



## Strategic Promotion of Ageing Research Capacity

## Older People and Transport: integrating transport planning tools and user needs

Greg Marsden, Mima Cattan,  
Ann Jopson & Jenny Woodward

*Meeting the challenges of  
an ageing society*

Funded by

**EPSRC**

Engineering and Physical Sciences  
Research Council

**bbsrc**  
biotechnology and biological  
sciences research council

May 2008

# Older People and Transport: integrating transport planning tools and user needs

Dr Greg Marsden & Dr Ann Jopson, University of Leeds  
Dr Mima Cattan & Jenny Woodward, Leeds Metropolitan University

There is a need for major changes in the planning and delivery of transport infrastructure and services so that older people's views are taken into account. Older people want to continue using public transport, but their needs are often unrecognised. By bringing together public health and transport engineering specialists with older people, a range of actions have been identified which would lead to better services. Many of these actions are low cost, easy to implement and would benefit other groups of people. Attention needs to be focused on improving the sensitivity of accessibility planning methods, joining up transport services, and ensuring better dialogue with older people over planned changes and new designs.

## Key Findings

- Independence is critical to the wellbeing of older people, and transport is critical to independent living. Older people want to continue using the mainstream transport system, by either driving themselves or using public transport.
- Mainstream transport planning does not recognise that the travel itself and the feeling of independence are often more important than the destination for older people. For instance, shopping is more than just buying food or clothes; it is an experience, a reason to go out and interact with others. It is difficult to capture the range of difficulties faced by older people through current planning methods due to the diversity in physical capabilities and comfort in getting around in different social settings.
- Older people's ability to get out and about is affected by environmental, social and psychological factors. These include: a combination of bus driver behaviour, bus design and the positioning of bus stops; the lack of formal crossings or crossings not in the correct places; personal safety concerns; experiences of taxi journeys; the prospect of giving up driving; and the need to use bespoke social transport.
- The study has found that problems faced by older people when walking round local neighbourhoods included: 'other uses' of the pavement; parking of cars; untrimmed hedges; hedge trimmings left on the path; and infrastructure issues, particularly in crossing roads. The time taken for some older people to cross roads is long and creates frightening situations. Many of the interventions vital to help older people would benefit all walkers and are typically low cost solutions.
- Incentive and regulation structures need to be questioned. For example, punctuality targets for public transport contribute to bus drivers setting-off before people are seated. Other regulations (such as not parking near bus stops) are not sufficiently enforced and defeat the benefits gained from having a low floor bus fleet.
- These difficulties could be overcome through better communication with community groups as well as more general publicity campaigns. Dialogue is a relatively cheap process that could be implemented before commissioning new infrastructure, vehicles or other products, and is critical to doing things better. Many older people would welcome the chance to be more involved although they also accept that theirs is just one voice amongst many in reaching decisions.

# Introduction

## The Issues

The UK has an ageing population, and so understanding older peoples' needs is becoming increasingly important, especially with regards to transport. A lack of good transport options can be a significant barrier to social inclusion and independence. There is substantial evidence suggesting that, because they are more dependent on public transport, older people suffer more than most from poor public transport and a badly maintained transport infrastructure. Maintaining independence and freedom by any means of transport (including on foot, by car or public transport) is particularly important to the health and mental well-being older people.

## The Background

The Department for Transport requires all local authorities to map the extent to which different groups in their population have access to a range of key services such as supermarkets, health care and employment sites. This is known as accessibility planning. The approach to identifying problems during accessibility planning can initially be mechanistic – consisting of plotting areas that are poorly served by buses and trains with respect to journey time or cost to a number of 'key services'. This type of planning may not accurately represent the real-life situations faced by older people when moving around their local area.



*An accompanied walk*

## The Aims of the Study

The project had five aims:

- To investigate how accessibility problems impact on older people's independence;
- To determine the extent to which current sources of data and modelling tools reflect older people's stated accessibility needs;
- To understand how the gap between expected and perceived accessibility problems varies across different groups of older people;
- To pilot techniques that could be used to provide a more realistic measure of accessibility for older people;
- To build new research capacity across disciplines to develop a national focus on the interactions between ageing and transport planning.

## The Study - Overview

Focus group interviews provided an arena for discussion and debate. They helped to generate ideas for improving transport planning. Following the interviews, participants were accompanied on walks through a range of road environments and traffic situations. These were done to explore the way in which older people interact with their environment. During the walks the participants were asked questions about potential difficulties or hurdles in their environment.

81 older people participated in 10 focus groups, each with between 4 and 11 people. 70 participants were female and 11 were male. Despite efforts to select groups where they were likely to be present, men may have been under-represented, so too the most socially isolated individuals. 18 of the participants were currently drivers, and at least 5 more had been previously, but had given up. All of the participants lived independently or in sheltered housing; some lived with their spouses but a large number lived alone.

## The Study - Details

The focus groups mainly took place during sessions organised by Neighbourhood Network Schemes:

- 3 took place during general friendship groups or coffee mornings for older people;
- 2 followed seated exercise classes;
- 2 took place at day centres;
- 2 were carried out with members of older people's reference groups or forums;
- 1 was specifically formed as there was no suitable pre-existing group in existence.

The groups were mainly held in and around the city of Leeds in urban locations. One of the groups was held in a rural area and another in a market town. Participants tended to live close to their neighbourhood network.

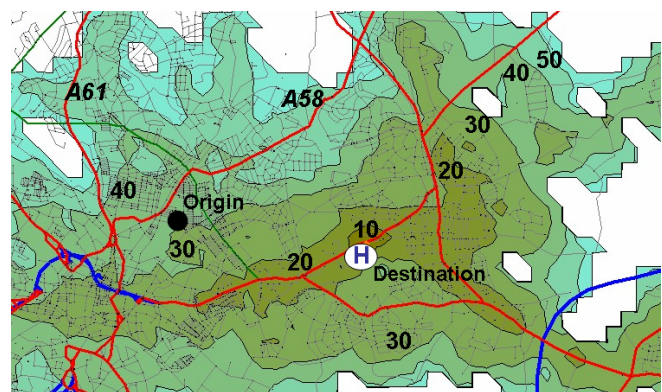
Following the focus groups, older people were accompanied on walks around their local community. This was done in order to discuss issues regarding pedestrian access to common destinations, and to observe any difficulties which they experienced. Participants were asked to select a local destination which they frequently walked to. They highlighted negative aspects of the walking environment en route, and the interviewer asked about specific issues they had observed, if volunteers had not already raised them, on the return trip. The route was recorded on a street map, issues noted, and illustrative photographs taken. 6 walks were undertaken in the Leeds area: 4 in deprived areas in the city; 1 in a village also with a relatively high level of deprivation; and 1 in a wealthy market town. Of the 6 volunteers, 5 were female. 2 of the volunteers had no mobility impairments, whilst others experienced a range of visual, auditory, physical and mental impairments that negatively affected their mobility.

The information from the focus groups and accompanied walks was used to assess a model which is widely used by transport planners. Accession™, commissioned by the Department for Transport, is routinely used to represent public transport accessibility for older people.

The Accession™ software uses public transport routes and timetabling information to help analyse accessibility problems. It can include information about bus, rail, tram, walk and cycle routes; and can compare car journey routes. The software enables accessibility to be examined for any day of the week and any defined time period. To calculate the journey times between origins and destinations the software automatically makes the following assumptions:

- That the user has knowledge of the different transport options available;
  - That all transport services run to schedule;
  - That all transport services can be used;
  - An acceptable walk distance to a bus stop of 800m;
  - A willingness to walk 500m to change to another service;
  - An average walking speed of 4.8km/hr.
- There is little information available on which to base alternative assumptions which are appropriate for different groups of the population, particularly older people.

A number of accessibility plots were created and related back to the individual experiences reported by participants. Amendments were then made to the software assumptions to generate more realistic outcomes. These included slower walk speeds and shorter acceptable distances to bus stops. An example of one of the modified accessibility plots is shown below.



© Crown copyright

*Access to Hospital revised settings (in minutes)*

## Findings and Discussion

### The Importance of Being Connected

The importance of being able to “get out and about” emerged strongly during the focus groups. It was seen as being critical to well-being; maintaining connections with families, friends and neighbours; keeping in touch with “normal” life; and retaining independence. Whilst some participants accepted their decreased mobility as part of life, clear evidence of frustration also emerged. Specific destinations that were considered to be important to reach easily included the hospital, doctor’s surgery, church, friends’ houses, day centres and parks. Travelling to these destinations was considered an experience in itself, and importantly it offered a reason to go out and interact with others. Interestingly, only two of the specific destinations identified as being important to the participants are currently covered by accessibility planning.

Whilst some of the less mobile participants welcomed assistance with travel, for many it was important that they could do it “their way”. This symbolised their ability to cope and keep their independence. There was some commonality in the locations which the participants wanted to access, but this was also found to be dependent on an individual’s past.

### Overriding Themes

Three main factors influenced older people’s ability to get around:

- *Physical ability.* The accessibility and acceptability of public transport affects how long individuals wish to continue driving and when they start to need assisted transport.
- *Individual characteristics.* There was a feeling of a lack of control over transport provision. It was felt that suggestions made for improvements were either not listened to or not executed because of a lack of will, understanding or funding.
- *Transport environment.* Many providers or influencers do not have a clear understanding of what the needs of older people were. It was felt that transport systems were designed for the able-bodied, not for those who were frail. There was a desire for a gentler, more comfortable environment.

### Specific Barriers to Getting Out and About

The mobility of older people varies greatly, however there are many common barriers to getting out and about. This activity needs to be feasible, safe, and provide a sense of personal control in order for it to positively affect well-being. The study identified what these barriers are for older people in Leeds:

- Bus driver behaviour and bus design – this can make public buses too dangerous for frail people.
- The location of bus stops – less mobile people often find it difficult to reach the bus routes or their destinations.
- Crossing the road – formal crossings are often not in the best places and there are not enough; traffic lights do not allow enough time for crossing.
- Pedestrian journeys – steps, uneven surfaces, obstacles, parked cars and bikes being ridden on pavements make pedestrian journeys hazardous.
- Personal safety concerns – some older people were very nervous of either being knocked down or falling over. Personal security concerns meant the majority would not venture out in the dark.
- Mistrust of taxi drivers – taxis are widely used, but many participants were wary of the drivers and the lack of control they had over journeys.
- Giving up driving – the prospect of this was found to be very worrying.

## Accompanied Walks

Key issues raised and observed during the walks were:

- crossing roads;
- other people's use of pavement space;
- the physical condition of pavements.

## Crossing Roads

Everybody raised the issue of crossing roads. Most of the concerns raised were around informal crossings. This suggests that there are insufficient formal crossings, or that those provided do not meet older people's needs. Problems included:

- The ability to see far enough to safely judge when to cross;
- Width of junction to be crossed;
- Number of roads joining a junction;
- High traffic speed;
- High volume of traffic;
- Traffic queues at junctions;
- Large vehicles (either parked at side of road, or queuing) blocking lines of sight;
- Curb side parking (both legal and illegal) blocking lines of sight and walking route.

Younger people speed up to cross the road quickly when crossing junctions, but older people are often not able to. This makes crossing roads a frightening experience, wide and multi-arm junctions are a particular problem. Informal crossings, such as those that have dropped curbs with tactile paving which informally guides pedestrians to the 'safest' crossing point were also found to be a problem. These informal crossings do not help monitor traffic from multiple directions, or alert vehicles to the presence of pedestrians crossing the road. This situation may be frightening, especially for those with vision or hearing impairments. These individuals are less able to monitor approaching traffic from multiple directions simultaneously.

## Pavements

The illegal and informal use of pavement space was found to slow down pedestrians and present a safety hazard. Some of these uses included: a car park; a bicycle lane; a bicycle park; a place to keep domestic waste bins; a garden extension (overgrown hedges); a place for hedge clippings; and use by mobility scooters.

The condition of pavements was also found to be an issue which could be problematic. Where the local authority had recently repaved areas, there had been a substantial reduction in problems. Interestingly, tactile paving was considered painful to walk on (to the extent that people walked around it), providing accessibility for some but not others.

## Accessibility Mapping Tools

Whilst the revised mapping exercise did show a shift in journey times, it still did not highlight areas where accessibility was poor. This shows that there are very real differences existing between the theoretical ability to use public transport and the realities of actually using it. The assumptions made by the software were discussed within the focus groups:

- *Perfect knowledge of services* – There was a great deal of knowledge about the services, timings and routes amongst the regular public transport users. This was based on experience and word of mouth, and so knowledge may be weaker on less-used routes and for non-formal interchanges.
- *Services run to schedule* – There was substantial discussion about the unreliability of services. Where services were infrequent this was a particular issue. Examples were given of very long waiting times as a result of services not arriving. Participants did not believe that services run to schedule and so planned their journeys expecting problems.
- *All services can be used* – A large proportion of the bus fleet in Leeds is now low-floor and should be accessible to older people with mobility difficulties. However, on many routes the use of low-floor buses varies from day to day. Therefore, it is not the case that all buses are accessible all of the time.
- *800m is an acceptable walking distance to a bus stop* – Based on the experiences of the route walking and from the literature, 500m is thought to be more realistic.
- *500m is an acceptable interchange distance* – This was thought to be very optimistic.
- *Walking speed is 4.8km/hr* – In the focus groups, the participants were unable to provide a clear idea of how long it took them to walk to various places. There was a feeling though, that this was substantially longer than it used to take them. A walking speed of 2.4km/hr is a good assumption.

## Recommendations

There is huge variation in the mobility of older people and the destinations which they regularly travel to. This challenges the current mainstream focus of accessibility planning. As a consequence, new tools which have been developed in order to assess how well connected communities are to key facilities, need major revision. Key planning issues which are likely to marginalise the treatment of older people include:

- The absence of design guidelines to cater for older people, and no specific training for planners.
- Major accident black spots are prioritised but other unsafe areas are largely ignored.

Thus, changes in accessibility planning are needed in order to make a useful contribution to enhancing older people's quality of life. Transport planners and providers need to be aware of, and have an understanding of, how older people move around their local areas. Limitations which affect older people in general include restricted mobility, reduced pace and sensory impairment. A broader range of destinations need to be considered during planning and these need to extend beyond the merely functional.

Street and transport design needs to be more inclusive by taking into account older people's needs, and therefore older people should be consulted during these processes. The results from this research suggest that a community-led approach to transport planning is likely to be more revealing and successful than one led by accessibility planning software tools. This is particularly the case in urban areas.

Transport providers should explore ways of providing an accessible and acceptable way for older people to make suggestions, comments and complaints about their services.

Training for bus and taxi drivers, which takes into account older people's requirements, needs to be developed, funded and implemented. This should be accompanied by the enforcement of street rules and national policy. An accredited standard for bus and taxi companies, monitored and enforced by local authorities, would give older people more protection.

More segregated high quality pedestrian areas should be developed and maintained. Older people need to be consulted about the design of such areas. For example, seating is an important issue to consider.

The enforcement of pedestrian areas is needed. Pavements are for walking on, not parking, leaving rubbish or cycling. Rules are needed regarding where scooters can be driven, as when driven carelessly on a pavement they can be a hazard for older pedestrians.

Information about bus routes and timetables must be provided in places where older people are most likely to see it, and must be readable. This is especially important in relation to changes to established routes and times.

## The Research Team



**Dr Greg Marsden**, Senior Lecturer,  
Institute for Transport Studies,  
University of Leeds  
[g.r.marsden@its.leeds.ac.uk](mailto:g.r.marsden@its.leeds.ac.uk)



**Dr Ann Jopson**, Research Fellow,  
Institute for Transport Studies



**Dr Mima Cattan**, Senior Lecturer,  
Centre for Health Promotion,  
Leeds Metropolitan University  
[mima.cattan@tiscali.co.uk](mailto:mima.cattan@tiscali.co.uk)



**Jenny Woodward**, Research Officer,  
Centre for Health Promotion

## The Study

The study received financial support from SPARC of £24,589 and ran for 10 months ending in November 2006. Additional support was provided by the University of Leeds and Leeds Metropolitan University.

For more information about the study please see [www.sparc.ac.uk](http://www.sparc.ac.uk). For further information and the full report including a complete bibliography please see [www.its.leeds.ac.uk/projects/sparc](http://www.its.leeds.ac.uk/projects/sparc).

## Collaborators

The project benefited from the active participation of a steering group, and a mix of local government and local advocates. In particular, the research team is grateful to:

- Erica Ward at METRO (the West Yorkshire Passenger Transport Executive);
- Louise Holliday and Bronwen Holden (Leeds City Council);
- Jack Anderson (Leeds Older People's Forum);
- Susan Chesters, Trude Silman and Bob Stephenson (Leeds Older People's Reference Group).

## Key Policy Documents

- Department for Transport (2004), *Guidance on Accessibility Planning in Local Transport Plans*, London: DfT  
[http://www.dft.gov.uk/stellent/groups/dft\\_localtrans/documents/pdf/dft\\_localtrans\\_pdf\\_033615.pdf](http://www.dft.gov.uk/stellent/groups/dft_localtrans/documents/pdf/dft_localtrans_pdf_033615.pdf) (March 2006).
- Social Exclusion Unit (2006), *A Sure Start to Later Life: Ending Inequalities for Older People*, Social Exclusion Unit Final Report, London: ODPM  
<http://www.socialexclusion.gov.uk/page.asp?id=573> (March 2006).

## Disclaimer

Except as permitted for academic, personal or other non-commercial purposes, users must not reprint or electronically reproduce this document in whole or in part without the prior written permission of the principal investigator, or in accordance with the Copyright, Designs and Patents Act 1988. This document has been produced from unpublished data that has not been peer-reviewed. The research was funded by EPSRC and BBSRC but they are not responsible for the content of this document.

## SPARC

SPARC is a unique initiative supported by EPSRC and BBSRC to encourage the greater involvement of researchers in the many issues faced by an ageing population and encountered by older people in their daily lives. SPARC is directed, managed and informed by the broader community of researchers, practitioners, policy makers and older people for the ultimate benefit of older people, their carers and those who provide services to older people.

SPARC pursues three main activities:

**Workshops** to bring together all stakeholders interested in improving the quality of life and independence of older people.

**Advocacy** of the challenges faced by older people and an ageing population and of the contribution of research to improving quality of life. SPARC is inclusive and warmly welcomes the involvement of everyone with a relevant interest.

**Small Awards** to newcomers to ageing research, across all areas of design, engineering and biology and at the interfaces relevant to an ageing population and older people. In 2005 and 2006 SPARC received 185 applications for support in response to two invitations for competitive proposals of which 34 were supported.

## Executive Summaries

SPARC is supporting its award holders through funding, mentoring, a prestigious dissemination platform, professional editorial assistance, international activities and provision of contacts. Each of the projects has been small, yet the enthusiasm for discovery, and impatience to contribute to better quality of life for older people, has more than compensated for the very limited funding which was provided.

This executive summary is one of a series highlighting the main findings from a SPARC project. It is designed to stand-alone, although taken with summaries of other projects it contributes to a formidable combination of new knowledge and commitment by newcomers to ageing research, with a view to improve the lives of older people. This is a tangible contribution towards ensuring that older people receive full benefit from the best that research, science and technology can offer.