The ITS (UK) Inclusive Mobility Interest Group asks for Open Access

ITS United Kingdom always runs ten to fifteen Interest Groups in order to provide a service to Members based on specific areas of interest such as enforcement, road pricing and environmental benefits. With a membership of over 800 participating individuals, and Intelligent Transport Systems present in all forms of land based transport, the Interest Groups are needed to channel ITS (UK)ôs services in a way which works for individual Members.

The Inclusive Mobility Interest Group

In 2008 ITS (UK) set up the Inclusive Mobility Interest Group with the encouragement and assistance of Members Newcastle University. The University was already a recognised centre of excellence for research into using technology to improve access to transport services for disabled and elderly travellers, and its staff participated in many other ITS (UK) Groups. However, there was a gap in ITS (UK)ôs services as far as this topic went, which Dr Simon Edwards addressed by setting up the IMIG as its Founding Chair.

The IMIG has done excellent work in bringing together staff from ITS (UK) Member organisations with an interest in mobility issues, and by getting organisations such as the RNIB and DfT to join the dialogue with researchers, engineers and consultants about how ITS can be used to the benefit of disabled travellers.

The 2011 IMIG Launch Event

After a couple of years, the core participants in the IMIG thought the time had come to engage more widely with relevant contacts and so decided to hold a Launch Event in the form of a conference marketed widely to encourage those with no prior knowledge of ITS to attend.

Transport for Greater Manchester, Members of ITS (UK) and committed to meeting the needs of disabled travellers in the Greater Manchester area, offered to host the conference at their fully accessible premises close to Piccadilly Station in Manchester, and TfGMôs Disability Access Co-ordinator, Dave Partington, took on a key role in organising the event.

The Launch Event was designed to showcase the capabilities of ITS technology to improve and ease the mobility of disabled and elderly people. The speakers were given the brief of putting their points across to a non-technical audience in order to improve their understanding of what these systems can deliver. In return, the audience was expected to join in the discussion and allow the IMIG core participants to learn from their experiences as travellers. In order to further broaden understanding on all sides, people from outside the UK were encouraged to attend.

This report contains the main points and highlights of the Launch Event.

IMIGôs aspirations

Ten million of the UKôs total population of 61 million people are disabled. There are 750,000 wheelchair users, 54,000 registered deaf people, and 157,00 registered blind. Out of the total European population of 800 million, about 120 million have some form of disability. The populations of both the UK and of Europe as a whole are steadily ageing: by 2040 the number of people aged 80 and above in Europe will be double that in 2010. In the UK, it will more than double.

These facts make it clear that in terms of maintaining a mobile population, we face a considerable challenge. Without mobility, people cannot participate fully in society, and both the individual and society as a whole will be worse off, not just in economic terms but also in terms of health and wellbeing.

By considering the mobility of disabled and elderly travellers as early as possible, we avoid costly and disruptive changes and modifications later on. This is true not just of physical assets such as streets and buildings, but equally so of information and navigation services delivered via information technology systems.

There is also a legal aspect to consider. The UK Equality Act 2010 (incorporating the Disability Discrimination Acts of 1995 and 2005) requires businesses, public bodies and individuals to avoid discriminating against, amongst others, disabled people, and this covers accessibility to transport services and related information services.

The role of IMIG in all this is to facilitate understanding and co-operation between ITS professionals, researchers, implementers and suppliers, and disabled and older people and their representative bodies.

The impact of IMIG should be:

- To provide a better service to D&E through dissemination of best practice guidance to service providers and government
- To supply ónd independent adviceôto local authorities
- To be aware of and understand new user needs
- To identify ómust have/nice to haveôaims; how to achieve them; expertise required (especially if there is expertise IMIG doesnôt have); mechanisms; timescales
- To understand developments in ITS and assistive technologies
- To disseminate information about new services to the end user
- To keep guidance up-to-date
- To understand the wider EU agenda, and use this to help inform UK work areas
- To help optimise use of ITS in the ómore for lessôenvironment

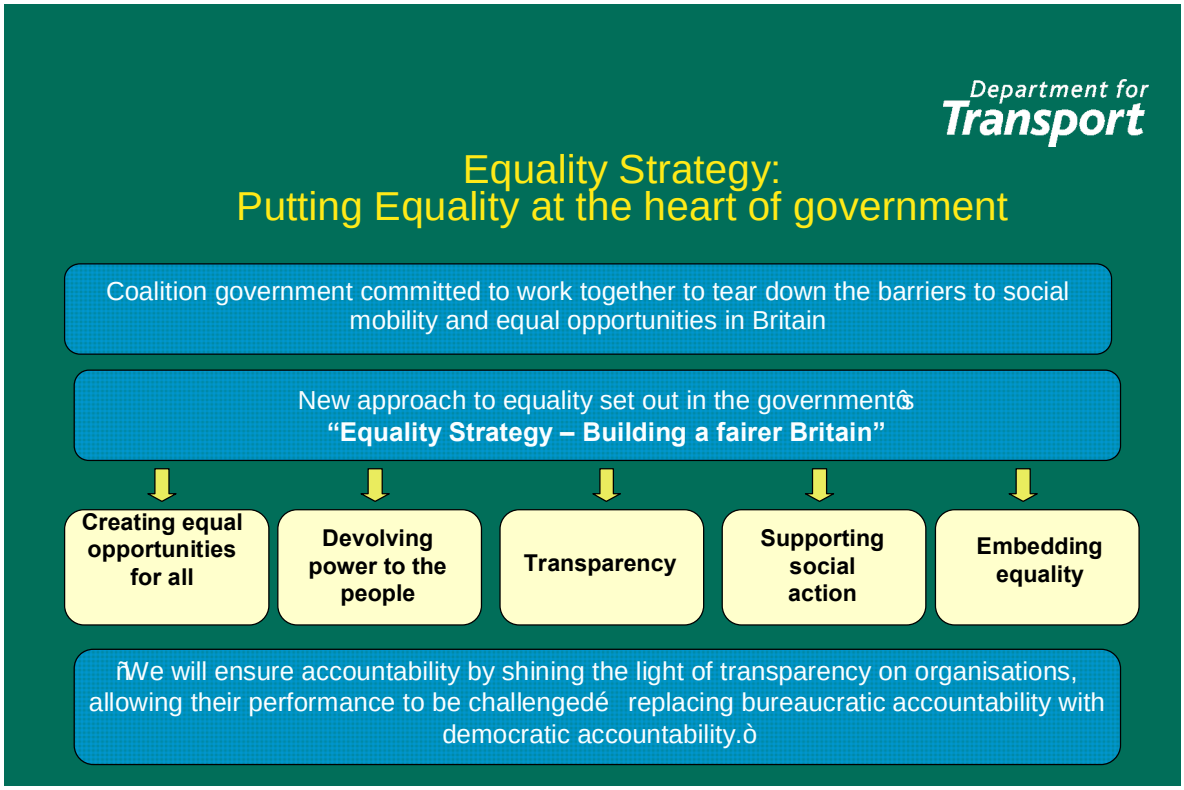
Delivering the public sector equality duty

The current Governmentôs Coalition Agreement contains several relevant commitments: to promote equal opportunities and achieve a fairer society; to meet the needs of older and disabled people; to decentralise power to individuals, communities and local authorities, and to implement the 2010 Spending Review in a way that ñprotects é the most vulnerable in our societyò These commitments are reflected in the Governmentôs Equality Strategy published in December 2010.

The 2010 Equality Act consolidated over 160 pieces of previous legislation and aligned definitions and exceptions, for instance for discrimination, harassment and victimisation.

The Equality Act replaces three separate duties with a general duty on public bodies to:

- Eliminate discrimination, harassment, and victimisation
- Advance equality of opportunity between people from different groups
- Foster good relations between people from different groups



(Copyright: DfT)

In this context, accessibility is important. Links between transport, social exclusion and access to opportunities have a key impact on life chances and social mobility. Lack of accessibility can cut people off from work, services, and their social networks. This is not just a transport issue. In order to maintain independence, access health care, benefit from employment opportunities, and avoid social isolation, accessibility is key.

Discrimination in transport can occur in several different ways: lack of accessibility through a vehicle or a station being inaccessible to an traveller with reduced mobility; the service levels on a certain route being too low; the cost making the transport service inaccessible to those on low incomes, and through the service being unacceptable to certain groups for instance because of staff attitudes or behaviour, fear of crime, or lack of information.

These barriers are compounded for disabled adult travellers who are also more likely to experience anxiety or lack of confidence while using public transport than those without disabilities.

The challenges to public authorities when avoiding discrimination in transport are of course often budgetary constraints, but decentralisation can also contribute to decision makers giving more weight to matters other than accessibility, such as staff resources. While technology can help, it also requires time and knowledge to evaluate and implement to best effect.

The Business Case for inclusive mobility

The understanding of how the business cases can be constructed is key to success in the area of inclusive mobility. There was broad agreement at the event that the business case for using ITS has to be based on three key areas:

1. Provide a means by which people with a range of disabilities can become independent travellers, which helps improve the life chances of disabled people

2. Create a means of reducing cost to both state and individual in terms of supporting independent travel opportunities, as opposed to using costly demand responsive transport solutions by using technology to support wider interventions such as Travel Training

3. Enable private sector transport operators to provide a better level of informed personal traveller service to all customers

Inclusive Mobility - background

In the UK, accessible transport has come a long way since the Disability Discrimination Act 1995, including the setting of end dates for accessible buses and trains. All buses have to comply with the requirements of the Public Service Vehicle Accessibility Regulations by 1 January 2017. All heavy and light rail vehicles introduced into service after 1 January 1998 have to comply with the Rail Vehicle Accessibility Regulations, with all fleets being fully compliant by 1 January 2020.

Since the DDA was first introduced in 1995, complementary programmes to support disabled people of all ages to travel have also evolved considerably. An example of this is the National Travel Concessionary Permit for eligible disabled and older people which was introduced in April 2008.

One key area of concern to disabled people of which little progress has been made in the UK over recent years relates to accessible real time information and navigational solutions to support independent travel. In the car industry, satellite navigation is now an established service which enables drivers to get from A to Z simply by inputting postcode to postcode to reach their destination. Although some mobile phone applications exist to help disabled people use mainstream public transport to travel, these are very much in their infancy. It also needs to be noted that this area has evolved rapidly without any seeming co-ordination to ensure that systems and applications interface in a way which are both useful and accessible to disabled people.

Navigation services for disabled people

Looking at location and navigation technological solutions in a global context, we know that in some countries, work is in progress to utilise mobile phone applications to help disabled people navigate their way around local environments. For example, in the USA, an approach is being taken to make use of GPS enabled mobile phone technology to support Travel Training. Travel Training is the means by which disabled people are given the opportunity to learn to become independent travellers via specialised interventions. This is important because without interventions such as Travel Training, transport solutions for disabled people can be costly and often do not allow spontaneous travel to take place. One of the biggest issues for people with certain types of disability to overcome is that of undertaking the journey process from start to finish. Navigation technologies now provide the means by which to start to address this type of problem.

What is happening in Manchester?

Since the Launch Event took place in Manchester, the audience was obviously interested in finding out about local initiatives. Greater Manchester has an increasingly robust strategic approach to support Travel Training initiatives to help people gain the skills, knowledge and experience to use public transport independently. Work is underway to review access in the wider transport infrastructure to ensure that under the duty to promote equality for disabled people, Transport for Greater Manchester discharges its duty to work in collaboration with others to review potential solutions to infrastructure which is known to fall short of offering equality of access to people with certain impairments. TfGM recognise that although it has come a long way in recent years, there is still further to go until Manchester offers a fully inclusive transport system and network in line with the requirements of all TfGMôs customers.

Manchester's 'Empowered Traveller'

Greater Manchester is running a pilot called ôEmpowered Travellerô This is an eighteen month Technology Strategy Board funded pilot scheme led by Logica and Vixï Acis, both also ITS (UK) Members, and supported by Transport for Greater Manchester The aim of the scheme is to design, develop and demonstrate a virtual travel planning assistant service for public transport passengers.

Bus operator First Manchester is also supporting the pilot and 120 First Manchester buses have now been fitted with Automatic Vehicle Location (AVL) equipment to provide the vital real time bus information needed for the service trial to take place.

The beauty of this approach is that by using the new application, passengers will be able to plan their entire journey from choosing their preferred route and then monitoring the entire journey as they travel and ask the questions along the way: what time will the service depart? Is it delayed? Will they make their interchange with the tram or train? If not, they can use the app to re-plan the journey in real time.

(copyright Manchester Travel Training Partnership)

All this information will be available in the passengerôs pocket, on their phone. For example, as soon as they set off from home or work they will know exactly what time the bus will arrive at their stop and what time it will reach their destination, and so they can plan ahead.

Sharing this data with passengers in a way that relates directly to each individual journey is the first step to helping all passengers get the most out of their public transport network. The idea is that the app will not only provide up to date service information but will work in a more dynamic way, using the location of the mobile phone to provide individual travel updates.

Just as a satnav device in a car alerts the driver to take the next turn or what lane to take at a roundabout, the app will tell the bus, tram or train passenger they need to get on or off the service - that the bus has arrived at their stop or, while they are travelling, that their stop is the next one so they should prepare to alight.

Given that modern mobile phone technological advances offers a good deal of accessibility, this approach offers benefits to disabled people in that it can be used as a ópromptôas to where and when to board or alight public transport, as well as a journey enabler in the same way Sat Nav works in cars.

Access4All – an example of using smart phone technology to support disabled travellers

Access4Allapps is a clever service using the smart phones now in widespread use, to deliver geographically relevant information about services to travellers. Its target market is disabled travellers but many features are equally relevant to all people travelling in unfamiliar areas. The uniquely clever bit is that the service information provided includes accessibility details as standard. Parking information includes details of access to and from the car park, special details of Blue Badge spaces, and so on. Restaurant information includes details of steps and toilets. Petrol stations are not just recommended based on location, but also taking into account accessibility, and the user can pre-book assistance by an attendant. This is a highly bespoke service which also delivers customers to retailers and service providers in return for their co-operation with providing information and promising assistance.

(copyright Access4All)

Accessible Journey Planning in Berlin-Brandenburg

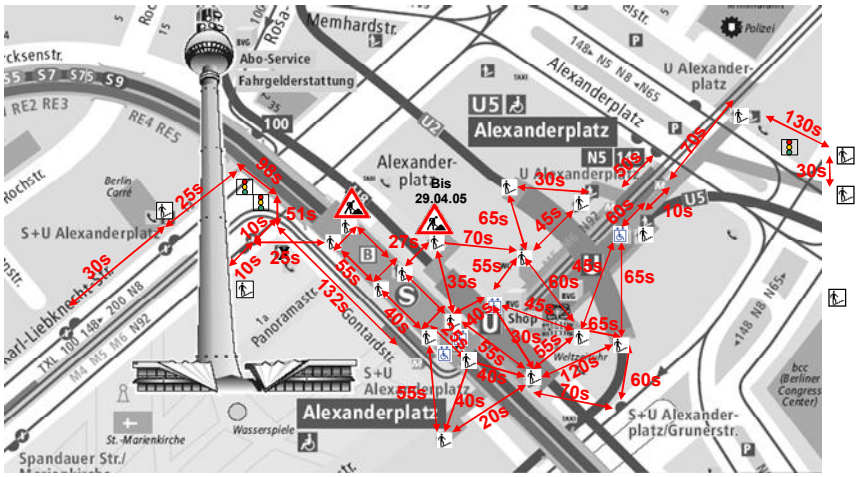
Verkehrsverbund Berlin-Brandenburg is the wholly publicly owned transport authority for the Berlin and Brandenburg area. It covers an area of 30,000 km^2 inhabited by some six million people, 3,5 million of whom live in the city of Berlin. The region has 41 transport operators and more than a thousand train lines and bus routes. VBBôs main tasks are to provide customer service and information, market the services, set ticket prices and organise revenue sharing between the operators.

With respect to accessible public transport, VBB has several strategies for developing information services to make the use of public transport easier for people with reduced mobility. Accessibility and usability information and considerations are built into every stage

of the journey, from planning to being underway. Both static and dynamic information is provided.

Verkehrsverbund Berlin-Brandenburg
Alles ist erreichbar.

Example II: complex station Berlin Alexanderplatz



S+U Alexanderplatz Bhf: footpaths on ground level (level 0)

VBB Verkehrsverbund Berlin-Brandenburg GmbH
Hardenbergplatz 2
10623 Berlin

Pedestrian routes at Berlin Alexanderplatz (copyright VBB)

The different requirements of user groups have been analysed, taking into account particularly deaf and visually impaired people, wheelchair users, those travelling with young children and luggage, and elderly people. The outcomes of the research are taken into account when planning mobile services, the use of voice recognition systems, and information delivered via desk top pcs.

Very detailed mapping exercises have been undertaken for the 750 main access points of the transport system. The information collected includes very detailed information about stairs, escalators, footpaths, etc.

The information collected including that of user needs, has been used to design very detailed route guidance which enables people with mobility impairments to travel independently via even the very complex interchanges such as Berlin Alexanderplatz.

Examples of public transport accessibility measures from Poland

In Poland, around 15% of the population of 38 million has some type of permanent disability. If one also includes those with temporary conditions affecting their ability to travel, such as treatable injuries and pregnancy, up to 32% of Poles have mobility issues at any given time. Supporting the use of public transport by these people is regarded as important, not just in order to ensure their mobility, but also to save money by not needing to provide high levels of personal supported transport.

Standards have been set for ticket machines, regarding keyboard height, voice messaging, and braille coding, although these are not yet universally adhered to. The same is true for static information boards, which are sometimes installed too high for wheelchair users to be able to read them.

(copyright K. Kaperczak)

For public transport vehicles, front and side identification panels and voice messaging help disabled travellers identify the correct vehicle to board, and marked-up and textured waiting spots help visually impaired and wheelchair using passengers access the vehicle more easily. Once on board, audio messaging regarding stops and route are helpful.

An interesting aspect is the importance put on vehicles being heated properly in winter. For a wheel chair user, this is very helpful since it thaws and dries the wheelchair which will have been covered with snow, ice and slush during the trip to the bus stop.

There are plenty of examples of good practice in Poland, and a clear understanding of what services need to be provided in order to make public transport accessible and attractive to disabled users. However, implementation is not yet universal and the case for these services needs to be made continually.

Inclusive Mobility – where next?

The panel discussion at the end of the event served well to sum up the day and point the way forward. A distinguished panel with plenty of relevant experience between them, spoke freely on travelling with different forms of disability and where they though technology could help.

It was clear that there is no point in devising and implementing technology for its own sake. While many applications are satisfyingly ingenious, such as Access4Allôs ability to prebook a petrol pump attendant or VBBôs literally step by step routes through the most complex interchanges of Berlin, this will only ever be part of a mix of methods needed to make pubic transport work properly for disabled and elderly users.

The IMIG needs to build its profile as being the source of expertise in this area of technology, while continuing to engage with users and those providing the non-technical aspects of the solutions. The way it is already working shows that this is largely a continuation of its current approach. It has always been good at breaking out of a narrow technical focus, perhaps mainly due to the personalities of those involved in it, who are more interested in travel than in travel technology when it really comes down to it.

The international focus is very important. Attitudes to mobility vary in different countries and therefore there are examples of excellence spread around the world, where one particular service or access has been deemed more important than it has elsewhere.

To sum up, the importance of the IMIG is two-fold: as a meeting point for technology experts and users, and as a collection point for international expertise.

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