

Strategic Promotion of Ageing Research Capacity (SPARC) Workshop Transport for Older People: more user focussed

- Professor Peter Lansley, Director SPARC Network

Professor Lansley's introductory presentation focussed on the anticipated shift in dependency ratio between older, retired people and younger people in work. The Government anticipate that by 2050, this ratio will be somewhere in the region of 2:1 (older/younger).

SPARC are supporting research and design to introduce new technologies and innovate new ways to combat disadvantages as a result of ageing in the UK.

A recent House of Lords report identified that the Government haven't accepted that research into the effects of ageing needs to be given priority. The same report also identified that scientific aspects of ageing research is sadly lacking.

SPARC aim to make up this shortfall by undertaking pioneering research that will enhance the quality of life for older people. This has major implications for both policy and practice.

SPARC have adopted a 'bottom up' as opposed to 'top down' way of working as the latter definition is the traditional approach taken and this (arguably) leads to failure of services and needs not being met.

http://www.sparc.ac.uk/workshops/10_26_06_transport/pdf/Peter_Leeds.pdf

- Professor Nick Tyler, Accessibility Working Group University College London *Evaluation Measures for Mobility and Accessibility for older people*

UCL are currently working on a project which has been commissioned by the Department for Transport (DfT) to evaluate the benefits associated with making an environment accessible.

Professor Tyler described how most accessibility studies (which result in best practice guidance) is undertaken in a laboratory environment. This leads to a gap in knowledge and understanding of accessibility issues in terms of people and their activities in relation to a range of factors which can affect

any given environment. One area of work that UCL are currently engaging in is designing a database of pedestrian tasks. Another aim is to scientifically justify evidence associated with design limits and linked impacts as a result of this. Professor Tyler mentioned that sometimes a laboratory approach has to be taken as it can be difficult to duplicate natural environments under a range of weather, lighting and other circumstances.

Common uncertainty exists in terms of the best way(s) to invest money to promote accessibility. The essence of the DfT research is to explore new ways to resolve these gaps in knowledge. To address these uncertainties, UCL are using two models to explore ways to improve scientific knowledge to improve accessibility.

PAMELA uses technologies to duplicate a range of environments that explore for example, different surface profiles, different light environments or different noise environments to gather data which allows ranges of ability to be measured.

EMMA sets environments which contain a variety of specific problems (slopes, steps, crossings, lighting etc) of which individuals with a range of impairments are monitored using in order to collect enhanced data. Other factors are also monitored, such as heart beat increase when undertaking tasks.

Professor Tyler explained that one of the current ‘unknowns’ which the project is seeking to clarify is how could it be possible to measure ratio’s of ability when an individual has been assessed as having a disability. This is an important factor as heartbeat rate is usually not taken into account as a measuring toolkit when exploring to what extent a person with limited mobility experiences difficulty when navigating a route. This can give an indication of a low pain threshold/tolerance in the case of a physical/mobility related condition or stress in the case of someone with for example, a visual impairment trying to navigate their way across an unfamiliar environment.
http://www.sparc.ac.uk/workshops/10_26_06_transport/pdf/Nick.pdf

- Dr Greg Marsden, Dr Mima Cattan, Jenny Woodward & Dr Ann Jopson – Leeds University *Older People & Transport Focus Group*

The Focus Group identified via user surveys that social exclusion and loneliness amongst older people is closely linked to poor public transport access. Many older people have a great fear of falls caused by bad driving

and are confused by the variety of 'rules' regarding what to do when a person wants to get off a bus. Equally, a lot of older people have concerns about poor design of existing public transport vehicles which affects their confidence with regards to use of public transport.

Many older people use taxi and private hire vehicles to fill the gaps caused by inaccessible public transport although common concerns in this area include fear of cost, 'strange routes', feeling safe and not knowing how (or feeling confident enough) to challenge drivers.

The Focus Group study has revealed that there are several recurring common denominators which affect older peoples ability to get out and about:

- 1) Personal physical/sensory/cognitive limitations
- 2) Individual environmental characteristics – include service provider lack of concerns with regards to older peoples needs and poor planning and design (crossing roads to or from a bus stop is a huge issue with older people, as is the state of pavements and pedestrian highways, and other peoples use of pavement space)
- 3) The transport environment – many older people feel 'pushed out of step' with attitudes and behaviours of staff and other passengers when using public transport

Other common strands that came out of the Focus Group was that:

- Council's are willing to talk but less willing to take action to remedy problems they identify
- Guidance and training is needed for transport operators and front line staff, Traffic Engineers and Decision Makers involved in the process of supporting better levels of access for older people
- Quite a lot of visually impaired people (especially diabetic related visual impairments) have difficulty feeling tactile pavement/floor markings

http://www.sparc.ac.uk/workshops/10_26_06_transport/pdf/Annn_etal.pdf

- Professor Richard Neale, Dr Joanne Waters & Kevin Mears, University of Glamorgan

The aim of the project is to explore whether Virtual Reality 'walkthrough technology' can be utilised to identify whether a particular environment poses a real or perceived threat. The outcome of the project is to use this

model to provide (rail) passengers with an environment which offers a better level of accessibility and safety.

The University of Glamorgan undertook a range of access surveys around the Valley Lines network (Cardiff) and presented their findings to Train Operating Companies (TOC). The TOC's then approached Local Authorities along the Valley Lines network for funding to improve and upgrade station environments. The business case put forward a £200m improvement package over three years with emphasis on improving the journey experience and increasing patronage.

The views of older people were specifically gathered as part of the surveys and outcomes of this project included

- Improved environmental conditions based directly on the views and needs of older people
- Reduced fear in the community for older residents in deprived areas
- Improved quality of life
- Provision of a more profound insight into personal safety issue confronting older people

http://www.sparc.ac.uk/workshops/10_26_06_transport/pdf/Neale_etal.pdf

- Dr Alan Burnett, Help the Aged *Bus Services and concessionary fares – user views: Now that local bus travel is free why aren't buses full of pensioners? A summary of the scope and findings of surveys into the experiences and views of older people in Portsmouth on bus services and travel concessions.*

Dr Burnett is the Senior Policy Officer for Help the Aged and Chair of Portsmouth Pensioners Association. A research exercise was carried out in 2005 to find out the experiences and views of people in relation to public transport and travel concessions. A survey was carried out of 609 people eligible for travel concessions in the city of Portsmouth as they collected their bus passes or travel tokens.

Findings from the survey are as follow (summarised):

- 36 per cent of the sample had a mobility problem which meant that it was difficult or impossible to walk to the nearest shops and/or use public transport

- Despite the limited value of travel tokens (£37 per annum), the concession was greatly appreciated because of the flexibility the tokens offered and help with the cost of paying for taxis
- Travel tokens were primarily used for shopping trips, visits to hospital and doctors surgeries and social visits (family and friends)
- Widespread support for choice of options for bus passes or travel tokens. This support was also apparent following the announcement that free, off-peak travel on local buses was to be introduced (73 per cent in favour)

In March 2006, a second questionnaire was designed by NOP/Help the Aged and distributed to 32,000 of all those in the city eligible for travel concessions (population in 2001: 186,000 – Aged 60 plus: 36,388). Over 12,000 responded which has attracted the interest of policymakers at the DfT as well as feeding into Portsmouth's local bus consultation exercise.

Findings from this survey included:

- 42 per cent of the sample described themselves as being 'registered disabled' or having restricted/limited mobility
- A higher proportion of women (50 per cent) were reliant on local buses as their main form of transport in the local area compared to men (39 per cent)
- Difficulty carrying shopping on and off the bus was cited by more people (16 per cent) than any other factor as the reason preventing respondents from using the bus as often as they would have liked to. The least number of people cited difficulty in reading or understanding timetables as a barrier to bus use
- Amongst the 80 and over age group, difficulty in getting to and from bus stops and waiting for the bus in bad weather was cited as being the greatest barrier and for people aged 80 and over, getting to a seat once on the bus and anti-social behaviour was described as being the greatest deterrent to using a bus more often
- The survey provided a lot of information and suggestions about how a particular route or service could be improved
- 91 per cent of the sample favoured the choice of travel concessions offered although opinion was divided over the issue as to whether or not older pensioners should get more tokens for taxis than younger ones
- Survey participants opted 2:1 in favour of the Government allocating money to invest in a free national system of bus travel

as opposed to 'local only' provision (NB, this information was gathered prior to the announcement that local concessionary travel schemes would be extended nationally from 2008). Only those relying on taxis and electing to choose tokens were in favour of a greater investment in local flexible travel concessions

- Of the 3,214 survey participants describing themselves as having 'limited mobility' 64 per cent were female, 43 per cent relied on buses for local travel, 56 per cent chose travel tokens and over 1,000 cited 'waiting at bus stops , carrying shopping on a bus and getting to a seat before the bus moves off' as being major barriers to using public transport
 - The volume of response to the survey demonstrates that access onto public transport is a key issue in older and disabled peoples lives.
- Dr Russell Marshall, Loughborough University *Hadrian – getting out and about*

Hadrian is a toolkit that maps human anthropometric (measurement of bodily movement) data. The research project has collated data from a range of 100 individuals (with disabilities) and is used to test and map limitations during the trial of new technologies.

A consortium of universities, local authorities (including TfL), private enterprise and charities support and integrate the Hadrian project within the wider context of the AUNT-SUE project: Accessibility and User Needs in Transport for Sustainable Urban Environments. The philosophy behind the AUNT-SUE project is

To develop and test sustainable policies and practice that will deliver effective socially inclusive design and transport and the public realm.

Hadrian sets the stage for the introduction of SAMMIE which is a CAD 3D human modelling tool that maps out design according to personalised, individual requirements. This is useful for example, to plot whether the location of a keyboard on an ATM will meet the needs of a range of mobility impaired users.

Loughborough University are currently engaging in using this technology to support hi and low tech advancements in the field of improving access to public transport (vehicle and infrastructure).

As the Hadrian project moves into Phase II, the key objectives are:

- To extend and improve Hadrian to meet the needs and preferences of designers
- To explore the opportunities for the toolkit to develop a journey planner that will route plan a journey for people with specific access needs
- Conduct design case studies by offering free consultancy support
- Develop a prototype for use within the Testbed areas (Camden and St. Albans)
- To predict whether specific door to door journeys are achievable by particular individuals (if not the individual is likely to feel/become socially excluded)

http://www.sparc.ac.uk/workshops/10_26_06_transport/pdf/Russell.pdf

- Dr Natasha Merat & Dr Samantha Jamson, Institute for Transport Studies, Leeds University *Inclusive design for in-vehicle technologies: meeting the needs of the older driver*

Dr Merat has been working on a project under the Institute for Transport Studies to explore the effects of age on ability to drive.

Dr Merat's presentation focussed on the impact of age on driving skills and ability. Research has shown that one of the consequences of reduced mobility and independence among older drivers who have had their licence withdrawn leads to clear symptoms of depression.

Car manufacturing companies and their associated partners are working on assistive technologies which will support older drivers to be able to continue driving longer than would otherwise be expected. The premise behind development of such technologies is that it will create a safer environment for older drivers to continue driving thereby reducing pain, discomfort and other aspects that generally lead to older people to stop driving. Another key premise behind assistive technologies is to reduce accidents within older driver groups by utilising for example, collision danger warnings as part of the assistive technologies currently being researched.

http://www.sparc.ac.uk/workshops/10_26_06_transport/pdf/Samantha.pdf

- Mike Bradley, Suzette Keith, Catherine Wicks, Irena Kolar, Reg Goodwin, Middlesex University *An appropriate interface for speed limit advice for older drivers*

This presentation focussed on a project currently underway between Middlesex University, Brunel University and the Ford Motor Company Human Factors Department.

The project aim is to explore the potential to introduce new technologies that will obey road regulations for example, an inbuilt speed regulator which will be able to sense a speed limit (using intelligent road traffic sign technology) and govern the speed of the car so that the speed limit isn't exceeded.

The project also aims to explore older people's perceptions towards such new technologies.

http://www.sparc.ac.uk/workshops/10_26_06_transport/pdf/Mike_etal.pdf

- Dr Charles Musselwhite & Hebba Haddad, University of the West of England *Prolonging safer driving through technology: user views*

Dr Musselwhite's presentation provided a comparative study of current problems and issues identified with older drivers and technological developments that may help overcome identified problems.

The Centre for Transport and Society has undertaken research to find out why older people prefer to drive as long as they can and what sort of difficulties older drivers experience.

Research has shown that 300,000 drivers are aged over 70 in the UK, of whom 30,000 are aged over 90. Over the last 30 years, there has been a 200 per cent increase in male drivers aged over 65, and a 600 per cent increase in female drivers aged over 65. It is estimated that the numbers of older people aged over 70 who are still driving in 2020 could be as high as 360,000 and numbers of people aged over 90 who are still driving could be as high as 36,000.

There are several reasons why older people are keen to prolong their independence through driving for longer.

- Access to goods and services are continuing to move away from the traditional town centre environments

- Sense of control over environment, autonomy, protection, safety and prestige
- Resistance to change (why change the habit of a lifetime?)

The main conclusion drawn by this research is that older drivers see car ownership and ability to continue to drive as being an important part of their lives. Driving is closely linked to their identity at a functional and psychological level.

http://www.sparc.ac.uk/workshops/10_26_06_transport/pdf/Musselwhite.pdf