Review of Class 2 and Class 3 Powered Wheelchairs and Powered Scooters (Invalid Carriages)

Reference PPAD 9/72/89

Final Report

Prepared for

Department for Transport

by

ttr Transport & Travel Research Ltd

July 2005

Review of Class 2 and Class 3 Powered Wheelchairs and Powered Scooters (Invalid Carriages)

Reference PPAD 9/72/89

Final Report

Prepared for

Department for Transport

by

Transport & Travel Research Ltd

Author(s)	Phil Barham, Davina Fereday and Philip Oxley
Quality Control	Phil Barham
Project Manager	Phil Barham
Version	1.0
Date	24 February 2006
File location	\\TTR01\Company\TTR Projects\Current Projects\DfT Class 2&3 Wheelchairs\Technical
Last edited	24 February 2006
This report has been prepared for the Department for Transport (DfT). Transport & Travel Research Ltd cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.	

Contents

Executive Summary 1

1. Introduction 6

2. Methodology 7

2.1. Methods Used During Stage 1 7
2.2. Methods Used During Stage 2 13

3. Results 16

3.1. Review Of Legislation In The Uk 16
3.2. Review Of Legislation Elsewhere In Europe 18
3.3. Estimating The Number Of Powered Wheelchairs And Scooters In Use In The Uk 20
3.4. The Use Of Powered Wheelchairs And Scooters In The Uk .. 25
3.5. Estimating The Number Of Incidents Involving Powered Wheelchairs And Powered Scooters In The Uk 26

3.6. Perceptions Of The incident Liability Of Powered Wheelchair And Scooter Users, From The Media 37
3.7. Summary Of The Views Of Focus Group Participants 37
3.8. Summary Of Responses To Stakeholder Consultation 43

4. Discussion 49

5. Conclusions 55

6. Recommendations 61

Appendix A: Newspapers consulted during the search of press reports

Executive Summary

Transport & Travel Research Ltd was commissioned by the Mobility & Inclusion Unit of the Department for Transport to carry out a review of Class 2 and Class 3 powered wheelchairs and powered scooters. This study has been carried out in two stages: Stage 1 (Sep. 2003 to May 2004) reviewed existing legislation in relation to Class 2 and Class 3 powered wheelchairs and scooters, investigated evidence of incidents that have been caused by and to people using such vehicles, and surveyed users to ascertain how people use their powered mobility aid(s); Stage 2 consisted of a consultation exercise, involving both focus groups with users and non-users of powered wheelchairs and scooters, and a formal "paper" consultation with key stakeholders.

The overall aim of the research was to provide information for the Client on which decisions as to whether to make changes to legislation governing powered wheelchairs and scooters could be made. The detailed objectives of Stage 1 of the research were to ascertain,

- the legislative framework within which Class 2 and Class 3 wheelchairs and scooters are used in the UK, including a comparison with the legislative situation elsewhere in the European Union,
- the number of vehicles of each type that are currently in use in the UK, particularly the number that have been sold in the UK over the past five years,
- the environments in which powered wheelchairs and powered scooters are currently used, particularly how many of each type of wheelchair are currently used on "the highway",
- the number of incidents involving such vehicles in the UK, by severity of incident

The review of relevant legislation during this stage confirmed that there is little in the UK regarding issues such as fitness to drive, insurance obligations and taxation in relation to powered wheelchairs and scooters. Such mobility aids are not considered, by law, to be a motor vehicle, so are exempt from many road traffic regulations. Class 3 vehicles when used on the road, however, are obliged to conform to many of the regulations covering motor vehicles. Generally, there is neither mandatory training for use of a powered mobility aid, nor a tax on use or ownership of such a vehicle. It was found that the situation is not very different in many other European countries, where there is little

legislation concerning this type of vehicle. In some countries powered wheelchairs and scooters are largely given the status of bicycles, whilst in others powered wheelchair and scooter users are permitted to travel as pedestrians.

Largely on the basis of OPCS data on the percentage of disabled people and wheelchair users in the population, and 2001 Census data, it was estimated that there are 70,000 to 100,000 powered wheelchair and scooter users in the UK. In fact, it was anticipated that the true figure might be towards the upper end of this range, and that this estimate might still err on the side of being conservative. Evidence from the research suggested that mobility scooters, particularly the Class 2 variety, led a rapid increase in the number of powered mobility aids in use in the UK. Generally, sales of scooters were exceeding sales of powered wheelchairs on a ratio of 80:20; the market for scooters in the UK was estimated to be 25,000 per year.

Responses to the survey on the nature of people's usage of powered mobility aids revealed that powered wheelchairs and scooters are most commonly used on pavements, and also for crossing the road. There were 18.5% of respondents who said that they used a Class 2 vehicle on the road "every day".

A major conclusion from the review of the frequency of incidents involving powered wheelchair and scooter users was that this type of incident is likely to be heavily under-reported. The number of incidents causing injury in different environments that are not reported, as well as the likely plethora of small bumps and scrapes which will never be reported, remain an intangible and unquantified element. Nevertheless, it was possible to produce some numerical estimates as to the expected frequency of different types of incident. For example, it was estimated that there will be one reported incident involving a powered wheelchair or scooter owner in a major shopping centre, for each 15 million visitors to such a facility. Similarly, it was estimated that one insurance claim relating to an injury to an electric vehicle user will be received in connection with a Shopmobility scheme, for each 200,000 users of such a scheme. Both of these estimates reflect very low probabilities of involvement in an incident. Using Police incident statistics in this way provided varied predictions of incident liability, from one injury incident per year for each 88 powered wheelchair or scooter users in Nottinghamshire, to a ratio of one in 617 for users of such vehicles in West Yorkshire.

The main objective of Stage 2 of the research (Aug. 2004 to Apr. 2005) was to conduct a consultation exercise to ascertain the views of powered wheelchair and scooter users, and other key stakeholders, in relation to a number of key issues relating these vehicles. More particularly, this part of the research sought to,

- Identify stakeholders who should be consulted on the question of whether current laws and regulations should be amended,
- Determine current opinion among key stakeholders on the questions posed by the research,
- Make recommendations on changes to both primary and secondary legislation.
- Carry out a Regulatory Impact Assessment on the effect that such changes might have

Five focus groups were undertaken to enable a small cross section of users and non-users of Class 2 and 3 powered wheelchairs and scooters to discuss issues concerning use and regulation of such vehicles in some depth. The focus groups were comprised as follows: 1) users of Class 2 powered scooters, 2) users of Class 3 powered scooters, 3) a mixed group of users of both Class 2 and Class 3 powered wheelchairs, 4) a non-disabled non-user group (i.e. pedestrians, shoppers, cyclists and other road users), and 5) a disabled non-user group (i.e. blind / partially sighted people, and deaf / hard of hearing people).

For the stakeholder consultation exercise, a consultation document was prepared and delivered by email or post to 127 stakeholders; these included societies, charities, organisations, manufacturers of / dealers in powered wheelchairs and scooters, and some individuals who had shown an interest in the research. The overall response rate was 39%, as a result of 50 submissions from stakeholders.

It was apparent from both the consultations and focus groups that there were some issues on which there was near (though not complete) unanimity, and others where there was either a considerable amount of disagreement or some uncertainty about what course of action should be taken. On the basis of these findings, and in discussion with the Client, three areas were identified where it was considered that current

practices could be changed and improved; these were,

- the advice and training provided for purchasers of powered wheelchairs and scooters,
- the requirement for users of the vehicles to have Third Party insurance and,
- the requirement for Class 2 vehicles to have equipment comparable to that required on Class 3 vehicles.

A Regulatory Impact Assessment (RIA) was carried out, to investigate the likely impact(s) of changes to legislation in these three areas. This assessment concluded that the requirement for appropriate advice and training for purchasers of Class 2 and 3 vehicles, the requirement for Third Party insurance and the fitting of appropriate equipment to Class 2 vehicles used on the road would contribute to the safety of the users of the vehicles, to pedestrians and to other road users, without significant cost or safety implications.

Recommendations made at the conclusion of Stage 2 of the research were as follows,

- There should be improvements to both the provision of advice to potential users when purchasing a vehicle, and training on its use; it is suggested that both could be best provided at the point of sale. It is also recommended that an agreed training programme should be developed, together with guidance on the type and content of advice to purchasers.
- Class 2 and Class 3 vehicle users should be required to have Third Party insurance.
- Such research as is necessary should be undertaken to determine the design requirements for the safe carriage of a child on a vehicle. This research should also consider what the maximum age or size of the child should be.
- The development of vehicles designed to carry two persons (adults) should be kept under review, but no change in the regulations should be made at present.
- Existing maximum speed limits of 4mph in pedestrian environments should remain.

- Existing maximum speed limits for Class 3 vehicles should also be continued but should be kept under review.
- Work should be started to devise a simple fitness to drive assessment, which should include an eyesight test, ability to control the vehicle and a measure of cognitive / judgement abilities.
- Equipment requirements for Class 3 vehicles should remain as at present. Consideration should be given to requiring Class 2 vehicles to have comparable equipment if they are to be used on the road.
- Current regulations on permitted users should remain, subject to consideration of the issue of cognitive impairment.
- Road Traffic Act sections dealing with driving under the influence of drugs or alcohol and the use of mobile ‘phones should be applied to Class 2 and 3 vehicles.
- Research should be undertaken into the safety or otherwise of vehicles using cycle ways and bus lanes.
- The exemption from Vehicle Excise Duty should continue, but the requirement to display a certificate and to register the vehicle should be re-examined. If no clear benefits can be shown, these requirements should be removed. If there are real benefits, the requirements should be enforced.
- No action is recommended with respect to hybrid / petrol engine vehicles, although it is noted that there were safety concerns relating to the use of petrol-engined vehicles, particularly on pavements and in other pedestrian environments.
- There may be a case for a new classification for "off-road" vehicles, but further consideration of what regulations should be applied to these vehicles is needed.
- There should be definitive guidance made available that explains the distinction between 2-wheeled vehicles, including scooters and other largely recreational devices, and 3- and 4-wheeled Class 2 and 3 mobility vehicles.
- An appropriate body (the BHTA, for example) should assist buyers in researching best value for money, and in comparing the cost and standards of service of different outlets.

1. Introduction

This document is the Final Report for the Department for Transport sponsored project "Review of Class 2 and Class 3 Powered Wheelchairs and Powered Scooters (Invalid Carriages)", and summarises the methods used, the findings and the conclusions drawn from both Stage 1 and Stage 2 of the project. Full and separate reports are available on Stages 1 and Stage 2.

The objectives of Stage 1 of the research were to ascertain,

- the legislative framework within which Class 2 and Class 3 wheelchairs are used in the UK, including a comparison with the legislative situation elsewhere in the European Union,
- the number of wheelchairs of each type that are currently in use in the UK, particularly the number that have been sold in the UK over the past five years,
- the environments in which powered wheelchairs and powered scooters are currently used, particularly how many of each type of wheelchair are currently used on "the highway",
- the number of incidents involving such vehicles in the UK, by severity of incident

Stage 2 then went on to,

- Identify stakeholders who should be consulted on the question of whether current laws and regulations should be amended,
- Determine current opinion among key stakeholders on the questions posed by the research,
- Make recommendations on changes to both primary and secondary legislation.
- Carry out a Regulatory Impact Assessment on the effect that such changes might have

The following section outlines the methods that were used throughout the duration of the project; Section 3 summarises the project's findings, after which there is a discussion of all findings in Section 4. Conclusions and recommendations are outlined in Sections 5 and 6, respectively.

2. Methodology

2.1. Methods used during Stage 1

2.1.1. Review of legislation

Many of the key articles of legislation of relevance to the study had been identified by the Client in the research specification. All of these were thoroughly reviewed in order to provide a detailed summary of the legislative framework within which Class 2 and 3 powered wheelchairs and scooters are procured and used. Current legislation in other EU countries was also considered; as well as desk searches being carried out, a questionnaire was sent to the members of the ECMT's Group on Access and Inclusion. This questionnaire covered the scope, definition and controls set by national (or regional) legislation and regulation. This enabled a comparison to be made with the legislative framework described in the UK. This was important, given that powered wheelchairs of the type featured in the current research are available from continental Europe.

2.1.2. Estimating the number of powered wheelchairs and scooters in the UK, and the nature of their use

Several primary sources of data were identified, including: -

- Motability.
- NHS.
- PASA (NHS Purchasing and Supply Agency).
- BHTA (British Healthcare Trades Association).
- Medical Devices Agency.

Since a large proportion of the main powered wheelchair and scooter manufacturers are members of the BHTA, a survey of the manufacturers listed within the membership directory provided the starting point for these investigations. Figures relating to wheelchair sales are passed on to the BHTA by their members every month, so that the BHTA is ideally placed to provide aggregate figures for all the manufacturers Individual organisations were contacted directly, initially by telephone and then through more formal supplementary written enquiries.

To establish the number of wheelchairs of each type currently being used on the highway, and in similar environments, a questionnaire was

developed that aimed to investigate the types of wheelchair owned, the amount and type of any training received on purchase, and where and how often disabled people use their powered wheelchairs and scooters (see Appendix D of the Final Report on Stage 1). BHTA manufacturers and distributors were identified as a useful avenue for questionnaire distribution. Other sources of distribution included the National Wheelchair Users Forum, the Disabled Drivers Association (which sent out 1,500 questionnaires with its magazine, *Magic Carpet)*, Motability, driving assessment and mobility centres, and a Buggy Club in Cornwall.

2.1.3. Estimating the number of incidents involving powered wheelchairs and scooters in the UK

It was acknowledged at the outset that estimating the total number of incidents involving powered wheelchairs and scooters would be difficult, given that many would result in no more than minor bumps and bruises, and so would be largely unreported. In fact, the types of incident sought were regarded, conceptually, as forming a “pyramid” of different severity levels, with a very large number of such barely tangible, unreported incidents occupying the base level, with successive levels of incident becoming increasingly severe, and decreasingly common, but increasingly well documented. Because of the nature of the research, a multi-faceted methodology was adopted, with information sought through a number of channels.

The search began with a review of national statistical sources; the National Statistics Office (NSO) online was the starting point for the investigation. This website provides statistical information relating to a wide range of issues, including disability- and transport-related incidents. A search of this website was conducted for information relating to incidents involving wheelchairs and/or transport incidents that might refer to wheelchair involvement.

NSO information relating to wheelchairs included:

- The percentage of people living in Britain who use wheelchairs, by whether they require assistance.
- The regularity of use of mobility aids, by type, for people living in Britain.

A large amount of information was also available relating to incidents; unfortunately, in all of the tables, where incidents are classified according to the type of motor vehicles involved, wheelchairs fall into the

"other" classification, along with items such as caravans. No separate statistics were available for wheelchairs, whether manual or powered. The Department for Health was unable to provide any figures relating to the number of patients admitted to hospital following incidents involving powered wheelchairs, and the Department for Transport only records incidents involving vehicles with a vehicle registration number. The DfT's Transport Statistics Department (Roads) deals with figures relating to the UK's vehicle stock and with related registration and licensing issues, directly supporting the Driver & Vehicle Licensing Agency. Since vehicles are categorised according to taxation class, and then body type, the Transport Statistics Department has no records on Class 2 and Class 3 wheelchairs, which are not taxed. The usage of powered wheelchairs and scooters on roads is therefore virtually unrecorded and unmonitored.

The Medicines and Healthcare products Regulatory Agency (MHRA) was also approached. The Agency publishes incident figures on its web-site in the form of Device Bulletins, and these were available for the years 1995 to 2003, inclusive. Powered wheelchairs are dealt with under the heading of "Wheeled Mobility and accessories, including powered and non-powered wheelchairs & accessories, supportive seating & cushions, and wheeled mobility aids". One caveat mentioned by the MHRA, however, was that all such incidents are almost certainly substantially under-reported.

An attempt was made to access data held within the Health Service by contacting a sample of hospitals to request access to information that was kept on the nature, severity and cause of injuries to patients attending A&E Casualty departments. This approach ultimately proved to be fruitless, but such Health Sector-based information was obtained indirectly, through the HASS (Home Accident Surveillance System) and LASS (Leisure Accident Surveillance System) databases[1] [2].

Data are gathered for HASS and LASS by interviewing patients at A&E units at a representative sample of 18 hospitals in the UK; the criteria for hospitals to be selected to submit information for this database are that

[1] 23rd Annual report of the Home and Leisure Accident Surveillance System – 1999 Data. (Consumer Affairs Directorate, Department of Trade and Industry, 1999).
[2] 24th (Final) Report of the Home and Leisure Accident Surveillance System – 2000, 2001 and 2002 data. (Consumer Affairs Directorate, Department of Trade and Industry, 2002).

the hospital must at least,

- attend to more than 10,000 A&E cases per year
- operate a 24-hour service
- take ambulance cases

The sample of 18 hospitals has been drawn from a pool of approximately 300 hospitals that meet these criteria, the final selection being made in order to provide an even geographical spread of locations, a mixture of urban and rural environments, and a selection of different-sized A&E units serving areas of different population size[3].

The UK's Health & Safety Executive compiles statistics connected with RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations), and these were made available; these statistics refer only to reportable injuries, i.e. those arising directly out of work activity, so that they do not include traffic incidents, incidents in the home etc. It was possible to obtain figures from the HSE relating to the categories,

- Scooter
- Other vehicles for carrying people
- Wheelchair / patient trolley

However, it is not clear from these data as to the precise cause of the incidents that they describe, and there is certainly no way in which, say, wheelchairs can be separated from patient trolleys (and certainly no way of obtaining information on powered wheelchairs).

A number of other searches were carried out, including searches of press cuttings, Court proceedings and searches of the internet. The aim of this exercise was to identify the frequency and nature of incidents reported, the severity of the incidents, and to explore the way in which such incidents have been reported, in order to make some inferences about public opinion in relation to powered wheelchairs and scooters. Two lines of investigation were therefore undertaken, one seeking objective information relating to the number of incidents involving such vehicles, and the other seeking more subjective references to incidents.

[3] The 18 hospitals in the sample are located in Stockton, Luton/Dunstable, Skegness, Birmingham (Selly Oak), Merthyr Tydfil, reading, Carshalton, Macclesfield, Nuneaton, Blackburn, Newry, Airdrie, London (Denmark Hill), Hereford, Keighley, Barnstaple, Norwich and Worthing.

Local newspapers were searched using primary keywords (i.e. “Wheelchair”, “Scooter”), while searches of larger national newspapers that yielded a larger number of articles were refined using a combination of primary, secondary and tertiary keywords (see Table 2.1).

Table 2.1: Search keywords

'Primary keyword'	'Secondary keyword'	'Tertiary keyword'
Wheelchair	Powered	Accident
Scooter	Electric	Incident
	Motorised	

A list of the newspapers consulted appears in Appendix A.

Once all these newspaper sites had been searched, saved articles were catalogued by four categories: Accidents, Robberies / Attacks, Thefts / Vandalism and “Others”.

All Local Authority Road Safety Units, and some Police Constabularies and Trading Standards units were asked for statistics. The response to this request was patchy – this was not unexpected, since Stats19 forms, which are the standard medium for Police records were known to lack the necessary detail for the purposes of this project, and it was thought unlikely that many Local Authorities would record details at the point of entry in such a way as to enable their database to be interrogated in the manner required. It was common for statistics not to be categorised in a manner that was useful for the current research.

Data were obtained from a small number of insurance companies. A handful of insurance brokers offer cover for motorised wheelchair and scooter users, and these companies enjoy something of a niche position in the market. Whilst all of these companies were contacted for information, responses proved to be fairly coy, as the data were perceived to be very commercially sensitive.

Modern shopping centres and precincts provide shoppers with a wide range of facilities, in a temperature-controlled environment, under one roof. Their added advantage of providing level access throughout makes them very attractive to disabled people, particularly powered wheelchair users. For this reason, it was hypothesised that the major shopping centres in the UK might keep records regarding incidents involving pedestrians, and data were requested from seven such centres.

Enquiries to major Shopping Centres and other Town Centre Managers often resulted in respondents referring to incidents involving powered wheelchairs loaned out via the local Shopmobility scheme. Whilst the balance of informed opinion received during the course of the research suggested that any incidents that did occur involved people using their own wheelchair, rather than equipment loaned by Shopmobility, it was still considered that Shopmobility might represent a valuable source of information. Whilst it was not possible to have a meaningful dialogue with the National Federation of Shopmobility UK, insurance claims details were received from the scheme's insurance company, which insures 170 of the 260 Shopmobility schemes operating. Data have been received on claims details since 1996. some figures were also received from individual Shopmobility schemes.

A logical extension of seeking information from shopping centres was to approach the larger supermarket chains, to establish whether they had experienced any problems with powered wheelchairs or scooters in their shops, or had any data from Health & Safety records etc.. The approach was made to members of the "Baywatch" scheme, a partnership comprising four of the UK's largest supermarket chains that addresses the problems caused by non-disabled people parking in spaces reserved for Blue Badge holders.

Public transport environments, such as railway stations, bus stations and airports were also considered to have potential for conflict between powered wheelchair users and other members of the public, on the grounds that they tend to be places which have a throughput of a large number of pedestrians, and generally provide level access for powered wheelchair users. Requests for information on such incidents was, however, largely unsuccessful.

Network Rail has been responsible for recording Health & Safety incidents that occur at 14 major railway stations since 1993. These stations include Liverpool Street, Victoria, Waterloo, Euston, Manchester Piccadilly, and Glasgow Central, and they have a present combined total of over 650 million visitors per year. Network Rail reported that there have been no reported incidents involving powered wheelchairs or scooters in this time. Similarly, contact with the Civil Aviation Authority established that it had no records of incidents involving powered wheelchairs.

Similarly, enquiries to bus stations revealed that no incidents with powered wheelchair or scooter users had been recorded; the gist of

many responses was that, because many buses are unsuitable for powered wheelchair and scooter users, these vehicles are rarely seen in bus station environments.

In order to elicit information on the number of incidents involving wheelchairs and scooters outside of the UK, the letter / questionnaire that was circulated to members of the ECMT's Group on Access and Inclusion also asked respondents whether they were aware that any such data might be kept.

2.2. Methods used during Stage 2

Stage 2 of the work represented the consultation phase, during which users of powered wheelchairs and scooters, and other pedestrians and road users, were invited to express their views on the issues addressed by the project. Key stakeholders and other interested parties were also invited to comment on the same range of issues.

2.2.1. Focus groups with users and non-users of powered wheelchairs and scooters

Qualitative data on the attitudes and perceptions of both users and non-users of powered wheelchairs and scooters were collected by means of five focus group discussions. In compiling these groups, the objective was to provide a mix of men and women, and of people of different ages, and of users of Class 2 and Class 3 powered wheelchairs, and scooters.

Once the location for study – the West Midlands - had been selected, recruitment took place with the assistance of a professional recruitment firm that had contact with disability action networks, organisations for the older people, local support organisations etc. The five focus groups were characterised as follows,

- Users of Class 2 powered scooters
- Users of Class 3 powered scooters
- Mixed group of users of Class 2 and Class 3 powered wheelchairs
- Non-disabled non-user group: Pedestrians, shoppers, cyclists and other road users
- Disabled non-user group: Blind / partially sighted people, and deaf / hard of hearing people

Table 2.2 shows the structure of the focus groups in more detail.

Table 2.2. Structure of focus groups

Group	Group profile	**Date and location**
1	**Non-users of powered scooters and wheelchairs: pedestrians, shoppers, cyclists, and other road users.** - 9 participants - Mixed gender - Age range: 18-25 (1), 26-35 (3), 36-50 (3), 51-65 (2)	8/12/2004 Lichfield
2	**Users of Class 2 powered scooters** - 6 participants - 5 male, 1 female - Age range: 35-50 (1), 51-65 (3), over 65 (2)	9/12/2004 Lichfield
3	**Users of Class 3 powered wheelchairs** - 5 participants - 4 male, 1 female - Age Range: 36-50 (1), 51-65 (3), over 65 (1)	9/12/2004 Lichfield
4	**Users of Class 2 and Class 3 Powered Wheelchairs** - 5 participants - 3 male, 2 female - Age Range: 35-50 (3), 51-65 (2)	8/12/2004 Lichfield
5	**Non-users of powered scooters and wheelchairs: Blind/partially sighted, deaf/hard of hearing** - 10 participants - 5 male, 5 female - Age range: 18-25 (2), 26-35 (2), 36-50 (4), 51-65 (2)	11/11/2004 Birmingham

A topic guide, along with showcards to illustrate different types of powered wheelchair and scooter, was used to guide the flow of each group discussion, and to ensure that the moderator covered all the targeted issues and themes of the research within the allocated interview time. The topic guides used for all focus groups are contained in Appendix A of the Stage 2 Final Report.

2.2.2. Consultation with stakeholders

A consultation document was produced, highlighting areas for discussion; this document appears in full as Appendix B of the Stage 2 Final Report. The document addressed three main areas: Requirements of the User and Enforcement, Technical Standards and Insurance. A list of stakeholders was developed in conjunction with the Client; each of these was contacted by telephone in order to establish named contacts at each organisation and the preferred method for receipt of the consultation document. After final approval, the document was distributed along with a covering letter. Following this initial distribution, a number of additional groups and individuals were added to the list, and others requested a copy of the consultation document. Additional copies were delivered to these stakeholders on receipt of a request. In total, 128 separate companies, organisations and individuals were contacted, although the true number of recipients was slightly higher due to a number of people receiving the document from some of the listed stakeholders.

“Reminder” emails and letters were sent to all potential consultees shortly before the stated deadline for responses, but a sub-group of 17 “key stakeholders” was identified, in collaboration with the Client, and these were contacted by telephone on a number of occasions from one week before the deadline until one week after the deadline, in an effort to receive a response. Full lists of stakeholders, including an indication of which ones responded, are shown in Appendix C of the Stage 2 Final Report.

2.2.3. Regulatory Impact Assessment (RIA)

A Regulatory Impact Assessment was carried out after the conclusion of the consultation process, once recommendations had been made and discussed with the Client. The RIA, which focused on the impact of changes that it was considerd were most likely to be made as a result of the research, included a risk assessment, an appraisal of the costs and benefits of proposed changes, and consideration of equity and fairness, potential impacts on small firms, enforcement, monitoring and consultation.

3. Results

3.1. Review of legislation in the UK

The results of the review of legislation that affects powered wheelchairs and scooters in the UK, and also elsewhere, is reported in the Stage 1 Final Report, and will not be repeated here; what follows is a summary of the key findings of the review.

A key aspect of legislation is that which defines the difference between Class 2 vehicles and Class 3 vehicles. Class 2 vehicles are divided into sub-sections:

Indoor use only; these,
- have a small turning circle;
- could be used on a level patio area or in a small, level garden;
- have a short distance range.

Indoor and outdoor use; these,
- are for indoor use;
- can be for outdoor use over standard terrain;
- can be for use over low kerbs;
- have a short to medium distance range.

Outdoor use only; these,
- are intended for limited indoor use;
- can be for outdoor use, including uneven ground;
- can be used for kerb climbing, up to 10cm;
- have a medium to long distance range.

Class 2 vehicles, which are sometimes referred to as “pavement vehicles”, are designed for use on the footway - “footway” is defined in the Highways Act 1959 as: “a portion of a carriageway that is set aside for use only by pedestrians”.

A Class 3 “invalid carriage” is constructed or adapted so that it is capable of exceeding 4mph but not exceed 8mph; Class 3 vehicles are not permitted to exceed 4 mph on footways. Class 3 vehicles tend to be larger than Class 2 vehicles. Drivers of any class of “invalid carriage” must be disabled – i.e. “being a person suffering from some physical defect or physical disability” - and aged 14 or over, but do not have to hold a current driving licence. Class 3 vehicles have two speed settings: slow (4mph) for pavement use, and fast (8mph) for road use, usually changed by the flick of a switch. They are not allowed on motorways,

cycle lanes or bus lanes, but are required by law to have lights, indicators, a horn, a rear-view mirror and rear reflectors.

In spite of being mechanically propelled, powered wheelchairs and scooters are not regarded as being “motor vehicles” for the purposes of Road Traffic legislation. Both types of vehicle should comply with the requirements specified in the Road Vehicles Lighting Regulation 1984, as if a motor vehicle within the meaning of the Road Traffic Act 1972. However, an “invalid carriage” having a maximum speed not exceeding 4mph is required by these regulations to be fitted with lamps and reflectors only when it is used on the carriageway of a road between sunset and sunrise, otherwise than for the sole purpose of crossing it. Furthermore, a four-wheeled Class 3 vehicle, or any other vehicle having a maximum speed not exceeding 25 mph, when being driven on a dual-carriageway road, must have at least one amber flashing beacon, unless the vehicle is on the road for the sole purpose of crossing it. The Road Vehicle Lighting Regulations 1989 introduced the requirement for an invalid carriage which can exceed 4 mph to be fitted with direction indicators and a hazard warning signal device.

The vehicles featured in this study should be registered, and display a tax exemption certificate, but in practice this is rarely done. Users are exempt, when using a powered wheelchair or scooter on the road, from many of the obligations of other road users – this includes achieving minimum standards of “fitness to drive”, and the use of mobile ‘phones when driving. The Chronically Sick and Disabled Persons Act 1970 restricts both Class 2 and Class 3 vehicles to single occupancy, but there are no regulations that govern the use of powered wheelchairs and scooters off the highway.

The manufacturers of wheelchairs must adhere to the Essential Requirements of the Medical Devices Regulations 2002. Most manufacturers test their products in line with the British Standard BS EN 12184 “Electrically powered wheelchairs, scooters and their chargers: requirements and test methods” 1999. There are also regulations in place that refer to both the design of, and material used for, any windscreen on vehicles, and minimum braking efficiency and gradient climbing requirements. There are ISO Standards for overall dimensions and mass of vehicles, their turning requirements and various electrical requirements, although these standards have no legal force in UK law.

Medical Devices Regulations also have an important role to play; these regulations are based on a European Directive, the Medical Devices

Directive 93/42/EEC, which came into force in June 1998. This is designed to create a single market in medical devices by harmonising the essential safety requirements for these products. The Medical Device Regulations 2002 (SI 2002 No.619) bring the requirements of this Directive into force in the UK. The regulations have replaced the UK's voluntary manufacturer registration scheme and product approvals for ophthalmic appliances, instruments and equipment. The "CE mark" is the symbol used by manufacturers to show that a medical device meets the Essential Requirements of the Regulations and that it is fit for its intended purpose.

The Medicines and Healthcare products Regulatory Agency (MHRA) is designated as the Competent Authority in the UK for ensuring that the Directives are followed by manufacturers, assessing clinical trial notifications from manufacturers and maintaining a register of manufacturers of certain types of device. The MHRA has the power to take action against manufacturers through the Courts. The MHRA presides over a vigilance and notification system, and monitors the extent to which devices, including powered wheelchairs and powered scooters, continue to be appropriate and safe for use.

3.2. Review of legislation elsewhere in Europe

At a European Union level, powered wheelchairs and scooters are considered by the European Commission to be a Class 1 medical device, and so come under the auspices of the Medical Devices Directorate, which has its own Committee of Experts on the subject. Each European Union Member State has implemented the Medical Devices Directive, and has a designated Competent Authority to oversee compliance and enforcement.

There is variation in regulations and legislation between different countries. In Norway, for example, the Ministry of Transport has defined powered mobility aids in terms of dimensions and requirements for lighting when they are used outdoors. France has regulations on construction, lighting, weight, dimensions and turning space, whilst in Denmark and Sweden powered wheelchairs and scooters have to comply with the technical requirements for bicycles with regard to construction and equipment. In Switzerland, powered wheelchairs and scooters are included in the definition "Motorfahrräder" (a special kind of scooter). In Germany, there are detailed requirements in the STVZO (Straßenverkehrs-Zulassungs-Ordnung) regarding regulations for vehicles for disabled people.

Conversely, in Italy, there are no relevant obligations, beyond the need for a CE Mark to indicate that the product is made in Europe and follows the national legislation of the country in which it was manufactured.

Regulations on maximum speeds also differ from country to country. Powered wheelchairs and scooters are categorised in Denmark as "motor vehicles", and the maximum design speed cannot exceed 15 kph, or 9.315 mph, which is rather higher than the maximum speeds that apply in some other European countries. Neither the Netherlands nor Ireland has any classification by reference to speed.

In terms of usage, in Sweden a powered wheelchair or scooter can be driven everywhere that a pedestrian can walk, provided that it is limited to walking speed (4 to 5 kph, or 2.484 to 3.105 mph). If it is driven faster than this it has to abide by the regulations governing bicycle use, which include a maximum speed of 15 kph (9.315 mph) in areas shared by pedestrians. The use of powered wheelchairs and scooters in Denmark follows that for bicycles; however, they can be used on pavements "if the speed is adapted to the surroundings". French regulations also limit use on pavements to (approximate) walking speed; similar requirements are understood to apply in Norway.

In the Netherlands, powered wheelchairs and scooters can use the pavement, cycle paths or the road as appropriate. The only direct regulation is that the minimum age of the user must be 16.

In general, powered wheelchair and scooter users are expected to, or are required to, have insurance. In the Netherlands the minimum requirement is for third party liability cover: a yellow insurance plate must be attached to the back of the vehicle, which makes it easy to check. In Norway, new wheelchairs have a two-year guarantee, and, as the government is the buyer, they have a "self-insuring system". In France, insurance is required for higher speed vehicles (6 km/h and over), but not for lower speed vehicles, while in Sweden users are strongly recommended to have insurance for fire, theft, rescue and legal protection. In Ireland, as powered wheelchairs and scooters are regarded as mechanically propelled vehicles, their use in public places is required to be covered by third party insurance with unlimited liability cover.

The general position on training for users appears to be that there are no mandatory training programmes, but most countries have some

voluntary training schemes. In Sweden, the technical aid centres that prescribe wheelchairs are responsible for training, while in Norway occupational therapists (at the municipal level) have this responsibility. There are some training programmes in France, based at hospitals and medical centres, and in the Netherlands voluntary training is sometimes offered by the municipality that supplies the wheelchair.

None of the countries included in the survey levy road tax on powered wheelchairs or scooters.

3.3. Estimating the number of powered wheelchairs and scooters in use in the UK

3.3.1. National statistics

The availability of 2001 Census data made it possible for estimates to be based on fairly up-to-date demographic figures, which quote the UK population in 2001 to have been approximately 58.8 million – 49.1 million of these resided in England (83.6% of all UK residents), 5.1 million in Scotland (8.6%), 2.9 million in Wales (4.9%) and 1.7 million in Northern Ireland (2.9%)[4]. There were 11.9 million UK residents aged under 16[5], so the adult population can be estimated as being some 46.9 million.

A survey of disability in Great Britain, carried out by the Office of Population Censuses and Surveys (now the Office of National Statistics) in 1989, stated that 13.5% of the adult population of the UK had a disability of some kind, and that, of these, 69% had a "locomotion problem" – these percentages can be converted to the absolute figures of 6,331,500 and 4,368,700, respectively. The same source also estimated that 7% of disabled adults, and 10% of adults with a "locomotion problem", used a wheelchair, and that 10% of these wheelchairs were powered[6]. On the assumption that these percentages would not be very different today, the following numbers can be

[4] Population Summary (Series VS No.28, PPI No.24) (Office of National Statistics, 2001).
[5] Whilst, as has already been pointed out, a disabled person is permitted to use a Class 3 wheelchair from the age of 14, it is assumed, for the purposes of calculation, that people using powered wheelchairs independently in public places will be adults aged 16 and over.
[6] Disabled adults: services, transport and employment. (OPCS surveys of disability in Great Britain, Report 4, HMSO, 1989).

estimated for 2004,

Number of adult wheelchair users	454,271
Number of wheelchair using adults with "locomotion problems"	447,781
Number of adult powered wheelchair / scooter users	44,778

These figures have been converted to 2004 figures on the premise that the UK population increased by approximately 2.92% between 1991 and 2001, which is an equivalent annual increase of 1.0029%; it has been assumed that the population will have risen at the same annual rate since 2001. Given that it is likely that the percentages of disabled people and wheelchair users will have increased since 1989, and assuming the perception that the use of powered wheelchairs and scooters increased substantially in the past few years, the above estimate of usage in the UK might be expected to be a fairly conservative estimate.

An Audit Commission report from 2000[7] provided an alternative source of data; this report states that there were at least 640,000 "long-term" wheelchair users in the UK, about 70% of whom were over the age of 60. This estimate was based on data from the Royal College of Physicians, and probably did not include scooters / invalid carriages. The most recent Audit Commission figures report an estimate of 1.2 million users of NHS wheelchairs[8].

The General Household Survey (2002) quotes no figures relating to wheelchair use. Data on disability are confined to the incidence of hearing difficulties and the use of hearing aids. There is some mention of the use of various types of wheelchair in the most recent National Travel Survey (NTS), but this exercise was carried out on too small a sample for it to be useful for making estimates on a national scale.

A report commissioned by the Department for Transport in 2001[9] estimated that there were approximately 25,000 electric powered indoor / outdoor 'chairs in use (known as EPIOCs), with sales of some 4,000 each year. When national figures for this type of wheelchair, for England only, are factored up as UK estimates, using the 2001 Census data quoted above, the numbers issued in 19997-1998 to 2000-2001 become, respectively, 5,340, 4,824, 4,053 and 3,922.

[7] Fully Equipped: The provision of equipment to older or disabled people by the NHS and social services in England and Wales. (Audit Commission, March 2000).
[8] Audit Commission Annual Report (2002).
[9] PR Oxley Review of Departmental Responsibilities for the Provision of Outdoor Mobility Services (for the Mobility & Inclusion Unit, Department for Transport, July 2001).

3.3.2. Industry figures

Estimates were obtained from the NHS's Purchasing and Supply Agency (PASA). Based on the equipment profiles of 15 NHS wheelchair services, it has been estimated that electrically powered wheelchairs / scooters are issued to 4.4% of what PASA describes as the "client population"; with a population of some 900,000 people, this equates to approximately 39,600 electric wheelchairs in use. All of these wheelchairs are categorised as Class 2 vehicles.

An estimate made by the Medical Devices Agency (MDA), in 2000, was 1,150,000, which includes all funded wheelchairs (i.e. manual and electric, for both indoor and outdoor use).

Personal communication with Motability has produced an estimate of 70,000 to 100,000 powered mobility vehicles, of which it is estimated that the ratio of powered scooters to powered wheelchairs is approximately 80:20.

The above figures can be contrasted with estimates received from manufacturers and distributors. The British Healthcare Trades Association (BHTA), to which member companies, both manufacturers and distributors of wheelchairs, submit monthly returns, was an important source. The BHTA provided an annual sales figure of £60 million for mobility products manufacturers for the year 2002, and this figure can be taken as being a good approximation of sales by UK-based manufacturers.

The above figures from the BHTA exclude vehicles that were manufactured in the UK and exported. A wider perspective can be gained by looking at "PRODCOM" figures published by the Office of National Statistics, which provide information both on "UK Manufacturer sales" (i.e. sales of products manufactured in the UK and sold either in the UK or elsewhere), and on import and export data supplied by Customs & Excise[10]. In terms of total value, Total UK Manufacturer Sales of Individual Products in the "Invalid Carriages Industry", which

[10] www.statistics.gov.uk (Report PRA354335430).

covers both manual and powered wheelchairs / scooters, are quoted as follows,

- 1999 £122.7 million
- 2000 £116.1 million
- 2001 £119.5 million
- 2002 £111.1 million

One aspect of the data gathered that has displayed some consistency is the percentage share of the market accounted for by powered scooters, as opposed to powered wheelchairs. Whilst the BHTA returns suggest a 80:20 split (with an 87:13 ratio of Class 2 vehicles to Class 3 vehicles), Motability estimates that approximately 75% of the 2,500 powered wheelchairs supplied by the organisation in 2001 were scooters. A similar ratio of sales was found during the survey of individual manufacturers and distributors; whilst few companies contacted were prepared to disclose annual sales figures, because of the commercial sensitivity of this information, there was an 80:20 ratio of Class 2 to Class 3 wheelchairs reported by the 18% of distributors contacted who responded with data, and a 77:23 ratio reported by the 30% of manufacturers who provided information. Some distributors merely reported the ratio of powered scooter sales to powered wheelchair sales, and overall this was one of 77:23.

Given that the balance of evidence seems to suggest that Class 2 scooters represent the fastest-growing sector of the powered vehicle market, it is likely that the ratios quoted above will continue to increase in the future.

There was a hypothesis at the beginning of the project that a substantial and increasing number of powered wheelchairs and scooters might be purchased direct over the internet, and that these might also escape official figures. In reality, however, it was found that, although a number of websites exist relating to powered wheelchair and scooters, online sales facilities are rare; most websites encourage potential buyers to come into the associated retail outlet to discuss their requirements and try out the various ‘chairs. It is more likely that the largest source of “informal” procuring of powered wheelchairs and scooters is through private sales, either using “small ads” in local newspapers or by purely private sales. Of course, it is anticipated that many powered vehicles are transferred with no payment being involved, either within the family of a deceased wheelchair or scooter user, or within the local community. It is extremely difficult to obtain figures on such a second-hand market, but

the number of such transactions is likely to be substantial. Furthermore, it is unknown how many unwanted powered wheelchairs and scooters are likely to be stored in garden sheds etc, and there is also evidence of multiple ownership, as people have different wheelchairs for different purposes.

A number of different sources were consulted for this part of the research, resulting in a wide range of estimates of the number of powered wheelchairs and scooters in the UK being found. The most difficult estimate to make, as discussed above, is that of the actual number of wheelchairs of various types in circulation. Nevertheless, there is sufficient evidence from these figures to suggest that the general perception, and balance of anecdotal evidence, of a recent "boom" in the supply of motorised mobility aids is not unfounded. Given a recent decline in total UK manufacturer sale, it would appear that it is imports, particularly from non-EU countries, that are leading the increase in the number of powered wheelchairs and scooters in use in the UK.

Aside from the debate about numbers of units manufactured, the most important issue to the current research is the number of users of electrically powered vehicles, particularly regular users, as opposed to those who might own a powered wheelchair or scooter but make very infrequent use of it. The initial calculation of 44,778 powered wheelchair and scooter users, made on the basis of fairly crude OPCS data on the percentage of disabled people and wheelchair users in the population, will be used for calculations when estimating incident rates – this is because it refers to a generic population, and not to a particular type or class of wheelchair. Also, an estimate of 45,000 to 50,000 powered vehicle users rather ties in with PASA's estimate of 39,600 Class 2 NHS-supplied units. If anything, this is expected to be a rather conservative estimate, so that the upper end of Motability's estimate of 70,000 to 100,000 – say 90,000 - might be nearer the true figure. What is very clear is that the number of powered wheelchairs and scooters in use in the UK is expected to increase substantially in the near future. This is partly due to continuing trends of an ageing population and the increasing centralisation of retail facilities in fewer, bigger – but accessible – outlets.

There is a consensus, from figures provided, that sales of scooters currently outstrip sales of powered wheelchairs on a ratio of 80:20. The market for scooters in the UK is estimated to be 25,000 per year.

3.4. The use of powered wheelchairs and scooters in the UK

The postal questionnaire distributed during Stage 1 of the project yielded a return of 494 completed questionnaires, representing a response rate of 13.4%. As many as 46% of the sample said that they used to drive, but no longer do so; this is a high percentage, given that the sample represented a full range of ages, from 5 to 97, with exactly half of the sample aged 65 or younger. There were 52% of respondents who were male.

The first question to be asked in the questionnaire referred to the type of wheelchair owned by the respondent, and details of the vehicle's top speed. Results showed that there was an even balance between Class 2 and Class 3 wheelchairs used, and that 17.6% of respondents did not know the top speed of their wheelchair. The latter statistic argued for a need for better information and/or training for users. Whilst there were some six-wheeled vehicles owned (these are for off-road purposes), 80% of respondents had a four-wheeled wheelchair or scooter.

There were 88% of respondents who had acquired their current wheelchair new; 21% of the sample had acquired it within the past six months, whilst only 8% had done so more than five years previously.

Only just over half of respondents underwent a full assessment for the suitability of their wheelchair when purchasing it, with 7% having no training or advice at all. However, the probability of having received such a service increases as the time since acquisition of the wheelchair is reduced, suggesting an improvement in industry standards over time, although there also appears to have been an increasing tendency for advice, at the expense of full assessments, over the past year.

When asked whether respondents thought their wheelchair were too fast, too slow, or "just about right", about three-quarters of the sample were happy with their wheelchair's speed, whilst most of the remainder thought their wheelchair to be too slow; there was just a small minority that indicated that they considered their vehicle to be "too fast". This suggests that, if there were a perception among members of the general public that powered wheelchairs and scooters are dangerously fast, then this view is shared by very few owners of such vehicles. As might have been expected, the propensity to think that the wheelchair is too fast generally increases with age, although there were still only 6.1% of respondents aged 80 or older who felt this way. Female respondents were more likely to think their wheelchair were too fast than males.

The survey showed that powered wheelchairs and scooters are used in all types of environment; in fact, as many as 27% of respondents claimed that they use their wheelchair "off-road, where there are no pavements". The most commonly cited types of daily usage were travelling on pavements and crossing the road (both mentioned by just under half of the sample), whilst 52% of respondents said they never used their wheelchair in the home. Responses also showed that Class 3 vehicles are used on the road on a daily basis by 39.9% of the sample, and "most weeks" by 66.5%. Crossing the road, which potentially makes wheelchair users vulnerable to personal injury, appears to be another common use for powered wheelchairs and scooters; 90.7% of Class 3 vehicle owners use it for crossing the road at least on a weekly basis, whilst the equivalent figure for Class 2 wheelchairs is 79.8%. Generally, Class 3 vehicles are more commonly used on a daily basis than Class 2 types, in all of the environments, except, somewhat surprisingly, in the home.

3.5. Estimating the number of incidents involving powered wheelchairs and powered scooters in the UK

3.5.1. Evidence from national sources

The Medicines and Healthcare products Regulatory Agency (MHRA) publishes incident figures on its web-site in the form of Device Bulletins, and these are available for the year 1995 onwards. Powered wheelchairs are dealt with under the heading of "Wheeled Mobility and accessories, including powered and non-powered wheelchairs & accessories, supportive seating & cushions, and wheeled mobility aids". There were 8,730 incidents reported in 2002, of which 1,400 involved powered wheelchairs / scooters; the number of reported incidents declined substantially in 2003 to 1,300, a reduction that our correspondent at the MHRA was unable to explain. Whilst the perception at the Agency was that incidents involving such vehicles are relatively rare, it was also emphasised that they are almost certainly substantially under-reported. Table 3.1 shows the casualty and injury statistics that have been obtained from this source.

Table 3.1. Statistics on fatalities and injuries obtained from the Medical Devices Agency, 1999 to 2003[11].

	1999	2000	2001	2002	2003
Total AIRs all wheelchair types	1154	1301	1317	1388	1287
Total powered wheelchairs AIRs	398	480	495	500	406
Total wheelchair fatalities	7	4	11	12	2
Total fatalities (powered wheelchairs)	3	1	5	9	0
3rd party involvement fatality (powered wheelchairs)	1	0	4	2	0
Total wheelchair injuries (serious)	8	18	13	8	9
Total injuries powered wheelchair (serious)	5	13	5	2	3
Third party involvement powered wheelchair (serious injury)	2	3	1	0	2
Total wheelchair injuries (minor)	66	113	186	203	157
Total injuries powered wheelchairs (minor)	34	44	73	96	65
Third party involvement minor injury to user or 3rd party powered wheelchair	2	3	6	6	6

Of the 392 fatalities to members of the public reported in Health & Safety Executive figures for 2002 - 2003, 256 of these were due to suicides or trespassing on the railway; of the 136 remaining incidents, 45 were related to the National Health Service. Only six reported incidents were described as “Hit by a moving vehicle”, suggesting that few of the reported incidents, if any, can be attributed to the use of powered wheelchairs or scooters. It should be borne in mind, however, that these statistics refer only to reportable injuries (i.e. those arising directly from work activity), and therefore exclude traffic incidents, incidents in the home etc..

Information was obtained from the HASS (Home Accident Surveillance System) and LASS (Leisure Accident Surveillance System) databases. This source showed that, in total, there were 324,151 recorded “home and leisure incidents” that caused people to seek hospital treatment in 1999; this relates to what is estimated to be a total of some 5.9 million such incidents – 2.8 million in the home and 3.1 million categorised as

11 AIRs = Adverse Incident Reports. Powered wheelchairs = single seat occupant or attendant control battery powered wheelchairs and scooters with 3 or more wheels.

leisure incidents - per year[12]. Both HASS and LASS focus on consumer products that are involved in incidents causing injury, and include details of the incident itself, the circumstances surrounding the incident and any injuries that were caused.

Tables 3.2. and 3.3. show home- and leisure-related incident figures, along with the DTi's associated national estimates, for the years 2000 and 2002, respectively. In both tables, the figures are the result of a disaggregation of the general consumer product category "Mobility aid or baby transport" – in 2000 the total number of incidents recorded for this larger category was 1,646 (national estimate: 29,200), whilst in 2002 the figure was lower, at 1,070 (national estimate: 21,935).

Table 3.2. Home accidents and leisure accidents involving different mobility aids in 2000 (HASS and LASS)

Type of wheelchair	Home accidents recorded	HASS National estimate	Leisure accidents recorded	LASS National estimate
Manual	48	852	57	1,011
Powered	29	514	39	692
Unspecified	217	3,850	175	3,105
3-wheel mobility veh.	1	18	2	35
4-wheel mobility veh.	1	18	3	53
Unspecified mobility veh.	4	71	8	142

Whilst it is perhaps surprising that there were, generally, few incidents recorded involving what are described as "Mobility vehicles for disabled", the one notable difference between the two fairly similar sets of figures is the increase in the number of leisure incidents involving three-wheeled mobility vehicles, from 2000 to 2002. Whilst there were only two such incidents recorded in 2000, this figure had increased to 21 in only two years, with a consequent rise in the calculated national estimate from 35 to 431.

[12] The figures have been factored up as national estimates by the Dti using an undisclosed formula.

Table 3.3. Home accidents and leisure accidents involving different mobility aids in 2002 (HASS and LASS)

Type of wheelchair	Home accidents recorded	HASS National estimate	Leisure accidents recorded	LASS National estimate
Manual	55	1,128	73	1,497
Powered	26	533	44	902
Unspecified	205	4,203	182	3,731
3-wheel mobility veh.	3	62	21	431
4-wheel mobility veh.	5	103	8	164
Unspecified mobility veh.	0	0	4	82

In the context of the current project, where interest is focused mainly on incidents taking place in public places, as opposed to in the home, the LASS figures are of more relevance than those of HASS. These data refer to incidents that were thought to be serious enough for the injured party to seek hospital treatment in an A&E department of a hospital. What are not known, however, are details of the precise location or general environment of each incident, the actual severity of injuries caused, or details of culpability for the incident; importantly, there is no indication of whether a third party were involved in any of these recorded incidents, either as the culprit or the “victim”.

3.5.2. Evidence from Police statistics

Data supplied by Police forces are summarised in Table 3.4.

Table 3.4. Summary of incident data supplied by Police forces.

County	Total Population (millions)	Time period (months)	Number of injuries			Injuries per year		
			Fatal	Serious	Slight	Fatal	Serious	Slight
Lancs.	1.135	48		3	14		0.75	3.5
Surrey	0.375	41			4			1.17
W.Yorks	2.09	117		7	18		0.71	1.85
Wiltshir	0.433	36			3			1.0

e								
Notts.	1.016	37	1	3	23	0.32	0.97	7.46

Whilst there is a limit to how many firm conclusions can be drawn from such a small sample of counties, it does appear from Table 3.4. that the counties with the larger populations tend to have the highest frequency of incidents involving powered wheelchair / scooter users. These three counties, Lancashire, West Yorkshire and Nottinghamshire, are also those which reported serious injuries to users, and there is a certain consistency among them in the rate of serious injuries per year.

These data can further be put into perspective by considering the populations of the counties featured in this table, or, more precisely, using the figures outlined in Section 3 to make a crude estimate of the number of powered wheelchair / scooter users there might be in each county. Let us assume that 80% of each county's population are adults, of which 13.5% are disabled, of which 7% use a wheelchair, of which 10% are powered; therefore, estimates of the number of powered wheelchair / scooter users in each county can be estimated as follows,

Lancashire	858
Surrey	283
West Yorkshire	1,580
Wiltshire	327
Nottinghamshire	768

Hence, it can be estimated that, in Lancashire, one in every 202 powered wheelchair / scooter users will be involved in a reported incident involving an injury of some kind each year; similarly, one in every 1,144 powered wheelchair / scooter users in Lancashire will be involved in an incident causing a serious injury each year. This logic was used to produce the figures shown in Table 3.5.

Table 3.5. Comparison of the ratio of powered wheelchair / scooter users who are likely to be involved in incidents causing injury, in selected counties.

County	Any injury	Serious injury[13]
Lancashire	1 in 202	1 in 1,144
Surrey	1 in 242	-
West Yorkshire	1 in 617	1 in 2,225

[13] For the purposes of this calculation, the one instance of a reported fatality has been included as a "serious injury".

Wiltshire	1 in 327	-
Nottinghamshire	1 in 88	1 in 595

These figures are interesting, in that they present a different picture to the data in Table 5.6. – when population size is taken into account, it appears that powered wheelchair / scooter users in West Yorkshire are by far the least likely to either be involved in an incident causing injury, or have a serious injury. Powered wheelchair / scooter users in Nottinghamshire, on the other hand, are most likely to be involved in an incident causing injury; in fact, according to reported incidents, they are nearly three times more likely to be injured than powered wheelchair / scooter users in Surrey, and seven times more likely to be involved than their counterparts in West Yorkshire.

3.5.3. Data supplied by insurance companies

Because of this issue of confidentiality, the two insurance companies who have been kind enough to supply claims data will be referred to as Company A and Company B.

Company A, with approximately 30,000 powered wheelchair / scooter using clients, provided data on 3,785 claims received for the period covering 2001, 2002 and 2003 up to September. Of these, 1,155 referred to theft, vandalism, accidental damage and use of the company's service for assisting clients to return home. The remaining 2,630 claims all involved some sort of incident involving damage caused to, or by, the vehicle. Of these,

- 2,118 (81%) arose as a result of damage caused by the vehicle making contact with an object, infrastructure, another vehicle, or a person.
- 512 (19%) were a result of the vehicle being hit by another object, mainly by another vehicle but also including shopping trolleys, cyclists, milk floats, and lawn mowers.
- 381 (14%) were related to damage caused to the scooter / wheelchair when mounting / dismounting kerbs.
- 5 (0.2%) involved a fatality.
- 576 (22%) involved a third party.
- 54 (2%) involved collisions resulting in injury to a third party.
- 142 (5%) resulted in the wheelchair or scooter being tipped over.
- 55 (2%) also involved cyclists.

Given that the data supplied by Company A referred to a time period of 33 months, it can be deduced that 956 claims involving some sort of incident involving damage caused to, or by, the vehicle can be expected each year from a sub-population of 30,000 powered wheelchair / scooter users. Using the estimate derived for a total UK population of 44,778 powered wheelchair / scooter users (see Sub-section 3.3.1), the national estimate for such claims is 1,427. The same logic can be applied to predict that 313 incidents involving a third party, serious enough to lead to an insurance claim, can be expected in the UK each year; there will be 29 incidents involving injury to a third party, and 2.7 (i.e. two or three) fatalities.

Company B provided data for the project for a five-year period, during which there were 15 incidents involving an injury, only one of which was "serious" (involving a broken ankle). From an estimated client base of some 23,000 powered wheelchair and scooter users, approximately 1,250 people made a claim on their insurance policy (equating to a ratio of 1 in 20), but most of these claims were for theft and vandalism. Information on claims involving both injuries and damage to property are shown in Table 3.6.

Table 3.6. Insurance claims involving injuries and damage to property (Company B, 1999 – 2003)

	Slight injury	Serious injury	Damage to property
1999	3	-	13
2000	2	-	10
2001	2	-	12
2002	5	-	14
2003	2	1	26
Total	**14**	**1**	**75**

These data show a slight increase in the number of injuries reported over time, but the data set is far too small for meaningful conclusions to be drawn. There was also an approximate doubling in the number of claims involving damage to property from 2002 to 2003. Using the method of calculation employed to make national estimates using Company A's data, it can be predicted that there will be approximately six claims associated with an injury in the UK each year. This figure is considerably lower than the prediction of 30 injuries to a third party, derived from Company A's data.

3.5.4. Data supplied by shopping centres

Personal injury figures supplied by shopping centres are summarised in Table 3.7.

Table 3.7. Summary of incidents involving personal injury in shopping centres

Shopping Centre	User injuries	Third-party injuries	Reporting period (months)	Ratio of injuries to visitors
Meadowhall	2	7	54	1 in 15 million
Trafford	3	4	53	1 in 15.3 million
Merry Hill	-	-	12	-
Milton Keynes	-	2	23	1 in 14 million

These relate the frequency of reported injuries to the number of people who visit each centre. In spite of the small numbers being dealt with here, there appears to be a remarkable similarity in the ratios of visitors per reported injury among the three shopping centres that had injury-related incidents to report. The conclusion from these data must be that there is a very low probability of a visitor to these shopping centres being involved in an incident which causes them an injury that is serious enough to be reported – moreover, only one such incident was reported to have been serious. Taking the ratio of one injury befalling every 15 million visitors literally, in the context of a smaller shopping precinct or pedestrianised town centre which attracts, say, one million visitors per year, the probability is that there will be one injury-related incident involving a powered wheelchair or scooter user every 15 years. In reality, the probability is likely to be less than this, since smaller shopping centres, with less of a profile for accessibility and modern facilities, almost certainly attract a smaller percentage of powered wheelchair / scooter using shoppers.

By way of comparison, the LASS database (see Sub-section 3.5.1.) estimated that 58,015 people would have an incident in a shopping area, shopping centre or market in the UK in 2002. No cross-tabulated information is currently available to enable an estimate to be made of how many of these people might be users of a powered wheelchair or scooter.

3.5.5. Shopmobility data

BJK Insurance Brokers currently insures 170 of the 260 Shopmobility schemes operating in England & Wales. Data have been received on claims details since 1996; there have been 159 claims made for accidental damage (49), public liability (106), and “impact” (4). Figure 3.1 shows the incidence of these claims, from May 1996 to May 2003, whilst Figure 3.2 shows figures for claims made that were associated with personal injury.

The 170 schemes insuring with BJK loan out, between them, an average of 1,410,941 vehicles per year, which produces an estimated average of 2,157,910 loans (a unit which is analogous to a shopping centre visitor) for the whole of the Shopmobility scheme per year. This is equivalent to one insurance claim involving an injury being made per 195,995 loans, with one claim of some sort made as a result of each 62,858 loans. Again, this suggests very small probabilities.

Some data were received from individual Shopmobility schemes; these are summarised in Table 3.8.

Table 3.8. Summary of incidents reported by individual Shopmobility schemes

Shopmobility scheme	Number of incidents	Reporting period (months)	Incidents per year
Waltham Forest	3	54	0.67
Metro Centre	1	36	0.33
Plymouth	6	9	8.0
Torridge	2	72	0.33

Plymouth Shopmobility displays a much higher frequency of incidents than the other schemes in this table, but this is almost certainly due to the large number of vehicles involved in this scheme. Nevertheless, if information on the number of loans by Plymouth is taken into account, it can be calculated that one incident is reported for every 1,277 loans, which is a far higher predicted ratio than that for Shopmobility as a whole (i.e. 1 in 62,858), as calculated above. It is also a little surprising that Exeter has had no reported incidents of note, since, with an activity level

Figure 3.1. Shopmobility insurance claims, May 1996 to May 2003

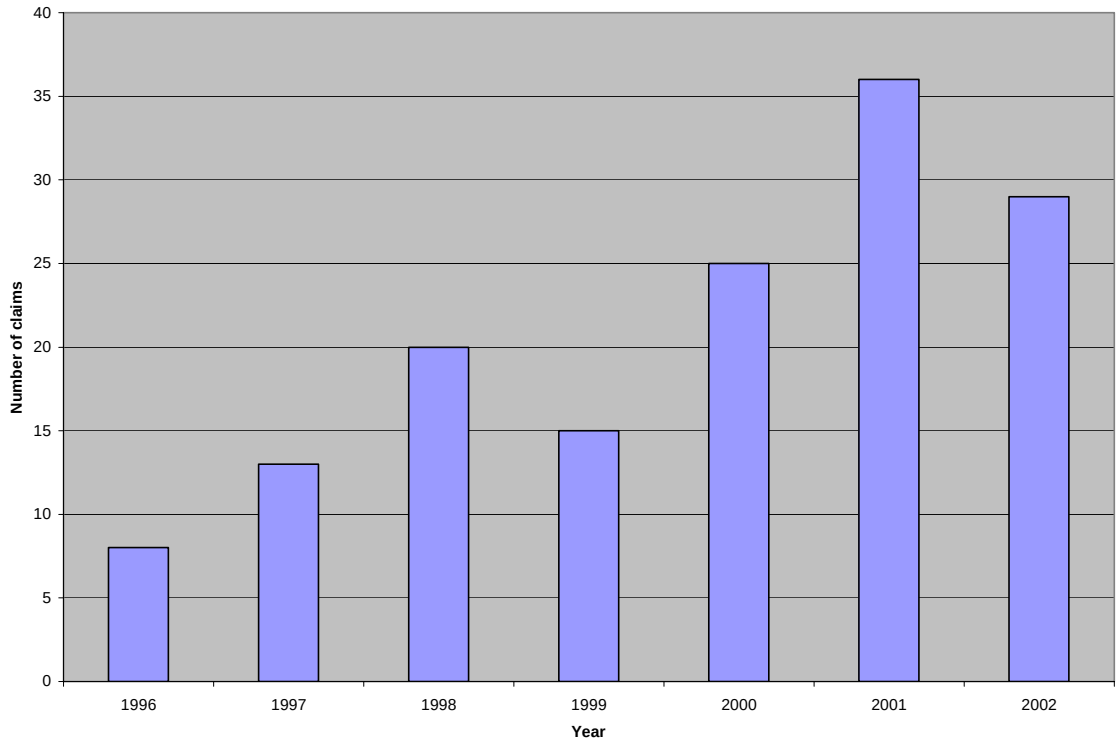
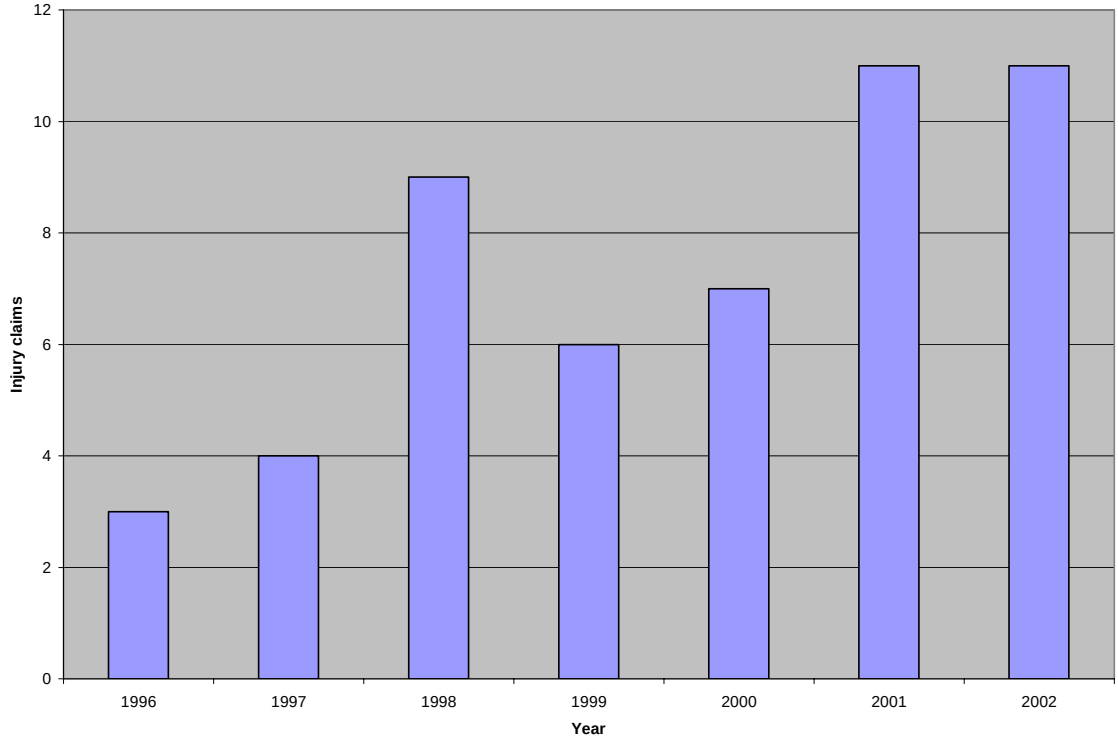


Figure 3.2. Shopmobility insurance claims involving personal injury, 1996 to 2002



of 15 loans or journeys per day, Exeter would expect to average 4.29 incidents per year, if the probability of a reported incident were the same as for the Plymouth scheme.

3.5.6. Data supplied by supermarkets

Responses were received from two supermarkets. Whilst Asda replied that they had not experienced any problems with their electric scooters, Sainsbury's reported no fewer than 25 incidents involving wheelchairs of all types since May 2002. In twenty of these, the "victim" was a customer, whilst in the other five it was a member of staff; most of these incidents were reportedly of the nature of "walk into" or "struck by" incidents.

3.5.7. Evidence from the search of press cuttings

The extensive search of local and national newspapers identified just 12 reports of incidents involving powered mobility vehicles, the majority of these occurring in 2003. Many of the collisions appear to have taken place when the electric wheelchairs have been travelling along the pavement and have come into conflict with pedestrians who have sustained minor to moderate injuries. Reported incidents on the public highway, however, were much more serious for the wheelchair user, with two of every three such incidents resulting in the death of the wheelchair user.

Incidents found can be summarised as follows,

- Fatal collision with a car on public highway
- Fatal collision with a lorry on public highway
- Collision with a car following brake failure on public highway
- Collision with motorbike on public highway in Germany
- Collision with a tram
- Collision with pedestrian while wheelchair user was using a mobile phone on the pavement
- Collision with pedestrian (pavement)
- Collision with pedestrians - mother and child (pavement)
- Collision with a tree (pavement)
- Fall while attempting to mount raised kerb (public highway)
- Collision with a window cleaner's ladder (pavement)
- Collision with a shop window (pavement)

3.6. Perceptions of the incident liability of powered wheelchair and scooter users, from the Media

Evidence gathered from a variety of press reports suggests that there is a general feeling that, not only is the number of powered wheelchair and scooter users rising ('*sales booming*'), but there has also been a rise in the number of incidents involving these types of vehicles ('*many minor accidents*', '*spate of low speed accidents*', '*many cases of people being injured'*, '*accidents on the up*'). Some articles suggest that there is a need for the Government to review the legal situation surrounding mobility vehicles, while others claim to know that there is '*mounting concern*', and that measures are already under way to review the situation. There have also been questions raised about where motorised wheelchairs and scooters fit into the transport system. Many consider them too slow for use on busy public roads, while too fast and heavy for use along pavements. Some suggest allowing these vehicles to operate along bus and cycle lanes, or even to create an entirely new grade of vehicle route.

3.7. Summary of the views of focus group participants

3.7.1. The views of users of powered wheelchairs and scooters

In spite of efforts to construct the five focus groups in such a way as to enable the distinction between the views of Class 2 vehicle and Class 3 vehicle users, and between the users of wheelchairs and scooters, an analysis of responses has shown that there were few distinctions to be made in people's opinions according to the type of vehicle they used. When asked about the necessity of introducing regulations to define what constitutes a scooter as opposed to a powered wheelchair, participants generally agreed that is a need for users to know the difference between a powered scooter and wheelchair, and also the differences between the various models in terms of which one best suits their individual requirements and circumstances.

Across the groups, it was felt that people's **fitness to use** either Class 2 or Class 3 vehicles should be evaluated and be a determining factor behind the type of vehicle purchased or hired. Users of Class 3 scooters, however, disagreed with introducing laws regarding medical conditions and fitness to drive; it was felt that this should be left to the user's own judgement and "common sense".

A majority of participants across the groups said they had not received enough **training**, if any at all, on how to operate and control a powered wheelchair or scooter, or advice on what features to look for when they purchased it. This varied by the type of organisation that provided the vehicle. The group comprising users of Class 3 powered scooters, most of whom had bought their vehicle from a second hand dealer, reported that they had received no formal training, with just a brief explanation of how to use the controls. Although most participants said they found it easy to drive the scooter, because most had had experience of car driving, some training / advice would have helped to increase their confidence and feeling of safety. Those with no previous driving experience who bought a Class 3 powered scooter did not like to go out with the vehicle unaccompanied, and avoided using the road. Based on their experience of using powered wheelchairs and scooters, all participants felt strongly that formal training and an assessment of user requirements was essential for users to have before purchasing or hiring a vehicle. This was from the point of view of ensuring that users are allocated the vehicle that best meets their individual needs, of ensuring that they get a best value product and also for their and other people's safety.

The groups agreed that users of both Class 2 and Class 3 powered wheelchairs and scooters should be at least trained in the following: how to operate and control the vehicle, what to do in an emergency (e.g. breakdown), battery recharging, and road awareness. It was suggested that Class 3 users should know the Highway Code, as they are permitted to use the road. However, there were mixed views on making people take compulsory tests. Whilst users of Class 2 powered scooters agreed that people should pass a test on "road awareness" before they use a Class 2 or Class 3 vehicle on the road, other groups did not think it was necessary, and voiced concern that restrictions would discourage a lot of people from fully utilising their vehicle.

There was a general feeling across the groups that private companies and individual dealers are not so concerned with providing best value, but in making the most profit. Most participants said they had approached different companies and dealers whilst looking to buy a powered scooter, and did not receive the advice they needed, neither were they able to test-drive different models of vehicle.

In terms of opinions on the provision of **information and advice**, access to information on different models of vehicle, cost and best value products was important to all participants. Participants who did not

purchase or hire their vehicle through charities or the public sector had to do their own research on the type of vehicle to buy. Choice was limited for some because they did not have internet access or a car in which to visit different shops and manufacturers. There was a general agreement with obliging those involved in selling vehicles to be members of a trade body such as the BHTA (British Healthcare Trades Association). Participants felt very strongly that providers should be accredited to a trade organisation and be regulated. Issues of training, and the cost of vehicles, were major issues of concern, and were a recurring theme throughout the discussions. Protection against fraudulent practice was also an area of concern.

Participants agreed that dealers and retailers should have minimum skills and qualifications to be permitted to sell powered wheelchairs / scooters. These should include aptitudes in the assessment of user needs, and a good understanding and knowledge of disability.

In terms of the **use of powered wheelchairs and scooters on the road**, some of the participants who used Class 3 powered wheelchairs were concerned about their safety on the road. They did not feel "visible" to other road users. Participants regarded their vehicle as being too small, and the lights as being too low to be noticeable to other road users. Dropped kerbs were reported to be a hazard, since they can be too steep for some powered vehicles. Uneven pavements (e.g. broken tiles/slabs, cobbled surfaces) were also cited as a hazard to all vehicle users, and often forced them (Class 2 users included) to drive on the road. Although most participants avoided using the road at all times, it was not always possible, due to parked cars on pavements or poorly maintained pavements.

For those who used Class 3 scooters, the maximum speed of 8mph was considered fast enough, so that it was considered that this maximum should not be increased, particularly as these vehicles are often used in pedestrian environments. Several of the Class 3 users reported that they sometimes forgot to adjust their speed when entering a pedestrian environment. There was some opposition to increasing this speed limit on roads, also for safety reasons.

All Class 2 vehicle users said they had to cross the road for most of their journeys. Some held the view that the maximum speed of 4mph was not fast enough to cross safely or to make them feel safe whilst crossing. There was a general agreement with the maximum speed of 4mph for use on pavements, pedestrianised areas and inside buildings.

There was also a general consensus for having certain items of **equipment** on all powered vehicles. Participants felt strongly about making lights, horns and mirrors a minimum requirement, to ensure safety. The point was also repeated, in this context, that the position of lights on vehicles should be at a higher level, enough to attract the attention of other road users. The horns on current models of vehicle were also considered to be too quiet, and failed to attract other people's attention. However, some participants were reluctant to use their lights or audible warnings as they consumed a lot of battery power.

If regulations governing the use of these vehicles on the road were to be brought in, then it was suggested by users of Class 3 powered scooters that traffic wardens and the Police should enforce these, although there was a general disagreement with fining users for transgressions. The groups also felt strongly that there should be greater emphasis on the removal of parked cars from pavements etc, to improve access for wheelchair/scooter users.

The groups were strongly against the placing of more restrictions, or outright bans, on the **use of powered wheelchairs and scooters on pavements**, as they felt that too many restrictions (i.e. physical barriers) already existed.

When asked about whether the restriction of the use of powered wheelchairs and scooters to **single vehicle occupancy** should be changed, there was some agreement, at least in principle, with extending permitted use to a parent and baby or small child, but the practicality and safety of doing so was questioned.

When asked about **alternative means of power** (e.g. petrol), the groups immediately rejected the idea on safety and cost concerns, and could not envisage any circumstance in which it would be appropriate. Few participants had experienced a battery failure, but most said they had been close to losing power on many occasions.

Across the groups there was a general agreement with the need for taking out **insurance** on Class 2 and Class 3 vehicles, for use both on the road and in pedestrianised areas, but there was equal concern at the cost of insurance. Only half of the group comprising Class 2 and 3 wheelchairs users had insurance on their vehicle for breakdowns and incidents. All participants using Class 2 and 3 scooters had insurance - mainly fully comprehensive, with some having third party insurance.

These groups agreed that this cost should be borne by the user, unless the individual does not receive disability allowance (especially those aged over 65 years). All groups pointed out that most of their incidents were caused by other people, or by car drivers “not seeing them”, or by inaccessible environments. For this reason, some participants disagreed with the user bearing the cost of insurance. The groups could see no negative impacts of any future introduction of compulsory insurance, provided the cost is regulated.

Nearly all participants, with the exception of those using Class 3 scooters, had experienced at least one breakdown. Some noted that they had been alone when this happened to them and were completely immovable, especially since they were not able to walk, and their wheelchair is too heavy to push. Their experience had not stopped them from using their vehicle, but it did reduce their confidence to travel alone. The lack of support available to users in the case of a breakdown was a major concern. One participant pointed out that the AA used to provide a reliable call-out service, but no longer provides this.

Only one focus group participant said they used their powered vehicle on **public transport** – this was a Class 3 scooter, on a low-floor bus. Other participants were keen to use their vehicle on public transport, but were uncertain about the physical access of stations, stops and vehicles. There was a general perception that public transport services would not accommodate a powered scooter or wheelchair.

3.7.2. The views of non-users of powered wheelchairs and scooters

Overall, there were several concerns aired by the two non-user groups – one being made up of disabled people, and the other of non-disabled people - about both Class 2 and Class 3 vehicles. The group comprising blind and partially sighted and deaf and hard of hearing people regarded these vehicles as being an additional hazard to them. A majority of participants appreciated the need for disabled people to use powered wheelchairs and scooters, and acknowledged their role in improving the mobility of disabled people, but felt strongly that regulations should be placed on users of powered wheelchairs and scooters in **pedestrian environments** to avoid the risk of incidents. Respondents from the group of disabled people were particularly concerned about this, and felt that more could be done to avoid incidents between pedestrians and powered wheelchair and scooter users in urban areas. Most participants agreed, however, that it would be unfair to ban the use of powered

wheelchairs and scooters anywhere as many people rely on them for maintaining their mobility levels.

One of the main concerns of both groups of non-users was that the **vehicle speeds** that powered wheelchairs and scooters were capable of were thought to be inappropriate in pedestrian environments. There was some concern that the capacity of Class 3 scooters to travel at 8mph might be dangerous, and the difficulty of monitoring and policing speed was noted. Respondents from the disabled focus group thought that, whilst 4 mph was acceptable for use on a clear pavement, it was too fast for vehicles to be travelling within shops or shopping centres, where pedestrians are not travelling as quickly. The general opinion of these respondents was that powered wheelchairs and scooters should be limited to no more than the speed of the average pedestrian, depending on the environment.

A majority of respondents from both groups disagreed with the **use of powered wheelchairs and scooters on roads**, as they regarded the maximum speed of 8mph as too slow, especially when other traffic is travelling at speeds of 30 to 50 mph. It was thought that travelling this slowly in comparison to other traffic could be potentially dangerous to users. The groups also raised concern about hazards posed by the condition of roads (e.g. potholes). Other road users from the non-disabled group felt that, for the safety of their user, powered wheelchairs and scooters should be made more visible, and suggested that using reflective strips would help to achieve this. Disabled respondents, especially people with sensory impairments, agreed with making powered wheelchairs and scooters more conspicuous, but this was to make them less of a hazard in the pedestrian environment. With regard to other road regulations, such as the use of a mobile telephone or driving whilst under the influence of alcohol, all respondents agreed that users of Class 3 vehicles should be subject to the same restrictions as motorists.

Several respondents from the disabled focus group felt that there should be an **assessment for fitness to drive**, similar to a driving test, that Class 3 wheelchair and scooter users should be obliged to pass before using such vehicles on public roads. There was similar concern from respondents in the non-disabled group, who were concerned that an individual who may not be allowed to drive a car on the road due to medical reasons would be able to take a Class 2 or 3 powered wheelchair or scooter on the road. It was suggested that users of these

vehicles should be obliged first to take sight and hearing tests to qualify to use the vehicles on the road.

Generally, respondents from both non-user groups agreed that companies supplying Class 2 and 3 powered wheelchairs and scooters should ensure that users receive adequate **training** in their use, particularly for Class 3 vehicles being used on the road. It was acknowledged that this would present a problem for individuals buying second hand vehicles privately. Respondents from the focus group made up of disabled people recognised that, whilst testing and licensing arrangements may help to improve the standard of driving of powered wheelchairs and scooters, they may also act as a barrier for people in obtaining these vehicles. Respondents thought that there should be more control over the sale of powered wheelchairs and scooters through a licensing system, or through some regulatory body, to ensure that retailers are sufficiently skilled to provide the best vehicle for an individual's requirements.

3.8. Summary of responses to stakeholder consultation

The overall response rate for the stakeholder consultation exercise was 40%, in that 51 submissions were received from the 128 stakeholders invited to comment. Of these 51 responses, 46 were direct from the stakeholder, whilst a further five were from bodies contacted by the original stakeholder to respond on their behalf. Within the main list of stakeholders, a short-list of 17 "key" respondents was drawn up. The response rate amongst key stakeholders, by direct and indirect means, was 76%; ten key stakeholders responded directly, and a further three responded indirectly through members and appointed parties. Four key stakeholders did not respond by the deadline for submissions; one of these indicated that they had suffered computer problems and were endeavouring to respond as soon as possible, and another stated that their views had been taken into account by one of the other consultees that had responded.

There were several issues on which there was general agreement. For example, most of the consultees mentioned that there is a lack of adequate **training** for users and prospective purchasers in how to control and drive both Class 2 and Class 3 vehicles, and that the provision of such training should be improved. There were only a few dissenting voices; one of the associations for disabled people suggested that informal guidance, as opposed to training, would be sufficient, whilst a Local Authority scheme to provide disabled people with powered

scooters suggested that a published guide on correct use should be adequate.

There was also variation in what respondents considered as adequate training. In several cases it was suggested that the training for Class 3 users should be to a higher standard than that for Class 2 users. A few of the consultees suggested that any training should be voluntary, rather than mandatory; most, however, thought that training should be a specific requirement.

A number of suggestions were made about who should carry out the training - Shopmobility, the Forum of Mobility Centres and the Community Transport Association were mentioned - but the majority thought that training should be provided at the point of sale. In this context it is noted that the BHTA's Code of Practice calls for training of individuals before they use a powered wheelchair or scooter. It was suggested that, if a national scheme were to be established, whether for voluntary or mandatory training, it would need to provide a consistent standard, so there would be a requirement to specify what should be included in the training, and to train the trainers. It was suggested that the BHTA Code of Practice for suppliers of new vehicles would be relevant to this issue, but that the problem of purchases of second-hand vehicles through private sales etc. would remain.

Some of the consultees felt that there was generally insufficient **advice for prospective purchasers** about the suitability of vehicles. There was a consequential risk that purchasers would buy a vehicle that was not appropriate to their needs. The Royal Society for the Prevention of Accidents (RoSPA) pointed out that, whilst some of the individuals involved in supplying wheelchairs and scooters were extremely competent, others were not, and that it could be difficult for a new purchaser to recognise the difference.

In general, consultees considered that both classes of vehicle should carry **insurance**. For the most part it was suggested that this should be Third Party / Public Liability cover; comprehensive insurance was considered too expensive. The small number of dissenting views expressed by consultees were either that insurance should be recommended but not made compulsory, or that it should only be required if it were made compulsory for cyclists and other similar vehicle users also to be insured. There was also the view that to make any level of insurance requirement compulsory might be seen as discriminatory, on the grounds that some people will have no choice but to make use of

a powered vehicle to maintain their mobility. It was pointed out by one consultee, however, that there should not be the same issue of discrimination if insurance were to be compulsory for using (Class 3) vehicles on the road, since this would merely bring users of such vehicles into line with other road users.

On the question of **single occupancy** of powered wheelchairs and scooters, the general view was that it would not be appropriate for vehicles to carry a second person, primarily on the grounds of safety. The only exception to this could be the carriage of a child (maximum age 8 years or less), provided that the child can be carried safely and without compromising the handling and control of the vehicle. It was proposed by one consultee that the carriage of a second person (child) should be restricted to 4-wheeled vehicles. A number of the consultees considered that the regulations should not preclude the development of specially-designed two-person vehicles (apparently some are now available), but it would have to be shown that any such vehicle would not cause problems because of its increased size and/or weight, or on safety grounds.

In terms of the use of powered wheelchairs and scooters in **pedestrian environments**, the limitation of speed to 4mph was considered to be generally acceptable. Beyond this, some concerns were expressed about possible hazards to pedestrians (for example people with sensory impairments), obstructions on footways and poor maintenance of footpath surfaces, but virtually all respondents agreed that the use of vehicles in this environment was essential. To reduce the risk of incidents, it was thought that the use of an audible warning should be encouraged, as should training in the use of powered vehicles.

A majority of the consultees agreed that there should be at least minimum standards for **fitness to drive,** and that these should be the subject of assessment. The assessment could include an eyesight test, subject to the proviso that the standard set for Class 2 users should not be as stringent as that for Class 3. Apart from the test of eyesight, where some consultees recommended that the standard for Class 3 vehicle users should be the same as for a driving licence, there were few specific suggestions as to what standards would be appropriate. Two organisations (Age Concern and the Joint Committee on Mobility for Disabled Persons (JCMDP)) considered that eyesight tests should not be required.

The issue of fitness to drive also touches on the regulation on permitted users; it was noted that people may have impaired cognitive or judgement abilities as a consequence of the physical disability that "qualifies" them for use of a Class 2 or 3 vehicle, and that such cognitive impairments might compromise some individuals' capacity to operate a powered wheelchair or scooter safely. It was suggested that people with learning disabilities of various types might also benefit from the use of a powered wheelchair or scooter. A number of different suggestions were made for ways in which the definition of permitted users might be altered. These included changing the definition to that used in the Disability Discrimination Act (DDA), limiting the use of vehicles to recipients of the Disabled Living Allowance (DLA) or those certified by their GP as needing a vehicle. On balance, there was no clear consensus for amending the present definition of who should be permitted to use a powered wheelchair or scooter, but there were suggestions that there might be a need to clarify the question of cognitive impairment and both the effects that it may have on a person's ability to safely operate a powered mobility aid, and the benefits that might be derived from doing so.

There was much agreement among respondents on the subject of the **equipment** that Class 3 vehicles should have; it was generally agreed that they should be equipped with lights, an audible warning device, mirrors and reflective strips. There was some concern that these vehicles are not sufficiently visible when used on the road. Some respondents also suggested the use of direction indicators. Views about how Class 2 vehicles should be equipped were more mixed, although there appears to be support for them having comparable equipment if they are going to be used on the road.

There was less agreement on other issues. For example, the majority view was that the Road Traffic Act sections dealing with **driving under the influence of drugs or alcohol**, or while **using a mobile 'phone**, should apply to Class 3 vehicles, and possibly to Class 2 vehicles as well. However, a number of consultees felt that these vehicles should not come within the RTA and that the present law does not need to be changed.

There was general support for the current ban on **using the vehicles on motorways**, but somewhat more mixed views on their **use on dual carriageways**. The majority view was that they should also be banned from these roads, because of the risks from high-speed traffic; however, other respondents considered, perhaps exceptional, circumstances

where a vehicle could be used on a dual carriageway. Those considering the use of dual carriageways by powered wheelchairs and scooters were generally in agreement that the use of an amber flashing light was a sensible safety precaution. Some respondents considered that both Class 2 and Class 3 users should be discouraged from using roads at all, except when really necessary, while others stated that Class 2 users should only be permitted to go on a road when crossing it. Others pointed out that, in rural areas, there may be no alternative to using the road.

There were very mixed views on the **use of bus lanes and cycle ways**. Some argued that using a cycle way would be safer than using the main highway; others felt that it should not be permitted. The balance of views was in favour of their use. Using vehicles on bus lanes also produced mixed views, but in this case with the majority considering that it was probably not safe.

A substantial proportion of the consultees considered that, because **registration** and display of a licence are seldom done - and are not enforced - there was a strong argument for removing the requirement. Others contended that there would be value in retaining (and presumably enforcing) them, on the grounds, for example, that registration might make it easier to trace stolen vehicles. It was also argued by some that, as Class 3 vehicles are suitable for use on the road, then these should be registered.

There was wide support for keeping the **maximum speed** for Class 2 vehicles at 4mph (and Class 3 when used in pedestrian environments). It was suggested that in crowded pedestrian areas even this speed is too great, and should be reduced, perhaps to 2mph. However, there was some support for the idea of increasing the maximum speed limit for Class 3 vehicles: maxima of 12, 16 and 20 mph were suggested. Higher maximum speeds permitted in other countries were quoted in support of this. In part, the question of an appropriate maximum speed rests on the classification of the vehicle, and there were suggestions for the introduction of a "Class 4" for mobility vehicles that can be used on roads, by-ways, bridle-ways and cycle routes. Overall, there was no clear or consistent view on classification, although the balance of opinion favoured the retention of the 8 mph limit for Class 3 vehicles.

Some respondents considered that the use of petrol-fuelled vehicles, or **hybrid electric / petrol powered vehicles,** would pose safety (i.e. fire) risks, and increase pollution. Their use would be limited, as they could

not be driven inside buildings. Others thought there should be scope for the introduction of innovative power systems, particularly if they would increase the range of the vehicle. Again, there was no consensus on these issues.

In general, there was support for the further development of **off-road vehicles**, and therefore for the definition of a new class of vehicle (Class 4), as mentioned above. However, there were some views against this. Such vehicles, as suggested by one respondent, would be larger and substantially heavier than the existing permitted maxima. There were concerns that, even if these vehicles were classified separately, as in "off-road vehicles", they would still sometimes be used on roads and in urban areas. The balance of opinion was in favour of the development and use of these vehicles, because of the enhanced recreational opportunities they would give, but consultees were mindful that there would be a clear need for regulations, defining the conditions under which they could be used.

Views about **2-wheeled vehicles**, and whether there should be some distinction between these vehicles and vehicles with three or four wheels, varied; some regarded the former as purely recreational vehicles, and as such quite distinct from mobility vehicles, whilst others considered them to be a useful mobility aid.

4. Discussion

This research has been carried out at a time when powered wheelchairs and scooters were attracting increasing attention from the Media, and from the general public. The work was commissioned in response to an apparent increase in public concern at the number of, and use of, these vehicles, and has had as its objective the provision of information to support decisions as to whether to make changes in legislation and/or regulation of powered mobility aids.

There are several reasons why powered wheelchairs and scooters should be achieving an increasingly high profile in the UK. One of these is the ageing of the country demographically, meaning that the proportion of the population that is older continues to increase; although there is not a direct correlation between age and disability, this means that there will continue to be an increasing number of people who experience mobility difficulties. Furthermore, there is a continuing trend for older people to have enjoyed a life-time of independent mobility given to them by the private car, meaning that they have little knowledge of, and little inclination to use, public transport services, and so are attracted to a powered mobility aid as a very personalised alternative means of transport. One of the key issues addressed by the research has been whether any change is desirable to the current situation whereby there are no minimum standards for a person's fitness to use a powered wheelchair or scooter, either on the road or in other pedestrian environments – the importance of this issue is underlined by the fact that many new purchasers of such vehicles are prompted to do so by the fact that they no longer feel that they can safely drive a car, and the use of a powered mobility aid is sometimes one of the alternatives to a car suggested by driver assessment centres responsible for counselling older people on whether they should cease driving.

Increased use of powered wheelchairs and scooters is also encouraged by the increasing concentration of retail facilities and other services in large shopping malls, supermarkets and pedestrianised precincts. There is also a general trend in land-use planning towards the development of fewer, larger centres, which extends to hospitals and other health service facilities. Whilst these modern developments offer level access, so making them ideal for the use of wheelchairs and scooters, their wide-open spaces actually present a problem for people who have difficulty with walking, or who can not manage to walk long distances. Because of such changes to the physical environment, more and more

older people are seeing powered wheelchairs and scooters as a convenient alternative to walking – particularly the latter, since scooters are perceived to be less stigmatising than wheelchairs. As the use of mobility scooters becomes increasingly common, the stigmatising effect of wheeled personalised transport is likely to be further reduced. An increasing number of people will have first experienced the use of an electric scooter through a short-term loan from Scootability, for instance, and this might lead to the decision to purchase a similar vehicle. There is currently, therefore, a new and growing market for powered mobility aids among those who would not normally consider themselves to be disabled; furthermore, the research has revealed an increasing trend in some Western countries for such vehicles to be used by people who are obese (i.e. the “bariatric” market, as it has recently been named).

The potential of electrically-powered vehicles to help older people to maintain their mobility levels – and so promote all the cross-sector benefits of greater social inclusion, better health, better access to healthcare etc. – is also becoming recognised by some Local Authorities. An example is provided by the London Borough of Camden, whose ScootAbility service provides and delivers electric scooters toa number of its older residents. It is likely that other Local Authorities might see the funding of powered mobility aids as a viable alternative to demand-responsive services and concessionary fares schemes, more especially as electrically-powered vehicles have the potential to be substitute for short-distance, multi-purpose trips – as a genuine alternative to walking – that other public transport modes cannot.

Given the importance and apparent increasing popularity of powered wheelchairs and scooters, it is important that their growth does not compromise the safety of users and others. The issue for safety centres on the ambiguity of these vehicles, in as much as they are designed for use both on pavements and on the road. Whilst usage is restricted by classification, so that it is only Class 3 vehicles that may be used on roads, except for crossing them, the categorisation is blurred by the fact that Class 3 wheelchairs and scooters may use areas set aside for pedestrians, (subject to a reduction in speed to 4mph). A perception among many is that electric mobility vehicles are too slow and insufficiently conspicuous for use on the road in traffic, whilst some are too big, too heavy and too fast for use among pedestrians. The important trade-off that must be made in terms of any regulation of, or legislation for, such vehicles is that of protecting both users and the general public from potential injury, whilst at the same time not discouraging older and

disabled people from deriving the full benefits of the mobility that the vehicles offer.

The difficulty of striking the right balance lies in the fact that any increased burden of cost or regulation on the use of powered wheelchairs and scooters might be regarded as discriminatory, given that some disabled people are obliged to use such mobility aids in order to maintain a reasonable level of mobility. This is in spite of calls for the Government to consider making regulatory changes in response to what is increasingly perceived to be a problem. This dilemma extends to the question of whether users of powered mobility aids should be obliged to take out minimum levels of insurance cover. Whilst the desirability for at least third party cover has been shown, by the research, to be generally accepted, any moves to make this a compulsory requirement would again be met by claims of discrimination, with some groups representing the interests of disabled people pointing out that insurance is not mandatory for others, such as pedestrians with push-chairs, cyclists etc.

One measure for promoting the safe use of powered wheelchairs and scooters, whilst not inhibiting mobility or being perceived as being discriminatory – which is one of the recommendations of the current research – is improved advice for prospective purchasers of such vehicles on which model is most suitable, and training on their operation. There was certainly much anecdotal evidence emerging during the course of the current research to suggest that not all dealers in the sale of powered wheelchairs and scooters are completely scrupulous, with many claims that there is an element within the industry that sells vehicles whilst having little regard for the suitability of the equipment for the purchaser. Whilst it would be easy to recommend that regulations should be introduced in order to “clamp down on rogue traders”, there was also a view expressed among some representing the interests of disabled people that this might not necessarily be desirable; the counter-argument is that, whilst profits to be made from the sale of powered wheelchairs and scooters might potentially attract entrants to the market who are solely motivated by profit, this situation does at least provide a market in which mobility aids are made available for the people who need them. In other words, it is perhaps better, from the point of view of offering disabled people mobility, for powered mobility vehicles to be potentially sold at inflated prices and to customers whose needs might not be particularly suited to the product, than for regulations to effectively restrict access to such equipment.

Whilst making customer care mandatory at the point of sale of new equipment would undoubtedly help to improve safety levels, this would not address the issue of the sale of wheelchairs and scooters on the second-hand market. Moreover, for a number of reasons, the proportion of the UK's parc of powered mobility aids that is second-hand is almost certain to increase in the future. One reason for this is the very nature of the product; powered wheelchairs and scooters are designed for use by older people, and so they often outlive the user. Therefore, one unit might have a number of different owners, and will be passed on from one to another through private sales. In fact, it is probably not uncommon for such equipment to be passed on to another family member, or within the local community, at no cost to the new user. The result is that an increasing proportion of users of powered mobility aids will be untrained in their use, and have a vehicle that is not necessarily the one that best meets their needs; by the same token, an increasing number of electric vehicles will be poorly maintained, more will be unaccompanied by an instruction manual etc.

A major issue facing the Client in dealing with the dilemmas outlined above is that there was, at the start of the project, little information on powered wheelchairs and scooters, in terms of the number that are in use in the UK, and of which type, the environments in which they are most commonly used, and the frequency with which incidents involving powered wheelchairs and scooters actually occur. The current project has sought to provide such information, as well as eliciting the views of key stakeholders, users of powered mobility aids and other pedestrians and road users. The stakeholder consultation exercise has included the views of Government departments, Non-Governmental Organisations, organisations representing the interests of disabled people, manufacturers and distributors of wheelchairs and scooters, insurance companies and many others.

From the outset of the project it was anticipated that the information required might not be easy to obtain. It was expected that it would be less than straightforward to estimate the total number of powered wheelchairs and scooters in the UK, given the likely incidence of second-hand sales, outlined above. Estimates of the number of electric vehicles currently in use in the UK, and annual sales of different types of electric vehicle, are contained in Section 3, and are summarised in the following section.

It was rather more challenging to estimate the number of incidents involving injury and / or damage to property that occur in connection with

powered wheelchairs and scooters. This is because it is likely that the vast majority of incidents involve minor bumps, bruises and near misses, which, of course, are never reported or recorded. The true extent of any conflict between electric mobility vehicles and other pedestrians is therefore intangible, since there is no quantitative evidence as to the extent to which people might be intimidated by the presence of such vehicles in pedestrian environments. There is also no way of measuring the extent to which they add to the every-day hazards faced by people who are blind or partially sighted, or who are deaf or hard of hearing, but this issue did emerge as a major concern for disabled people during the consultation phase.

Incidents involving powered wheelchairs and scooters were thought, conceptually, to have a pyramid structure, with the least severe and least well-documented incidents (i.e. minor bumps and bruises) forming the base of this pyramid, with more serious incidents – those causing personal injury – being recorded, but still almost certainly substantially under-reported. At the peak of the pyramid are fatalities, which, though rare, are known to have occurred.

Documentary evidence of incidents was expected to be rather fragmented, with there being no single source of information – this was confirmed during the course of the project, with most potential sources of data not storing information in a form that was useful for the purposes of the current project. For instance, the Health sector's HASS (Home Accident Surveillance System) and LASS (Leisure Accident Surveillance System) databases, which are based on surveys conducted in A&E Casualty departments, are both unspecific about the involvement of powered wheelchairs and scooters. The Health & Safety Executive's RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) figures deal only with incidents that occur in the work-place, and the Department for Transport's Statistics Department keeps statistics on motor vehicles or vehicles that are registered with the DVLA. None of these sources proved to be particularly useful in addressing the research questions of the current project.

Nevertheless, estimates of the frequency of incidents in the UK have been made, based on data provided by the Medicines and Healthcare products Regulatory Agency (MHRA), a sample of Police forces, insurance companies, Shopmobility schemes and shopping precincts; these estimates are summarised in Section 5 of this report. Generally, these estimates confirm that incidents leading to injury to the user or to a third party are fairly rare.

The issues addressed by the current research have recently (the 2nd of March 2005) been the subject of a debate in the House of Commons, brought by Bob Russell (Lib. Dem. MP for Colchester). In part, the subject was raised with the intention of clarifying who should have responsibility for what was described as "*a matter of considerable and growing concern*", given that responsibility for powered wheelchairs resides at least partially with the Department of Health (through the MHRA), the Department for Transport, the Department for Work and Pensions (through the Minister with responsibility for disabled people), Local Authorities (particularly Trading Standards) and the Police[14].

There were, however, other issues raised, namely user safety (from the point of view of users being adequately trained, and of their wheelchair or scooter being appropriate for their needs), "*public liability insurance"* (for the protection of both users and other members of the public), and product safety (i.e. the issues of vehicle maintenance and safety checks). The first two of these concerns have been fully addressed by the current project, and are the subject of some of the recommendations contained in Section 6. The issue of product safety, however, is more difficult to address, given the number of powered wheelchairs and scooters that are sold unrecorded and unregulated on the second-hand market.

One suggestion made by Mr Russell in his speech was that the BHTA's recently introduced "Code of Practice for the Healthcare and Assistive Technology Products and Services Industry", a code of practice that it has been mandatory for BHTA members to follow since the 1st of July 2004, might help to raise standards by forming the basis for a minimum competence requirement for the industry. Among the issues covered by this Code are the conduct of staff when in contact with customers, the training and on-going development of staff, information that should be made available at the point of sale, instructions for use, Adverse Incident reporting and after-sales service provision.

[14] Stephen Ladyman (MP for South Thanet, and an under-Secretary in the Department of Health) clarified this particular issue by confirming that he is the "Minister for Wheelchairs".

5. Conclusions

The main conclusions emerging from both Stage 1 and Stage 2 of the research are as follows,

Review of legislation

- The review confirmed that there is little legislation in the UK regarding issues such as fitness to drive, insurance obligations, and taxation in relation to powered wheelchairs and scooters. Mobility equipment referred to as an "invalid carriage" in legislation is not considered, by law, to be a motor vehicle, so is exempt from many road traffic regulations.
- Class 3 vehicles when used on the road are obliged to conform to many regulations affecting motor vehicles. This situation is not very different in many other European countries, where there is little legislation concerning this type of vehicle. In some countries, powered wheelchairs and scooters are largely given the status of bicycles, whilst in others powered wheelchair and scooter users are permitted to travel as pedestrians (subject to specified speed restrictions).
- Generally, there is neither mandatory training for use of a powered mobility aid, nor a tax on use or ownership of such a vehicle, in the UK, but there does tend to be some requirement or expectation for insurance elsewhere in Europe. In the Netherlands, for example, third-party insurance is a minimum requirement.

The number of powered wheelchairs and scooters in use in the UK

- The number of powered wheelchairs and scooters in use in the UK is expected to increase substantially in the near future. This is partly due to the continuing trends of an ageing population and the centralisation of retail facilities in fewer, bigger – but accessible – outlets.
- The consensus of opinion among people in the industry consulted during the course of the research is that there has been a recent "boom" in the supply of powered wheelchairs and scooters in the UK. There is increasingly a market for such vehicles among people who have difficulty with walking, or standing, for long periods, but who would not consider themselves to be disabled. In many cases, a scooter for, say, going shopping is reportedly seen as being a convenient alternative to public transport, which is still considered by many to be inaccessible, or a replacement for the private car,

for shorter distances, when the user no longer feels confident enough to drive. There is a growing realisation in the powered mobility aid industry that the market for scooters is developing among older people and, in a more recent development, among people who are obese.

- The broadening of the market for powered mobility aids will reduce the dominant role that the NHS currently has in this market; an increase in the proportion of privately purchased powered wheelchairs and scooters has already begun, particularly among older buyers. This broadening of the market to embrace people who would not normally consider themselves to be disabled, together with the increasing proportion of the national powered wheelchair and scooter parc that is made up of second-hand vehicles, is expected to exacerbate the problem of people using powered mobility aids without adequate training or instruction. Furthermore, theses trends are expected to increase the proportion of such vehicles that are both poorly maintained and unsuited to the particular needs of the user.
- An estimate of approximately 90,000 powered wheelchair and scooter users in the UK, made on the basis of OPCS data on the percentage of disabled people and wheelchair users in the population, and 2001 Census data, is offered as a good working estimate. It is acknowledged, however, that this estimate might err on the side of being conservative.
- In terms of the different types of powered vehicle in use, it appears that it is mobility scooters, particularly the Class 2 variety, that are leading the overall increase in numbers. Generally, sales of scooters currently exceed sales of powered wheelchairs on a ratio of 80:20; the market for scooters in the UK is estimated to be 25,000 per year.

The use of powered wheelchairs and scooters in the UK

- Over half of the respondents the questionnaire survey on the usage of powered wheelchairs and scooters stated that they had undergone a full assessment of their needs before purchasing their powered vehicle. The administering of training and/or a needs assessment was increasingly likely to have taken place the more recently the vehicle had been purchased; this suggests that standards of service in the industry are improving.
- Powered mobility vehicles are commonly used in all types of environment, but the most common modes of usage are on pavements, and also for crossing the road. There were 18.5% of

respondents who said that they used their Class 2 vehicle on the road “every day”.

The frequency of incidents involving powered wheelchairs and scooters

- A major conclusion from the review of the frequency of incidents involving powered wheelchair and scooter users is that this type of incident is likely to be heavily under-reported. The number of incidents causing injury in different environments that are not reported, as well as the likely plethora of small bumps and scrapes which will never be reported, remain an intangible and unquantified element.
- Estimates as to the expected frequency of such incidents in different types of environment are summarised below – these tend to indicate low probabilities of occurrence,
    - there will be one reported incident involving a powered wheelchair or scooter owner in a major shopping centre, for each 15 million visitors to such a facility
    - there will be one insurance claim relating to an injury to an electric vehicle user in connection with a Shopmobility scheme, for each 200,000 users of such a scheme
    - Police incident statistics provide varied predictions of incident liability, from one injury incident per year for each 88 powered wheelchair or scooter users in Nottinghamshire, to a ratio of one in 617 for users of such vehicles in West Yorkshire.

Findings from consultations involving users of powered mobility aids, other pedestrians and motorists, and key stakeholders

- One of the important trade-offs that emerged from consultation was that of disabled people being granted the freedom to use a powered mobility aid without restriction, regulation or financial disincentive, against the need for other members of the public, mostly pedestrians, to be protected from potential injury.
- A similar dilemma highlighted was that of how to deal with what were perceived by some in the mobility aid industry to be “rogue” dealers and distributors who allegedly pay little attention to the assessment of their customers’ needs – the counter argument is that the presence of such an element in the market, if it exists, actually performs a role in providing mobility opportunities for disabled people, opportunities that might be lost if the industry were to become more tightly regulated.
- Although some respondents stated that they had received a very good service when purchasing a vehicle, the consultation exercise

revealed a general perception of a lack of adequate training for prospective purchasers in how to control and drive both Class 2 and Class 3 vehicles. A few of the consultees suggested that any training should be voluntary, rather than mandatory; most, however, thought that training should be a specific requirement.

- There was also a strong perception that there is insufficient advice given to prospective purchasers about the suitability of vehicles, and that there is a consequential risk that purchasers might buy a vehicle that is not appropriate. This was in spite of the fact that retailers of new wheelchairs and scooters are already required, by the relevant British Standard, to supply the purchaser with usage information from the manufacturer. The same Standard also specifies certain technical labelling that should be carried by vehicles. It was suggested that the BHTA Code of Practice would be relevant to this issue, but the problem relating to purchases of second-hand vehicles would remain.
- In general, both the non-user and the user focus groups, and key stakeholders, considered that both classes of vehicle should carry insurance. For the most part it was suggested that this should be Third Party; comprehensive insurance was considered to be too expensive. It was generally felt by participants in focus groups that the user should bear the cost of insurance for his or her own vehicle, but there was a call for the Government to provide some financial assistance towards the cost of insurance for some groups of people. The small number of dissenting views expressed by consultees were either that insurance should be recommended, but not made compulsory, or that it should only be required if it were made compulsory for cyclists and others to be insured. There was also the view that to make any level of insurance requirement compulsory might be seen as discriminatory, on the grounds that some people will have no choice but to make use of a powered vehicle to maintain their mobility. In spite of these reservations, it is a recommendation that Third Party / Public Liability cover should be compulsory for both Class 2 and Class 3 vehicles, since there is evidence of people with Class 2 vehicles coming into contact with other users of pavements and other pedestrian facilities, with the potential for serious injury to both the user and non-users of the powered mobility aid. The fact that a similar requirement for insurance for other users of the same space – such as cyclists, users of pushchairs and child buggies etc. – is not regarded as being a convincing argument for insurance being required for powered mobility aids.

- The general view was that it would not be appropriate for powered mobility vehicles to carry more than one person, primarily on grounds of safety. The only exception to this was thought to be the carriage of a child (maximum age 8 years or less), provided that the child can be carried safely and without compromising the handling and control of the vehicle. However, a number of the consultees considered that the regulations should not preclude the development of two-person vehicles, but it would have to be shown that any such vehicle would not cause problems because of its increased size and weight, or on safety grounds.
- There was a consensus that there should be at least minimum standards for fitness to drive, and that these should be the subject of assessment. The assessment should include an eyesight test, subject to the proviso that the standard set for Class 2 users should not be as stringent as that for Class 3.
- People may have impaired cognitive or judgement abilities as a consequence of the physical disability that "qualifies" them for use of a Class 2 or 3 vehicle; such cognitive impairments might compromise some individuals' capacity to operate a powered wheelchair or scooter safely. It should also be considered, however, that people with learning disabilities of various types might also benefit from the use of a powered wheelchair or scooter.
- There was general agreement that Class 3 vehicles should be equipped with lights, an audible warning device, mirrors and reflective strips. There was some concern that these vehicles are not sufficiently visible when used on the road. Some respondents also suggested the use of direction indicators. Views on Class 2 vehicles were more mixed, though there was support for having comparable equipment if they are going to be used on the road.
- The majority view was that Road Traffic Act sections dealing with driving under the influence of drugs or alcohol, or while using a mobile 'phone, should apply to Class 3 vehicles, and possibly to Class 2 vehicles as well.
- There was wide support for keeping the maximum speed for Class 2 vehicles at 4mph, and also some support for the idea of increasing the maximum speed limit for Class 3 vehicles: maxima of 12, 16 and 20 mph were suggested.
- There was acceptance of the current ban on using powered wheelchairs and scooters on motorways, but more mixed views on their use on dual carriageways. The majority view was that they

should also be banned from these roads, because of the risks from high-speed traffic.

- Some argued that powered mobility vehicles using a cycle way would be safer than using the main highway; others thought that it should not be permitted. The balance of views was in favour of their use.
- Taking powered mobility vehicles into bus lanes also produced mixed views, but in this case the majority considered that it was probably not safe.
- A substantial proportion of the consultees considered that, because the registration and display of a licence are seldom done - and are not enforced - there is a strong argument for removing these requirements.
- There were suggestions for the introduction of a "Class 4" for mobility vehicles that can be used on roads, by-ways, bridle-ways and cycle routes.
- Some respondents considered that the use of petrol-fuelled vehicles would pose safety (fire) risks and increase pollution. Others thought there should be scope for the introduction of innovative power systems, particularly if they could increase the range of the vehicles. There was no clear consensus on this issue.
- In general, there was support for the further development of off-road vehicles, and therefore for the definition of a new class (Class 4) of vehicles. However, there were some fears that such vehicles would be larger and substantially heavier than the existing permitted maxima, and as such would be opposed by some consultees. There were also potential concerns that, even if these vehicles were classified separately, as in "off-road vehicles", they would still be used on roads and in urban areas.

6. Recommendations

- There should be improvements to both the provision of advice to potential users when purchasing a vehicle, and training on its use; it is suggested that both could be best provided at the point of sale. It is also recommended that an agreed training programme should be developed, together with guidance on the type and content of advice to purchasers.
- Class 2 and Class 3 vehicle users should be required to have Third Party insurance.
- Such research as is necessary should be undertaken to determine the design requirements for the safe carriage of a child on a vehicle. This research should also consider what the maximum age or size of the child should be.
- The development of vehicles designed to carry two persons (adults) should be kept under review, but no change in the regulations should be made at present.
- Existing maximum speed limits of 4mph in pedestrian environments should remain.
- Existing maximum speed limits for Class 3 vehicles should also be continued but should be kept under review.
- Work should be started to devise a simple fitness to drive assessment, which should include an eyesight test, ability to control the vehicle and a measure of cognitive / judgement abilities.
- Equipment requirements for Class 3 vehicles should remain as at present. Consideration should be given to requiring Class 2 vehicles to have comparable equipment if they are to be used on the road.
- Current regulations on permitted users should remain, subject to consideration of the issue of cognitive impairment.
- Road Traffic Act sections dealing with driving under the influence of drugs or alcohol and the use of mobile ‘phones should be applied to Class 2 and 3 vehicles.
- Research should be undertaken into the safety or otherwise of vehicles using cycle ways and bus lanes.

- The exemption from Vehicle Excise Duty should continue, but the requirement to display a certificate and to register the vehicle should be re-examined. If no clear benefits can be shown, these requirements should be removed. If there are real benefits, the requirements should be enforced.
- No action is recommended with respect to hybrid / petrol engine vehicles, although it is noted that there were safety concerns relating to the use of petrol-engined vehicles, particularly on pavements and in other pedestrian environments.
- There may be a case for a new classification for "off-road" vehicles, but further consideration of what regulations should be applied to these vehicles is needed.
- There should be definitive guidance made available that explains the distinction between 2-wheeled vehicles, including scooters and other largely recreational devices, and 3- and 4-wheeled Class 2 and 3 mobility vehicles.
- An appropriate body (the BHTA, for example) should assist buyers in researching best value for money, and in comparing the cost and standards of service of different outlets.

Appendix A

Newspapers consulted during the search of press reports

Newspaper	Location	Newspaper	Location
Evening Express	Aberdeen	*Leicester Mercury*	Leicester
Press and Journal	Aberdeen	*Lincolnshire Echo*	Lincolnshire
Evening Echo	Basildon	*Daily Post*	Liverpool
Bath Chronicle	Bath	*Liverpool Echo*	Liverpool
Newsletter	Belfast	*London Evening Standard*	London
Belfast Telegraph	Belfast	*Manchester Evening News*	Manchester
Birmingham Post and Mail	Birmingham	*Evening Gazette*	Teesside
Blackpool Evening Gazette	Blackpool	*Evening Chronicle*	Newcastle
Bolton Evening News	Bolton	*The Journal*	Newcastle
Daily Echo	Bournemouth	*North West Evening Mail*	Barrow in Furness
Bradford Telegraph and Argos	Bradford	*Northampton Chronicle and Echo*	Northampton
The Argus	Brighton	*Northants Evening Telegraph*	Kettering
Bristol Evening Post	Bristol	*Northern Echo*	Darlington
Burton Mail	Burton	*Norwich Evening News*	Norwich
Cambridge Evening News	Cambridge	*Nottingham Evening Post*	Nottingham
News and Star	Carlisle	*Oldham Evening Chronicle*	Oldham
Evening Leader	Chester / N. Wales	*Oxford Mail*	Oxford
Colchester Evening Gazette	Colchester	*Paisley Daily Express*	Paisley
Coventry Evening Telegraph	Coventry	*Peterborough Evening Telegraph*	Peterborough
Daily Post	Wales	*Plymouth Evening Herald*	Plymouth

Daily Record	Scotland	*Portsmouth News*	Portsmouth
Derby Evening Telegraph	Derby	*Reading Evening Post*	Reading
Dorset Echo	Dorset	*Scarborough Evening Telegraph*	Scarborough
Dundee Courier	Dundee	*The Scotsman*	Scotland
Dundee Evening Telegraph	Dundee	*Scunthorpe Evening Telegraph*	Scunthorpe
East Anglian Daily Times	East Anglia	*The Sentinal*	Stoke on Trent
Eastern Daily Press	Norfolk	*Sheffield Star*	Sheffield
Edinburgh Evening News	Edinburgh	*Shields Gazette*	S. Tyneside
Exeter Express and Echo	Exeter	*Shropshire Star*	Shropshire
Flintshire Leader	Flintshire	*South Wales Argus*	S. Wales
Evening Times	Glasgow	*South Wales Evening Post*	S. Wales
Glasgow Herald	Glasgow	*Southend Evening Post*	Southend
The Citizen	Gloucester	*Southern Daily Echo*	Southampton
Gloucestershire Echo	Cheltenham	*Sunderland Echo*	Sunderland
Greenock Telegraph	Greenock	*Evening Advertiser*	Swindon
Grimsby Evening Telegraph	Grimsby	*Torquay Herald Express*	Torquay
Guernsey Press and Star	Guernsey	*Western Daily Press*	Bristol
Hartlepool Mail	Hartlepool	*Western Mail and Echo*	Cardiff
Huddersfield Daily Examiner	Huddersfield	*Western Morning News*	Plymouth
Hull and East Riding Daily Mail	Hull	*Wolverhampton Express and Star*	Wolverhampton
Ipswich Evening Star	Ipswich	*Worcester Evening News*	Worcester

Irish News	Eire and N.I.	*Wrexham Evening News*	Wrexham
The Irish Times	Eire and N.I.	*York Evening Press*	York
Jersey Evening Post	Jersey	*Yorkshire Evening Post*	Yorkshire
Lancashire Evening Post	Preston	*Yorkshire Post*	Yorkshire
Lancashire Evening Telegraph	Blackburn		