



For a **European Accessibility** for Public Transport for people with Disabilities

6th framework programme
“Integrating and strengthening the European research Area”
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Best practice

Innovation and related cost benefit analysis

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Further information about Accessibility of public transport for people with disabilities is available at: <http://www.euro-access.org>

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Preface

This Report is the deliverable from Work Package 3.1 *Identifying Best Practice* of the project *For a European Accessibility of Public Transport for People with Disabilities* (Euro Access), a project under the 6th Framework Programme of the European Commission, Scientific Support to Policies.

The objective of the Euro Access project is to contribute to the development of EU policy on the accessibility of public transport systems in Member states, in order to promote social integration and active participation in society by disabled people. The Euro Access approach is to propose a framework for the transferability of good practice between EU Member states, based on knowledge of current policies and legal frameworks in the countries, the needs and expectations of disabled people and best practices in the field of accessible public transport systems.

The purpose of Work Package 3.1 is to identify examples of best practice and innovation in improving the mobility of disabled people in Europe and to establish the costs and benefits of such improvements.

The examples of best practice included in this Report are taken from a range of sources including countries' responses to the questionnaire on policies and legal frameworks circulated as part of Work Package 1 and the personal knowledge and experience of the Report's authors and other partners in the Euro Access project. The contribution of our partners is gratefully acknowledged.

The Report has been compiled by Ann Frye, Ann Frye Limited, UK and Maryvonne Dejeammes, Mission accessibilité et personnes âgées, CERTU, France. Both the authors have over twenty five years experience in the field of transport accessibility working at senior level in policy and research.

Executive summary

This Work Package seeks to identify best practice in meeting the mobility needs of disabled people in Europe, to look at the costs and benefits of delivering best practice and at the key factors which define success.

The methodology used has been to draw on the best practice examples or contacts provided in response to the Questionnaire circulated to all Member States (and Norway and Iceland) as part of Work Package 1, supplemented by in-depth expertise and experience of our partners and with literature reviews and web searches.

The Report includes twenty best practice case studies from eight countries. The case studies are presented under four main headings: Integrated Multi Modal Schemes; Specialist Schemes; Training, Information and Communication and Technology. Under each case study we have looked at key factors of development; the benefits to disabled people; the economic factors; the key issues for transferability of the scheme to other areas and the main recommendations for implementation.

The Report focuses on a limited number of generic examples of best practice approaches rather than an exhaustive list of specific projects. The intention of this approach is to promote better understanding of the issues that underlie best practice and to identify what factors have made them successful within the context in which they are operating.

It has become clear in putting this Report together that best practice in meeting the mobility and transport needs of disabled people cannot be neatly or precisely defined. What represents best practice for one individual or group of people with disabilities may be impossible or difficult for others. The wide variations in both the economic and cultural backgrounds in the countries of the European Union also mean that generalisations about best practice are inappropriate without exercising caution.

In addition, those countries in which accessibility has been high on the political agenda for many years will be starting from a very different base from those in which the issue is relatively new. The Report has also found an almost universal lack of rigorous evaluation of the costs and benefits of accessibility.

The Report makes it clear that delivering accessibility isn't just about getting the right vehicles and infrastructure. Equally important are issues of training, information and communication. Enabling disabled people to travel – often for the first time – is about confidence as much as it is about level boarding or other physical access features.

The Report has identified some of the key drivers of success in the approaches to best practice that have been included. Factors include the importance of partnership between the transport providers and those responsible for the

highway and pedestrian environments, an understanding of what accessibility means and political commitment both at national and local levels.

Finally, the Report highlights that a key factor underlying best practice must be the engagement of a wide range of disabled people from the earliest stages of planning and delivering the service or facility. Only then will disabled people be able to travel with confidence, with dignity and in safety.

1. Introduction

1.1 Purpose and Scope

The purpose of Work Package 3.1 is to identify examples of best practice and innovation in improving the mobility of disabled people in Europe and to establish the costs and benefits of such improvements.

There is a wide variation in economic and cultural conditions across the countries of Europe. This has an impact on the age and condition of transport vehicles and infrastructure as well as on the circumstances in which disabled people live and their opportunities for independent living.

For this reason, although the primary focus of the Work Package has been on improvements to public transport, the scope has been broadened to include other measures to improve accessibility. These include systems and services that are transitional steps towards full accessibility of public transport or, in some cases, alternatives to it.

All surface public transport modes have been taken into account, including: door to door and taxi services; long-distance services, regional (inter-city and rural) services and urban schemes. Individual modes and systems and integrated multi modal schemes have been considered and both new developments and refurbishment and retrofit have been included.

The use of technology and innovation to provide solutions for particular groups of disabled people has been considered as well as simple “low tech” solutions which can bring significant benefits.

Finally, “soft” factors such as training, communication and information which can have a very big impact on levels of accessibility even without improvements to the physical accessibility of vehicles or infrastructure have also been included.

1.2 Methodology

We have gathered examples of best practice from a number of sources including the responses to the questionnaire which was sent out as part of Work Package 1. Respondents were asked to identify any examples that they believed to be best practice within their own countries. Examples from this source have been provided by Finland, France and Spain.

In addition, the in-depth expertise and experience of our partners was used to identify further examples from their own knowledge. Literature reviews and web searches were also undertaken.

For the reasons outlined in 1.1 above, it has proved necessary to modify the methodology as data has been gathered in order to reflect the very wide range

of “best practice” examples that we believe to be valid and to ensure that material which may be relevant to those countries or regions for whom accessibility is a new topic and resources may be limited are not excluded.

2. Context

2.1 Defining Best Practice

It is not easy to identify best practice. What is ideal for one person or group of people with disabilities may be impossible for another person or group. Accessibility can be very subjective. It is evident that many schemes or initiatives have some good features but also some shortcomings in how they have been set up or how they operate.

It was also clear from the responses to the Work Package 1 questionnaire, that best practice is a subjective concept. What is perceived as best practice in one country may be regarded in another as outdated or even discriminatory. Some countries have been committed politically and economically to the improvement of accessibility for over 25 years, while for others it is still barely recognised as a relevant issue.

Directives and other initiatives at European level are helping to raise the political profile of accessible transport but there is, inevitably, a major gap between the most advanced and the least advanced countries.

It is therefore important to say from the outset that none of the examples given in this report can be taken as perfect. We have tried to identify a number of different kinds of initiative or scheme and to pick out the main factors that have made them successful in delivering independent mobility.

Among the criteria defined at the outset of the EUROACCESS project are evidence that:

- There is partnership in the development and delivery of the scheme or service between the highway authority and transport provider;
- The scheme or service is not isolated but is part of a strategy to deliver accessibility;
- It is a model of integration and inclusion (i.e. that it allows disabled people to travel on equal terms with non-disabled people and with comfort, safety and dignity);
- Disabled people themselves support the view that it represents good practice.

One problem is that very few schemes or initiatives have been evaluated. There are many subjective assessments of schemes that are perceived to be successful but there are very few clear analyses of costs and benefits.

It is true to say that schemes that are for the benefit of disabled people are often justified on social grounds as much as on economic grounds. Nonetheless, a sustainable scheme must have a firm economic foundation. Quite a number of schemes that have been deemed to be successful in terms of delivering benefits to disabled people have subsequently failed because funding was withdrawn after a pilot phase.

A flexible approach has therefore been taken to establishing costs and benefits. Data has been drawn from whatever sources are available, for example to show increases in patronage for public transport services or reduced dependence on door to door services. Other benefits (direct or indirect) that may accrue from the introduction of schemes or services to improve accessibility have also been included.

There are also, of course, many intangible benefits such as increasing the confidence of disabled people to travel independently. These benefits may, in turn, reduce dependence on family or other support networks and may enable people to return to the labour market or broaden their personal horizons in other ways. Some of the examples we have included provide operational evidence of such benefits.

2.2 Identifying and Categorising Best Practice

We believe that it is important to make it clear that best practice does not always mean high cost. We have therefore included examples that may not be regarded as best practice by those countries who are most advanced in the delivery of accessible transport but which will, nonetheless, be helpful to those looking for interim or transitional steps towards full accessibility.

Significant benefits can be obtained, for example, for people with low vision, from using paint in a contrasting colour on step edges or handholds whenever minor works are undertaken at a station or in a vehicle. At the other end of the spectrum, if, for example, a new tram line is being designed and built, the best possible features to meet the needs of a wide range of disabilities should be incorporated from the outset.

We have adopted what might be termed a “menu” approach so that examples that are most relevant to a particular country, region or town can be identified and selected.

First, best practice examples have been identified under four main headings:

- Integrated multi-modal schemes;
- Specialist schemes;

- Training, information and communication;
- Technology.

Against each example a further distinction has been made to indicate whether the scheme or service benefits one particular disability group (and if so which) or is of benefit to everyone.

2.3 Universal Design

For the reasons explained above, the case studies and examples of best practice included in this Report cover a wide range of approaches to accessibility. Some have adopted the model of universal design (also known as inclusive design) which is an important concept in understanding how best to approach accessibility in the transport environment as in many other areas.

The key to universal design lies in solutions that will enable everyone to travel with less stress and greater confidence. The concept of universal design is very important in a transport context. The more it is possible to find solution to the needs of disabled travellers that also benefits the travelling public as a whole, the greater the chances of investment in and commitment to delivering accessibility on the part of operators and authorities. Above all, focussing on making transport “simple and intuitive” to use will result in a transport environment and transport systems that people can use more easily.

The concept of the low floor bus – now almost universal in Europe, is one such example. The enormous popularity of low floor technology was not that it enabled wheelchair users to board buses more easily but that everyone – whether they had shopping bags, baby buggies or were simply tired – could get on and off more quickly. It soon became apparent in early trials of these vehicles that there were quite significant increases in patronage from the public as a whole and often the added benefit of reductions in dwell time at stops. The table below illustrates the seven principles of universal design.¹

| Principle | Definition |
|-----------------------------|---|
| 1. Equitable use | Useable and marketable to people with diverse abilities |
| 2. Flexibility in use | Accommodates a wide range of individual preferences and abilities |
| 3. Simple and intuitive use | Easy to understand, regardless of experience, knowledge, language skills or current concentration level |
| 4. Perceptible information | Communicates necessary information effectively regardless of ambient conditions or sensory abilities |
| 5. Tolerance for error | Minimises hazards and adverse consequences of accidental or unintended actions |
| 6. Low physical | Can be used efficiently and comfortably with a minimum |

¹ Center for Universal Design, North Carolina State University, NC, US (Folette Story 2001)

Where it is not possible to start from universal design principles (for example in the case of an old building that needs to be modified), barrier free design is a useful alternative. This means building in access features alongside the original inaccessible features. An example would be the installation of a ramp to provide access to a building alongside a set of steps of stairs. This approach is less desirable than universal design but in many areas, the old and inaccessible transport infrastructure in Europe, may mean that this is the only workable and practical solution.

3 Examples of Best Practice

3.1 How to read the Best Practice Case Studies

The case studies are divided into four main sections covering:

- Integrated multi-modal schemes;
- Specialist schemes;
- Training, information and communication;
- Technology.

The sections are coloured coded as shown above for ease of reference.

Each example of best practice is presented under the following headings:

- Summary table (which includes the location, scope, application, cost and contact details);
- Scheme description;
- Reference documents;
- Key factors of development;
- Benefits for disabled people;
- Economic factors;
- Key issues for transferability.

There are some case studies for which data is not available under all these headings but it has been provided wherever possible.

Overview of Case Studies

| Theme | Case Study | Brief summary |
|---------------------------------------|----------------------------|--|
| Integrated Multi-modal Schemes | Berlin (Germany) | Progressive implementation of a policy to develop Berlin into a barrier-free city including public transport and streets and pavements. |
| | Barcelona (Spain) | Promoting social integration through universal design and partnership between the transport authority and disabled people |
| | Grenoble (France) | There has been long standing commitment to inclusion of disabled people in the city of Grenoble, starting in the 1970s with housing and public buildings and extending to public transport and door to door services. There is now a comprehensive network of accessible transport services. |
| | Brukslinjen (Sweden) | The transit system Brukslinjen in Sweden aims to integrate different publicly funded transport systems into one single concept, combining regular passenger transport with transport services for children, young people, older and disabled passengers. |
| | The FINAL project (Sweden) | FINAL is a Swedish development project which aims to establish a basis for standard solutions for transport concepts, data communication, ticketing, passenger information, rules and responsibilities regarding feeder services and to provide a link between Demand-Responsive Transport (DRT) and scheduled fixed-route public transport (mainstream services). |
| | The KOLLA project (Sweden) | The three bodies responsible for transport in the city of Gothenburg are working together to deliver inclusive transport services to older and disabled people. |
| Specialist Schemes | Flexlinjen (Sweden) | Flexlinjen is a Swedish urban mobility service – a cross between the traditional special public transport (STS), FareService /STS and conventional scheduled fixed service routes |
| | Flexibus (Ireland) | Flexibus delivers a range of accessible transport options to people in rural Ireland that are not served by public transport. |
| | Door to Door (Portugal) | The public transport operator of Lisbon also provides a door to door service which delivers a highly personal service to disabled people helping them in and |

| | | out of inaccessible housing as well as providing a door to door transport service. |
|---|--|---|
| Training, Information & Communications | London Underground Direct Enquiries (UK) | This website was developed in partnership with disability organisations. It provides information specific to different kinds of disability (vision, hearing, mobility, mental health and learning disabilities) and older people and those travelling with luggage or small children. |
| | ELSA (Finland) | ELSA was a three-year research and development programme by the Finnish Government. The goal of the programme was to increase awareness in the municipal sector and among transport service providers, authorities and the public of the importance of accessibility. It aimed to produce and disseminate information on good practices. Special focus areas were public transport and pedestrian environments. |
| | ResPlus.se (Sweden) | This Swedish web-based tool allows the customer to book a complete journey by train and any other connections by giving the locations between which one wants to travel. Resplus links intercity trains with local and regional bus trips, boat trips and local train trips, for example. Three thousand locations are included in the Resplus system. |
| | Leeds Budding Scheme (UK) | The pilot scheme provided travel training to people with physical, sensory or learning disabilities to give them confidence to increase their personal independence through the using public transport. The scheme model is now being widely adopted in other towns and cities. |
| | Terminal design Guidelines (Sweden) | Skansen, the south Swedish transport authority produced a Terminal Guideline (bus stops, terminals and stations) in 2000. It has now been revised (2006) and enhanced with experience gained over the years that Skansen has been in operation. The patronage has increased, in some areas quite dramatically |

| | | |
|-------------------|--|---|
| | Opportunity to Go project (UK) | This project in the North West of England aims to help people with learning disabilities, visual impairment, mental health problems or other needs to access public transport, retain or regain their ability to travel and enhance their levels of confidence. |
| | Access Officers | Access Officers work within local government (municipalities) in many parts of the UK. Their role is central to the development and promotion of the council's policy on accessibility and implementation of legal access requirements, guidelines and standards. They act as a "champion" for accessibility |
| | DPTAC (UK) | The Disabled Persons' Transport Advisory Committee (DPTAC) was established in the UK to provide advice, on a legal basis, to Government on the transport needs of disabled people. |
| | | |
| Technology | Passenger Information and Guidance System (Tchec Republic) | This is a navigation and guidance system for blind people in Prague which enables them to identify which bus is passing, the state of the pedestrian crossing lights and many other features. |
| | Accessible ticket machines (Spain) | Using the concept of universal design, the machine components of the ticket machines in the Barcelona metro system are organised in the order of user's actions rather than in an engineering order. The design has been based on full consultation with the end users during the research and development phases |
| | Tactile Guidance Surfaces (Sweden) | A Swedish city has introduced tactile guidance systems to enable blind people to navigate with safety and confidence around the city. |

3.2 Integrated Multi-Modal Schemes

3.2.1 Making Berlin a barrier-free city

| | | |
|--|---|--------------|
| Euro-Access Best practice: Making Berlin a barrier-free city | | Case n°3.2.1 |
| Location Berlin, Germany | Scope: benefits all disabled people | |
| Application: policy can be implemented progressively as vehicles and infrastructure are renewed | Cost: can be high but can be managed by combining access improvements with routine upgrade or refurbishment. Costs offset by increased patronage. | |
| Contact persons/Affiliation | Landesbehindertenbeauftragter von Berlin (Commissioner for disabled people) Mr. Martin Marquard | |
| Sources of information | Mr. Stellmacher (project-manager for the internet-based data base mobidat) e-mail: contact@mobidat.net Tel.: 0049/30/747771-12 | |

Scheme description

In 1992 a policy was introduced by the Berlin local authority with the specific goal of developing Berlin into a barrier-free city. This policy was also pushed by strong support from organisations of disabled people. At the same time a representative for disabled people, supported by an advisory board, was set up by the Federal Government of Berlin. A series of measures for disabled people have been implemented since then.

Within this framework the public transport system of Berlin is working to improve its infrastructure to create barrier-free access for people with disabilities. The Public Transport Company of Berlin (Berliner Verkehrsbetriebe – BVG) and the Public Transport Association of Berlin (Verkehrsverbund Berlin/Brandenburg – VBB) as well as other organisations involved are keen to offer barrier free-access to all public transport modes as well as taxis for all people with disabilities.

a) Accessibility of Railway Stations and Tram/Bus stops

Metro Stations:

About 44 % of all 170 stations in the city of Berlin have barrier-free access using lifts (41%) or ramps. These facilities benefit not only wheelchair users but also older people, parents with baby buggies, travellers with luggage and people with temporary mobility impairment. The metro system in Berlin is among the best of all German cities in terms of the retrofitting of stations with lifts.

For blind and partially-sighted people control-keys in lifts are written in Braille and acoustic signals give additional information. The lifts are connected automatically to a fault reporting system.

90 stations out of 179 are equipped with an information and orientation systems for blind and partially-sighted people. Signs and time-tables are installed at places with clear visibility, the control panels on emergency and information displays are easily reachable for wheelchair users.

Station for commuter trains:

Based on the policy of 1992 all stations for commuter trains, which have been recently built or completely reconstructed are equipped with barrier-free infrastructures.

As a result wheelchair users have barrier-free access to commuter trains either with lifts with ramps in about 78 % of all 111 stations. In order to bridge the big gap between platform edge and the bottom of the vehicle the station staff assist wheelchair users with a mobile ramp. If there are no staff available, wheelchair users can press a button on the ticket machine which is connected to a member of the station staff.

Tram/Bus Stops:

Since the introduction of the policy of 1992 all tram/bus stops have had to be furnished in such way that disabled people can easily, safely and without the help of others reach and use public transport modes. About 49 % out of 799 tram stops were reconstructed in a way that lowered their height to a maximum of 22 cm. In addition 140 stops in the outskirts were also reconstructed with lowered kerbs. 66 % of the stops can be used by people with mobility impairments due to the introduction of low-floor trains with special lifts for disabled people. In addition 37 bus stops out of 6600 have lowered kerbs with a height of 12-15 cm.

A tactile and high-contrast floor-information system helps blind and partially-sighted people to reach the stops safely and easily. At the most important stops real time passenger information systems are installed.

b) Accessibility of Public Transport

The guidelines developed in 1992 aim to provide a guarantee that disabled people can use public transport modes area-wide. On this basis old trains/trams should have been replaced by new barrier-free ones, but the measures are very costly. So the local authority decided to make changes on a step by step basis. Representatives of associations for disabled people have been involved in the practical evaluation of the vehicles.

At present the gap between platform edge and the bottom of the "old" trains (metro, commuter trains) have a height of about 15 cm, but this varies according to the construction of the respective platforms. For those trains which have higher levels, mobile ramps for wheelchair users are introduced in the

train stations.

The new trains have an entrance nearly at the same level as the platform and are equipped with:

- compartments for wheelchairs, bicycles, buggies, etc.
- a recorded announcement of stops including visual information
- integrated transfer for wheelchairs
- a high-contrast interior design for partially-sighted people
- doors functioning with tactile sensors
- poles which are located on the advice of associations of disabled people

150 trams out of 574 are low-floor. The rest of the trams are high-floor, but will be replaced gradually. In the “old” trams a special marked place is reserved for wheel chair users. The equipment for disabled people is rather similar to that described above.

About 83 % of 1234 public buses are accessible to disabled people and are available on 83 % of the routes. Most of the buses have a lift for wheelchair users and other equipment for disabled people.

c) Accessibility of Taxis

At the end of the year 1979 a system called “Telebus” was installed in order to provide transport facilities for disabled people. Similar to a taxi system, passengers with disabilities could use the buses for their local journeys. Gradually the public transport system has become more and more accessible so that the Telebus system service (now it is called “Sonderfahrdienst” – service for extra tours) has been progressively reduced. Only a few accessible Berlin taxis are in use. They are available, for wheel-chair users and other disabled people, but the cars are mostly occupied. In addition, at metro stations disabled people who can leave the wheelchair have the option to call a taxi at the emergency and information points.

d) Information services

A comprehensive information service is provided by the public transport company of Berlin and gives information about time-tables, tariffs and any other businesses either by phone, personally or by internet. In case of major incidents information about interruptions, route-diversions, replacement services, etc. will be provided. The availability of technical aids (e.g. lifts) can be requested by means of an automatic voice-message. The online time table information system automatically shows technical faults in the public transport system and its equipment. The electronic timetable information system will shortly be further developed to give information about barrier-free access to chosen connections and also to give information about the accessibility of stations and barrier-free vehicles. The customer service offers personal, individual information including time tables.

Specially designed information and training courses have been offered by the public transport company of Berlin. Through these measures disabled people

are able to learn about the system of public transport with the focus on barrier-free access as well being able to try out the vehicles for themselves.

e) Mobidat (<http://www.mobidat.net>)

Mobidat is a database-driven consultancy service under supervision of qualified personnel operated by an association called *Albatros e. V.*

It contains 21 000 entries and offers a wide range of information about barrier-free sites in the city of Berlin. Besides facilities for shopping, leisure, life and media the website also focuses on mobility and shows the most important information about transport in Berlin for disabled people. In addition, the company turns more and more into an advisory point, especially for questions about leisure and tourism. The quality and accuracy of this website is assured by a staff of 100 employees who gather the data by visiting the sites and facilities in the city of Berlin by themselves. They also have awareness-raising discussions with the owners on-site.

Reference documents

Information about Guidelines for developing a barrier-free city of Berlin, Senate Department of Health, Social Matters and Consumer-protection, Berlin 1997

Information über Leitlinien zum Ausbau Berlins als behindertengerechte Stadt, Senatsverwaltung für Gesundheit, Soziales und Verbraucherschutz, Berlin 2003
This paper contains a description of the monitoring process regarding the guidelines for a barrier-free city of Berlin (1992)

Barrier-free Berlin – 15 Years Guidelines for developing a barrier-free city of Berlin, Senate Department of Integration, Labour and Social, Berlin 2007.

Barrierefreies Berlin – 15 Jahre Leitlinien zum Ausbau Berlins als behindertengerechte Stadt, Senatsverwaltung für Integration, Arbeit und Soziales, Berlin, 2007
This paper contains a description of the monitoring process regarding the guidelines for a barrier-free city of Berlin (1992) 15 years later

Links:

<http://www-berlin.de/sen/soziales>

Information about the work of the Senat for Integration, Labour and Social concerns of the Federal Government of the city of Berlin

<http://www.berlin.de/lb/behi/index.html>

Information about the representative of disabled people at the Federal Government of the City of Berlin – Landesbeauftragter für Menschen mit Behinderung

<http://www.berlin.de/lb/behi/bezirke/>

Information about the advisory board and regional _representatives for disabled people, Bezirksbeauftragte für Menschen mit Behinderung

<http://www.berlin.de/lb/behi/barrierefrei/>

Information about the recent certificate “Berlin barrierefrei” for barrier-free initiatives and organisations

<http://www.bvg.de/> <http://www.vbbonline.de>

Information about the (barrier-free) public transport in Berlin

www.mobidat.net

as described later

<http://www.bbv-ev.de>

A guide for barrier-free tourism, Berlin 2007

(Wegweiser – Barrierefreier Tourismus , Berliner Behindertenverband, Berlin 2007)

Key factors of development

Model of integration and inclusion

1999: Landesgleichberechtigungsgesetz (LGBG) (Berlin’s State law for equal rights)

1992: Leitlinien zum Ausbau Berlins als behindertengerechte Stadt (Guidelines to establish a barrier-free City of Berlin).

In the early days, the transport planning process was more integration oriented. But thanks to a lot of awareness raising measures it becomes more and more inclusion oriented (e.g.: independent mobility behaviour instead of pick-up and delivery services). The aim of the strategy is to address lots of people and raise awareness for the difficulties of people with disabilities. In the course of time more and more people such as older people, children, etc. profit from this development so that the approach changes from “barrier-free city concept” to a “design-for-all concept”.

Partnership between highway and transport authorities

The Department of Urban Development of the local authority established a working group “construction and transportation – barrier free access” with a number of construction and reconstruction priorities. This working group includes all the key stakeholders and is responsible for setting priorities.

Situation within the authority’s strategy

The representative for disabled people of the Federal Government of Berlin coordinates different Departments within the local authorities. He knows the needs of disabled people and the authority’s strategy. Therefore he is able to influence decisions.

Benefits for disabled people

Enhanced quality of service

The measures implemented in the city of Berlin contribute to greater independence, safety, confidence and dignity of disabled people both by means of infrastructure measures and (online) information services.

Dissemination of the scheme elsewhere

A pilot-scheme has been introduced in Warsaw (Poland) on the Mobidat project, by installing a database with 300 entries in collaboration with two Polish institutes in Sept. 2007.

Economic factors

Cost of implementation, operation, maintenance

Depending on the construction of the station the calculated costs of a barrier-free extension are on average 1 – 1.5 Mio €, paid by the Public Transport Company of Berlin and supported by the Federal Government of Berlin

Cost of the Mobidat project: Since it started 15 years ago about 100 employees have been paid by employment agencies and the Federal Government

Funding support

Mobidat: is funded by the Federal Government of the City of Berlin (Senate for Integration, Labour and Social concerns) and employment agencies; there are some latent uncertainty because of the necessity to re-apply for funding every year.

Infrastructure measures are paid for by the Public Transport Company of Berlin

Affordability by users

Disabled people with handicapped ID can use public transport free of charge or 60€ p.a.

Economic benefits

There is evidence of growing numbers of users travelling and growing numbers of calls about the system both local and worldwide,

In collaboration with representatives of economy, tourism, culture and science and associations for disabled people a certificate for facilities has been developed which supports the idea of a barrier-free city and recognises the positive long-term economic benefit of these developments.

Key issues for transferability

Pre-conditions for success

- Willingness of the local authority to take action
- Commitment of the people concerned
- Serious target-oriented operating institution/agency

Constraints

- Uncertain funding because of changing political priorities,
- Employees from employment agencies and not professionals

Recommendations for implementation

- Common authority and willingness of all participants

- Recognising of the economic benefit to the client
- Enough funding
- Cooperation with people concerned
- Serious, committed operators

3.2.2 Barcelona – applying universal design principles

| | | |
|--|---|--------------|
| Euro-Access Best practice: Barcelona – applying universal design principles | | Case n°3.2.2 |
| Location Barcelona, Spain | Scope: benefits all disabled people | |
| Application: policy can be implemented progressively as vehicles and infrastructure are renewed | Cost: can be high but managed by progressive implementation and adoption of universal design principles that bring benefit to wider group of potential travellers. | |
| Contact persons/Affiliation | | |
| Sources of information | http://www.tmb.net/en_US/barcelona/bonviatge/transportperthom.jsp | |

Scheme description

In the early 1990s, and as the Olympic Games were being prepared in Barcelona, the Transports Metropolitans de Barcelona (TMB) started a programme to make transport in the city of Barcelona accessible.

The introduction of accessible public transport allows people with disabilities or reduced mobility to make use of it, thus promoting total social integration. At the same time, full accessibility helps others including older people and those travelling with small children, luggage etc.

TMB's commitment to accessibility has been taken forward in close collaboration with the Institut Municipal de Persones amb Disminució (Municipal Institute of Handicapped People). Representatives of disabled people are involved in all new designs and systems and all improvements are agreed with them.

For the same reason, TMB has signed a collaboration agreement with the 'Secció d'accessibilitat de la Diputació de Barcelona' to collaborate on new accessibility projects consisting of building new infrastructure and purchasing new materials. These collaborative partnerships strengthen TMB's main objective which is to provide good quality transport accessible for everyone

a) Accessibility of Buses

Transports Metropolitans de Barcelona's whole bus network is low-floor (level-boarding) and it is equipped with retractable boarding ramps facilitating access to wheelchair users.

In order to guarantee their safety, buses are provided with reserved spaces with belts to anchor wheelchairs.

Ticket validation machines emit both visual and acoustic signals allowing people with vision or hearing disabilities to operate them. Stop request buttons are positioned next to wheelchair reserved spaces and completely accessible. These buttons have a distinct sound and a light will appear on the driver's dashboard to let him know that a wheelchair user is asking for exit at the next stop.

Since January 1st 2007, the whole bus network of Transports Metropolitans de Barcelona is fully accessible to disabled people and people with reduced mobility.

b) Accessibility in the Metro-Network:

5 out of 6 Metro lines are fully adapted for the requirements of disabled people, 1 line is partially adapted.

The complexity of an old underground network (almost a hundred years) has prevented the delivery of full accessibility. Since 1992, the stations being built or refurbished include amenities to guarantee their accessibility.

Lines 2 and 11, the most recently built lines, which link the street with the entrance hall, and in some cases with other areas of the city with difficult access, provide easy access to the ticket hall by means of a lift.

- The new ticket machines, designed and built under strict accessibility criteria, are fitted with an ergonomic device to allow people in wheelchairs or people of reduced height to purchase the travelcards on their own using any of the following systems: banknotes, coins or credit card. These machines are fitted with a navigation system for blind people which, through voice and Braille, guides the person with sight problems through the purchasing process. A system for the duplication of travelcards allows the people who usually purchase the same ticket, to buy another one immediately. This system is also useful for people with learning disabilities. (this machine is described in section 'Technology')
- Through wider access gates, the payment line is crossed without any difficulty and, from this point; another lift leads to the platform.
- The train and the platform are at the same level, which facilitates the access to the carriages, where there is a space specifically reserved for the location of wheelchairs and which is always situated behind the driver's cab.

- In the same way, tactile guidance on the floor allow those with vision impairment to move through the station with complete independence by means of raised lines on the floor.
- The tactile markings on the lift buttons and the provision of voice information ensure that the traveller always knows the direction of the train.

c) Information services

A comprehensive information service is provided by the public transport company of Barcelona and gives information about timetables, tariffs and any other businesses either by phone, by staff or by internet.

Reference documents

http://www.tmb.net/en_US/barcelona/bonviatge/transportpertoshom.jsp
user friendly internet platform, which provides all information about public transport and how to use it in Barcelona.

<http://www.vienaeditorial.com/barcelonaaccessible/angles/index.htm>

Accessible Barcelona Guide

Key factors of development

The Barcelona approach is based on the principle of universal design and a commitment to engaging with disabled people from the earliest design stages.

Situation within the authority's strategy

There is a strong and long term commitment to accessibility dating back to the time of the Olympics in the early 1990s and the ethos of accessibility is now part of the culture of TMB.

Benefits for disabled people

Because disabled people have been involved from the earliest stages of the design process, solutions are appropriate for the widest possible range of needs.

Enhanced quality of service

All the buses and a significant part of the metro system is fully accessible and includes features intended to promote independent travel with confidence.

Economic factors

The provision of access features are an integral part of the cost of the public transport system. In addition to enabling more people to travel (including people with small children and luggage as well as disabled people), the accessibility of the system has led to some savings (for example fewer staff needed to

supervise the ticket machines because they have been designed to be intuitive to use).

Key issues for transferability

Pre-conditions for success

The major pre-condition is the clear and sustained commitment on the part of the transport provider. This has led to a progressive series of improvements over many years. The other key factor is the close engagement with disabled people at every stage of the design process so that access opportunities are maximised for the widest possible range of people.

Constraints

As in many European towns and cities parts of the system are old and therefore difficult and costly to make accessible. However, Barcelona has followed the principle of improving and upgrading accessibility whenever other refurbishment or renewal takes place. While this process takes time it does make access improvements more affordable.

Recommendations for implementation

Following the key principles adopted in Barcelona: engagement with disabled people; commitment to universal design principles and integrating access into the mainstream of public transport delivery are the key factors.

3.2.3 Grenoble Public Transport network accessibility

| | | |
|---|--|---------------------|
| Euro-Access Best practice: Public Transport network accessibility | | Case n°3.2.3 |
| Location: Grenoble, France | Scope : Benefits all disabled travellers | |
| Application: can be introduced progressively over time | Cost: can be high but will be spread over period of years. Can be offset by increased patronage | |
| Contact persons/Affiliation | Claude Baret, Mireille Lamour, SMTC – PT authority of the conurbation Philippe Bonnard, Transports de l'Agglomération Grenobloise SEMITAG – PT operator | |
| Sources of information | European Conference of Ministers of Transport (ECMT) European Disability Forum (EDF) Award for transport services and infrastructure – docket submitted 2003 Grenoble bus route revitalization. Eltis study sheet | |

Scheme description

The Grenoble conurbation comprises 26 municipalities and 400 000 inhabitants. The public transport network is composed of 4 tram lines and 25 bus lines. Around 74.2 millions journeys were made in 2007.

Grenoble has worked on the issue of inclusion of disabled people since the 1970s, starting with housing and two public buildings. A special on-demand transport service was first introduced in 1979.

When a new tramway line was implemented, the public transport authority required it to be fully accessible and worked closely with the manufacturer on a low-floor vehicle, with the municipalities, the public transport operator and the associations of disabled people so that level-access enabled wheelchair users and all travellers embark and disembark easily and independently. It entered into public service in 1987.

By 1994, the stakeholders listed above were working on the accessibility of bus routes. Building on the experience gained from the tramway, the accessible bus route includes a low-floor bus with kneeling and access ramp and a raised bus stop with a special angled kerb and specific tactile surfaces for people with low vision. An evaluation was carried out a few months after the first major bus route was equipped with the accessibility features. It showed a high level of passenger satisfaction.

Since then, accessibility of the network has been continuously improved. By early 2008, 3 tram lines with 63 stations are fully accessible including visual and audible announcements, onboard and on the platforms. 68% of the bus routes and 75% of the bus stops are accessible.

Meanwhile, the special transport service for disabled people has evolved. The service was restricted to wheelchair users at first, in 2000 blind and partially sighted people were included, then in 2003 ambulant disabled were also included after a medical check.

Reference documents

ECMT-EDF Award for transport services and infrastructure – docket submitted 2003

Description of the accessibility policy, of the main characteristics of accessibility features, of the consultation process with all the stakeholders particularly with the associations of disabled people.

Key factors of development

Model of integration and inclusion

The public transport authority started with integration of ambulant disabled citizens (particularly wheelchair users) and is progressively taking into account all kinds of impairments for access to the mainstream public transport network and the street environment.

Partnership between highway and transport authorities

There is continuous partnership working on issues such as design specifications of bus stops and tram stations, and on control management (dedicated bus lanes, priority at traffic lights, etc.).

Situation within the authority's strategy

The public transport authority is finalising the accessible public transport master scheme required by law 2005-102 (equal rights and accessibility provision). It will be able to make its network fully accessible by 2015.

Benefits for disabled people

Enhanced quality of service

Major improvements of the tram and bus services resulted in an increase in the numbers of wheelchair users on mainstream public transport routes. They are mostly travelling on the 3 tram lines and 4 bus routes (out of 25) – an average of 360 per day on weekdays (2007). The public transport authority and operator modified the admission rules to the special on-demand service so that people with impaired vision and ambulant disabled people can now be registered on this service.

The journeys made by wheelchair users on the special transport service decreased from 29600 (2006) to 24600 (2007). The journeys made by people

with impaired vision remained stable – 3000 (2007), those of ambulant disabled people has increased from 4100 (2006) to 9000 (2007).

The first tram line serves the university campus. Accessibility of public transport together with adaptation of the buildings and housing encourages a high number of disabled students to choose Grenoble University.

Dissemination of the scheme elsewhere

In other French cities, the public transport authorities are facing a huge increase in travel demand on the special on-demand service. The Grenoble example shows that disabled people can use the mainstream transport when accessibility of public transport routes reaches a minimum level. So the journeys on the special service can be maintained.

Economic factors

Cost of implementation, operation, maintenance

3 M€ per year for accessibility improvements to bus routes.

Funding support

In France, public transport authorities subsidise the network service. Part of the investment budget is devoted to accessibility.

Affordability by users

The fare for the special on-demand service has been the same as for the regular service since 2003.

Economic benefits

Increased patronage: 360 people per day as an average on weekdays (2007) no longer use the special on-demand transport service. Between 1999 and 2002, there has been a 37% mean increase of wheelchair users travelling on the 2 tram lines and 2 bus lines, made accessible during that period.

Decreased operational and/or maintenance costs: It has been demonstrated that the level-access tramway line has a 10% higher commercial speed than standard high floor systems.

Key issues for transferability

Pre-conditions for success

It is essential to have representation of disabled people and full participation in the consultation (dialogue) process with the other stakeholders.

Constraints

It is a long process to improve the accessibility of bus stops and stations and their surroundings, due to funding constraints.

Recommendations for implementation

- Continuous consultation with associations of disabled people
- Continuous communication towards the citizens to facilitate disability awareness and non-discrimination
- Define technical specifications so that PT infrastructure (bus/tram stops especially) and the surrounding pathways can be progressively made accessible after agreement on a rehabilitation planning

3.2.4 Brukslinjen - An integrated rural transport system

| | | |
|---|---|---------------------|
| Euro-Access Best practice: Brukslinjen - An integrated rural transport system. | | Case n°3.2.4 |
| Location Bergslagen, Sweden | Scope: benefits all disabled travellers | |
| Application: can be adopted for existing transport networks | Cost: scheme has shown net profit because better co-ordination has led to increased patronage | |
| Contact persons/Affiliation | Hans Eriksson, Västerås Municipality, Sweden. www.vasteras.se | |
| Sources of information | www.brukslinjen.nu http://www.tc.gc.ca/pol/en/transed2007/pages/1286.htm | |

Scheme description

The transit system Brukslinjen aims to integrate different publicly funded transport systems into one single concept, combining regular passenger transport with transport services for children, young people, older and disabled passengers.

Creating an efficient and sustainable transport system requires a focus on public transport. Since public transport is generally heavily subsidized, the allocation of resources must target cost-effective systems and technologies.

Before introduction of the Brukslinjen concept, the previous public transport system was quite poor with a comparatively low market share, the special transport systems (STS) were dominating the total budget, and the population was ageing. School children and young people were also a major bus passenger group.

The project called “Brukslinjen” started in August 2001. Three municipalities took over full responsibility from the Passenger Transport Authority for all publicly funded transport within their area, in order to achieve “more bus transit for less money”.

Public transport, STS, non-emergency hospital transport and school buses were integrated into one system: the “Brukslinjen”. All vehicles had to be fully accessible in order to be efficiently used. No designated school buses were used. The schoolchildren used the same buses as did commuters, older or disabled passengers. The system was designed as a mix: from regular route

traffic to flex route traffic, with a hub where the fixed routes and the regional train regularly meet every hour in order to create regional and interregional access. Instead of limiting older and disabled passengers' possibilities to travel, they were offered a wider choice. This resulted in a modal shift from STS to regular public transport, and an overall increased mobility.

A zero-fare system was introduced. The main reasons were actual costs (the installation of ticketing machines in the school buses), low marginal costs, marketing effects, and price-sensitive STS passengers, whose trips in STS are far more costly for society than in integrated systems. Cost benefit calculations showed a reduction of societal costs, resulting in net profit.

Reference documents

<http://www.tc.gc.ca/pol/en/transed2007/pages/1286.htm>

Key factors of development

Model of integration and inclusion

All passengers use the same system.

Partnership between highway and transport authorities

Highway authorities not involved. Three municipalities work together with the Passenger Transport Authority.

Situation within the authority's strategy

The zero-fare principle was a tool to attract customers and create incentives for modal shift. In the future, the zero-fare will be abandoned in favour of smart cards, in order to warrant the system's financial sustainability.

Benefits for disabled people

Enhanced quality of service

Older and disabled passengers use the same system and vehicles (trained drivers and accessible low-floor vehicles). Booking centre with driver contact. Removal of ticket machines – zero-fares on the local buses.

Economic factors

Cost of implementation, operation, maintenance

By introducing the "Brukslinjen", the costs were significantly reduced, since the fleet is uniform and suitable for all passengers.

Funding support

By law, each municipality in Sweden has to offer special transport services for those, not able to use regular public transport. Therefore, unless laws are revised, the funding will continue.

Affordability by users

No cost to users

DRT trips are heavily subsidized. However, since they also are integrated in the mainstream system, the net deficit is comparably low.

Economic benefits

Increased ridership

The integrated planning, using hubs and transfer points, has resulted in increased ridership, despite lower costs.

A Cost Benefit analysis of the zero-fare policy also revealed a net profit.

Key issues for transferability

Pre-conditions for success

Low level ICT-use required, thus easy to achieve.

Constraints

The system requires a large commitment from the operator side.

Recommendations for implementation

The following conclusions can be drawn:

By integrated use of all public transport modes in a rural area – Demand Responsive Transport (DRT), non-emergency hospital trips, school buses, mainstream PT, bus and rail – a more efficient use of available use of existing resources will allow for better supply and public economy.

3.2.5 The FINAL project - Integrating Demand-Responsive Transport and scheduled fixed-route public transport

| | | |
|--|--|---------------------|
| Euro-Access Best practice: The FINAL project - Integrating Demand-Responsive Transport and scheduled fixed-route public transport | | Case n°3.2.5 |
| Location: Various Swedish counties. | Scope: benefits all disabled travellers | |
| Application: can be applied to existing systems | Cost: implementation costs – particularly for ICT may be high but can lead to reduced operational costs | |
| Contact persons/Affiliation | Mats Börjesson, Transportide www.transportide.se | |
| Sources of information | www.port.se/final | |

Scheme description

FINAL is a development project which aims to establish a basis for standard solutions for transport concepts, data communication, ticketing, passenger information, rules and responsibilities regarding feeder services and to provide a link between Demand-Responsive Transport (DRT) and scheduled fixed-route public transport (mainstream services). Issues of special needs, rural isolation and passenger confidence are all addressed. Its evaluation was published in 2005

The project is sponsored by VINNOVA (Swedish Agency for research and development in technology, transport and working life) and is being delivered in cooperation between 19 contributing companies.

Demand-responsive feeder services can solve several of the problems that public transport is now facing. A combination of DRT and mainstream services offers a solution for secure and accessible travel door to door.

Key components of the project include:

Market potential

Potential target groups with a need for demand-responsive feeder services have been identified in the project. Group interviews with individuals in these

groups have shown what requirements must be met for feeder trips to be interesting to different groups.

The project has analysed possible new solutions and a new DRT concept has been tested. The conclusion is that it is doubtful whether any new transport solution is necessary. However, interviews with different customer groups show that what is needed is a simpler description of the service as a whole, to replace the current information about feeder trips using the different DRT concepts.

It has been especially important in the project to develop ways to make it easy for passengers to find feeder opportunities. Examples have been drawn up of how this can be done, both in printed information and on the Internet.

From technology to organisation

To be able to offer a simple trip in a secure way, there should be a single organisation with responsibility for describing the service in a unified way.

The split responsibility that normally exists today between mainstream and demand-response transport should be changed.

Communication to reduce disturbances

There is a need for greater co-ordination in the organisation and better communication between all those who participate in the process.

A basis for standardised communication has been developed to facilitate communication between the different parties involved in booking and providing feeder trips. A proposal has also been worked out for classifying stops in order to make it easier to seek feeder opportunities on the basis of the individual needs of disabled people. The classification of stops includes a standard description of the requirements for people with impaired vision, hearing, mobility, and ability to orient them and for people with allergies.

One ticket for the whole trip

The project has suggested one solution is a taximeter that uses the new common travel card standard and one back-office solution for ticketless travel.

Testing solutions

The simulations have shown that the location of the transfer stops has a greater effect on the level of service for passengers than the number of stops.

Reference documents

http://frida.port.se/vasttrafik/CD/2005-09-29/final/Dokument/02_Slutrapport/FINAL_Summary_in_English.pdf

Key factors of development

Model of integration and inclusion

The key issue is the integration of different modes, developing accessible transfer points and new supportive technology and smart ticketing in order to deliver safe and sustainable use. The system is intended to support all users of public transport particularly in rural and semi-rural areas, thus increasing accessibility for all.

Partnership between highway and transport authorities

A partnership is needed in order to create functioning transfer point. However, the lead responsibility should be with the public transport authority.

Situation within the authority's strategy

The authority must be willing to enhance the level of ICT, and to support rural transit schemes.

Benefits for disabled people

Enhanced quality of service

Quality will be substantially enhanced, given sustainable and reliable technology.

Dissemination of the scheme elsewhere

National conferences, research reports, web site, leaflets (all in Swedish so far, except for a brief summary)

Economic factors

Cost of implementation, operation, maintenance

The solutions can be high cost if the starting point is low ICT use. Substantial costs may also be involved in accessible transfer points. There has been no full-scale implementation so far, hence no evaluation is yet available. The results are however promising, and have been influential in rural transport scheme development in many areas in Sweden.

Funding support

No general funding, see above.

Affordability by users

No cost implications

Economic benefits

According to estimates and calculations, reduced operational costs should be realised..

Key issues for transferability

Pre-conditions for success

High level ICT-use is required.

Constraints

See above.

Recommendations for implementation

The following conclusions can be drawn:

Efforts have been made in the project to evaluate the market for feeder services. There are currently several variations of DRT and mainstream public transport. Not counting STS and medical transport, other DRT services do not represent an extensive number of trips. The market for feeder trips is different for different types of transport solutions. It is judged that a combination of mainstream public transport and demand-responsive services with meeting places or stops has a significant potential to become as common as transfers in local and regional transport. For feeder trips door to door, the market is judged to be greatest for trips longer than 10 kilometres.

The project has analysed possible new solutions and a new DRT concept has been tested. The conclusion is that it is doubtful whether any new transport solution is necessary. However, interviews with different customer groups show that what is needed is a simpler description of the service as a whole, that is, feeder trips using the different DRT concepts that currently exist. It has been especially important in the project to develop ways to make it easy to find feeder opportunities. Examples have been drawn up of how this can be done, both for printed information and information on the Internet.

One of the most important conclusions is that delivering successful feeder services is more an organisational issue than a technical one. Another very important conclusion is that there must be a focus on the actual transfer point.

3.2.6 The KOLLA Project - To create an integrated urban transit people for older and disabled people

| | | |
|--|--|---------------------|
| Euro-Access Best practice: The KOLLA Project - To create an integrated urban transit people for older and disabled people | | Case n°3.2.6 |
| Location Gothenburg, Sweden | Scope: Benefits all disabled and older people | |
| Application: can be introduced in any urban environment | Cost: costs range from low to quite high, but offsetting savings expected from reduced dependence on door to door services | |
| Contact persons/Affiliation | <p>Göteborgs Stad Färdtjänsten (demand-responsive transport services) E-mail: fardtjansten@fardtjansten.goteborg.se</p> <p>Göteborgs Stad Trafikkontoret (City of Gothenburg, Traffic Office) E-mail: trafikkontoret@trafikkontoret.goteborg.se</p> <p>Västtrafik (Public Transit Authority, Gothenburg) E-mail: goteborgsomradet@vasttrafik.se</p> <p>Monitoring, evaluation: FoU Väst E-mail: lisbeth.lindahl@grkom.se</p> | |
| Sources of information | www.kolla.goteborg.se | |

Scheme description

In the city of Gothenburg a plan has been drawn up by the three bodies responsible to agree how the urban public transport system should work for people with limited mobility.

The bodies involved are: Färdtjänsten (the authority responsible for demand responsive transport), Trafikkontoret (the traffic and road authority) and Västtrafik (the Public Transport Authority in Gothenburg).

A detailed working plan has been drafted tracking the steps that need to be taken from vision to reality. The plan will be implemented progressively and will be finalised by 2010.

Key issues dealt with in the plan include:

Removing obstacles

"Obstacles simple to remove" are defined as reasonable to deal with, considering cost and effort. According to current Swedish regulation, these are primary gaps, uneven ground, difficult kerbs, poor contrast and warning signs, poor signage and illumination or the lack of handles and balance support.

Accessibility standard

By 2010, all tram and inter-urban bus stops, as well as the 70 most used other bus stops will be fully accessible, including adjacent pavements. The accessibility of all public transport stops in the city will be reviewed.

Information and travel training

This is one of the most important parts. All citizens over 18, who for whatever reason have difficulties in using public transport, are welcome to have travel training. Working with an assistant, an individual programme is designed. Then, the training starts, and the number of sessions required depends on the user's needs. A few weeks after the training session, the assistant will monitor the results, and if needed, meet with the person again. The training is free of charge, as are all trips within the training period. The training can be booked by phone or by internet.

Monitoring

The project is followed by a research group, a political steering committee and a panel of user groups.

Reference documents

Website: <http://www.kolla.goteborg.se>

Some documents in Swedish, primarily for the use of images:

http://www.kolla.goteborg.se/filearchive/9/902/KOLLAOMBYGGNADER_2006.pdf

<http://www.kolla.goteborg.se/filearchive/8/886/061129Gatumiljofolder.pdf>

http://www.kolla.goteborg.se/filearchive/8/899/Kolla_broschyr2007.pdf

<http://www.kolla.goteborg.se/filearchive/9/904/trafikforsorjningsplan.pdf>

Key factors of development

Model of integration and inclusion

Based on requirements from older and disabled people, the aim is that all citizens will benefit from these measures.

Partnership between highway and transport authorities

A joint effort has been achieved between the three partners above mentioned.

Benefits for disabled people

Enhanced quality of service

Regardless of the final outcome, the experiences so far have gained national attention. The user response is generally that mainstream public transport is more usable than they had previously thought. Hence, mobility and independence among the users have increased. However, there are still groups (particularly the “older” old people) that still need individual transport solutions such as STS (special transport services).

Dissemination of the scheme elsewhere

Research reports, web site, leaflets (all in Swedish so far)

Economic factors

Cost of implementation, operation, maintenance

The project would probably not have been realized without a preceding inventory report (state of the art as well as a future scenario). A key issue was the economic analysis. The break-even – savings on special transport service – was estimated to 58 MSEK (6.2 M €) annually. This would produce a positive net result by 2019, or even by 2012 if new accessible trams replace old ones (50% governmental subsidy).

These facts have lead the politicians to proceed with the project, since new trams were considered to be of great interest of all citizens regardless of additional social benefits such as reduced isolation, increased independence, improved health, lower health- and age-care costs.

<http://www.kolla.goteborg.se/filearchive/9/904/trafikforsorjningsplan.pdf>

Funding support

All funding is provided by the city of Gothenburg, with some infrastructure investments given 50% funding support from central Government (a general Swedish funding scheme).

Affordability by users

No cost to users

Economic benefits

- Increased ridership
- Some evidence of increased bus and tram use among older people, but analyses are ongoing.
- Reduced operational and/or maintenance costs
- An increase in the use of flex route travel has reduced dependence on STS (special transport service) costs.

Key issues for transferability

Pre-conditions for success

There needs to be political commitment to undertake such a scheme. The economic factors of rising STS costs and growing numbers of older people were a key factor in making the commitment to invest.

Constraints

The investments are quite substantial, and the amount of work and expertise required is also large.

Recommendations for implementation

The key factor is the collaboration between authorities.

The local traffic and road authority did not see the benefits of increased accessibility among the older and disabled road users. However, national legislation "Accessibility 2010", together with a political consensus, convinced them to take part in the project.

3.3 Specialist Schemes

3.3.1 Flexlinjen - Urban Mobility Service

| | | |
|--|--|---------------------|
| Euro-Access Best practice : Flexlinjen - Urban Mobility Service | | Case n°3.3.1 |
| Location Göteborg, Sweden | Scope: all disabled people unable to reach or access mainstream transport | |
| Application: new service | Cost: expensive, but savings can be made by improved efficiency in dispatch etc | |
| Contact persons/Affiliation | Bengt Knutsson Special Public Transport Authority, Göteborg, Sweden Manager Flexlinjen Operations | |
| Sources of information | Yngve Westerlund Sr. Advisor, MobistikUtveckling ywk@mobistik.se Initiator and first project manager. Since making annual evaluations for the Traffic and Transport Authority (one of three sponsors of the scheme) | |

Scheme description

Flexlinjen (flexibus) is an urban mobility service – a cross between the traditional special public transport, FareService /STS and conventional scheduled fixed service routes. It is particularly designed for older and frail people but it has more recently been made accessible also to the general public. It uses fully accessible low-floor minibuses for 10-14 passengers with hand-picked drivers with high social skills.

Buses depart from end-points every hour (Mon -Fri) 9 am to 4 pm, but then visit only those so called “meeting points” at which passengers have requested a ride. Area coverage is excellent because there are about ten times as many meeting points as ordinary public transport stops in the same area. Most users have less than a 150 m walking distance, and STS eligible persons can request pick-up at the door if absolutely necessary. This is the case for about 15 % of all trips.

Booking must be done 15 minutes before the bus leaves any of the end points, and the computer calculates the best route for each individual run. Automatic call-back is used to confirm previously given pick-up times or to notify any delays. All customers are called by the system about 15 minutes in advance to allow them time to get ready and walk to the meeting point.

Flexlinjen was developed and tested in the European project SAMPO 1996-98 with 6 minibuses in two districts in the city. Since it was an immediate success the authorities have decided to gradually implement it all over the city according to an accessibility plan.

By the end of 2008 there will be over 30 minibuses and nearly 95% of all older people (75+) in the city/municipality of Göteborg will have less than 200 m walking distance to any form of public transport. The challenge then is to improve cost-efficiency of current operations and to extend service also to those more peripheral (periurban) areas and to hours with less demand. Thus there is a constant need for further developments both institutional and technical.

Reference documents

Westerlund et al (1999) : Flexibel kollektivtrafik i Göteborg. Erfarenheter af forsök med Flexlinjen samt framtida möjligheter. KFB-Report 199:26, Stockholm.

Stahl, A. and Westerlund, Y, (1999): Traveller Evaluation and User Acceptance for the FlexRoute DRT Service in Gothenburg. Internal Report in the EU-project SAMPLUS.

Carlsson, G and Ståhl, A, (2006) : Hur används servicelinjer och flextrafik? Resvanor och attityder bland boende och resenärer. Institutionen för Teknik och samhälle,. - Lunds University, Bulletin 230.

Key factors of development

Model of integration and inclusion

Flexlinjen was initially developed to increase the mobility of older (65+) and disabled people but has since been opened for the general public. However it has not been heavily marketed outside the primary target groups and the average age of users is 79 years, only around 10 % are under 65. There are proportionally more women than men among the users, 82 % are women

Partnership between highway and transport authorities

Flexlinjen was originally developed in cooperation between the Special Public Transport Authority and the City's Traffic and Transport Authority. Such a partnership still exists and it is now extended with the Regional Public Transport Authority (Västtrafik). These entities are also engaged in a wider "universal design" project KOLLA (Collective transport for all) to make the mainstream public transport more accessible with respect to bus stops, stations and access paths to these. To extend Flexlinjen to cover basically the whole city with intermediate services is an important element in this partnership which also

includes extensive driver training and travel training for users. According to plan all of these measures should be completed by 2010.

Situation within the authority's strategy

The basic strategy of reducing the need for special transport services provided by expensive special vehicles and taxis seems to be working reasonably well. The number of permits for STS has decreased from a peak of 5,5 % of the population in 1991 to about 3,8 % in 2007 and the number of trips has fallen accordingly.

Benefits for disabled people

Enhanced quality of service

Several attitude studies show that Flexlinjen has been very well received by those older people that have difficulty using mainstream public transport. It has also been established that older disabled people (with STS eligibility) generally appreciate Flexlinjen as compared with the STS shared taxi option and also that Flexlinjen is more attractive than traditional scheduled fixed service routes to this group. Flexlinjen was initially able to voluntarily reduce the local STS travel by between 50-80%. Today the users are not offered a choice, if there is a Flexibus service in that area and during the requested hours (9 am-5 pm weekdays) no subsidy will be offered for a taxi trip anymore. However there still appears to be an issue with respect to younger disabled people, who generally tend to favour the STS mode with a slightly higher service level (somewhat faster and with more predictable arrival times than Flexlinjen, which is a more cost-effective mode for the "No-Hurry" users.

Accessibility to public transport for older people (75+) has improved dramatically as can be seen in the graph. Today over 90 % of all older people have less than 200 m walk to public transport with accessible (low-floor) vehicles.

Dissemination of the scheme elsewhere

There were a few early take-ups of the Flexibus scheme in other Swedish cities just after the SAMPO demonstration project, e g in Uddevalla, 80 km N of Göteborg, in Uppsala and in Stockholm (1 minibus) where the authorities still seems to favour the traditional service routes (24 minibuses).

In the last few years the proliferation of Flexibus have increased with some 8 buses in Västerås, 5 to be introduced in Linköping in 2008 and at least a dozen smaller applications with 1-3 vehicles in various parts of the country. Take-up is currently being considered in a few more countries e g Denmark, Norway and Ireland.

Economic factors

Cost of implementation, operation, maintenance

Flexlinjen is, like all mobility services, very expensive to operate because it is an inherently low volume, relatively labour intensive service. Therefore it is important to carefully match supply and demand, i.e. to keep a keen eye on the productivity (passengers per vehicle hour). This can be improved by encouraging more passengers (to a point where a new vehicle is needed – then there is a drastic jump in unit cost again) or by reducing the number of vehicle hours. If the service is implemented in reasonable conditions (e.g. high older people density as shown below) and run for 6-8 hours per day weekdays, the unit costs should match or be better than for similar services based on shared taxi where taxis are procured on demand and much better than special vehicles (wheelchair vans for 3-5 passengers) that are procured for longer service periods, similar to those of Flexlinjen.

There are relatively high costs involved in the planning and implementation of a new service, for analysis, service planning, and installation of signage for meeting points that are widely distributed in the service area. There is a trade off between this installation and the savings of having most passengers walk up to 200 m and be waiting for the bus at the stop rather than driving to everyone's door, and often having to wait for the customer.

System costs should be minimized by procuring booking and planning services externally, at least for smaller operations where the investment in an in-house system is less efficient. All in all the booking and administrative costs should not exceed 20% of the total operational costs – when procuring all operations from external operators in a tender.

Funding support

Procurement of operations are typically 4-5 years or longer contracts, thus there is a need to have adequate funding support. However it is desirable to build in a degree of flexibility in the contract so that vehicles can be moved from one service/district to another (within reasonable distance) should demand develop in a way that is greater or less than anticipated. The experience in Göteborg shows that it is necessary to have a broad based funding support, e.g. the cost of Flexlinjen operations are shared between three authorities/agencies:

- the special public transport
- the general traffic authority (main-stream public transport)
- the regional health care authority, since about 10% of the trips is for medical purpose (to or from doctors etc)

Affordability by users

The City of Göteborg has decided that Flexlinjen should have normal bus fares for local bus travel, around 1.6€ per trip, return trips within 90 min are free. This compares with around 3€ fare for a single trip with a STS shared taxi and since early 2008 with the free ride for pensioners (65+) in regular public transport (bus/tram) during off-peak hours. The purpose is to induce a “rational” travel behaviour so that an STS eligible person will select the lowest price ride that is possible during the circumstances for each trip. With this pricing model the lowest – priced ride also happens to be the lowest cost ride for the paying authorities.

Economic benefits

In the early demonstrations with Flexlinjen in the SAMPO project 1996-98 it was envisioned that the whole exercise would be a zero-sum game, i.e. that the savings that were achieved by transferring users from expensive shared-taxi and special vehicles to a minibus with a slightly reduced service-level, should suffice to cover the improved service for those people that were not eligible for STS but still had difficulties using mainstream public transport.

This objective was not possible to achieve, there has been a reasonable increase in costs for all mobility services but also an increased usage/mobility for those user groups. This has been considered as a social cost well worthwhile for the city. The theory is that the cross-sector benefits exceed the slightly increased costs, but this is difficult to prove without very long term longitudinal studies, similar to those being made to prove benefits of medical procedures or new pharmaceuticals.

Key issues for transferability

Pre-conditions for success

The choice of mobility services for different conditions is a key issue. This needs to be verified with a geographic analysis (GIS) particularly considering (in urban areas):

- a) the density of older residents (persons/sqkm urban area) and
- b) the accessibility to mainstream public transport (percent of older population that lives within about 200 m walking distance from bus stops etc).

Another pre-condition is that the political environment is favourable to mobility solutions, i.e. that the authorities are prepared to set aside a small percentage (2-5 %) of the total costs of the care of older and disabled persons in the area/region for mobility solutions, as a "preventive care" measure.

Flexlinjen is for instance more likely to be a success if there is already a relatively expensive mobility service in place, such as special public transport (STS with demand responsive service). Then Flexlinjen becomes a rationalisation measure in those areas as identified in the geographical analysis where minibus is less expensive than shared ride taxi or other DRT solutions.

One of the clear success factors for Flexlinjen is the extremely service minded flexdriver, whose role as a social worker is just as important as the role of chauffeur.

Constraints

As mentioned above this is a solution for urban areas, best suited where the older population density is > 300-400 older people per built sq/km and where < 70 % of them live within 200 m walking distance. Where the density of older people is > 1200-1400 older people per sq/km it is likely that a scheduled fixed service route would be more efficient.

Recommendations for implementation

First a feasibility study needs to be performed with the above geographic analysis including a density map of older people's residence (not to be presented so that individual travel demands can be identified). If possible such maps should be complemented with a detailed analysis of any existing mobility services, e.g. origins and/or destinations and costs for such service.

For any reasonable scale of such implementations (e.g. > 4-5 vehicles) there is a need to specify a more or less automated system for booking, planning and dispatching of the travel. If the agency does not already have access to such a system (in house or out-sourced) it may be advisable to start the operations by internet-based connection to an existing system with a suitable vendor or in a neighbouring authority/service provider in order to avoid heavy system investments, particularly in pilot services, but also in other small scale conditions.

Traffic services are preferably procured in a public tender with strict specifications both of the vehicle- and the driver requirements. The application of some kind of quality control measure coupled to the tender may be an effective way; e.g. that part of the pay to the operator is dependent on some quality parameter(s) that can be monitored during the period.

Vehicles need to be minibus size (12-16 seated passengers plus room for a wheel-chair and/or 2-4 walking frames). They should be low/adjustable floor height (<25 cm entrance) and with at least a small pull-out or fold-out ramp). The width should be specified not to be less than 2 m inside to make room for easy movements in the aisle.

Clear objectives for performance should be set out at the start, such as:

- each individual service (flex-area) should achieve a productivity of > 5 passengers/vehicle hour within 2 years of inauguration, and 6 after 3 years;
- Passengers overall rating of the service should be >9 on a 10 grade scale.
- > 80% of all calls in the booking centre should be answered within 60 seconds and the duration of each call should be less than 70 seconds on average.

Also to encourage automated booking of trips it is advisable to set a goal that there should be < 1 manual booking call for 2 one-way trips.

All these objectives should be followed up in a continuous monitoring effort based on good statistical output from the system.

3.3.2 Rural door to door transport in Ireland

| | | |
|--|--|---------------------|
| Euro-Access Best practice: rural door to door transport in Ireland | | Case n°3.3.2 |
| Location: Company located in Navan, Co. Meath, Ireland. Project covers all of Co. Meath. | Scope : Anyone without access to public transport. | |
| Application : can be built up over time as resources permit | Cost : depends on central Government funding support, but enables people who could otherwise not work or live independently to do so. | |
| Contact persons/Affiliation | Miriam Mc Kenna, Flexibus, Navan Enterprise Centre, Trim Road, Navan, Co. Meath. Part of the Rural Transport Programme in Ireland. | |
| Sources of information | flexibus@meathtransport.com | |

Scheme description

Flexibus evolved from a community action project that examined accessibility for people with disabilities. In 2001 Flexibus was formed and applied to the Department of Transport to become part of the Rural Transport Initiative. This initiative was set up to provide public transport in rural areas that are not serviced by public transport.

Operating Model

Flexibus started with two models of service:

1. Working with existing private transport operators to deliver services in rural areas.
2. Buying and managing their own vehicles to deliver services.

To date they own and operate 18 vehicles and work with 10 private transport operators in the county.

All public service pick up door to door.

Services

They have over 300 services each week covering commuter daily trips, twice weekly shopper trips, once weekly shopper and once off services.

They carry approx 7,000 passengers each month and the services continue to grow each month. 52% of our passengers have Free Travel Passes which includes older people and people with disabilities.

Funding

The scheme is funded primarily by the Department of Transport with Free Travel Pass support coming from the Department of Social and Family Affairs. It also operates an evening service scheme which is funded by the Department of Community, Rural and Gaeltacht Affairs.

An earned income from contracted services was reached. This income is used to purchase vehicles as we are not allocated any money for bus purchase.

Reference documents

Key documents include Progressing Rural Transport in Ireland, Dept of Transport by Fitzpatrick's Associates July 2006, & Mobility and Quality of Life for Older People In Rural Ireland, Intel, May 2007

Key factors of development

- Purchase of accessible vehicles.
- Training of staff in managing integration
- Accessibility integrated in all transport services (not seen as something special)
- Purchase of three low floor all access vehicles.

Model of integration and inclusion

As stated, accessibility is integrated in all the transport services. The Board of Directors came to the rural transport project from a disability perspective and therefore accessible transport was key to establishment and delivery of services. The operators feel that the model they have achieved to date is progressive however they are still developing. They welcome and invite assistance and advice in this area.

Benefits for disabled people

- Door to door pick up;
- Accessible vehicles;
- Trained staff;
- Access to work, work experience, leisure activities, services, health services, school etc;
- Free Travel Pass accepted on all public services;
- Supported cost on other services.

Economic factors

Funding support

As stated above the majority of funding comes from Central Government from three different departments. The operators apply for grants to buy vehicles. They use earned income to enhance their public services.

Affordability by users

Affordable, available, accessible and acceptable are the words used to describe rural transport in Co. Meath. People who have a Free Travel Pass can use their pass on all public services and travel free. On other service there is a minimum charge. The services are affordable by passengers. They provide local solutions to a local problem. The services are community based, planned by the community for the community. The users of the service decide the route and the time of the service. This bottom up approach has worked for Flexibus for the past eight years.

Economic benefits

The economic benefits are as follows:

- People with disabilities have access to affordable transport;
- Better value for money;
- Staff members are increasing due to increased demand and this means more employment;
- Extra employment is a benefit to the exchequer and to the area.

Key issues for transferability

This project is one of 32 in Ireland. Not all projects are the same as some have vehicles and some do not. Some projects have community car schemes. However the underlying message is the same:
"Public transport for people who have no access to public transport". This means that if you live off the main road and you are unable to get to the bus stop the service will pick you up. If you have a disability and the public bus is not accessible the service will pick you up. They will collect you and take you to where you want to go.

Recommendations for implementation

The implementation of integrated services for people with disabilities is dependent on many issues, including:

Financial.

If money or funding is not available then it is very difficult for services to be made available. The Rural Transport Programme has exceeded expectations and demand for services is greater that funding will allow. The cost of disability access for any vehicle is in the order of 30% extra on top of the base price.

Legal.

The legal requirements for projects are very demanding and difficult to follow through. In Ireland, even though the scheme is classed as public transport it is not on the same legal footing as Bus Eireann. Nor is it on the same legal standing as private transport operators.

Operational.

There are 34 groups throughout Ireland. Each project is different and delivers services differently. Not all groups have a disability focus. Some groups will state that they use only private operators and they have not got enough money to finance lifts for vehicles.

Outlook.

Flexibus will continue to find innovative ways and a fresh approach to service delivery for its passengers. They will co-operate with private operators to work towards service delivery. They are committed to access to services for all and they will continue with this commitment. They have a strong Board of Directors and a great staff. The staff are recruited from socially excluded groups and this has worked for Flexibus. They have experienced, genuine and loyal staff who have the interest of the passengers at heart. Nobody could ask for more.

3.3.3 Door to door Service - Lisbon

| | | |
|---|---|---------------------|
| Euro-Access Best practice: door to door service - Lisbon | | Case n°3.3.3 |
| Location: Lisbon, Portugal | Scope: all disabled people unable to use mainstream public transport service | |
| Contact persons/Affiliation | Carris- Public transport operator jose.maia@carris.pt | |
| Application: useful interim solution while improvements are made to mainstream transport accessibility | Cost: expensive to run but provides high level of personal care to users | |
| Sources of information | web page: http://www.carris.pt | |

Scheme description

Carris is the main surface public transport company in Lisbon. Founded in 1872 it is closely connected to the development of the city of Lisbon. Over time, it has aimed to provide a satisfactory transport service both for the resident and transient populations of Lisbon.

In addition to all the efforts that the company is putting into adapting its fleet for universal access, Carris also has a special service for disabled people, called "Transport for all".

The door to door transport service provided by Carris started in 1981. At the request of disabled people, since the service began, anyone that wishes to use it has to register.

Passengers need to have a medical declaration indicating the degree of disability (if the passenger is a wheelchair this declaration is not needed). In this Register data about the individual is required as well as the service they need (for example whether the purpose is leisure, work, university, medical, others). Carris will provide a card that has to be presented each time that the service is required.

The service is for all disabled people who find it difficult to get around and cannot use mainstream public transport. They can be accompanied if necessary.

The system works on a door-to-door basis, within the area of the Carris remit, exclusively in the city limits. Preference is given to regular travel between home and work, school, health services or leisure centres.

The trip planning starts with a phone call from the disabled person one day in advance requesting time and destination, Regular passengers who do not need to book in advance. Carris gathers all the requirements and carries out trip planning, sometimes there has to be some negotiation between the passenger and operator on timing etc.

The service has four buses running between 7.00 a.m. and 11.00 p.m., Monday to Friday and 1 bus at weekends and on public holidays. There is a fifth bus on standby in case of breakdown.

The capacity of the vehicles is: 13 passengers on the two Mercedes Benz purchased in 1997 – 5 in wheelchairs and 8 seated; 12 passengers on the vehicles purchased in 1999 – 4 in wheelchairs and 8 seated.

Payment, both for the disabled person and a companion if they have one, is per journey and at a single fare which is the same as for the mainstream public services (currently 1,35€ soon to be increased to 1,40€)..

During 2007, the system provided a door to door service to 230 000 passengers.

Key factors of development

Model of integration and inclusion

This is not an integrated service but it does provide much needed door to door mobility for disabled people in an old city with very difficult terrain and largely inaccessible public transport infrastructure.

Situation within the authority's strategy

There is no government financial support for this service. However, the DGTTF (the General Directorate for Land and Inland Transport, now designated as IMTT – Institute for Mobility and Land Transport) provide an incentive to acquire special vehicles. Carris is now in the process of buying 2 new vehicles, which will replace older vehicles in the fleet.

Benefits for disabled people

Lisbon is an old city and buildings are often not totally fitted to the needs of disabled people; therefore drivers often have to help passengers to and from their apartment into the vehicle.

Drivers are hand picked and trained to provide this high level of personal service.

Economic factors

Cost of implementation, operation, maintenance

Carris had 27K€ of income last year from this service, but the operating costs were 300K€. This fact is the main constraint limiting the service to 4 operational vehicles and preventing further expansion.

Key issues for transferability

The value of this service is that it provides a high level of personal care to enable disabled people who would otherwise be unable to leave their homes to travel door to door for leisure, work, medical or other purposes, including regular journeys so enabling people to find and hold down jobs.

The major constraint is cost and there is no doubt that a larger number of vehicles could provide a higher level of service to more people. However, even on its current uneconomic basis, the service has continued to be delivered by the public transport provider for the last 17 years.

The key to setting up a service in a town or city with the same kind of difficult terrain and inaccessible housing is to ensure that drivers are hand picked and trained to provide a much more comprehensive service than simply driving the vehicle. Their role in helping people into and out of their homes is crucial to the success of the scheme.

3.4 Training, Information and Communication

3.4.1 London Underground Direct Enquiries

| | | |
|--|--|---------------------|
| Euro-Access Best practice: London Underground Direct Enquiries | | Case n°3.4.1 |
| Location: London, UK | Scope : all disabled travellers | |
| Application: as part of new system development or as add on to existing system. | Cost: Modest in context of overall operational costs for urban transit system. Major cost is survey work to ensure access data is accurate. | |
| Contact Person: | Wayne Trevor, Accessibility Development Manager, London Underground wayne.trevor@tube.tfl.gov.uk | |
| Sources of information | London Underground Direct Enquiries http://www.directenquiries.com/londonunderground/ | |

Scheme Description

This website, launched in April 2007, is run by a company called the Nationwide Access Register. It was developed in partnership with disability organisations.

It provides information specific to different kinds of disability (vision, hearing, mobility, mental health and learning disabilities) and older people and those travelling with luggage or small children.

It covers access information for a wide range of businesses including banks, hotels, pharmacies and visitor attractions. The site attracts over 4 million hits a month.

It also includes detailed access information to all 274 London Underground (Tube) stations to help disabled people plan a journey using stations that have access facilities that meet their needs.

The London Underground system is very old and, in parts, very deep level and so the progress with introducing access solutions at all stations is inevitably slow and limited by available funds. It is therefore vital that disabled people have information to help them with journey planning so that they know which stations they can access and where they should take an alternative surface mode (100% of London's buses and taxis are wheelchair accessible).

Direct Enquiries assessors visit each Tube station to assess the station. The assessment includes information about the station and accessible routes to the platforms and platform interchanges. Through the site, disabled people can prioritise the obstacles they wish to avoid such as stairs and escalators. The site www.directenquiries.com then provides a step by step route avoiding the chosen obstacles. If there is no accessible route at the chosen station, the site provides details of the closest accessible station.

Reference documents

<http://www.directenquiries.com>

Key factors of development

Model of integration and inclusion

The website includes information specific to the needs of a wide range of disabilities and enables more disabled people to access mainstream transport services.

Situation within the authority's strategy

London Underground fund this scheme as an integral part of the service they provide to disabled Londoners

Benefits for disabled people

Enhanced quality of service

One of the key reasons given by disabled people for not using public transport is a lack of relevant information. This website provides a detailed station by station guide to what is available.

Dissemination of the scheme elsewhere

London Underground is happy to share its experience with anyone wanting to develop a similar model.

Economic factors

Cost of implementation, operation, maintenance

The major cost is the on-going survey work of all the stations on the network. The cost over the three years of the current contract for this work is 253,190€. There are also some minor costs associated with software development and maintenance of the site.

The survey work covers all 274 stations, many of which are large and complex. Smaller systems could carry out comparable survey work at much lower cost.

Funding support

The cost is met by London Underground.

Affordability by users

There is no cost to users.

Economic benefits

There is no direct evidence that more journeys are being made as a result of the website but statistics show that the site had over 4.5 million hits in the first six months of its operation.

Key issues for transferability**Pre-conditions for success**

- Accurate, managed data which is 'one source of truth' – i.e. it drives other information products such as journey planners, paper products.
- Customer satisfaction with the site (usability- can they get what they need)
- Awareness of the site
- Use of the site (hit rates- do people use it).
- Also, it should drive increased usage of the service, but this is hard to measure

Recommendations for implementation

Information is one of the biggest single barriers to mobility. It is a particular problem in systems which are only partially accessible or are being made accessible over time. Without clear information at a detailed level, disabled people will not be able to make use of the system.

Relatively modest investment in a web based information system of this kind can be a very effective way to increase levels of information and potentially of ridership.

3.4.2 ELSA: Comprehensive approach to promoting accessibility in Finish cities, towns and municipalities of different sizes

| | | |
|--|---|---------------------|
| Euro-Access Best practice: ELSA: Comprehensive approach to promoting accessibility in Finish cities, towns and municipalities of different sizes. | | Case n°3.4.2 |
| Location : Finland | Scope: Benefits all disabled travellers | |
| Application: Can be used at any time | Cost: The main cost has been in the case studies to establish best practice. The implementation of best practice may not involve major expenditure | |
| Contact persons/Affiliation | Katariina Myllärniemi, Ministry of Transport and Communications, Finland Tel.+358-9-1602 8759 Katariina.Myllarniemi(at)mintc.fi | |
| Sources of information | http://www.elsa.fi/English/index_english.htm | |
| Category | Training. Information and Communication | |

Scheme Description

ELSA was a three-year research and development programme. It was launched to support the implementation of the Finnish Government accessibility strategy.

The goal of the programme was to increase awareness in the municipal sector and among transport service providers, authorities and the public of the importance of accessibility. It aimed to promote the introduction of accessibility in daily work, and to produce and disseminate information of good practices. Special focus areas were public transport and pedestrian environments.

The partners in the ELSA programme were the Ministry of Transport and Communications, the Ministry of Social Affairs and Health, the Association of Finnish Local and Regional Authorities and public organisations operating within the administrative sector of the Ministry of Transport and Communications as well as organisations of disabled and older people.

In the spring of 2004, the Ministry of Transport and Communications approved the first 13 projects to be partially financed via the ELSA programme. These as well as later ELSA projects included an obligation to cooperate with NGOs representing people with disabilities.

The 2nd call for proposals was directed particularly towards municipalities and their practical projects. The members of the Accessible Municipality Network created by the ELSA programme were a special target group. 8 projects were launched in the beginning of 2005.

The 3rd call for proposals also focused on municipalities' practical projects with an additional emphasis on the development of accessible public transport. The members of the Accessible Municipality network created by the ELSA programme were specifically encouraged to bring forward project proposals. 6 projects were launched in the beginning of 2006.

In addition to the ELSA projects three academic master's theses are supported from the ELSA programme. The Finnish "Design for All" network organises meetings for the students, who study at different universities.

Projects supported by the programme covered a very wide range of topics, details of which can be found on the website.

Interesting and innovative projects included:

Winter maintenance

A survey was carried out of the present situation in 3 cities (how the present practices and quality standards for winter maintenance meet the needs of older and disabled people).

New detailed guidelines for better maintenance services were produced.

The project was financed by the Ministry of Transport and Communications, the Finnish Association of Local and Regional Authorities and the cities of Jyväskylä and Tampere.

Development of public transport quality corridors – transport system planning and accessibility

Two case studies in three regions (Joensuu, Kouvola and Tampere). Survey of the present situation, possibilities for including accessibility of public transport and the related pedestrian environment into the processes of regional land-use planning, transport system planning and the so called "quality corridors". Action plans for development.

The project was financed by the Kouvola Region Federation of Municipalities, the Road District of South Eastern Finland, the City of Tampere, Tampere City Transport, Häme Road District and the Ministry of Transport and Communications.

Promoting accessible public transport in the city centres of medium-sized cities, Case City of Oulu

A survey of the current situation including the physical environment (pedestrian environment and bus stops), vehicles, information systems and personal

service. An important part of the project was to evaluate the plans of for city centre development and assess their impacts on the accessibility of the city centre and public transport.

The project was financed by the Ministry of Transport and Communications and the City of Oulu. The project steering group included representatives of the City of Oulu, the State Provincial Office of Oulu, the Finnish Road Administration as well as representatives of the City of Oulu Council on Disability and its consultancy.

Accessible lighting and colours contrasts in station environments

A survey was carried out of the current situation in Jyväskylä and Helsinki, including terminals, and the present guidelines.

Lighting options were tested and new modelling equipment was developed for that purpose.

New guidelines for accessible lighting and colour contrasts in public transport terminals and their environs were introduced.

The project was financed by the Ministry of Transport and Communications, the Finnish Rail Administration, the City of Helsinki Public Works Department, Helsinki City Transport, Helsinki Energy and the cities of Jyväskylä and Espoo

Promoting accessibility in land-use planning processes

A case study of a planned new housing area (Vuores) in the city of Tampere was carried out and Guidelines for accessibility issues in the land-use planning process were produced.

The project approached the planning of accessible routes from two perspectives:

- How is an accessible target network established on a new housing area under planning requirements?
- What are the concrete planning and implementation methods?

Publications discussing city planning, accessibility and traffic planning as well as legislation and guidelines were used as source material. The report contains an extensive bibliography of accessibility publications that can be utilised by traffic and city planners.

The project was financed by the Ministry of the Environment and the City of Tampere.

Reference documents

<http://www.elsa.fi/English/projects.htm>

Key factors of development

Model of integration and inclusion

A major component of the ELSA programme has been to promote integration and inclusion and to develop best practice models.

Partnership between highway and transport authorities

The ELSA programme has been run as a partnership involving the key central Government Departments and the municipalities and transport providers.

Situation within the authority's strategy

The programme has been funded and supported as a key initiative by the Ministry of Transport and other Government Departments

Benefits for disabled people

Enhanced quality of service

The output from the projects financed under the ELSA programme have been best practice case studies which have led to better understanding of the needs of disabled and older people and more effective service delivery.

Dissemination of the scheme elsewhere

The purpose of the ELSA programme was to establish best practice through case studies that could be picked up and followed in other areas.

Economic factors

Cost of implementation, operation, maintenance

Costs met by Ministry of Transport and Communication, Ministry of Environment and Ministry of Social Affairs and Health and by local partners in each of the project areas.

Affordability by users

No cost implications for users

Economic benefits

All the projects were aimed at developing and promoting best practice. This included making best use of resources and improving efficiency and cost-effectiveness of schemes and measures to promote the mobility of disabled and older people.

Key issues for transferability

Pre-conditions for success

Co-operation between the key Government Departments at national level, the municipalities and the transport providers is an essential requirement both in terms of funding support and "buy in" for future developments. Input from organisations representing disabled and older people is also crucial.

Constraints

The challenge of any project based initiative is that the outputs become dated over time and lose their impact. It is therefore essential to disseminate the results widely and quickly.

Continuing availability of funding to implement follow up developments at local level may also be a challenge.

Recommendations for implementation

This kind of Government led initiative can be a very effective way of developing best practice and disseminating it widely. ELSA has been a very major initiative but it would also be possible to fund projects on similar lines on a much smaller scale if that was appropriate.

3.4.3 ResPlus.se - A web based travel information with terminal access information

| | | |
|---|--|---------------------|
| Euro-Access Best practice: ResPlus.se - A web based travel information with terminal access information. | | Case n°3.4.3 |
| Location: Sweden | Scope: Benefits all disabled travellers | |
| Contact persons/Affiliation | Samtrafiken i Sverige AB www.samtrafiken.se | |
| Application: can be introduced on any existing or new system | Cost: Modest in context of operational costs of transit system. Main cost is software development | |
| Sources of information | www.resplus.se | |

Scheme description

Samtrafiken i Sverige AB is responsible for the concept of Resplus and for the web portal www.resplus.se in a collaboration between the owners of Samtrafiken (major Swedish train and bus operators and all PTAs in Sweden).

The web-based tool allows the customer to book a complete journey by train and any other connections by giving the locations between which one wants to travel. Resplus links intercity trains with local and regional bus trips, boat trips and local train trips, for example. Three thousand locations are included in the Resplus system. The tickets are bought before travelling just as normal train tickets. Resplus tickets are also available at major railway stations and at travel agents that sell train tickets. A phone service is also available, and tickets to the person's address could be sent out for a small additional fee. Tickets ordered by phone can also be collected at major railway stations and any of the approximately 2,000 ATG outlets in the country (national game and lottery outlets).

The web-based tool also contains full information on station access with detailed maps (including service and facility information).

The complete journey can be purchased through Resplus. Connections can be found, using one or several stages within the concept of Resplus under the web tab Timetable Search. The changes between stages that are presented in Timetable Search are based on agreements between the transport companies involved for reasonable transfer times at each station or stop.

The Resplus website also includes timetables for trains (Line Timetables), times for most express coach routes (Express Coaches) and information about all stations and stops included in Timetable Search (Station Info).

Samtrafiken i Sverige AB is responsible for the concept of Resplus and for the web portal www.resplus.se in a collaboration between the owners of Samtrafiken (train and bus operators and all Swedish PTAs).

Station Info describes the Stations and Stops that are Part of Resplus. It provides information about selected railway stations and about bus stops, boat terminals and airport terminals. Sketch plans show how the station and its surroundings are situated, while photographs illustrate the interior and exterior of the buildings.

Information is also given about opening hours, together with other important information. Station Info is particularly valuable for older and disabled passengers, for families with babies and young children and for passengers with a lot of luggage.

The number of stations covered (at present 90 stations) will be increased in the future. It includes also 2 regional airports, 4 bus terminals and 4 ferry terminals. Among all 3,000 locations, the customer can select planned departure and arrival stop from an alphabetical list, by selecting on the starting letter of the stop or location, or by limiting the number of results by choosing the county and municipality.

The production of Station Info has been made possible by collaboration between Samtrafiken, the Swedish Rail Administration, Jernhusen (national station managers), the National Public Transport Agency and the Swedish Road Administration.

Reference documents

www.resplus.se

www.samtrafiken.se

Key factors of development

Model of integration and inclusion

The tool allows passengers with different needs to plan, book and carry out their multi-mode journey.

Partnership between highway and transport authorities

Resplus is a complex joint venture, involving practically all parties in local, regional and interregional public transport.

Situation within the authority's strategy

The aim is to allow passengers to make full use of different public transport modes by facilitating planning, booking and interchange.

The tool ResRobot has also been launched, allowing for any provider of web sites to implement the Resplus planning tool.

Benefits for disabled people

Enhanced quality of service

By providing the Station information, passengers with special needs (e.g. older and disabled passengers, families with children) are able to travel. The station facilities are depicted, which reduces stress and provides better pre-trip information.

Economic factors

Cost of implementation, operation, maintenance

Samtrafiken has a net annual turnover of approx. 30MSEK/3.2M€.

Funding support

None required, except that development costs were on a national level (national authorities).

Affordability by users

N/A (eventually included in tickets prices)

Economic benefits

Trips booked through Resplus are constantly increasing; however it is difficult to determine the direct effects of the tool itself.

The maintenance of the Resplus and Samtrafiken database (timetables, Station Info) requires advanced hardware and software tools

Key issues for transferability

Pre-conditions for success

High level ICT-use required, and all parties must be integrated in order to achieve seamless travel.

Constraints

See above.

Recommendations for implementation

The following conclusions can be drawn:

The implementation of such a tool is highly context-dependent. However, without doubt the tool allows a large number of private and public entities to benefit from each others' services, reducing costs for each party in terms of information, sales and promotion.

3.4.4 Leeds Buddying Scheme: Travel training for people with physical, sensory or learning disabilities

| | | |
|---|---|---------------------|
| Euro-Access Best practice: Leeds Buddying Scheme: Travel training for people with physical, sensory or learning disabilities | | Case n°3.4.4 |
| Location : Leeds, England | Scope : people with physical, sensory or cognitive impairments | |
| Application: can be introduced at any time on an system or network | Cost: main cost is salaries of trainers. Modest compared with overall running costs | |
| Contact persons/Affiliation | Dave Pearson METRO (the passenger transport executive) | |
| Sources of information | http://www.wymetro.com/AccessibleTravel/MetroTravelTraining | |

Scheme Description

The scheme provided travel training to people with physical, sensory or learning disabilities to give them confidence to increase their personal independence through the using public transport.

The Scheme funded five staff who worked with clients on a one to one basis. The process involved an assessment of the client's needs and capabilities following which the "Buddy" would devise a personal travel plan and travel with the client helping them to gain the confidence necessary to travel on their own. The Team worked closely with bus companies and other agencies to address some of the barriers which dissuade disabled people from using buses. During the pilot Scheme, a total of 130 people successfully completed the Travel Training Programme enabling them to adopt a more independent lifestyle.

Most clients were referred by social services (62%) with others referred by health workers or by the educational establishment they were attending. 32% of clients were under 30 years old with a further 42% between 30 and 50 years. The largest number of clients (75%) were adults with learning difficulties or mental health issues. 25% of clients had a physical or sensory disability of whom seven were wheelchair users and six had visual impairment, The greatest success of the scheme was enabling fifty seven people to travel independently to educational and/or employment. Many were able to take up new opportunities which were previously unavailable to them due to transport being unavailable.

In twenty one cases, clients became able to travel independently to attend day centres removing their reliance on Social Services transport. Many of the clients attending education and job training previously relied upon taxi transport provided by the establishment.

On average, it required nine sessions to assist each client to travel independently however a number of people required as many as 30 – 40 sessions. Clients with physical or sensory disabilities generally required more sessions and often liaison between the trainer and the bus company.

Reference documents

<http://www.wymetro.com/AccessibleTravel/MetroTravelTraining>

Key factors of development

Model of integration and inclusion

The Scheme and the on-going travel training is based on the principle of integration and inclusion by enabling people to use public transport who would otherwise have to depend on special services.

Partnership between highway and transport authorities

The Scheme and the on-going travel training are run by the Passenger Transport Executive for West Yorkshire working closely with bus companies and other agencies.

Situation within the authority's strategy

The on-going travel training programme is an integral part of METRO's travel information and journey planning strategy.

Benefits for disabled people

Enhanced quality of service

During the Scheme a total of 130 people successfully completed the Travel Training Programme enabling them to live more independently. The largest number of people taking part was adults with learning disabilities or mental health issues. The greatest success of the Scheme was enabling 57 people to travel independently to education and/or employment. As a result many were able to take up new opportunities which would not have otherwise been available to them.

Dissemination of the scheme elsewhere

Advice on running travel training programmes, based on the lessons of the Scheme is now disseminated throughout the UK.

Economic factors

Cost of implementation, operation, maintenance

The costs were the salaries of the five staff, who worked with individual disabled people,

Funding support

The scheme was funded by the UK Government Department for Transport for a three year period from 2002 to 2005.

Affordability by users

There was no cost to the user

Economic benefits

An average saving in specialist transport costs of £500 per client per year has been calculated as a direct benefit arising from the scheme.

Key issues for transferability

Pre-conditions for success

Collaboration and joint working between the agency running the scheme and the local transport operators are essential.

Constraints

Intensive one to one engagement with each client is needed to identify their individual needs and capabilities.

Recommendations for implementation

Investment in this kind of intensive travel training programme can produce dividends as this scheme has shown. It is important to recognise that the benefits that accrue from reducing dependence on door to door or other support services are both social and economic.

Schemes of this kind can be implemented in any urban or rural area in which people with disabilities lack confidence to use public transport.

It will work best where other initiatives to improve the accessibility of public transport are being taken, but even where there are no such initiatives, many disabled people will still benefit.

3.4.5 Terminal design guidelines for local and regional bus transit and regional trains, Skane County, Sweden

| | | |
|--|---|---------------------|
| Euro-Access Best practice: Terminal design guidelines for local and regional bus transit and regional trains. | | Case n°3.4.5 |
| Location Skane, southern Sweden | Scope: benefits all disabled travellers | |
| Application: can be used as a tool for progressive improvement of transport infrastructure over time | Cost: can be high but can also reduce dependence on costly door to door services and enhance quality of public transport network for all passengers. | |
| Contact persons/Affiliation | Skanetrafiken, Hässleholm, Sweden www.skanetrafiken.se | |
| Sources of information | http://www.skanetrafiken.se/hallplatshandboken2006 | |

Scheme description

Skane County, the south Swedish county public transport authority, produced a Terminal Guideline (bus stops, terminals and stations) in 2000. It has now been revised (2006) and enhanced with experience gained over the years that Skane County has been in operation. The patronage has increased, in some areas quite dramatically.

Skane County has a clear strategy of integrating mainstream and specialised public transport. The efforts they put into rolling stock, infrastructure and supportive ICT solutions are parts of their success. However, the main factor is the focus in public transport on so called “strong highways”, supporting regional growth and balance.

Skane County has 1, 2 million inhabitants, 70 million public transport kilometres are travelled annually, the total turnover is 2 200 MSEK (235M €), 54% of the costs are covered by ticket revenues and 102 public transport trips per inhabitant are made annually.

Supported by national funding schemes, municipal investments and other funding during the years 2001 – 2003, 115 MSEK/12.3M € has been invested in bus infrastructure annually. These measurements have resulted in a more attractive public transport network, increasingly accessible for all passengers.

The current plan encompasses further investments (290 MSEK/ 12.3M €) on national roads and 410 MSEK/ 43.85M € for public transport infrastructure expansion.

Where municipalities are responsible for highways and roads, they meet 50% of the costs, resulting in measurements about 90 MSEK/9.6M € annually. There is a strong political will to achieve the national goals of full accessibility for disabled people by the year 2010. However, despite the fact that Skanetrafiiken has come a long way, a fully accessible public transport system will probably not be achieved until 2010. Hence, the current focus is to focus on “strong highways”, where the cost/benefit ratios are the highest. Here, the continuing work supported by the Terminal Guideline is crucial. It is a key document, not only for the Passenger Transport Authority, but also for all other parties involved: the road authority, the rail authority and all 33 municipalities.

The Guideline contains copyright issues, design concepts, model of cooperation, classification of stops, accessibility demands, structure, information principles, drawings, bill of quantities, budget costs etc.

Reference documents

http://www.skanetrafiiken.se/upload/Dokumentbank/F%C3%B6retagsdokument/Hallplatshandbok2006_webbkomprimerad.pdf

http://www.skanetrafiiken.se/upload/.se/Dokument/Om_Skanetrafiiken/hallplatshandboken2006/Allman_del_060324.pdf

Key factors of development

Model of integration and inclusion

The infrastructure design guideline encompasses the needs of older and disabled passengers. One of the starting points of the guideline development was the strong commitment to create accessible public transport for all.

Partnership between highway and transport authorities

Highly necessary, since the Passenger Transport Authority covers all costs “above the ground”, and the highway authority (or municipality) cover all other measures and costs.

Situation within the authority’s strategy

Renewal and expansion of all public transport infrastructure according to the Terminal Guideline, while prioritising “strong highways” where most passengers travel.

Benefits for disabled people

Enhanced quality of service

This is not seen as a measure relevant only to disabled passengers, but as a general increase of public transport quality. It will ensure safer and more accessible boarding and alighting conditions (tactile paving, higher pavement, improved kerb design (sloped) and faster stop-and-go bus routes.

Dissemination of the scheme elsewhere

The government bill, stating that all public spaces and public transit must be accessible (and even usable) by the year 2010, is a strong driving force. It is only framing the issues. So these terminal guidelines are means of implementation that the other local and regional authorities can use as a basis. Through national seminars, the Guideline is supported by the Swedish Public Transport Association, and can be used nationwide.

Economic factors

Cost of implementation, operation, maintenance

The costs are of course substantial, compared with doing nothing, but since 50% come from national funding and the costs for specialised transport are expected to be reduced, the net cost is probably somewhat lower.

Also, since these measurements are to the benefit of all passengers, resulting in increased patronage, this will also affect the net result.

Funding support

Central funding is available only for investment. Increased maintenance must be covered by the Passenger Transport Authority.

Affordability by users

No effect on ticket levels.

Economic benefits

Increased ridership is difficult to establish, but there is some evidence , particularly at interchange points (train/bus), since the increased regional train standard is the main factor in explaining increased local bus ridership (regional growth and integration of the south Swedish and Danish market via the Öresundbridge).

Key issues for transferability

Pre-conditions for success

National funding and cooperation between authorities and political commitment at regional level are essential.

Constraints

In highly urbanized areas, for instance, the number of bus stops is substantial and this means high investment. Also, it requires that the route network in cities has a trunk route character (trams are particularly suitable).

Recommendations for implementation

The following conclusions can be drawn:

A unified Guideline, which is based on the needs of older and disabled passengers, sends strong signals and is of benefit of all passengers. The Guideline implementation requires a consensus among all parties.

3.4.6 Opportunity to Go Project: Travel training to improve access for individuals & groups at risk of exclusion

| | | |
|--|---|---------------------|
| Euro-Access Best practice: Opportunity to Go Project: Travel training to improve access for individuals & groups at risk of exclusion | | Case n°3.4.6 |
| Location Merseyside UK | Scope: primarily people with vision impairment and learning disabilities but can extend to any disabled person who lacks confidence to travel | |
| Application: can be introduced at any time in any area | Cost: Low cost – involves trainers and resource materials – and can reduce dependence of some users on door to door transport and other care and support networks | |
| Contact people /Affiliation | David Finnegan/Paula Coppell, Merseytravel | |
| Sources of information: | Merseytravel, MENCAP (organisation for people with a learning disability), Shaw Trust & Bradburyfields http://www.merseytravel.gov.uk/ | |

Scheme description

The Opportunity To-Go project is one of a range of initiatives by Merseytravel, the public sector body that co-ordinates public transport through in the Merseyside area of the North West of England. The project aims to help people with learning disabilities, visual impairment, mental health problems or other needs to access public transport, retain or regain their ability to travel and enhance their levels of confidence.

Merseytravel works with a number of organisations to deliver travel training to support adults with various barriers to using public transport and so to access life opportunities and services.

The aim is to generate greater confidence in key target groups of people such as those with learning disabilities, mental health problems, or people with mobility or sensory impairments.

There are over 250,000 visually impaired people over the age of 75 in Merseyside. Research has shown that one in five visually impaired people never go out by themselves because they lack confidence. The project was developed to tackle this problem by providing specific needs based support on an individual basis. The support needed ranged from detailed route planning and training through to helping an individual to apply for a disabled person's travel pass. Similar specifically tailored individual plans were devised for people with other disabilities. Feedback from individual case studies undertaken as part

of the project indicate that people have been able to increase their levels of independence and, in some cases, take up training opportunities and find employment.

Reference documents

Merseytravel Here to There Pack, training resource material
Case studies from individual projects funded
Local Transport Plan Access Grant criteria and application pack
Access Travel Passes DVD in Mandarin, Arabic & Somali
Chance to Be Included DVD, Sefton Social Services Merseytravel part funded project
Beacon Feedback
Department for Transport Best Practice Guide
ECLIPSE Leaflet, EU Project

Key factors of development

Model of integration and inclusion

Merseytravel apply the social model of disability.

Merseytravel's vision is a fully inclusive and accessible public transport network for all but they recognise that some individuals and groups need additional support, resources and information in order to gain the skills, experience and confidence to use mainstream public transport provision.

Partnership between highway and transport authorities

Merseytravel works closely with all the local authorities in developing and delivering solutions to address transport barriers.

Situation within the authority's strategy

The aim is to mainstream these activities within and across the authorities' and partners' strategies and link into key regional initiatives like the City Employment Strategy and Access Plan.

Benefits for disabled people

The case studies demonstrate clearly that the schemes have enabled people to build their confidence, extend their horizons and achieve greater levels of independence and improved quality of life.

Dissemination of the scheme elsewhere

The concept has been disseminated regionally via the North West Accessibility Group, nationally via national workshops and networking and at European level through the ECLIPSE Project.

Economic factors

Cost of implementation, operation, maintenance

Relatively low cost intervention can dramatically improve an individual's quality of life and level of independence and integration. This should be seen as an investment to save initiative as even a relatively expensive short term intervention can provide a life time of independent travel as well as provide a route towards independent living even employment in appropriate cases.

Funding support

Funding is provided by Merseytravel.

Affordability by users

There is no cost to the user.

Economic benefits

Increased ridership on mainstream public transport and reduction of need/demand for special transport services.

Other benefits: one of the local authorities involved has committed to reinvest any saving accruing to their social services transport budget in further training for adults accessing day services.

Key issues for transferability

Pre-conditions for success

- Willing partners and participants.
- An effective local transport network otherwise motivation and application of training is difficult to maintain.

Constraints

Often parents or carers are reluctant to let the disabled person take up of training or use of mainstream services as it is perceived as a risk to the individual.

Recommendations for implementation

Make the training fun and free. Build on people's comfort zone and personal motivation for example if the individual is interested in a particular activity or taking up a service at a specific location start with journey planning between that place and their home.

3.4.7 Access Officers

| | | |
|--|---|---------------------|
| Euro-Access Best practice: Access Officers - Reducing the impact of physical, managerial, and attitudinal barriers that restrict access to the built, transport, and rural environments | | Case n°3.4.7 |
| Location : UK Wide | Scope : All disabled people | |
| Application: can be introduced in any local authority area | Cost: main cost is salary of access officer. Offsetting savings from better understanding and implementations of access requirements | |
| Contact persons/Affiliation | Tony Patterson, Access Officer, Rushmoor Borough Council tony.patterson@rushmoor.gov.uk | |
| Sources of information | Access Association Websites Access Officers | |

Scheme Description

Access Officers work within local government (municipalities) in many parts of the UK. Their role is central to the development and promotion of the council's policy on accessibility and implementation of legal access requirements, guidelines and standards. They act as a "champion" for accessibility.

The work of the Access Officer includes:

- Assessing and commenting on all planning applications submitted to the authority to ensure that legislation and good practice on accessibility have been taken on board;
- Liaising with local organisations who represent disabled people;
- Conducting access audits on pedestrian areas and making recommendations for improvements ;
- Increasing the awareness of the needs of local disabled people within all Department of the Council;
- Liaising with Council services such as Highways on issues such as safer street crossings and dropped kerbs;
- Advising local businesses on how they can make their services more accessible.

Access Officers provide disability advice and training on Disability Awareness and the development and introduction of Best Practice. They also act as a contact point for:

- The public
- Employers
- Service providers

- Developers
- Architects

Access Officers often work closely with a voluntary group of disabled people who live in the area and who act as advisers on local access issues. It is also common practice for the Access Officer, working with disabled people locally, to produce an access guide to help disabled residents and visitors.

Reference documents

<http://www.access-association.org.uk/>

Key factors of development

Model of integration and inclusion

The role of the Access Officer is central to promoting integration and inclusion across all the local authorities' policies relevant to planning, highways, the built environment and transport. Many Access Officers are themselves disabled people.

Partnership between highway and transport authorities

A key role for the Access Officer is to liaise with all stakeholders in any development or scheme and to ensure that there is common understanding and application of good practice in accessibility.

Situation within the authority's strategy

Access Officers work across a number of Departments within a local authority and are central to the responsibilities they have under Disability Discrimination legislation.

Benefits for disabled people

Enhanced quality of service

Access Officers are responsible for ensuring that access issues are a priority for the local authority and that those working within it are trained and briefed on access issues. They also have a role in working with disabled people in the area to identify and help meet their needs.

Dissemination of the scheme elsewhere

There is a growing number of Access Officers throughout the UK.

Economic factors

Cost of implementation, operation, maintenance

The cost is primarily the salary of the Access Officer and the resources needed to enable them to function effectively across the Local Authority area.

Funding support

Most Authorities now have Access Officers as an established part of their team. Disability Discrimination legislation in the UK requires Local Authorities to have Action Plans to promote the interests of disabled people. Access Officers are a key part of this process.

Affordability by users

The service is free to the users.

The cost of employing and resourcing an Access Officer will be covered by all the local tax payers.

Economic benefits

The work of the Access Officer helps to create an environment in which there are fewer barriers and hazards facing disabled people. This in turn promotes confidence and increases independence, access to public transport and opportunities for employment etc.

There is also a potential saving to the Local Authority by avoiding expensive mistakes in planning and design that have to be retrofitted to deliver access or comply with legal requirements.

Key issues for transferability**Pre-conditions for success**

There must be a clear commitment at both political and official levels within the Local Authority to support the role of the Access Officer and there must be co-operation with that role across all Departments of the Authority.

Constraints

The major problem that can arise is in creating the post at too junior a level and without the authority to promote change and communicate the access agenda effectively.

Recommendations for implementation

Creating the post of Access Officer can make a significant difference to the understanding and ability of a Local Authority to identify and meet the needs of disabled people. The key recommendations are to appoint someone with sufficient expertise to understand the issues and appoint them at a sufficiently senior level that they are able to make an impact and deliver change.

3.4.8 DPTAC: disability advisory committee working with Government

| | | |
|--|---|---------------------|
| Euro-Access Best practice: DPTAC: disability advisory committee working with Government | | Case n°3.4.8 |
| Location : UK | Scope : Benefits all disabled travellers | |
| Application: can be introduced at national or local government level | Cost: running costs are very modest as part of government expenditure. | |
| Contact persons/Affiliation | Nigel Dotchin, Department for Transport, UK Nigel.dotchin@dft.gsi.gov.uk | |
| Sources of information | http://www.dptac.gov.uk/ | |

Scheme Description

The Disabled Persons Transport Advisory Committee (DPTAC) was established under the Transport Act 1985, to provide the Secretary of State with advice on the public passenger transport needs of disabled people.

The Committee members, who are appointed for three year, renewable terms, are mostly disabled people with particular first hand experience as public transport users. The Committee also includes some members who have professional expertise and experience in the transport industries.

As well as giving informal advice on a wide range of policy issues, DPTAC have a statutory role. This means that Government cannot take decisions in a number of key policy areas affecting the interests of disabled people without first taking DPTAC's advice.

DPTAC also produce information and guidance and commission research on a wide range of topics.

The Committee secretariat is part of the Department for Transport

Reference documents

<http://www.dptac.gov.uk/>

<http://www.dft.gov.uk/>

Key factors of development

Model of integration and inclusion

The majority of DPTAC's members must be disabled people and membership reflects the widest possible range of disabilities.

Partnership between highway and transport authorities

Membership includes professionals from the transport industries.

Situation within the authority's strategy

DPTAC has a key role, set down in law, both in advising Government and in determining key decisions, for example, all applications from train companies for exemption from the requirements of the Rail Vehicle Accessibility Regulations, have to be considered by DPTAC before going to ministers.

Benefits for disabled people

Enhanced quality of service

DPTAC's input at the early stages of Government's policy development helps to ensure that the needs of disabled people are reflected and incorporated from an early stage.

Dissemination of the scheme elsewhere

A small number of other countries have committees on a similar basis.

Economic factors

Cost of implementation, operation, maintenance

The key costs are the provision of a secretariat (based in the Department for Transport) and the expenses of members. It has recently been agreed that members should be paid in future to bring the Committee into line with similar bodies in other fields.

In 2006/2006 the running costs of the Committee (including salaries of secretariat and expenses of members) came to about 460,000 €.

Funding support

All costs are met by the Department for Transport

Affordability by users

No cost to disabled people.

Economic benefits

DPTAC's advice can often avoid making costly mistakes in the design and/or operation of transport systems.

Key issues for transferability

Pre-conditions for success

Strong support at political level is necessary to establish a committee of this kind and to give it a sufficiently strong remit that it can make a significant impact.

Constraints

Unless the Committee has some legal powers, its influence may be limited and its existence may be vulnerable to political changes.

Recommendations for implementation

Committees of this kind are a very effective, relatively low cost, way of influencing both policy and operational aspects of transport delivery from an early stage. They can be very cost effective in terms of ensuring that costly design mistakes are not made.

3.5 Technology

3.5.1 Passenger Information and Guidance Systems in Prague

| | | |
|--|--|---------------------|
| Euro-Access Best practice: Passenger Information and Guidance Systems in Prague | | Case n°3.5.1 |
| Location: Prague, Czech Republic | Scope: Primarily of benefit to people with impaired vision. | |
| Application: new schemes or retrofit | Cost: relatively low cost to implement | |
| Contact persons/Affiliation | Jaroslav Bárta, Managing Director e-mail: barta@apex-jesenice.cz Pavel Roček , Executive Agent e-mail: rocek@apex-jesenice.cz | |
| Sources of information | http://www.apex-jesenice.cz | |

Scheme description

The passenger information system has been designed in co-operation between the public transport authority and the fare system by the public transport operator in Prague (Czech Republic). Its development followed the “universal design” concept.

It has been fitted with a specific subsystem called Tyfloset composed of a vehicle command set, a radio-wave transmitter and a remote control set. So the visual information (identification of the line and destination, real-time before approach) displayed on LED screens is also delivered by voice message for the vision impaired people who holds the remote control on demand.

The driver is informed that they may wish to board. In addition, the system has been implemented in large stations, combined with tactile surface tiles; to help vision impaired people find their way.

The Tyfloset system serves vision impaired people specifically. Its technology can also be used to identify public buildings, shops and landmarks and to know the status of the pedestrian signal at traffic lights.

The Tyfloset system has been developed with the involvement of vision impaired people. The requirements specified by the “Methodological centre for

breaking architectural barriers with the Union of the blind and low-vision of the Czech republic” have been followed.

In 2007, 3726 trials were introduced on buses, trams, metros, coaches and at stations. 300 remote controls have been distributed to blind people in Prague. So vision impaired people can ask for the remote control system, get familiar with the information voice messages and travel on the public transport network as other passengers do.

Reference documents

<http://www.apex-jesenice.cz>

Key factors of development

Model of integration and inclusion

The system is based on the concept of universal design: enabling blind and partially sighted people equal access to public transport and the built environment.

Partnership between highway and transport authorities

The public transport authority and public transport operator have collaborated on this project.

Situation within the authority’s strategy

The system is integral to the provision of passenger services by the authority and the operator.

Benefits for disabled people

The system enables people with impaired vision to travel freely, independently and with confidence about the city.

Dissemination of the scheme elsewhere

The Tyfloset system is now implemented in other Czech cities as well as in Dresden in Germany

Economic factors

Cost of implementation, operation, maintenance

In Dresden, costs for development and implementation in 200 vehicles was about €600 000. Implementation in an existing vehicle would be €1 200. The dissemination of the Tyfloset system in the Czech Republic and in Germany (the city of Munich should follow Dresden) clearly demonstrates its acceptability to vision impaired people, its usefulness and the transferability of the scheme.

Affordability by users

The remote control is sold at €80, the cost which may be funded by charity organisations for disabled people. Out of 300 registered vision impaired people, 200 are equipped with the remote control.

Economic benefits

Increased ridership among people with impaired vision (no quantified data).

Key issues for transferability

The key is collaboration between the relevant authorities and engagement with vision impaired people from an early stage.

Recommendations for implementation

This relatively low cost system can be retrofitted in any transport network or urban area and can make a significant difference to the independence – both social and economic – of people with vision impairments.

3.5.2 Accessible ticket vending machine in Barcelona

| | | |
|--|---|---------------------|
| Euro-Access Best practice: Accessible ticket vending machine in Barcelona | | Case n°3.5.2 |
| Location: Barcelona, Spain | Scope : benefits all disabled people including wheelchair users and vision impaired people | |
| Application: As part of new development or upgrade of station/terminal | Cost: modest as part of upgrade or redevelopment, reduced staff costs | |
| Contact persons/Affiliation | Mr Juncadella Ferrocarrils de la Generalitat de Catalunya (FGC) | |
| Sources of information | http://www.fgc.es/accesible/home.asp | |

Scheme description

Ticket vending machines can be very awkward for travellers who have some kind of disability. Ferrocarrils de la Generalitat de Catalunya (FGC) has developed a ticket machine with the help of the Once Foundation (the Spanish National Organisation for Blind people). It provides wheelchair users with easy reach to all its features and facilities and can be used by vision impaired people, which is very uncommon in ticket machines.

Using the concept of universal design, the machine components are organised in the order of user's actions rather than in an engineering order. The design has been based on full consultation with the end users during the research and development phases.

The machine operates in three languages. A button labelled with an embossed loudspeaker activates a video-camera and the connection with the control management room, located at a distance. The operator can give instructions to the enquirer who will easily reach the right location for the necessary operation. In case of difficulties, the operator can activate the machine from his(her) desk.

Key factors of development

Model of integration and inclusion

The development has been based on the concept of universal design and the involvement of users from the earliest design stages means that it is easier, faster and less stressful for all users.

Benefits for disabled people

Wheelchair users and people with vision impairment are the prime beneficiaries. But many travellers will find the ticket machine very easy to use: people with limited dexterity or reach, people of small stature, people with learning difficulties and those not familiar with the city or the language.

Many disabled people are now able to travel independently for the first time without the need to seek assistance.

Economic factors

Cost of implementation, operation, maintenance

The main costs have arisen from the research and development. The system is manufactured by Ascom Monétel.

The connection to the management control centre can reduce the expense of providing human assistance as one operator can supervise several machines installed in various stations.

It is quite difficult to estimate the number of people who have benefited. However the machine is accessible to a wide range of disabled people who can now buy their tickets independently.

In addition the user-friendliness of the machine for all travellers should reduce the time necessary for buying their tickets and stress levels of the users.

Affordability by users

Being able to use public transport independently may be saving money for those disabled people who would otherwise be dependent on taxis or other more costly transport alternatives.

Economic benefits

There is no hard data but the staff saving from reduced supervision is an important factor..

Key issues for transferability

Engagement with users from the earliest design stages so that the equipment is intuitive and user friendly is the key to successful implementation.

Systems which have a user interface should always start from the concept of user need rather than engineering convenience.

3.5.3 Tactile surfaces for vision impaired people in Kristianstad

| | | |
|---|--|---------------------|
| Euro-Access Best practice: Tactile surfaces for vision impaired people in Kristianstad | | Case n°3.5.3 |
| Location: Kristianstad, Sweden | Scope : people with impaired vision | |
| Application: as part of new pedestrianisation or traffic management scheme or as retrofit in urban streets | Cost: modest included from design stage in traffic management project | |
| Contact persons/Affiliation | Agneta Ståhl, Lund University, PI Anette Rehnberg, Swedish Road Administration, project manager Mai Almén, Hinderfri Design AB | |
| Sources of information | www.vv.se | |

Scheme description

To help people with vision impairment to orientate themselves in the pedestrian environment, there is a need for uninterrupted routes that can be followed using the long white cane. Where no natural guidance is available, the solution is artificial guidance surfaces, i.e. a structure or material that is different from the surrounding surfaces.

In Kristianstad, Sweden efforts have been made to construct continuous guidance routes in a limited geographical area. A guidance route is defined as a continuous sequence of natural and artificial guidance surfaces, warnings surfaces and decision surfaces all the way from origin to destination only interrupted by roadways and bicycle paths. This has been made through thorough planning in the area. The results of the evaluation show that tactile guidance surfaces proved their efficiency in terms of orientation, user-friendliness and safety in eliminating some of the gaps that naturally arise between natural guidance surfaces. Even so, the evaluation shows that also very short gaps must be avoided in order to guarantee that a guidance route can be safely used. Furthermore the evaluation again showed that artificial guidance surfaces must be considered in relation to the surrounding structures/surfaces.

Reference documents

www.vv.se

Orientation using guidance surfaces: blind tests of tactility with different materials and structures. Vägverket Swedish Road Administration, Publication 2004:158E

Hur orienterar personer som är blinda längs ett kontinuerligt ledstråk? Slutrapport, SRA Publikation 2007:112 (English summary available)

Key factors of development

The use of tactile surfaces can be a major factor in enabling people with low vision to continue to be independently mobile. Every new traffic calming or environmental scheme should include an assessment of and provision for the needs of blind and partially sighted people.

Benefits for disabled people

The scheme particularly benefits people with high levels of visual impairment who may encounter many barriers in urban environments.

The use of tactile surfaces can help blind and partially sighted people have a much higher level of independence in urban environments and move about in greater safety.

Economic factors

With more and more countries favouring mixed traffic and shared spaces which means that vision impaired people are at increasing risk because of the new street design. Where schemes of this kind are planned, tactile guidance should be included in the design from the outset. The cost as part of an overall development will not be significant.

Funding support

Funding would come from the highway authority as part of the overall cost of traffic management schemes.

Affordability by users

No cost to the user

Economic benefits

Greater independence for people with impaired vision may mean savings on the cost of door to door transport and other support services.

Key issues for transferability

An understanding on the part of local authorities that the needs of vision impaired people must be an integral part of any traffic management scheme.

Recommendations for implementation

The use of tactile surfaces should be incorporated from the earliest design stage and should always be developed following the research guidelines and in consultation with blind and partially sighted people as well as orientation and mobility instructors.

4 Findings and Recommendations

4.1 Defining Best Practice

It has become clear from the research undertaken to identify examples of best practice for this Work Package that it is not easy to reach an objective definition of what is best practice.

The first point to make is that **different parts of Europe have different ideas and views on what constitutes best practice**. Given the substantial variations that exist across Europe both in economic status and cultural background this is not surprising. Some countries have been active in the field of transport accessibility for over 25 years and have made major public investment in upgrading vehicles and infrastructure. Others are starting now to consider the issues for the first time and have a legacy of old and inaccessible vehicles, rolling stock and infrastructure as well as a culture which does not readily recognise the needs of disabled people for mobility as an essential means to independent living.

These differences are particularly marked between the countries of Western Europe and those of Central and Eastern Europe. This means that schemes which may be considered as outdated and even culturally unacceptable in some countries may still offer a valuable first step towards independent mobility in others. For this reason it is not appropriate to base assessments of best practice on the model of any one country or group of countries. It is important to recognise the diversity of Europe and the wide range of approaches that may help to deliver mobility to people who would otherwise be denied it.

A second factor which contributes to the difficulty in defining best practice is a **lack of evaluation**. In the case of many schemes which are deemed to be very successful there is no more than anecdotal information to support that view. There are very few examples of clear data even to demonstrate an increase in patronage as a result of accessibility measures or, conversely, to show a decrease in dependence on more costly alternatives to mobility such as door to door provision or services and support in the home. It is harder still to find any concrete evidence of schemes which have enabled disabled people to return to employment or education or to find employment for the first time. It is clear, nonetheless, that such outcomes exist. They have simply not been well documented in the majority of cases.

The wide spectrum of case studies included in this Report demonstrates clearly that best practice can also be delivered in many different ways. The examples range from low cost simple one to one support to give a person with a cognitive impairment the confidence to use the bus independently, through to high cost

schemes which provide sophisticated technological solutions to access problems in major conurbations.

Whatever the scale or complexity of the scheme, what defines it as best practice is the **difference it makes to the daily life of a disabled person**. For this reason, initiatives which involve disabled people in all aspects of transport planning and delivery from policy development to detailed technical standards are clearly very valuable. The two examples of the UK Government's disability advisory committee (DPTAC) and the use of Access Officers (in the UK and also in Sweden) at local level demonstrate low cost and inclusive approaches.

Some of the examples given in this Report demonstrate **clear commitment – both social and financial** – on the part of national and local governments to invest in public transport networks and infrastructure which meet the **principles of universal design**. Where there is the opportunity and funding for this kind of large scale project, the benefits not only to disabled people but also to the wider travelling public are clear. One key component of success is to have a clear vision of the final outcome, even if it will take a number of years to achieve that outcome. Berlin, Barcelona and Grenoble provide good examples of this kind of vision.

Universal design can also be applied in a more targeted way as the example of the ticket machines in Barcelona demonstrates. The involvement of disabled people in designing these machines has meant that they are easily useable by a much wider range of people and that everyone using the system benefits from a product that has started from user friendliness rather than engineering convenience.

While the model of universal design is clearly one which should be promoted wherever possible, it is also important to recognise much more limited improvements which may only **benefit specific groups of disabled people**. The information and guidance system for blind people in Prague and Dresden is a good example. Although much of the public transport network remains inaccessible to wheelchair users and others with mobility problems, the introduction of the passenger information and guidance system has opened up the city and the public transport network to many people with impaired vision. The use of tactile surfaces in Sweden (and indeed many other countries) is another such example.

The use of technology is increasingly opening up new opportunities for mobility solutions and we have included a number of case studies which demonstrate the potential for web based systems, the Direct Enquiries system in use in London is one such example.

There has been much debate about whether examples of **door to door, special transport schemes** can be categorised as representing best practice. For many they represent an outdated and stigmatising form of transport. However, it is important to recognise that, however accessible our public transport systems become there will always be some disabled people who will

be **unable to access public transport** at least at some times of the year. This may be because of the nature of their disability or the environment or climate in which they live.

In addition, in **deeply rural communities**, door to door services may represent the only viable option for those without access to private cars. They can provide a lifeline to anyone who cannot access public transport (if it exists). The scheme from County Meath in Ireland is a good example of a flourishing service that is enabling people who would otherwise be housebound to access employment and other facilities and activities.

In those countries for whom accessibility is still a new issue and whose **infrastructure (both in transport and the built environment) remains largely inaccessible**, special transport services may, again, be the only option just as they were in every country in Europe until the advent of accessible mainstream transport.

Special transport schemes can be a costly option but the case study in this Report on the Swedish Flexlinjin scheme, includes information on **improvements in efficiency** that can be achieved to reduce costs.

In this, as in all the case studies, it may be elements of the scheme, or approaches to a particular problem that are of interest to others rather than the scheme or concept as a whole.

It would certainly be **wrong to assume that best practice must equate to high cost**. There is an enormously wide range of approaches that can be taken and ways in which costs can be spread over time or among funding partners. **The key to a cost effective solution is to ensure that it is going to make a difference to disabled people**. For that reason we have included among the case studies a number of schemes which have been developed on the basis of research such as the KOLLA project in Sweden. Here again, **universal design principles can also produce savings**. The example of the Barcelona ticket machine is one which has led to a reduction in the number of staff needed to oversee the use of ticket machines, in part because of the technology and in part because they are easier for everyone to use and fewer problems arise.

In summary, we have found that best practice can cover a very wide range of schemes and approaches and that not all would be recognised as best practice by everyone. However, the fundamental issue is to identify initiatives that will make a difference to disabled people's daily lives. This may be targeting specific groups of individuals with a disability or a major scheme based on the principle of universal design. It may be a significant investment in a new scheme or an addition to make an existing scheme more useable.

4.2 Recognising key non-negotiable criteria for Best Practice

As the previous section has explained, best practice can mean different things to different people and can be difficult to pin down. There are, nonetheless, some non-negotiable criteria which define best practice.

4.2.1 *Involvement of disabled people*

The first non-negotiable criterion is the **engagement of disabled people** in the initiative, project or scheme. Ideally this should be **from the earliest concept stages right the way through to implementation** and, indeed continuous monitoring once it is in operation. This fundamental principle applies whether it is a major public transport investment or a small training scheme.

The European Disability Forum stands by the principle of “nothing about us without us” and that is a very good starting point for any transport scheme that is attempting to understand and include the needs of disabled people. The example of the co-operation between the Barcelona transport authority and organisations of disabled people in the city is one good example.

4.2.2 *Sustainability*

A scheme or initiative **cannot be deemed to represent best practice if, after a trial period, funding is withdrawn and it disappears**. It is clearly important to run trials and pilot projects but the success of such trials can only be determined by the longer term results. One such example is the Buddying scheme in Leeds in the UK. That was initially funded by a central government innovation grant. Since that funding came to an end, the Scheme has developed into a set of guidelines for the successful implementation of such training initiatives and has been widely disseminated and used as a model. In other words, what started as a one off project has now been “mainstreamed” into transport planning and practice.

4.2.3 *Affordability*

This Report includes best practice examples ranging from very low cost simple projects to high cost long term development schemes. Both ends of the spectrum are equally valid as best practice examples. However, key to all examples is that they are **affordable both by the end user and by the organisations (public or private sector) which are delivering them**. Work Package 1 of this Project has identified that price is a major deterrent for many disabled and older people and it is important to remember that significant numbers of disabled people are still on low incomes.

There are many ways of addressing the affordability issue. One example is the information and guidance system in Prague in which the cost of the remote unit

which the blind person needs to carry is funded by a voluntary organisation for those who cannot afford it themselves. In other types of initiative it may be possible to **spread the cost of investment across the travelling public as a whole** so that the additional element becomes negligible.

Universal design principles may also mean that the cost of accessibility is offset by increases in patronage from the travelling public as a whole or by improvements in efficiency in terms of running times or staff numbers (as in the case of the Barcelona example).

4.3 Recommendations

From the Findings identified above and drawing on the Euro-Access partners' expertise, the following key recommendations are suggested.

Most of the best practices described have involved disabled people during their development and implementation processes. One note of caution needs to be sounded: **it is always better to work with organisations of disabled people which have an understanding of all disability issues** rather than a narrow focus on one particular issue or set of needs. The pan-disability organisations are generally able to advise on the right balance between the needs of different types of disability.

One such example may be the use of tactile surfaces which provide invaluable guidance and warning to people with vision impairments but may cause pain and discomfort to wheelchair users or people with walking difficulty. An understanding of these potential conflicts means that solutions that meet everyone's needs can be found and potential conflict is avoided.

Best practice can never be an isolated or one off initiative. It may be on a small scale, in a confined area and targeted at one particular group of people but it must, nonetheless, be **part of some broader strategy or policy**. For example, the training schemes we have included among the best practice examples are part of a bigger policy initiative to enable people with mobility or cognitive impairment or mental health problems to have the confidence to travel independently, even on a very local scale, as a stepping stone to getting into education or employment – or simply extending their capacity for independent living.

Initiatives cannot be judged against economic criteria alone. Door to door schemes in particular, may continue to need subsidy on a long term basis but the benefits they bring to disabled people – both in terms of quality of life and in terms of their ability to access employment, medical facilities, shops and leisure activities – may be deemed to redress the economic balance. **The cost to society of providing care and services to disabled people who cannot live independently because they have no mobility, is very high indeed.**

List of Acronyms

| | |
|---------|--|
| ATG | National Gaming and Lottery outlets, Sweden |
| BVG | Berliner Verkehrsbetriebe |
| Carris | Companhia de Carris de Ferro de Lisboa |
| CERTU | Centre d'études sur les réseaux, les transports, l'urbanisme et les constructions |
| CPTA | County Public Transport Authority (Sweden) |
| DGTTF | General Directorate for Land and Inland Transport, Portugal |
| DPTAC | Disabled Persons Transport Advisory Committee, UK |
| DRT | Demand Responsive Transport |
| DVD | Digital Video Disc |
| ECLIPSE | European Cooperation and Learning to Implement Transport Solutions to combat Exclusion (EC funded project) |
| ECMT | European Conference of Ministers of Transport |
| EDF | European Disability Forum |
| ELSA | Finnish project to develop best practice guidelines for transport accessibility |
| ELTIS | European Local Transport Information Service |
| EU | European Union |
| FGC | Ferrocarriles de la Generalitat de Catalunya |
| FINAL | Integrating Demand-Responsive Transport and scheduled fixed-route public transport, Swedish Project |
| ICT | Information and Communication Technology |
| ID | Identity Card |
| IMTT | Institute for Mobility and Land Transport, Portugal |
| KOLLA | Project to implement 'Traffic resources plan 2005-2010, Public transport – for people with disabilities as well' in Gothenburg, Sweden |
| LED | Light Emitting Diode |
| METRO | Passenger Transport Executive, West Yorkshire, UK |
| MSEK | Millions of Swedish Krona |
| ONCE | Spanish National Organisation for the Blind |
| PT | Public Transport |
| PTA | Public Transport Authority |
| SAMPO | Finnish led Project developing Systems for Advanced Management of Public Transport Operations |
| SEMITAG | Transport de l'Agglomération Grenobloise |
| SMTC | Syndicat Mixte des Transports en Commun de l'Agglomération Grenobloise |
| STS | Special Transport Systems |
| TMB | Tranports Metropolitans de Barcelona |
| UK | United Kingdom |
| VBB | Verkehrsverbund Berlin/Brandenburg |
| VINNOVA | Swedish Governmental Agency for Innovation Systems |