

GUIDELINES FOR IMPLEMENTERS OF

Tailored Traveller Information for Users with Reduced Mobility



What is it about?

Characteristics

This mobility concept aims to provide tailored travel information for public transport to people with reduced mobility. It provides:

- information on barrier-free travel options via the internet (and telephone service) as a convenient means of planning a trip in advance;
- both static traveller information on the accessibility of public transport systems (e.g. accessibility of rail stations and rolling stock) and dynamic routing information (barrier free travel-chains);
- information services that target a range of different user groups (e.g. people with disabilities, parents with prams, older people) and disability types (e.g. physically impaired, sensory impaired);
- accurate, useful and understandable information that meets specific user needs.

Tailored online information and information via a telephone service for travellers with reduced mobility is still the exception in Europe, but has a lot of potential to improve the daily mobility of many people.

Key benefits

Tailored traveller information for users with reduced mobility:

- has a positive impact on independent living of persons with reduced mobility (including the temporarily affected e.g. people with prams) through easier planning of barrier-free trips;
- is a valuable tool to publicise costly investments in infrastructure (e.g. lifts);
- potentially reduces costly special transport services;
- gives a better image to public transport.



Station map from RMV travel information system with information for travellers with reduced mobility (excerpt only)

Source: Rhein-Main-Verkehrsverbund GmbH, online journey planner

Good practice: Frankfurt Rhein/Main and Berlin-Brandenburg, Germany

The BAIM/ BAIM plus project is one of the most advanced examples of traveller information for mobility impaired travellers in Europe. Two public transport associations, the RMV in the Frankfurt Rhein-Main region and the VBB in Berlin-Brandenburg, developed in cooperation with other partners a mature journey planner that gives information on barrier-free travel chains in public transport.

The system provides tailored traveller information for different target groups. The user can enter his requirements towards barrier-free travelling for a planned trip. The journey planner provides information on connections that are barrier-free and also gives additional details on the accessibility of interchanges, stops and vehicles (e.g. interactive station plans). Detailed interchange maps with visualisation of critical information help the user to get an easier overview. The information is provided in different formats according to the user needs (e.g. description of public transport interchanges in text format, which can be read via screen reader by blind people). The services are available online.

In July 2008, a follower project called BAIM plus started which will run till the end of 2010. It builds on the results of the BAIM project, but goes one step further. The project wants to amplify the scope also to "best agers" (55+) and seniors (65+). It will further aim at intensifying user involvement, the development of other innovative information services (e.g. real time info), the provision of information about the surroundings of public transport stops and will also deal with standardisation issues.

Is this something for us?

Traveller information for users with reduced mobility is a widely transferable concept. Solutions range from simple static information to sophisticated systems with barrier-free routing information. Key factors for the implementation are:

- coverage of whole agglomeration and regional co-operation in public transport;
- user needs assessment and close co-operation with individual users, user group representatives and other experts;
- sufficient resources for data collection and technical set-up;
- marketing to make the service known.

Check list

City size	Traveller information should at least cover the regional scale within boundaries of a public transport service area. The larger the area, the better.
Costs	Costs depend on complexity and data requirements. Information on barrier-free routing can be quite costly due to high data requirements. The provision of static information, which can be gathered in an easier way, can be considered as a low cost measure. Costs also depend on whether the required data on the infrastructure are already available for other purposes.
Implementation time	Several months of preparation and data gathering before putting service online.
Stakeholders involved	<ul style="list-style-type: none"> • Public transport operators and associations; • Public authorities; • User representatives; • Companies or research institutes that support the technical and organisational implementation.
Excluding factors	Lack of basic physical accessibility of vehicles and interchanges may be a severe barrier.
Undesirable secondary effects	Frustrated customers if unreliable information is provided.

"To enjoy a journey one needs to have tailored information, which is provided in an accessible and understandable way. Why deprive travellers with mobility problems of the joy of travelling and chances for independent living? Creating equal opportunities requires access to tailored traveller information!"

Kapka Panayotova, Centre for Independent Living, Sofia. Disability leader and human rights advocate in Bulgaria.

"Studying the requirements of users with reduced mobility made us realise how multi-faceted and varied they are. Everyone has different needs and different ways of handling mobility, so overall information often doesn't help. Hence, our answer to this question is tailor-made traveller information."

Prof. Dr. Josef Becker, Rhein-Main-Verkehrsverbund GmbH, Germany.



Tailored traveller information can help many user groups

Photos: Rhein-Main-Verkehrsverbund GmbH

Benefits & Costs

Benefits

Tailored traveller information for users with reduced mobility benefits all passengers, as it offers information that is relevant for a high number of users. At any one time, an average of **25% of the population may have a degree of reduced mobility** due to a physical or mental disability, impaired sight or hearing, or when travelling with children or luggage (Improving Access to Public Transport, ECMT 2004). In this context it needs to be highlighted that Europe is facing tremendous demographic changes in the coming years with a rapidly ageing population. Older people need special care, special services and appropriate traveller information.

The **key benefits** of the concept in overview are:

- positive impact on **independent living** of people with disabilities. Insecurities when using public transport can be removed, the perimeter of personal activities may be extended. Independent living is a basic right of all people;
- **easier travelling** for people with temporarily reduced mobility;
- expensive **infrastructure investments such as lifts are made known** to the users;
- easier **monitoring** of remaining gaps in accessibility;
- **saved costs** for door-to-door special transport services;
- better **image to public transport** operators;
- potential for increased **patronage**.

It is hard to provide quantitative evidence for the benefits, which may be a barrier when trying to convince decision makers. However, tailored traveller information is a highly **valuable complement to efforts in improving the physical accessibility** of the public transport network.

Costs

Costs depend very much on the **complexity of the chosen approach**. While providing static information (e.g. on accessible stops and accessible lines, network maps that indicate accessibility) can be considered a low-cost measure, implementing a highly sophisticated system with barrier-free routing information is much more costly.

Principal cost factors are:

- **data collection and updating:** due to the high time budget required for this task, this is the main cost factor for sophisticated systems. Costs also depend on whether data on the infrastructure are already available for other purposes and can be used easily (synergies with general infrastructure management);
- **hardware:** for simple static information, standard hardware is usually sufficient, for complex dynamic routing more server capacity is required;
- **software:** mature traveller info systems can be upgraded. Adopters could buy into existing solutions;
- **call centre:** for information provision via telephone, sufficient resources are required at call centres;
- **marketing:** promotion of a tailored traveller information system can be costly, but is crucial to making users aware of available services.

Cost savings may potentially be achieved if **special transport services** are reduced, but so far there is little evidence to prove this. Studies indicate that better traveller information in general can lead to an **increase in public transport trips** in the range of a few percent (Dziekan, K.). Cause and effect are however difficult to assess as many factors influence patronage.

Users & Stakeholders

Users and target groups

The following target groups should receive particular attention when planning and implementing a traveller information system:

- **disabled, frail and older people:** these are large and very heterogeneous groups. Sub-groups can broadly be categorised by reduced physical, sensorial, cognitive and learning abilities. For details on different sub-groups of disabled users and their needs, see the EMTA study "Survey on information for people with reduced mobility in the field of public transport";
- **people with prams:** this group requires a travel chain that is free of physical barriers;
- **tourists and foreigners:** people who visit a place and are not familiar with the public transport system; often carrying luggage which hinders their movement.

In general it can be stated that taking care of the people most in need will, in many cases, let **everybody else** benefit as well.

It is important to tailor any information service to the **user needs:**

- need for easy-to-read transport maps, network information and detailed information on accessibility of railway stations/ public transport stops;
- need for information on seamless travel connections taking into account possible incidents. Up-to-date information and reliability is crucial for the user;
- need for easily accessible format of information provision, for example, fully accessible websites, information with different levels of detail (avoid information overload), multiple languages.

Key stakeholders for implementation

The **initiators and key actors of the project team** that push the concept implementation are dependent on the local context. They may be reacting to legislation. They are usually **public transport associations, public transport operators and / or public transport authorities**. They have the responsibility for providing the users with adequate information and also need to provide resources for realising appropriate services.

The project team also includes additional stakeholders with special expertise:

- **operators and owners of railway stations, terminals, stops and other transport hub owners and operators** to support data collection;
- **technicians and technology providers** (mostly subcontracted) to develop the technical basis;
- **active user group representatives and test-users:** involvement in user needs assessment and as multipliers to spread the message about new services.



The ageing of society will pose new challenges to accessibility
Photo: Verkehrsverbund Berlin-Brandenburg (VBB)

From concept to reality

Preparation



Key aspects at this stage

This phase includes preparatory activities before the actual development and implementation of the service starts.

Assessment

At the beginning of the preparation process it is required to uncover gaps in the accessibility of the public transport services. This includes the status of accessibility of the physical network as well as the existing traveller information services.

In some regions the availability of special transport services will play an important role. If these services are carried out by another organisation than the lead partner in setting up the tailored information system, co-operation is highly recommended. Otherwise potential conflicts might arise if the proposed new information service for people with reduced mobility is seen as a threat to the special transport services operator(s).

In any traveller information scheme it is a “must” to include a user needs assessment involving individual users as well as organised interest groups. This will reveal local specifics and the kind of information really needed by the users. The users should also be able to give feedback on whether they are able to use technologies such as the internet.

Technological aspects may exclude certain groups that are not familiar with them. The user needs assessment can be carried out by a specialised research institute or company.

The results of the user needs assessment should be used to identify priorities on how the most can be achieved with the given resources (e.g. identification of key target groups).

Privacy issues should also be checked in advance if tailor-made services that require personal user data are foreseen.

Back-up of decision makers

The support of decision makers is needed to secure financing of the service. The key argument should be that independent living is a basic right of each person. Further arguments to convince decision makers can be the ageing of society and the increasing need to develop better information services for users with reduced mobility as an element of the service strategy. Better traveller information can also help to improve the image of the public transport operator and makes expensive infrastructure investments (e.g. lifts) better known.

Regional co-operation

The information offer should cover at least the regional level of a public transport service area. This may require establishing an inter-municipal co-operation if not already in place. In some regions (e.g. Berlin-Brandenburg, Rhein-Main) a public transport association takes the lead. Relevant stakeholders should establish a regional accessibility working group. Ideally, the co-operation is based on a politically endorsed agreement and an accessibility strategy.

Integrated package

Traveller information for users with reduced mobility is not a stand-alone measure. The physical accessibility needs to be continuously improved in parallel, also in terms of making the surroundings of the stops accessible. An overview brochure and information on the internet should clarify to users with reduced mobility which services they can expect. Also personal services (call centre, staffing of interchanges and vehicles) where users can seek personalised information are needed as not all users are comfortable with technical solutions like the internet.

Defining service characteristics

The traveller information provided needs to address a “not ideal” physical world which still shows many potential barriers in the travel chain. Enhanced public transport information systems, especially those with routing information, can help the user to avoid these critical barriers. The service can include two elements:

- 1. static information** regarding facilities (e.g. accessibility of vehicles, stations): this information remains stable for a longer period, while an update from time to time is still needed. Examples are the Prague and Paris approaches;
- 2. routing information on barrier free travel chains:** this is more complex as special “routing algorithms” need to be developed according to different user profiles. They enable the user to find a suitable barrier-free way.

The minimum required information should be defined with the help of users. Furthermore, it needs to be transparent in the information system what certain standards mean (e.g. regarding the gradient of ramps for wheelchair users) and if accessibility is given with or without assistance. The level of information that can realistically be provided with given resources must be calculated. There are also options to start small and expand the service later (see implementation section).

Financing and business plan

External funding may be difficult to find, but it is worth checking for possible funding on national or EU-level to establish an innovative service. This can provide important start-up funding for research and initial data collection. The core funding over a longer time will however need to come from public transport operators, associations or authorities. The project should elaborate a business plan with a clear perspective also after the start-up phase.

Prague, Czech Republic: static information for persons with reduced mobility

Prague Public Transit Co. (Dopravní podnik hl. m. Prahy) carried out a range of measures to remove physical barriers to the metro, tram and bus network. The website provides static information on barrier-free travelling for these services (also available in English). The information can easily be accessed via the homepage. For the metro network, the website provides detailed information on accessibility for wheelchair users (e.g. lifts at half of the stations, ramps), also providing maps and photos. Information about the bus fleet and availability of low-floor buses is also accessible. In the online travel planner the user can also indicate how long he can walk or whether only low-floor vehicles should be considered.

Source: Based on ELTIS case study (www.eltis.org, incl. SPUTNIK case study) and DPP website: www.dpp.cz/en/barrier-free-travel/



Map of Dejvická Metro Station from the online information service in Prague

Source: Dopravní podnik hl. m. Prahy, www.dpp.cz

Check list

Ready for implementation?	✓
Assessment of service quality with regard to accessibility available	
User needs assessment performed	
Political support achieved	
Regional perimeter for service possible	
Required co-operation partners on board	
User groups approached	
Level and characteristics of service defined	
Funding sources confirmed and business plan approved	

From concept to reality

Implementation



Key aspects at this stage

This phase includes the actual development of the information service until it is made available to the public.

Co-operation in project team

The lead partner is usually a public transport association or operator. Different expertise is needed in the project team to set up a well-working system. This includes a partner with direct end user contact for user trials, technology partners and marketing specialists. Organisations that provide special transport services may also become involved. Regular project meetings and communication are needed during the development of the project to guarantee a smooth implementation.

Technical implementation and data collection

Most cities or regions will already have some kind of online travel information for public transport. If a good co-operation with the current technology partners exists, it should be checked if the available technological basis can be used to build the information for users with reduced mobility on. If this is not the case a new provider may need to be chosen, which has the appropriate software product available.

Static information may also be presented on a dedicated website (e.g. Infomobi Paris) which presents the available information on public transport accessibility for different target groups.

Depending on the desired service characteristics, data collection may be a time consuming core activity. This includes e.g. the visits to and documentation of stations, stops, rolling stock and even footpaths at interchanges.

Within the BAIM project in Frankfurt and Berlin a simple public transport stop required 45 minutes for the collection of data on accessibility, a complex interchange 10 to 24 hours of working time. It needs to be kept in mind that the data also need to be kept up to date, which requires continuous additional efforts. Also collecting information from actors that manage interchanges or provide transport services may take a while. It is crucial that all data are always accurate to ensure user acceptance. The data collection needs a structured approach and suitable database to collect the information.

The technical set-up of a system with static information is considered to be relatively simple. The set-up of an online information system with exact routing information for a barrier-free travel chain however, will be quite challenging, while it has been proven that mature solutions are available.

A suitable approach for regions with less resources is to start small and expand the system later:

- start with static information, which is also very useful for travellers;
- provide information for the most important stations and stops first; information on smaller stations and stops can be limited to listing format with key information only; provide audible MP3 info for visually impaired or texts that can be read out with a screen reader (cheaper and easier to update than audio files);
- the information offer can be expanded step by step, e.g. information on availability of lifts in whole network, overview of bus or tram lines that are already fully accessible, maps of interchanges;

- an approach that works with static information should leave the option to make it more complex and include routing information for travel chains at a later stage.

User interface

The technical realisation requires an easily understandable format for displaying complex information. The user needs should guide the technical solutions. Users with different needs should be able to get exactly the information that is relevant for them. Not only the functionality of a service is crucial, but also the human-machine interface. Visualisation (e.g. maps of interchanges) can help to provide complex information in an easy-to-grasp format. For visually impaired users the information should be made available in audio format or text formats that can be easily read with a screen reader.

Throughout the development of the information service, user groups should be actively involved. This can be done, for example, via a working group. It is advisable to test the information service with individual users. Some users should evaluate the system in daily use.

Information via phone and service staff

Not all users are able to use or comfortable with using the internet as primary information source. Any traveller information for users with reduced mobility should also be accessible via phone and service staff. This should be clearly communicated and the staff in call centres and at service counters need to be trained on how to use and interpret the available information service and respond to the needs of different target groups.

Marketing to make service known

Marketing is very important when introducing the system to the users. It should not only target disabled users, but also older people and any citizen that is facing some form of mobility impairment (even if only temporarily, e.g. parents with prams). It is important to make use of multipliers where possible.

Transport for London (TfL): information on transport accessibility, United Kingdom

Transport for London made available an online journey planner where the user can indicate certain impairments, which are considered in the routing calculation for the travel chain. The user can also call the 24-hour travel information centre for help and advice.

The accessibility of Tube (metro) stations is visualised in maps that can be downloaded. Visually impaired users can also call the customer service centre for an audio version. The user can also find information on the access to individual stations, including walking distances between platforms.

Information about lifts that are out of order can be checked in advance or received by TfL travel alerts on the mobile phone.

TfL made available a comprehensive brochure with the name "Getting around London. Your guide to accessibility", which answers many questions for a range of target groups that face challenges in their daily mobility.

More information is available from the TfL website: www.tfl.gov.uk/gettingaround/transportaccessibility/1167.aspx

From concept to reality

Operation



Key aspects at this stage

This includes the phase after implementation, when the system is available for daily use.

Ensure quality of system and develop it further

Once a system has been successfully implemented, it is crucial to ensure the quality and accuracy of the information given. If users have frustrating experiences due to wrong information, this may lead to low acceptance and bad publicity. The accessibility database needs regular updates and quality control.

It is also important to keep the technology and software up-to-date as it may become outdated quickly.

If important user needs have not been considered in a first stage of the information service, it is possible to extend the information to so far not included stakeholder groups. As outlined in the section "implementation", the complexity of the system and the information quality that is given can be enhanced step by step. If a simple information service with pure static information is in place, strategies for more sophisticated solutions can be developed if available resources allow this.

Continuous marketing

Marketing should be understood as a continuous activity. This includes making the traveller information service better known to more people, but also improving the image of public transport beyond the activity.

Ensure sufficient resources in the long run

It cannot be expected that users are willing to pay for public transport information services.

The long-term commitment of the actors that carry out public transport services will be needed to provide funding for such services.

Evaluate and show benefits

Surveys and the collection of user feedback are simple ways of monitoring and evaluating the acceptance and quality of the traveller information service. Positive feedback should be highlighted, also to activate political support and continued funding for accessibility measures.

Paris Infomobi service, France

Infomobi is an information service for all people with reduced mobility living in the Île de France region in and around Paris and is accessible by telephone, e-mail or website.

The service provides real-time information about the accessibility of public transport services, with special concern for mobility-impaired people. The website of "Infomobi" (www.infomobi.com) is divided into four information categories according to different user groups: passengers with physical, visual, hearing and cognitive impairments. It includes static information like maps of accessible networks and stations, service information and tariff information.

The service gathers information from different transport operators in the region. The call agents are able to give detailed information about walking distances, lift locations and where people can seek assistance during their journey.

Source: Based on ECLIPSE European Good Practice Review and Infomobi Website.

Further information & contacts

Further information

1. Example cities and regions

BAIM/ BAIM plus project on traveller information for users with reduced mobility
German language: www.baim-info.de/
Summary in English:
www.ftb-net.com/baim.html

Berlin, VBB journey planner with barrier free routing (English):
www.vbb-fahrinfo.de/hafas/query.exe/en

Frankfurt, RMV journey planner with barrier free routing (German): www.rmv.de/baim/

Prague, Prague Public Transit Co. - Dopravní podnik hl. m. Prahy website (English):
www.dpp.cz/en/barrier-free-travel/

Paris infomobi website (French):
www.infomobi.com

London, Transport for London accessibility website: www.tfl.gov.uk/gettingaround/transportaccessibility/1167.aspx

2. Further sources of interest

ECMT 2004. Improving Access to Public Transport: www.internationaltransportforum.org/europe/ecmt/pubpdf/04Access.pdf

IbGM 2003. Survey on information for people with reduced mobility in the field of public transport. Final Report. Commissioned by EMTA.
www.emta.com/IMG/pdf/FinalReport.pdf

EMTA 2004. Applications of new technologies to provide information to public transport passengers with special focus on people with reduced mobility. Study by STE consulting. (e-mail: contact@emta.com)

Dziekan, K. Customer perception and behavioural responses to IT-based public transport information. KTH Infrastructure, Royal Institute of Technology, Stockholm 2004.
www4.banverket.se/raildokuffe/pdf/MN2158.pdf

ECLIPSE. European Project on social exclusion:
www.eclipse-eu.net

European Concept for Accessibility:
www.eca.lu

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The mission of NICHES+ is

to build on the success of the first NICHES project by stimulating a wide debate on innovative urban transport and mobility between relevant stakeholders from different sectors and disciplines across the EU and accession countries, in order to promote the most promising new urban transport concepts, initiatives and projects and transfer them from their current "niche" position to a mainstream urban transport application.

This publication is part of a series of 13 publications presenting the NICHES+ outcomes.

Photo on front page:

Rhein-Main-Verkehrsverbund GmbH

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Further information on NICHES+

www.niches-transport.org
www.osmose-os.org