

Measuring Accessibility as Experienced by Different Socially Disadvantaged Groups

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Working Paper 1

User Needs Literature Review

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EXECUTIVE SUMMARY

- The University of Westminster's Transport Studies Group has received funding from the UK Engineering and Physical Sciences Research Council (EPSRC) to develop more refined and sensitive measures of accessibility that take into account the concerns of various socially disadvantaged groups. The partners for this project include: Transport for London (TfL), the London Borough of Tower Hamlets (LBTH), West Yorkshire PTE (METRO) and Bradford Metropolitan District Council (BMDC).
- The following definition of 'accessibility' was used in the project proposal:

"Accessibility refers to the ability of individuals to easily reach desired goods, services, activities and destinations at appropriate times using an integrated transport system without being restricted by physical, financial or safety concerns".

- Issues explored in the research include: existing travel patterns (destinations, timings, purposes and modes), suppressed travel demand and preferred activity patterns, key journey attributes (travel times, reliability, interchange, cost, personal safety, physical access issues), key destination attributes (type of shop, employment, etc.) and relative importance of attributes, key thresholds (e.g. maximum walking distance).
- This project focuses on people who are unable to access essential services because of transport or mobility related constraints. For example, the inability to board a bus before 10am would limit the opportunity to access hospital and GP appointments and may affect health care use. Exclusion can therefore be viewed as a self-perpetuating process with the effect of detachment from jobs, education, healthcare and other essential services.
- This report summarises the findings of a review of literature about the 'user needs' of different groups of socially disadvantaged people including: young people (16-24), older people (60+), Black and Minority People (BME), disabled people, parents travelling with young children, unemployed people and shift workers who work unsociable hours. It has been updated during the course of this project.

General Findings

- Many definitions of social exclusion lack a clear explanation of what precisely what such people are excluded from, and why. From a transport perspective, changes in the predominant patterns of modal use and in facility location, particularly in the last 30 years, have resulted in motorised mobility becoming increasingly necessary to take part in everyday activities in society. As a result, those with insufficient mobility are more limited in their ability to participate and their level of accessibility becomes increasingly restricted.
- Accessibility is a concept used in a number of fields such as transport planning, urban planning, geography and marketing. Although 'accessibility' is a well-established concept in the disciplines of geography and urban economics, it is a fairly new concept for many transport practitioners. Within England, a new framework is now emerging whereby transport professionals have started exploring the implications of basing transport planning on access requirements rather than just traffic or mobility needs, encouraged by recent Department for Transport guidance on

accessibility planning, now required as an input to preparing the second round of Local Transport Plans. Other key measures that promote accessibility include (DfT, 2003a):

- Minimum half-fare discounts on local bus services for older and disabled people;
 - Enabling the provision of innovative bus services through the Urban and Rural Bus Challenge schemes, supporting rural buses, and extending the Bus Services Operators' Grant to community transport;
 - Making vehicles and transport more accessible to disabled people following the Disability Discrimination Act;
 - Providing better travel information, for example by initiating 'traveline', a telephone service run with partner organisations that provides information on transport routes and times;
 - DfT policy guidance for local authorities places increased emphasis on measures to improve accessibility and promote social inclusion.
- Seven main types of transport exclusion have been identified within the available literature, including:
 - **Spatial**: the location of where people live in relation to the places they need to access or the difficulty they experience in making a journey (e.g. the number of interchanges they need to make);
 - **Temporal**: where people do not have access to places they need to get to at certain times, such as in the early morning or late evening or on Sundays because bus services are not available;
 - **Personal**: where people do not have access to places because of a mobility impairment, or are effectively prisoners in their own home because of fear for their personal safety if they venture out;
 - **Financial**: where people are unable to access places because the cost to them of doing so is regarded as excessive;
 - **Environmental**: where urban social housing is located near busy roads and vulnerable people living in the area are exposed to greater risk from traffic pollution and accidents;
 - **Infrastructural**: where access to places and/or quality of life is affected by transport infrastructure; and
 - **Institutional**: where groups or organisations exclude the interests of some groups.
 - This review has shown that social exclusion encompasses those individuals (as well as communities) who experience a diverse range of barriers including: discrimination, lack of local job opportunities, low skills, chronic ill health, fear of crime, lack of available childcare, isolated geographical location, problems of cultural identification, isolation within their community, disaffecting interest in mainstream education and alienation from the political process.
 - Whilst socially disadvantaged groups of people may have different activity needs, it is suggested that in many respects they share a common experience of social exclusion. Research suggests that these groups also share the most common indicator of social exclusion, namely low income, and the associated effects of poverty.

The User Needs of Specific Social Groups

- Although the review identified a number of issues and concerns that are specific to each of the social groups that were studied (see below), there are a number of concerns that are common across the groups. The type of factors that might inhibit an individual's accessibility include:
 - Lack of information on the availability of public transport services and/or opening times of different facilities;
 - Lack of money,
 - Lack of confidence,
 - Inappropriate operating practices or rules,
 - Lack of help from staff,
 - Lack of security, and
 - Poor design of vehicles and infrastructure.

Concerns affecting particular groups are summarised below:

Young people (16-24)

- Transport is a key issue for many young people, as it can be one of the main factors that determine which school or college they can attend, if they can participate in after school activities, how and where they access health care and employment, and whether or not they are able to see their friends out of school hours at times that are convenient to them.
- Safety issues when using public transport in the evenings – i.e. when walking to and from the bus stop, whilst waiting at poorly lit bus stops, and whilst travelling on board the bus - are real concerns for many young people.
- In addition, 38% of young disabled people stated that they experience problems when using public transport, because of reasons relating to their impairment (e.g. cannot hear the public announcements, cannot see the information, or cannot grab hold of hand rails etc). Of these, half reported that this makes it difficult for them to participate in activities with other people of their age (DPTAC, 2002).
- Within the UK there is no legal requirement for operators to offer young people concessionary fares, even if they are still in full-time education (DEFRA, 2004). For those young people who do use discount or season tickets in parts of the country with competing bus companies, it means having to use the same operator each day and in some cases they may have to wait longer at a bus stop for the right bus to come along. Proof of age is a real issue for many young people. A complaint often voiced is that bus/train drivers display negative attitudes towards them, particularly when they try and obtain the discounted fare they are entitled to.
- A recent DEFRA report (2004) showed that young people living in rural areas are more dependent on other family members to take them by car to the places they want to go, and that their choice of leisure and social activities is likely to be influenced by the places their parents are willing and able to take them, and access to confidential personal advice services (e.g. drugs, contraception etc) may be difficult.

Older people (60+)

- Older people travel less often than any other age group, are more likely to make local journeys and are more likely to walk or to use public transport. They typically make fewer trips, not because of a reduced desire but because it becomes harder to access both the transport node (bus stop, rail station) and the vehicle itself, as the ageing process limits their functioning. Recent statistics show that 3.5m people over the age of 65 report having a limiting longstanding illness or disability (Prime Minister's Strategy Unit, 2004).
- Fear of becoming the victim of crime affects the number of trips that they make in the evening, with most aiming to complete their journeys during daytime or restrict their evening travel to locations they are familiar with. These trends are even more accentuated in those over 75 years.
- Other barriers to travel include: absence of low floor buses; concessionary pass travel time restrictions; reluctance to travel during busy periods when they are less likely to be able to get a seat (e.g. after school hours); fear of travel when buses are full of rowdy school children; and, feelings of resentment from other passengers if they take too long when boarding or alighting vehicles.

Black and Minority Ethnic People (BME)

- The UK 2001 Census revealed that the BME population had grown to 4.6 million and now constitutes 7.8 percent of the total national population (Office of National Statistics, 2001). The largest BME group is the Indian population, which numbers over a million people, followed by the Pakistani, Black Caribbean, Black African, Bangladeshi and Chinese populations, in that order. Whilst a lot of attention is paid to the established BME groups, it is also important to consider the smaller minority groups, many of whom are relatively recent immigrants and tend to be much less familiar with the English language, such as Albanians, Iraqis and Somalis. It is also necessary to consider the religious diversity of the UK's populace, as this is another important component of an individual's identity.
- Perceived lack of safety, both in the general environment and on public transport, is greater amongst the BME community (Crime Concern, 1997). Muslim women are particularly reluctant to use public transport and are dependent on male relatives or car drivers in their family network. This is aligned with a strong sense of community and extended family support, which ensures that the women who aren't able to drive are able to travel further afield (Lucas *et al*, 2001).
- The concentration of particular BME populations in certain locations and the strong sense of community within these groups, as well as the ability for community related goods and services to be provided locally, means that many of their retail, social and religious needs are very close by. In all BME groups, the importance of walking as a method of travel is accentuated and people often restrict their travel to areas and modes they are familiar with. Some of the reasons include: lack of cultural awareness amongst transport authorities; poor understanding of timetable information; language barriers preventing people from accessing information about various ticket types (therefore paying more than necessary); and cultural differences (e.g. Asian women feel embarrassed talking to bus drivers because a large majority are men) (DfT, 2003b).

People with mental ill-health disabilities and people with physical disabilities:

- There are approximately 8.6 million disabled people living in Britain (DRC, 2001). The range of impairments disabled people experience has been classified into three broad categories: mobility, sensory and mental health including learning disabilities. The other common disabilities are in the areas of dexterity, personal care or behaviour (Tyler, 2002).
- Transport is the most highly reported problem facing disabled people, despite many existing initiatives. People with impairments (such as deafness, spinal injury, learning difficulties, autism) become disabled through barriers such as discrimination, an inaccessible built environment and exclusionary policies. Fears of crime and intimidation increase the likelihood of disabled people re-evaluating what constitutes an essential trip, which results in shrinking journey prisms and increased social isolation. Inability to travel freely can seriously restrict the ability of disabled people to carry out activities; for example 25% of disabled people (and 50% without a car) report that inaccessible transport restricts their leisure pursuits (Tyler, 2002).
- People who have a mental health illness often limit their travel to areas that they are familiar with. The disorientating effects of these disabilities means they are unwilling to risk the possibility of 'an episode' occurring. When undertaking an unfamiliar journey for the first time, these people often prefer to be accompanied. Greater awareness of the information presentation needs of people with mental health problems and learning disabilities is needed to ensure that they are able to obtain information and adapt to unexpected changes on their route.
- For those individuals with mobility impairments, limitations include: their inability to access the public transport network due to barriers that exist in the street environment that inhibit their movement; the design of public transport vehicles; and attitudes of drivers and other passengers when boarding or alighting vehicles.
- Whether a disabled person can successfully complete a journey will rely as much on the accessibility of the street and bus stop infrastructure as on the accessibility of the bus. In many cases, the absence of a safe road crossing close to the bus stop will provide a sufficient deterrent. More stringent parking controls around bus stops, raising the height of the kerbs and improving access to the bus stop facilities, as well as providing accessible information are all needed.

Parents travelling with young children (under 11)

- The 2001 Census shows that around 30% of households contain dependent children, and one in nine have children under 5. The data also show that approximately 25% of dependent children live in lone-parent families, of which over 90% are living with the mother.
- It is becoming increasingly common for parents to escort their children on trips to a variety of locations. This is principally in response to fears for their child's safety, both from traffic, other people and because the school is some distance away. Adult women are much more likely to make escort education trips, which accounts for 15 per cent of all trips for women aged 30-39, compared with only 3 per cent for men in this age group (DfT, 2004a).

- For parents travelling with young children, the street environment can pose several barriers including: negotiating past street furniture, vehicles parked on the pavement, road works, lack of dropped kerbs at crossing points, steep hills and uneven paving. Even travelling along a good, flat pavement can cause tiredness (particularly amongst young children) and reduce travel distances.
- The frequency and reliability of public transport is particularly important to parents of young children, as they are more likely to trip-chain – combine journeys to work, school, childcare and shopping. The trip chains that are undertaken by parents are not consistent but vary daily.
- The time of day that these trips take place can be restricted to off-peak times, due to the levels of overcrowding associated with travel during peak periods. For example, parents reported that travelling with their young children during peak periods means that they are often unable to board the first bus or train and consequently spend longer ‘waiting’ to board a vehicle than other groups. In addition to overcrowding, parents have also reported difficulties when boarding and alighting low-floor buses, because drivers are not always able to stop adjacent to the bus stop, and pushchairs can be caught in the gap between the vehicle and the kerb.

Unemployed

- As the trip to work constitutes a large proportion of the travel of an employed person, unemployed people generally have a lot less travel experience. In addition, their low-income level means that they have reduced financial capability to travel longer distances. Over time, this reinforces the pattern of limited travel and reduces the travel horizons of the unemployed.
- Unemployed people have a tendency to look for work in areas familiar to them, due to a lack of confidence in making unfamiliar journeys to new destinations. They also have a distrust of the ability of public transport to deliver them to the desired location on schedule, and have a limited willingness to travel substantial distances to work. Infrequent buses and the need to interchange whilst travelling on public transport can further reduce acceptable travel-to-work distances. However, the primary factors affecting an unemployed persons’ potential travel-to-work time threshold are socio-economic rather than spatial; the individual’s skill level and educational attainment have the greatest effect.
- The cost of public transport can limit an unemployed person’s ability to obtain a job. The conditions of use of concessionary passes – where these exist - can be very restrictive, both in terms of the time of day when the pass is valid (typically between 09.30 and 15.00) and the administrative areas where it applies. In addition, it can be difficult for recently employed people to buy money-saving priced season tickets, as there is usually a delay between the last benefit payment and the first pay cheque, and employer-loans are often not available for newly appointed staff.

Shift workers (unsociable hours)

- In recent years there has been a proliferation of jobs for shift workers, particularly in the retail sector with more shops opening later and on a Sunday. Whereas shift working was once mainly a feature of essential services which needed to operate around the clock, such as health, transport and communications, the growth of the

'24/7' economy has resulted in increasing expectations of people being able to access services at times that are convenient for them; this means that workers in a growing number of sectors and occupations are working shift hours. For example, people working in the "personal services" employee group, such as care assistants, home carers or nursing auxiliaries and assistants are most likely to work shifts.

- A high level of car use has been recorded amongst shift workers for the trip to work. This is in response to both concerns about personal safety, particularly when the shift finishes after dark, the lack of service provision in some time periods, and the need to trip chain on the way to or from work. Personal safety whilst waiting for public transport is a greater concern for shift workers than safety on public transport itself (METRO, 2000).
- A further problem is that those starting / finishing work in the early morning on a weekday, have to pay the peak travel fare even though they travel before the network is busy.

Social Accessibility Profile

- Based on the literature review findings and desk based research, the research team have developed a '**Social Accessibility Profile**' to assist them in the next stage of their research, that of further investigating the needs, issues and concerns of different social groups.
- The profile takes into account the personal needs and circumstances of the individual as well as the land use, service provision and transport characteristics when undertaking a required activity, whether this is a home location (e.g. tele-services, home visits or home deliveries) or non-home based destination (e.g. access to goods, services and amenities). As shown in the Components of Accessibility framework (see Figure 18), the types of problem that can be encountered include:
 1. **Spatial:** topography, poor land use planning, peripherality, poor transport provision and inaccessible locations for key services;
 2. **Physical:** difficulties associated with the built environment (e.g. obstacles on the pavement; uneven surfaces; lack of crossing points; lack of acoustic signals; short pedestrian crossing cycles; large steps onto public transport vehicles; large gaps between platforms and vehicles) and/or the design and planning of the transport system itself;
 3. **Temporal:** public transport operating times, opening hours of facilities and an individual's time constraints;
 4. **Financial:** income constraints and cost of public transport services;
 5. **Environmental:** perceptions of safety and fear of crime;
 6. **Information:** lack of information about public transport operating times, concessionary passes, or clear, concise, accurate and timely information available in different languages, Braille, large print and audio formats.

1 INTRODUCTION

Lack of accessibility is a key component of social exclusion, as for many groups of people their ability to reach many opportunities and services is severely reduced due to the lack of accessible, affordable and available transport. Other factors such as lack of timetable information, limited transport operating hours and financial ability can also affect a person's ability to take part in leisure activities, visiting family and friends, employment, education and training opportunities, regardless of age and skill groups. Research has shown that social groups vary in their need to access different goods and services and in their ability to do so, according to their physical condition, their psychological state (e.g. fear of crime), the resources at their disposal, and the local availability of suitable transport and land use facilities. The latter vary from area to area, and by time of day.

This literature review forms part of a wider study which examines the ways in which public transport accessibility models can be adapted to meet the transport needs, attitudes and perceptions of different social groups, with particular emphasis on those individuals that might be disadvantaged by or excluded from the present transport system. This literature review examines the concept of social exclusion in relation to the mobility and accessibility dimension. It goes on to identify the needs of different groups of people and explores the determinants of their travel behaviour.

1.1 Context of the Review

The importance of 'Accessibility Planning' for social inclusion was clearly identified within the Social Exclusion Unit (SEU) report on '*Making the Connections: Transport and Social Exclusion*' (2003). The report highlights that transport is a significant barrier to social inclusion. It demonstrates that an individual's full participation in society, which includes access to healthcare, can be restricted by poor transport. The report also suggests that overemphasis on planning around car use can result in social exclusion, as individuals on low incomes cannot afford the cost of motoring and their use of public transport may be far from ideal because of poor transport networks, unaffordable fares and unreliability. In addition, people with disabilities, the young and older people are restricted from much of the transport system due to an over emphasis placed upon motorised transport.

The recent 'Focus on Personal Travel' (DfT, 2005) showed that:

- In the last decade the average distance travelled per person per year increased by 6 per cent to nearly 6,900 miles. Over the same period, the number of trips fell by 5 per cent to under 1,000, though the average time spent travelling stayed at around 350 hours. The average trip length rose by 12 per cent to nearly 7 miles.
- Although the total number of trips has fallen between 1992/94 and 2002/03, total trips made by car have increased by over 3 per cent. The distance travelled by car drivers increased by 10 per cent during this period.
- The average distance walked fell by 20 per cent during the 1990s and the distance travelled by local bus declined by 11 per cent. The number of walking and cycling trips both fell by 20 per cent between 1992/94 and 2002/03. Walking now accounts for less than a quarter of all trips made in Great Britain. These declines are offset by increased use of cars.
- The proportion of households with access to one or more cars increased from 59 per cent in 1980 to 74 per cent in 2002.

- Bus and rail fares both rose by over a third in real terms between 1980 and 2003. In contrast, the overall cost of motoring has remained at or below its 1980 level.
- The largest percentage increase in average trip distances has been in shopping trips, rising 24 per cent from 3.5 miles to 4.3 miles in the period 1992/94-2002/03. In 2002/03, leisure accounted for 31 per cent of trips and 41 per cent of the total distance travelled.
- About a fifth of households without access to a car had some difficulty accessing supermarkets and doctors.
- The lowest levels of household car ownership were in single pensioner households, where around two thirds were without a car, and lone parent families, where half did not own a car. The highest levels were in households with three or more adults and households with two or more adults with children.
- Only 51 per cent of households in rural areas were within 13 minutes walk of a bus stop with at least an hourly bus service, compared with an average of 96 per cent in urban areas.
- Access to a car is related to income levels. As incomes rise, it is likely that car access and car mileage will increase in poorer regions towards the levels currently seen in wealthier regions.

As a response to the SEU report, the DfT (2004a) issued a series of Accessibility Planning Guidance documents for local authorities and other agencies to assess more systematically whether people can get to places of work, healthcare facilities, education and food shops. Local authorities are also required to include policies to improve levels of accessibility within their second round of Local Transport Plans. Accessibility planning has been defined as:

“A process that aims to promote social inclusion by helping people from disadvantaged groups or areas access jobs and essential services. Accessibility is not just about transport and can be influenced by decisions on the location, design and delivery of other services and by people’s perceptions of personal safety” (DfT, 2004a).

1.2 The Study Groups

There are a number of different ‘groups’ of individuals who are most at risk of being socially excluded. The groups that are often studied are: minority ethnic and faith groups; people with physical or learning disabilities; people with mental health support needs; substance mis-users; offenders and those at risk of offending; unemployed; homeless single people and families; young people; older people and women at risk of domestic violence.

A selection of these ‘traditional’ groups, taken from the above list, and a couple of ‘unique’ groups make up the seven social groups studied within this project and reviewed in this report, namely:

- **Young People** (aged between 16 and 21) (Hine & Mitchell, 2001b; Lucas *et al*, 2001; SEU Report, 2001).
- **Older People** (those over 60) (Hine & Mitchell, 2001a; Hine & Mitchell, 2001b; Lucas *et al*, 2001; Simpson & Lucas, 2000; Einstadt & Witcher, 1998; Murray, 1998).

- **Black and Minority Ethnic people (BME)** (SEU Report, 2001; Lucas et al, 2001; Simpson & Lucas, 2000; Einstadt & Witcher, 1998).
- **Physically Disabled People and People with Mental Health Illness** (Hine & Mitchell, 2001a; Hine & Mitchell, 2001a; Lucas et al, 2001; Simpson & Lucas, 2000; Einstadt & Witcher).
- **Parents of Young Children (aged 11 or under)** (Lucas et al, 2001; Simpson & Lucas, 2000; Einstadt & Witcher, 1998).
- **The Unemployed** (Hine & Mitchell, 2001a; Hine & Mitchell, 2001b; SEU Report, 2001; Lucas et al, 2001).
- **Shift Workers** (Lucas et al, 2001).

Although shift workers are not a well established group within social exclusion studies, their inclusion here was merited on the basis of the low incomes they usually achieve, the unsociable hours they work and the mismatch of these working hours with public transport operating times. Resulting in the impact of these factors on their ability to participate in other activities.

1.3 The Structure of the Report

This review has sought to determine whether, and if so how, poor transport and reduced accessibility contribute to the social exclusion experienced by the different population groups that are already identified as 'at risk' within the academic and policy literature. The review considers concepts of social exclusion, the different population groups that are particularly affected by it, the relationship of transport to social exclusion, and what is known about key barriers to travel in relation to these groups. It is based on an extensive literature drawn from government reports, localised surveys, NGO reports, the academic literature and professional journal articles.

The report is divided into six chapters. Following this introduction (chapter one), **chapter two** introduces the concept of social exclusion and discusses the relationship between poor transport and social exclusion.

Chapter three identifies the socially excluded groups pertinent to this study. It examines the travel concerns and characteristics of the study groups, and establishes the extent to which they share similar travel experiences.

Chapter four goes on to explore some of the differences between the travel patterns of people on low income and the average income, and among different age groups, using data from the National Travel Survey.

Chapter five forms a major part of the review. It looks at the extent to which the reduced accessibility to key destinations impacts on the actions of the different socially excluded groups, by looking at the barriers that limit or inhibit different individuals' ability to undertake journeys, and the impact this has on the trips they make and the modes they use. The section also includes information on the other factors that influence public transport use.

Chapter six briefly draws conclusions from the review and stresses the need for a better understanding amongst transport professionals about the user needs of different socially excluded groups of people.

There is some repetition of material between chapter 3 (population groups) and chapter 6 (barriers), where it is of primary importance to both themes.

2 DEFINING SOCIAL EXCLUSION

2.1 Concept of Social Exclusion

A product of the French republican tradition, the concept of social exclusion was forged from the idea that the existence of groups whom are excluded threatens to undermine the unity of the state (Gaffron *et al*, 2001; Burchardt *et al*, 2002). It's growth in common parlance in both academic and policy debates since the early 1990s has occurred in response to the realisation of the need to re-evaluate what constitutes and causes disadvantage in society (Littlewood *et al*, 1999). Unlike earlier explanations of 'societal disadvantage', which was based on income-centric approaches such as poverty, underclass and deprivation (Gaffron *et al*, 2001; Spicker, 1998; Church *et al*, unpublished), the concept of social exclusion is more dynamic and adopts a more holistic approach to life satisfaction (see table 1). As suggested by Gaffron *et al* (2001), being poor or unemployed does not necessarily mean that a person is socially excluded and likewise, it cannot be inferred that those who are socially excluded are always poor or unemployed.

Many definitions of social exclusion lack a clear explanation of what precisely people experiencing social exclusion are excluded from. Most agree, however, that wider economic and social participation or the ability to act, as 'full citizens' is the essential target behind policies to address social exclusion (Lee & Murie, 1999). Within the UK context many definitions of social exclusion have been proffered. It is acknowledged that the following definitions (Table 1) are not a comprehensive list of the symptoms of social exclusion, but just provide some examples from the literature.

Table 1: Definitions of Social Exclusion

<i>'Social exclusion is not only about shortage of money. It is about rights and relationships; and about how people are treated and how they regard themselves; about powerlessness, exclusion and loss of dignity. Yet the lack of adequate income is at its heart'.</i>	Foley, 1999
<i>'An individual is socially excluded if (a) he or she is geographically resident in a society but (b) for reasons beyond his or her control, he or she cannot participate in the normal activities of citizens in that society, and (c) he or she would like to so participate'.</i>	Burchardt <i>et al</i> , 1999
<i>'A situation in which certain members of a society are, or become, separated from much that comprises the normal round of living and working in the society'.</i>	Philo, 2000
<i>'People excluded from society are those who accept the goals of society in some loose sense but who either do not agree with the socially acceptable means to achieve this or find that the means are not available to them'.</i>	Pearce, 2001
<i>'A shorthand term for what can happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime, bad health and family breakdown'.</i>	SEU Report, 2001
<i>'The unique interplay of a number of factors, whose consequence is the denial of access, to an individual or group, to the opportunity to participate in the social and political life of the community, resulting not only in diminished material and non-material quality of life, but also in tempered life chances, choices and reduced citizenship'.</i>	Kenyon <i>et al</i> , 2002

As can be seen from Table 1, whilst there is no precise agreement on its meaning (Gaffron *et al*, 2001; Preston *et al*, 2003) there is a general concurrence as to what social exclusion entails. The above definitions suggest that the concept of exclusion is politically and socially sensitive and it varies according to the time or situation. Littlewood *et al* (1999) argue that an open definition is needed to ensure that it is not restrictive and remains flexible.

Both Atkinson *et al* (1998) and Burchardt *et al* (2002) identified three crucial elements, or 'schools of thought', common to understanding social exclusion. Their definitions are fairly similar and can be described as:

1. **Relativity** - individuals or groups are always socially excluded in comparison to others and the events or activities going on elsewhere in society. Here the socially excluded individuals or groups themselves are seen as responsible for their situation, because of some aspect of their personal behaviour and/or moral values.
2. **Agencies and Institutions** – The institutions and systems that structure society are seen as responsible.
3. **Societal Dynamics and Limitations** - this means that the conditions that characterise the current situation of those who are socially excluded are a result of their background and past decisions, rather than just the current processes acting on them. It also recognises that the situation may be modified depending their on future development.

The first school of thought has become less popular in research circles and current studies usually refer to a combination of the second and third agencies (Kenyon *et al*, 2002; Murray, 1998). Indeed, various documents have contributed to the debate on what specific aspects of society people are excluded from (see for example: Scottish Office Education and Industry Department, 1998; Preston *et al*, 2003; Lee & Murie, 1999; Scottish Social Inclusion Strategy Action Team, 1999). Furthermore some commentators (De Haan, 1999, in Gaffron *et al*, 2001); Eisenstadt & Witcher, 1998) indicate that social exclusion can occur at all levels of society. Barry (2002) contends that the effect of social exclusion can be observed at a national level. He argues that social solidarity and a shared identity is lost through social exclusion as it reduces the shared experiences of the populace. He considers social solidarity as being an important component of a contented and successful nation. He also points out that individuals or groups are socially excluded if they are denied the opportunity of participation, whether they actually desire to participate or not, such as in South Africa during the years of apartheid.

In addition, all conceptions of social exclusion need to address the issue of voluntary exclusion (Burchardt *et al*, 2002); Barry (2002) identifies three conditions in which this can take place:

1. When an individual or group experience hostility, so withdraws from the particular activity or even society as a whole.
2. When people choose not to participate, but would not be able to if they wanted.
3. It can occur when people themselves choose to be isolated, even if they have the means not to be.

In other words, beyond income and material resources, social exclusion encompasses those who are limited because of a diverse range of barriers including: discrimination, lack of local job opportunities, low skills, chronic ill health, fear-of-crime, lack of available child care, geographic location, cultural identification, isolation within their community, disaffecting interest in mainstream education and alienation from the political process (Burchardt *et al*, 2002; Eistadtadt & Witcher, 1998; Gaffron *et al*, 2001; Scottish Social Inclusion Strategy Action Team, 1999).

Burchardt *et al* (1999) have conducted the most complete analysis of the functions of 'normal' activity. They have used the activities of individuals in Britain in the 1990s as the base for their study. They were able to categorise normal activity into five distinct but interconnected strands:

1. **Consumption activity:** the ability to purchase and use, to a mutually acceptable/certain level, the goods and services considered normal in the society
2. **Savings activity:** the ability to accumulate savings or invest (particularly in a house) as a means of fulfilling aspirations and providing security for times when income is turbulent.
3. **Production activity:** the ability to undertake an economically and/or socially valued activity, which both contributes towards self-respect and provides a positive contribution to society.
4. **Political activity:** the ability to engage in a collective effort in an issue which impacts on the future of the group or individual.
5. **Social activity:** the ability to engage in significant social interaction and obtain a sense of belonging to a cultural group or community.

It is not suggested that all of these activities are necessary to achieve social inclusion, just the ability to access them and to take part should one choose to. Barry (2002) suggests that there are actually two thresholds at which social exclusion occurs. The first is where people are unable to participate, as they do not have the opportunity to do so and the second, usually associated with high-income groups, are those who choose to insulate themselves from the masses through measures such as private healthcare or education. The focus of this study is on the former rather than the latter. In other words, the issue of access is considered necessary to the domains of health care, education or training, transport, labour markets, financial markets, welfare markets, housing markets, the decision-making process and political arena, public utilities, social networks, leisure, recreational and cultural activities. The inter-linked nature of these domains means that if social exclusion occurs in one of them, it can expand into another (Gaffron *et al*, 2001; Bhalla & Lapeyre, 1997; Murray, 1998). For example, the inability to take part in leisure, recreational and cultural activities would limit social networks and may affect health care use.

Exclusion can be viewed as a self-perpetuating process, with the cumulative effect being the progressive detachment from jobs and services (Church & Frost, 1999). This process diminishes the chances of the socially excluded ever reversing the spiral of increasing isolation and makes it harder for them to reconnect (Gaffron *et al*, 2001; Church and Frost, 1999). Social inclusion is, therefore, generally recognised as the process by which social exclusion is ameliorated, as particular individuals, social groups or geographical areas are integrated into society and people have the opportunity to reach their potential (Centre for Economic and Social Exclusion, 2002). Many have argued that social exclusion is an inevitable result of inequality in society (Byrne, 1999; Barry, 2002) and whilst this is not recognised by all, the Centre for Economic and Social Exclusion (2002) acknowledge that an inclusive society is characterised by the pursuit of reduced inequality. This is achieved by pursuing a variety of objectives and whilst increased income and employment are necessary to social inclusion, they are not sufficient on their own to achieve it (Centre for Economic and Social Exclusion, 2002).

Luxton (2002 quoted in Preston *et al*, 2003) has pursued the topic in greater depth and has identified five pre-requisites for social inclusion. They are:

1. Valuing people' or groups' individuality, including being sensitive to any cultural, religious, ethnic, gender and/or age differences.
2. Authority structures permitting and facilitating individuals to make choices and, if desired, to contribute to wider society.

3. The ability to be involved in decisions affecting oneself at any scale.
4. The availability of opportunities.
5. The necessary resources for everybody to participate fully in society, if they choose to.

2.2 The Effects of Social Exclusion

A number of studies have examined the effects of social exclusion, particularly its impact upon different groups of people. For example, the 'Social Exclusion and the Provision of Public Transport' study (DETR, 2000a) examined the relationship between social exclusion and transport and identified the contribution that public and community transport can make to reducing levels of exclusion. A study by Social Research Associates examined the transport requirements and the provision of public transport for minority ethnic and faith communities (DfT, 2003b). The research sought to support the Government's New Deal for Transport aim, '*to produce a step change in public transport to both town and country with better mobility for all in society*' (DETR, 1999).

After the SEU's report '*Bringing Britain Together*' was published in July 1998, eighteen Policy Action Teams (PATs) were established to look at issues around Neighbourhood renewal. A number of the PATs identified the problem of inadequate service provision and the draining of certain key services and facilities in deprived areas as a key contributor to social exclusion. The Transport and Social Exclusion Interim Report '*Preventing Exclusion*' (2001) supported this view and it stressed that a major aspect of the problem of poor transport for socially excluded people is their inability to access key services.

In other words, it can be argued that the effect of social exclusion is to deny certain individuals or groups the chance of equal opportunity. Whilst it is dependent on individuals to decide how they generate their own opportunities, it is important that these opportunities are equally available to individuals or groups and they are not prevented from accessing them due to their personal circumstances. For example, the DfEE report '*Jobs for All: National Strategy for Neighbourhood Renewal Policy Action Team on Jobs*' (2000) showed that opportunities in the labour market are unequal and employment opportunity is highly dependent on where people live. In deprived areas and rural communities, traditional labour markets, such as farming, fishing, mining and manufacturing have declined and this has resulted in higher levels of unemployment and fewer job opportunities. The report also showed that new technological developments have resulted in new employment opportunities opening up in areas affected by the decline of traditional industries.

However, such new opportunities demand different skills of those living in such areas. These problems were highlighted in the DfEE report: '*Schools Plus: Building Learning Communities*' (2000). The report suggested a major factor in the high unemployment of such areas is the mismatch between educational achievement and work-based skills amongst the local population and those required by employers in the area. Adults in deprived areas are also likely to have low levels of qualifications and low basic skills and this can serve to undermine the educational achievement of their children.

A recent ONS Omnibus Survey (2001) identified that poor access to primary healthcare, due to either poor transport or the location of facilities, has resulted in people experiencing difficulty in getting to the hospital (15%), doctor's surgeries (6%) and/or dentists (5%). In addition, 3% of respondents said they had missed, turned down or decided not to seek medical help in the last 12 months because of transport problems. Access to healthy and affordable food shops can also be problematic for socially excluded people. The majority of shops serving people living in deprived communities and remote rural areas tend to be

small, independent, convenience stores that are more expensive than larger supermarkets. A report for the Department of Health '*PAT Report 13: Improving Shopping Access for People Living in Deprived Neighbourhoods*' (2000) showed that between 1986 and 1997 the number of local corner shops declined by almost 40% due to i) falling demand; ii) competition and iii) crime and the threat of crime.

Closure of local banks and post offices, and the mismatch between the type and affordability of the financial products available, have contributed to the existence of the 1.5 million low income households (2 million adults) who do not have access to financial services (Kempson and Whyley, 1998). A report for the Department of Trade and Industry (2000) '*PAT 15: Closing the Digital Divide*' showed that financial inclusion, both in terms of personal banking and other financial services and for the purposes of home shopping, is also assisted through access to the Internet and ICT. However, the take up of ICT in deprived areas is lower than the national average and resulted in a lack of awareness, the skills or the opportunity to access ICT.

A report for the Department of Culture, Media and Sport '*PAT 10: Arts and Sport*' (1999) recognised that participation in social, cultural and leisure activities can play a major part in promoting a number of key policy goals in the areas of health, crime, employment and education, as well as building social capital. In common with other areas of service delivery, the poorest areas have received the lowest levels of funding and provision for such activities.

2.3 Transport And Social Exclusion

2.3.1 The Relationship Between Poor Transport and Social Exclusion

The role of transport in contributing to social exclusion was not fully appreciated in the earlier debates about social exclusion, which focused only on access to health care and rural isolation (Gaffron *et al*, 2001). As mentioned in the previous section, the availability of, or access to, transport and transport services can act as a facilitator or barrier to participation.

The role of transport is considered a part of the mobility dimension of social exclusion, which includes personal mobility (Church & Frost, 1999; Kenyon *et al*, 2002). The mobility dimension of social exclusion refers to the need for movement to access many of the domains of society required for full participation (this requirement for mobility can – in some cases - be replaced by remote access, which will be discussed at the end of section 4.) The inability to access certain services, opportunities, goods or networks because of inadequate transport or restricted personal mobility is a major cause of social exclusion (Kenyon *et al*, 2002). They define mobility-related exclusion as:

'The process by which people are prevented from participating in the economic, political and social life of the Community because of reduced accessibility to opportunities, services and social networks, due in whole or in part to insufficient mobility in a society and environment built around the assumption of high mobility.'

As the definition suggests, it is recognised that there is a reciprocal relationship between transport and social exclusion, as it is both a cause and a consequence (Gaffron *et al*, 2001; Preston *et al*, 2002). Changes in patterns of modal use and in facility location, particularly in the last 30 years, have resulted in motorised mobility becoming increasingly necessary to play a full part in society. As a result, those with insufficient mobility are more limited in their ability to participate, leading to an inequality of opportunity (Gray, 2001; Kenyon *et al*, 2002).

This dispersal of people and activities has added importance to the role of transport in enabling this mobility to take place.

Mobility-related exclusion occurs at the neighbourhood as well as the individual level (Kenyon *et al*, 2002). Neighbourhoods can be characterised by poor transport infrastructure and provision. The self-enforcing nature of social exclusion is particularly acute at the neighbourhood scale (Lupton and Power, 2002). However, even within neighbourhoods with good transport provision, individuals can be excluded (Grieco *et al*, 2000) because of barriers specific to them. These individuals usually also experience other types of exclusion (Whitelegg, 1997).

Lucas *et al* (2001) approach the contribution of transport to social exclusion from a more expansive perspective than the definitions quoted previously. They look beyond its direct association with the concept of social exclusion to the wider impact it has on society. They identify four ways in which transport can cause social exclusion:

1. **Reduced accessibility to basic facilities:** the inability of transport provision to continue to match people's needs as the dispersal of activities occurs.
2. **Transport poverty:** the boundaries of their existing mobility capabilities, matched against the types of transport access available (financial and physical), limit people's ability to participate.
3. **Negative effect of road traffic:** smaller or non-existent gardens and the closer proximity of busy roads mean that those in lower socio-economic groups are more likely to be killed or injured on the road (DETR, 2000a). The increased exposure to traffic also means that the risk of adverse health conditions from pollution is greater (Friends of the Earth, 2001).
4. **Inadequate public transport services:** public transport needs to provide a realistic alternative to car use, particularly in areas with low car ownership (Lucas *et al*, 2001). Compared to cars, travel by public transport usually requires greater time, effort and more regular costs and therefore fortifies the experience of social exclusion (DETR, 2000a; Kenyon *et al*, 2002).

There is currently little work on how to measure the levels of transport or accessibility, as there is little agreement on what factors constitute the effects of poor transport (Church & Frost, 1999). One of the problems identified is a lack of data concerning potential factors, with only car ownership available nationally (Church & Frost, 1999). Many government and academic studies have established a link between mobility and social exclusion (Kenyon *et al*, 2002; Church & Frost, 1999; Preston *et al*, 2002; Hine & Mitchell, 2001b), yet little numerical data has been collected on the correlation between the level of mobility of an individual and their degree of exclusion (Gaffron *et al*, 2001). Despite this absence of empirical evidence, most discussions of exclusion are based on a working assumption that low levels of mobility and consequent difficulties in accessing local services and opportunities intensify problems of exclusion (Church & Frost, 1999).

Church & Frost (1999) defined three variables which determine the ability of public transport to meet the needs of socially exclude households (but can equally be applied to individuals or neighbourhoods). These are:

1. The distribution of the social and activity networks of household members - who and what they need to get to, when they need to go;
2. The nature of the transport options available, including cost, coverage, accessibility and personal preference; and
3. The location of the destinations that the household members are seeking to access.

It is widely agreed that transport can play a crucial role in creating a more inclusive society, especially in light of the increased mobility required to be able to participate (Church & Frost, 1999). For example the 1998 United Nations Development Report outlines the target of access for all to safe and low-cost transport services, which is essential for access to education, health services, employment, markets and community life (UNED UK, 1998).

Table 2 shows a list of examples that illustrate how transport contributes to social exclusion among particular domains of society. It should be noted that evidence of any causal relationship between poor transport and other factors which contribute to social exclusion is limited, largely due to insufficient consideration of this in the literature.

Six main types of transport exclusion can be identified as follows:

- *Spatial* – where people live some distance from the places they need to get to, and have an awkward or near-impossible journey to make to get there. For example, when getting to a hospital or job interview means a long bus journey with a number of interchanges, or where in a rural area there are no local shops and very infrequent public transport services to nearby towns.
- *Temporal* – where people do not have access to places they need to get to at certain times, such as in the early morning or late evening or on Sundays, because of lack of bus services. For example, shift-workers needing to get to or from work in the middle of the night, or young people who cannot take part in night time social activities because there is no transport home.
- *Personal* – where people do not have access to places because of a mobility impairment, or are effectively prisoners in their own home because of fear for their personal safety if they venture out. For example, someone with learning difficulties who cannot read a bus timetable but has to travel alone, or an older person who finds it difficult or intimidating to walk to the bus stop.
- *Financial* – where people are unable to access places because the cost to them of doing so is regarded as excessive. For example, where the bus fare to take four children to a leisure activity combined with the cost of that activity is prohibitive, when considered as a percentage of that family's household income. This is especially the case where a family is unable to find the money to pay for cheaper tickets in advance.
- *Environmental* – where urban social housing is located near a busy radial route and vulnerable people living in there are exposed to greater risk from traffic pollution and accidents. For example, children having to play near busy roads because there are no play areas on their estate, or older people with poor health who suffer from cardiovascular diseases.
- *Infrastructural* - where access to places and/or quality of life is affected by transport infrastructure. For example, where new road building cuts through the middle of a housing estate and physically divides a community, or where the lack of a pedestrian crossing makes it difficult to cross the road.
- *Institutional* – where groups or organisations exclude the interests of some groups. For example, a regular bus forum is held on a Friday when practising Muslims would not be able to participate because they are attending Mosque, or where a crèche is not available making it difficult for lone parents to attend.

Table 2: Causal Relationship Between Poor Transport and Social Exclusion.

Access to Services / Activities	Consequences of limited transport provision
Labour Markets	<ul style="list-style-type: none"> - 38 per cent of jobseekers report that transport, either private or public, is a crucial barrier to getting a job (SEU report, 2003). - A quarter of those aged between 16-25 have not applied for a job in the last year because of transport problems (SEU report, 2003). - The Department for Transport (SEU report, 2003) found that 10 per cent of residents living in low-income areas who have been offered a job within the last year were forced to decline it because of transport problems. - Participants of the New Deal for Young People scheme listed 'lack of transport' and 'no jobs nearby' most frequently when asked about the problems they experienced finding or keeping a job (SEU report, 2003).
Financial Services	<ul style="list-style-type: none"> - People living in disadvantaged areas were found to have greater difficulty accessing financial services like banks, often because their local branch had closed and there was no public transport to the closest alternative one (Gaffron <i>et al</i>, 2003).
Education & Training	<ul style="list-style-type: none"> - Almost half of pupils of a school in a rural area were missing out on after-school activities because of a lack of transport home (SEU report, 2003). - 6 per cent of 16-24 year olds have turned down training or further education because of transport problems (SEU report, 2003).
Healthcare	<ul style="list-style-type: none"> - Almost a third of people without a car have difficulty accessing hospital (SEU report, 2003). - The Countryside Agency / Yorkshire Forward (SEU report, 2003) discovered that within the previous 12 months, over 1.4 million people in the country had missed, turned down or not sought medical help because of transport problems. - Young (quoted in Gaffron <i>et al</i>, 2001) found that women caring for children in low-income households and without access to a car were likely to sacrifice their own health appointments if they were forced to prioritise activities because transport would not allow them to complete them all.
Food Shops	<ul style="list-style-type: none"> - 16 per cent of people without a car find it difficult to access supermarkets, compared to 6 per cent of people with a car (SEU report, 2003). - The increasing re-location of the cheap supermarket chains to out-of-town locations has meant that people on lower incomes are not able to access them (SEU report, 2003).
Participation in Social, Cultural & Religious Activities	<ul style="list-style-type: none"> - Almost one in five people without a car report difficulties seeing their friends and family, compared with 8 per cent of those with a car (SEU report, 2003). - Approximately 10 per cent of people without a car have difficulty accessing leisure facilities (SEU report, 2003).

The DfT's Central Local Working Group on Accessibility Planning (CLWGAP) recommended that, given the variable nature of accessibility problems, priorities and solutions in different areas (e.g. education and training, healthcare, employment and food shops) there is a need for a set of both local and core indicators and targets (DfT, 2004a). In its Guidance notes on Accessibility Planning, the DfT (2004a) have issued local authorities with the following set of core indicators, that should be measured on a consistent basis and included in round 2 of their Local Transport Plans (to be submitted in mid-2005):

- Education
 - % of a) pupils of compulsory school age; b) pupils of compulsory school age in receipt of free school meals within 15 and 30 minutes of a primary school and 20 and 40 minutes of a secondary school by public transport, and those who live beyond those distances;
 - % of 16-19 year olds within 30 and 60 minutes of a further education establishment by public transport, and those who live beyond that distance.
- Employment
 - % of a) people of working age; b) % of people in receipt of Jobseeker's Allowance within 20 and 40 minutes of work by public transport.
- Healthcare
 - % of a) households; b) % of households without access to a car within 30 and 60 minutes of a hospital with an outpatients' facility department by public transport;
 - % of a) households; b) households without access to a car, within 15 and 30 minutes of a GP by public transport.
- Food Shop
 - % of a) households; b) % of households without access to a car within 15 and 30 minutes of a major centre by public transport.

2.3.2 Changes to Public Transport Provision

Greater levels of car ownership and an increase in the proportion of those able to drive has reduced public transport patronage. The reduced revenue collected by public transport operators is just one of the reasons for the deterioration in the frequency, reliability and quality of services (Lucas *et al*, 2001).

The deregulation of bus services outside London in 1985 has resulted in monopolies forming in some areas, as bigger companies have taken over the services run by smaller ones (Lucas *et al*, 2001; Social Exclusion Unit, 2003). The absence of competition allows transport operators to create a wide variation in service provision between routes and between times of day. Services are run to maximise profit so on some occasions services may be abolished or limited to certain times, with evenings and Sundays being the worst affected (Lucas *et al*, 2001). Under deregulation, local authorities can only subsidise routes and not fares, which has resulted in a 30 per cent increase in real terms in bus fares (Social Exclusion Unit, 2003). This rate of growth is considerably faster than that of the costs of travelling by car (Lucas *et al*, 2001).

The dispersion of activities and services has affected ability of bus companies to provide suitable services. It is difficult to operate efficient and profitable public transport services around these out-of-town locations (Lucas *et al*, 2001), and few bus operators have adapted services in an attempt to realistically meet potential new demand (Social Exclusion Unit,

2003). There remains a disproportionate number of radial public transport routes which serve the urban centre (Gaffron *et al*, 2001). Whilst it is virtually impossible to provide public transport to all of the residents within the car defined catchment area of an out-of-town destination, provision could realistically serve larger clusters of the population.

Furthermore, the location of some out-of-town activities alongside fast roads is inappropriate for bus services, because of the unavailability of suitable stopping locations or the high average speed on the road. This means that for those without a car, an increasing proportion of employment, commercial and leisure activities are inaccessible (Hay & Trindler, 1991).

2.3.3 Car Ownership

Car travel now accounts for four fifths of the total distance travelled. Overall, the distance travelled by car increased by 10 per cent between 1991/1993 and 2002. Not surprisingly, car availability is very strongly related to household income.

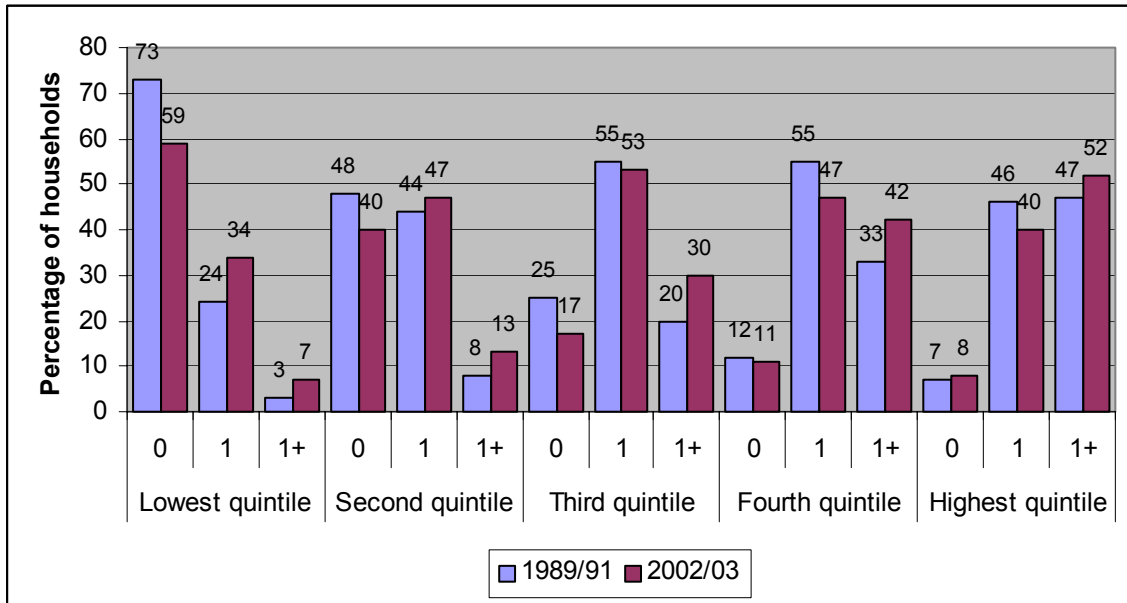
As can be seen from Figure 1, the higher the household income the greater the level of car ownership: in 2002/03 73 per cent of households in the lowest income quintile had no car compared with 8 per cent in the highest income quintile. Over half of households in the highest income quintile had 2 or more cars, compared to 7 per cent of households in the lowest quintile (DfT, 2005). The disparity is more significant if looked at in greater detail at the decile level; here 78 per cent of the poorest 10 per cent of households do not have a car (Friends of the Earth, 2001).

The current levels of car ownership are higher for all income quintiles than those recorded in the National Travel Survey a decade ago. Car ownership has been on the increase since the 1950s as national prosperity levels – and car dependency - have risen (SEU report, 2003). Overall three-quarters of households now own at least one car, and its possession is often regarded as a type of 'status symbol' (DETR, 2000a). As well as status, the car is also associated with the ideals of individualism, freedom and most notably progress (Kenyon *et al*, 2002). Car ownership is a high priority for those on low income as well as those who can more easily afford it (Lucas *et al*, 2001). There is evidence that those on low incomes will make significant sacrifices in order to obtain a car (Kenyon *et al*, 2002). In some ways, therefore, lack of car ownership can, in and of itself, be said to contribute towards at least a feeling of social exclusion.

The majority of those that are in the lowest income quintile do not own a car. They are forced to rely on public transport, which Kenyon *et al* (2002) identifies as making access to services, facilities and social networks problematic and sometimes impossible.

It is important to note here that household car ownership does not indicate that there is car access for all of the individuals living in that household. In single-car households' access to the car is likely to be unequally distributed (Kenyon *et al*, 2002).

Figure 1: Household car availability, by income quintile: 1989/91 and 2002/03

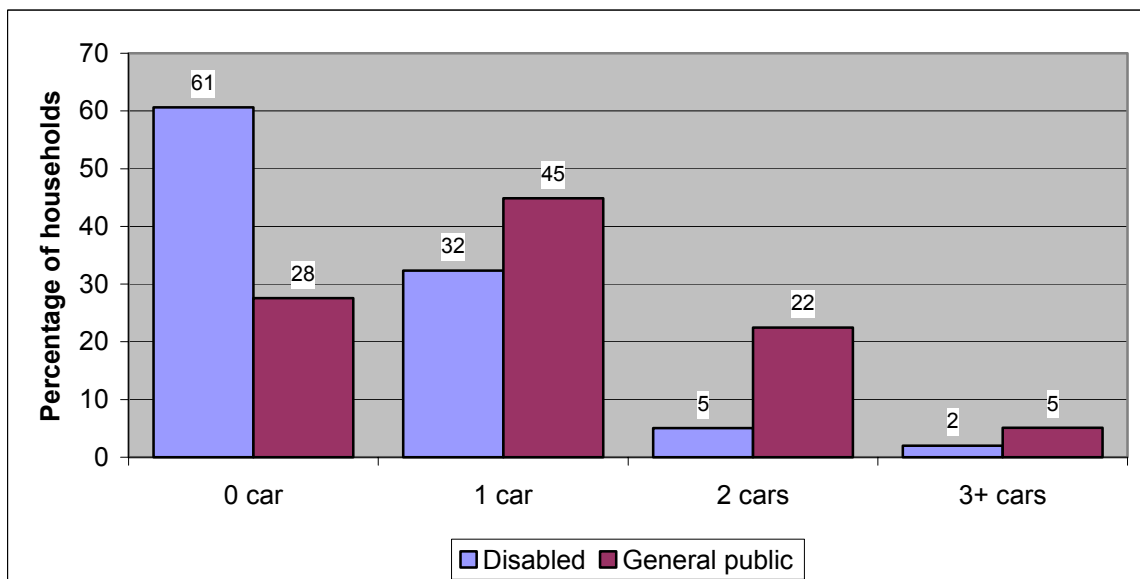


Source: Transport Trends: 2004 Edition (DfT, 2004c).

Note: Individuals income quintile is defined by the income quintile of the household they live in.

Figure 2 shows the results of some research that was carried out in 2001/02 by the Disabled Persons Transport Advisory Committee (DiPTAC). The figures suggest that household access to a car is much lower in households containing a disabled person than in other households, despite a disabled people's greater reliance on the car. Sixty per cent of disabled people have no car available in their household, compared with 27 per cent of the general public.

Figure 2: Household car access for disabled people and general public: 2001/02



Source: Transport Trends: 2004 Edition (DfT, 2004c).

2.3.4 Land-Use Planning

An extensive road building programme, particularly in the 1980s, alongside the growth in car ownership has resulted in a dramatic change in the location of many facilities and services. Retail was the first sector to radically modify its location practices. Prime locations were those that are well served by roads connecting the site to a number of areas. Policy incentives also encouraged the development in these out-of-town locations and resulted in many retail developments being located on the edge of urban areas. The success of such centres resulted in a rapid change in retail type and location. The number of small-specialised shops has halved in the last 20 years, (Lucas *et al*, 2001) and the number of out-of-town shopping centres increasing four-fold (SEU report, 2003). These location trends have resulted in reduced access to the cheaper out-of-town stores for those without a car, meaning they have to shop at local stores where reduced competition has raised prices (Lucas *et al*, 2001).

A significant number of large employers have tried to achieve the benefits that were obtained by the retail sector, by relocating to out-of-town locations with financial incentives and good car access for their employees. In addition, many leisure facilities have repeated this relocation pattern (Kenyon, 2002). The centralisation of health and social services led to the closure of smaller hospitals in favour of the growth of specialist centres of excellence (SEU, 2003; Kenyon *et al*, 2002). The financial crisis of the early 1990s resulted in the financial markets making selective branch closures in rural and poorer urban areas (Gaffron *et al*, 2001). This means many basic services are further away than previously, and it is now generally accepted that local services and facilities are less accessible to people living in the poorest areas (Church & Frost, 1999).

In many instances, this dispersal of facilities has made travel-intensive lifestyles a prerequisite for achieving social inclusion (Lucas *et al*, 2001). This is dependent on an individual's mobility and the transport options available to them. In the absence of good public transport provision these land use changes have exacerbated the travel problems of those without a car (Kenyon, 2002).

3 AN OVERVIEW OF THE SOCIAL GROUPS

There are a number of personal conditions and external factors that provide the context in which the travel behaviour of those in the lowest income quintile, takes place. The main personal characteristics are poverty and car ownership, while the external factors are land use change and changes to public transport provision.

3.1 Who is Socially Excluded?

Despite considerable debate within the literature, there remains much confusion as to whom is considered to be socially excluded and individual interpretations are often motivated by political expediency (Kenyon *et al*, 2002). Burchardt *et al* (2002) suggest that there are three ways within academia of understanding who is socially excluded. The first assumes it is based on those in poverty. The second considers it to be those within the lower classes relating to the problems of inequality. The third is a more complex conception and considers it to be those who are outside rather than inside society. The last of these is the conceptualisation most popular currently (Bhalla & Lapeyre, 1997; Kenyon *et al*, 2002). Spicker (1998) however warns of the need to clarify the distinction between marginalisation – i.e. limited use, and exclusion – i.e. non-use.

Whilst socially disadvantaged groups of people may have different activity needs, it is suggested that to a large extent they share a common experience of social exclusion. They also tend to share the most common indicator of social exclusion, namely low income (Kenyon *et al*, 2002; Gaffron *et al*, 2002; Barry, 2002). To check that low income is a common denominator between these populations, it is necessary to look at the composition of the population in the lowest income quintile, where we find that all such groups are likely to be disproportionately represented.

As has been noted previously, poverty is not a pre-requisite for, or a guarantee of, social exclusion. However, Pierson (2002) describes poverty as the most potent element in the social exclusion process. The most recent Poverty and Social Exclusion Survey found that by the end of 1999, approximately 14.5 million people in Britain were living in poverty. This constitutes a quarter of the population and it represents the continuation of a trend towards an increased number of people in poverty (Gordon *et al*, 2000).

People on lower incomes are constrained in their ability to participate in society (Eisenstadt & Witcher, 1998). The disaggregation of the data on poverty reveals that 7.5 million people are unable to engage in common social activities, such as visiting friends or family or attending special occasions because they are too poor (Gordon *et al*, 2000). This statistic clearly has a transport component. Looking in more detail, Gordon *et al* (2000), report an association between poverty and the feeling of isolation. Around a quarter of people whom are currently poor feel isolated and/or depressed (Gordon *et al*, 2000). Again transport contributes to this phenomenon.

Disparity in incomes has significant implications for personal mobility. The impact is greater in this country because of the lack of general fare subsidies on commercial deregulated bus services (Barry, 2002). The Family Expenditure survey 2001/02 found that less than 10 per cent of the total expenditure of households in the lowest income quintile was spent on motoring costs. In comparison households in the other quintile groups spent at least 15 per cent. The much smaller amount being spent on travel by households in the lowest income quintile will affect the amount of non-walking trips they are able to make, the locations they are able to travel to access, and the methods that they use. Despite the economic problems faced by a significant number of the population, it was found that the non-availability of services was a bigger barrier than non-affordability (Gordon *et al*, 2000).

3.1.1 Composition of The Lowest Income Quintile

The 'Households Below Average Income 2000/01 Survey' provides details on the composition of the lowest income quintile. Table 3 shows the proportion of the groups examined in this study that are in the lowest income quintile. The survey does not enable us to establish the situation of younger people or those in shift work. Table 3 shows that, for all the groups that are featured, they are over-represented in the lowest income quintile.

Table 3: Composition of the Bottom Income Quintile

Characteristics of household (except for pensioners which is based on individuals)			Percentage of Groups in Lowest Household Income Quintile	
			Before housing costs	After housing costs
Ethnic group	White		19	18
	Black Caribbean		29	34
	Black Non-Caribbean		31	43
	Indian		24	26
	Pakistani/ Bangladeshi		60	61
	Other		29	37
Age	Pensioner in couple	Overall	27	20
		Under 70	20	16
		71 to 75	30	21
		Over 75	37	26
	Single pensioners	Overall	26	18
		Under 70	20	16
		71 to 75	26	18
		Over 75	30	20
Disability	Containing at least 1 disabled person		28	27
	Containing at least 1 disabled adult		28	27
	<i>Containing no disabled people</i>		17	18
Unemployed	Head or spouse unemployed		69	73
Parents	<i>Couple with children</i>		18	18
	Single with children		40	49

Notes: Results presented in this table include the self-employed.

Source: DWP, Households Below Average Income 2000/01 Survey (2001).

With regard to ethnicity, the table shows that, before housing costs are considered, 19 per cent of white people are in the lowest income quintile, compared to 29 per cent of Black Caribbean people, 31 per cent of Black Non-Caribbeans, 24 per cent of Indians, 60 per cent of Pakistani/Bangladeshi people and 29 per cent of 'other' ethnic minority groups. When housing costs are considered the difference is accentuated, and people in BME groups are even more strongly concentrated in low income groups.

Pensioners are more likely to be in the lowest income quintile before housing costs are considered. Surprisingly, pensioner couples are more likely to be in the lowest income quintile than single pensioners. Older pensioners are more likely to have a low income. Households containing disabled people are much more likely to be in the lowest income

quintile than those without. 70 per cent of unemployed people are located in the lowest income quintile, meaning they have the strongest correlation with low income. Having children in a household only appears to have a negative association with income if it is a single-parent household. The number of single parent households in the lowest income quintile is double the average; the number of two parent households in this quintile, however, is slightly less than average.

Alternative information is available on certain groups from the effects of taxes and benefits on household income 2001/02. This suggests that 42 per cent of single parents were in the lowest income quintile, compared to 16 per cent of couples with children. For households whose chief economic supporter is over 74, 34 per cent were in the lowest income quintile. For households whose chief economic supporter is over 64 but under 75, this proportion is 24 per cent. The survey also finds that over 60 per cent of unemployed people are in the lowest income quintile. Although there is no information on the quintile distribution of shift workers and young people, there is evidence that both groups are also highly concentrated in lower income groupings.

One of the Department for Work and Pensions' (DWP) ten 'Public Service Agreement' targets for Spring 2006 is to increase the employment rates of disadvantaged areas and groups, taking account of the economic cycle - lone parents, ethnic minorities, people aged 50 and over, those with the lowest qualifications and people in the 30 Local Authority districts with the poorest initial labour market position, and to significantly reduce the difference between their employment rates and the overall rate (DWP, 2003).

3.2 Young people (16-24)

There are approximately 6 million people aged between 14 and 21 in Britain (Census, 2001). Transport is a key issue for many young people, as it can be one of the main factors that determine which school or college they attend, if they can participate in after school activities, how and where they access health care and employment, and whether or not they are able to see their friends out of school hours at times that are convenient to them.

They are keen to assert their independence and their individual mobility increases as they become older, but concerns about crime and traffic safety mean that they make few trips unaccompanied by adults until the age of 16 or 17. A recent DEFRA report (2004) showed that young people living in rural areas are more dependent on other family members to take them by car to the places they want to go, and that their choice of leisure and social activities is likely to be influenced by the places their parents are willing and able to take them. In such circumstances, access to confidential personal advice (on drugs, contraception, etc.) may be difficult to obtain.

Teenagers are prepared to walk for a longer distance than adults, due probably to a combination of a lower budget, being fitter and a more relaxed perception of the importance of time.

Young people have shown low levels of societal participation (SEU Report, 2001), relating to higher than average levels of unemployment and the disillusionment this causes (Labour Force Survey, 2003). In addition, they face mobility problems associated with being predominantly dependent on others for transport (DETR, 1999). The proportion of teenagers relying on lifts to access leisure activities has increased in the last 20 years as a result of the dispersal of activities and the reduction and increased price of off-peak public transport services. The cost of peak-time public transport prevents some young people from attending education courses or causes them to miss classes. Young people in further education (aged

16-19) and those continuing in courses they started before their 19th birthday can receive financial support, in the form of concessionary fares, from their Local Education Authority (LEA) but this practice is discretionary to the individual LEA in consultation with their partners in colleges, Learning and Skills Councils, Connexions and Passenger Transport Authorities (where they exist).

Since August 2002 the Department for Education and Skills (DfES) has given powers to LEAs and their partners to decide how they wish to use Learner Support Funds (which help students in further education overcome financial barriers (e.g. the cost of books, childcare and transport) to participate in learning). For example the funds can be used to fund free or subsidised transport as long as they benefit all students (DfT, 2004a). Adult students (19+) in FE colleges may also be entitled to support from the college administered Learner Support Fund, but once again this is discretionary.

Young people feel that public transport employees often display a negative attitude towards them as they assume that all young people are going to cause trouble. Proof of age is a real issue for many young people, particularly if they try and obtain the discounted fare they are entitled to. Within the UK there is no legal requirement for operators to offer young people concessionary fares, even if they are still in full-time education (DEFRA, 2004). For those young people who do use discount or season tickets in parts of the country with competing bus companies, it means having to use the same operator each day and in some cases they may have to wait longer at a bus stop for the right bus to come along.

In addition, 38% of young disabled people stated that they experience problems when using public transport, because of reasons relating to their impairment (e.g. cannot hear the public announcements, cannot see the information, or cannot grab hold of hand rails etc). Of these, half reported that this makes it difficult for them to participate in activities with other people their age (DPTAC, 2002).

National research for the then DETR (1999) with children and young people on using public transport has revealed that they have a great deal in common with adult passengers in their perception of personal security and what makes them feel unsafe. Most young people feel much less secure after dark and whilst they are waiting or travelling alone. Safety issues when using public transport in the evenings (i.e. when walking to and from the bus stop, whilst waiting at poorly lit bus stops and whilst travelling on board the bus) are real concerns for many young people.

Although often perceived to be the perpetrators of crime on public transport, it is important to note that young people have also reported adapting their travel patterns because of the threat of crime. Half of young women and 20 per cent of young men were deterred from using facilities because they would have to walk / from the bus stop or train station late at night (DETR, 1999). They also stated that they would not travel on the upper deck of buses as it is considered to be unsafe [e.g. fear of being intimidated by other passengers and other forms of harassment]. The introduction of bus conductors on all services was seen as a suitable means of reducing these problems and reassuring passengers (DETR, 2000a).

The image of public transport amongst young people is fairly negative and cars are often seen as the antithesis of this. They are viewed as convenient, more comfortable, cleaner and cheaper, as well as providing more freedom and respect amongst individuals within their peer group (Save the Children 2000). All of the 16 to 17 year-olds questioned in the Save the Children (2000) survey aspired to car ownership. However, the proportion of young driving licence holders has decreased in recent years with 32 per cent of those aged 17-20 with a licence, compared with 49 per cent in 1991/1993 (DfT, 2004b).

3.3 Older people (60+)

There are almost 8 million people over 65 in England and Wales, which constitutes 15% of the population. For the first time in recorded history, people aged 60 and above (at 21%) form a larger segment of the population than children aged under 16 (20%) (Census, 2001). Of those aged over 65, half are aged between 65 and 74, 35 per cent are aged between 75 and 84 and 13 per cent are 85 and over. The age group 85 and above make up 1.1 million (1.9%) of the population (Census, 2001). The proportion is set to increase further in the next 20 years as the age structure of the population changes. The projected population of Great Britain for people aged 75 and above will double from 4 million, the population now, to 8 million in 2050 (Census, 2001).

Older people travel less often than any other age group, are more likely to make local journeys and are more likely to walk or to use public transport. They typically make fewer trips, not because of a reduced desire but because it becomes harder to access both the transport node (bus stop, rail station) and the vehicle itself, as the ageing process limits their functioning. Recent statistics show that 3.5m people over the age of 65 report having a limiting longstanding illness or disability (Prime Minister's Strategy Unit, 2004).

The relative importance of shopping and personal business increases with age. For people aged 70 and over, 60 per cent of trips were for shopping and personal business in 2002 (DfT, 2004b: 13). The times at which they are able to travel are limited due to the restrictions of their concession passes and their reluctance to travel during busy periods when they are less likely to be able to sit down, may be confronted by aggressive school children and may experience resentment from other passengers. One of the problems they face in their attempt to make off-peak trips is the reduced public transport service, particularly on Sundays.

A recent report by Help the Aged (2005) reported that older people are considerably more likely to report difficulties accessing local amenities such as shops, banks and hospitals. In 2002-2003, 33% women and 21% of men aged 75 and over in 'fair' or 'poor' health, said they had difficulties getting to shops and were most likely to report such access difficulties.

Bus use among both genders was higher for those aged 70 or over than in middle age, probably reflecting the availability of concessionary bus fares for older people. The Transport Act 2000 required all local authorities to provide the national minimum standard of a half fare, free permit scheme for women aged 60 or over and men aged 65 or over. Older people (60+) in Wales and Scotland enjoy free, full fare travel passes. Those over 65 years of age do so in Northern Ireland but only 20% of English pensioners (60+) are eligible for such a level of travel benefits, the rest are statutory half fare bus passes (Help the Aged, 2005). Therefore all pensioners in Great Britain had some form of concessionary bus scheme available in 2002, compared with 95 per cent in 1991/1993 (DfT, 2004b: 41).

Another reason for higher bus use among those aged 70 or over may be due to fewer older people currently being in possession of a driving licence (DfT, 2004b: 13); however, this is set to change. Older people do not want to relinquish their established lifestyle as they age, and the use of the car is seen as pivotal to maintaining their independence (OECD, 2001). Fewer older women have access to cars compared with men of the same age. In 2001, 88% of men and 85% of women aged 50 to 59 had access to at least one car or van in their household. Among those aged 75 and over these proportions were far lower at 58% and 33% respectively (Help the Aged, 2005).

Current driving patterns suggest that the proportion of those over 65 that drive will increase rapidly in the future (DETR, 2001). There has been a large increase in the number of older

women holding licences. In 1991/1993, less than two in five women aged 60-69 held a licence; by 2002, the figure was nearly 3 in 5. Over the same period, the proportion of women aged 70 or over holding licences increased from one in six, to more than one in four. Licence holding will continue to increase among these age groups, as those currently in the younger age groups keep their licence as they grow older (DfT, 2004b: 13).

A study by Crime Concern (2002) reported that older men and, to a much higher degree, older women said they felt 'very unsafe' when walking alone in their area after dark. Older people are more likely to fear becoming the victim of crime, principally because they feel physically weaker and because the implications of an attack would be more severe for those who are frail. This affects the number of trips that they make in the evening, with most looking to complete their journeys during daytime or restrict their evening travel to locations they are familiar with. The British Crime Surveys reveal that older people are more likely to feel anxieties about being the victim of crime and anti-social behaviour, although they are less likely than younger people to be the victim of an incident.

3.4 Black and Minority Ethnic People

The UK 2001 Census revealed that the BME population had grown to 4.6 million and now constitutes 7.8 percent of the population (Office of National Statistics, 2001). The largest BME group is the Indian population, which numbers over a million people, followed by the Pakistani, Black Caribbean, Black African, Bangladeshi and Chinese populations, in that order. Much diversity exists within these base classifications; for example the Indian population contains people of various religions including Hindus, Muslims, Sikhs and speakers of various languages including Gujarati, Punjabi and Urdu.

Whilst a lot of attention is given to the 'established' BME groups, it is also important to consider the smaller minority groups, many of whom are relatively recent immigrants and tend to be much less familiar with the English language, such as Albanians, Iraqis and Somalis. It is also necessary to consider the religious diversity of the UK's populace, as this is another important component of an individual's identity. In the 2001 Census, 33 million people identified themselves as Christian with a further 1.5 million Muslims, 0.7 million Hindus, 0.3 million Sikhs, 0.3 million Jews and 0.2 million Buddhists in the country (Office of National Statistics, 2001).

The recent Focus on Travel Report (DfT, 2005) showed that in 2001, a fifth of households of Indian origin did not have access to a car, compared with a quarter of households of white ethnic origin and almost half of black origin. In 2003, 72 per cent of people of white ethnic origin travelled to work by car compared with about 60 per cent of Indian, Pakistani or Bangladeshi origin and 46 per cent of black origin. These differences may partly reflect geographical variations in areas of residence and workplace.

The 2001 Census data suggests a greater desire for car ownership amongst the Asian populations. The status symbol of owning a car was cited by Asian men as one of the reasons for not reducing the use of their car for travel (Ahmed and Holder, 2000). Male Asian car owners acknowledge that for them public transport will never be able to equal the comfort and convenience of the car and they would not be interested in using public transport regardless of how effective it became (Ahmed and Holder, 2000). High car ownership amongst Asian groups is also partly a response to the need for a safe environment, especially for women, to travel in. Muslim women are particularly reluctant to use public transport and are dependent on male relatives or car drivers in their family network. This aligned with a strong sense of community and extended family support

ensures that the women, who are not able to drive, are able to travel further a field than many other ethnic groups (DETR, 2000a; Lucas et al, 2001).

A study by Crime Concern (2002) reported that Asian respondents, and Pakistani and Bangladeshi respondents in particular, were more likely than white and black respondents to say their neighbourhood was 'very unsafe' after dark. As with all respondents, women and older people across all minority ethnic groups were much more likely to feel unsafe when travelling at night.

More generally, the study found that minority ethnic residents are more likely to feel unsafe walking alone in their neighbourhood than their white counterparts. More than a third of all black and minority ethnic respondents said they avoided certain streets or areas because of racially motivated crime or harassment and a similar proportion did not go out alone at night. Women were twice more likely than men to not go out alone after dark.

Respondents from black and minority ethnic groups were more likely to express anxiety about specific crimes than white respondents. Significantly, higher percentages of Pakistani and Bangladeshi, Indian and black respondents said they were 'very worried' about being the victim of burglary, a street robbery or mugging and rape. Minority ethnic respondents were more likely to worry about racial attack than white respondents, Asian respondents expressed more worry than black respondents and women were more worried than men. Fear of racist abuse or assault can significantly heighten concerns for personal security in any public place. It makes the walk to and from the stop or station and the time waiting potentially dangerous, irrespective of whether it is during the day or after dark.

Qualitative research conducted by Crime Concern (2002: 27) with black and minority ethnic residents in Birmingham revealed that men and women across all age ranges felt unsafe walking to or from the bus stop or whilst waiting for a bus. For many, their concern was such that this deterred them from making journeys by public transport. For some participants, the journey by bus after dark was also perceived as unsafe. Others did travel but still felt uneasy or took precautions by choosing to sit near the driver or avoiding certain routes or stops.

This perception of a lack of safety, alongside a lack of knowledge about the availability of transport information in community languages, a lack of awareness about different ticketing options (therefore paying more than necessary) and cultural differences (e.g. Asian women feel embarrassed talking to bus drivers because a large majority of them are men) (DfT, 2003b) means that the BME community often restrict their travel to areas and modes they are familiar with. In all BME groups, the importance of walking as a method of travel is accentuated and travel is often localised to within the community, notably in the poorer ethnic groups.

The concentration of individual BME populations in certain locations and the strong sense of community within these groups, as well as the ability for community related goods and services to be supplied locally, means that many of their retail, social and religious needs can be met very close by. For example, Yemeni women in Liverpool shopped locally because many shopkeepers were from the same community and spoke Arabic (Lucas *et al*, 2001). In some cases the small distances required mean the majority of journeys can be completed on foot (Ahmed and Holder, 2000; PRIAE, 2003; DETR, 2000a). Asian women in particular seem to restrict their to activities to within their local area (DETR, 2000a; Lucas et al, 2001).

A further reason for the smaller activity spaces within which BME communities appear to live lies in the 'racialisation' of areas (Green, 1998). Green found that perceptions about how the community would be treated in an area determined the areas in which they felt they were able to travel. For example, members of the Bangladeshi community in Tower Hamlets stated that they considered the Isle of Dogs to be 'a no-go area' because of their ethnic

group (Green, 1998). Similar results were found in a study on the Black Caribbean community in the Chapeltown area of Leeds. They stated that they avoided going into the city centre as they felt they did not belong there, despite living only a ten-minute bus ride away and would rather remain in familiar areas where they felt safer (PRIAE, 2003; Crime Concern, 1999). Amongst the lower income BME communities, many of the areas in which they were not prepared to travel were modern, wealthy areas with a small BME population.

3.5 Disabled People

In 2001 there were 9.5 million people (18.2% of the population of England and Wales) who said that they have a long-term illness, health problem or disability that limits their daily activities or the work they could do (Office of National Statistics, 2001). It is estimated that 20% of the adult population of Great Britain (11.7 million) are categorised as disabled under the definitions of 'disability' in the Disability Discrimination Act 1995 (DRC, 2000). Disability is predominantly an experience of old age; the prevalence and severity of disability increases with age. Over half of all persons with serious disability are aged over 65 years (UoW *et al*, 2003). The recent Focus on Travel report (DfT, 2005) showed that 48 per cent of people aged 70 and above reported some difficulty, compared with 6 per cent of those aged less than 50. Of those with a mobility difficulty, 10 per cent did not record any trips in their travel week, increasing to 15 per cent for those aged 70 and above. However, disability is by no means limited to the older segment of the population. In the region of 5% of persons aged 25-34 years have some form of disability. This proportion nearly trebles among persons aged 45-54 (14%) (UoW *et al*, 2003).

The range of impairments experienced by disabled people have been classified into three broad categories: mobility, sensory and mental health including learning disabilities. Mobility relates to impairments that limit an individual's physical functioning. Sensory relates to impairments that affect their senses. No data exists on the number of people with disabilities within each of these categories. Limited data exists on the specific nature of people's disabilities; 72% of disabled people reported a disability of locomotion. The other common disabilities are in the areas of dexterity, personal care, hearing or behaviour. Around a third of disabled people reported these disabilities (Tyler, 2002). The other common disabilities are in the areas of dexterity, personal care or behaviour (Tyler, 2002).

Transport is the most highly reported problem facing disabled people, despite many existing initiatives (DPTAC, 2002). People with impairments (such as deafness, spinal injury, learning difficulties, autism) become disabled through barriers such as discrimination, an inaccessible built environment and exclusionary policies. Fears of crime and intimidation increase the likelihood of disabled people re-evaluating what constitutes an essential trip, which results in shrinking journey prisms and increased social isolation. Inability to travel freely can seriously restrict the ability of disabled people to carry out activities; for example 25% of disabled people (and 50% without a car) report that inaccessible transport restricts their leisure pursuits (Lucas *et al*, 2001). Similarly, the Disability Rights Commission (2001) stated that 'disabled people do not generally travel through choice'.

A study for the DfT (2002a) reported that disabled people travel a third less than the general population. In its response to the Cabinet Office Consultation on *Transport and Social Exclusion*, the Disability Rights Commission (2000) highlighted the following as characteristics of disabled people and transport issues:

- The vast majority of disabled people experience significant levels of social exclusion, because the design and operation of Britain's transport system has failed to deliver an appropriate and accessible service;

- Transport costs are usually higher for disabled people, because of a high dependence on expensive modes such as taxis;
- Most disabled people have had poor experiences of public transport, with exposure to disproportionate levels of risk, much of which has led to personal injury. This has caused a dramatic reduction in their confidence in using public transport again.

For those individuals with mobility impairments, the principle limitation is their physical inability to access the public transport network due to barriers in the street environment that inhibit their movement; the design of public transport vehicles; and attitudes of drivers and other passengers when boarding or alighting vehicles. It has been found that, for mobility disabled people, bus use reduces sharply if the distance to the stop is over 200 metres. This distance should be reduced by 10 metres for every 1 metre rise or fall along the journey.

To address the concerns of those individuals with mental health problems, greater awareness among transport operators is needed of the information presentation needs of people with mental health problems and learning disabilities, to ensure that they feel able to pick-up information and adapt to unexpected changes on their route. People who have a mental health illness often limit their travel to areas they are familiar with. The disorientating effects of these disabilities means they are unwilling to risk the possibility of 'an episode' occurring. When undertaking an unfamiliar journey for the first time, such people often prefer to be accompanied, which can mean that their activity independence is restricted beyond the well-known local environment. If they have recently had a negative experience travelling, then their confidence takes a long time to rebuild and their travel patterns are likely to be further restricted.

Other people, particularly those with learning disabilities, feel unable to complete spontaneous journeys that will require obtaining information on route. They feel that if the information is not presented clearly they will not be able to understand it and they may have to ask for assistance, which they find demeaning (Disability Rights Commission, 2000). Others who have difficulty speaking clearly often feel that they will not be able to make themselves understood to drivers (DETR, 2000a). Confidence in their own ability is the biggest factor that determines the travel horizons of people with a mental health disability.

As with older people, whether a disabled person can successfully complete a journey will rely as much on the accessibility of the street and bus stop infrastructure as on the accessibility of the bus. The 2004 National Travel Survey showed that in 2002, 16 per cent said they found it difficult to walk and half of these also found it difficult to travel by bus. 70 per cent of those who had problems using buses found it difficult to get on and off buses, about 60 per cent found it difficult to get to the bus stop, and 55 per cent found it difficult standing waiting at the bus stop. In many cases, the absence of a safe road crossing the bus stop will provide a sufficient deterrent.

A study by Crime Concern (2002) reported that those respondents with a limiting disability and/or illness feel they are likely to be a victim of car crime, street robbery or mugging and an attack by a stranger. Those with a limiting disability and/or illness are also more worried about crime and are more likely than other respondents to feel 'very unsafe' when out alone in their neighbourhood after dark (24% felt 'very unsafe' compared to 10% with no disability or illness).

A separate study by Crime Concern (1997) found that people with learning difficulties stated that they would not go out in the evening on their own, only as a group. This was largely because they had experiences where they had been victimised or verbally abused during the day and fear that it would be worse at night. People with learning difficulties who have concerns about their safety when using public transport or in public often limited their solo activities.

Households containing disabled people aspire to car ownership, because the vehicles can be adapted relatively easy and this can ensure much easier access to activities than when using public transport. Access is made easier as most facilities have allotted car park spaces close to the entrance, which only disabled people are entitled to use (Disability Rights Commission, 2000).

3.6 Parents with Young Children (under 11)

The 2001 Census showed that around 30% of households contain dependent children; one in nine have children under the age of five and 18 percent contain children aged between 5 and 11. The data also showed that approximately 25% of dependent children live in lone-parent families, of which over 90% are living with the mother.

Hillman *et al* (1976) found that, for parents with young children, the age of the children determined which part of the street environment provided the biggest barrier. For parents travelling with children young enough to be in a buggy or a pram the biggest problem was negotiating past the street furniture and the effort involved in pushing the child up hills or over uneven paving. Even travelling along a good, flat pavement was found to cause tiredness and reduced the distance they were able to walk.

It has been found that having dependent children under 18 has a significant negative impact on travel-to-work time, particularly if the parents are dependent on public transport as there remain concerns over it's reliability. The frequency and reliability of public transport is particularly important to parents of young children, as they are more likely to trip-chain (combine journeys to work, school, childcare and shopping). The trip chains that are undertaken by parents are not consistent but vary daily, so routine journeys are not performed. Anecdotal evidence has shown that the public transport network lacks the flexibility and regularity to meet the requirements of their personal schedules.

It is becoming increasingly common for parents to escort their children on trips to a variety of locations. Between 1970 and 1990 the percentage of children's trips which are escorted has increased by a factor of three and a half. For primary aged children, the proportion of school trips by car increased from 30 to 40 per cent between 1992/94 and 2002/03, with a corresponding reduction of trips on foot from 61 to 52 per cent. The main reasons given for accompanying primary school children (aged 7-10) to school were traffic danger (58 per cent), fear of assault or molestation (45 per cent) (DfT, 2005). Adult women were much more likely to make escort education trips, which accounted for 15 per cent of all trips for women aged 30-39, compared with only 3 per cent for men in this age group (DfT, 2004b).

Almost three-fifths of children aged 5-16 said they walked for 20 minutes or more at least once a week, but one fifth said they had not walked that far in the last year (DfT, 2005). The 2005 Focus on Travel report (DfT, 2005) showed that in urban areas in 2002/03, cars taking children to school accounted for 13 per cent of car trips in the morning rush hour (8-9am) and 21 per cent of trips at 08.50am, the peak time for school run traffic. Many women in Edinburgh said that they would either drive their child to reach their activities or not let them go at all (Pain, 1997 in Gaffron *et al*, 2001). The three principle reasons that parents of young children prioritise travelling by car are:

- They complete many trip chains;
- Travelling on public transport with children is expensive, and
- They feel they are better able to protect their children if they travel with them in a car.

The principal concern of parents when travelling is the well being of their children. In addition to ensuring their safety (discussed above) public transport often fails to provide an environment compatible to the needs of young children. Children are very active and those under seven find having to stay in one place for a long period quite difficult (Hillman et al, 1976). Children can therefore be difficult to control on buses and trains, especially on long journeys (DETR, 2000b). The absence of restraints on seats means that it is hard to stop children moving around and impress on them the need to sit in their seat for safety reasons. As there is usually no area set aside on long distance transport where it is considered appropriate for children to 'play', other passengers often display intolerance towards the children's behaviour and hostility towards the parents (Hine & Mitchell, 2001b). This makes parents trips with young children on public transport both tiring and uncomfortable (DETR, 2000b).

Parents have also expressed their frustration at the way in which 'no smoking' bans are not enforced on buses and at transport nodes, and the negative impact that this can have on their child's health (Hine & Mitchell, 2001b).

3.7 Unemployed

The Labour Force Survey revealed that there were 1.49 million unemployed people in Britain in April 2003 (at 5%). This is a lower figure than is historically normal (Labour Force Survey, April 2003). At the time of the last Census, 30 per cent of those who were unemployed, were long-term unemployed (Census, 2001). The Labour Force Survey shows that short-term unemployment is the most prevalent. Of those unemployed in April 2003, 65 per cent had been so for up to six months and only 10 per cent for over two years.

As the trip to work constitutes a large amount of the travel carried out by an employed person, its absence means that unemployed people have a lot less travel experience. In addition, their low-income level means that they have a reduced financial ability to travel long distances, and this continued pattern of limited travel over time reduces the travel horizons of the unemployed. Green (1998) analysed the travel patterns of people in Hackney and Islington, where she recorded the existence of two distinct communities. One with a very local focus in terms of employment, residence, training and other local services. The second with much wider job horizons and less commitment to staying in the area. The first group contained an over-representation of ethnic minorities, the unemployed and those in low skilled jobs.

Much research has been undertaken to map the acceptable work trip travel time and distance limits of unemployed people (Lindsay *et al*, 2003; McQuaid and Lindsay, 2002; McQuaid *et al*, 2001; Monk *et al*, 1999; METRO, 2002). It has been shown that unemployed people have a tendency to look for work in areas familiar to them, have a distrust of the ability of public transport to deliver them to the desired location on schedule, and view the need to interchange on route as a significant barrier (DETR, 2000a; Social Exclusion Unit, 2003; METRO, 2002). The extent to which they localise their job search and display 'psychological insularity' depends on the population density of the area of residence (Lindsay *et al*, 2003), the level of demand in the local labour market (McQuaid and Lindsay, 2002), education level, length of unemployment, skill base and the pattern of provision of public transport (McQuaid *et al*, 2001).

Around a third of unemployed respondents in rural Scotland limited the area of their job search to within 10 miles of their home, and around 60 per cent would not consider opportunities more than 25 miles away, which in affect was the immediate surrounding area only (The Scottish Office, 1999). The potential travel-to-work distances can be further

reduced by the need to interchange if travelling on public transport. It has however, been found that the primary factors affecting an unemployed persons potential travel-to-work time are socio-economic rather than spatial, and that the individuals skill level and educational attainment have the greatest affect.

Many jobseekers experience difficulties accessing interviews and travelling to their jobs for various reasons. For example, public transport costs can limit unemployed people's ability to find and accept a job. In addition, they are hard to manage immediately after people gain employment, as there is usually a delay between the last benefit payment and the first pay cheque. It can be difficult for recently employed people to buy money-saving season tickets, as they do not have the financial resources available to them and employer-loans are often not available.

Jobcentre Plus (an executive agency of the Department for Work and Pensions) encourages the use of a wide range of flexible and workable approaches and initiatives to help to resolve these difficulties (DWP, 2003). Such approaches include the Adviser Discretion Fund (ADF), which aims to give certain jobseekers financial assistance to purchase appropriate goods or services which will help to overcome barriers to work; and the 'Travel to Interview Scheme', which helps unemployed people by paying the cost of travelling to a job interview which is beyond daily travelling distance of their home. Jobcentre Plus also works with its partners (e.g. the Association of Train Operating Companies and Transport for London) to resolve work accessibility issues, for example through the ATOC Agreement (provides New Deal participants in England and Wales with a 50% reduction on the cost of rail travel), 'Access to Work' scheme for people with disabilities, provision of travel information and journey planning in Jobcentre Plus offices, and financial help for people living in rural areas with inadequate transport facilities for young people starting in employment and training (New Deal for Young People), and for those returning to work through schemes such as Job Grant (New Deal for people aged 25 and over) (DWP, 2003).

Of all the study groups examined in this report, car ownership is lowest amongst unemployed people. Notwithstanding this, car ownership is seen as a major facilitator of gaining employment (METRO, 2000). It is also seen as a measure through which the limited travel horizons of many unemployed people could be expanded (Lindsay *et al*, 2003).

3.8 Shift workers

In recent years there has been a proliferation of shift workers, particularly in the retail sector with more shops opening later and on a Sunday. Whereas shift working was once mainly a feature of essential services which needed to operate around the clock, such as health, transport and communications, the growth of the '24/7' economy has resulted in increasing expectations of people being able to access services at times that are convenient for them; this means that workers in a growing number of sectors and occupations are working shifts. For example, people working in the "personal services" employee group, such as care assistants, home carers or nursing auxiliaries and assistants are most likely to work shifts.

In Spring 2002 almost four million people, around 16 per cent of those in employment, were employed in shift work (Labour Market Trends, 2002). Shift workers face constraints on their ability to participate in other activities, due to the nature of their working hours (Baker *et al*, 2003) and may experience mobility problems relating to the need to travel during off-peak times when public transport services are less frequent (Lucas *et al*, 2003). A further problem is that those starting or finishing work early in the morning have to pay the peak travel fare, even though they travel before the network is busy.

The nature of shift work means that employees often have to travel on public transport late in the evening when fear of crime is greatest. Personal safety whilst waiting for public transport was a greater concern for shift workers than safety on public transport (METRO, 2000).

A high level of car use has been recorded amongst shift workers for the trip to work, and there is anecdotal evidence that car ownership is one of the first things pursued when becoming a shift worker (Lucas *et al*, 2001). This is in response to both concerns about personal safety, particularly when the shift finishes after dark, and the need to trip chain on the way to or from work. A report by Crime Concern (2002) mentioned that women's security travelling to and from work was seen as a key issue; especially with women working shift patterns involving early morning starts and late night finishes. The location of some workplaces in otherwise deserted areas (for example, at the peripheral of industrial estates) also underlined the importance of this issue.

4 THE TRAVEL PATTERNS OF SOCIALLY EXCLUDED GROUPS

As shown in the previous section, the study groups share a number of transport concerns. Using the lowest income quintile classification as a proxy for the study groups, it is possible to use the latest Focus on Personal Travel report (DfT, 2005) to portray their travel experience in more detail.

This chapter will initially examine the amount of travel per person, before looking at the type of mode used for different trip lengths and times. Expenditure on travel modes is presented next, followed by an analysis of travel to particular types of destination, specifically work, education and shopping. This analysis looks both at travel among those in the lowest income quintile group, and across age groups. Finally, the impact of car ownership on the nature of trips made by people in the lowest income quintile will be discussed.

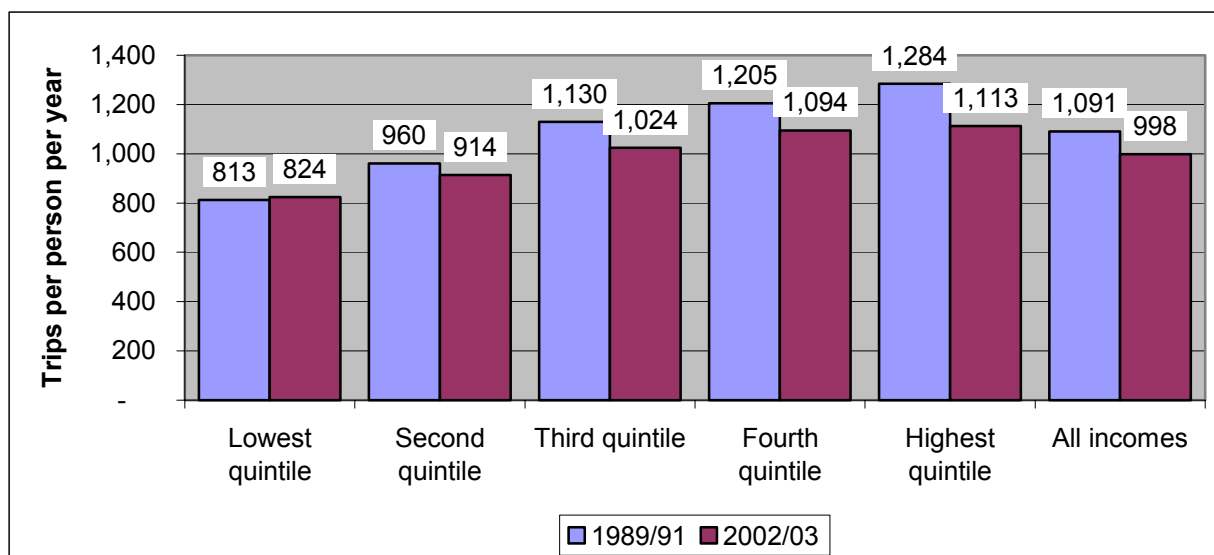
4.1 Number of Trips

4.1.1 Trips by Income Quintile

There is a strong relationship between income level and the number of trips per person per year. In 2002/03 (see Figure 3), people in the highest income band on average made 35 per cent more trips than those in the lowest income band (1,113 compared with 824). People within the lowest income quintile made the least number of trips, completing 174 fewer trips a year than the national average and those in the highest quintile made 115 more trips than the average.

Figure 3 also shows that the number of trips made has fallen in all income groups except the lowest real income quintile between 1989/91 and 2002/03. The overall average number of reported trips made per person each year has fallen by 9 per cent from 1,100 to 1,000.

Figure 3: Average number of trips made, by household income group: 1989/91 and 2002/03



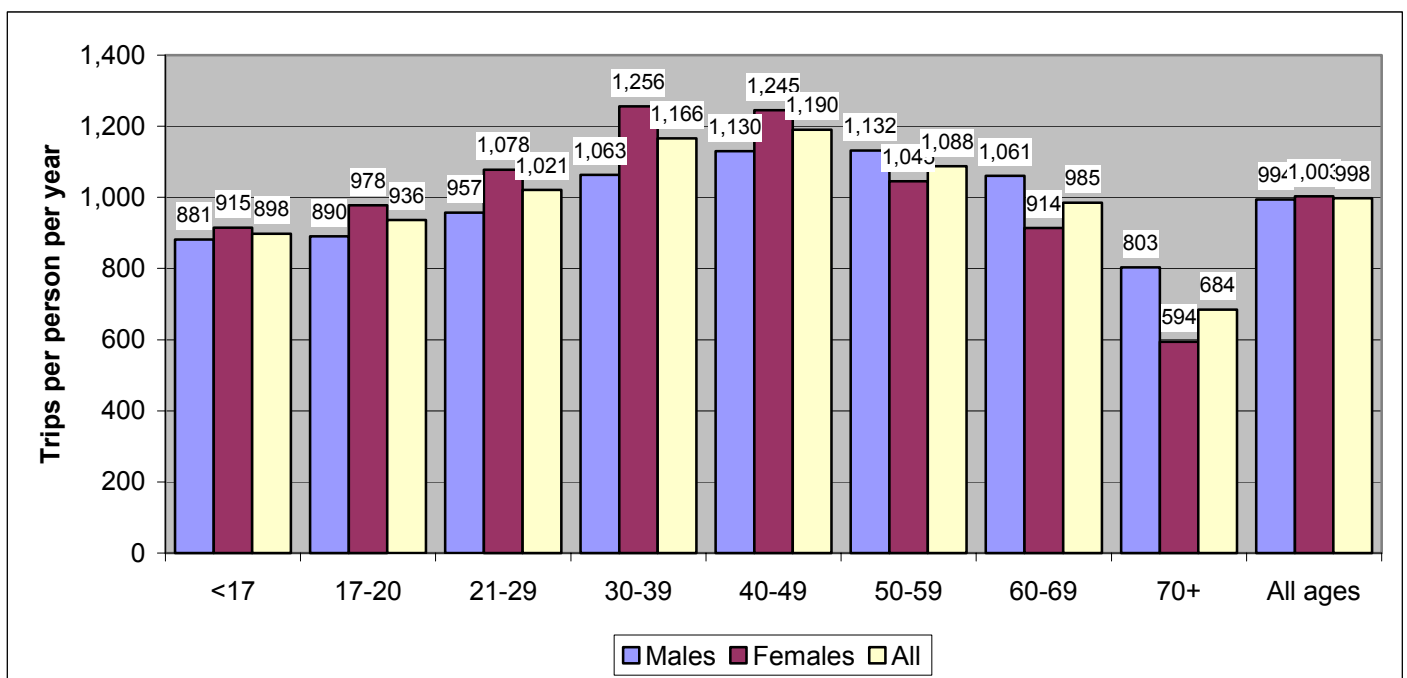
Source: Transport Trends: 2004 Edition (DfT, 2004c).

Note: Individuals income quintile is defined by the income quintile of the household they live in.

4.1.2 Trips by Age and Gender

Figure 4 shows the average number of trips made, by age and gender in 2002/03. On average, people made 1,000 trips a year, with only a slight difference between men and women overall. The number of trips made increases with age until people reach their fifties, when it starts to fall. In 2002/03 people aged 16 or less made 900 trips a year, on average. This increased to about 1,200 for people in their thirties and forties, and then decreased with age to under 700 amongst people aged 70 or more. Up to the age of 49, women make more trips than their male counterparts, but from the age of 50 men make more trips than women.

Figure 4: Average number of trips made, by age and gender: 2002/03



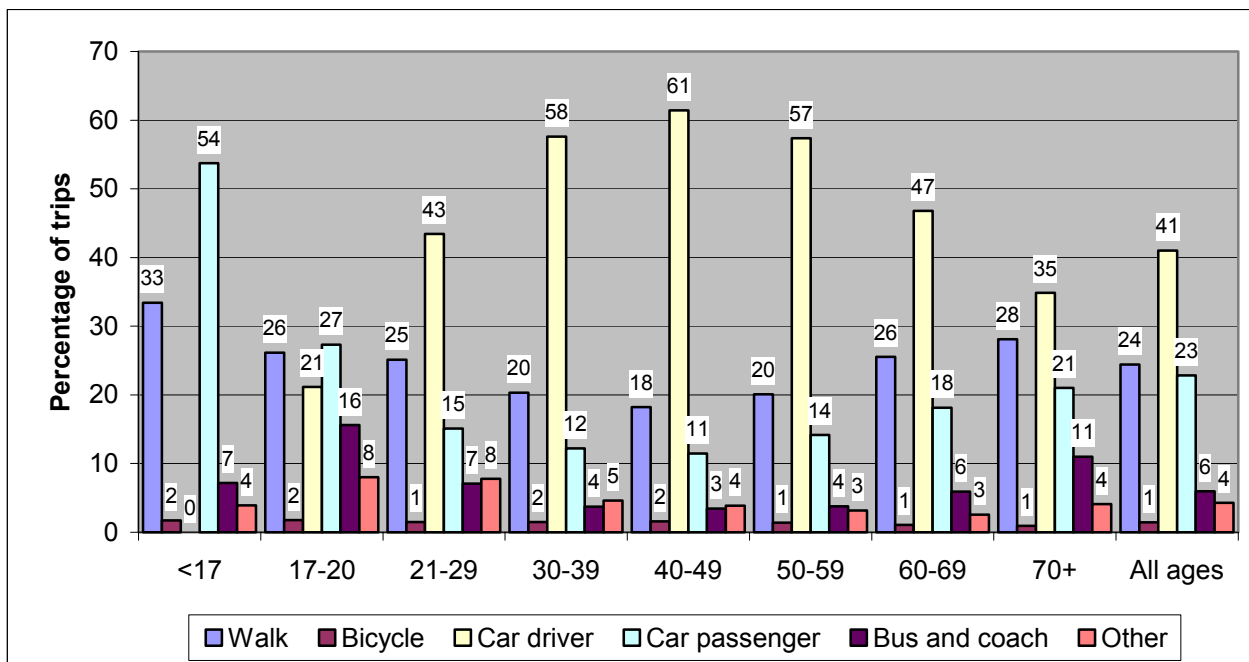
Source: Transport Trends: 2004 Edition (DfT, 2004c).

4.1.3 Trips by Age and Mode

The proportion of trips made using each mode of transport by different age groups is shown in Figure 5. As the results indicate, the mix of modes of transport used varies with age; as people grow older (until their fifties) the proportion of trips made on foot decreases and the proportion of trips made as a car driver or passenger increases. For example, people aged 16 or less made 33 per cent of their trips on foot and 54 per cent of their journeys were by car, compared to those people in their forties where 18 per cent of their trips were made on foot and 73 per cent by car.

The results also show that the proportion of trips made by foot increases, and car use decreases, in the post 50 age groups. The proportion of bus and coach trips is small for most age groups, apart from those aged 17-20 and over 70, who made 16 per cent and 11 per cent of their trips by bus or coach in 2002/03 respectively.

Figure 5: Main mode of trips made, by age: 2002/03



Source: Transport Trends: 2004 Edition (DfT, 2004c).

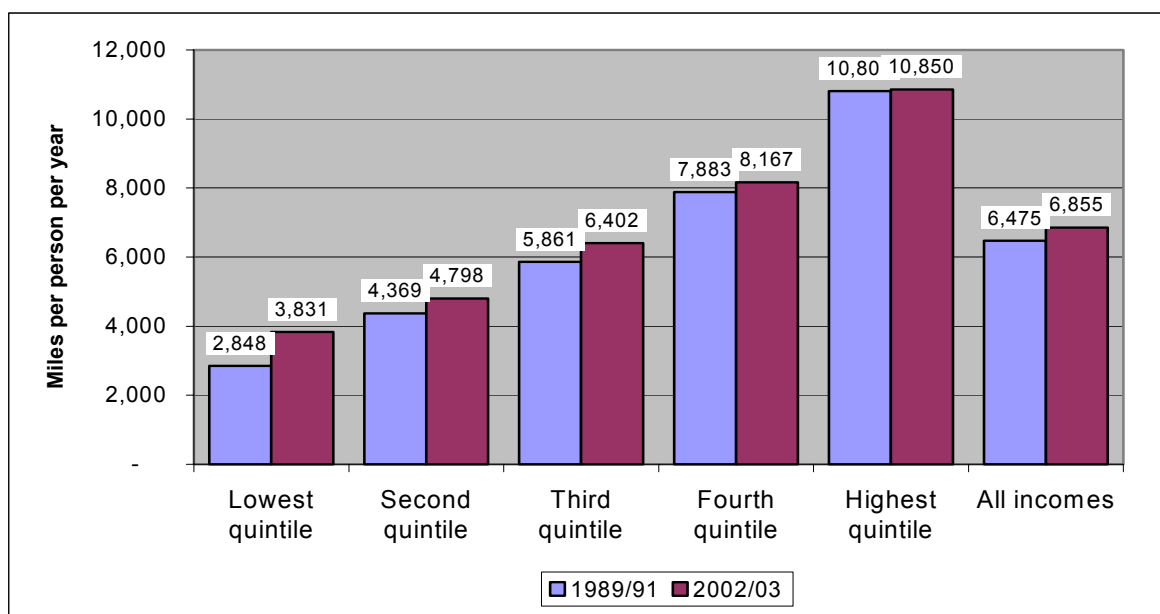
4.2 Distance Travelled by Income Quintile

As would be expected, considering the smaller number of trips made annually, and the localised travel patterns of the lowest income quintile, they travelled the shortest annual distances least far. Figure 6 shows that in 2002/03, people in the highest income quintile travelled, on average, nearly three times as far as people in the lowest income quintile, at 11,000 miles a year compared with 3,800.

When comparing the number of trips with the distance travelled per income quintile, the results show that, at one point in time, average trip distance increases far more with income than the number of trips made. However, while the average annual distance travelled has increased in all income groups over time, the greatest growth between 1989/91 and 2002/03 has been in the lowest income quintile (34.5%), compared to only a slight increase in the highest income quintile (0.3%).

The average trip length went up from 5.9 miles in 1989/91 to 6.9 miles in 2002/03. The average length of trip by people in the highest income group is more than double that of those in the lowest income group at 9.7 and 4.6 miles respectively in 2002/03. However, it is among low income people that the growth in average trip length has been highest, so that there is now less difference in average trip length between the income groups in 2002/03 than in 1989/91.

Figure 6: Average distance travelled, by real income quintile: 1989/91 and 2002/03.



Source: Transport Trends: 2004 Edition (DfT, 2004c).

Note: Individuals income quintile is defined by the income quintile of the household they live in.

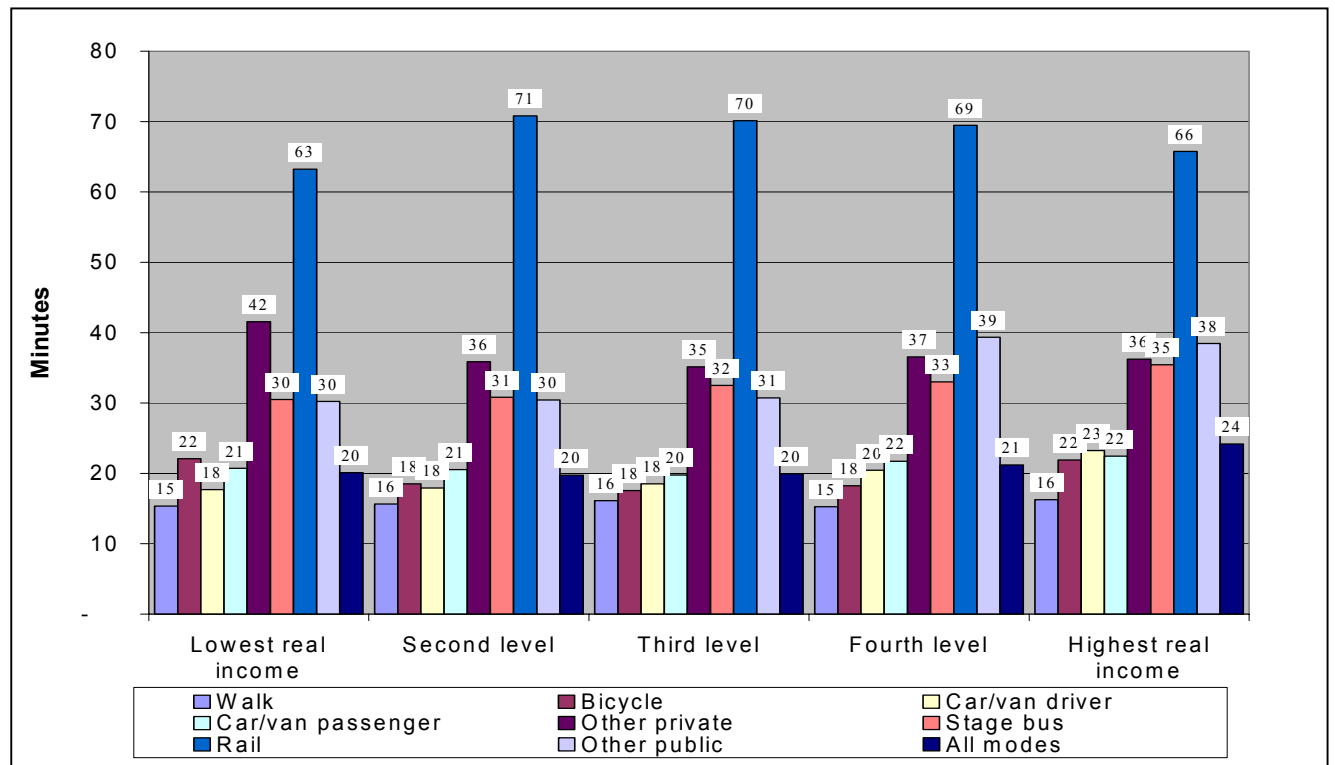
4.3 Variations in Distance Travelled by Location

As would be expected, those in the lowest income quintile in rural areas travelled longer distances than those in the comparable group in urban areas. The disparity between the distance travelled by the lowest income quintile and both the average and the highest income quintile is greater the more urbanised the location gets. This is probably explained by the fact that there is less choice in the destination of many services in more rural locations, meaning that people are likely to travel to the same location for some activities.

4.3.1 The Average Length of Journeys Completed on Each Transport Mode

To the extent that they try to use cheaper forms of travel, it might be expected that those in the lowest income quintile would have longer average travel times than those in the higher income quintiles. However, figure 7 shows that there is no clear pattern linking income level with average trip time for any mode. Overall, average trip times increase with income. As those in the lowest income quintile are more likely to use slower modes, it can be inferred that they have much smaller travel horizons, as confirmed by the lower annual distances travelled in Figure 6.

Figure 7: Average trip time by income quintile



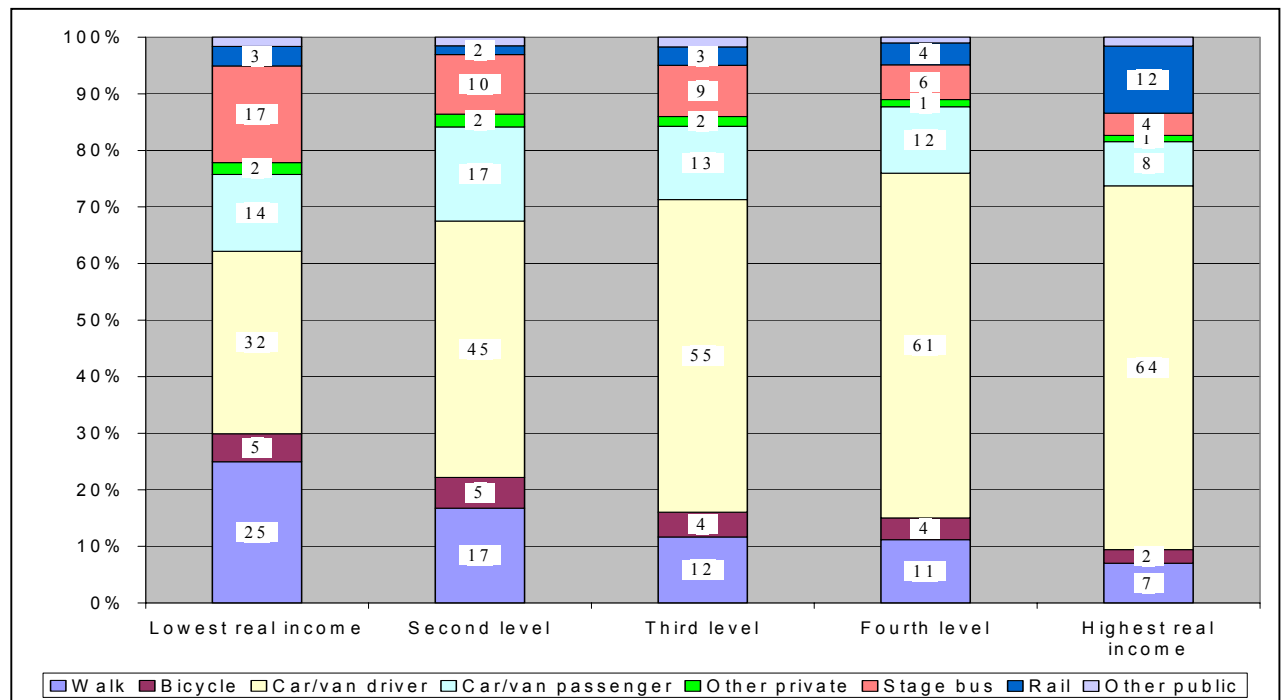
Source: National Travel Survey (DfT, 2001b)

4.3.2 Travel to Work by Mode and Income Quintile

Figure 8 shows that the biggest difference between the quintiles is in the proportion who travel to work as a car or van driver. Those in the highest income quintile are twice as likely to drive to work than those in the lowest income group. Furthermore those in the lowest income were most likely to travel to work by stage bus or on foot.

This information, alongside the average trip time data, suggests that those in the lowest income quintile work relatively locally. Surprisingly, those in the lowest income were not the least likely to go to work mainly by rail. This may be due to their lower levels of car ownership, plus the higher numbers of people in the lowest income quintile that live in London and other metropolitan areas, where the rail infrastructure is better than in the rest of the country.

Figure 8: Commuting trips by income quintile



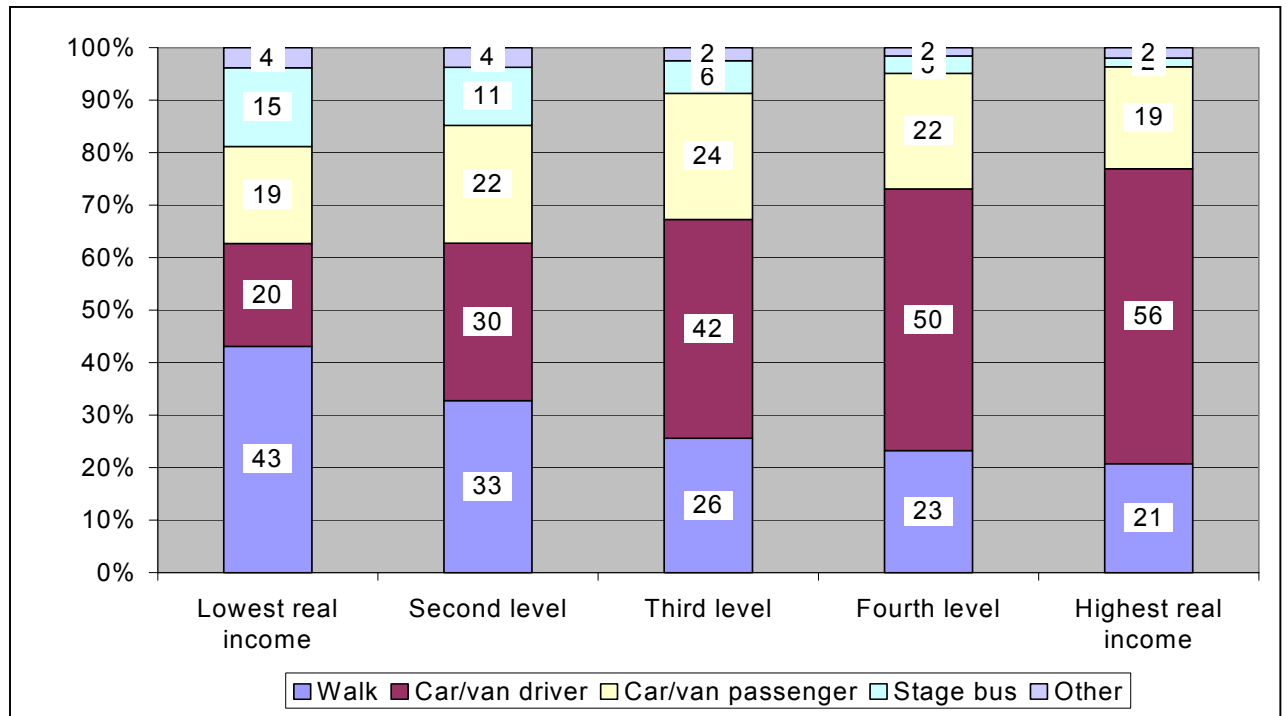
Source: National Travel Survey (DfT, 2001b)

4.3.3 Shopping Travel by Mode and Income Quintile

Figures 9 and 10 show that, for both food shopping and non-food shopping, those in the lowest income quintile are most likely to travel to the shop on foot or by stage bus. They are least likely to go by car.

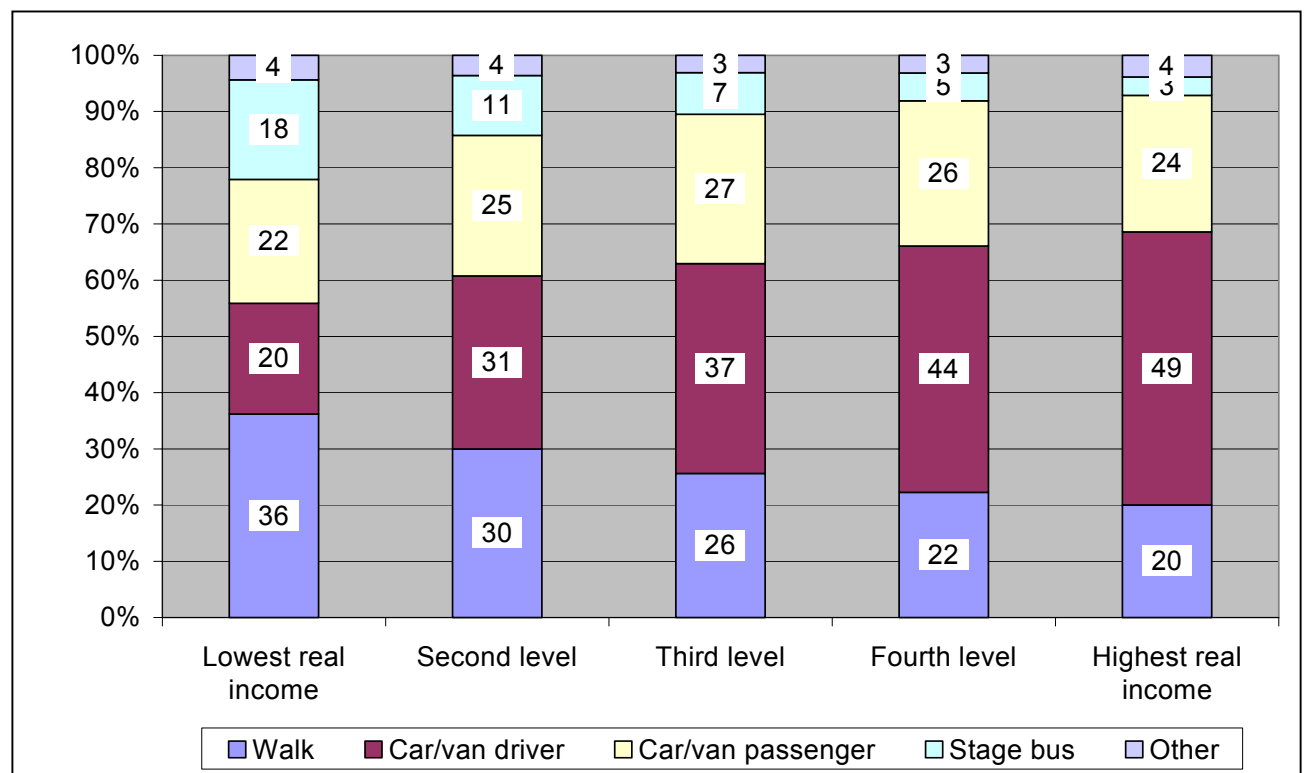
This has significant implications for the food shopping trip in particular, with most stores being designed to cater for those buying a large amount at once and carrying it home in their car. Those without use of a car for the trip to the food shop are thus at a disadvantage.

Figure 9: Food shopping trips by income quintile



Source: National Travel Survey (DfT, 2001b)

Figure 10: Non-food shopping trips by income quintile

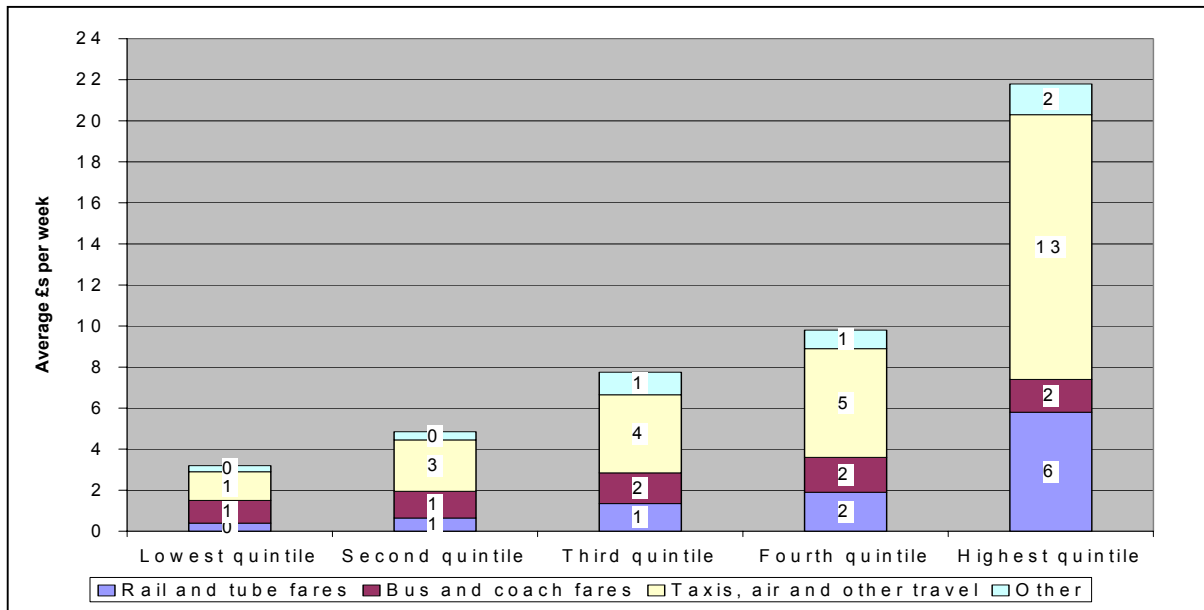


Source: National Travel Survey (DfT, 2001b)

4.4 Transport Expenditure by Mode

Figure 11 shows that those in the lowest income quintile spend the largest proportion of their non-car travel expenditure on bus and coach fares and the smallest on taxi, air and other travel. As incomes increase, the smallest area of growth is in bus and coach fares, just doubling in absolute expenditure between the lowest and highest quintiles. Conversely, the largest growth is in 'taxis, air and other travel', with a thirteen-fold increase across the quintiles.

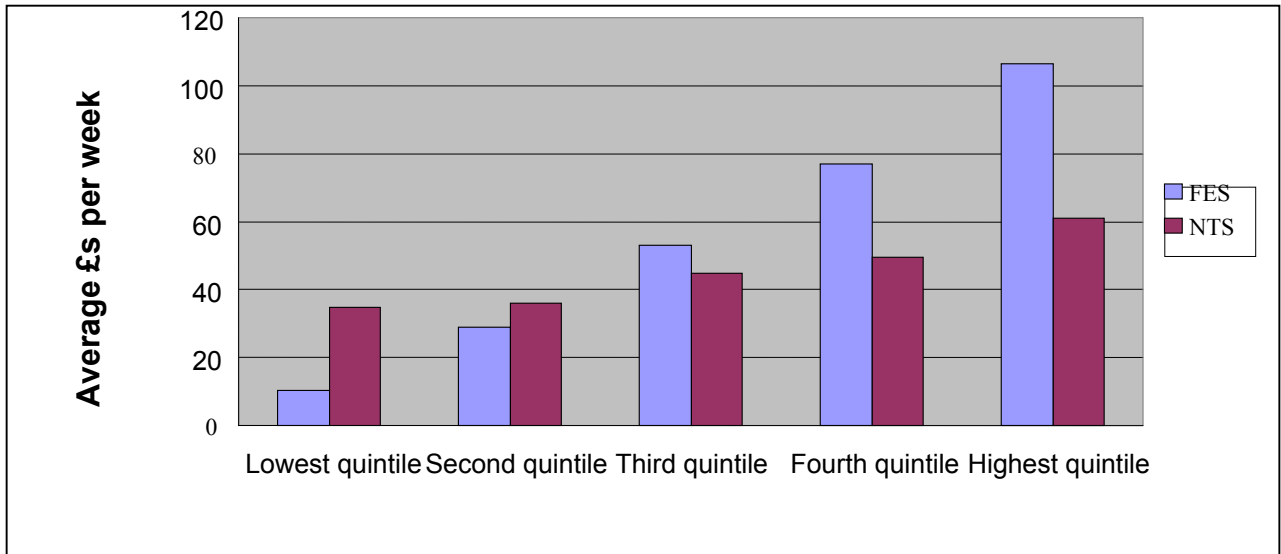
Figure 11: Spending on non-motoring transport costs per quintile



Source: Family Spending Survey 2000-01 (DfT, 2001a)

Looking next at expenditure on motoring, here there are data from two sources: the National Travel Survey and the Family Expenditure Survey (Figure 12). However, there is a discrepancy between the two surveys regarding how much money households spend, on average, on motoring costs: the NTS records higher figures for low income households, and the FES higher figures for high income households. However, the general trend is the same, namely that the amount spent on motoring costs increases as incomes increase – though this is much more marked in the case of the Family Expenditure Survey.

Figure 12: Weekly Household Expenditure on Car-Related Travel Costs



Source: Family Spending Survey 2000-01 & Focus on personal travel: 2001 Edition (DfT, 2001a).

5 COMMON BARRIERS TO TRAVEL BY PUBLIC TRANSPORT

5.1 Identifying the Barriers

As many of the barriers are common to more than one of the groups covered in this project (Hine & Mitchell, 2001b), the following sections discuss each of the barriers in turn, focusing on the groups that are most affected by them. However, it is important to bear in mind that inability to travel not only affects individuals but also society as a whole. On the individual level, as well as allowing for greater social inclusion, an ability to travel means that the individual is independent and can more fully participate in society. The opportunity for social interaction encourages social inclusion in its own right (DETR, 2001; Kenyon *et al*, 2002).

Barry (2002) goes further than this, to contend that it is specifically the widespread use of public transport that acts as a facilitator of social solidarity, because it is based on a shared experience. He argues that the use of the private car isolates people and puts them in competition with other road users (including pedestrians), especially in congested areas, thus reducing civility between them. Kenyon *et al* (2002) also refer to the way in which car travel can curtail social interaction, inferring that this can be seen as evidence of exclusion, although Barry (2002) would say it was deliberate.

This section will outline the barriers that have been identified in the literature as preventing, restricting or discouraging socially excluded people from travelling on public transport. There are many component tasks to be completed in the undertaking of a journey from the original location to the final destination, and they are usually all equally important. These components include finding out about the location of the desired activity and how to make the journey, getting to the transport node, waiting for public transport, boarding, paying for the journey, alighting and walking to the destination.

The literature review has identified that the main barriers to travel are:

- **The availability and location of activities in a given area;**
- **Public transport availability:** in terms of network coverage, proximity to services, service operating times and the frequency and reliability of services;
- **Physical accessibility of the transport system:** in terms of access to timetable and other service information, the external and internal environment when waiting for services and vehicle design;
- **The cost of public transport;**
- **Psychological barriers:** such as fear of crime, racial and sexual harassment and low travel horizons;
- **Other issues of compatibility:** such as the poor image of public transport.

It only takes problems with one of these components to prevent an individual from making a trip. For example, a report by Crime Concern (2002) showed that people identify the wait at the bus stop or train station as the point of the journey where they feel most unsafe, especially after dark, and in places where environmental quality is poor (e.g. presence of graffiti, litter, broken glass, fly-posting and other signs of disorder, reflecting poor management and a lack of formal surveillance).

This was followed by the journey between home and the stop or station. Wherever possible, public transport users and pedestrians avoid quiet poorly lit back streets and will take a longer detour to enhance their security through busier well lit public spaces. However, it must be noted that busy public spaces are not always felt to be safe and can be the focus of drunken or rowdy people, especially in the late evenings.

A study funded through the European Union programme looked more closely at pedestrian journeys and examined inter-modality (European Commission, 2003). PROMPT (PROMote Pedestrian Traffic in cities) examined a range of issues affecting pedestrian journeys across six European countries. Through interviews with pedestrians, the research identified and measured those features that contributed to the pedestrian's journey, including safety, accessibility, attractiveness and inter-modality. The project showed that the quality of a pedestrian's journey is dependent on the surroundings, the situation and the individual. In all six countries, the feeling of safety and security was regarded as the most important factor for all the respondents.

5.2 Access to Services

The SEU Report 'Making the Connections' (SEU, 2003) examined the link between social exclusion, transport and the location of services. As stated in the DfT Guidance on Accessibility Planning (2004a) accessibility is about whether people can get to key services at a reasonable cost, time and ease. It asks local authorities and their partners to question whether transport links exist between people and the services they wish to access, whether people are aware of the local transport services available to them as well as being able to afford to use them. In other words, accessibility problems are not just caused by poor transport planning and co-ordination of services, but are also related to the location and delivery of key activities and the ways that people reach them.

The DfT Guidance (2004a) identified five key barriers to accessing services:

1. Public transport is not always available or is not physically accessible;
2. Some people find the costs of personal or public transport are very high or unaffordable;
3. Services and activities are often located in inaccessible places. Developments including housing, hospitals, business and retail are often located in areas not easily accessible to people without a car. Between 1986 and 1997, the number of out-of-town shopping centres increased four-fold;
4. Some people are unwilling to use public transport for safety and security reasons;
5. Some people are unwilling to travel long journey times or distances, or may not know about or trust transport services.

There are specific barriers to accessing different services/activities and each of these will now be addressed.

5.2.1 Access to Education & Training

The Government is committed to an inclusive education system that provides all young people with the opportunity to meet their full potential. The ability to access educational facilities is central to the aim of ensuring that students are able to participate and remain in education and they should not be prevented from accessing education services because of a lack of availability of transport services or their ability to afford them. However, there are at least three factors that may prevent this:

1. Travel costs may cause financial difficulties for pupils from families on low incomes who are not entitled to free transport (i.e. within 3 miles from their nearest suitable school) and where it is not possible to walk or cycle safely;
2. Parents exercising their right to send their children to their preferred school, which may not be their nearest school, reduces the choice for those from low-income families.

3. After school activities and vocational options for 14-19 students at locations other than their usual school results is some students needing appropriate travel provision during the day as well as at either end of the day.

The DfT's Guidance (2004a) highlights that accessibility planning for education and training should:

- Lead to a greater understanding of students' travel needs;
- Deliver real and sustainable outcomes for students;
- Facilitate the efficient and effective use of resources; and
- Aid progress towards the achievement of national and local objectives and targets for all partners.

5.2.2 Access to Healthcare

The Government is committed to providing health services that are of consistently high quality and responsive to the needs of the patient and ensuring that people can access those services when they need them is crucial to good health. However, there are at least three factors that may prevent this:

1. Lack of available and affordable public transport services presents a barrier to accessing health services and contributes to further health inequalities;
2. During the course of a year 1.4 million people (or 3%) will miss, turn down or not even seek hospital appointments because of problems with transport (this figure rises to 7% of people without access to a car). Also, 31% of people without a car have difficulties travelling to their local hospital, compared to 17% with a car (SEU, 2003);
3. Specialist treatment centres may not be located in accessible areas. For example, in rural areas, access to hospital services can involve very lengthy trips (more than 7.5 miles).

The DfT's Guidance (2004a) highlights that accessibility planning for healthcare should:

- Focus on the development of primary care services, particularly in disadvantaged areas, the provision of more local treatment and the use of information technology such as NHS Direct;
- Provide professionals with a greater knowledge of how the various transport systems can support patients;
- Maximise attendance at health services e.g. timing appointments to link with public transport, providing patients with individual journey plans, providing travel passes;
- Tackle the underlying causes of poor health through improved access to training and work opportunities.

5.2.3 Access to Employment

The Government is committed to tackling poverty and help unemployed and economically inactive people to move closer to the labour market and compete effectively for work while providing appropriate help and support for those without work (DfT, 2004a). However, there are at least four factors that may prevent this:

1. 40% of jobseekers say transport is a barrier to them accessing employment or training opportunities, leading to some job seekers only applying for jobs within a narrow geographical area, finding it harder to gain employment and remaining on benefits for longer (SEU, 2003);
2. Some people find the costs of personal or public transport are very high or unaffordable;
3. Limited travel horizons, which includes lack of knowledge about and trust in the available travel options;
4. Many of the new jobs created in recent years have been in out-of-town or suburban locations, which can be hard to reach without a car. More jobs also

require evening and weekend work, when public transport services are poor (DfT, 2004a).

The DfT's Guidance (2004a) highlights that accessibility planning for welfare to work should support the delivery of the Department for Work and Pensions' (DWP) strategic objectives which are underpinned by the following Public Service Agreements, including:

- To reduce the number of children in relative low-income households;
- To increase the employment rates of disadvantaged groups;
- Significantly reduce the difference between the employment rates of disadvantaged groups and the overall rate;
- Further improve the rights of disabled people and remove barriers to their participation in society, working with other government departments, including through increasing awareness of the rights of disabled people; and
- Increase the employment rate of disabled people, taking account of economic cycle.

5.2.4 Access to Cultural and Leisure Services

The Department of Culture, Media and Sport (DCMS) has identified the ways in which accessibility planning can help cultural and leisure services reach target groups and increase participation. For example, DCMS have recognised the benefits of accessibility planning, namely that that more people will be able to access museums, libraries, leisure centres, sports tracks, historic places and arts venues, thereby increasing participation and making services more cost-effective. However, there are at least two factors that may prevent this (DfT, 2004a):

1. For many disabled people lack of accessible transport and distances from means of transport to cultural venues represent sizeable if not unsurmountable barriers; and
2. Transport is a key barrier amongst hard-to-reach communities.

The DfT's Guidance (2004a) highlights the ways in which accessibility planning can increase participation of cultural and leisure services, including:

- Recognising the diversity of transport barriers a number of groups of people face, and wherever possible aim at removing them;
- Better transport provision to cultural and leisure services;
- Better planning of the location of leisure and cultural services and the way that these are delivered to excluded or isolated groups in communities.

5.3 Location of Activities

Although there is little data collected on the proximity of particular leisure services to people's homes, the National Travel Survey looks at the time it takes for households to walk to key services. The results of the 1991/01 survey data (DfT, 2001a) are presented in figure 13 and show that 18 per cent of households can walk to their GP surgery within 6 minutes of their home, but for 32 per cent of households this journey can take them more than 26 minutes. Almost three-quarters of households live within 13 minutes of a post office and 60 per cent spend the same time walking to a chemist. There is a food store within a 13 minutes walk of four out of five households, making it the facility that people are most likely to live closest to.

General hospitals and shopping centres are the least accessible on foot, with 70 per cent of households reporting that their nearest general hospital is more than a 44 minutes walk from their home and 45 per cent are over 26 minutes away from a shopping centre. The average travelling time required to access each of these services has increased since 1989/1991 (see Table 4), with the biggest changes occurring in the proximity of food shops, with a 10 per cent reduction in the proportion of households living within a 6-minute walk of this facility.

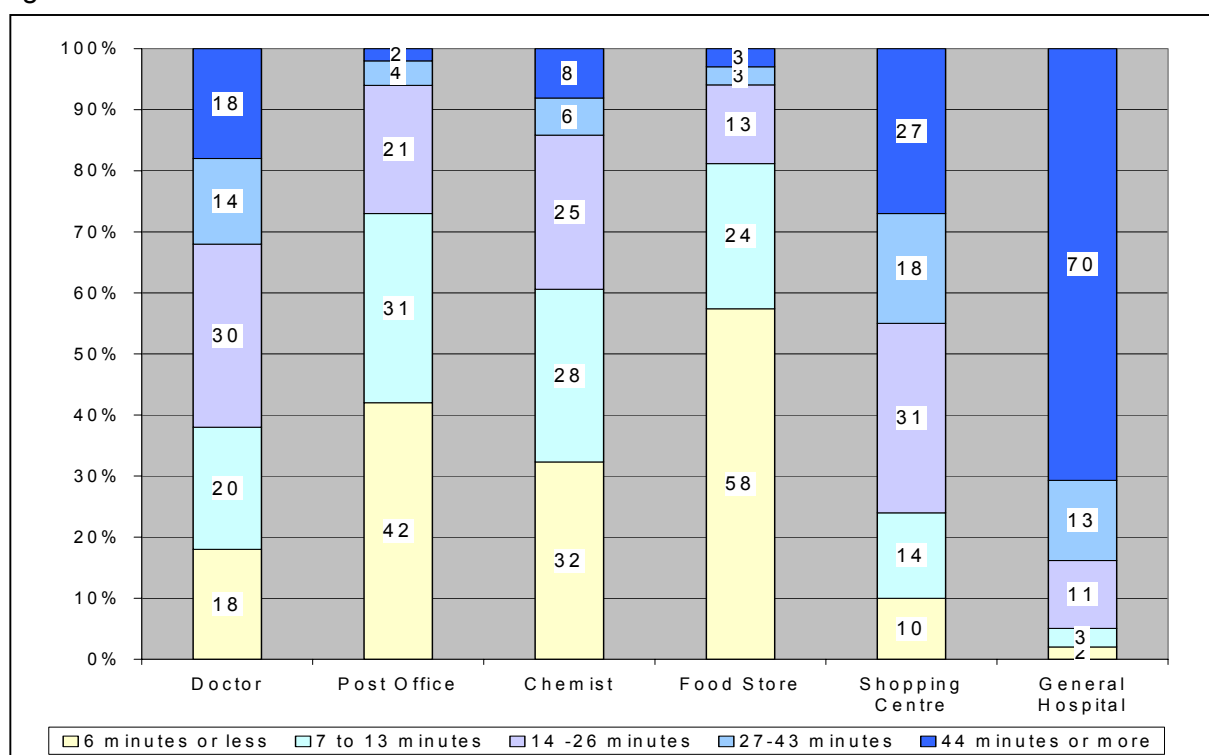
Table 4: Time taken to walk to local facilities: 1989/1991 and 1999/2001 or 2002¹

Percentage of households/number												
	Doctor		General Hospital		Chemist		Food Store		Post Office		Shopping centre	
	1989 / 1991	2002	1989 / 1991	2002	1989 / 1991	2002	1989 / 1991	2002	1989 / 1991	1999 / 2001	1989 / 1991	1999 / 2001
6 min or less	19	16	2	2	35	31	68	56	47	42	11	10
7-13 min	21	20	3	4	27	28	21	25	31	31	16	14
14-26 min	29	31	11	13	23	26	8	13	17	21	30	31
27-43 min	14	14	14	14	6	7	2	3	3	4	17	18
44 min or more	17	18	70	66	9	9	1	3	2	2	26	27
Total	100	100	100	100	100	100	100	100	100	100	100	100

¹ Questions not asked for some facilities in 2002 so 1999/2001 data shown. Questions not asked between 1992 and 1998

Source: National Travel Survey 2002 (DfT 2004c)

Figure 13: Time taken to travel to local facilities



Source: National Travel Survey 1999/2001 Update (DfT, 2001a)

Note: these figures are based on the total population, rather than income quintile groups.

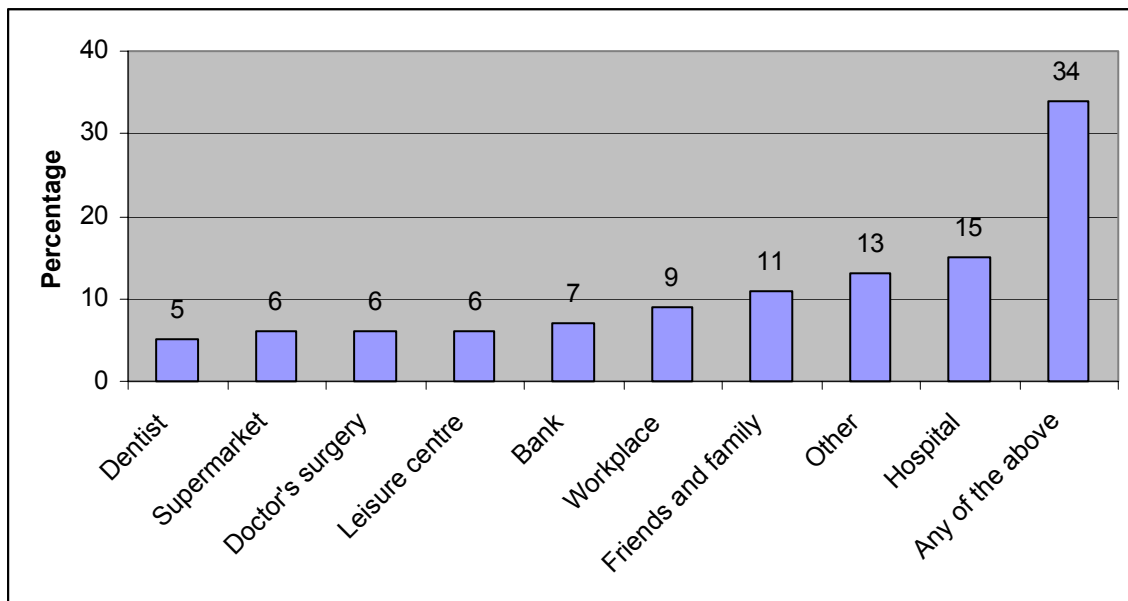
Research on service availability in 20 unpopular local authority estates (Power & Tunstall, 1994, in Church & Frost, 1999) has shown that the provision of services is typically worse in socially excluded neighbourhoods. The research found that none of these areas had a supermarket or a range of shops and only a quarter of the areas had a Post Office, launderette, chemist or clinic. Furthermore, it has been found that 49 per cent of all rural parishes have no youth activities (Countryside Agency, 2001).

It should be noted, however, that the unavailability of services might not always have a negative impact. Research in Athens showed that spatial isolation led to the formation of

strong informal networks within small local communities (Vrychea & Golemis, 1998 quoted in Church & Frost, 1999).

A household survey was conducted for the Office of National Statistics in November 2001 that asked respondents if they have any difficulty in accessing a number of different places (DfT, 2004b). Figure 14 shows that one third (34 per cent) of the respondents said they had difficulty getting to one or more of the places listed. Access to hospital was mentioned by 15 per cent of people; this was followed by difficulty in visiting 'friends and family' (11 per cent), access to work (9 per cent), a bank (7 per cent), a leisure centre (6 per cent), a GP surgery (6 per cent), a supermarket (6 per cent) and a dentist surgery (5 per cent).

Figure 14: Places people have difficulty getting to: November 2001

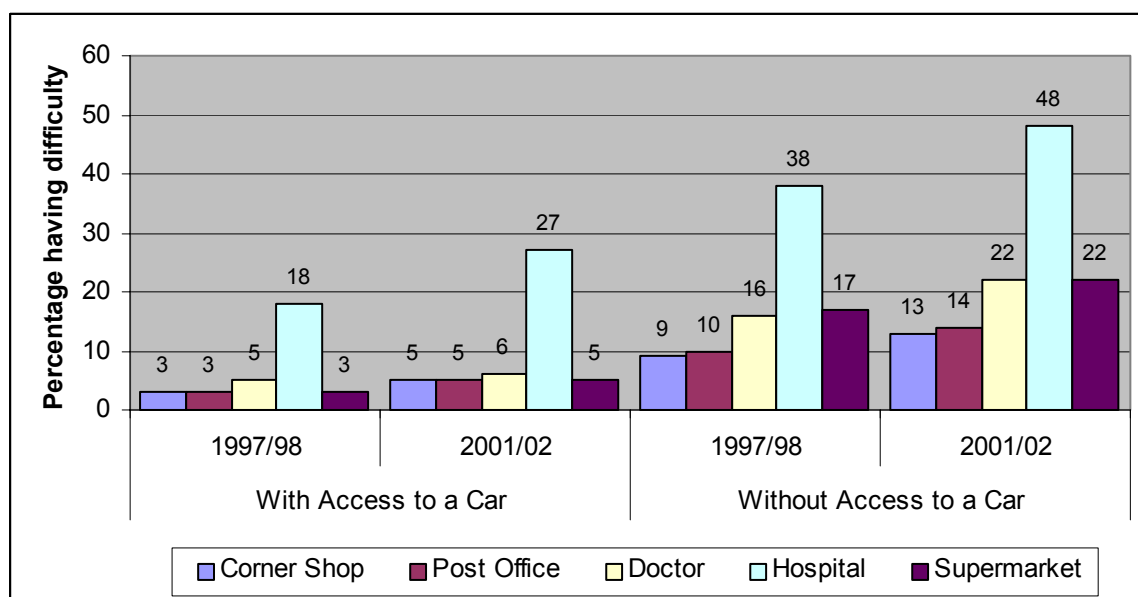


Source: Transport Trends: 2004 Edition (DfT, 2004c).

Note: these figures are based on the total population, rather than income quintile groups.

Evidence from the Survey of English Housing (see Figure 15) suggests that the proportion of people experiencing difficulty getting to places has increased over the four-year (1997/98-2001/02) period, particularly for access to a hospital. As the figure suggests, there have been increases in the proportion of people both with and without access to a car experiencing difficulty getting to various places. Those respondents without access to a car were much more likely to report a difficulty than those with access.

Figure 15: Places people with and without access to a car have difficulty getting to: 1997/98 and 2001/02



Source: Transport Trends: 2004 Edition (DfT, 2004c).

Note: these figures are based on the total population, rather than income quintile groups.

5.4 Public Transport Availability

Even if an activity is located relatively close to a person's home, it can still be inaccessible for those dependent on public transport. The accessibility of activities by public transport is partly a subjective judgment. For example, some activities may be physically served by the public transport network but still generally perceived to be inaccessible – perhaps because they involve more than one interchange, which may be viewed as unacceptable to certain groups of people or in certain circumstances. Individuals set their own thresholds as to how long they are willing to travel on public transport to get to any given activity, depending on a variety of such factors. In addition, public transport services are not evenly distributed across the country and the level of service provision is usually related to the density of the local population.

No national data is currently available on the absence of public transport services to popular destinations (though this will change as a consequence of the national accessibility indicators now being developed). Several local level case studies suggest that the availability of public transport is poor in certain parts of the UK. For example, the Countryside Agency (2001) found that half of those without a car in a particular market town were unable to access a dentist because public transport provision did not exist. Similarly, people living in North Yorkshire were unable to go to the North Yorkshire Moors because no service was available (Countryside Agency, 2001). In other studies, young people have reported not being able to access their local swimming pool because public transport services did not serve that particular location (DETR, 2000a). Parents of young children in rural areas have commented on their inability to access hospital, clinics and other medical facilities, as have older people (DETR, 2000a). Transport related problems has been reported by 12 per cent of job seekers, who claim that a lack of available transport services has stopped them from attending interviews (Social Exclusion Unit, 2003).

5.4.1 Availability in Rural Areas

Rural areas were particularly badly affected by reduced public transport services following the deregulation of the bus industry. In addition, the closure of many train stations in small towns and villages in the 50s and 60s, as a result of the Beeching Report, has meant that many rural areas have for a long time been characterised by a poverty of transport options. Since then there has been a gradual reduction of services in face of increased car ownership (Lucas *et al*, 2001). This has created a distinct division in the travel experiences of those with access to a car and those without (Gray, 2001). Cloke *et al* (1997) suggest that car ownership is now an essential part of rural living, regardless of the economic position of the household.

The impact of these cutbacks has been accentuated by a reduction in the provision of local services, with fewer community facilities surviving, resulting in the need to travel to more densely-populated areas. This has resulted in fewer services within walking distance (Gray, 2001) and consequently the importance of public transport increasing (Gaffron *et al*, 2001). A recent report found that almost 20 per cent of rural villages and towns with a population under 2,000 had a transport service 'below subsistence' level (Gray, 2001).

The Countryside Agency (2001) found that transport is the single most important concern of people living in rural areas. For example, 40 per cent of long-term unemployed men resident in rural areas cite accessing jobs as a barrier to work (Social Exclusion Unit 2003). The problem for public transport authorities is that it needs to provide for a dispersed population that want access to a range of distant locations, many of whom have access to a car (Nutley, 2003). It must be noted that Government policies are currently supporting the growth of bus provision in rural areas and encouraging the growth of train services on rural lines (Gray, 2001). Targets have been set to ensure improved public transport provision for those in rural areas.

5.4.2 Availability in Urban Areas

Poor public transport availability is not exclusive to rural areas. There is evidence that pockets of low network coverage exist within large urban areas. Kenyon *et al* (2002) note that these areas also have low car ownership and display many of the other symptoms associated with social exclusion, such as high unemployment.

Data from a Bradford study that was conducted by Friends of the Earth (2001) indicates a correlation between the areas where people have to walk more than 200m to a bus stop and areas with low car ownership. Public transport often bypasses these areas as they are not profitable or result in vandalism to the vehicles or abuse to the staff (SEU, 2003). Murray (1998) describes these areas as 'no go' and 'no exit' communities. In other words, public transport services in urban areas are often the most inaccessible for those who have the greatest need for such services.

5.5 Proximity to Transport Networks

Data from the National travel Survey shows the proximity of households to both bus stops and train stations for different density residential areas. Whilst the sample size is too small to disaggregate the data by specific geographical location, it clearly indicates the general paucity of public transport provision in rural locations.

5.5.1 Distance to Bus Stops

Table 5 compares the proximity of British households to the closest bus stop, in minutes, by area type in 1991/93 and 2002. It shows that the average time taken to walk to the nearest bus stop increases as density decreases. In other words, the length of walk to the bus stop increases the more rural the location gets. For example, whilst only 2 per cent of households in settlements containing over 25,000 people have to walk for over 13 minutes to get to a bus stop in 2002, this is true of 15 per cent of rural households. Conditions have deteriorated slightly over the last decade: with 85 per cent of households reportedly living within a 6-minutes walk of a bus stop in 2002 compared to 88 per cent in 1991/1993.

Table 5: Time taken for households to walk to nearest bus stop (percentage)

Percentage of households / number						
Area type	Time in minutes 1991/1993			Time in minutes 2002		
	6 or less	7 to 13	14 or more	6 or less	7 to 13	14 or more
London Boroughs	88	11	1	86	12	2
Met. Built-up areas	92	7	1	89	10	2
Large urban over 250k	92	7	1	90	8	2
Medium urban 25k to 250k	91	7	1	89	9	2
Small urban 3k to 25k	85	11	4	83	12	5
Rural	77	12	11	72	13	15

Source: National Travel Survey 2002 (DfT, 2004a)

Note: these figures are based on the total population, rather than income quintile groups.

Figure 16 shows the percentage of households without access to an hourly or better bus service within a 13-minute walk of a bus stop. In 2002 at least 95 per cent of households in medium-sized or larger urban areas (i.e. those with a total population of more than 25,000) are able to access such a service; this falls to 86 per cent of households in small urban areas (3,000-25,000) and 52 per cent of households in rural areas. There has been little change in this overall figure since 1989/91; however, in small urban areas and particularly in rural areas, the proportion of such households rose from 81 to 86 per cent, and from 37 to 52 per cent, respectively, over this period. This would seem to reflect the increased resources that national government has provided for rural services, through its Rural Challenge bids.

The target in the 10 Year Plan is to achieve a one-third increase in the proportion of households in rural areas in England within about 10 minutes walk of an hourly or better bus service by 2010. This represents an increase from the 1996 / 1998 baseline figure of 35 per cent in the Bus Service Availability Indicator to 47 per cent. The level for 2002 was 48 per cent (DfT, 2004b).

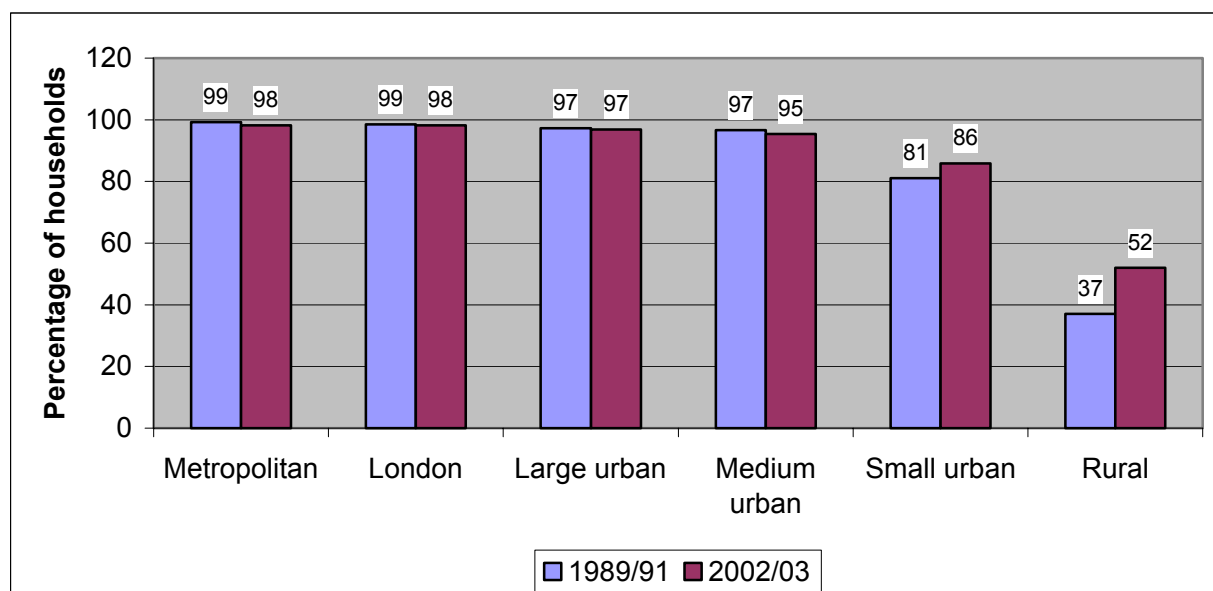
Other examples of distance/time thresholds that have been identified within the Help the Aged Report (2005) include: a healthy adult walking at 3 miles per hour or 5km per hour will cover a distance of a quarter of a mile or 400 metres in less than 5 minutes. Friends of the Earth, in their Bradford study, employed a limit of 200 metres from the nearest bus stop. Half a mile (approximately three quarters of a kilometre) is likewise often employed as thresholds for the population as a whole. Or a ten minute walk is also deemed acceptable, as well as a 15-minute walk or 600 metres. In other words, these thresholds are rarely universally accepted.

Witten *et al* (2003) have undertaken a study to develop a comprehensive methodology to measure accessibility (distance thresholds) to a range of facilities, based on a hierarchical order, including:

- Bus stop = 500 metres;
- Park = 750 metres;
- GP Surgery and Church = 1,000 metres;
- Bank = 1,500 metres;
- Fruit and vegetable shops and supermarkets = 2,000 metres;
- Community centres and social services = 3,000 metres;
- Hospitals and accident and emergency clinics = 5,000 metres.

The latest census demonstrates that disabled people and older people are more likely than BME people to walk further to access an hourly or better bus service, because they are more likely to live in rural areas than BME people (Census, 2001).

Figure 16: Households within a 13 minute walk of an hourly or better bus service: 1989/91 and 2002/03



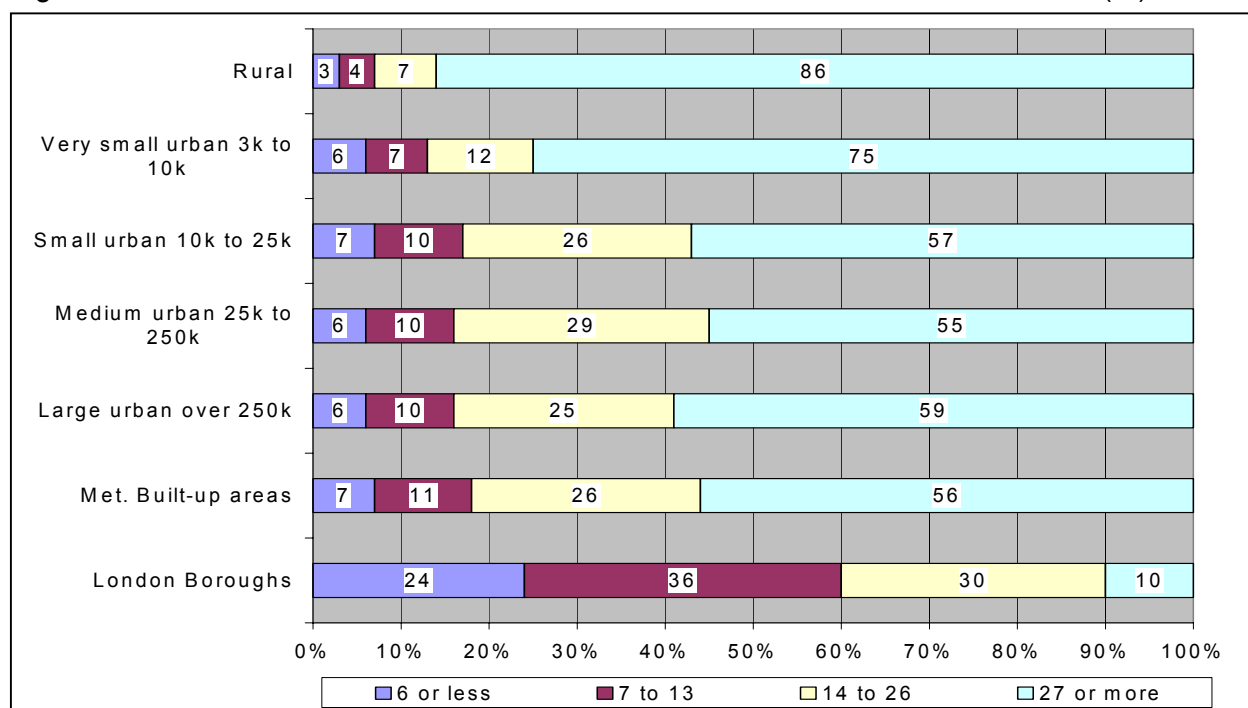
Source: Transport Trends: 2004 Edition (DfT, 2004c)

Note: these figures are based on the total population, rather than income quintile groups.

5.5.2 Distance to Railway Stations

Figure 17 shows the proximity of British households, in minutes, to the closest train station, by area type. Overall, relatively few households had easy access to a rail station with 56 per cent of British households living more than a 27-minute walk from the nearest station. The reason that London has markedly better access to train stations is largely because of the prevalence of London Underground stations. As with bus stop access, people living in less-densely populated areas are more likely to have to walk further to get to a train station: 86 per cent of rural households were beyond a 27-minute walk to a train station compared to 56 per cent of those in metropolitan areas.

Figure 17: Time taken in minutes for households to walk to the nearest train station (%)



Source: National Travel Survey 1999/2001 Update (DfT, 2001b)

Note: these figures are based on the total population, rather than income quintile groups.

5.5.3 Effect of Distance on Use of Public Transport

Research for the DfT (2002c) has found that, for disabled people, bus use reduces sharply if the distance to the stop is over 200 metres. This acceptable distance is reduced if the journey involves a gradient. They suggest that for places used regularly by disabled people, such as residential care homes and day centres, bus stops should be sited as close as possible. The DfT (2002c) suggest that the maximum recommended walk distance to a bus stop (i.e. 400 metres) should be reduced by 10 metres for every 1 metre rise or fall.

The research also found that, for able-bodied people, bus use dropped severely if they were required to walk more than 250 metres from their home (DfT, 2002c). It is important to note that the proximity of a bus stop in relation to the home applies to both directions of travel. One elderly gentleman reported that although the bus stop for his journey to town was outside his house, the one that he got off of on the way home required a considerable walk (Hine & Mitchell, 2001b).

It is important to note that distance is a relative concept (Gaffron *et al*, 2001), what is considered an acceptable distance to walk is subjective, depending on the particular circumstances of the individual. For example, a report for the DETR (2000a) showed that people travelling with young children in a pram or a buggy were less likely to make bus journeys than those travelling with young children who could walk independently. Likewise the distance required to walk will appear longer if an individual is encumbered with a heavy load or travelling through an area they consider unsafe at night (Hine & Mitchell, 2001b).

The results of a study by Crime Concern (2002) showed that women are almost twice as likely as men, irrespective of their ethnic group, to feel unsafe when walking to or from the bus stop or train station after dark. Over a third of participants within each of the ethnic

groups stated that they feel unsafe walking after dark from the bus stop or train station to a final destination: 44% of Asian, 43% of white and 37% of black respondents.

5.6 Waiting for Public Transport Services

Whilst there is frustration at the indirectness of bus services (DETR, 1999), people are more likely to criticise the uncertain waiting times they experience whilst travelling on public transport. The length of these waiting times is dependent on both the service frequency and the service reliability (Hine & Mitchell, 2001b). The lack of co-ordination between transport providers means that time spent waiting at an interchange is often unnecessarily long (Hine & Mitchell, 2001a). The impact of waiting can be even worse if the environment in which a person has to wait is unsuitable, for example in an area with high crime rates or where there is a lack of shelter, which people believe leads to them catching a cold (DETR, 2000a).

The study also found that only a small minority of men and women said that they feel insecure whilst waiting at a bus stop during daylight and that these percentages are generally similar, regardless of ethnic group. However, Asian respondents are more likely than black respondents to identify locations or transport modes as unsafe during daylight. The study also showed that those waiting at a train station, during daylight, were more likely to express a concern than those waiting for a bus.

Not surprisingly, the Crime Concern study findings show that there was an increase in the number of respondents who reported feeling unsafe after dark, most markedly for women and children under 16. Between 1996 and 2002, the percentages of women feeling rather or very unsafe whilst waiting at transport modes has increased, especially while waiting at an underground station (Crime Concern, 2002: 23). In 2002, the percentages of women feel unsafe waiting at a bus stop were 49 per cent, at a train station 60 per cent and on an underground station 61 per cent. The study also showed that concerns about personal safety amongst Asian and black respondents increased significantly for all locations after dark. Over 50 per cent of Asian and more than 40 per cent of black respondents identified waiting on an underground or metro platform as the location that they perceived to be most unsafe. Safety concerns about waiting at their local bus stop were also reported by these groups: 44 per cent of Asian respondents say they feel rather or very unsafe compared to 30 per cent of black and 35 per cent of white respondents.

5.7 Travelling by Public Transport

The same study by Crime Concern (2002) also reported that men and women tend to feel safe travelling by bus or train during the daytime, with few changes in the level of anxiety between 1996 and 2002. In addition, both men and women across all ethnic groups and ages express higher levels of anxiety in using the underground during the daytime, and this has increased slightly for women between 1996 and 2002. In 2002, nearly 20 per cent of women respondents say they feel unsafe travelling by underground during the daytime.

When travelling after dark by public transport, the same Crime Concern (2002) study showed that women were far more likely to express a concern than men. For both genders, the percentage feeling has increased slightly between 1996 and 2002. The greatest levels of concern for both men and women are when using the underground after dark. In 2002, 60 per cent of women and 32 per cent of men say they feel unsafe using the underground. Travelling on an underground or metro train is identified as rather or very unsafe by 50% of all Asian and about 40% of black respondents. In addition, 50 per cent of women respondents feeling unsafe travelling by train after dark.

However, it must be noted that the study showed that travelling on public transport vehicles is generally perceived as a safer activity than waiting for public transport or walking to or from the bus stop or station.

5.8 Frequency and Reliability of Services

5.8.1 Service Frequency and Reliability

Detailed information is not available on the actual frequency of bus service provision in the different areas of Britain. The 2002 National Travel Survey (DfT, 2004b) asked households to rate the reliability and frequency of their local buses and trains. Those who did not use buses or trains had no local service or no opinion were excluded. Four fifths of the respondents reported that their public transport mode was reliable or frequent. Over a fifth said it was very reliable or very frequent, whereas less than a tenth said it was very unreliable or very infrequent.

Research has shown that more trips are made by people when bus services are more frequent (SEU, 2003). The SEU study found that people within 3 minutes walk of an at least quarter hourly bus service made 4 times as many trips as those the same distance away from an hourly service. The pattern was even stronger for people over a 13-minute walk away from the bus stop.

5.8.2 The Effect of Infrequent Services

Gaffron *et al* (2001) found that, in locations where the frequency of the bus service was halved, it caused inconvenience to many passengers and forced them to adopt alternative travel behaviours, principally greater car use. A report for the Scottish Executive Central Research Unit (Hine & Mitchell, 2001a) showed that a cinema in a rural area of Scotland was considered almost inaccessible because it involved waiting for an hourly bus service to travel 40 minutes each way and the cost of a taxi to make the trip was £30. Even in areas with frequent public transport services, there can be major differences in service frequency through the week.

The severely reduced service offered outside the working day can have a dramatic impact on the capability of an individual to complete activities. In some areas where services stop operating in the early evening (e.g. after 6pm), many people are unable to go out at night, unless they take a taxi or some other alternative means of travel. Research carried out for the DETR (2000a) found that disabled people living in one area of the UK were unable to attend a special-needs group because it finished at 9 o'clock, by which time the last bus had left. Similarly, a study for METRO showed that shift workers, who often travel during off-peak times, could be prevented from accessing employment (METRO, 2002). Likewise Hine & Mitchell (2001a) found that shift workers in rural Scotland often avoid working on Sundays, if possible, due to the infrequency of buses making the journey to and from work a lot more difficult. Research by Lucas *et al* found that older people are unable to make desired recreational trips on a Sunday, because of the infrequency – or, in some, cases the total absence - of bus services (Lucas *et al*, 2001).

The seasonality of transport provision in some parts of the country also affects people's travel patterns. In rural Scotland, the reduction of bus services in the winter forced one parent of a young child to give up her part-time job (Hine & Mitchell, 2001a).

5.8.3 The Effect of Unreliable Services

The findings of a study by Crime Concern (2002) showed that women are more likely than men to rate the reliability of public transport as 'poor'. Respondents in 2002 (29 per cent) were more likely to rate reliability as 'rather' or 'very poor' compared to those respondents in a previous survey in 1996 (16 per cent). Correspondingly, a lower percentage of adult respondents in 2002 compared to 1996 rate the reliability of public transport as 'very good'. The study also showed that about 50 per cent of Asian and black respondents rated the reliability of public transport as quite or very good. White (30 per cent) and black (30 per cent) people were more likely to rate the reliability as rather or very poor than Asian respondents (20 per cent). Asian and black women were more likely than men from these ethnic groups to rate reliability as poor. The rating varied considerably between sample points, with respondents in major cities and regular bus users more likely to assess reliability as poor.

A history of poor reliability of public transport services has led many people to change their preferred travel behaviour to accommodate this unpredictable element of their journey, resulting in people budgeting their time differently (Gaffron *et al*, 2001). In their study of the role of transport in social exclusion in urban Scotland, Hine and Mitchell (2001a) found the irregularity of services force people to begin their journey a lot earlier than should be necessary to ensure they arrive on time. The study also showed that, even during peak times when services are frequent, buses are unreliable and regularly arrive together (Hine and Mitchell (2001a). The authors also reported that punctual buses could support disabled people in their ability to access public transport services; anecdotal evidence from a partially-sighted woman highlighted that if she could rely on the bus service being punctual she would know she was getting on the right bus, but because of the service's unreliability she requires assistance from a friend (Hine & Mitchell, 2001b).

Unreliable services have been found to be a barrier to unemployed people accessing employment opportunities, particularly if the journey involves two different services, both perceived as unreliable (METRO, 2002). Other instances have been recorded where people are no longer in employment due to the inconsistency of public transport, that made them repeatedly late for work (Gaffron *et al*, 2001).

5.8.4 Impacts of Unreliability on Trip Chains

The frequency and reliability of public transport is particularly important to parents of young children as they are more likely to trip-chain, by combining journeys to work, school, childcare and shopping (Social Exclusion Unit, 2003). In her international study, Rosenbloom (1989) found that employed women's activity patterns were more complicated than men's, principally because of the additional major domestic responsibilities they had often centred around the care of their children. Whilst the last 25 years have witnessed a rapid growth in both the number and proportion of women in employment, many of these women retain the responsibility for the domestic duties of a household (DETR, 2000b). Further research by Pas and Koppelman (1987), in Rosenbloom, (1989) suggest that the trip chains that are undertaken by women are not repetitive but vary daily, so routine journeys are not performed.

The results of a study by Turner and Greico (1998) showed that many of the trip chains carried out by parents of young children could not be completed by public transport because of a discrepancy between personal and transport schedules. Rosenbloom (1989) concludes that conventional fixed route transit services are not responsive to the demands of modern working parents. As has been showed by Joshi & MacLean (1995), the age at which children are no longer accompanied to school has risen considerably from the 1970s. This means

that the impact that children have on their parents' travel patterns and their need to trip-chain is extended until they reach the age of 9-11 years old.

There is anecdotal evidence to suggest that shift workers and people in rural areas are more likely to trip-chain, if they have access to a car (Kenyon *et al*, 2001; Lucas *et al*, 2001).

5.9 Design Barriers

5.9.1 Design of the Street Environment

The physical and spatial configuration of much of the built environment suggests that urban design practices in the past have been inattentive to the needs of disabled people (Imrie, 2000). People with visual impairments consider the journey to the bus stop to be more problematic than actually travelling by bus. Hine and Mitchell (2001b) suggest that the problems disabled people encounter in the street environment often results in these individuals limiting their travel to areas they are familiar with. However, It is not just people with disabilities who are limited in their travel because of barriers in the street environment. Other groups affected are those with restricted mobility, principally older people and parents of young children. For example, 14 per cent of adults have a physical disability or long-standing health problem that makes it difficult for them to go out on foot or use public transport and this becomes more prevalent with age (DETR, 2001).

It is now generally accepted in most developed countries that the responsibility for dealing with the effects of a disability does not lie with the person with the impairment, but is due to a poorly designed built environment which determines what a person is capable of doing (Davies, 1999 in Hine & Mitchell, 2001b). It is the built environment that creates what Tyler (2002) identifies as 'inclusion' and 'exclusion' zones, which define the areas that can be accessed by disabled people.

It is also evident that removing the barriers that affect this group can also bring benefits to other groups of people. The Disabled Persons Transport Advisory Committee estimated that up to 30 per cent of the population would benefit from an accessible transport system and built environment at any one time (DfT, 2002c).

5.9.2 General Pavement Problems and Hazards

As noted in a report for the DETR (2001a), one of the largest barriers to mobility is the physical difficulty associated with walking in the local environment. Hillman (1976) notes that the most common problems associated with the street environment for pensioners are related to pavement conditions and with changes of level, such as hills, steps or misalignment of paving stones. The most common complaint with the pavement was it being uneven. The problems that this caused for people with mobility difficulties were accentuated during icy conditions, when the threat posed by a slippery pavement made many people reconsider their journeys, resulting in them becoming trapped in their houses (European Conference of Ministers of Transport, 2001).

Non-segregated cycle routes on pavements and lighting that is embedded in the pavement can also be hazardous for pedestrians (Disability Rights Commission, 2001, Hine & Mitchell, 2001b). In addition, cobbled roads are problematic for people in wheelchairs, those accompanied by young children in pushchairs, or for those who struggle to maintain their balance (Hine & Mitchell, 2001b). In more rural areas not all roads have pavement areas set aside for pedestrians, so that they feel more vulnerable from road transport (ECMT, 2001).

Pollution is more likely to be detrimental to people who move slowly through the environment because of the extra exposure they receive. The problem is particularly acute amongst people who have breathing difficulties (Disability Rights Commission, 2000). The implementation of low speed residential zones has been beneficial for people who wish to walk, as the introduction of speed reduction measures - alongside the beautification of the street environment - has made these areas safer and more attractive for pedestrians (OECD, 2001).

5.9.3 Street Furniture

Many older people have limits as to how far they are able to walk without the need to rest. The Disabled Persons Transport Advisory Committee has produced a set of recommended threshold distances that people with specific impairments can travel without a rest (DfT, 2002c). These are as follows:

Wheelchair users	150m
Visually impaired	150m
Stick users	50m
Ambulatory without walking aid	100m

The regular provision of seats is therefore desirable (DETR, 2001). However street furniture, if not sited appropriately, can provide an obstacle for people with slow or limited mobility, parents with pushchairs and - unless it is clearly marked - to people with visibility impairments. Street furniture includes advertisements to shops, parked cars, street art, post boxes and streetlights (Hine & Mitchell, 2001b). Furthermore, vegetation that overhangs onto the pavement reduces its width (OECD, 2001).

5.9.4 Road Crossings

Inadequate road crossing facilities, both in terms of frequency (the distance between safe crossing points) and design (Hine & Mitchell, 2001b) can hinder a person's accessibility. Older people are relatively slower at crossing roads; therefore they require crossings with a safe refuge in the middle of major roads to allow them to cross in two stages. A decline in visual ability, often associated with age, can mean that older people are less well able to determine the distance and speed of vehicles. The deterioration of speed of movement and reaction time associated with age means that non-signalised crossings should be located in the middle of a long straight of road where the pedestrian can see a long way (OECD, 2001).

People with sensory impairments use pelican crossings where possible because they usually have tactile paving to indicate their location and an audible signal or flashing light to indicate when it is safe to cross (Hine & Mitchell, 2001b). The Disability Rights Commission (2000) notes that the noise produced by a reversing lorry sounds similar to that used by a pelican crossing and so this may cause confusion.

Where signalised crossing facilities are not available, people with visual impairments have greater difficulty crossing the road and there is evidence to suggest that they modify their choice of route to avoid crossing unprotected roads, including adjusting where they make transport interchanges (Hine & Mitchell, 2001b).

A general accessibility problem can arise at some crossings points, where there are not dropped kerbs at either side (Disability Rights Commission, 2000); also where cars are parked alongside the crossings, which reduces visibility (Hillman, 1976). Furthermore, in some areas authorities have laid rustic paving slabs for aesthetic reasons, which are unsuitable for wheelchair users (Lucas *et al*, 2001).

Hillman (1976) found that for parents walking with young children, the age of the child determined which part of the street environment provided the biggest barrier. For parents travelling with children young enough to be in a buggy or a pram, the biggest problem was negotiating past the street furniture and the effort involved in pushing the child up hills or over uneven paving. Even travelling along a good, flat pavement was found to cause tiredness and reduced the distance they were able to walk. For travel with children over 5, whom were likely to be walking without restraints, there was little impediment to walking on the pavement. The problem arose when it came to crossing roads and the parents were concerned about the safety of their unsecured children, particularly as the short crossing times often required them and their children to rush across the road.

5.9.5 Design of Bus Stops

The Disability Rights Commission (2000) reports that the provision of basic facilities at bus stops, such as a shelter and seat, within the UK is generally poor. The absence of a shelter and the consequence that people have to wait unprotected against inclement weather means discomfort for all, but disabled people are more likely to experience prohibitive levels of discomfort (Disability Rights Commission, 2000). Similarly, parents of young children are concerned about the effect that exposure to the elements may have on their child's health (Hine & Mitchell, 2001b). The high levels of vandalism in some residential areas means that where shelters have been installed, the glass sides are regularly smashed providing no shelter to those inside (Save the Children, 2000).

Many older people find standing for long periods without resting very difficult making it is necessary for bus stops to have some form of seating. This resting place does not necessarily have to be a standard seat, as some people find large vertical movements difficult and prefer the perch type seating (DETR, 2001). It is necessary to ensure that these resting places do not retain water but drain effectively, so the seats are not damp after rainfall and passengers are able to sit on them comfortably. The importance of a shelter and seating is increased on routes with infrequent and unreliable services, when passengers are likely to have to wait for longer. Many people will postpone or cancel activities, if the journey requires waiting for a bus for an undetermined length of time in bad weather. Older people are more likely to suffer badly from waiting around in cold weather (OECD, 2001; Hine & Mitchell, 2001b).

It is important to ensure that bus stops and shelters are viewed as a safe environment. Studies by the DETR (1999) and Beuret *et al* (2000) found that young people and BME people prefer to wait at stops with a shelter that is clear on all sides rather than standing in a shelter that it is not possible to see out of, as they feel trapped. Bus stops should also be well lit and away from thick vegetation, so that people to feel comfortable waiting in the dark. Many bus stops are considered to be unsafe, with passengers feeling as if they are 'a sitting duck' because of both the lighting of both the stop and the presence of dark alcoves nearby (Hine & Mitchell, 2001b; OECD, 2001). In addition, vandalised and littered bus shelters provide an unpleasant environment and reduce older people's sense of safety and security (ECMT, 2001).

Bus shelters must be wide enough to allow people with buggies or prams and people in wheelchairs to move inside easily. Many shelters currently force parents with buggies to wait outside, as the buggy cannot fit under the shelter comfortably with other people (Pickup, 1989). The height of timetables at bus stops was also considered a problem for partially sighted people.

5.9.6 Train & Bus Stations

People who struggle to walk long distances avoid making train changes where there is a long distance between the platforms (Hine & Mitchell, 2001b). In the absence of lifts at train stations, people are forced to access the platforms via the stairs, which is very difficult for people with mobility difficulties or people travelling with children (DETR, 2000a; DETR, 2001). Where there are slopes to the platforms, they are often steep and can be dangerous for people in wheelchairs or for older people when they are icy or slippery (OECD, 2001).

The Department for Transport (2002c) has provided information on the layout and design of stations to match the needs of people with disabilities. They recommend that mainline stations should have a clear logical layout, with obvious horizontal and vertical circulation routes free of obstacles, as people with a visual impairment have found that navigating through stations is difficult and potentially dangerous. The placing of signs should be close to, but not impeding, passenger circulation areas. The signs should also inform people how far facilities are, so people with mobility limitations can determine whether they are within their capability of reaching them.

As well as providing access to trains, stations must also ensure that all people are able to perform other associated functions. At least one telephone, enquiry and ticket desk should be positioned lower to the ground, so that wheelchair users can access them. (DfT, 2002c). In areas where long queues are likely, such as the ticket office or information desk, handrails should be placed next to the queues so people who find it hard to stand for a long period of time can manage (DfT, 2002c). Likewise, there should be a large amount of seating available for people waiting to board a train (Hine & Mitchell, 2001b).

The glass through which passengers often have to speak to receive information can muffle voices, so provision should be made for those hard of hearing. Moreover, these screens often catch reflections, which impair people reliant on lip reading what station staff are saying (DfT, 2002c). Similarly, the ticket office and information desk should be located in a quiet area away from the main concourse (DRC, 2000). People with manual dexterity problems can find completing functions requiring intricate hand movements difficult, so ticket machines should be constructed so that these needs are considered (DfT, 2002c).

People that suffer with continence problems, the likelihood of which increases with age, avoid travelling to stations where they are uncertain if toilet facilities exist (Tyler, 2002). Older people are generally dissatisfied with the standard of cleanliness in the toilets at transport hubs and feel more should be done to maintain them in a clean condition throughout the day (ECMT, 2001).

The signal to indicate the need to evacuate stations should be visible as well as audible, to ensure deaf and hard of hearing people are alerted (DfT, 2002c).

Low staffing levels can also cause a barrier. Anecdotal evidence suggests that lack of luggage porters or trolleys at main line stations can be a major barrier for older people. At small train stations, where there is only one member of staff at night, they are reluctant to go to the platform to offer assistance, as they fear getting mugged (Lucas *et al*, 2001). Disabled people in the Disability and Great Britain Survey cited improved staff assistance as being a greater facilitator of more travel than improved design (Disability Rights Commission, 2000). Older people and parents of young children have also expressed their belief that greater staff assistance would offer greater mobility (Hine & Mitchell, 2001b).

Small train stations and bus stations are often badly lit and women and young people have reported feeling unsafe waiting at them in the evening, particularly as there are few other passengers around (Hine & Mitchell, 2001b).

5.10 Public Transport Vehicles

The Disability and Discrimination Act (1995) requires new trains and buses to meet minimum accessibility standards, with the aim that the public transport network should be fully accessible by 2050. However, currently only 10 per cent of trains and 29 per cent of buses meet these standards (Disability Rights Commission, 2000). The availability of accessible transport often determines an individual's travel patterns. For example, a disabled person with mobility difficulties reported that he was able to visit the doctor's surgery, as this was on a route with an accessible bus, whereas he could not get to his local supermarket as this was not (DETR, 2000a).

5.10.1 Boarding and Alighting Public Transport

Traditional buses require the ability to move upwards from the pavement to board the bus and then to climb the stairs to the lower deck. This means that they are unsuitable for people in wheelchairs, those using walking frames, or parents with buggies or prams - unless they are able to collapse them (Hine & Mitchell, 2001a). In addition, the entrances to these buses often do not have a handrail, creating difficulties for people who are very short, those with arthritis or rheumatism, and others who find it difficult to access older buses (DETR, 2001; DETR, 2000a). In contrast, accessible buses can be lowered when parked at bus stops, to ensure that they are at the same level as the pavement, and passengers do not have to 'step-up/down' very far to get on/off them. In addition these 'low-floor' buses have been designed without stairs on the lower deck, so that people can get to their seats more easily (Tyler, 2000).

However, problems do exist in accessing low-floor buses. Their enhanced accessibility is dependent on the ability of the bus to park next to the bus stop; if there are obstacles, such as illegally parked cars, the driver is unable to do so. There are also incidences where the ramps on buses are broken, as they are not properly maintained, forcing anyone requiring wheeled access to wait for next bus (Lucas *et al*, 2001).

Modern designs of buggies are quite bulky when collapsed, so it is often very difficult to board a bus with a collapsed buggy and a young child or children (Hine & Mitchell, 2001a). In the absence of staff assistance, parents have reported relying on strangers to help them get on and off the bus with their buggy, children and goods (Hillman, 1976).

As with old bus stock, inaccessible trains require climbing up at least one large step and forwards at the same time. People with the inability to complete these functions and who require assistance boarding and alighting have to book the help of station staff in advance. This means that they are unable to undertake journeys spontaneously and the train journeys they do complete are dependent on other people. There is significant dissatisfaction amongst disabled people who rely on staff assistance, as they often feel that they are being treated unequally and that transport providers should have the capacity to be flexible enough to deal with these situations when they arise. Lucas *et al* (2001) report that some individuals who require assistance often refuse to give the required two days notice to use the trains, as they considered it illegal and immoral.

When people do go through the correct channels to organise their train journey, several instances have been recorded where the service has failed to be delivered as miscommunications have meant that staff have not been in right place to meet the disabled person (Lucas *et al*, 2001). Likewise, disabled people have been let down when their services have been late or have been rerouted and have taken them to a different destination, as this information is not relayed to the relevant staff (Disability Rights Commission, 2000).

5.10.2 Design of the Interior of Vehicles

A study for the European Conference of Ministers of Transport (2002) showed that frail people do not feel comfortable getting up from their seat whilst the bus is moving, so they avoid using bus services which do not have bells placed at regular intervals. They also require a clear corridor from the door, with frequent poles, so they are able to steady themselves if they lose their balance. The lack of seats with extra legroom has been found to be a problem for people with impairments that require them to be able to stretch their leg out (Tyler, 2000).

Low-floor accessible buses make provision for parents with young children to park buggies or prams near the front of the bus and allow them to sit next to them. This space is also suitable for wheelchair users. This is absent from older vehicles (Hillman, 1976).

Hine and Mitchell (2001a) found that most buses are considered unsuitable for travelling with luggage or a large amount of shopping, as they do not have sufficient storage space and that which is provided is often not well-contained, so that open bags may fall and their contents spill out. Overall, travelling with luggage or shopping is considered exhausting and stressful. The tendency for people to buy a large amount of produce at one shop means that alternative modes are usually sought for travel home from the 'main food shop', particularly by parents of young children whom have to look after their children as well (Hine & Mitchell, 2001b). Other people have reported being forced to change their shopping patterns, because of their inability to carry larger loads (e.g. frequent visits to the shops to purchase a few items) (Hine & Mitchell, 2001a).

5.10.3 Comfort and Safety

Older people, parents with younger children and disabled people are dissatisfied with the way that bus drivers fail to wait for individuals to be seated or stationary before they pull off, as this can cause injury (Lucas *et al*, 2001; Hine & Mitchell, 2001b; DETR, 2000a). Passengers also feel under pressure to get off the bus as quickly as possible once it has stopped; frail older people are particularly concerned about this.

Older people report that trains, particularly underground trains where there is no guarantee of a seat, accelerate and decelerate too quickly, increasing the likelihood of them falling and sustaining an injury (DETR, 2001)

5.10.4 Overcrowding

Older people, disabled people and parents of young children report that they avoid travelling on busy public transport services, where they are not guaranteed a seat. The overcrowding associated with travel during peak times means that they are often unable to travel in comfort. Although seats are marked as being reserved for people with mobility impairments they are often not relinquished, particularly if the impairment is not obvious to others (Disability Rights Commission, 2000). Parents have experienced hostility from other passengers when they travel at this time of day, because of their buggy taking up a lot of space and there have been instances where bus drivers have refused to stop for parents with buggies waiting at bus stops if their bus is crowded (Pickup, 1989).

Crowding is particularly prevalent on low-floor single-decker buses, which are designed with these groups in mind, because of their smaller capacity. The problem is even more acute for

people whom suffer from claustrophobia (DETR, 2000a); the problems associated with crowding limits the times at day in which they feel able to travel (Pickup, 1989).

5.11 Access To Information

5.11.1 Poor Signing

To ensure that people with sensory disabilities can use public transport, the destination of the service should be clearly displayed on the front of the vehicle, at the bus stop or on the platform, and this information should be available audibly. Any information on the current location of the vehicle should also be displayed visually and audibly.

Poor access to travel information can deter potential public transport users, while poor quality publicity material or reliance on a single medium for communication can exclude certain market segments. Lack of awareness, particularly awareness of community transport, can mean that those with the greatest need fail to benefit from services designed for them (DETR, 2001). Information should be available to people when they are planning their journey, at the transport nodes and on the public transport vehicles themselves. This way people are assured that their journey is going according to plan. There is also a need to advise people who maybe performing routine journeys of any changes in services. This failure is one of the most common complaints of public transport users (Hine & Mitchell, 2001b).

When people try to undertake a journey on a route they are not familiar with, the poor availability of information about the public transport options often acts as a barrier to its completion. For older people, in particular, the planning of a new journey may require considerable effort (European Conference of Ministers of Transport, 2001). They feel that the computerised information systems available on most telephone numbers are hard to use and do not necessarily provide the advice that they require. They would prefer to speak in person to an operator, so they are certain the information they have been given is up-to-date and correct (Hine & Mitchell, 2001b).

5.11.2 Language Problems

A recent report for the DfT (2003b) found there is an inadequate understanding amongst transport providers of the service needs of Asian and other ethnic groups. For example, the study concluded that:

- The Chinese community does not understand how bus timetables are set out;
- Due to language barriers, people do not understand the information about various tickets types and end up paying more than necessary; and
- Asian women feel embarrassed talking to bus drivers, because a large majority of them are men.

The report suggested a number of solutions to these problems, including:

- London Underground staff to wear badges which have the languages they can speak clearly indicated;
- Timetables and talking signs in a range of languages;
- Local authorities to provide welcome packs to asylum seekers, which contain transport information in their own language;
- On-board electronic information available for hearing impaired travellers and;
- Monitor how concessionary fares are utilised by different faith groups, offer special fares/vouchers for special/cultural events.

Language barriers exist for BME people who are unable to understand English or are not confident in their ability to be able to. Public transport providers have improved in their provision of information, especially bus timetables, in minority languages (Social Exclusion Unit, 2003). However, progress is inconsistent and there remain many people who feel language is the barrier that limits where they are able to travel (Lucas *et al*, 2001).

People who are uncomfortable reading and communicating in English will not begin a journey unless they are sure that they can complete it without having to obtain information beyond their capability to do so. Thus it is easier if they have all the required information in advance and are clear what their journey entails. Multilingual literature is required not only for standard information on transport services (such as routes, fares and timetables) but also for occasional information (such as route changes and emergency procedures) and information on how to use the transport system (such as where to get tickets and how to use ticket machines) (DETR, 2000; Ahmed & Holder, 2000). It is important to note that there are some members of the BME community, usually those over 60, who are illiterate in their first language and require other methods of communication, such as audio.

The BME communities have identified that multilingual transport information would best be distributed through community organisations, as this familiar environment would be used by more people and would reach people who currently do not use the system (Ahmed & Holder, 2000).

In addition to providing written material, it is necessary to ensure that verbal communication does not provide an obstruction. BME people have reported that public transport staff can have a patronising or belligerent attitude when dealing with someone who does not speak English well (Ahmed & Holder, 2000; Social Exclusion Unit, 2003). This issue affects bus travel more because of the need for interaction with the driver. English speakers from BME groups have also said that they have had problems understanding and being understood by the driver, because of their pronunciation (DETR, 2000). Better training of staff to the needs and sensitivities of the BME groups in the area is required.

5.11.3 Sensory Disabilities

The Disability and Discrimination Act has made it unlawful to deny access to information by not making it available in formats accessible to disabled people. Substantial progress has been made towards that end since 1990, but irregular information such as notices on route changes, delays and emergency procedures have not always managed to achieve this. As disabled people often spend a longer time planning their journeys, the absence of this information often has a greater impact (Disability Rights Commission, 2001).

Information provision must take account of the needs of visually impaired and hard of hearing people; these needs do not apply just to people registered as having a sensory disability, but also to people with less extreme visual and audio impairments. Information should be presented so that the size of letters is related to the distance from which the information will usually be read, the 'sans script' type face should be used as it provides most clarity, the contrast between the text and the background should be stark and variable message signs should scroll at a relatively slow rate (DfT, 2002c).

To meet the needs of those whose sight is severely limited, authorities should provide tactile information, principally embossed typed information rather than Braille because it is easier to read (DfT, 2002c). Audio information should also be available. It is essential that there is a significant difference between the level of background noise (ambient noise) and the level of the signal or announcement. In environments that are noisy, any spoken information should be repeated at least once (DfT, 2002).

The provision of visual and audible information is increasing on public transport services. Information in these formats helps people with sensory impairments feel comfortable travelling independently as they are able to orientate themselves with ease (Disabled Persons Transport Advisory Committee, 2002b)

5.11.4 Mental and Cognitive Difficulties

Whilst the Disability Rights Commission (2001) acknowledges the improvements that have taken place in information provision for those with sensory impairments, it states that there is a need for greater awareness of the information presentation needs of people with mental health problems and learning disabilities. For most people, taking public transport to an unknown destination requires confidence and forward planning. For the less than totally assured it can be very difficult, with the transport maps and timetables usually available often beyond their comprehension (DETR, 2000a).

People who lack confidence in their ability to undertake cognitive tasks, such as those who have anxiety attacks or a learning disability, need to feel confident that they are able to read information and understand procedures. Where there is a language challenge, which may be as common as dyslexia, then there can be problems reading numbers correctly or following signage. Bus and train stations can be particularly difficult to negotiate (Hine & Mitchell, 2001b). All information needs to be presented in a clear and logical way. This includes making fare structures easy to understand (Disability Rights Commission, 2001; DfT, 2002c).

5.12 The Cost Of Transport

As noted in previous chapters, all of the disadvantaged groups examined in this study have a higher than average prevalence to be located in the lowest income quintile. Therefore, the issue of cost is relevant to all of the study groups. The impact will be discussed generally and the affect on individual groups highlighted.

5.12.1 Cost of Bus Fares

Research in Merseyside found that the bus fare increases that accompanied deregulation were the single major cause of reduced bus use by low-income families in the area. This resulted in reduced mobility, with walking replacing bus travel for essential journeys and social and recreational trips not being taken (Gaffron *et al*, 2001). Low-income families were found to require cheap fares and discounted season tickets and travel-cards to enable their full participation (Gaffron *et al*, 2001).

A survey on attitudes towards public transport involving over 1,500 households across England revealed that 30 per cent of households reported cost as being the element of public transport use most likely to be considered poor or very poor (Crime Concern, 1997). Travel cost is a particularly acute barrier for unemployed people in their attempt to find work; 14 per cent of unemployed lone-parents say that they cannot afford the cost of transport to access work (Social Exclusion Unit, 2003). Furthermore, McQuaid and Lindsay (2002) found that 84 per cent of the unemployed people they surveyed did not have access to a car and believed that travelling for over 30 minutes to work would involve considerable cost. Likewise, METRO (2000) found that potential travel costs was one of the factors that limited the areas within which unemployed people would consider working.

As well as affecting their ability to get to employment vacancies, costs affect the ability of the unemployed to secure employment. It was found that nearly 30 per cent of people who

received the all-encompassing Job Finders Grant used the grant to pay for the travel costs for interviews. Moreover, 25 per cent of job seekers say their job search has been limited by the cost of travel to interviews (McKay, 1999 in Social Exclusion Unit, 2003). It was felt that there should be a reduced fare for unemployed people when they were job seeking (Hine & Mitchell, 2001b).

Transport costs are also hard to manage immediately after people gain employment, as there is usually a delay between the last benefit payment and the first pay cheque (METRO, 2002). It can be difficult for recently employed people to buy money-saving season tickets as they do not have the financial resources available to them and employer-loans are often not available when they start work.

Similar problems are experienced by young people in further education or people attending classes to improve their employability, as they often have to travel considerable distances to access these specific courses. They particularly cited the high cost of public transport for relatively short journeys (DETR, 1999). In a study by the Social Exclusion Unit (2003), almost half of 16-18 year old students say they find transport costs hard to meet, and over 20 per cent have considered dropping out because of financial difficulties, principally transport costs. In addition, 6 per cent of college students have missed classes because they could not afford the transport costs to get there (DETR, 2000a). Hine & Mitchell (2001b) reported an incident where an individual was unable to attend a college course on accessing employment because the grant that he was due to receive to cover his travel expenses did not arrive until the course had started.

A study by Crime Concern (2002) found that a lower percentage of adult respondents in 2002 compared to 1996 rated the cost of public transport as 'very good', although a higher percentage of respondents rate it as 'good'. A higher percentage of respondents in 2002 (23 per cent) assess the cost of public transport as 'rather poor'. Overall, men are more likely than women to rate the cost of public transport as 'poor'; however, asian and black women were more likely than men from these ethnic groups to rate cost as poor.

Cars are perceived as the cheapest mode of transport, despite the high fixed costs involved. For those without cars, buses are the dominant transport mode, as trains and taxis are considered too expensive (Hine & Mitchell, 2001a). Affordability is documented as the main barrier to train use for older people and unemployed people (METRO, 2000) as well as lone parents of young children (Pickup, 1989).

The discount train fares available to family groups have been highlighted as being too inflexible for some groups of people. They are usually based on a 'family of four' model (usually two parents and two children), so they are not appropriate for lone parents and some BME groups, particularly the Asian populations for whom large family sizes are typical in their communities (Beuret *et al*, 2000).

5.12.2 Fare Uncertainties and Inconsistencies

Many groups cited the uncertainty and inconsistency in the price of public transport fares as being a barrier to travel. People on low incomes often were unable to attend appointments before 10:00am, as it involved travelling during peak time when the fares were at their most expensive. This included unemployed people attending the job centre (McQuaid and Lindsay, 2002), older people attending the doctors (DETR, 2001) and younger people attending college (Hine & Mitchell, 2001b). A study by Hine and Mitchell (2001a) showed that some ticket types (e.g. return fares) are unavailable to parents escorting their children to school because they are travelling before 09.30am. In this study, people recorded their frustration with the disparity in the fare prices between local authorities, particularly those living in rural areas that have to travel further for services. In a separate study, Lucas *et al*

(2001) found that some people are unable to make trips across local authority boundaries, as the cost is prohibitive.

Young people have spoken of their confusion over the high variance in the price of long-journey train tickets, depending on when the person intends to travel and when the person books it. The limited number of cheap tickets available means they are unable to visit friends in other cities at short notice (Hine & Mitchell, 2001a).

5.12.3 Concessionary Fares

Targeted subsidies exist in the form of concessionary fares or budget passes and may be granted to registered disabled people, young people in education and unemployed people, depending on the policy of the local transport provider (Gaffron *et al*, 2001). They are nationally available to older people because of the introduction of a statutory minimum bus concession for the elderly.

These concessionary passes often have strict times at which they can be used or fully used, limiting the travel patterns of those with them. They are often not able to travel before the morning rush hour is over, at 9:30, restricting their ability both to complete activities early in the day and to undertake day-long activities. In some instances, restrictions also apply in the evening rush hour, consequently considerably constraining the travel day for the person with the subsidy (METRO, 2002) – particularly as many people feel unsafe travelling after the evening peak. Concessionary travel is limited to within local authorities boundaries and this is not appropriate for all journeys. There is a lack of clarity on the availability of concessionary passes, particularly amongst disabled people (Disability rights Commission 2000) and older people from BME groups (Beuret *et al*, 2000), which has resulted in a lower take up amongst such people.

Research has shown that those with concessions travel further or more often than equivalent people without concessions (O'Reilly, 1989), and therefore experience reduced exclusion (DETR, 2000a). The eligibility criteria, particularly within groups that are less clearly defined such as the unemployed and disabled, can therefore impact significantly on people's ability to travel and more generally participate within society.

5.13 Physical and Psychological Barriers

5.13.1 Availability and Acceptability of Community Transport

Community transport is offered as a solution to the problems of transporting people with mobility limitations (Hine & Mitchell, 2001b). This offers a door-to-door service for these people in specially designed, easy-access vehicles (Disability Rights Commission, 2000). The existence of this service provides an alternative to public transport travel for mobility-impaired people.

Dial-a-ride or handicabs are the two main services provided to meet people's general travel needs. In addition, a Shopmobility service has been introduced in many locations specifically to provide mobility-impaired people equality of access to shopping facilities and 'barrier-free' movement within town centres, in response to the spread of pedestrianisation to smaller shopping centres (Gant, 2002).

Whilst community transport provides a valuable service for those with more severe mobility impairments, it has its own limitations. It is restricted to destinations within the local area, it is often incapable of serving people in areas a long way from the depot (Disability Rights Commission, 2000), and it has limited operating hours (DfT, 2002c). The eligibility criteria

are restrictive, so some people whom would benefit from being able to use it are unable to do so (Hine & Mitchell, 2001b). There is also inconsistent provision of these services between local authorities, and due to the nature of the way it is funded journeys across local authority boundaries are not possible (Disability Rights Commission, 2000).

Arguably the biggest problem is that it requires advanced booking, meaning that such services cannot be used for spontaneous trips, or on occasions when they are already fully booked. Likewise, ensuring availability for the return trip can limit its effectiveness, particularly when a person is uncertain how long they will require at their destination (e.g. when attending a hospital appointment) (DfT (2002c). In instances where the community transport does not arrive or is not available, and the individual still wants to complete the journey, they usually have to travel by taxi. This is expensive and usually not designed for use by people with impairments, meaning that the journey is uncomfortable and getting in to and out of the taxi can be embarrassing (Disability Rights Commission, 2000). This inflexibility means that it is usually inferior to using mainstream public transport (Hine & Mitchell, 2001b).

Some groups are concerned that the provision of these 'specialist' services can lead to segregation, and so result in disabled people becoming excluded and considered peripheral, unequal members of society (Hine & Mitchell, 2001b; Disability Rights Commission, 2000).

5.13.2 Fear of Crime in the Local Environment

There is evidence that fear of crime influence a person's decision to travel and, in particular, their use of public transport. The fear of crime pervades every aspect of the journey and can affect people's attitude to walking to the transport node, waiting at the transport node and travelling on public transport (Social Exclusion Unit, 2003). People living in the most deprived areas are around five times as likely to say that they feel concerned with levels of crime in the area and safety at the bus stop, than those in the least deprived areas (DfT, 2002). The impact that this has is demonstrated by the fact that almost 20 percent of people say that personal security would have to improve before they would consider travelling on buses more often (Social Exclusion Unit, 2003). In addition, Pain (1997 in Gaffron *et al*, 2001) found that fear of sexual attack leads four out of five women to avoid certain modes of transport for particular trips.

The 1994 British Crime Survey (Crime Concern, 1997) showed that over a third of people feel unsafe if they are out alone after dark. This proportion increased to over half of those living in inner cities. Physical vulnerability is an important cause of an individual feeling unsafe, particularly from the threat of violent crime; this affects both those who are frail and those with social vulnerability. People worry more about crime if the consequences of it are more severe for them; a report for DETR (2001) showed that people feel progressively less safe with age and that, as they become physically more vulnerable, they worry more about becoming victims. As those who are socially or physically vulnerable disproportionately use public transport, this finding has important implications.

The media has an important role in influencing people's perceptions of the level of crime. Violent crime constitutes less than 5 per cent of reported offences, but comprises up to 46 per cent of the coverage of crime in the popular press (Garde, 1989; Crime Concern, 1997). This clearly indicates the ability of the media to distort people's views of reality. The report finds that people's perceptions, based on indirect experience and the media, over exaggerate the actual situation. However, it is perceptions that determine travel decisions (DETR, 2001).

The travel patterns of parents of young children are a good illustration of this. In examining the reason why parents chose to accompany their child on their journey to school, Joshi &

MacLean (1995) found that the threat of crime - particularly the child being approached by a stranger - was cited most frequently. Over half of parents accompanied their child to school partly because of the threat of the child being a victim of a criminal activity. Furthermore, Gaffron *et al* (2001) found that if parents were unable to drive their children to certain activities they would not let them go at all. This resulted in reduced opportunities for children whose parents did not have access to a car.

5.13.3 Fear of Crime on Public Transport

Research by Crime Concern (1997) asked over 1,500 households about their opinions of public transport safety. Compared to the ratings given by the survey respondents to cost, reliability, usefulness and the ease with which public transport can be embarked or disembarked, personal safety was the least likely to be viewed as poor or very poor. Less than 10 per cent of respondents considered it poor or very poor, whereas over 60 per cent though it was good or very good. There was no great difference between the opinions of men and women, or between households in different socio-economic groups.

These results show that most people feel safe when travelling on public transport. However, these responses do not include people's opinions about their safety when walking to or waiting at the transport node. Also most of the trips that people were commenting on occur during the daytime hours, rather than late at night when it has been shown that people feel most insecure. It was found that the proportion of people who used a taxi or minicab for a social trip during the evening was 22 per cent compared to 3 per cent of people making a social trip during the day. Others stated that they would not travel at night at all. Sixty seven per cent of the trips made by taxi or minicab were for evening social trips, whilst the figure was just 13 per cent for buses (Crime Concern, 1997). Other statistics that were highlighted in the DfT's Accessibility Planning Guidance (2004a) include:

- 53% of women and 23% of men feel unsafe waiting on a train platform;
- 44% of women and 19% of men feel unsafe waiting at a bus stop;
- 47% of women and 21% of men feel unsafe walking from the bus stop/station;
- 46% of women and 24% of men feel unsafe walking in a multi-storey car park

The survey recorded little difference in the perception of safety on public transport between different age groups, though there were marked gender differences. More of the BME population recorded feeling unsafe on public transport than the white population, for both genders: 16 per cent of white men and 38 per cent of white women stated that they use public transport but have some fears, whilst the equivalent figures for the BME population were 28 per cent and 45 per cent, respectively.

When asked about the type of crime or anti-social behaviour that they had experienced or witnessed whilst using public transport, the respondents reported incidents of being deliberately pushed or jostled and being stared at in a hostile way. Women were more likely to experience sexual harassment, exposure and assault. It was found that those who had directly experienced or observed crime on public transport were more likely to consider their personal safety at risk and travel with fear on public transport, particularly those who had experienced more violent crime. Men were more likely to be concerned about groups of young men and women were more concerned about men on their own. All people were concerned about the presence of people who were under the influence of alcohol, particularly late at night (Crime Concern, 1997).

The tendency of groups of young people to congregate at bus and train stations during off-peak times made people consider them dangerous (Ahmed & Holder, 2000). The over-reporting of young people as the perpetrators of crime combined with little positive coverage of this age group in the media, accentuates the anxiety that people fear in the presence of

younger people (Crime Concern, 1997). Older people in particular frequently express their unease being in the presence of younger people (Lucas *et al*, 2001).

The Crime Concern (1997) survey found that there was not one single factor that caused fear of crime, but rather the accumulation of several. Factors that increased the fear of crime included a lack of uniformed staff, isolated location, the absence of CCTV cameras, poor lighting, overgrown vegetation, an unpleasant environment, stations without clear boundaries, the presence of drunks, a large number of station entrances, a lack of clear journey information and the absence of other travellers.

Insufficient lighting is one of the most commonly cited reasons for making the street environment unsafe at night (Crime Concern, 1997; Ahmed & Holder, 2000; DETR, 2001). In some instances people revise their route, so that they stay as much as possible on the main roads.

The fact that the driver on buses and coaches is visible to and in communication with the passengers makes them feel safer than on trains, where they are in a different compartment. On buses, they can be easily contacted and people sit close to the driver if they felt unsafe. Single-decker buses' are considered safer as people usually misbehave on the top deck. It was felt that the people who travel on trains are wealthier and are less likely to cause trouble than people that travel by bus (Crime Concern, 1999).

As a result of consultations between the Government's Mobility and Inclusion Unit (MIU), the Home Office and local transport groups the Crime Reduction Delivery Team in the Home Office is working to issue an order under the Crime and Disorder Act so as to enable Passenger Transport Executives and Passenger Transport Authorities to participate in Crime and Disorder Reduction Partnerships (CDRP). The Government hopes that this will help to raise the profile of transport within CDRPs and encourage the development of strategies to reduce crime and fear of crime in and around public transport (DfT, 2004a).

5.13.4 Racial Harassment

Individuals who have experienced racial abuse or feel that they are treated differently because of their race, generally have a negative attitude towards their journey. The fear that a similar incident may occur again can dramatically affect a person's travel patterns.

The British Crime Survey showed that in 1999 the risk of being the victim of a racially motivated incident was considerably higher for members of BME groups than for white people (Crime Concern, 2002). BME victims of crime perceived the motivation for the incident to be racial in 12 per cent of all the crime experienced by BME people, compared to 0.3 per cent for white people. Similarly, 4.2 per cent of Pakistani and Bangladeshi people had experienced racially motivated crime in 1999, compared to 3.6 per cent of Indian people and 2.2 per cent of Black people. The numbers of instances and proportion of racially motivated crime has gone down since 1995, when 8 per cent of Pakistani and Bangladeshi people reported having experienced racially motivated crime, but the impact of this greater prevalence in the past is still likely to impact on some people's approach to travelling today (Clancy *et al*, 2001).

Clancy *et al* (2001) found that emotional reactions to racially motivated incidents were generally more severe than for non-racially motivated incidents. In 1999, victims of racially motivated crime were twice as likely to say that they had been 'very much affected' by the incident, than victims of other sorts of crime: 55 per cent of Black victims reported being 'very much affected', compared with 41 per cent for both Asian and White victims. Despite improved recording methods used by police forces, it is likely that these statistics represent an underestimate of people's experience of racial abuse and racially motivated crime, as

many people believe that there is little point reporting such instances to the authorities (Clancy *et al*, 2001).

Specifically regarding transport, Crime Concern (1997) found that BME people were more likely to experience racial harassment on transport than other forms of crime. Other reports of racism experienced on public transport refer to instances where they feel they have been singled out because of their ethnic background by public transport staff, notably bus drivers. Examples include the driver purposely ignoring an individual at a stop, or being deliberately difficult when it comes to buying tickets or showing passes (Social Exclusion Unit, 2003).

The experience and threat of racism contribute towards the general feeling of a lack of safety, which has been established as a major consideration for BME people, especially the Asian groups, when choosing their mode of transport (Ahmed & Holder, 2000).

5.13.5 Fear of Injury when on Public Transport or in the Local Environment

Sudden unexpected changes in vehicle motion result in certain groups becoming fearful of the prospect of injury on public transport, particularly if they are moving around the vehicle.

Older people worry more about their safety, because they are likely to be more severely injured, take longer to recover and suffer greater psychological impact than a younger person in a similar incident. They commonly cite the inconsiderate behaviour of bus drivers as a reason for their injury. More older people are injured in buses as a result of a fall than because of the bus being involved in a collision and for people whom have fallen, the possibility of the experience being repeated is enough of a disincentive to prohibit future bus use (DETR, 2001a).

Parents of young children and disabled people have also recorded their particular dissatisfaction with drivers accelerating away before they have reached their seat (Disability Rights Commission, 2000). Disabled people are exposed to unequal chances of risk, which has led to higher levels of personal injury on public transport and reduced their confidence to use public transport again (Disability Rights Commission, 2000). Wheelchair users often roll uncontrollably around the vehicle if it starts moving before they have reached their station and been able to put brake on (Lucas *et al*, 2001). Parents with buggies often have similar problems. Children who are unaware of the need to hold on when the bus accelerates are also prone to falling.

The fear of personal injury from an accident also affects people making journeys on foot. For example, Joshi & MacLean (1990) found that concerns over their child's ability to deal with road traffic was the second greatest reason for accompanying their child to school. Hillman *et al*. (1990) found that traffic danger was the greatest concern of parents whom accompanied their children to school.

5.14 Suitability

Suitability has not previously been identified in the literature as a specific barrier to public transport use, but there are two issues that come under this broad heading and relate to concerns of socially excluded groups.

5.14.1 Poor Image

The influence of peer group pressure means that many young people are very conscious of the image they emit to their contemporaries. The transport they use forms part of this

portrait, and it has been noted that the use of certain forms of public transport - normally certain buses - is regarded as being incompatible with their image. Research for the DETR (1999) found that people aged 14 - 16 were reluctant to use cheaper bus operators because it was bad for their image, whilst some avoided using all buses. Pilling *et al* (1998) found that over 40 per cent of 13 to 22 years olds felt that bus travel would 'not make you look good'. In contrast, trains and trams did not produce particularly negative images.

This problem is accentuated by the fact that many young people feel unwelcome on public transport, particularly buses. They feel 'picked on' by adult passengers and members of staff who are suspicious of their behaviour (DETR, 1999).

5.14.2 Cultural Issues

Where public transport fails to provide for, or is insensitive to the cultural practices of, an individual or group it affects their views and use of the transport system. Many of these needs are based on religious practices. There is evidence that trains do not always offer appropriate food for the BME population. Not just food that meets their religious requirements, but a variety of food that meets their culinary tastes; for example, some older Indian women have shown that they will only eat South Asian style meals (Polak *et al*, 2002; Beuret *et al*, 2000). In some religions, such as Hindi, it is traditional to pray before embarking on a long journey, however not all mainline stations have facilities to do this (Polak *et al*, 2002).

The photos that accompany travelcards require that the individual be photographed without obstructions in front of their face. When Muslim women wearing their veil then show their photograph to transport staff they are often requested to remove their veil so that the photo can be verified. This practice can cause offence, particularly if the request is aggressive. The Muslim community would prefer more sensitive treatment of their cultural practices (Polak *et al*, 2002; Beuret *et al*, 2000).

Unfamiliarity with the structure of the transport system can act as a barrier to BME people. Older Asian women have said that they are unaware of how to travel on public transport, how to request information or how to provide feedback. The lack of clarity on the procedures available to provide comments on the transport service was common to all BME groups (DETR, 2000a).

5.15 Remote Access

Although not a direct focus of this study, it is important to recognise that in some instances travel can be replaced by remote access to services, and in many situations this is a growing trend. Kenyon *et al* (2002) term the ability to undertake activities remotely as 'virtual mobility'. They define the concept as:

' A shorthand term for the process of accessing activities that traditionally require physical mobility, but which can now be undertaken without recourse to physical travel by the individual undertaking the activity' (Kenyon et al, 2002).

It includes using the telephone to access social networks, using the internet to order shopping, access financial markets or complete learning online, or using a mobile telephone to participate in the political process. The advances in information-communication technologies, particularly in the late 1990s, mean that it is now possible to do many more activities without the need to travel anywhere. Kenyon *et al* (2002) highlights the potential

that this has for allowing people for whom mobility is a barrier, either because of transport or the environment, to access domains of normal activity that they are unable to do currently.

As many of these opportunities are functions of having access to the Internet and knowing how to get the best out of it, many aspects of virtual mobility are dependent on both a certain level of wealth, access to information technology and usually computer experience. There is evidence that those who are socially excluded are also more likely to be excluded from the Internet, and therefore the Internet only reinforces exclusion. Recent statistics suggest that only 7 per cent of households in the lowest income decile have access to the Internet, in comparison to over 70 per cent of households in the highest income decile (Kenyon *et al*, 2002). Often, obtaining the skills training required to gain knowledge and confidence in using the Internet requires travel to a library or educational centre.

Concerns also exist about the impact that greater remote access could have on the way that a community functions. It implies a decline in direct human relations and a reduction in experiences shared in person, which Barry (2002) identifies as being crucial for social cohesion. Others (Wellman, 1999 in Kenyon *et al*, 2002) contend that the relationships that can be formed online are more important in providing social interaction, as the person feels more relaxed in the comfort of their own home and are able to take place over great distances, permitting in the formation of new communities.

6 CONCLUSIONS

The review has demonstrated that, whilst a link between poor transport, accessibility and social exclusion had been widely discussed in the academic and policy literature, until recently there was a paucity of data on its precise nature. Since 1999, a variety of predominantly qualitative studies have identified the accessibility and transport needs of different social groups, with growing emphasis on those groups that may also be socially disadvantaged in other respects. In 2003, the Social Exclusion Unit found clear evidence linking poor transport provision and social exclusion. It is now well established that social exclusion has a mobility dimension and that participation, the ultimate goal of inclusion, is to a large extent dependent on people's ability to travel.

One of the goals identified in the Transport White Paper (DETR, 1998) was to create a 'fair' transport system. This literature review has established that currently the distribution of transport delivery in the UK is not fair, in that the barriers to access, as identified within this report, result in socially excluded groups being unable to take up desired opportunities or to participate fully in society.

It has been established that a wide variety of people in considerable numbers are affected by a lack of access to basic services, and that the different activities they are unable to access are diverse, ranging from the labour market to social networks and from political processes to healthcare. These patterns are not only a result of the current transport network, but of people's past experiences and attitudes. A negative experience or perception now can lead to important journeys being sacrificed in the future.

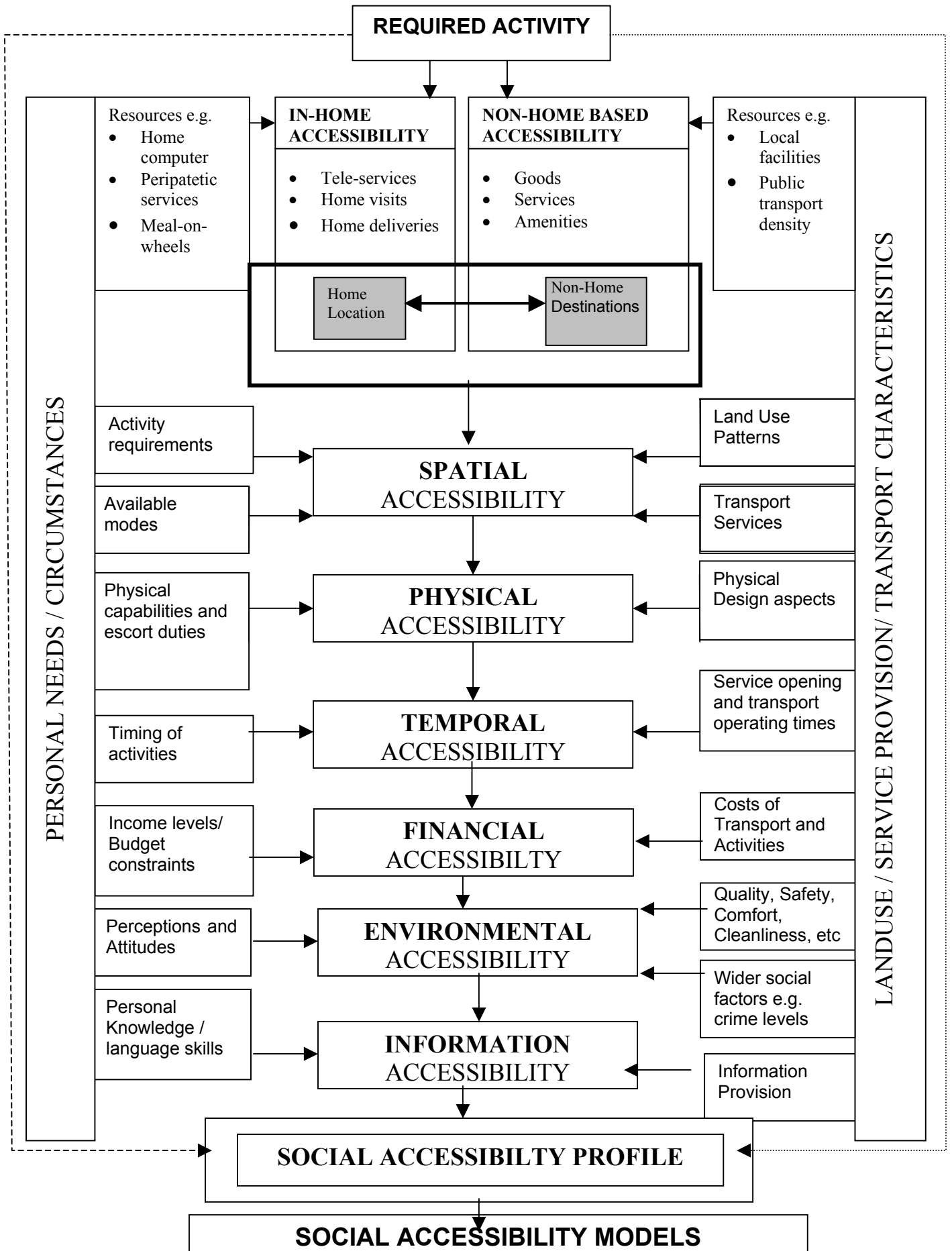
There remains concern as to how the diversity of travel experiences and the details of the exclusionary processes can be measured in any assessment of transport policy. It is increasingly acknowledged that there is a need to develop appropriate methods in transport planning to address successfully the transport needs of excluded groups and communities. What local authorities require is a tool that helps them to understand and codify the needs of different social groups (e.g. type of activity, by time of day), and to establish how easily people can reach suitable locations where they can carry out these activities, taking into account local transport provision in ways that reflect user perceptions. In other words, to develop accessibility measures and models that capture the ways in which different social groups perceive and use their local environment. This requires a detailed mapping of objective transport provision (bus services, local street conditions, etc.), alongside the incorporation of wider concerns (e.g. street crime) and an awareness of the relative importance that different groups place on attributes of a particular type of journey (in-vehicle travel times, walking times/distances, costs, etc.).

This review suggests that improvements to public transport services can have an important role to play in the facilitation of better access to 'normal' activities and that accessible transport systems are essential for equality of opportunity. It is clear, however, that they are only part of a package of measures that need to be considered and the specifics of the individual experience need to be considered in any set of policy solutions. The challenge is to see how the accessibility models used in transport planning can be adapted from their strategic, more generalised representations of conditions, to better reflect individual needs.

It is recommended that this project move towards this goal by attempting to establish basic thresholds for socially excluded groups, in areas such as travel times and travel costs, and to look in detail at issues affecting walk access to bus and rail services.

Drawing on the literature review, Figure 18 provides a framework for identifying the different components of accessibility that will be examined within this project.

Figure 18: Components of Accessibility



Bibliography

Ahmed, S. & Holder, T., (2000) *The Travelling Needs of Asian People in the West Yorkshire Area*. Istikhara Research limited.

Atkinson, A. B. & Hills, J. (eds), (1998) *Exclusion, Employment and Opportunity*. London: London School of Economics and Political Science, Centre for Analysis of Social Exclusion.

Baker, A., Ferguson, S. & Dawson, D., (2003) 'The perceived value of time: controls versus shiftworkers' *Time and Society* Vol. 12, 1, pp 27-39.

Barry, B., (2002) 'Social exclusion, Social Isolation and the Distribution of Income' in Hills, J. Le grand, J. & Piachaud, D. (Ed) (2002) *Understanding Social Exclusion*. Oxford University Press. Oxford.

Beuret, K., Aslam, H., Gross, S., Osman, A. & Khan, F., (2000) *Ethnic Minorities and visible religious minorities their transport requirements and the provision of public transport*. Paper presented to the Department of the Environment Transport and the Regions.

Bhalla, A. & Lapeyre, F. (1997) Social exclusion: towards an analytical and operational framework *Development and Change* Vol. 28 pp 413-433.

Burchardt, T., Le Grand, J. & Piachaud, D., (1999) 'Social Exclusion in Britain 1991-1995' *Social policy & Administration*, Vol 33, (3) pp 227-244.

Burchardt, T., Le Grand, J. & Piachaud, D., (2002) 'Introduction' in Hills, J. Le grand, J. & Piachaud, D. (Ed) (2002) *Understanding Social Exclusion*. Oxford University Press. Oxford.

Byrne, D. (1999) *Social Exclusion* Oxford University Press, Oxford.

Centre for Economic and Social Exclusion (2002) *Social Exclusion* [online] www.cesi.org.uk

Church, A. & Frost, M., (1999) *Transport and Social Exclusion in London - report Summary* London: London Transport Planning.

Church, A., Frost, M. & Sullivan, K., (unpublished) *Transport and Social Exclusion in London - Report Summary* London: London Transport Planning.

Clancy, A., Hough, M., Aust, R. and Kershaw, C. (2001). *Crime, Policing and Justice: the experience of ethnic minorities: Findings from the 2000 British Crime Survey*, Home Office Research Study 223.

Cloke, P., Milbourne, P., & Thomas, C., (1997) *Living life in different ways? Deprivation, marginalization and changing lifestyles in rural England* Transactions of the Institute of British Geographers, Vol 22 (2) pp 210-230.

Countryside Agency (2001) *Rural Services Survey* [online] http://www.countryside.gov.uk/LAR/Landscape/RandE/state_of_the_countryside_reports/ruralservicessurveyintro.asp

Crime Concern & Transport and Travel Research, (1997) *Perceptions of Safety from Crime on Public Transport*. Department of Transport, HMSO, London.

Crime Concern (2002) *People's Perceptions of Personal Security and their Concerns about Crime on Public Transport*, Department for Transport, HMSO, London.

Department for Environment, Food and Rural Affairs (DEFRA) (2004) *Transport, Young People and Rural Areas* [online] www.defra.gov.uk

Department of the Environment Transport and the Regions, (DETR) (1998) *A New Deal for Transport: better for Everyone. The Government White Paper on the Future of Transport*. HMSO London.

DETR (1999) *Young People and Crime on Public Transport*. HMSO London.

DETR (2000a) *Social Exclusion and the provision of public transport – Main Report*. HMSO London.

DETR (2000b) *Public Transport Gender Audit*. HMSO London.

DETR (2001a) *Older People: Their Transport Needs and requirements* HMSO London.

Department for Transport (DfT) (2001a) *Focus on Personal Travel: 2001 Edition*, HMSO, London.

DfT (2001b) *National Travel Survey* HMSO, London.

DfT (2002a) *Accessibility of local services and facilities*. HMSO London.

DfT (2002b) *Delivering Better Transport: Progress Report*, HMSO, London.

DfT (2002c) *Inclusive Mobility: A guide to best practice on access to pedestrian and transport infrastructure* [online]
www.dft.gov.uk/stellent/groups/dft_control/documents/contentservertemplate/dft_index

DfT (2003a) *Transport and Accessibility* [on-line]
http://www.dft.gov.uk/stellent/groups/dft_localtrans/documents/page/dft_localtrans_023939.hcsp

DfT (2003b) *Public Transport Needs of Minority Ethnic and Faith Communities*, HMSO, London.

DfT (2004a) *Accessibility Planning Guidance* [on-line]
<http://www.accessibilityplanning.gov.uk>

DfT (2004b) *Transport Statistics Bulletin: National Travel Survey 2002* [on-line]
<http://www.dft.gov.uk>

DfT (2004c) *Transport Trends: 2004 Edition* [online]
http://www.dft.gov.uk/stellent/groups/dft_control/documents/contentservertemplate/dft_index.hcst?n=9381&l=3

DfT (2005) *Focus On Personal Travel* [online]
http://www.dft.gov.uk/stellent/groups/dft_transstats/documents/downloadable/dft_transstats_037493.pdf

Department for Work and Pensions (DWP) (2001) *Households Below Average Income 2000/01 Survey* HMSO, London.

DWP (2003) *Welfare to Work and Accessibility Guidance: JobCentre Plus Guidance* [on-line]

Disability Rights Commission, (2000) DRC Response to the Cabinet Office Consultation on Transport and Social Exclusion [online] www.drc-gb.org/InformationAndLegislation

Disability Rights Commission, (2001) Policy Statement on Transport and Travel [online] www.drc-gb.org/InformationAndLegislation/.

Disabled Persons Transport Advisory Committee (2002a) *Access for all* [online] www.dptac.gov.uk/access.htm.

DPTAC (2002b) *Attitudes of Disabled People to Public Transport* [online] www.dptac.gov.uk/access.htm

Duffy, K., (1998) Combating social exclusion and promoting social integration in the European Union: in Oppenheim, C. (Ed) *An Inclusive Society? Strategies for Tackling Poverty* IPPR, London.

Eisenstadt, N. & Witcher, S., (1998) 'Social Exclusion and Poverty in Outlook' *National Council of Voluntary Child Care Organisations* Issue 1, Autumn pp 6-7.

European Commission, (2003) PROMPT: Promote Pedestrian Traffic in Cities [on-line] <http://prompt.vtt.fi>

European Conference of Ministers of Transport, (2002) *Transport and Ageing of the Population*. ECMT, Paris.

Foley, K., (1999) *Getting the Measure of Social Exclusion*, London Research Centre, London.

Gaffron, P., Hine, J. P. & Mitchell, F., (2001) *The Role of Transport on Social Exclusion in urban Scotland. Literature Review*. Central Research Unit, Scottish Executive.

Gant R., (2002) Shopmobility at the millennium: 'Enabling' access in town centres, *Journal of Transport Geography*, June 2002, vol. 10, no. 2, pp. 123-133 (11).

Garde, M., (1989) Report of the Home Office Working Party on fear of Crime.

Genevieve, G. (2003) 'Travel, location and race/ethnicity.' *Transportation Research Part A: Policy and Practice*, Volume 37, Issue 4, Pages 351-372.

Gordon, D., Levitas, R., Pantazis, C., Patsois, D., Payne, J., Townsend, P., Adelman, C. Ashworth, K., Middleton, S., Bradshaw, J. & Williams, W., (2000) *Poverty and Social Exclusion in Britain* Joseph Rowntree Foundation, York.

Gray, D., (2001) *Rural Transport: An Overview of key Issues*. Prepared for the Commission for Intergrated Transport.

Green, A. E., (1998) *Social Exclusion, the Journey to Work and Ethnic Minorities*. Presentation for a workshop on Social Exclusion & Transport at the University of Manchester on 26th November 1998. University of Warwick.

Greico, M., Turner, J. & Jine, J., (2000) *Transport employment and social exclusion: changing the contours through information technology* [online] www.geocities.com/transport_and_society/newvision.html.

Hay, A. and Trinder, E. (1991) 'Concepts of equity, fairness and justice expressed by local transport policymakers' *Environment and Planning C: Government and Policy*. Vol. 9 pp 435 – 465.

Help the Aged (2005), *In The Right Place: Accessibility, Local Services and Older People*, Help the Aged, London.

Hillman, M., Henderson, I. & Whalley, A., (1976) *Transport Realities and Planning Policy*. Political and Economic Planning, London.

Hine, J. & Mitchell, F., (2001a) *The role of Transport in Social Exclusion in Urban Scotland*. Central Research Unit, Scottish Executive.

Hine, J. & Mitchell, F., (2001b) 'Better for Everyone? Travel Experiences and Transport Exclusion.' *Urban Studies* Vol. 38, No.2, pp 319-322.

Hodgson, M. J., (1981) The location of public facilities intermediate to the journey to work', *European Journal of Operational Research*, Volume 6, Issue 2, February 1981, Pages 199-204.

Hoefler W. R., McKenzie T. L., Sallis J. F., Marshall S. J. & Conway, T. L., (2001) 'Parental provision of transportation for adolescent physical activity.' *American Journal of Preventive Medicine*, July 2001, vol. 21, no. 1, pp. 48-51 (4).

Hough, M., (1996) *Anxiety about Crime: findings from the 1994 British Crime Survey*. Home Office Research Study 147.

Imrie R., (2000) 'Responding to the Design Needs of Disabled People', *Journal of Urban Design*, Vol. 5, no. 2, pp. 199-219.

Joshi M.S. & MacLean M., (1995) Parental attitudes to children's journeys to school, *World Transport Policy and Practice*, vol. 1, no. 4, pp. 29-36 (8).

Kenyon, S., Lyons, G. & Rafferty, J., (2002) 'Transport and Social Exclusion: Investigating the Possibility of promoting Inclusion through Virtual Mobility'. *Journal of Transport Geography*, Vol. 10, pp 207-209.

Klöckner, D. (1998) 'An analysis of the escorting of children and its consequences' *Recherche - Transports - Sécurité*, Vol. 59, April-June 1998, pp 17-32.

Labour Force Survey, (2003) *Office of National Statistics*, HMSO, London.

Labour Market Trends, (2002) *Labour Market Spotlight*. Office of National Statistics HMSO, London.

Lee, P. & Murie, A., (1999) *Literature review of social exclusion* Edinburgh: Central Research Unit.

Levitas, R., (1998) *The Inclusive Society? Social Exclusion and New Labour*. MacMillan Press Ltd, Hampshire.

Lindsay, C., McCracken, M. & McQuaid, R. W., (2003) 'Unemployment duration and employability in remote rural labour markets' *Journal of Rural Studies*, Vol 19, Issue 2, April 2003, Pages 187-200.

Littlewood, P. & Herkhammer, S., (1999) 'Identifying Social Exclusion. Some Problems of Meaning' in Littlewood, P. *Social Exclusion in Europe: Problems and Paradigms*. Aldershot: Ashgate Publishing Ltd.

London Research Centre, *The Travel Behaviour of Different Ethnic Groups in London*.

Lucas, K., Grosvenor, T. & Simpson, R., (2001) *Transport, the Environment and Social Exclusion*. Joseph Rowntree Foundation, York.

Lupton, R. & Power, A., (2002) 'Social Exclusion and Neighbourhoods' in Hills, J. Le grand, J. & Piachaud, D. (Ed) (2002) *Understanding Social Exclusion*, Oxford University Press, Oxford.

Luxton, M., (2002) *Feminist Perspectives on Social Inclusion and Children's Well Being* Laidlaw Foundation, Canada.

McQuaid R. M., Greig, M., & Adams, J., (2001) 'Unemployed job seeker attitudes towards potential travel-to-work times', *Growth and Change* Vol. 32, 1, pp 1-14.

McQuaid, R. M. & Lindsay, C. (2002) The 'employability gap': long-term unemployment and barriers to work in buoyant labour markets, *Environment and Planning C: Government and Policy*, Vol. 20, 613 – 628.

METRO (2000) *Public Transport and Access to Work in the Outlying Estates of North Kirklees*.

METRO, (2002) *Metro's Access to Work project January 2000 - December 2001 EDRF Objective 2 Priority 5*. Final Report.

Monk, S., Dunn, J., Fitzgerald, M. & Hodge, I., (1999) *Finding Work in Rural Areas: Barriers and Bridges*. Joseph Rowntree Foundation, York.

Murray, S., (1998) *Social Exclusion and Integrated Transport*. Paper to be presented to the Transport Seminar Series held on 2 December 1998 at the University of Manchester.

Noble, B., (2000) *Travel Characteristics of Older People*, Transport Trends 2000, Department of the Environment, Transport and the Regions, The stationary office, London

Nutley, S., (2003) 'Indicators of transport and accessibility problems in rural Australia' *Journal of Transport Geography* Vol. 11 pp 55-71.

O' Reilly, D. M. (1989) *Concessionary Fares and Children's Travel Patterns: An Analysis based on the 1978/1979 National Travel Survey* London: Department of Transport (Research Report, 203).

OECD, (2001) *Ageing and Transport: Mobility Needs and Safety Issues* OECD, France.

Office of National Statistics (2001), *Census*, HMSO, London.

Pearce, N., (2001) *A critical analysis of the way that social exclusion is defined in theory and practice*. Working paper, Lancaster University.

Pennycook, F., Barrington-Craggs, R., Smith, D., Bullock, S., (2001) *Environmental Justice. Mapping Transport and social exclusion in Bradford*, Friends of the Earth, London.

Philo, C., (2000) 'Social Exclusion' in Johnston, R. et al *The Dictionary of Human Geography*. Blackwell, Oxford.

Pickup, L., (1989) Women's travel requirements: employment with domestic constraints in Greico, M., Pickup, L. and Whipp, R. (1989) *Gender, Transport and Employment*, Avebury, Newcastle-upon-Tyne.

Pierson, J. (2002) *Tackling Social Exclusion*, Routledge, London.

Pilling, A., Holloway, B. & Turner, J., (1998) *Catching them young - young people's travel and the scope for influencing their travel behaviour*. University of Manchester.

Polak, J.W., Noland, R.B., Glaister, S., Morton, B., Hodgson, F. & MacDonald, M., (2002) *Factsheet on the Problems with Transport for Ethnic Minorities*. Part of the modelling social exclusion in transport research study. Imperial College, London.

Preston, J., Raje, F., Hine, J. & Grieco, M., (2003) *The Social Exclusion Impacts of Traffic Restrain Policies*, Paper presented at UTSG Annual Conference, Loughborough, January.

PRIAE, (2003) *Black and Minority Ethnic Community in Leeds - The experience of education and unemployment*. Leeds City Council, Leeds.

Prime Minister's Strategy Unit (2004) *Improving the Life Chances of Disabled People: Analytical Report*, Cabinet Office, London [online] www.strategy.gov.uk

Rosenbloom, S., (1989) Trip chaining behaviour: a comparative and cross cultural analysis of the travel patterns of working mothers in Greico, M., Pickup, L. and Whipp, R. (1989) *Gender, Transport and Employment*, Avebury, Newcastle-upon-Tyne.

Save the Children, (2000) *Going my way. What children and young people say about transport*, Edinburgh.

Scottish Office Education and Industry Department, (1998) *Widening Participation in Higher Education: report of National Conference at Glasgow Caledonian University*, The Scottish Office.

Scottish Social Inclusion Strategy Action Team, (1999) *Inclusive Communities Scottish Executive: Scottish Inclusion Division*.

Silver, H., (1995) 'Reconceptualising Social Disadvantage: Three Paradigms of Social Exclusion.' In Rogers, G., Gore, C. & Figueiredo, J.B. (eds.) *Social Exclusion: Rhetoric, reality Responses*. Geneva: ILO.

Simpson, R. & Lucas, K., (2000) *Transport and Accessibility: The Perspectives of Disadvantaged Communities*. Draft Working Paper No.2 .

Smith, (2002) *Transport corridors, local environment and social exclusion; an exploration of possibilities*. Proceedings from the European Transport Conference, 9-11 September 2002, Homerton College, Cambridge.

Social Exclusion Unit, (2001) *Preventing Social Exclusion*. HMSO London.

Social Exclusion Unit, (2003) *Making the Connections: Final Report on transport and Social Exclusion*. HMSO London.

Spicker, P. (1998) *Housing and social exclusion: a discussion paper* Edinburgh: Shelter Scotland.

Turner, J. & Grieco, M. (1998) *Gender, transport and the New deal: the social policy implications of gendered time, transport and travel* (Presented at the Social Policy Association conference, Lincoln, July, 1998) [online].
www.art.man.ac.uk/transres/spconf2.htm

Tyler, N., 2002, *Accessibility and the bus system: Concepts to practice* Avebury, Newcastle-upon-Tyne.

United Nations (1998) Human Development Report: *Changing today's consumption patterns - for tomorrow's human development* United Nations Development Programme.

University of Westminster, University College London, London School of Hygiene and Tropical Medicine (2003) *Evaluating Measures to Enhance the Mobility of Older and Disabled Persons. Phase 1 Summary Report*, produced for the DfT, December 2003.

Whitelegg, J., (1997) *Critical Mass* Pluto Press, London.

Witten, K et al (2003) The Quality of Urban Environments: Mapping Variation in Access to Community Resources, *Urban Studies*, Vol.40, No.1, pp. 161-178