



**Ministry of Transport and Communications'  
research and Development Programme for  
Accessibility  
“ELSA”**

**Final report of the working group**



## DESCRIPTION

Date of publication

9.1.2007

Authors (from body; name, chairman and secretary of the body) Working group: chairman Irja Vesanen-Nikitin,	Type of publication Report		
Ministerial Adviser	Assigned by Ministry of Transport and Communications		
Secretary Riikka Kallio, WSP LT-consultants Ltd	Date when body appointed 11.4.2003		
Name of the publication Ministry of Transport and Communications' research and Development Programme for Accessibility "ELSA", final report of the working group			
Abstract ELSA is a three-year (2003 - 2006) research and development programme involving several government ministries and non-governmental organizations. It was launched in 2003 to support the implementation of the accessibility strategy of Ministry of Transport and Communications. The task of the working group was to increase awareness in the municipal sector and among transport service providers, authorities and the public about the importance of accessibility and to activate research in general, to launch and monitor R&D projects as well as organise seminars and educational events and to report about project results. The ELSA programme has funded 30 R&D projects, three academic master's theses and educational material for the personnel and planners of public transport. The programme also included coordinating a network of Accessible Municipalities as well as organising several educational events and seminars. Project workers, members of the guidance group and the ELSA coordinator also wrote articles about R&D project results. The ELSA programme had many kinds of effects of various sizes. The programme contributed on both the strategic and programme levels and produced new guidelines, planning methods, services and products for practical planning and construction and customer service. Also other actions in 2003 -2006 mentioned in the accessibility action programme of the Ministry of Transport and Communications have been evaluated in this report. The ELSA working group states as a conclusion that enhancing accessibility is an important focus area for increasing equality. Altering existing working methods is important in enhancing accessibility, and this should be influenced both through education and information as well as obligations and financial incentives.			
Keywords Accessibility, R&D			
Miscellaneous Contact person at the Ministry: Ms Irja Vesanen-Nikitin This report is also published in Finnish (Publications of the Ministry of Transport and Communications 54/2006).			
Serial name and number Publications of the Ministry of Transport and Communications 19/2007	ISSN 1457-7488 (printed version) 1795-4045 (electronic version)	ISBN 978-952-201-866-3 (printed version) 978-952-201-867-0 (electronic version)	
Pages, total 124	Language English	Price	Confidence status Public
Published and distributed by Ministry of Transport and Communications			

## **TO THE MINISTRY OF TRANSPORT AND COMMUNICATIONS**

On 4 November 2003, the Ministry of Transport and Communications set up a steering group for the research and development programme for accessibility that interlocks with the accessibility strategy.

The tasks of the group were to:

- promote better observation of accessibility in the transport sector
- generally activate research in the field
- launch, monitor and supervise projects relating especially to topic areas mentioned in the strategy, such as the Accessible Municipality network
- organise seminars and training events relating to these projects
- arrange project follow-up and impact assessment
- inform of programme projects, good solutions and practices
- co-ordinate other accessibility-promoting projects included in the research and development programmes.

The working group defined the priorities for the applications for three projects. It also selected and supervised the funded research and development projects and academic master's theses. Furthermore, the working group was responsible for co-ordinating the activities of the Accessible Municipality network and also for organising training events and seminars. The working group reported the results of research and development projects by writing newspaper articles, making presentations and introducing and promoting the issue in their respective organisations and interest groups.

The impacts of the Elsa programme can be seen both on the strategic and programme level. The programme produced new guidelines, planning practices and practical services and products that can be used in planning and construction work as well as in customer service.

The working group emphasises that accessibility promotion is a central priority in enhancing social equality. Accessibility promotion should focus on changing the procedures and methods which are to be influenced through training and informing as well as obligations and financial incentives. The working group made recommendations, whereby practices and operation methods could be changed to better facilitate an accessible environment. These recommendations were divided into three:

1. Elsa Themes are issues and matters that are considered significant as per research results or that became otherwise central during implementation.
2. The chapter on co-operation presents the network of actors in an accessible transport system and introduces the form of co-operation.
3. The last chapter contains measures that the Ministry of Transport and Communications can use in promoting accessibility in their respective administrative sector. These include for example the integration of accessibility promotion into Government programmes and strategic guidelines, observation of accessibility in all legislative work, demand for accessibility-promoting performance management and State investments in

infrastructure and attending to the updating the accessibility action programme.

Until 1 May 2005, the steering group was chaired by transport counsellor Petri Jalasto and thereafter by moderator Irja Vesanen-Nikitin. Members of the steering group were:

Olli Saarsalmi, Senior Engineer, Ministry of Social Affairs and Health  
Leena Silfverberg, Senior Technical Adviser, Ministry of the Environment (Riikka Kallio 15 April 2003–10 August 2004)  
Kari Hiltunen, Head of Traffic and Transport Department, Provincial State Office of Eastern Finland  
Silja Siltala, Traffic Engineer, Association of Finnish Local and Regional Authorities  
Arja Aalto, Planning Officer, Finnish Rail Administration  
Tytti Viinikainen, Senior Inspector, Finnish Road Administration (Deputy: Matti Holopainen)  
Jukka Håkämies, Director of Maritime Safety, Finnish Maritime Administration (until 31 December 2004)  
Kari Hakuli, Head of Department, Finnish Vehicle Administration (Deputy: Marita Koivukoski)  
Ari Heinilä, Head of Department, Finnish Bus and Coach Association  
Pia-Mari Sotavalta, Marketing Analyst, VR Ltd. (Antti Jaatinen until 13 June 2005)  
Harri Fredrikson, Project Manager, Finnish Public Transport Association (Pekka Aalto until 19 May 2006)  
Nina Nizovsky, Director, Finnish Taxi Owners Federation  
Harri Leivo, Accessibility Representative, Finnish Association of People with Mobility Disabilities  
Kalle Könkkölä, Executive Director, the Threshold Association  
Tita Ström, Health Manager, Finnish Rheumatism Association  
Jari Heiskanen, Expert on Information Society, Finnish Association of the Deaf  
Jukka Laakso, Head of Repair Instruction, Central Union for the Welfare of the Aged (Kirsti Pesola until 31 July 2005)  
Markku Möttönen, Director of Members Service, Finnish Federation of the Visually Impaired (Helinä Hirn until 31 January 2006)  
Merja Nikkinen, Senior Officer, Ministry of Transport and Communications (until 30 September 2005)  
Anna-Liisa Tarvainen, Senior Officer, Ministry of Transport and Communications  
Katariina Myllärniemi, Senior Officer, Ministry of Transport and Communications (until 1 May 2005)

Advisor Silja Laakkonen, Legal Advisor, FINAVIA (Former Civil Aviation Authority)

Secretaries of the working group were MA Maija Stenvall, 27 October 2003–31 July 2005 and M. Sc. Riikka Kallio, 1 August 2005–31 January 2007.

The term of office of the working group ends on 31 January 2007. Upon completion of duties, the working group will submit its report to the Ministry of Transport and Communications.

Helsinki, 9 January 2007

Irja Vesanen-Nikitin

Olli Saarsalmi

Harri Fredrikson

Leena Silfverberg

Nina Nizovsky

Kari Hiltunen

Harri Leivo

Silja Siltala

Kalle Könkkölä

Arja Aalto

Tita Ström

Tytti Viinikainen

Jari Heiskanen

Jukka Laakso

Kari Hakuli

Markku Möttönen

Ari Heinilä

Anna-Liisa Tarvainen

Pia-Mari Sotavalta

Katariina Myllärniemi

Silja Laakkonen

Riikka Kallio



## **Research and Development Programme for Accessibility "Elsa" 2003–2006**

"An accessible transport system is constructed so that also children, the elderly and people with reduced function can safely manage their daily travel needs."

Elsa is a cross-administrative research and development programme for accessibility of the Ministry of Transport and Communications. Supporters and financiers of the programme include various ministries, transport infrastructure administrations and organisations. The Elsa programme was implemented in 2003–2006.

The three-year Elsa programme supported the promotion of accessible transport systems and brought the matter into general awareness. Project implementation and reporting of results were a significant part of the programme.

The Elsa programme is a part of the Accessibility Strategy of the Ministry of Transport and Communications. The aim of the 2003 published strategy is that the transport infrastructure maintained by the State and the services of public transport be accessible and safe for everyone. The State administration operates in co-operation with municipalities and the private sector to improve the transport system sectors that are their responsibility.

For more information on the programme, see: [www.elsa.fi](http://www.elsa.fi)

## TABLE OF CONTENTS

<b>1</b>	<b>TOWARDS ACCESSIBLE TRANSPORT – ACCESSIBILITY STRATEGY AS RESEARCH PROGRAMME BASIS.....</b>	<b>2</b>
<b>2</b>	<b>DESCRIPTION OF ELSA ACTIVITIES .....</b>	<b>3</b>
2.1	Task assigned and organisation of work.....	3
2.2	Research and development work.....	4
2.3	Training material .....	9
2.4	Academic master's theses .....	10
2.5	Network for Accessible Municipalities.....	10
2.6	Dispersion of information.....	11
<b>3</b>	<b>RESULTS OF ELSA PROJECTS.....</b>	<b>15</b>
3.1	Charting of results.....	15
3.2	Effects with regard to strategies and programmes .....	15
3.3	New guidelines .....	15
3.4	New planning practices.....	17
3.5	New services and products .....	20
3.6	Impacts on municipalities.....	21
3.7	Other research results.....	22
<b>4</b>	<b>EVALUATION OF THE IMPLEMENTATION OF THE ACCESSIBILITY STRATEGY ACTION PROGRAMME .....</b>	<b>26</b>
4.1	Action programme – General.....	26
4.2	Accessible pedestrian environment.....	27
4.3	Accessibility as part of the quality of public transport.....	29
4.4	Public transport passenger information and payment systems.....	30
4.5	Public-transport terminals .....	32
4.6	Bus and taxi transport .....	34
4.7	Service transport, assistant services and combined travel .....	36
4.8	Rail transport.....	37
4.9	Air traffic .....	38
4.10	Maritime transport .....	40
4.11	The traffic environment and driving skills .....	40
4.12	Acquisition of a car and driving license by a disabled person .....	42
<b>5</b>	<b>CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>44</b>
5.1	Changes to procedures and methods necessary .....	44
5.2	Elsa Themes .....	44
5.3	Co-operation and responsibilities of actors .....	46
5.4	The Ministry of Transport and Communications and the respective administrative sector as promoters of accessibility.....	47
<b>ANNEXES</b>		
1.	Project summaries	
2.	Elsa programme publications	

## **1 TOWARDS ACCESSIBLE TRANSPORT – ACCESSIBILITY STRATEGY AS RESEARCH PROGRAMME BASIS**

The Ministry of Transport and Communications published its Accessibility Strategy "Towards Accessible Transport" in August 2003. The strategy defines the importance of accessibility in transport policy, outlines means to promote it and suggests measures for the development work of the near future.

The starting points of the strategy are the promotion of social equality and the principle of non-discrimination, preparing for the aging of the population, functionality and safety of the transport system as well as improvement of the quality of public transport. The transport policy guidelines of the Ministry of Transport and Communications emphasise the right of everybody to mobility and the opportunity to exert that right. The transport system shall be designed and constructed so that also children, the elderly and people with reduced function can safely manage their daily travel needs.

The aim is that the transport infrastructure maintained by the State and the services of public transport be accessible and safe for everyone. The State administration operates in co-operation with municipalities and the private sector to improve the transport system sectors that are their responsibility. Achieving the goal requires that the administrative sector of the Ministry of Transport and Communications takes into account the mobility needs of all population groups in its normal activities and works actively to remove existing shortcomings.

The strategy includes several measures for improving the accessibility of the transport system. In order to carry out solutions that increase accessibility it is proposed that accessibility always be observed in the normal management, maintenance and investments of transport infrastructure and that the financing of the present transport infrastructure is directed at measures promoting accessibility. It is also proposed that research and development financing of public transport be directed at planning as well as at research and development measures supporting accessibility. The strategy does not propose that the financing of transport infrastructure or the financing of research and development of public transport be increased.

The strategy proposed launching a three-year Research and Development Programme for Accessibility that would promote and support work to improve accessibility. The implementation of the research and development programme will not require additional funding, but the present research funding of the Ministry and the transport authorities as shall, in a co-ordinated manner, be directed through it to projects promoting accessibility.



## **2 DESCRIPTION OF ELSA ACTIVITIES**

### **2.1 Task assigned and organisation of work**

The three-year Elsa programme, based on the Accessibility Strategy "Towards Accessible Transport" of the Ministry of Transport and Communications was launched in autumn 2003.

The programme aimed to activate the municipal sector, the transport-service providers, the authorities and the general public to notice the significance of an accessible transport environment, to encourage the observance of the issue in daily activities and to produce and disseminate information on good solutions and practices. The second aim was to support training and co-operation projects, through which it is possible to influence the knowledge, skills and attitudes of transport administration, planners, implementers and the personnel in charge of transport services and thus to promote accessibility.

In the accessibility strategy, the objectives of research and development are defined as follows: The Research and Development Programme for Accessibility is a cross-administrative programme implemented under the leadership of the Ministry of Transport and Communications, which aims at

- promoting and supporting work to increase the accessibility of the transport system.
- supporting local-level activities by financial planning and pilot projects within the framework of research and development funding.
- gathering research and development relating to accessibility under the same umbrella.
- producing and disseminating information on good solutions and practices. bringing the topic to general awareness.

The programme was supervised by a steering group that was set up with the task of co-ordinating research and development projects and of promoting research on accessibility and the utilisation of research information. By decision of the Ministry, the term of office of the steering group began on 27 October 2003 and the extended term of office will end on 31 January 2007.

In addition to the Elsa programme steering group, the Ministry of Transport and Communications convened a separate working group for professional skills and co-operation whose task was to develop training and co-operation projects. The working group was appointed to support the planning of training and development programmes through which it is possible to influence the knowledge, skills and attitudes of transport administration, planners, implementers and the personnel in charge of transport services. The term of office of the working group began on 27 October 2003 and ended on 24 October 2005. On 24 October 2005, the working group submitted its final report to the Ministry of Transport and Communications. Results of the working group are presented in sections 2.3. and 2.5. of this report.

## **Research and development work**

All research and development projects of the Elsa programme have been chosen through three rounds of project applications. The only exception to this is the survey and action plan for accessible water transport for which a separate competitive tendering was carried out. The priorities of the project applications were premised on the topics of the accessibility strategy research and development projects and the steering group members' opinions on the significance of different topics. The first submission of project applications was in March and April 2004. The focus was on the improvement of public transport services, technological development and support for municipal actions. The first project applications resulted in the launch of 12 projects. The second and the third round of project applications focused on supporting municipal work. The second submission of applications took place in September and October 2004 and resulted in the launch of 10 projects. The third round, carried out in October 2005, resulted in the launch of 7 projects. After the working group concluded its operations, a total of 28 Elsa programme projects were completed. The development project for environmental products continues in 2007 under external financing, and the project for accessible water transport ends in February 2007.

Apart from the Ministry of Transport and Communications, projects have also been financed by the Ministry of the Environment, the Ministry of Social Affairs and Health, the Finnish Road Administration, the Finnish Rail Administration, VR Group, Finavia and its subsidiary Airpro Ltd., the Finnish Association of Local and Regional Authorities, Helsinki City Transport, Helsinki Energy, Tampere City Transport and 14 towns and municipalities. Only 4 projects were financed exclusively by the Ministry of Transport and Communications. The experience of representatives of organisations for the disabled and municipal councils for the disabled and the elderly contributed valuably to the steering of these projects. The steering group of each project included users representing either an organisation for the disabled or a municipal council for the disabled or the elderly.

The following is a short description of the content of the Elsa projects grouped by topic. Detailed project descriptions and contact information of implementers are included in the project summaries in Annex 1. Reports of all Elsa projects are available on the Elsa site [www.elsa.fi](http://www.elsa.fi).

### **Accessible public transport routes and quality corridors**

The accessibility of public transport routes was surveyed in two projects. The surveys covered the entire travel chain: information provided before the journey, ticket purchase and arrival at the stop, information at the stop, waiting at the stop, getting on the bus and the journey on it, service from the driver and getting off the bus. Improvements to each part of the chain were suggested and the party liable for measures was defined. Improvement plans for the most important stops were created.

Projects for service lines examined the suitability of different demand responsive transport models for various types of service routes. The functionality of two different models was tested in real operation environments. Dispersion of information on service lines was surveyed in both these projects. In addition, the project implemented in Kotka suggested improvements to the structures of stops and the routes of the lines in question.

Projects promoting accessible public transport and accessible non-motorised traffic quality corridors proposed ways to observe the quality corridors in planning and decision-making and suggested criteria for an accessible quality corridor.

Projects:

- Accessible pilot line – bus line 19 in Espoo
- Accessible pilot line – bus line 25 in Tampere
- Accessible Helsinki Service Routes Using Demand Responsive Transport Systems
- Development of Service Routes in the City of Kotka
- Accessibility in Quality Corridors
- Ylämylly–Joensuu, Joensuu-Niittylahti and Joensuu–Kontiolahti Quality Bus, Walking and Cycling Corridors.

### **Accessible public transport stops and terminals**

The accessibility of lighting and colouring of terminals and their environs was surveyed by carrying out user tests, laboratory tests, tests relating to lighting technology and with the help of computer modelling. Three pilot sites were used. The work produced new guidelines for accessible outdoor lighting of specific applications such as staircases, underpasses and station platforms and entrances. The results were translated into practice in the Pasila terminal Accessibility Survey and Implementation programme.

The general dimensioning guidelines for an accessible bus stop, produced by the project "Accessible pilot line in Espoo", were tested in practice as the first test stop was finished. The test group consisted of both drivers and passengers. The guidelines were revised on the grounds of user experiences. The dimensioning guidelines for a new model stop are available to all municipalities. An education plan for bus drivers' accessibility training was also developed.

The project for the development of the Oulu city centre public transport surveyed the accessibility of the new public transport plans and suggested improvements to existing plans. In co-operation with a target user group, the current public transport stops of the city centre and the public transport information were also surveyed.

The project for the Tapiola bus terminal examined the suitability of current accessibility guidelines for construction planning and selected the most appropriate solutions for Tapiola's needs.

Projects:

- Lighting of Terminals and their Environs as a Means to Promote Accessibility
- Tapiola Action Plan for an Accessible Bus Terminal
- Pasila Terminal Accessibility Survey and Implementation Programme
- Promoting Accessible Public Transport in the City Centres of Medium-sized Cities, Case City of Oulu
- User Test of Accessible Bus Stops, Specification of Plans and Education Plan for Drivers.

**Development of public transport services**

To facilitate the development of travel dispatch centres, a survey on the handling of personal information during the establishment and operation of travel dispatch centres was conducted. The liabilities and rights related to registration of personal information were covered, and a national customer and service profile model was proposed.

The aim of the project for a future coach was, in co-operation with transport operators and bus manufacturers, to identify realistic and implementable design methods for an accessible long-distance bus. The development proposals were divided into accessibility enhancing, immediately implementable solutions and into those that can be developed via the private sector for example under funding from the Finnish Funding Agency for Technology and Innovation TEKES. A completely accessible front section of a low-floor bus remains a target for later development.

For improved public transport passenger information, a model for inputting accessible service routes into a public transport database was created. This enables viewing service routes in a web-based route planner. To ensure the accessibility of passenger information, an operation model for the Helsinki City Transport was created. This model is applicable to other cities as well.

The survey for accessible water transport was based on the implementation of the Accessibility Strategy of the Ministry of Transport and Communications as well as the Directive 2003/24/EC. This project examines the current accessibility situation of inland water transport with regard to the physical accessibility of vessels and terminals, availability of information, safety of passengers with reduced mobility and professional skills of personnel. The action programme makes concrete recommendations and suggests a timetable and a liability party for the measures provided in the Directive and the accessibility strategy. The project will end in February 2007.

Projects:

- Creation of Travel Dispatch Centre Customer Profiles and Evaluation of Databases
- Development of a Future Coach
- Data Input of Helsinki City Transport Service Routes into the Database JORE

- Action Plan for Accessible Passenger Information for Helsinki City Transport
- Survey and Action Plan for Accessible Water Transport.

### **Municipal accessibility work**

During the Elsa programme, accessibility chartings and action plans to remove existing shortcomings were carried out in seven municipalities. In each municipality, the measures were charted, defined and prioritised individually, according to the size of the municipality, the municipality-specific situation of accessibility work and ongoing or future construction projects. These seven examples provide good models and practices to a variety of municipalities. Five of the projects are described in the summary report *Accessible transport and traffic environments – Experiences from the accessibility projects of Finnish local authorities*.

#### Projects:

- Accessible Transport Environment in the City of Hyvinkää
- Accessibility in Construction Planning – Surveying the Road Design and Construction Plan of Alahärmä Municipality
- City of Järvenpää, Accessibility Action Plan and Public Transport Development Plan
- Accessibility Surveys and Implementation Programmes in the Small Localities of the Municipalities of Kiuruvesi and Sonkajärvi
- Promoting Accessibility in the City of Kotka
- City of Forssa, City Centre Accessibility Survey and Public Transport Accessibility Charting.

### **Product development**

Better observation of accessibility in the winter maintenance of street areas was surveyed by means of expert interviews and journals kept by users of example sites. Development proposals both with regard to defining the pedestrian route maintenance classification and the related quality standards were made. Improvements to communication and dispersion of information were also suggested.

The development project for accessible environmental products continues the SuRaKu project that established guidelines for the planning, construction and maintenance of public outdoor facilities. The aim of this development project was to improve the products for environmental construction to conform to the requirements set in the SuRaKu project. The project was implemented in co-operation with product manufacturers, and it focused especially on the kerb elements of pedestrian crossing points and bus stops, outdoor steps, guide plates for the visually impaired, separation and warning materials and rainwater gutters.

The potential uses of LED-lights in enhancing the flexibility, guiding and safety of travelling were charted by examining various technological applications. The

most significant ideas relate to improved visibility of pedestrian crossing points and marking of routes and bus stops.

Projects:

- Accessible Winter Maintenance
- Development Project for Accessible Environmental Products
- Improved Accessibility through Better Lighting.

### **Other topics**

Accessibility of water transport and air traffic was surveyed. Existing and available means to assist persons with reduced mobility in transferring to aircraft were charted, and impacts of the new EU regulation on airport procedures and liabilities were examined. The water transport survey focused on the development measures designed for pilot site shore-areas.

Taking accessibility into account in the land-use planning process was examined during the component master planning and town planning stages of the new Vuores housing area. The experience gained from this pilot project has been translated into development proposals on how to observe accessibility in different stages of the planning process and in marking accessible routes and areas in city and town plans.

The project "Accessibility and service needs of the elderly" used example cases to study the impacts of the shortcomings in the neighbourhood and near-by services on elderly people's mobility and need for help and the resulting costs to both the municipality and the elderly themselves. The results allow municipalities to make macro-economical investments in the development of the transport environment and related services.

Both road safety and accessibility are transport policy objectives that are concretely linked together in municipal work. The survey on observing accessibility in municipal road safety work produced suggestions on how to improve practices and methods to ensure that accessibility is better taken into account in road safety planning.

Projects:

- Accessible Inland Water Transport and Tourist Services
- Transfer of Passengers to the Aircraft
- Planning and Implementing Accessible Routes in New Housing Areas
- Accessibility and Service Needs of the Elderly
- Accessibility as a Part of the Municipal Road Safety Plans.

## **2.2 Training material**

The working group for accessibility prepared a training package that includes the guidebook "Accessible customer service in public transport", the training video "Attitude Matters" and a related slide show. To facilitate and concretise practical training, a public transport trainer bank was also established.

### **Guidebook Accessible Customer Service in Public Transport**

This guidebook discusses accessibility as a part of a high-quality public transport service available to all. The approach is customer service -oriented: because users of public transport services represent all population sectors, good customer service means the ability to understand individual differences between customers and to adapt the service to each situation. Difficulties encountered by passengers are categorised and examined according to the degree of restricted mobility and function.

The Finnish guidebook was printed in 3 500 copies, the Swedish in 800 copies and the English in 900 copies. The guidebook is used primarily in preparatory vocational training of bus drivers, personnel training of Finavia and Finnair, driver training of the Finnish Taxi Association and also in the staff training of the Finnish Bus and Coach Association, the Finnish Public Transport Association and the City Transport operators of some cities. The guidebook is available in all mentioned languages on the Elsa Programme and Trainer bank (see below) sites.

### **Training video Attitude Matters**

The training video "Attitude Matters" was made to supplement the guidebook. Similarly to the guidebook, the video is intended for the entire public transport personnel at different parts of the travel chain, including vehicle drivers, ticket salespersons, conductors, flight attendants and ship pursers. Furthermore, the thought-provoking video promotes awareness of individual needs and is thus suitable also for planners of public transport services and the transport environment. The video is divided into separately viewable sections on bus transport, taxi transport, rail transport and air transport. The video is in Finnish, in addition to which Finnish, Swedish and English subtitles are available. The video was made in 500 DVD and 150 VCR copies and it has been used for example by VR, Finnair, Finavia and bus transport operators. In addition to this, a slide show designed for training events is available on the Elsa programme and Trainer bank sites and is included in the DVD.

### **Trainer bank**

In addition to the training material, a trainer bank was established to support the training of transport operators and other actors in the sector. Through the trainer bank, trainers can get in contact with disabled people who are willing to introduce their personal experiences and views. The trainer bank searched for people who can, in an approachable and evocative way, describe how a person with reduced mobility or function experiences travelling in public transport

vehicles, what kind of expectations and fears he or she has on managing the journey, and how the personnel can best assist such passengers. The trainer bank is a site hosted by the Threshold Association (<http://www.kynnys.fi/kouluttajapankki/kouluttajapankki.html>), and it contains the personal and contact information of the trainers.

### 2.3 Academic master's theses

In co-operation with the Design for All network co-ordinated by the National Research and Development Centre for Welfare and Health Stakes, Elsa programme financed and supervised three academic master's theses. The main responsibility for providing guidance and organising study groups rested on Stakes. Scholarships for the academic master's theses and the study groups were marketed and promoted by the member schools of the Design for All network. Active informing was begun in late September 2004, and the topics for the theses were selected by the end of the year. Of nine applications, three research proposals were chosen. In order to supervise the theses and facilitate co-operation between the scholars, two study groups were organised during the research process and a presentation function was held upon completion of the theses.

The completed theses are:

- Siik, Saara Kirsikka. Design for All – Principle in Urban Planning – Lohja City Center as an Example of Inclusive Environment. Master's Thesis. Tampere University of Technology, Department of Architecture.
- Jouttijärvi Samuli and Kärki Heikki. What is Clear Public Transport Information? Master's Thesis. University of Jyväskylä, Department of Communications.
- Levola Katja. Grandpa Guns the Car – Driving to the Village Centre Local Store. Master's Thesis. University of Tampere, Department of Regional Studies.

### 2.4 Network for Accessible Municipalities

The Accessible Municipality network was open to all municipalities and no requirements as to the extent of prior municipal accessibility work were set. Membership was free. The goal was to provide municipalities with information on promoting accessibility and tools available and to offer the opportunity to network with similar municipalities. Practical methods included dissemination of information via e-mail, distribution of the most recent Elsa reports and county-specific municipal meetings held in August 2004.

At the end of the programme, the Accessible Municipality network had 38 member municipalities:



**Western Finland:**

Halikko  
 Honkajoki  
 Ikaalinen  
 Jyväskylä  
 Jämsä  
 Karvia  
 Kauhava  
 Lapua  
 Lehtimäki  
 Muurla  
 Naantali  
 Nokia  
 Pori  
 Raisio  
 Rauma  
 Tampere  
 Vaasa  
 Vammala  
 Viitasaari

**Southern Finland:**

Asikkala  
 Espoo  
 Helsinki  
 Hyvinkää  
 Kotka  
 Kirkkonummi  
 Kouvola

**Eastern Finland:**

Kiuruvesi  
 Savonlinna  
 Siilinjärvi  
 Sonkajärvi  
 Varpaisjärvi

**Oulu:**

Haukipudas  
 Hyrynsalmi  
 Raahe  
 Ristijärvi  
 Oulu

**Lapland:**

Pelkosenniemi  
 Tornio

**2.5 Dispersion of information**

The information strategy of the programme was implemented mainly through four channels: websites, e-mail, newspaper articles and seminars and training events.

During the first year, the primary objective was to inform municipalities, planners and public transport actors of the programme launch, submissions of project applications and the programme website. During the second year, information continued to be dispersed on the versatility of the website and on project applications. The focus of the third and final year was to report the project results.

**[www.elsa.fi](http://www.elsa.fi)**

The programme has its own website, whose address was chosen for its memorability. Special attention was given to the accessibility of the site and during the programme it has been maintained and updated on a nearly weekly basis. The site features the information and final reports of all the programme's projects, an event calendar on accessibility-related events and a databank containing the latest accessibility publications and links. The site has been frequently visited and the information content complimented. Since September

2004, the site has been visited by over 1 500 people every month. The databank has been the most popular page.

The Elsa website has established itself as an important information channel. It is thus important that it be maintained in the same address even after the programme ends. It has been agreed on with the research unit of the Ministry of Transport and Communications that the Elsa site can be maintained in its familiar address in a form that does not require constant updating.

### **Dispersion of information via e-mail**

Information e-mailing was organised through a mailing list, open to registrations of all interested parties. Registration has been possible on the Elsa website. The list contains over 100 addresses of representatives of local authorities, the State administration, consultancies, organisations and transport organisers. Information on current events and completed reports has been posted on the list every few months. The same information was always sent also to the members of the Accessible Municipality network, the accessibility contact persons of the Finnish Road Administration and the accessibility teams of Provincial State Offices.

### **Articles**

Upon launch of the program, articles focused on the programme website, project applications and information on joining the Accessible Municipality network. In 2004, general articles on the launch of the Elsa programme and the establishment of the Accessible Municipality network were published in the following magazines and periodicals:

- Kuntalehti
- Asu ja Rakenna
- Ympäristö
- Paikallisliikenne
- Tiennäyttäjä.

In 2006, the focus of the articles was to report the project results and their applicability. The Elsa programme summary article was published in the following journals:

- Tekniikka ja kunta
- Kuntalehti.

In addition to the Elsa programme co-ordinator, Elsa project managers and steering group members were active in reporting the results of individual projects. The results were covered in both professional journals and local newspapers. The precise number of published articles is unknown. The following are examples of published articles:

- Taksi:  
three articles in 2004–2006, the topics of which were assisting a visually impaired passenger, accessible service and lack of trust as an impediment to accessibility. Written by Anne Jormanainen.

- Tiennäyttäjä (2005):  
Esteettömyys kuntien liikenneturvallisuustyössä (Accessibility in Municipal Road Safety Work) by Tytti Viinikainen, Esteettömyys Joensuun seudun laatukäytävähankkeissa (Accessibility in Joensuu Quality Corridors) by Mika Savolainen and Susanna Kokkonen and Esteettömyys on laatukäytävän laadun mitta (Accessibility as a Quality Criterion of a Quality Corridor) by Mervi Niemelä-Hytönen.
- Tie ja Liikenne (2006):  
Esteettömyys talvihoidossa (Accessible Winter Maintenance) by Heljä Aarnikko.
- Kuntatekniikka (2005):  
Matkakeskusten esteetön valaistus (Accessible Lighting of Public Transport Interchanges) by Sirpa Laitinen.
- Valo (2005):  
Matkakeskuksen esteetön valaistus (Accessible Lighting of Public Transport Interchanges) by Sirpa Laitinen.
- Bussiammatilainen (2005):  
Announcement on the release and utilisation of the training material and the trainer bank.
- Helsingin Sanomat (2005):  
Editorial emphasising the impacts of an accessible environment on social expenses as stated in the publication "Accessibility and Service Needs of Older People".
- Tekniikka ja kunta (5/2006):  
Esteetön valaistus parantaa asemien ja muun joukkoliikenneympäristön käytettävyyttä (Accessible Lighting as a Means of Improving the Accessibility of Terminals and other Public Transport Environments) by Sirpa Laitinen.

### **Seminars and training events**

Results of Elsa projects were reported twice in connection with Elsa seminars. These seminars were held in March 2005 and 2006. Presentations were made by project managers. The seminars were participated by planners and researchers representing consultancies, the State administration as well as organisations and municipalities.

In February 2006, the Elsa programme, the Finnish Road Administration and the Finnish Accessibility Association jointly organised three regional Accessible Transport Environment -training events. Most of the participants were planners, constructors, maintainers and commissioning parties of municipalities and the Finnish Road Administration. The training events focused on a thorough examination of different travellers' different needs and the ways to observe accessibility in the planning of public areas, public transport, land-use as well as winter maintenance. To facilitate the training events and to supplement the municipal accessibility work, the report *Accessible transport and traffic environments* was compiled. The report provides basic information on means to promote accessibility and presents the various elements of an accessible

transport and traffic environment. It also describes the accessibility surveys and action planning of five different municipalities.

Apart from the Elsa programme events, the programme co-ordinator introduced the programme and its results in various events by other actors. In 2004, the Elsa programme was presented in five events, during the following year in two events and in 2006 it was introduced in three events. In addition to this, members of the steering group presented the programme and project managers of individual projects reported their results on several other occasions. The results of four Elsa projects were presented in the National Transport Infrastructure Conference (Väylät ja Liikenne) in 2006.

In addition to presentations, the Elsa projects had a dedicated exhibition division during the Local Traffic event of the Finnish Public Transport Association and also in the exhibition organised in connection with the Accessibility Seminar 2006 of the National Research and Development Centre for Welfare and Health Stakes.

Elsa gained international visibility at the seminar for accessible public transport in the Nordic countries, organised on 26 September 2006. In May 2007, an international UITP conference on public transport will be held in Helsinki, where the Elsa training video and other training material will be presented. A world conference for accessibility will be held in Canada in June 2007, for which two presentations on the Elsa programme have been accepted: one discusses the Elsa training material and its use and the other presents the programme results as a whole.

### **3 RESULTS OF ELSA PROJECTS**

#### **3.1 Charting of results**

This chapter presents the immediate results of the Elsa programme and individual projects, their impacts and translation into practice. This is thus mainly a description of direct immediate effects. More research data and results regarding the impact of the Elsa programme on attitudes, procedures and methods as well as general awareness are included in the section on programme evaluation.

The information in this chapter is based on the views of local authorities, project managers and steering group members on the dispersion and implementation of the results.

#### **3.2 Effects with regard to strategies and programmes**

Emphasis laid on accessibility in various contexts has increased its significance. Accessibility is now observed in a broader context and taken into account at an earlier stage. After the Ministry of Transport and Communications published its Accessibility Strategy, accessibility was included in the following strategic documents:

- National Traffic Safety Programme 2006–2010 drafted by the National Traffic Safety Council
- Road Safety Programme of the Finnish Road Administration
- Traffic 2030 -strategy of the Ministry of Transport and Communications (in preparation).

#### **3.3 New guidelines**

##### **Guidelines for outdoor lighting of terminals and related environments**

The project "Lighting of terminals and their environs as a means for promoting accessibility" surveyed the accessibility of current recommendations for both indoor and outdoor lighting. Based on the project results, the recommendations for outdoor lighting were amended to better observe also the needs of the visually impaired. Especially targeted applications include bus stops, terminal entrances, platform areas, outdoor stairs, under- and overpasses and routes from terminals to public transport stops.

A contrast study carried out in laboratory conditions produced interesting new information on contrast-marking steps and changes in elevation. Before these results can be translated into planning recommendations, a practical user study needs to be performed.

The new lighting guidelines have already been used in the repair plans and construction of piloted targets and the lighting plans of the new metro terminal of Kalasatama in Helsinki. Also the Pasila accessibility survey and action plan were carried out observing the new standard values. Information on new

recommendations has been dispersed by means of several presentations and articles. However, in order to implement the new recommendations more comprehensively, they need to be incorporated into the current planning guidelines. The guidelines for outdoor lighting by the Illuminating Engineering society of Finland would offer a good publishing channel.

### **Creation of travel dispatch centre customer profiles**

The project "Creation of travel dispatch centre customer profiles and evaluation of databases" produced a national proposal for a customer and service profile of persons in need of special transport. In addition, a model form for customer interviews was created and instructions for conducting interviews provided.

The model created in the project has been introduced in the national travel dispatch centre project which aims at establishing approximately 20 regional travel dispatch centres throughout the country by 2009. The model has been put to use in the establishment projects of Southern Savonia and North Karelia travel dispatch centres. The Tampere region travel dispatch centre project used the model as a basis for creating a customised customer profile.

### **Pedestrian route maintenance classification and criteria**

The project "Accessible winter maintenance" proposed improvements to the pedestrian route maintenance classification and quality standards to observe accessibility. One of the starting points of this project was the revised Act on the maintenance and cleaning of streets that entered into force in November 2005. This Act provides that the needs of pedestrians and bicyclists and the health, safety and accessibility aspects of the environment be better taken into account.

Alongside this revision, the Association of Finnish Local and Regional Authorities has been preparing new municipal guidelines with regard to maintenance quality standards, placing routes in the maintenance classes and the detailed regulations issued by local authorities. These new guidelines will replace the previous ones issued in the 1980s. The new guidelines observe the results of the project "Accessible winter maintenance". The guidelines "Quality level of street maintenance and cleaning and the classification of routes" were published at the end of 2006.

These guidelines issued by the Association of Finnish Local and Regional Authorities are alone inadequate in guaranteeing sufficient quality with regard to accessibility. Specified instructions have thus to be provided to contractors as well. Contractors receive their directions from the maintenance product requirements that are applied to the competitive tendering for and directions of regional contracts. As a continuation of the project "Accessible winter maintenance", the cities of Tampere and Helsinki and the Finnish Road Administration are co-operatively preparing product requirements that observe accessibility criteria. When completed, the product requirements are fully available to other municipalities as well.

### **Dimensioning guidelines for a raised stop**

In addition to stop-specific master plans, the project "Accessible pilot line 19 in Espoo" produced a general dimensioning model for a raised bus stop. The first test stop was built in Puolarmetsä in Espoo in summer 2006. In the project "User test of accessible bus stops, specification of plans and education plan for the drivers – bus line 19 of the city of Espoo", both passengers and bus drivers tested the new stop. Based on user experiences, the dimensioning guidelines for a general model stop were slightly revised.

The Finnish Public Transport Association infracards are a series of dimensioning guidelines for bus transport structures that are actively used by planners. The current infracards do not, however, include precise dimensioning guidelines for kerb stones of raised stops. The infracards will be updated in the near future. It has been agreed on with the Finnish Public Transport Association that the new model stop dimensioning will be incorporated in the infracards in the updating process. In spring 2007, the new dimensioning guideline will be included also in the SuRaKu-guidelines, offering thus another information channel and eliminating any contradictory information.

### **Guidelines for the accessibility training of bus drivers**

The project "User test of accessible bus stops, specification of plans and education plan for the drivers – bus line 19 of the city of Espoo" produced guidelines also for the accessibility training of drivers of an accessible bus route. Supplemented with the information from the project, the existing education guidelines by the Finnish Association of People with Mobility Disabilities were used as a basis for the training guidelines. The guidelines are applicable throughout Finland.

The new training programme is introduced in the competitive tendering criteria for transport first with regard to the bus line 19 in the city Espoo, and thereafter in all Espoo internal traffic. The training programme will soon become a part of the competitive tendering criteria used by the YTV Helsinki Metropolitan Area Council as well. The aim is to bring the new training guidelines into the use of other municipalities and transport operators by informing on them in the journal of the Finnish Public Transport Association and by sending e-mail announcements to transport operators and municipal parties responsible for technical matters and service transport.

## **3.4 New planning practices**

### **Accessibility in road safety plans**

The project "Accessibility in road safety plans" produced an operational model whereby accessibility is taken into account by the right level of administration at the appropriate planning stage. The first step in integrating accessibility into traffic safety planning is to organise the work and to set up working groups. The steering group for planning has to include one or more persons responsible for

accessibility, and co-operation with interest groups such as organisations for the disabled or the elderly is to be planned at an early stage. The model of dispersed troubleshooting is to be replaced in planning by a method of analysing and planning travel chains and uninterrupted routes. All planning processes have to ensure the accessibility of solutions.

The Finnish Road Administration representatives of road safety and accessibility in the road districts have been informed of the new planning practice. As a result, accessibility is better taken into account in recently completed or currently prepared road safety plans. In addition, existing plans are now surveyed for accessibility as per the fairly established practices for road safety inspections.

### **Accessibility in quality corridor planning**

Two projects promoting accessibility of public transport and non-motorised traffic quality corridors proposed ways to observe quality corridors in planning and decision-making and suggested criteria for an accessible quality corridor.

Ideas proposed in the Joensuu pilot site plan have been integrated into transport system work and master planning processes. In addition to this, all planning parties attend to yearly examinations of instant development targets of the following year. The projects planned in the other pilot site in the Kouvola region have been incorporated into the transport system plan whose implementation is covered by a preliminary contract.

### **Accessibility in land-use planning**

The project "Planning and executing accessible routes for new housing areas" and the academic master's thesis on accessibility in land-use planning produced planning symbols for accessibility and introduced guidelines for taking accessibility into account at different stages of the land-use planning process.

The pilot site of the project "Planning and executing accessible routes for new housing areas" was the new housing area Vuores in Tampere. Symbols for accessibility were not used in the Vuores town plan outline, but for example solutions created for the non-motorised traffic network were essentially incorporated in the land-use planning solutions. Moreover, accessibility plays a central part in both the Vuores plan report and the construction quality guidelines that are annexed to the construction method guidelines.

Accessibility is observed also in the recent publication "Traffic safety in land-use planning" of the Ministry of the Environment. To assess the current state of town plans and master plans and to make impact assessments, the publication was reduced into data sheet checklists. Accessibility is taken into account in these checklists as well. The new publication and its content were presented at the conference on living environments and community planning that was targeted at town planners and zoners.



### **Accessibility charting and planning of the overall public transport service**

Two Elsa projects surveyed a bus line designed as the accessible city line and also proposed measures and plans to implement accessibility. The surveys covered the entire travel chain from home until the destination: information provided before the journey, ticket purchase, arrival at the stop, information at the stop, waiting at the stop, getting on the bus and the journey on it, service of the driver and getting off the bus. By way of the survey examples, the new dimensioning guideline for accessible bus stops, the guidelines for driver training and the example on accessible passenger information, a comprehensive picture of the aspects to be taken into account in public transport planning and the means for it can be formed.

In the target cities of Tampere and Espoo, accessible public transport has been realised in the pilot targets and it is promoted with regard to other lines as well. Because the objective is to bring good planning practices into the use of other municipalities as well, information is provided in the journal of the Finnish Public Transport Association and dispersed also through the mailing list.

### **Accessibility surveys and action plans**

During the programme, accessibility surveys and action plans were carried out in nine municipalities or parts of municipalities. In each case, the activities were charted, defined and prioritised individually, according to the size of the municipality, the municipality-specific situation of accessibility work and ongoing or future construction projects. Depending on the level of work done, the priorities included accessibility surveys, utilising location information in chartings and interest group co-operation, development of service transport, improving accessibility of harbour and shore areas, accessibility surveys of small built-up areas and simultaneous accessibility surveys and road and construction planning. The significance of interaction between interest groups and users was emphasised throughout the example projects.

These nine examples provide good models and practices to a variety of municipalities. Six of these municipal projects are described in the summary report *Accessible transport and traffic environments – Experiences from the accessibility projects of Finnish local authorities*. The report was printed in 500 copies. It has been delivered widely to all members of the Accessible Municipality network and distributed also in Elsa programme training events and exhibitions. Municipalities received information on the report also through the Finnish Association of Local and Regional Authorities. The summary report has received positive feedback and the co-ordinator has received frequent requests for it. The report is currently out of print, but it can be printed from the Elsa programme site.

### 3.5 New services and products

#### **Training material and trainer bank for public transport personnel training**

The training material (guidebook and video) described in section 2.3. has been widely distributed. The material has been used for example for the following purposes:

- VR uses the material to train new conductors. In addition to this, all long distance transport area managers have been provided with the guidebook and video and they have led related discussions in team meetings. The guidebook was also given to station personnel managers who were instructed to discuss the matter in team meetings.
- Finavia has distributed the training material to all passenger airports so that it can be used as extensively as possible. Furthermore, accessibility has been made a part of the security check training programme and general staff training. Finnair uses the training material to train flight attendants and pursers.
- The Vocational adult education centre for bus drivers and vocational colleges offering training for bus drivers discuss accessibility and hand the material out to all course participants. Also the Finnish Bus and Coach Association and the Finnish Public Transport Association have informed their members on the release of the material.
- The Finnish Taxi Association has distributed the material to be used in the training of taxi drivers around the country.
- The Finnish Maritime Administration has distributed the material to be used in the health education in all maritime colleges. All students and qualified mariners attend to supplementary health education courses every five years.
- The Provincial State Offices delivered the guidebook and the video to all their offices and persons responsible for public transport. The material has been used in training events.
- Several organisations such as the Finnish Association of People with Mobility Disabilities and Finnish Federation of the Visually Impaired have distributed the material to their trainers, accessibility experts and regional offices. The material has been used in training events.

The public transport trainer bank, maintained by the Threshold Association, currently hosts 23 trainers. All the trainers have received one-day training on training event performance and matters worth particular attention. The trainer bank was opened in December 2005. According to a trainer enquiry, by October 2006 only three trainers had been asked to teach in a total of five different events (14 respondents). Several trainers have taken part in events organised through different channels and have received positive feedback for their work.

The journal Bussiammatilainen has informed of the trainer bank and its purpose. Bus transport development and training organisation Bussialan kehittämispalvelut BAK has planned to market the trainer bank further and use it regularly in its own training. Finavia has passed information on the trainer bank to parties responsible for staff training. With regard to its own operations, Finavia predicted an increase in the use of the trainer bank, for after 26 July

2008 the provision of assistance to persons with disabilities or with reduced mobility will be the airport operators' responsibility.

### **Helsinki service routes in the route and line planner**

The project "Inputting Helsinki service lines into the database JORE" developed a way to input service line data and transferred all information on Helsinki service lines into the database JORE. From the database, the information was transferred directly into a web-based route and line planner maintained by the YTV Helsinki Metropolitan Area Council, through which the information has been available since the beginning of May 2006. The possibility to view the service lines on the internet along with other public transport information has improved the availability of information on accessible connections.

### **Environmental SuRaKu products on the market in 2007**

Implemented in co-operation with product manufacturers, the development project "Accessible environmental products" brought on the market products that conform to the new SuRaKu criteria. These products include concrete and stone kerb elements, heated outdoor steps and plates and warning materials designed to guide the visually-impaired. Under this project, the products were developed, their manufacturing methods tested, the installed products tested by the target users and the durability of materials with regard to winter maintenance conditions tested. Manufacturers have independent responsibility for the products that are brought on the market in 2007. During the project, dimensioning and user tests of the products were completed and the information was made available to all product manufacturers. Product manufacturers market the new products in connection with normal marketing activities.

The project resulted also in the decision to build a permanent exhibition area for accessible environmental products to the children's driving park of the Helsinki City Youth Department situated in Laakso, Helsinki. The exhibition is built in spring 2007 and will be in place at least until 2011. The exhibition will benefit both the users and product manufacturers: manufacturers can introduce new products in an appropriate environment, and users have the possibility to test and give feedback on them in a safe setting corresponding to the real traffic environment.

## **3.6 Impacts on municipalities**

The impacts of the Elsa programme vary extensively and depend on the extent of prior municipal accessibility work and whether the municipality was a pilot municipality for a research or a development project. A total of 26 localities hosted research and development pilot and project sites. In addition, the Accessible Municipality network consists of 38 municipalities, some of which have also hosted research and development projects. Altogether, Elsa measures were implemented in 54 localities.

The most extensive effects were seen in the seven municipalities whose centres were targets for accessibility surveys and implementation programmes. In these cases, the participation of representatives of various administrative sectors and interest groups was active, and the awareness on the promotion of accessibility and the means to do so became wide-spread. Several municipalities reported also changes to procedures and methods to better observe accessibility. All municipalities managed to implement their plans in incorporating proposed construction measures in the budget for the following years.

However, municipalities that were pilot targets for a single topic did not reach the same level of general awareness. Participants to these projects included representatives of the administrative sector being developed and their interest groups. Nevertheless, the awareness of the significance of promoting accessibility increased also in these municipalities and proposed development plans are being implemented.

Activities in the Accessible Municipality network member municipalities were diverse. Some municipalities made good use of training and material provided and managed to disperse information effectively among the various administrative sectors. In other municipalities, however, the information did not travel beyond the recipient.

Furthermore, officials of dozens of municipalities have participated in seminars introducing Elsa projects. The visitor statistics of the Elsa website indicate that seminar presentations have been viewed frequently.

### **3.7 Other research results**

#### **Impacts of an accessible environment on the mobility of elderly people and costs**

The project "Accessibility and service needs of the elderly" examined impacts of the shortcomings in the neighbourhood and near-by services on elderly people's mobility and need for help and the resulting costs to both the municipality and the elderly themselves. This case study indicated that the shortcomings in the neighbourhood and near-by services considerably increase the service need of the elderly. This not only results in higher costs but also reduces the quality of life and impairs mental wellbeing. Accessible pedestrian environment has the most significant impact on the mobility of persons with considerably reduced functional skills. In contrast, accessible public transport has the greatest effect on the mobility of the elderly who have average physical condition and functional skills.

The results enable macro-economical investments in the development of mobility and related services. Costs or savings caused by changes to the need for assistance should be taken into account when assessing investments. The knowledge of the social services on customers' needs, problems related to the environment and need for assistance caused by the shortcomings in the

neighbourhood should be expressed so that the information can be utilised by technical departments and land-use planners.

### **Development of an accessible coach**

The aim of the project for future coaches was, in co-operation with transport operators and bus manufacturers, to identify realistic and implementable design methods for an accessible long-distance bus. The solutions observe especially the needs of the ageing, for they constitute a significantly expanding group of long-distance transport users whose needs relate strongly to various aspects of accessibility.

According to the working group, immediately implementable accessible solutions include staggered floors, contrast colouring, improved interior lighting, improved upholstering materials, alternative seating arrangements and ergonomic toilets. Solutions that can be developed via private sector and be financed for example by the Finnish Funding Agency for Technology and Innovation TEKES include swivel seats, lifting stairs, improved aisle width and location of the control console, storage compartments and information provided during the journey. At this stage and at the current long distance market situation and organisational situation, the development of a completely low floor front section was deemed a target for later development.

The final report of the working group was distributed widely among the operators of the sector and the work was presented during the November 2006 event for bus and coach technology. Further development projects are yet to be established and responsibility for their launch rests on transport operators and bus manufacturers.

### **LED lights as a means for safer environment and seamless travel**

The potential uses of LED-lights in improving the seamlessness, orientation and safety of travelling were examined by charting various technological applications. Some of the applications can be implemented immediately whereas others require further development for some years. Some are not technically possible to implement for another 5–10 years. The most significant ideas relate to improved visibility of pedestrian crossing points and the marking of routes and bus stops.

Three project cards were made of sites where the technology is ready to be implemented: Tapiola bus terminal, Ruoholahti metro station and Tikkurila bus terminal. Due to the arguably poor financial situation and risks related to the relatively unknown technology, none of the pilot targets have yet been built. Additional information on the applicability of the technology in Finland cannot, however, be acquired without a test site. It is therefore essential to find a pilot site. Finavia has expressed its preliminary interest to test LED lights in guiding the visually impaired in terminal environments.

### **Suitability of demand responsive transport for service lines**

The project for Helsinki service routes surveyed and tested the suitability of demand responsive transport for various types of service routes. Different alternatives were compared with regard to accessibility and other service level aspects, device investments and other costs and also with regard to feasibility. The project results indicated that partially demand responsive transport is well suited for suburban service routes and the Haaga pilot project has thus been continued and extended beyond the trial period.

The objective is to extend the implementation model of demand responsive transport to other Helsinki service routes as well. Extension of demand responsive transport to service routes in other municipalities is under consideration. So far at least the municipalities of Eastern Finland are preparing to introduce demand responsive transport to conventional service routes. Performance agreements between the Ministry of Transport and Communications and the Provincial State Offices that mention the issue are one possible expedient of extending the system.

### **Usability tool for public transport passenger information**

A concept for evaluating the accessibility of passenger information during the planning process was developed for Helsinki City Transport. With the charting tool, the accessibility of existing information for all user groups can be surveyed and the accessibility of new information products can be ensured. Introduction of the tool denotes also that accessibility be observed as a natural part of the passenger information planning process. Although the tool was developed for the needs of the city of Helsinki, it can be applied to other municipalities as well.

According to the recommendations of the project, Helsinki City Transport is gradually adopting accessible passenger information as a central part of the planning processes. Other municipalities are informed of the progress in the journal of the Finnish Public Transport Association and through e-mail messages.

### **Accessibility guidelines for construction planning**

During the construction planning stage of the Tapiola public transport terminal in Espoo, existing accessibility guidelines and those produced by Elsa projects that can be directly implemented in construction planning were examined. The results revealed that comparing different alternatives in the construction planning stage was complicated particularly by the insufficient publishing information. Furthermore, the majority of guidelines are too general to be applied to construction planning.

Basic accessibility-promoting solutions that are chosen in the general road and street planning stage seem thus to be central when construction planning stage solutions are drafted. Other solutions that have a significant impact on the

accessibility of the construction plan are dictated by municipal type plans which define the dimensioning of plans. It should therefore be ensured that the municipal type plans conform to current accessibility requirements.

### **Transfer of passengers to aircraft**

The project surveyed the current equipment and procedures used to assist passengers with reduced mobility to board aircraft in Finland and other select countries. Related problems were also examined. Based on the survey, improvements to the current situation were proposed.

The research was based on the proposal by the Commission of the European Communities for a regulation concerning the rights of persons with reduced mobility when travelling by air. The proposal would make the airport management responsible for organising assistance to persons with reduced mobility at the airport both before departure and upon arrival. Actions comprised in the proposal include defining the quality requirements and related monitoring of large passenger airports and determining of charges for passenger services based on the passenger volume of the previous year by airline. Establishing airport entry and exit points is also included in the actions. Other actions suggested are the preparation of a common operations model and directions for apron control to accommodate aircraft carrying persons with reduced mobility to gates with access to jetways.

## **4 EVALUATION OF THE IMPLEMENTATION OF THE ACCESSIBILITY STRATEGY ACTION PROGRAMME**

### **4.1 Action programme – General**

The Accessibility Strategy of the Ministry of Transport and Communications presented a concrete action programme for promoting accessibility at different parts of the travel chain. One of the measures was to implement the research and development programme for accessibility. The Elsa programme and its impacts have been described in the previous sections of this report. This chapter evaluates the implementation and development needs of other action programme measures. If the measure has been implemented within the framework of the Elsa programme, it is only briefly mentioned.

All measures of the accessibility strategy do not require supporting research and development projects but can be implemented along with normal authority co-operation. The means of the Ministry include the performance management of transport infrastructure administrations and co-operation groups. Steering the work of authorities with regard to purchases and legislation (legislation, purchases, permits, State aid) has been launched, but very slowly. EU legislation has facilitated this considerably. Accessibility has been promoted most effectively through measures, for which distinct human and other resources (for example the Finnish Road Administration and Provincial State Offices) were possible to allocate or the relevance of this was understood or the subject matter is a competitive factor or important due to EU legislation (taxi transport and air transport).

The measures of the accessibility strategy action programme were divided thematically. Several implemented measures resulted in improvements in more than one area. Certain measures might thus be described only under one heading even though its impacts can be seen on other sectors as well.

- a) Accessible pedestrian environment
- b) Accessibility as part of the quality of public transport
- c) Passenger information and payment systems
- d) Public-transport terminals
- e) Bus and taxi transport
- f) Service transport, assistant services and combined travel
- g) Rail transport
- h) Air traffic
- i) Maritime transport
- j) The traffic environment and driving skills
- k) Acquisition of a car and driving license by a disabled person
- l) Research and development programme



## 4.2 Accessible pedestrian environment

### **Accessibility in planning instructions and implementation of an accessible environment**

The past few years saw a favourable progress in the promotion of accessible pedestrian environments. The new SuRaKu criteria and planning guidelines for accessible outdoor facilities were published in 2005. During the Elsa programme, new guidelines and models for accessibility surveys and action programmes have been produced and distributed. The SuRaKu guidelines for planning, construction and maintenance are constantly updated and improved so that the most recent information is always available to all municipalities. The Elsa programme also managed to broaden the perspectives of various user groups on factors affecting accessibility.

The Finnish Road Administration produced guidelines for the road district accessibility surveys already in 2002. The guidelines are a useful planning tool which can be applied also to traffic system planning. In addition, a contact person responsible for co-ordinating and promoting accessibility-related matters was appointed to each road district. The Road Administration has not allocated separate resources for accessibility improvements of existing traffic environments but when possible, improvements are made alongside small road safety measures or road maintenance procedures.

### **Functional and safe crosswalk solutions**

In connection with the SuRaKu project, dimensioning and planning guidelines for a crosswalk suitable for all were established. The Elsa programme extended the theme with a product development project which will bring on the market, for example, a finished concrete and natural stone kerb element that conforms to the SuRaKu criteria.

Completed in 2004, the Ministry of Transport and Communications FITS project "New aural guiding sign for traffic lights" conducted field surveys and tests on using birdsong as an audible guiding signal for traffic lights due to its multi-frequency and good directional hearing properties. The project results did not recommend using birdsong in audible guiding signals, because it did not find favour among the visually impaired. However, related discussions led to alternative solutions being sought to the beeping tone. In spring 2006, aural tests indicated that compared with the beeping tone, the ticking sound was found better and less disturbing to near-by residents. There are no guidelines or provisions that restrict the beep being replaced with the tick. The city of Helsinki has already replaced half of the aural guiding signs of traffic lights with ticking sounds and the rest are to be replaced within a few years.

The ISO standard concerning the acoustic and tactile signals for pedestrian traffic lights for persons with vision impairments and persons with vision and hearing impairments is in preparation (ISO/DIS 23600 – Assistive products for persons with vision impairments and persons with vision and hearing

impairments – Acoustic and tactile signals for pedestrian traffic lights). The proposal aims to standardise the acoustic and tactile signal criteria and related procedures and methods in different countries. Because the current Finnish practice corresponds essentially to the provisions of the standard, the changes brought on by the proposal are likely to remain minor.

### **Pedestrian path arrangements of street work sites**

In 2002, within the framework of the Jaloin project, the Ministry of Transport and Communications commissioned a survey to improve the street repair permit system. After the survey, the Ministry of the Environment began the drafting of an amendment to the Act on road maintenance that entered into force in November 2005. The amendment enables the municipalities to better manage and schedule street repairs. The Finnish Association of Local and Regional Authorities and 15 municipalities steered and financed a project that ended in summer 2006. The project produced a model and recommendation for a street work guidance system conformable to the new legislation. The model also includes instructions on accessible worksite pedestrian solutions. The accessibility guidelines are based on the 2006 completed graduate study "Accessibility during Temporary Traffic Environments", approved by various organisations for the disabled.

### **Intensification of winter maintenance and weather forecast service**

The 2005 implemented legislative amendment, the Elsa project for accessible winter maintenance and the guidelines of the Finnish Association of Local and Regional Authorities for winter maintenance quality levels and the classification of routes have all contributed to observing accessibility in winter maintenance. During the year 2007, product requirements based on the new quality criteria are incorporated in the SuRaKu guidelines.

Some improvements to the weather forecast service were made. The Jaloin project working group for winter pedestrian traffic managed the development of the weather model and information is now provided throughout the country.

### **Development of aids for walking and carrying of goods**

In connection with the Car Free Day in 2005, the Ministry of Transport and Environment and the Ministry for the Environment organised an innovation competition to promote the development of aids for walking and carrying of goods. The competition searched for creative solutions to everyday transport of goods. The winner of the competition was a proposal for shopping bags, shopping bags on wheels and food carts that can be borrowed from the stores against a token. The concept has yet not been translated into practice.

### 4.3 Accessibility as part of the quality of public transport

#### **Purchasing of and competitive tendering for public transport**

During the year 2003, the Ministry of Transport and Communications supervised the drafting of competitive tendering documents for service transport by means of which the municipalities can better take into consideration quality issues and different quality features. With regard to accessibility, the recommended competitive tendering documents require that the vehicle be a low floor vehicle equipped with a ramp or a standard vehicle equipped with a lift for wheelchairs. The vehicles are to have a fastening system for two wheelchairs, room for aids and luggage and support bars that facilitate getting on and off the vehicle. In 2004, a research on the quality, impacts and users of public transport surveyed the condition of the existing service route equipment. Based on the responses of 25 municipalities, just over 60 per cent of the equipment had low floors and just over 80 per cent were equipped with ramps. 70 per cent of the surveyed service vehicles had two wheelchair fastenings, whereas 20 per cent had none at all.

A standard on the fastening system for wheelchairs was approved in 2006. It will be incorporated at least into the competitive tendering documents for the transportation service providers and all transport services purchased by the state.

The development of the quality models of Provincial State Offices for purchased transport is one of the measures in the strategy. Provincial State Offices' performance agreements state that the public transport tendering documents are jointly updated by the Ministry and Provincial State Offices in 2005. The development of quality models has been considered, but the conclusion was that considering the current level and model of purchase transport funding, the only requirement that can be set to the equipment is, as thus far, a certain age. Available funding will otherwise be insufficient with regard to the needs of current purchase transport. The age requirement will be complemented with a requirement for a lowest permissible technical condition.

The responsibility for the development of terms of competitions regarding public city transport rests on municipalities and the YTV Helsinki Metropolitan Area Council. Competitive tendering is the only condition for State aid to public city transport. Progress has been made, and characteristics promoting accessibility and user-friendliness have been included in the quality requirements. The Elsa projects for accessible service routes produced relevant recommendations as well.

In addition to accessible vehicles, more attention has been and needs to be given to the professional skills of personnel with regard to understanding passengers with different needs. According to the latest research project ("Developing assessment of factors affecting the overall quality of public transport – Local transport as a key priority" of the Ministry of Transport and Communications), also the drivers' driving habits are considered a significant quality-affecting factor by passengers.

Rail stock acquisitions raise the quality level. The capital area local transport stock is acquired by Pääkaupungin Junakalusto Ltd. owned by VR and the cities of Helsinki, Espoo, Vantaa and Kauniainen. New rail transport equipment requirements, approved by the board of the YTV Helsinki Metropolitan Area Council were defined in the capital area. The requirements include for example: low floors, wheelchair ramps, interiors and toilets accommodating persons with reduced mobility, better lighting and video recording equipment. Of 130 currently operating local rail transport units, 30 are low-floor units (Sm4 city trains). At present, 220 of the 320 daily long-distance trains feature services for the disabled.

With regard to non-profitable train connections, applicable contract terms for accessible purchased rail transport have been considered.

### **Transport licences and quality provided by companies**

As to the licence system of bus transport, ways to support the company-initiated quality development within the framework of the current licence system have not been studied.

## **4.4 Public transport passenger information and payment systems**

### **Guides on the acquisition of information**

According to the action programme, those responsible for passenger transport information services are to draft clear, continuously updated guides directed at the target group on the present sources of information, the connections and the services available and the ways of functioning in different situations. Most of the public transport operators provide this information as part of other general public transport information and no separate guides have been compiled.

### **The inclusion of information on accessibility**

The inclusion of accessibility information in the national public transport portal [www.matka.fi](http://www.matka.fi) would be a considerable improvement to the quality of the service. At present, the service includes only information on the accessible rail transport equipment. The Finnish Road Enterprise is responsible for the portal maintenance and development for the next three years. The State continues to cover a part of the development costs and will supervise the work through steering groups. In order to incorporate the inclusion of accessibility information in the portal development, financing needs to be organised and the matter is to be actively promoted in the management group.

The development of service route descriptions under the Elsa project made it possible to input the data on Helsinki service routes in a web-based route and line planner. This improved the availability of information on accessible service routes. The route planner should, however, be further developed to accept accessibility of other public transport equipment as a search criteria. The aim of

Helsinki City Transport is that in the future, accessibility information of all stops be available on the internet.

Several cities do not provide separate information on low-floor vehicles in schedules, which complicates the planning of trips and use of public transport of those with reduced mobility. The action programme of the strategy proposes that the Ministry of Transport and Environment and the Provincial State Offices set the presentation of this information a condition for any State support on schedule information and publications. This has yet not been realised, and the prevailing opinion is that such a condition would be too strict for State aid which does not set any other conditions to transport management methods or transport equipment. Municipalities themselves should attend to that accessible route information is included in competitive tendering documents.

### **Improvement of information**

The improvement of information was one of the focus areas of Elsa projects for accessible public transport. A concept for evaluating the accessibility of public transport information was also developed. Overall ways to improve information products were considered also within both the COST 349 project for long distance buses and the Finnish design project.

In 2003, in connection with the HEILI programme, the Ministry of Transport and Communications promoted accessibility by providing guidance on user-friendly information. The report "User-friendliness of Information Services of Public Transport" discusses different information chains and target groups. The statements given on the guide were very favourable. The guide is being actively used for example by the Finnish Rail Administration.

VR pocket schedules feature side profiles of trains and services available in the carriages. Concurrent to this development, the Finnish Rail Administration improved the dividing of platform areas into sectors. This facilitates the boarding of passengers with special needs who have purchased their tickets at the ticket office and have thus received the relevant seating information. Furthermore, to indicate the direction of each train, the Finnish Rail Administration incorporated engine codes into the platform display boards. Station maps need further development to provide more accurate guidance for visually impaired passengers. Station announcements have been improved, but the clarity of on-board announcements still leaves to be desired. Attention needs to be given to the numbering of carriages, for all passengers have difficulties to read the current LCD-displays.

The user-friendliness of info machines in public transport interchanges was taken into account by updating the machine instructions. The transport interchange information displays seem to meet the issued recommendations. The shortcomings relate mostly to the installation of the displays (reflection etc.).

More frequently made announcements and the mobile phone service for transport information both facilitate the use of public transport by persons with visual and hearing impairments.

The Noppa project that was implemented in the years 2002–2005 received wide international attention. The project developed a system for providing schedule and route information for the visually impaired through a mobile phone speech user interface. The use of the navigation system does not require any physical infrastructure installations. The project was piloted on small regions in the capital area. Upon completion of the Noppa project, pilot users continue using the service and small improvements regarding for example phone models being supported and the user interface have been made. It has not, however, been possible to extend the project or to launch major development projects. This necessitates further research and, above all, the division of responsibilities.

### **Development of means of payment**

The Ministry of Transport and Communications has not significantly participated in the recent development projects for methods of payment.

### **Development of travel reservation systems**

The aim of the measure is, already when ordering a journey, to clarify the customer's needs and to make sure that this information will be forwarded at different stages of the journey.

The regulation of the European Parliament and of the Council concerning the rights of persons with reduced mobility when travelling by air, enforced on the 26 July 2008 provides that airlines and tour operators (as recipients of reservations) inform the airport management of the need for assistance in advance. This allows the passenger to arrive at the airport without making an advance notification on the need for assistance. Operational models for the implementation of the regulation are in preparation.

With regard to passengers' need for assistance, other modes of transport have not made improvements to the reservation systems.

## **4.5 Public-transport terminals**

### **Evaluation and improvement of terminals**

The aim was for the owners and those operating at the stations and terminals of different modes of transport to chart the functionality and development needs of the stations in 2002–2004 in co-operation with local associations for the disabled and the elderly. The performance objectives of Provincial State Offices included a reference to the co-ordination of bus terminal chartings. According to the information available, extensive, centrally co-ordinated bus terminal chartings have not been made but they have mostly been made in connection with individual projects and transport system planning. In the course of 2007, a

stop and terminal survey will be launched in the counties of Oulu, Eastern Finland and Western Finland.

Relating to the public transport interchange project of the Ministry, practical renovation measures to promote accessibility were implemented in nine locations hosting completed transport interchanges. The eventual public transport interchange network will consist of 23 locations, in each of which an accessibility survey will be carried out and measures removing obstacles will be implemented. The individual progress will depend on the projects' general acceptance in city administrations. The transport interchange project of the Ministry will end in 2007.

In 2003, the Finnish Rail Administration created a database, through which the accessibility information of 175 passenger stations is available for development work. The database has not been in used very actively, and the needs for improvement have not been thoroughly charted. The station environment charting and the resulting accessibility database can be used in further development and implementation of a more accessible pedestrian environment at stations.

Accessibility was one of the aspects of for example the survey project "Needs and objective state of feeder traffic" of the Finnish Rail Administration. Accessibility is promoted, if the proposed measures are implemented to achieve the objective state. In general, this means co-operation of municipalities and other actors to improve the functionality of station areas and the development of feeder connections. Station environments have been improved, and the development will continue during the implementation of public transport interchange projects. The ongoing survey projects on station environments are to ensure the inclusion of the accessibility aspect.

### **Instructions on the accessibility of public-transport terminals**

The revised parts F1 Accessible building and G1 Housing design of the National Building Code of Finland entered into force in the beginning of 2005. By observing the current building provisions and taking the large number of passengers in the public transport terminals and other good planning practices into account, accessible public transport terminals can be built. A guidebook facilitating the interpretation of accessible building provisions is being prepared in the Ministry of the Environment.

Instructions on the accessibility of public transport terminals should also include instructions and provisions concerning the safety of the disabled in emergencies and exceptional situations. At present there are no instructions or provisions for example on how to inform persons with vision and hearing impairments on exceptional situations in large terminals. The Ministry of the Interior should prepare appropriate instructions.

## **Specification of the service level of the terminal network**

The specification of the public-transport terminal network also at levels below the national public transport interchange network has yet not advanced. The purpose is to classify the terminals of different modes of transport on a national and regional level in connection with transport system planning and public transport and to set service level targets for different classes. This will become current as the transport interchange project is completed.

### **4.6 Bus and taxi transport**

#### **City buses**

The 2002 adopted Directive (2001/85/EC) of the European Parliament containing accessibility requirements for local transport equipment can thus far be implemented alongside with the existing Finnish instructions (Decision on the Construction and Equipment of Buses and Coaches 637/1990) or alongside with the Geneva regulations (R36, R52, R66 and R107). The currently effective Finnish regulations do not require accessible equipment. In addition, the previous financial support provided for acquiring accessible buses that increased the number of low-floor vehicles was discontinued approximately ten years ago.

The Ministry of Transport and Communications aims to gradually repeal the national Decision on the Construction and Equipment of Buses and Coaches and to act on the effective Directive whereby the accessibility provisions of the Directive are made obligatory to all city transport equipment. The Finnish Vehicle Administration has prepared a proposal for the repeal of the national Decision but it has thus far not been submitted. The repeal is proposed to take effect from 1 January 2007, but within a sufficient transition period.

#### **Long distance vehicles**

To promote accessible long distance transport equipment, the concept work of the project "Future coach" and the efforts of the international research project COST 349 were continued within the framework of the Elsa project "Accessible future coach". This project was implemented in co-operation with bus manufacturers and bus transport operators. The development of a completely accessible front section of a bus was deemed a later target in this project as well, for the current market situation and financial state of affairs do not make the required development work profitable. Also the implementation responsibility for smaller development targets rests now on bus manufacturers and transport operators.

Possibilities to promote accessible equipment through legislation should be clarified in connection with the implementation of the new bus directive.



## **Taxis**

Accessibility of taxis has been discussed in the European Conference of the Ministers of Transport (ECMT). The aim was to involve the European passenger car industry. The project results indicated that the present attraction of large European passenger car manufacturers to the development of a new car type suitable for all remains minor despite the fact that European taxi transport organisers have showed an interest towards this.

The joint project of the Helsinki Polytechnic and the University of Art and Design produced the design for an accessible CityCab. The design is based on the wishes of both drivers and passengers and the principle of environmentally-friendly transport. The first pilot car was presented in the Paris Motor Show in October 2006. Customer and expert opinions are collected in international motor shows in Paris, in Helsinki and in the Netherlands. In summer 2007, the functionality of the CityCab will be tested against current taxis in practice. The project will examine the demand and potential manufacturers and aims to reach a production contract.

The Ministry of Transport and Communications is currently financing a development project for a taxi transport quality system. The system is mainly intended for the use of taxi dispatch centres. Quality is emphasised also in the legislative proposal concerning taxi transport that is being discussed in the parliament. According to the proposed taxi transport quality recommendations, taxi drivers are always to take the special needs of the customer into consideration, to ensure safe boarding and disembarking and to provide the customer with necessary assistance. Detailed content of the quality requirements can be defined with a regulation of the Ministry. Provisions of the regulation can relate specifically to the properties, technical condition and equipment of the vehicle, the choice of route, description of customers' special needs as well as to ensuring the safety of the customer.

On 30 September 2005, to develop the professional skills of taxi drivers, the working group of the Ministry submitted a report which emphasises better observance of passengers with disabilities in driver training. The report shall be translated into practice in the near future by for example amending the regulation concerning driving licences.

A national standard on the fastening system for wheelchairs was completed in 2006, and it might have an effect on service taxi requirements.

## **Raising the quality level of stops**

The proper functioning of low-floor city buses requires appropriately raised stops. Two Elsa projects produced dimensioning guidelines for an accessible city bus stop. Transposing the guidelines into national planning instructions will have a long-term effect on the dimensioning of stops. Elsa projects made recommendations also to the fitting level of the stops and to information at the

stops. Actual construction measures for raising the quality level of stops have thus far been realised only in a few municipalities.

Based on the joint cost-distribution recommendations made with the Finnish Association of Local and Regional Authorities, the responsibility for bus shelters along public roads has gradually been transferred to the Finnish Road Administration. Planning instructions for bus shelters along public roads were published in 2003. The instructions on stops have been complemented with guidelines for shelter acquiring. These instructions and guidelines are made to observe accessibility as per current knowledge.

Problems in the quality level of transfer stops for long distance transport and local transport remain major. Transfer stops are difficult to find, their surroundings are poor and pedestrian routes between stops are not sufficiently guided. Solving the problem requires that special attention be paid to transfer stops.

#### **Accessible pilot lines**

Under the Elsa programme, two projects for accessible pilot lines and two projects promoting accessible non-motorised traffic quality corridors were financed. These projects provide good models to other municipalities.

#### **On foot to stations and stops**

The aim is an accessible, smooth, pleasant, safe and well-guided pedestrian connection to stations and stops. Attention has been paid to this in all Elsa projects for public transport terminals, stops and quality corridors. The subject is promoted also in all projects and guidelines for an accessible pedestrian environment.

### **4.7 Service transport, assistant services and combined travel**

#### **Development of service transport**

Service transport is constantly increasing. Some surveys on the impacts of service transport have been conducted. The results of the surveys indicate that the system has promoted mobility, raised the service level of public transport and improved its quality. To facilitate and standardise work in municipalities, competitive tendering documents and quality requirements for service transport were established in 2003. Although changing the model for service transport financing from a two year period to discretionary has occasionally been considered, such proposals are currently not on the table.

Four Elsa projects focused on the development of the service transport system: one on a demand responsive transport model, two on the dispersion of information, one aimed to develop the physical environs and one to improve the route system. The demand responsive transport model suitable for service transport is being implemented in other municipalities as well.

### **Assistants in service transport**

The Act concerning State aid has been amended to allow support for employing an assistant. Information on the number of assistants used is not available.

### **Further development of Travel Dispatch Centres and the relationship of accessible public transport services and service transport**

The aim of the Ministry of Transport and Communications is to establish approximately 20 regional travel dispatch centres (TDC) throughout the country by 2009. A collaboration contract of the MinTC, the Ministry of Social Affairs and Health, the Ministry of Education, the Ministry of the Interior, the Social Insurance Institution of Finland KELA and the Finnish Association of Local and Regional Authorities was signed in October 2004. The Ministry of Transport and Communications set up a working group to monitor and steer the development of travel dispatching. The monitoring group prepared uniform purchase documents for the competitive tendering for travel dispatch centres.

The actual impacts of travel dispatching or the increase in accessible public transport on the supply and demand of service transport or on the service level experienced by and mobility of different user groups have not been surveyed. The aim of the travel dispatch centre monitoring group is to chart the realisation of costs and impacts on customer satisfaction whereby the above-mentioned aspects can be taken into consideration.

### **Pilot projects relating to assistant services at public transport interchanges**

Pilot projects for arranging assistants to public transport interchanges have not been launched nor has the interest to launch such projects been charted.

## **4.8 Rail transport**

### **Accessibility of train carriages**

The majority of the new train stock of the VR Corporation is accessible, as are the new rail buses. The accessibility developments relate mostly to facilitating the mobility of passengers using a wheelchair. The needs of passengers with hearing and vision impairments have been taken into account in the planning of the new stock (e.g. Braille and colour contrasts in the outer doors). Some of the details of the new stock are nevertheless deficient. With regard to the old stock, the so called blue stock is becoming outdated and is scarcely renewed. Old stock equipped with lifts has been used to replace stock in rail sections where the operation of accessible InterCity trains would otherwise have ceased.

### **Access of passengers to trains**

The Finnish Rail Administration will raise platforms in connection with other repair and maintenance projects, but a comprehensive targeted timetable for raising platforms has not been drafted. Raised platforms are already in use on

the largest stations, and their amount will increase constantly as basic renovations are made. Timetables of the Finnish Rail Administration and the travel dispatch centre projects have not always been congruent. The Finnish Rail Administration did not consider important to raise platforms in localities in which more extensive basic renovations possibly entailing changes to platform locations have been planned. The implementation of public transport interchanges might thus have been prolonged with regard to platforms. The Ministry has not been able to sufficiently influence the timetable of the Finnish Rail Administration. Performance management or separately allocated funding for the development of stations may offer the only way to consolidate the timetables.

### **The passenger terms of rail transport and the rights of passengers**

The passenger terms of rail transport have taken the accessibility of visually impaired passengers and passengers using a wheelchair into account by making it possible to use assistants free of charge. If a passenger with reduced mobility or vision impairment is not accompanied by an assistant, he or she can inquire about the possibility for station staff assistance in boarding the train. The conductors have been instructed to assist passengers during the journey in for example fetching refreshments from the restaurant carriage.

## **4.9 Air traffic**

### **Transfer of passengers to the aircraft**

The Elsa project "Transfer of passengers to aircraft" examined alternative technical solutions to assist passengers with reduced mobility to board an airplane. Based on the survey, improvements to the current situation were proposed.

On 26 July 2008, the regulation of the European Parliament and of the Council (1107/2006/EY) concerning the rights of persons with reduced mobility when travelling by air will transfer the responsibility for providing assistance to the airport management. Finavia has employed a person to assess the impacts of this transfer on Finavia's operations. The regulation provides, for example, that quality requirements for larger airports be established jointly with transport operators and representatives of organisations for the disabled. The quality requirements are also to be published. According to the regulation, in setting of quality standards, full account shall be taken of internationally recognised policies and codes of good conduct concerning the ground handling of passengers with reduced mobility, notably the European Civil Aviation Conference (ECAC) Code of Good Conduct. Finavia is currently having this document translated into both Finnish and Swedish. The regulation provides that quality standards be applied also to the competitive tendering for service providers.

The data sheet on the rights of passengers is available for example at airports. Finavia has already published in three languages instructions complying to the

ECAC recommendations (Doc 30, Part I, annex E to Section 5) relating to passengers with disabilities.

According to completed surveys, the accessibility level of passenger terminals and airports maintained by Finavia is high. However, some problems still exist. Standardisation of for example toilets for the disabled and security check rooms would help to ensure that also these kind of facilities are functionally suitable for all.

Accessibility needs to be better taken into consideration when calling for tenders. This applies to the competitive tendering for both services and infrastructure projects (standard facilities, service quality standards that comply with EU regulations, promotion of the design for all -principle) as well as the monitoring of implementation.

### **Space solutions of aircraft**

When acquiring aircraft, air carriers pay the most attention to fuel economy. With regard to alternative interior solutions, accessibility is nevertheless one criterion. The user-friendliness and functionality of aircraft interiors has recently improved, because aircraft manufacturers have begun to pay more attention to customers' needs. The improvements can be seen for example in the possibility to hoist all armrests, in the increase in the number and improved quality of audiovisual equipment and toilets accessible by on-board wheelchairs in Boeing MD-11 and Airbus A340-300 airplanes. The new Airbus A340-300E airplanes that are taken into use in 2007 feature the so called spacious toilets.

### **Improvement of information**

Finavia has issued airports with instructions on how to complement the airport rescue plans compliant to the Rescue Act on airports by paying special attention to ways to ensure safe emergency evacuation of persons with reduced mobility and disabilities. In this context, solutions for ensuring appropriate informing of different passenger groups should also be considered.

Due to the improved audiovisual equipment in aircraft, air carriers are able to inform more effectively on for example safety instructions and orientation in the destination. Dispersion of visual information via information displays has increased, and the language selection of announcements has been extended. The new Airbus A340-300E airplanes that are taken into use in 2007 feature seat-specific video equipment. The aim is that any safety information is dispersed both visually and aurally.

Personnel mastering the language of the destination are working on Finnair's Asian routes. This facilitates informing on service and security matters. In addition to this, Finnair has airport staff in command of Asian languages who will attend to the departure and arrival of Asian passengers.

## **4.10 Maritime transport**

### **Implementation of EU legislation**

In 2003, the European Union adopted the Directive on the accessibility of ships and the ensuring of safety of passengers with reduced mobility in emergencies (Directive 2003/24/EC of the European Parliament and of the Council amending Directive 98/18/EC on safety rules and standards for passenger ships). In 2005, the Finnish Government amended the regulation on the safety of certain inland passenger ships to implement the standards of the new EU legislation on new (after 2004) built vessels. The regulation entered into force on 1 January 2006.

The implementation of the EU directive with regard to current stock is yet incomplete. For this purpose, the Elsa project "Survey and action plan for accessible water transport" was launched. The project surveys the current accessibility situation of public marine passenger ships and recommends accessibility improvements that should be made in connection with other renovations. The action plan relates to the implementation of the directive regarding domestic sea transport, but also recommendations on the implementation of an inland water transport and international traffic accessibility strategy are issued. The priorities lie in the action plan, whereas the survey on the current situation is mainly conducted to establish the framework for defining appropriate measures. The project is completed in February 2007.

### **Quality of services and ships**

The accessibility of public domestic marine transport is defined by the EU Directive. The aim is to use the results of the survey for accessible water transport also as recommendations for inland water transport and international transport.

### **Equal rights of passengers of passenger ships**

The ongoing survey for accessible water transport examines also the safety regulations and codes of conduct of several ship-owners with regard to equal rights of passengers. Based on the results, amendments will be proposed.

## **4.11 The traffic environment and driving skills**

### **Clarity, manageability and winter maintenance of the transport environment**

One of the Elsa academic master's theses examined the difficulties encountered by elderly drivers. In 2001, the Finnish Road Administration conducted a survey on the needs of elderly drivers, and in 2002, a general clarification on the needs of the elderly with regard to road maintenance was made. In summer 2005, a joint project "Dimensionerande trafikant" of the Nordic road administrations was launched. The project examined, among other things, requirements set by elderly road users and road users with reduced mobility on safe and stress-free

transport and route solutions. The project was completed in summer 2006, but the results are still being analysed by the group of Nordic road administrations. The results will be taken into consideration when developing future planning principles.

Measures promoting elderly drivers have been implemented mainly through improvements to road safety. The MinTC has not set the Finnish Road Administration any separate performance or other objectives regarding the promotion of driving conditions for the elderly. These matters have, however, been to some extent included in the road safety policy framework of the MinTC and the Finnish Road Administration.

The Ministry of the Environment and the Finnish Association of Local and Regional Authorities jointly produced a guide "Everyday accessibility for the ageing. Community planning, construction and maintenance as the population ages". The guide is directed at municipal experts and officials of various sectors. It aims to make different actors aware of their individual possibilities in developing an environment better suited for the elderly. Transport environment is one of the discussed entities. The guide has also been translated into a compact guide leaflet for trustees and staff elected representatives. Both the guide and the guide leaflet have been marketed directly to municipalities, and they have been promoted at various training events. Both can be purchased at the book stores of the Finnish Association of Local and Regional Authorities.

The 2006 Government Decision in Principle on the improvement of road safety proposed launching a programme for the elderly. The purpose of the programme is to survey the traffic safety problems involved in ageing. The Ministry of Transport and Communications will start the programme preparations in 2007.

### **Review of planning instructions**

When updating the planning instructions, the Finnish Road Administration will take the results of the Nordic survey for the special needs of the elderly drivers into account.

### **Parking places**

The standards for parking places for people with reduced mobility are included in part F1 Accessible building of the 2005 revised National Building Code of Finland. This part of the National Building Code is applied to all administrative and service buildings and to office and service facilities. Also part G1 Housing Design of the National Building Code includes an accessibility standard for routes between buildings and parking places dedicated to people with reduced mobility. In addition, Standard sheet 98-10538 (Parking facilities, 1994) contains guidelines for the dimensioning and location of parking places for people with reduced mobility and makes a reference to part F1. Standard sheet 09-10692 (Accessible mobility and environment, 1999) includes recommendations on the number of parking places for the disabled. The most recent standard sheet recommendation is 2 parking places for the disabled for

every 50 parking places and thereafter 1 place for every 50 parking places, rounded upwards. There are no forthcoming amendments to these codes and recommendations.

### **Monitoring of the driving ability of elderly people**

In 2004, in accordance with the recommendations of the working group for Driving Health and Information Flow, doctors were given the right, irrespective of provisions on secrecy, to notify the police when a person's driving ability is weakened for a reason other than of temporary nature and when the health prerequisites for a driving license are therefore not met. At the same time, the medical examinations of 60-year-olds for a licence to drive a car were eliminated for drivers other than those of heavy equipment. The required visual examination at 45 years of age and the medical examination connected to the renewal of a driving license at the age of 70 remained unchanged.

## **4.12 Acquisition of a car and driving license by a disabled person**

### **Instructions on the driving test**

In December 2006, the Finnish Vehicle Administration issued persons approving the driving tests with instructions on how to evaluate the driving on the grounds of medical health.

### **Technical requirements of vehicles and aid equipment**

Compiled together with the Finnish Association of People with Mobility Disabilities, the guide "Special requirements in driving – Drivers with reduced mobility and function" provides general instructions also for inspectors and companies modifying vehicles for disabled people. Detailed technical requirements have not been separately issued.

The Action Programme proposes that a code system for additional equipment be introduced in the technical register information of vehicles. The new vehicle information system that will be introduced in 2007 is technically ready for the code system but no decisions have been made on the matter.

### **Training**

According to a study conducted in the University of Turku, the number of driving tests given on the grounds of medical health remains so low in Finland that unless structural changes are made, investments in the training of persons approving driving tests are not profitable. In order to increase the profitability of training investments, at least the service network should be centralised. This would, however, have a negative impact on the availability of services.



**Information**

The Finnish Association of People with Mobility Disabilities and the Finnish Vehicle Administration produced already their second information package: "Special requirements in driving – Drivers with reduced mobility and function". The guide is designed for persons with reduced mobility and function who are acquiring a driving license or a car, their families or interest groups. The guide is also available on the AKE website [www.ake.fi](http://www.ake.fi).

## **5 CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Changes to procedures and methods necessary**

Re-evaluation of conventional procedures and methods is of central importance, for only by changing existing guidelines can current practices be guided and the funding directed to observe accessibility in all stages of the planning and implementation process and in all parts of the travel chain.

Changes to operation methods and procedures can be promoted through training and informing or through more pronounced means such as obligations and financial incentives. The Elsa programme has contributed to the improvement of procedures and methods by producing new information on ways and means to promote accessibility and by informing and training a wide variety of actors. Elsa has brought accessibility promotion into greater public awareness.

In this chapter, the views of the Elsa steering group on how to change operation methods to facilitate a more accessible environment are presented. Conclusions and recommendations are divided into three categories.

1. Elsa Themes include issues and matters that are significant in the light of research results or that became central during implementation.
2. The section on co-operation introduces the accessible transport system actor network and describes the co-operation.
3. The last section contains measures that the Ministry of Transport and Communications can use in promoting accessibility in the respective administrative sector.

### **5.2 Elsa Themes**

#### **1. Theories into practice**

Due to considerable cuts to the allocations of the Ministry of Transport and Communications, investments in research and development similar to the Elsa programme are not possible in the near future. Therefore, as Elsa reaches its end, more emphasis should be laid on translating the considerable amount of information acquired and the many good codes of conduct into practice on all the levels of accessible transport system planning and implementation. Several matters have progressed within the framework of guidelines and planning but implementation remains incomplete or inadequate.

In addition to training and informing, available obligations and financial incentives should be implemented. The considerable amount of information gathered during the Elsa programme is kept readily available to all actors in the familiar internet address [www.elsa.fi](http://www.elsa.fi). The aim is also to update the information content with regard to guidelines and provisions.

## **2. Joint commitment and co-operation promote accessible transport environments and transport services**

The Elsa programme has brought accessibility promotion into greater public awareness and underlined that an accessible environment and accessible services are suitable for all. Achieving a transport system suitable for all requires that all the actors involved, be they decision-makers, preparers, planners or implementers, understand the importance of observing the needs of different population groups and that this understanding is reflected in day-to-day operations. It is essential to mutually understand the meaning of the concepts accessibility and Design for All and to appreciate the work required to translate them into practice. Commitment implicates responsibility and accordingly directed measures.

Outdoor environments, public transport terminals and their surroundings and the public transport service operation are fields of many actors and various liability parties. Completely accessible environments and seamless travel chains require a good and solid co-operation of all involved parties. Practical co-operation needs to extend all the way from planning and construction stages to the repair and maintenance of both the physical and information environments and transport services.

## **3. Good solutions, operation models and services do not yield extra costs**

Promoting accessibility does not necessarily require a lot of money. Good accessible solutions can often be made by becoming aware of the users' needs and by observing this early enough in all stages of planning and implementation. Accessible solutions are not necessarily more expensive or they may cost only a little more than less accessible ones. In addition, initially accessible solutions reduce the need for modifications and increase both the user-friendliness and age of the target.

Changes to operation methods can also bring about significant improvements to accessibility. Accessibility is to be considered on every organisational level in which case it can be promoted through normal operations.

Attitude adjustments and thoughtfulness cost nothing. Although a completely accessible physical environment is not always attainable, the overall service can be improved with a friendly attitude and consideration for others. Attitudes and consideration for passengers for example with regard to driving habits are central to the quality of public transport services.

## **4. Success requires a user-oriented approach**

Successful solutions are founded on user experiences. Sufficiently wide user participation helps also to ensure that accessibility is understood correctly and all appropriate factors are taken into consideration.

## **5. Only a completely accessible travel chain is functional**

Irrespective of the mode of transport, it is accessibility-wise significant that all parts of the travel chain are functional. To provide a properly functioning transport system for all, public transport (maritime, air, rail, bus and taxi transport) passenger information, access to stops, stops themselves, service and carriages are to be accessible. The management of the entire travel chain should thus always be involved in drafting accessibility plans and renovations. Congruent improvement timetables and common objectives should be pursued.

One expedient to promote accessible public transport services is to better integrate transport available to all into the operations of travel dispatch centres. This requires public transport that is suitable also for the main user groups of travel dispatch centres (TDC). The accessibility of public transport information, equipment, stops and service must thus be developed to meet the quality standards for transit co-ordinated by travel dispatch centres.

## **6. Municipalities have a central role in promoting accessibility**

Municipalities need concrete support and information in order to promote accessibility in their own operations. Various administrative sectors are involved in the planning, construction and maintenance of an accessible transport and traffic environment, and they also participate in the development of transport services better suited for all.

Municipal accessibility promotion can be supported concretely by providing training and issuing planning and dimensioning guidelines. In addition to guidelines, municipalities need a data bank containing information on the practical implementation of good solutions. Similar information is needed also regarding transport services. Furthermore, municipalities need to exchange information with each other and they need a guide on creating municipal accessibility strategies and programmes. The guide should contain instructions for example on how to define the roles of various administrative sectors in promoting accessibility.

### **5.3 Co-operation and responsibilities of actors**

According to the above-mentioned Elsa Themes, joint commitment and co-operation promote accessible environments.

The below figure presents the actors whose operations can contribute to the creation of an accessible transport system. These actors should form an accessibility promotion network and also commit individually to the objectives of accessibility promotion. A practical measure is to set up a regularly meeting joint body.

The tasks of the joint body would include for example:

- Active work in translating the Elsa programme results into practice and follow-up of the implementation of the Elsa steering group recommendations.
- Dispersion of information on matters related to the current accessibility promotion measures of each actor.
- Promotion of accessibility in order to integrate it into road safety work.
- Participation in updating the accessibility strategy of the Ministry of Transport and Communications.
- Operating as a forum for public hearings and promotion of the public viewpoint.
- Advancing the inclusion of accessibility in the work of the advisory boards working under the leadership of the Ministry of Transport and Communications and other related ministries. At present, such working groups include for example the National Traffic Safety Council of the Ministry of Transport and Communications, the living environment development programme of the Ministry of the Environment, the council for home and leisure accident prevention of the Ministry of Social Affairs and Health and the Design for All network co-ordinated by the National Research and Development Centre for Welfare and Health Stakes.



\* bus transport operators, taxi and service taxi transport operators, Finnair Ltd. and other air carriers, VR Corporation and marine transport operators.

Figure 1. Actors of an accessible transport system

## 5.4 The Ministry of Transport and Communications and the respective administrative sector as promoters of accessibility

### Expression of political will

Because the transport policy of the future government term of office is defined by the government programme, accessibility should be a central part of the programme and the related report on traffic policy. The political will to promote

accessibility should be expressed also by integrating accessibility into long-term transport policy definitions and general strategic work. This would establish a stable framework for promoting accessibility in the operations of the Ministry.

In practice, the political will should manifest itself concretely in day-to-day operations for example when drafting legislation, binding norms, performance objectives or accessibility strategy action programmes. In addition to technical legislation, also the impacts of marine, air, rail and road transport legislation and other general legislation on accessibility needs to be taken into consideration. The aim should be to create more provisions which require that accessibility be observed.

One expedient of underlining the significance of accessibility and promoting commitment of various actors is that the Ministry of Transport and Communications, the Ministry of Social Affairs and Health and possibly also the Ministry of Education and the Ministry of Trade and Industry participate in the joint preparation of a Government Decision in Principle on the meaning of the concept Design for All.

### **Obligations and performance management**

In several European countries, accessibility work has advanced only after general legislation concerning discrimination of the disabled was established. General legislation has been supplemented with for example technical norms. At present, the relevance of similar legislation is surveyed in Sweden and in Norway. One of the background factors for this is the UN Convention on Rights of Persons with Disabilities. The convention calls for, among other things, clear technical requirements for transportation.

Research and surveys on accessible public transport equipment have proven that without technical provisions, the equipment develops extremely slowly. The Ministry is to actively pursue that provisions on carriages and particularly those on buses promote – with regard to any types of buses – the creation of an accessible transport system. According to bus transport operators, especially the promotion of accessible long-distance buses requires targeted State investments.

The Ministry of Transport and Communications can guide subordinate transport infrastructure administrations and Provincial State Offices by means of performance management and performance objectives. The performance management should include stronger demands to implement accessibility promotion within the prescribed time-limit and to supervise and measure achievements. Continuing and developing the work of the Accessible Municipality network is to be included, through performance management, in the tasks of Provincial State Offices. In addition, guidelines and practices developed within the Elsa programme are to be incorporated into the operations and directions of transport infrastructure administrations and they are to be updated regularly.

### **Financial incentives and obligations**

Whenever public funds are invested in infrastructure in order to develop the transport system, accessibility promotion is to be required.

Changes to procedures and methods could be effectively promoted also through separate financing of for example a theme-related package promoting the development of public transport infrastructure, such as public transport terminals and stops and co-operation between different parties. Being included in the action plan and financial perspective of the Ministry, the theme-related package should naturally have a strong emphasis on accessibility.

### **Updating the accessibility strategy action programme**

The action programme included in the accessibility strategy of the Ministry of Transport and Communications should be updated to current requirements, for some of the measures of the action programme have become outdated. The action programme could thus more efficiently be used to facilitate performance management. When updating the action programme, special attention is to be given to the liabilities of actors and also to the financing and deadlines of measures.