

Data gathering on disability and driving statistics: summary report

by Simon Tong, Jeremy Broughton and Ronit Tong

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Data Gathering on Disability and Driving Statistics: Summary Report

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1 Introduction

An increasing number of disabled people are able to enjoy the freedom and independence that driving provides. This increased access has been brought about by a combination of factors including: innovative developments in car control adaptations and vehicle conversions; financial assistance from organisations such as Motability; Mobility Roadshows demonstrating the choice of options in the market place; and improved availability of advice, information and assessment within the Forum of Mobility Centres. Organisations like 'Mobilise' have also played a key role in offering further support to those disabled people who choose or wish to drive.

The number of disabled drivers is expected to increase. In 2006, the Department for Work and Pensions estimated that there were 10.1 million disabled¹ people in Great Britain, with almost 9.5 million being of driving age. However, little is known about the prevalence of adapted vehicles and the variety of vehicle adaptations that are used by disabled drivers. The safety of some vehicle adaptations is also not known. Equally, there is limited information on the involvement of disabled drivers in accidents. There is generally an absence of documented statistics regarding the safety of drivers with perceptual and/or cognitive disabilities, as well as those with functional mobility impairments.

2 Research objectives

The overall objectives of this project were to:

- Estimate the total number of disabled drivers in the UK, including additional data on their demographics, disabilities and driving experience.
- Estimate the number of adapted vehicles on UK roads, including additional data on the type and safety of vehicle adaptations, experience of driving with adaptations and the potential demand for adaptations.

¹ This estimate covers the number of people with a longstanding illness, disability or infirmity, and who have a significant difficulty with day-to-day activities. It is based on data taken from the Family Resources Survey. Everyone in this group would meet the definition of disability in the Disability Discrimination Act (DDA).

- Estimate the involvement of disabled drivers in accidents on UK roads, including additional data on the contribution of vehicle adaptations to accidents/injuries and the contribution of disability to accidents.

3 Research activities

This study set out to collect robust data on the prevalence and relative risk of disabled drivers, including those who drive adapted vehicles, as well as their relative experiences. For the purposes of gathering data, a disabled person was defined as anyone who had a longstanding medical condition or functional impairment that created difficulties with day-to-day activities and therefore could affect their ability to drive and/or require them to use mobility-related services.

Potential applications for such data include:

- targeting resources for disabled drivers, such as Mobility Centres
- informing Government policy
- assisting with quantifying the costs and benefits of potential changes in regulations or practices
- forming a reference tool for the Government and various stakeholders, such as the vehicle adaptation industry, DVLA, Mobility Centres, rehabilitation workers and disabled drivers themselves

This study gathered existing data on disabled drivers and enhanced the value of such datasets by surveying subsets of the recorded populations. Analysis and comparison of these data sources created a number of statistics relating to disabled drivers and their vehicles. Five tasks were conducted for this project:

Task 1. Data collection from DVLA Driver Medical Group database

DVLA data provided summary statistics on the total population of Category B² drivers who had notified DVLA of a medical condition and who, where applicable, drove with a licence that restricted them to using adapted vehicles. Analysis of the DVLA Driver Medical Group (DMG) database explored the proportion of drivers with listed medical conditions, the proportion of drivers with vehicle restriction codes relating to vehicle adaptations and the demographics of such drivers.

Task 2. A survey of drivers notifying DVLA of a medical condition

Data collected from the DVLA DMG database provided an overview of the number and range of licensed drivers with a listed medical condition. Several thousand drivers who notified DVLA of a medical condition in a particular year were subsequently sampled for a survey. This survey explored: how many valid licence holders with recorded medical conditions currently drive; their demographics; their driving experience and vehicle usage; the difficulties associated with driving with a medical condition; and, their accident involvement. This data was assumed to be representative of the total population defined by the DVLA DMG database, with certain caveats based upon the eight specific disabilities that were sampled for the survey³. Overall, it enabled valuable projections to be made about the characteristics of DVLA listed drivers with medical conditions.

² A Category B licence allows the use of cars with a maximum authorised weight of 3500kg and trailers of up to 750kg.

³ The eight sampled disabilities were: limb disability (static); multiple sclerosis; arthritis; Parkinsons; stroke; spinal injury; cerebral palsy; and muscular dystrophy or atrophy. These medical conditions were likely to be linked with physical disablement and, although they represented common medical conditions, they were a small subset of the 207 medical conditions currently listed by DVLA. Estimates made from this survey data may not therefore be representative of **all** drivers listed on the DVLA Driver Medical database. Moreover, outcomes based on such survey data may be exaggerated as a result of the strong bias towards sampling drivers with predominantly physical disabilities.

Task 3. Data collection from existing sources (UK Blue Badge holder statistics; Motability client data; National Travel Survey data on disabled drivers)

Existing data on disabled drivers was gathered from three different sources: UK records of Blue Badge holders; the National Travel Survey (NTS); and, Motability client profiles.

Blue Badges issued as part of the UK's vehicle parking concessions scheme are available to individuals who have some form of functional impairment that hinders their ability to walk. Each constituent country of the UK collects data on the number of Badges issued by Local Authorities under their control. The level of detail gathered varies although the figures describing the total population of Blue Badge holders are provided for this research study. Such data represents a sizeable proportion of the total disabled population within the UK. As with the DVLA DMG database, data describing the population of Blue Badge holders was enhanced by surveying a sample of that population to provide further information on its characteristics (Task 4).

The National Travel Survey (NTS) is a continuous survey that monitors changes in travel behaviour over time. Data for the survey is collected from randomly selected households to provide a nationally representative sample of Great Britain. The NTS provided statistics to cover the age, gender and mileage of drivers that are recorded as 'disabled', which is defined as any driver who has difficulties walking or using a bus. This data was considered against the wider context of licensed drivers and household vehicle ownership.

Motability is an independent, not-for-profit organisation, which provides mobility solutions for disabled people. These include new cars on contract hire leases or new/used cars on hire purchase. Some vehicles are fitted with adaptations to suit customers' needs. As of 2004, Motability had a client base of approximately 400,000 people. Eligibility for the scheme depends upon receipt of disability-related benefits; the scheme therefore captures a population similar to that covered by the Blue Badge database. Comprehensive information on client demographics was made available. Moreover, Motability's client database also provided detailed information on the largest single source of disabled drivers with adapted vehicles, including information about the adaptations fitted.

Task 4. A survey of Blue Badge holders

Although data was available to define the overall population of Blue Badge holders and their geographical distribution, a sample of this population was also surveyed to identify: the proportion of drivers and passengers within the Blue Badge population; their demographics; the range of reported disabilities; licence status; driving experience; vehicle usage; and, accident involvement.

Task 5. Data from Government funded road accident databases

To provide data on the accident involvement of disabled drivers and/or adapted vehicles, five Government-funded road accident databases were analysed: the Cooperative Crash Injury Study (CCIS) database, the On-The-Spot (OTS) study database, the Police Fatals Intermediate Database (IDB), the Police Contributory Factors database and the Vehicle and Operator Services Agency (VOSA) database. Incidents involving disabled drivers, passengers and/or adapted vehicles were uncommon and analysis was mostly qualitative.

4 Outcomes

Data from the different sources were combined to produce key summary statistics and future estimates to describe the overall population of disabled drivers in the UK.

When reading the results, two points should be considered. The first is that data collected from the DVLA DMG database reflected drivers with substantive (full) licences and not provisional licence holders or disabled people who failed to get a licence, or had an existing licence revoked. Therefore, DVLA data may only reflect the **minimum** number of disabled people that perhaps attempt to access and use services to facilitate driving with a disability. The second point is that estimates made from the survey of drivers with medical conditions listed by DVLA may have been biased by the physically disabling conditions that were sampled. Estimates were perhaps biased towards drivers whose disabilities resulted in functional, physical impairments and might reflect the needs and experiences of this group of disabled drivers rather than all drivers listed on the DVLA DMG database.

The main findings from the study are presented below.

Estimated number of disabled drivers

From the outset, this research study aimed to estimate the number of disabled drivers. From the data gathered during this study, the largest estimate indicated that the number of licensed disabled drivers was at least 1.9 million (approximately 20% of the 9.5 million disabled adults believed to be living in Great Britain). This figure related to the total number of drivers with medical conditions listed on the DVLA DMG database (Table 4.1) and was the equivalent of 33 drivers with medical conditions per 1,000 population (for Great Britain not the UK).

As a proportion of the 34 million licensed drivers in Great Britain, drivers with DVLA listed medical conditions formed approximately 6% of this group (8% of all males and 3% of all females). The proportion of licensed drivers with medical conditions increased with age; amongst those over 70 years, 22% of all male drivers and 14% of all female drivers were thought to have listed medical conditions.

Consideration of other data sources potentially increased this estimate. In the UK, an estimated 1.251 million drivers held Blue Badges and therefore had a disability that impaired their ability to walk. Survey data collected from drivers who had notified DVLA of a medical condition estimated that there were 1.131 million active drivers with Blue Badges. This was 120,000 fewer than the estimated number of active drivers within the total Blue Badge population, but it was expected that not all Blue Badge holders would have DVLA listed medical conditions.

As of 2004, approximately 270,000 Motability clients drove in the UK; somewhat less than the estimated 394,000 drivers with DVLA listed medical conditions who were also believed to be Motability clients in Great Britain as of 2006 (based on 24% of respondents to the DVLA survey stating they were Motability clients)⁴. Similarly, the National Travel Survey estimated 320,000 disabled drivers in Great Britain (an average from 1995-2003, based on a restricted definition). Unfortunately, these four data sources were heavily interrelated to an unknown extent; it was unclear what percentage of the Blue Badge

⁴ The discrepancy between Motability data and estimates from the survey data is likely to be a product of sampling predominantly physical disabilities for the survey of DVLA-listed drivers.

population was also listed on the DVLA DMG database, it was unclear whether all Motability clients had Blue Badges (although it was likely) and, likewise, it was not known whether the population of disabled drivers defined by the NTS had either Blue Badges or were on the DVLA DMG database.

Therefore, approximately 2 million licensed disabled drivers were estimated to be in the UK, based on the largest single data source (the DVLA DMG database). That assumed that DVLA listed **all** disabled drivers; this was unlikely, especially as the data already estimated that some Blue Badge holders were not represented on the DVLA DMG database. However, because not all licensed disabled drivers were thought to be current, active drivers, it is feasible that the number of **active** disabled drivers in the UK may be closer to 1.7 million.

Table 4.1: Estimated number of disabled drivers (multiple sources)

	Source			
	DVLA database & survey (GB)	Blue Badge database & survey (UK)	Motability (UK)	National Travel Survey (GB)
No. of licensed disabled drivers (000s)	1,904	1,251	270	320
No. of active licensed disabled drivers (000s)	1,638	1,251	270	320

Estimated age, gender and ethnicity of disabled drivers

The mean age of drivers in the largest single source of data was 57 years (DVLA DMG database). Drivers with Blue Badges had an estimated mean age of 65 years, based on the mean age of survey respondents (

Table 4.2); this was older than within other populations captured here. Amongst all sources, there were more male disabled drivers than females. With the exception of the DVLA DMG database, all other sources indicated that the ratio of male-to-female disabled drivers was 61:39 (

Table 4.2). The DMG database indicated a higher proportion of males but this was likely to be attributed to prevalent male-dominated medical conditions, such as alcohol misuse.

Table 4.2: Estimated mean age and distribution by age band of disabled drivers

	Source			National Travel Survey*
	DVLA DMG database*	DVLA survey*	Blue Badge survey**	
Mean age (years)	57	57	65	-
% of sample aged:				
17-29 years	6	8	1	3
30-39 years	12	10	3	8
40-49 years	16	16	10	13
50-59 years	19	19	16	20
60-69 years	17	18	31	27
70+ years	30	30	40	29
Gender distribution (Male:Female)	75:25	61:39	61:39	61:39

*Great Britain only

****UK (drivers only)**

In both the DVLA survey and the survey of Blue Badge holders, ethnic minority groups were under-represented (97% of each sample was white, compared to 92% of the UK population). This may have been a product of the English-language dependent survey method of the (relatively) small samples. However, it could also indicate that ethnic minority groups were perhaps not fully-represented amongst disabled drivers and is worthy of further investigation.

Estimated geographical distribution of disabled drivers

In Great Britain, Wales was estimated to have the highest density of disabled drivers; 36 per 1,000 population for drivers with listed medical conditions (according to the DVLA DMG database) and 38 per 1,000 population from the projected figures for Blue Badge holders who drove. This was greater than the respective average rates for Great Britain (Table 4.3). Region-specific data for England was available via the DVLA DMG database. The South East of England (excluding London) had the greatest density and volume of drivers with listed medical conditions, whereas London had the lowest density of disabled drivers, followed by the North East of England, which also had the lowest volume.

Table 4.3: Blue Badges issued to drivers per 1,000 population in England, Scotland and Wales (actual and projected rates)

Location	Rate per 1,000 population (2006)	
	DVLA DMG database*	Blue Badges (drivers only)**
England	32	21
Scotland	33	23
Wales	36	38
Great Britain	33	22

*actual data

**projected data

Estimated range of disabilities for disabled drivers

The range of grouped medical conditions from the DVLA DMG database, and the variety of self-reported disabilities from survey respondents with Blue Badges, was evidence of the diversity of medical problems affecting a large number of drivers. There were notable differences in the prevalent medical conditions listed by DVLA and the disabilities reported by surveyed Blue Badge holders (This difference in **the range of disabilities reported by these two key sources of disabled drivers suggested that the populations were not homogeneous. This supported the projection for the total population of disabled drivers to be in excess of the total number listed on the DVLA DMG database.**

Table 4.4). The descriptive nature of some of the self-reported survey responses prevented exact categorisation of disabilities but it was also clear that several of the disabilities reported by survey respondents would not be listed by DVLA as they do not require DVLA to make a medical decision. Examples included the wide range of functional disabilities that were often related to non-specific walking difficulties. Although not warranting consideration by DVLA, such drivers were still considered 'disabled' and received parking concessions as a result.

There was a large difference in the levels of reporting of some conditions. Diabetes was frequently reported to the DVLA (by 25% of listed drivers) but by just 3% of Blue Badge holders. This is very likely to be a reflection of the legal requirement to notify DVLA of diabetes, whereas Blue Badge holders probably did not view diabetes as their main reason for receiving parking concessions. Conversely, arthritis

was reported by 37% of Blue Badge holders but represented just 0.7% of DMG listed drivers. This difference is probably due to underreporting to DVLA. Arthritis most likely viewed by the individual as a condition that seriously affects their mobility outside of a car rather than their ability inside behind the wheel.

This difference in the range of disabilities reported by these two key sources of disabled drivers suggested that the populations were not homogeneous. This supported the projection for the total population of disabled drivers to be in excess of the total number listed on the DVLA DMG database.

Table 4.4: Disabilities amongst drivers listed on the DVLA DMG database (grouped) and drivers responding to the Blue Badge survey (percentage within each source)

	DVLA DMG database	Blue Badge survey*
Medical Condition	% of total (n=1,904,174)	% of total (n=782)
Diabetes	24.7	2.8
Restricted movement and paralysis ⁵	-	16.5
Heart Problems	12.5	15.9
Neurological	11.9	3.3 ⁶
Alcohol Misuse	11.4	-
No relevant medical condition	10.4	-
Vision problems	8.8	0.4
Functional disability ⁷	-	8.1
Other	6.9	1.3
Stroke	6.5	1.9

⁵ Including replacement joints and limb abnormality

⁶ Including dementia and Parkinson's disease

⁷ Including elderly and those with non-specific walking/mobility problems

Blood/circulation problems ⁸	3.5	2.8
Psychiatric	3.4	-
Multiple Sclerosis	1.9	2.7
Osteoporosis	-	2.6
Limb Disability Static/amputation	1.7	1.8
Brain Damage - Acquired	1.6	-
Polio	-	1.5
Parkinsons	1.3	-
Cancer	1.2	3.1
Injury through accident	-	1.0
Brain Tumour	0.9	-
Sleep Disorders	0.8	-
Arthritis	0.7	37.0
Liver/Kidney/Renal	0.4	1.9
Drug Misuse	0.3	-
Spinal Injuries	0.3	-
Other non-neurological	0.3	-
Brain Damage - Generalised	0.2	-
Dementia	0.2	-
Cerebral Palsy	0.2	0.3
Spina Bifida	0.1	0.4
Muscular Dystrophy/Atrophy	0.1	-
Back problems including all spinal injuries	-	17.3
Back Problems	0.1	-
Cognitive Impairment	0.1	-
Motor Neurone Disease	0.1	-
Hearing Impairment	0.1	-
Immunocompromised	<0.1	-
Respiratory	<0.1	11.3
Learning Disabilities	<0.1	0.1

*Drivers only

Estimated growth in the population of disabled drivers

Due to the collection of historical statistics for the rate of Blue Badge issue since 1987 (for England, at least), growth was projected based on findings from a surveyed sample of existing Blue Badge holders (which was assumed to be representative). Calculations of growth assumed that the driver-passenger ratio will remain static. On this basis, by 2010 Blue Badge holders in Great Britain are expected to grow by 430,000 (in comparison with the actual rate in 2004): 210,000 will be drivers, and the majority will reside in England (Table 4.5). Indeed, England was found to have the greatest volume of disabled drivers in 2004 and was predicted to maintain that position in 2010. However, this was an artefact of its inflated population when compared to Scotland and Wales; in terms of disabled driver density, this was greater in Scotland and greatest in Wales (in 2004) and this trend was projected to continue.

⁸ Including Hypertension and Hypotension

Table 4.5: Blue Badges on issue in 2004 (actual) and 2010 (projected)

	Location			
	England	Scotland	Wales	Great Britain
Rate per 1,000 population for all Blue Badge holders (and drivers only)				
2004	42 (20)	45 (21)	72 (35)	43 (21)
2010	47 (23)	50 (24)	89 (43)	49 (24)
Number of Blue Badges on issue (and to drivers only)				
2004	2,074 (1,006)	224 (109)	214 (104)	2,511 (1,218)
2010	2,419 (1,173)	256 (124)	268 (130)	2,943 (1,428)

Estimated number of adapted vehicles

There were estimated to be at least 27,000 adapted vehicles used by Motability clients across the UK (Section 4). However, survey data from this study suggested that there could be between 175,000 and 428,000 adapted vehicles (

Table 4.6). The lower estimate was based on data for the population of Blue Badge holders; 92,000 of these vehicles were believed to be adapted for disabled drivers and the rest for passengers. The upper estimate of 428,000 adapted vehicles applied to the number of drivers with listed medical conditions held on the DVLA DMG database. Adapted vehicle estimates for each population were not thought to be exclusive and were likely to overlap. The true total could well exceed the upper estimate, but, as the surveyed sample of DVLA listed drivers was biased towards respondents with physical disabilities (and therefore having the greatest need for vehicle adaptations), the actual number of adapted vehicles could also be less than 428,000.

In addition, there were known to be 37,000 drivers with licences that restricted them to driving vehicles with adaptations. This data related to all drivers with medical conditions listed by DVLA. Within the population of Blue Badge holders, there were estimated to be 51,000 drivers with this type of licence restriction; this was greater than the number listed on the DVLA DMG database. However, because licence holders have responsibility for notifying DVLA of any special controls, and because guidance for doing so is not comprehensive, it is likely that there is some misreporting and underreporting of special controls. Moreover, data was only provided by DVLA for drivers with full licences and there would be provisional licence holders with similar restrictions. This may account for some of the variation, as could survey methods used for this study, as well as differing interpretations of the licensing requirements.

Table 4.6: Estimated number of adapted vehicles (multiple sources)

	DVLA database & survey (GB)	Source Blue Badge database & survey (UK)	Motability (UK)
No. of adapted vehicles (000s)	428	175 (92 for drivers)	27
No. of licensed drivers restricted to adapted vehicles (000s)	37	51	-

Primary car control adaptations were clearly the most prevalent type of vehicle adaptation amongst all sources of disabled drivers consulted for this study. Most of the DVLA vehicle restriction codes that were applied to licences related to modified steering, although amongst DVLA survey respondents it was modified combined accelerators and brakes, and amongst the surveyed sample of Blue Badge holders it was modified accelerators. The overwhelming majority of disabled drivers from all three sources had just one type of adaptation fitted to their vehicle.

Estimated growth in vehicle adaptations

As with the overall population of disabled drivers, growth could only be projected for numbers of adapted vehicles within the population holding Blue Badges. Growth for drivers of adapted vehicles was estimated at 25,000 additional vehicles by 2010 (compared with 90,000 in 2004). Adapted vehicles for passengers with Blue Badges were expected to rise by 14,000 (although it was assumed that some of these adapted vehicles would also be driven by disabled drivers based on the types of adaptations reported by passengers). This data did not account for adapted vehicles in Northern Ireland (an additional 4,000 in 2004) and applied to Great Britain only (

Table 4.7).

Table 4.7: Total number of adapted vehicles used by Blue Badge holders in Great Britain and usage by drivers and passengers

Year	Number of adapted vehicles (000s)		
	GB Total	Used by drivers	Used by passengers
2004 (actual)	171	90	81
2010 (projected)	201	105	95

Estimated involvement of disabled drivers in road accidents

Respondents to both surveys provided an indication of the number of road accidents in which they had been involved as a driver or as a passenger in the last five years. Accident severity was not specified and therefore included all severities, from minor bumps and scrapes to accidents involving occupant injuries. Approximately 20% of all drivers responding to the DVLA survey had had at least one accident as a driver, compared with 8% of Blue Badge survey respondents. These accidents rates were used to estimate the number of accidents occurring in the last five years for each of the respective populations. For the population of drivers with medical conditions listed on the DVLA DMG database, the number of estimated accidents as drivers was 383,000, compared with 104,000 for Blue Badge holders (Table 4.8). Rates were also calculated for accidents as passengers in the respective populations.

Table 4.8: Blue Badges on issue in 2004 (actual) and 2010 (projected)

	Accidents 5 years prior to survey:			
	As a driver		As a passenger	
	DVLA survey	Blue Badge survey	DVLA survey	Blue Badge survey
% of total population	20	8	4	3
Estimated total number of accidents (000s)	383	104	86	66

No direct comparison could be made with accidents amongst non-disabled populations. There is no indication that the estimated accident rates for these populations were in any way unusual and there was no suggestion that disability was a contributory factor in these accidents. Indeed, the incidence of disability as a contributory factor in fatal or injurious accidents was found to be between 0.1 and 0.3% (according to Government funded road accident databases). Nevertheless, it should be noted that road collisions involving drivers who are elderly and/or have pre-existing medical conditions are more likely to result in serious injury or death. This may make it difficult for attending police officers to identify any disability-related contributory factors.

However, a small number of incidents were reported by survey respondents to suggest that vehicle adaptations were contributing to accident causation and/or occupant injury. In light of the high volume of estimated accidents (of varying severity) within these populations, and the relatively high numbers of adapted vehicles, this was worthy of further investigation.

In addition to the survey findings, there were also results from the various Government funded road accident databases. The CCIS data analysis suggested adaptations were not a significant factor in injury causation; however, none of the vehicles included in the database were fitted with 'heavy' adaptations (a drive-from-wheelchair conversion, for example) and the sample was small.

The OTS database analysis suggested that disability and vehicle adaptations were not major contributory factors in either accident or injury causation. Analysis of both OTS and CCIS databases demonstrated that the incidence of accidents involving disabled drivers was extremely low in both samples, accounting for just 0.3% of all cases.

When specifically assessing the incidence of **fatal** accidents where disability was recorded as a contributory factor at all confidence levels, disability contributed to just 0.3% of accidents. This figure was further reduced when the number of miscoded accidents was accounted for. Moreover, less than one quarter of all fatal accidents where disability was recorded as a contributory factor were attributable to a 'disability' that was not eyesight-related or technically classifiable as an illness.

The Fatafs IDB did not indicate that disability was a major contributory factor in fatal road traffic accidents. Yet the finding that physical disability, especially in lower limbs, may have a bearing on the ability of a driver to exercise control in an emergency situation was worthy of further consideration. The few examples of this were extreme cases where fatal accidents occurred because the disabled drivers that were involved appeared to make errors that they were unable to correct. (It was also recognised that an able-bodied driver may have not been able to regain control in the cases documented in this study).

The largest of all the databases analysed for this study confirmed that the incidence of disability as a contributory factor in **all** injury accidents was extremely low: just 0.2%. This figure was taken from the Contributory Factors database used by about one quarter of all police forces to record the contributory factors for all accidents they attended that resulted in injury (be it fatal, serious or slight). When only 'definite' or 'probable' causes of accidents with disability as a contributory factor were considered, the incidence of disability as a contributory factor halved to just 0.1%. Unfortunately, the Contributory Factors database does not record accidents caused by vehicle adaptation faults or misuse. VOSA provided the only clear example of an accident attributed to adaptation fitment; it documented a fatal accident caused by the misuse of hand controls that were of a non-intuitive design. This case raised questions about the suitability of some vehicle adaptation designs although, on its own, it did not indicate that a significant risk was presented through the fitment of such devices. Other, less serious accidents also partly due to poorly designed adaptations may simply never come to light. By surveying Blue Badge holders and DVLA classified drivers, a small number of similar examples emerged. At present this issue remains relatively obscure, despite a thorough search of all recognised accident-recording databases. Whether adaptations pose little or no risk as indicated so far, or whether their contributory role in accidents is simply rarely being recorded, remains to be explored.

Problems with vehicle use

The most common problem for disabled drivers was vehicle access. Even when adaptations were fitted, this remained the most prevalent problem. Storage of wheelchairs and mobility equipment was the second most common problem, followed by (in order): difficulty using primary controls; seating problems; difficulty using secondary controls;

and, other problems. These concerns and may help direct the development and improvement of vehicle adaptations.

Experience of vehicle adaptations

Overall, it was estimated that 413,000 drivers without vehicle adaptations had problems with vehicle use. This was a potential market for further assistance, perhaps in the form of vehicle adaptations. With the expected increase in disabled drivers, this market is set to grow.

When vehicle adaptations were fitted, they were often chosen for their suitability for the occupant's physical needs over and above other factors. Adaptation reliability was the next most common factor affecting adaptation choice and this was followed by (in order): safety in the event of an accident; fast availability; local availability; cost; and, appearance. These factors were given the same priority by both surveyed samples. They appeared to be fairly robust findings and provided insight into the most desirable characteristics of vehicle adaptations. Such findings may be of value to the vehicle adaptation industry.

Conclusion

Whilst these figures estimated the number of disabled people successfully driving, they did not account for those going through the process of becoming a licensed disabled driver (and those who failed during this process). Therefore, the overall volume of people accessing services and facilities for driving with a disability was believed to be greater than the estimates provided in this report for current drivers.

By 2010, growth in both the number of disabled drivers and the number of adapted vehicles in the UK is expected. The data provided in this report should help identify where resources can be appropriately distributed to cater for this growing population of drivers. Further investigation of the safety, suitability, provision and usage of vehicle adaptations would be desirable. Access to all mobility services should also be confirmed for all ethnic minorities. Final consideration should also perhaps be given towards establishing a UK-wide method for monitoring the number of disabled drivers and closely sampling their experiences. This report has highlighted the rather disjointed range of current data sources and the need for a collaborative method of data collection to improve monitoring and servicing the needs of the growing population of disabled drivers.