the associated question:

a) I am thinking of giving up driving ☐

If yes, what would be the most important issue involved in your decision to give up driving?

_____

b) I intend to continue driving for the foreseeable future ☐

If yes, what do you see as the most important reason you continue to drive?

_____

Current Drivers: Please go to the end of the questionnaire.

Ex drivers

31. At what age did you give up driving? _____

32. About giving up driving, which of the following statements apply to you? (please tick one)

I gave up driving at the right time ☐
I feel I gave up driving too early ☐
I feel I left it later than I should to stop driving ☐

33. Had you previously considered giving up driving before you actually did?

Yes ☐ No ☐

if yes how many times? _____

34. Please indicate to what extent you agree with the following statements by circling one answer:

a) Rather than your own decision, circumstances outside of your control made you give up driving.
Strongly agree slightly agree neutral slightly disagree strongly disagree

b) It was a series of decisions which led to a gradual reduction in driving until eventually you gave up.
Strongly agree slightly agree neutral slightly disagree strongly disagree

c) It was a case of deciding not to start again after an extended period of not driving.
Strongly agree slightly agree neutral slightly disagree strongly disagree

d) You felt under pressure from others (e.g. family, friends, health professionals) to give up driving.
Strongly agree slightly agree neutral slightly disagree strongly disagree

35. What was the main reason for you giving up driving?

_____

Thank you for completing this questionnaire. Your answers are very important.

Appendix II - Occupation Categories coded to SOC2010 V.31 (ONS, 2015)

Major Group	Sub-Major Group	Group Title
1		Managers, directors and senior officials
	11	Corporate managers and directors
	12	Other managers and proprietors
2		Professional occupations
	21	Science, research, engineering and technology professionals
	22	Health professionals
	23	Teaching and educational professionals
	24	Business, media and public service professionals
3		Associate professional and technical occupations
	31	Science, engineering and technology associate professionals
	32	Health and social care associate professionals
	33	Protective service occupations
	34	Culture, media and sports occupations
	35	Business and public service associate professionals
4		Administrative and secretarial occupations
	41	Administrative occupations
	42	Secretarial and related occupations
5		Skilled trades occupations
	51	Skilled agricultural and related trades
	52	Skilled metal, electrical and electronic trades
	53	Skilled construction and building trades
	54	Textiles, printing and other skilled trades
6		Caring, leisure and other service occupations
	61	Caring personal service occupations
	62	Leisure, travel and related personal service
7		Sales and customer service occupations
	71	Sales occupations
	72	Customer service occupations
8		Process, plant and machine operatives
	81	Process, plant and machine operatives
	82	Transport and mobile machine drivers and operatives
9		Elementary occupations
	91	Elementary trades and related occupations
	92	Elementary administration and service occupations

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