

Eeva Sirén

ACCESSIBILITY ASSESSMENT OF EXTERIOR AREAS IN
KARJARANTA

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TITLE OF THE THESIS

Sirén, Eeva

Satakunnan ammattikorkeakoulu, Satakunta University of Applied Sciences

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Supervisor: Kangasperko, Maija

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The purpose of this thesis was to assess the accessibility from Jokisuisto living residency to the local grocery shop Sale. The accessibility assessment took place in Karjaranta. The idea was to see if the route is accessible during wintertime and to understand the importance of winter maintenance. The thesis is a part of international networking project called SURE and made for the City of Pori.

The theoretical information of the thesis includes information about accessibility, accessibility assessment, accessibility recommendations and SURE project. The theoretical information was gathered from books, online documents and web pages. Research methods used were accessibility assessment and interviews. The purpose of the interviews was to find out from the residents of Jokisuisto which is the most popular route to the shop and how they feel about the accessibility of the route. The interviews were conducted in January-February 2012 and the accessibility assessment was done in February 2012.

The product of this thesis is an accessibility report. The report includes pictures, written observations, accessibility recommendations and improvement ideas. Copy of the report was sent to the city planning architect of the city of Pori. Based on the accessibility assessment of the route it can be determined that improvements should be made concerning the winter maintenance and with minor changes the route would be more accessible.

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1 INTRODUCTION

Accessibility has a long history on global and national levels. The United Nations has been involved with accessibility and the rights of people with disabilities since 1948. Over the past decades the UN established the Secretariat for the Convention on the Rights of Persons with Disabilities and started the World Programme of Action concerning Disabled Persons to improve accessibility in the member states. (Website of the UN, 2012.) Additionally, the European Union has been working to improve accessibility. At the moment there are approximately 80 million Europeans that have mild to severe disability (Website of Access for all, 2012). An obstacle in physical accessibility, such as access to a school or a work place creates a high risk of exclusion. Therefore, the lower education and employment levels make the poverty levels 70% higher for people with disabilities. (Website of European commission, 2012.) The EU added disability issues as important elements in the Lisbon treaty in 2007, aiming to develop positive views of accessibility. With this treaty the EU is aiming to improve the accessibility by setting standards and new legislations. (Lenarduzzi & al. 2003, 3.) In Finland the accessibility has been on the agenda since the 1970's and more legislations and codes are being set to ensure equality for all. (Website of Finnish Association of People with Physical Disabilities, 2012.) Additionally, Finland has several accessibility programmes such as Disability Policy Programme 2010-2015 started by the government (Suomen vammaispoliittinen ohjelma vuosiksi 2010-2015 2011, 5-8). The main aim of accessibility is to provide equality for everyone. These programmes started by the UN and EU aim to provide to that to the citizens of the member states and providing tool to the member states to ensure inclusiveness.

The city of Pori is a partner in SURE, an international networking project. In the SURE network there are nine middle sized European cities that utilize each other's experiences to develop their own target areas. Together the partner explore how to tackle their commonly shared problems such as tourism as a way of facilitating local economic and cultural development, encouraging small enterprises and innovation and physical improvements to important buildings and open spaces. (Website of URBACT.) The target area in Pori is Karjaranta, which is changing from industrial area to a housing area. Within Karjaranta, is Jokisuisto living residency for people

with severe disabilities. (Website of the city of Pori, 2012.) An accessibility assessment has been conducted from Jokisuisto to the local grocery shop. This thesis is a part of the SURE project and made for the city of Pori.

2 PURPOSE OF THE THESIS

The thesis is made for the city of Pori which is a partner in Sosio-economic methods of Urban REhabilitation method-project. The purpose of the thesis is to make an accessibility assessment covering the journey from Jokisuisto to the local grocery store Sale. This accessibility assessment takes only into account the exterior areas and was done during winter time. The route to the store was based on interviews conducted with Jokisuisto residents. The product of this thesis is an accessibility assessment report which was sent to the SURE contact person in the city of Pori.

3 ACCESSIBILITY

Accessibility refers to an equal opportunity to participate into the society as an independent individual. The aim of improving accessibility can be achieved by ensuring physical, mental and social environments are designed in such a way that every member of the society can participate and it is not dependant on person's functional abilities. Accessibility is closely related to equality and human rights. (Ruskovaara 2009, 7.) Accessibility promotes equality to all members of society and ensures inclusiveness and possibility to participate to society, no matter what the differences are (Kemppainen 2008, 11).

3.1 Physical Accessibility

The accessibility of physical environment is considered as being the most traditional aspect of accessibility. It is a good base to start, since if people mobilizing with assis-

tive aids can't access the space it is excluding a large group of people. Also, vision and hearing are important parts of physical accessibility. If the environment is problematic it may cause difficulty in communication, in this case the actual access to the space is not the problem, but inability to function and communicate in the space makes it inaccessible. (Ruskovaara 2009, 7.)

Accessible solutions make mobilizing and functioning easier for everyone. When everything indoors and outdoors is accessible, everyone can go about smoothly. In accessible areas people with disabilities, people without disabilities, parents with strollers, cooks with their carts, children, elderly, people carrying heavy shopping bags and everyone beyond are able to move easily. Even though, accessibility makes life easier on many aspects, for some it is essential. Approximately 10% of the population in Finland has same type of physical disability. (Ruskovaara 2009, 7.)

There are several reasons to take accessibility into consideration. It is estimated that a person has decreased mobility and functional ability for 40% of their lifetime. This means that some point everyone needs to take into account accessibility of the environment. Accessibility is also a safety issue, for example accessible stairs with proper railings would decrease the amount of accidents in staircases. Also accessibility shouldn't be dependent on seasons; accessibility should be possible all year around. (Ruskovaara 2009, 7.)

3.2 Social and mental accessibility

Social accessibility refers to the equal opportunity for everyone to participate to society (Puupponen, 2003). This includes prejudice, attitudes and the ability to participate (Kangas 2009, 13). The EU aims to ensure that the individuals from the member states can practice their human rights and participate to society as an equal member (website of EU, 2010). Accessibility should not be seen as special solutions, but as a part of improving and equalizing everyone in the community. (Ruskovaara 2009, 7). Limitations in social accessibility include accessibility of the built environment, segregated education and exclusion from the peer group (Oliver 1996, 32-33). Also, in the past years besides drawing attention to the built environment, there are cam-

campaigns to educate people about disabilities making disability more socially acceptable (Waldschmidt 2009, 15). Equal education opportunities also increase mental accessibility which refers to the capacity and competence of an individual to function as an equal member in the society. With equal education, individuals with a disability are able to be aware of the proper functions of the society. (Website of UNESCO, 2000).

Municipalities have a responsibility to maintain the wellbeing of its citizens and accessibility is one way ensure it. Additionally, as people are getting older the need for the physical accessibility increases as well as the need for diverse social settings (Equality summit, 2012). In the long term it would be cheaper for the municipalities to invest in accessibility. Accessibility would increase the possibility for the citizens to live and function independently longer and therefore needing less likely a placement in a nursing home or a hospital, also it would improve the quality of life. (Ruskovaara 2009, 7.)

3.3 Accessibility in international level

The United Nations (UN) was originally founded on the principles of equality for all. In the general assembly in 1948 it was established in the Universal Declaration of Human Rights Article 25 that everyone has "the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control"(The website of UN, 2012).

The Secretariat for the Convention on the Rights of Persons with Disabilities (SCRPD) is the part of the UN that works to advance the rights of persons with disabilities in society. It utilizes key global instruments such as the World Programme of Action Concerning Disabled Persons and the Standard Rules on Equalization of Opportunities for Persons with Disabilities. (The website of UN, 2012.)

The World Programme of Action Concerning Disabled Persons was adopted in the general assembly in 1982. The purpose is to avoid disabilities, encourage disability rehabilitation and the equalization of opportunities to ensure participation of individ-

uals with disabilities in social life from the human rights perspective. The most important measures of disability prevention include avoidance of war; improvement of social, economical and educational status; identifications of disability types; improvements in healthcare, early detection, improved post-natal care and education of communities about environment. Rehabilitation includes early detection, diagnosis and intervention; treatment, counseling; providing assistive aids and vocational training. Rehabilitation should have an emphasis on activities of daily living and take place in the natural environment to encourage integration to the community. Finally, the equalization of opportunities means that people with disabilities are entitled to live as normally as possible, but are able to receive assistive aids and other support services. With having equal opportunities, the individuals with disabilities are also to have equal obligations to fulfill their role in society as an adult. (The website of UN, 2012.)

Several other organizations within the UN adopted approaches from the World Programme of Action. For example, UNICEF has started to emphasize strengthening family and community resources to assist disabled children. Also, UNESCO is improving adapted education and International Labour Organization (ILO) is improving the Vocational training. In 1983, ILO in their general conference created a Vocational Rehabilitation recommendation to update the previous one from 1955. This recommendation states that a person with disabilities should be able to secure, retain and advance in a suitable job. The disabled individuals should be educated within regards to their job and the other staff members should be educated about the employee's disabilities. Also the disabled employee is entitled to participate to rehabilitation and to have work adjusted to the abilities of the employee. (Website of ILO, 2012.)

The Standard Rules on Equalization of Opportunities for Persons with Disabilities was adopted in the general assembly in 1993. It is a summary of the World Programme of Action set to 22 standard rules as seen on table 1. Even though the rules are not legally binding, they represent the moral commitment of states to provide equal opportunities for people with disabilities. All the rules include a recommendation on how equality can be improved. Also, the rights are developing and continu-

ously reconsidered and improved with member states at the Convention on the Rights of Persons with Disabilities. (Website of UN, 2012.)

1	Awareness-raising
2	Medical care
3	Rehabilitation
4	Support services
5	Accessibility
6	Education
7	Employment
8	Income maintenance and social security
9	Family life and personal integrity
10	Culture
11	Recreation and sports
12	Religion
13	Information and research
14	Policy-making and planning
15	Legislation
16	Economic policies
17	Coordination of work
18	Organizations of persons with disabilities
19	Personnel training
20	National monitoring and evaluation of disability programmes in the implementation of the Rules
21	Technical and economic cooperation
22	International cooperation

Table 1. Standard rules (Website of the UN, 2012.)

3.4 Accessibility in EU level

In 1997 the Treaty of Amsterdam was signed where it was agreed that nobody should be discriminated based on sex, racial or ethnic origin, religion or belief, disability, age or sexual orientation. In 2000 the Charter of Fundamental Rights was established in Treaty of Nice, but though this didn't become legally binding until the Lisbon Treaty in 2007. (Website of Civitas, 2011.)

The Charter of Fundamental Rights includes 54 articles relating to human rights. Article 1 that states that human dignity is inviolable and it must be respected and protected and article 21 prohibits any discrimination on the basis of accessibility. Article 26 states that the EU respects the right of persons with disabilities to benefit from measures designed to ensure their independence, social and occupational integration and participation in the life of the community. (Website of EU 2010, 3.)

The European Disability strategy 2010-2020, created by the European Commission aims to improve activities of daily living of disabled people and encourage them to enjoy their rights as EU citizens. Also the strategy includes funding, raising awareness and encourages member states for inclusion. The strategy will also fulfill EU's commitment to UN's Standard Rules on Equalization of Opportunities for Persons with Disabilities.. (Website of EU, 2010.)

The European Commission is planning to enact European Accessibility Act set to be adopted in 2012. It aims to improve accessibility of services, built environment and to improve accessibility. The primary reasons for enabling this act are to due to concerns over the continued aging population within Europe, and to follow through on the UN convention guidance relating to the rights of persons with disabilities. Combining the accessibility requirements would improve the social integration of disabled individuals in the member states. This would also improve the free movement principle of the EU. (Website of EU, 2012.)

3.5 Accessibility in Finland

The Finnish constitution states that everyone is equal before the law. No one should be discriminated on the basis of sex, age, origin, language, religion, conviction, opinion, health or disability. (Website of Finlex, 1999.) The first legislation concerning accessibility of the built environment came in 1973, and that required new public buildings built to take into account accessibility. The general public became more aware of accessibility in 1980's when the UN's Programme of Action concerning Disabled Persons started. After this, municipalities started doing accessibility assessments and media followed changes with interest. Also different disability associations activated and started different projects to improve accessibility. In the 1990's the attitudes of the general populations started to change when people with disabilities became more visible in environments that were previously considered to be for people without disabilities. During this time the legislation concerning built environment was updated to ensure every building being built, including apartments are accessible for children, elderly and for people with disabilities. Now that many apartments and public buildings are going through renovations the accessibility is taken into account in these changes. (Könkkölä, 2010.)

Currently there are several legislations concerning accessibility. The laws and codes are strongly related to the built environment, but there are also human right and equality legislations as well. The legislation states that public buildings should be accessible by individuals with disabilities. Also, building that contains offices and other work spaces should be accessible in order to ensure non-discrimination. The planning of built areas has to be safe, promote health and be socially inclusive. The exterior areas such as roads, sidewalks, parks and other outdoor areas should be kept accessible and safe. The building codes in Finland have specific regulations. Examples of these regulations are that railings in ramps and stairs should be designed in a way that it is easy to grab, be the entire length of stairs or ramp and the end should be designed to ensure safety. Also, glass doors and windows should be marked clearly. The building codes state that doors in living quarters and other necessary places should be the minimum of 800 mm wide and all external areas that are necessary for the purpose of living are accessible. Finally, a person with disabilities has the right to do renovations to an apartment to ensure accessible living. (Website of Finnish As-

sociation of People with Physical Disabilities, 2010.) Finnish society has become more open for differences, but still more actions has to be taken to ensure equal opportunities (Haarni 2006, 44).

Additionally, Finnish government has started a Disability Policy Programme 2010-2015. The aim of this programme is to present actions that would improve the well-being of people with disabilities and promote equality. The programme is based on ideology that everyone has a right to participate to society as an equal member. There are altogether 122 action ideas to achieve this varying from education to culture. With this programme the government shows direction to others and ensures funding for accessibility improvements. Also, with this project another aim is to have UN's disability programmes in action as efficiently as possible. (Suomen vammaispoliittinen ohjelma vuosiksi 2010-2015 2011, 5-8.)

4 ACCESSIBILITY ASSESSMENT

Accessibility assessment is a working tool that produces an analysis of a set target from the point of view of accessibility. A comparison of the results of the accessibility assessment taken to current best practice and legislation is undertaken, from which recommendations for improvements are made. Accessibility assessment is a valuable tool when an organization wants to make their services inclusive. There are many of benefits in taking accessibility into account, not just for the sake of codes and regulations. It can be used as a marketing technique, since they can advertise inclusiveness and equality. Another factor that organizations should take into consideration is human resource factor. For example an employee that has a decreased functional ability due to accident, or the best possible candidate for the job who has a disability would be able to work in an establishment. (Ruskovaara 2009, 10-11.)

There are several different methods to do an accessibility assessment. The choice of the assessment method is based on the purpose of the assessment. In the "accessibility round" method, the needs are mapped out with a group of people who walk through the specified area and discuss about the possible changes, this could be used

as a method of gathering background information. Another method is the "user group"- method, which is often utilized to affect decision makers by adding more personal aspect. In this method, people with a range of abilities assess the environment from their point of view. Third method is "specialist assessment", whereby a professional in the area of accessibility makes an objective assessment. Accessibility assessments of the built environment should be done in all the spaces of the set target and from the point of view of all users. The accessibility assessment of outdoor areas is based on priority. The assessment is done through measurement, observation and evaluation. Accessibility assessment is not only for improving already existing buildings and areas, but also to make new building accessible when being built. (Ruskovaara 2009, 10-11.)

After the assessment is done it is the organizations responsibility to do the changes. Making the changes at once is recommended, that way the areas make an accessible unit. The changes might be small such as moving furniture or adjusting light, or then requiring renovations. There are also temporary solutions to increase accessibility. After the accessibility assessment is done a report is usually written. The report includes the findings and improvement suggestions. (Ruskovaara 2009, 11.)

4.1 Role of physiotherapist in accessibility assessment

The accessibility assessment should be done by a professional that is specialized to accessibility. A physiotherapist is one of these professionals. Physiotherapists have a central role in social and healthcare including rehabilitation and leisure time activities. The aim of physiotherapy is to maintain the functional ability of citizens as independent members of society. (Website of Finnish association of Physiotherapists, 2009.) Functional ability is a combination of physical, social and mental factors. The physical factors include activities of daily living, such as ability to work and undertake household chores. The ability to do these functions is dependent on the needs of the individual and the environmental factors. Social functional ability refers to the ability to adapt to the changing social environment. Finally, the mental functional ability is the ability to use mental resources and skill in everyday life. (Talvitie, Karppi & Mansikkamäki 2006, 38-42.)

4.2 Development of Accessibility method and assessment form-tool

Before the year 2006 there were approximately 20 different assessment tools in Finland. Most organizations concerned with disabilities such as the Finnish Association of People with physical Disabilities, Finnish Association of Deaf and many others had separate accessibility assessment tools. It was necessary to create an objective and unified tool in order to make sure the assessments are done similarly. Therefore, having national criteria of accessibility that would make the assessments equal. In 2006 the Finnish Association of People with Physical Disabilities invited different members of associations and organizations which are making accessibility assessments to cooperate in creating a new tool. (Website of Finnish Association of People with physical Disabilities, 2009.)

Development of accessibility method and assessment form, or as it is in Finnish, Estettömyyden arviontimenetelmän ja kartoituslomakkeen kehittäminen (ESKEH)-project is a project by the Finnish Association of People with Physical Disabilities that took place between 2007 to 2009. ESKEH-project developed an accessibility assessment tool that includes assessment forms, criteria and instruction on how to implement the assessment. Slot Machine association and Helsinki for all-project funded this project. The principles in ESKEH tool is that the person undertaking the accessibility assessment is able to take specific measurements as well as assess the accessibility through observation and estimation. The results of the accessibility assessment should provide development ideas. (Ruskovaara 2009, 3.)

Before publishing the assessment tool, it was tested by representatives of the Finnish CP Association; Finnish MS Society; Finnish Association of the Deaf; Laurea University of Applied Sciences; Centre for the Economic Development, transport and the Environment of Kainuu; Housing services foundation; Centria University of Applied sciences; The Finnish Association on Intellectual and Developmental Disabilities and Kuopio Arts Council of Finland. (Website of Finnish Association of People with Physical Disabilities, 2009.)

The tools used for the implementation for the accessibility assessment vary based on the environment where the assessment is made. One major tool that is necessary in

all assessments is a camera. Pictures visualize the problematic areas and works as a reminder for the assessment maker. Other commonly used tools are tape measure, scale that measure the power needed to open a door, slope measure that measures the gradient of ramps and roads, lux meter that measures the lighting and then floor plans of the place. (Ruskovaara 2009, 20.)

5 ACCESSIBILITY RECOMMENDATIONS

As previously mentioned there are several legislations and codes in the Finnish laws concerning accessibility of built environment. Buildings should be renovated and maintained in a way that a person with disabilities can use the building. The building codes include regulations, suggestions and recommendations. The current codes concern new buildings and renovations that require permission from the city. It is recommended that when making other renovations, accessibility is taken into account. Some of these codes are not very specific to the legislation, but some have minimum requirements. When creating an accessible environment it can be beneficial to do it methodically, especially places that have a large clientele such as swimming halls and libraries. The ESKEH criteria is a combination of building codes, legislations and accessibility recommendations created by different associations and organizations concerned with accessibility. (Ruskovaara 2009, 9.)

5.1 Visual environment

Approximately 70% of the information provided by senses is gathered visually. Accessible visual field is a combination of light, colors and contrast. Good lighting can be described as powerful enough, level and non-glaring. The recommendations of lights are pedestrian crossings 30 lx, Sidewalk 10 lx, crossings 15 lx, ramps 30 lx, stairs 50 lx. Contrasts refer to color and shade differences on different surfaces. The contrasts are important in order to outline the environment. For example a dark door is easier to find from a lighter wall. (Ruskovaara 2009, 27-32.)

5.2 Sound signals

Sound signals include buzzers and signals of red and green lights in pedestrian crossings. Sound signals should also include visual signals in order to provide accessibility for visually and hearing impaired. The sound should be pleasant and the sufficiently audible to fit the purpose. Ideally the sound environment should be silent, this way the sounds providing information and guidance would be easier to hear. (Ruskovaara 2009, 22-24.)

5.3 Sidewalks and surfaces

Sidewalks should be the minimum of 1500 mm wide in order to have enough space to turn with a wheelchair. Maintenance with machines is possible when the width of the sidewalk is 2300 mm. The free height should be at least 2200 mm and maintenance with machine is possible if the free height is over 3000 mm. The sidewalk should be level and the gradient sideways should be under 3% and the length gradient under 8% for it to be comfortable to be used with assistive aids. Also, level sidewalks help to maintain balance and makes mobilizing more comfortable for everyone. The sidewalk should be level, hard and non-slippery. The sidewalk is considered to be uneven when there are cracks over the size of 20 mm. The place of the sidewalk should be clearly lined with concrete borders, grass or fence. The fence should not be less than 600 mm tall. Material that is considered not to be appropriate is sand, gravel or cobblestone, but materials that are considered to be appropriate are for example asphalt and concrete. Winter maintenance should be handled in a way that there is no trash, ice or snow on the sidewalk. (Ruskovaara 2009, 42-47.)

There shouldn't be anything on the sidewalk that can get into way. All the plants and flowers should be arraigned so that they don't reach the sidewalk and the rainwater wells should be integrated in the road. Benches and other object should be set to outside of the sidewalk. If there is something on the sidewalk, it should be marked with different material. (Ruskovaara 2009, 42-47.)

5.4 Pedestrian crossings

The changes in level from sidewalk to pedestrian crossing should be the maximum of 5%. This makes it possible for wheelchair users to be able to push the signal button without rolling to the street. There should be a barrier between the road and the sidewalk in order to know where they start. The barrier should be approximately 30 mm for it to be convenient to people with visual impairments and people with physical disabilities. This means people using a white stick can feel when the road starts and wheelchair users can still get over it. The lines should be marked clearly with contrast colors and there shouldn't be other areas with colors and shapes nearby. (Ruskovaara 2009, 44-46.)

The traffic sign indicating a pedestrian crossing is recommended to be set the maximum of 500mm from the start of the crossing. Consequently visually impaired know when the crossing is starting. The sound signal helps visually impaired to navigate the crossing. The sound signal button should be located the maximum of 300 mm from the crossing and 900-1100 mm high for it to be reached from wheelchair. This also makes it possible for young children to reach the button. The traffic lights should provide a sound and a light to signal the change of light to visually and hearing impaired. The middle platform in the crossing that divides the pedestrian crossing in two parts should be higher than the road. The depth should be 2,5 m for strollers to fit. (Ruskovaara 2009, 44-46.)

5.5 Yard areas

There should be two disabled parking spots per 50 parking places and thereon one disabled spot to every starting 50 parking spots. These parking places should be located the minimum of 10 m from the accessible entrance. The size of the parking spot should be 3600 mm x 5000 mm and it should be clearly marked. The gradient shouldn't be more than 2%, otherwise the transfers are not safe. (Ruskovaara 2009, 52-53.)

The yard areas should be set according to their functions. The entrance should be located so that it is easy to find from the parking place and road. There shouldn't be any unnecessary change of direction, if there are, they should be marked clearly. (Ruskovaara 2009, 52-53.)

5.6 Ramps and stairs

A ramp always leads from flat level area to another flat level area. The ramps has to be straight and there shouldn't be side gradient more than 2% outdoors. Reason for the 2% in outdoors is to ensure that there is no water on the ramp after rain. The flat areas in front and end of the ramp should have a diameter of 1500 mm. The width of a ramp should be 9000 mm and the length should be the maximum of 6 m. If more than one ramp is needed to reach the destination, the rest level should be 1150 mm x 1150 mm to have enough room to turn. The recommended gradient is the maximum of 5% but should not be more than 8%. When the ramp is not located next to a wall there should be a 50mm barrier on the side of the ramp. The material of the ramp should be non-slippery and hard. (Ruskovaara 2009, 72-77.)

The accessibility and safety of stairs are dependent on the type of the stairs. The most accessible stairs are straight without twists and turns. Stairs should be located by the side of the door. If they are located in front of the door then there should be 2000 mm room in front of the door. The size of the step should be 300 mm in the stepping area and 160 mm high. There should be a color contrast in front of every step. (Ruskovaara 2009, 72-77.)

Both ramps and stairs should have railings. Railings should be located on both sides and shaped to be easy to grab and hold onto, round ones are usually most accessible. The railings are recommended to be at two different heights 900 mm and 700 mm. The railing should go 300 mm over when the stairs have ended and rounded in the end so it will support the whole way and it will be apparent when the stairs end. (Ruskovaara 2009, 72-77.)

6 SOCIO-ECONOMIC METHODS OF URBAN REHABILITATION

Socio-economic methods of Urban REhabilitation model (SURE) is an international networking project that is part of URBACT II-programme. The URBACT II programme 2007-2013 is a continuation to URBACT- programme. The purpose of this programme is to gather city development ideas through networking, exchange programmes and taskforces. All EU27 states and two others are participating to this project. (Website of Regional Development Fund and European Social Fund, 2011.) The programme enables cities to cooperate in making development solutions. Altogether 300 cities in 19 different countries are participating to this networking and it is financed by European Regional Development Fund. (Website of URBACT.)

In the SURE network there are nine middle sized European cities that utilize each other's experiences to develop their own target areas. The cities involved in the network are Pori, Finland; Eger, Hungary; Dun Laoghaire Rathdown, Ireland; Larnaca, Cyprus; Ottignies-Louvain-la-Neuve, Belgium; Komotini, Greece; Gheorheni, Romania and Albacete, Spain. Together these cities try to explore how to tackle their commonly shared problems such as tourism as a way of facilitating local economic and cultural development; encouraging small enterprise and innovation; and physical improvements to important buildings and open space. The project is led by the city of Eger. The exchange of the information is based on study trips, reports and international workshops. Local Action Plan is created together with the Local Support Groups based on what has been learned from the exchange of information. Local Support Groups are created from local organizations, associations, officers and companies. (Website of URBACT.)

Main output of SURE will be the Socio-economic Urban Rehabilitation model which is based on the experiences of the partner cities. The purpose is to provide guidance for others who intend to develop their city areas. A toolkit will be composed of participatory approaches towards planning and strategy development in deprived neighborhoods. (Website of URBACT.)

6.1 SURE in Pori

The city of Pori is a long time partner city of Eger and therefore included to this project. The target area in Pori is Karjaranta that is changing from industrial area to housing area. (Johdanto/Yhteenveto of SURE project.) Karjaranta is the 21st district of Pori and it is located by the Kokemäki-river on the western edge of the city centre. Previously Karjaranta was known as the industrial area of the city. Currently there are wide range of land uses in the area such as housing, hospital facilities, cemetery and number of different businesses. In the past 10 years the population in Karjaranta has been growing significantly due to tearing down old industrial buildings and building apartment buildings instead. Currently Karjaranta has the most rapid population increase in Pori. (Website of Poritieto, 2012.)

Jokisuisto is an assisted living residency for people with severe disabilities located in Karjaranta. . The residents live independently in rented apartments, but there is staff at every shift to assist if necessary. The working principle at Jokisuisto is rehabilitative working method to maintain the resident's functional abilities. There are altogether 26 apartments to rent and the residents get to decorate the apartments according to their own taste. The apartments include bedroom, living room, kitchen and bathroom. The common areas are designed to be accessible for people with severe disabilities. Also, upon moving residents need for assistance is investigated and then assisted based on the assistance plan. The purpose of Jokisuisto and other disability services in Pori is to improve and maintain the ability of people with severe disabilities as an equal member in the society. (Website of the City of Pori.)

6.2 Local Action Plan ideas in Pori

In 2010 the SURE project started with working title “Fostering diversification of local economies by using innovative Socio-economic methods of Urban REhabilitation id deprived urban areas”. During the project several study trips have been done, the themes vary from strategy development, placemaking, social companies, and social inclusion to community building. (SURE local action plan.)

In Karjaranta the Local Action Plan has an emphasis on the strategical development of available land. The aim is to clarify the future image of the area and utilize different suggestions. The diversity of the functions and the built environment are important factors in the vision. With this project it is hoped that the connections and services in the area become more diverse. (Website of the City of Pori.) The development ideas of Karjaranta by the Local Support Groups are divided into four categories; Improvement of services, traffic, exterior areas and well-being of people in the area. The improvement of services ideas includes pop-up shop experiment, networking of service providers and using the real estate of Pori Energy. The improvements concerning traffic include improving road safety and adding footpaths to the area. The Improvements of external areas includes making parks and river banks more appealing. Finally, the improvements of well-being of people in the area include adding agriculture, having happenings in the area and the use social media as part of networking and advertising. (Parannustoimenpide-ehdotuksia, 2012.)

7 PROJECT

The Thesis process started in the spring of 2011 when SURE was introduced in our class. Satakunta University of Applied Sciences (SAMK) is one of the cooperation partners of SURE-project. SAMK has worked in the area of accessibility since 2008. In practice this means that SAMK shares their expertise concerning physical accessibility with different organization and at the same time teaching students; future professionals. In 2009 started Sataesteetön-project that advanced accessible living and leisure time activities. During this project Home for all was built that demonstrated accessible living. Also, accessible activities such as golf and water sports were developed to Yyteri. When Sataesteetön project was finished in 2011, Innoke project started. The aim of Innoke is to profile SAMK as an accessibility developmental organization in Satakunta. The accessibility cooperation's the clients and the users, experts and students work together. Thesis is one tool that is utilized to have students involved with accessibility.

7.1 Methods

The methods used to produce data were accessibility assessment and interviews (appendix 1). The purpose on the interview was to find out the route to be assessed and hear about what people with disabilities think about the accessibility of the route that is being assessed. Reasons for choosing interview as a research method were to have the interviewee to participate as an active subject and to have reasoning to the answers. During this research theme interview was used. Theme interview is a combination of open and structured interview. The theme is known, but the questions are flexible.(Hirsjärvi, Remes & Sajavaara 2003, 192-195.) In this study the theme of the interview was accessibility. The assessment was the main method of research in this thesis. The assessment tool used was ESKEH form (appendix 2) and criteria. Accessibility assessment is a combination of qualitative and quantitative research. Qualitative research is more subjective and there are less commonly numerical data involved. (Hirsjärvi & al. 2003, 129.) Qualitative research is interaction between the researcher and the target of the investigation, since the researcher is more actively participating to the research. (Hirsjärvi & Hurme 2008, 22-25.) The interviews were subjective views of the route presented by people with disabilities. The observation in this case was an objective assessment of the accessibility and comparing the results to the given recommendations. (Hirsjärvi & al. 2003, 154.) In quantitative research previous studies and theories are in central position. (Hirsjärvi & al. 2003, 129.) In accessibility the data gathered is gathered through observation of the environment and making subjective conclusion to set guidelines. Also, the results of assessment can be measured and compared to criteria. Therefore it can be concluded that accessibility assessment is a combination of both research methods. (Domholdt 2005, 56-67, 148-157.) Accessibility assessment was carried out from Jokisuisto to the local grocery shop.

7.2 Study group

The samples were chosen from Jokisuisto for the interviews through simple random sampling. In this type of sampling a group of subjects is chosen randomly from a bigger population. Though simple random sampling the subjects are more varied and

the results are more reliable and applicable. (Website of Yale, 1998.) In this research the requirements for the subjects were that they live in Jokisuisto and use the shop regularly. Possible interview times were sent to Jokisuisto and the first five residents that were first to sign up was interviewed. Due to scheduling conflicts only four residents were interviewed. The interviews were conducted in the resident's apartments in January-February 2012. Three females and one male were interviewed. Three of the four residents interviewed used a scooter to mobilize outdoors and one didn't have any assistive aids, but has decreased mobility. Three out of the four residents interviewed use Karjapiha-Karjarannantie-light crossing-Vapaudenkatu route and one out of four uses this route occasionally. Based on this interview Karjapiha-Karjarannantie-light crossing-Vapaudenkatu route was chosen to be assessed.

The residents were asked about how they feel about the accessibility of the route and about how they feel about accessibility in Pori in general. The general view was that the route to the store is accessible. The route is straight, there are no level differences and the asphalt is in good condition. The main problem mentioned by all four residents was winter maintenance. The sidewalk in Karjapiha is not maintained during winter making it difficult to mobilize and forcing the residents to choose alternative routes. Also mentioned as a problem by all four, was the snow embankment left by the snow plow and the loose snow in crossings. During summer the problems are minimal. One resident mentioned that during summer there are puddles in Karjarannantie and sand travel to the sidewalk from the river bank. When talking about accessibility in general in Pori the residents feel like it is not the worse, but there is a lot to be improved. One example mentioned was that going to tax offices they had to wait for an hour for someone to actually help with the accessible route. Also the building meant for assistance of people with disabilities is difficult to access. Therefore especially public building could be made more accessible. All the residents interviewed feel like they manage to get to the centre to the services easily. There are many routes so by trying they managed to find that is accessible for them. Three of the four interviewed felt that accessibility has gotten better over the years. Also all four residents interviewed had various types of encounters with people concerning their disabilities. Some of the encounters have been positive where people assist and some negative.

7.3 Process

After deciding the thesis topic in spring of 2011 the actual process started in May 2011 with a meeting in Porina with Daniel Nagy, the city planning architect, who is involved with the SURE project. In the meeting Jokisuisto was agreed as being the target place. In August 2011 Jokisuisto was visited and the residents were encouraged to open up about the problems concerning accessibility in the area. Based on what came up in Jokisuisto and what was discussed in May, it was agreed that the project was going to be an accessibility assessment. The target of the assessment was chosen to be outdoor area assessment to the local grocery shop, Sale. Reason that Sale was chosen was because it is one of the only services in the area and accessibility to the local shop is necessity. In November 2011 an accessibility assessment education day was organized in SAMK where the ESKEH method was taught to the participants. The residents of Jokisuisto were interviewed in January-February 2012 and the assessment was carried out in February 13, 2012. Since the assessment was done during winter time there were no specific measurements taken due to snow. Therefore the assessment is mainly based on estimations and observations that are compared to the ESKEH criteria.

The results of the accessibility assessment are in a written report (appendix 3). During October-November 2012 the report and the theoretical part of the thesis were written. The thesis was presented in November 2012.

8 RESULTS

Majority of the route is accessible, but there is room for improvement and not all aspects of the recommendations are followed. Based on the interviews and the assessment it can be determined that with improved winter maintenance accessibility of the route would improve. One of the major problems observed and mentioned by the residents was the loose snow in the pedestrian crossing. Additionally, safety of the route could be improved.

9 DISCUSSION

Based on the accessibility assessment it can be concluded that accessibility should be taken more into account during wintertime. In order to achieve accessibility the city and the land owners and renters should work together to keep the sidewalks clear.

It is not only people with disabilities that benefit from accessible sidewalks. The matter concerns every citizen and makes mobilizing easier and safer for everyone. Also by keeping the sidewalks clear, people with disabilities can mobilize independently and not rely on taxi's that in the long run would more likely cost more money than improvements in winter maintenance. Also with minor improvements such as clearing the loose snow from crossings and making alternative entrances, safety could be easily improved.

The results of the interview and the assessment were positively surprising. I was expecting more changes to be suggested. Even though the majority of the route was accessible in general, I think Karjapiha is quite shocking during winter time. It is impossible to walk on the sidewalk even as a person without disabilities. It is the minor adjustments that make the most difference.

This thesis provided information concerning accessibility and accessibility assessment. It can be concluded that accessibility has a long history on international and national levels. Currently there are several projects and programs going on to improve accessibility and therefore equality. It is positive to notice how different countries and organizations are taking accessibility and inclusions seriously and making legislations to ensure this.

This thesis made me think about accessibility from a new point of view. I am more aware of accessibility needs and consider on how others would manage my routes. One of the most important things that I learned during this project is that accessibility really concerns everyone and it definitely is not only about special solutions for people with physical disabilities. Hopefully with the Accessibility Policy Program 2010-2015 accessibility awareness could be implemented to the minds of general public.

9.1 Topic of the Thesis

The topic and SURE project was presented in school. Initially I wasn't excited about the topic of accessibility, but I was interested in the prospect of working in a project and doing something practical. Then I thought about the topic and realized that this is a good opportunity to learn more about accessibility. The first meeting in Porina and Jokisuisto were a bit overwhelming at first. A lot of information was distributed, but I wasn't aware what I was supposed to do. I was given a lot of ideas and it was very difficult for me to combine all the ideas with my abilities and interests. In the end I decided to do what I want to within the guidelines. So I decided to keep it simple yet interesting and do an accessibility assessment. Since winter was coming I decided to wait for the snow and add that aspect to it. I am happy with my choice of topic, since I got to try something new and I believe this will be beneficial in the future.

I enjoyed working in a project. It gave the necessary encouragement to do a good job and finish in time. Also, I enjoy having my work being part of something bigger. The cooperation worked well, even though there wasn't a lot of contact during this process. When writing about the SURE project for the theoretical part, it was challenging and looking back it would have been beneficial to be more involved in order to understand the project better.

9.2 Research Methods

Interview was a good method to gather the needed data. It would have been beneficial to do more research about interview methods before the interview. The interview situation was quite relaxed and felt open. The theme interview was a good choice, since accessibility is such a subjective concept and people experience it differently. The theme interview with guiding questions gave flexibility to the interview. The residents that were interviewed had very different personalities which made the situation interesting. One had a bit aggressive approach and had a bit of negative view of how the city is handling people with disabilities, one was content how everything is and from two it was necessary to milk the information. The interview provided good information concerning which route should be assessed, but I was slightly surprised

that the residents didn't have any strong opinions or complaints about the route. Originally I wanted the interviews to have a stronger part in the theses, but it was changed to more supporting role in the research.

Accessibility assessment was a new experience for me and it provided an interesting challenge. We had scratched the surface of accessibility during lectures, but we hadn't used any accessibility tools or learned about these different aspects of accessibility. The ESKEH course organized in SAMK was great. It made the concept of accessibility assessment more concrete and provided lot of useful information. The assessment itself wasn't too difficult to make and I received valuable tips throughout the assessment process from the school project worker Riikka Tupala. If the assessment would have been done in any other season I would have taken specific measurements. Additionally, I could have taken some measurements for reference. Even though no specific measurements were taken, I do feel that observations and estimations are specific enough and the assessment is valid. The report was written in October-November 2012. Writing the report was a little challenging due to it being not familiar territory and also because I waited so long after the assessment, luckily I had good notes and pictures. Before sending it to the Pori city planning architect, I received notes from school.

The ESKEH tool was good in my opinion. It looks at physical accessibility from several aspects and is not specified to a certain assistive aid. The form is relatively clear and it is good that the recommendation measurements are written on it. The instructions are clear and take into account several "what if" type scenarios. Hopefully this method will be used nationwide.

9.3 Writing process

The writing process started in October 2012 and continued till November 2012. This was the most amount of work. When doing more research I realized that accessibility is a lot more interesting than I previously thought. Also, the history of accessibility was incredibly fascinating. I should have started the writing process immediately after choosing the topic, this way the theory part would have been deeper and more

organized. The assessment and report writing would have been easier if I would have had more background information about accessibility. Additionally, the report was written October-November 2012. It should have been written immediately after the assessment. I wish I had a good excuse why I didn't start earlier, since then I would have made the work easier for me.

Most of my references are from online documents, internet pages and books. A lot of the information concerning accessibility is done by associations and organizations that publish their publications mainly online. I do feel like the references are reliable, but I could have used more variety in my sources. In this thesis I mention different accessibility programmes worldwide, but the information of this thesis and the recommendations are applicable only in Finland.

9.4 Further Research

The accessibility assessment was done during wintertime and it would be interesting to compare the accessibility to other seasons. Also, Karjaranta is a developing area and there will be new areas and renovations done that would need accessibility assessments. Based on the interviews, assessments of public buildings in Pori would be beneficial.

Based on personal interest a thesis concerning the history and development of accessibility over the years would be very fascinating. The accessibility has been in the agenda of United Nations and the European Union since they were founded and in Finland for almost 40 years. Through this type of research accessibility as a concept and necessity could be understood and give insight to how the world has changed.

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APPENDIX 1

1. Mitä reittiä käytätte Saleen?
2. Miten kuvailisitte reitin esteettömyyttä?
3. Onko reitin esteettömyydessä eroja kesä ja talviaikoina? Millaisia?
4. Miten kuvailisitte talvikunnossapitoa?
5. Mitä parannusehdotuksia teillä on kesä ja talviajalle?
6. Joudutteko etukäteen miettimään reittejä?
7. Miten kuvailisitte esteettömyyttä Porissa?
8. Millaisia positiivisia/negatiivisia kokemuksia olette kohdanneet?
9. Miten muut ihmiset ovat suhtautuneet teihin?
10. Onko esteettömyys kehittynyt?

1. What route do you use to go to Sale?
2. How would you describe the accessibility of the route?
3. Is there differences in accessibility in summer/winter time?
4. How would you describe winter maintenance?
5. What improvement ideas do you have for summer/winter time?
6. Do you have to consider your routes?
7. How would you describe accessibility in Pori?
8. What types of positive/negative things have you experienced?
9. How has others treated you?
10. Has accessibility developed?

1 SUOJATIET JA JALKAKÄYTÄVÄT

Sijainti:

	K	E	Ek
Kulkuväylät ja pinnat			
1.0. Kulkuväylän vapaa leveys? <i>koneellinen kunnossapito</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.1. Kulkuväylän vapaa korkeus? <i>rakennuslupaa vaativissa rakenteissa</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2. Kulkuväylän pituuskaltevuus?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3. Kulkuväylän sivukaltevuus?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4. Kulkuväylän pintamateriaali?			
1.5. Onko pintamateriaali kova, tasainen ja märkänäkin luistamaton?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• rastita E, jos kulkuväylän pinta vaurioitunut tai väylällä kuoppa?		<input type="checkbox"/>	<input type="checkbox"/>
• rastita E, jos kulkuväylä epätasainen?		<input type="checkbox"/>	<input type="checkbox"/>
• rastita E, jos kulkuväylä huomattavan epätasainen?		<input type="checkbox"/>	<input type="checkbox"/>
• rastita E, jos kulkuväylä roskainen?		<input type="checkbox"/>	<input type="checkbox"/>
• rastita E, jos kulkuväylä luminen tai liukas?		<input type="checkbox"/>	<input type="checkbox"/>
1.6. Rajautuuko kulkuväylä selkeästi?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.7.	Rastita E , jos kulkuväylän pinnassa on harhaanjohtavaa kuviointia? (esim. vaikutelma tasoerosta tai voimakas kuviointi)					
1.8.	Rastita E , jos kulkureitillä on törmäys- tai kompastumisvaaraa aiheuttavia kiinteitä esteitä?					
1.9.	Rastita E , jos kulkuväylän läheisyydessä on ≥ 500 mm putoamisvaaraa aiheuttava tasoero?					
Kuivatus						
1.10.	Rastita E , jos kulkureitillä on sadevesikouruja?					
	• avokourujen leveys?	≥ 400 mm (ET)	mm			
		≥ 200 mm (PT)				
	• avokourujen syvyys?	≤ 20 mm (ET)	mm			
		15-20 mm (PT)				
1.11.	Rastita E , jos kulkureitillä on koholla tai kulkupintaa alempana olevia sadevesikaivon kansia?	≤ 20 mm				
1.12.	Rastita E , jos kulkureitillä on lätäköitä?					
1.13.	Rastita E , jos sadevesikaivo on tukkeutunut?					

Lisätietoja

Suojatiejärjestelyt	Kriteeri	Mitta	K	E	E
1.14.	Kulkuväylän pituuskaltevuus suojatien alkamiskohdassa?	≤ 5 %	%		
1.15.	Onko suojatien edessä varoitusalue?	ET + sulana-pitojärjestelmä: huomiolaatta PT: kontrasti			
1.16.	Onko suojatiessä suojatiemerkinnyt?				
	• suojatiemerkinnyt leveys?	≥ 2500 mm	mm		
	• onko suojatiemerkinnyt tarpeeksi voimakas?	ET: betonikivi,			

luonnonkivi, massaus

PT: massaus

• ovatko suojatiemerkinnot kohtisuorassa ajorataan nähden?

☐
☐

Suojatien A pääty

1.17. Onko suojatiellä pystysuora reunatuki?

☐
☐

• pystysuoran reunatuen korkeus?

30-40 mm

mm

☐
☐

1.18. Onko suojatiellä luiskareunatuki?

☐
☐

• luiskareunatuen leveys?

≥ 2,5 m

m

☐
☐

1.19. Rastita **E**, jos reunatuki varioitunut (lohkeama, kivi irti)

☐

Suojatien B pääty

1.20. Onko suojatiellä pystysuora reunatuki?

☐
☐

• pystysuoran reunatuen korkeus?

☐
☐

1.21. Onko suojatiellä luiskareunatuki?

30-40 mm

mm

☐
☐

• luiskareunatuen leveys?

≥ 2,5 m

m

☐
☐

1.22. Rastita **E**, jos reunatuki varioitunut (lohkeama, kivi irti)

☐

Keskisaareke

1.23. Keskisaarekkeen syvyys?

≥ 2,5 m

m

☐
☐

1.24. Keskisaarekkeen leveys? (j*k* osuuden leveys)

≥ 2,5 m

m

☐
☐

1.25. Onko jalankulku ja pyörätie erotettu?

☐
☐

1.26. Onko keskisaarekkeella pystysuora reunatuki?

☐
☐

• pystysuoran reunatuen korkeus? (A ja B pääty)

30-40 mm

A

mm

☐
☐

B

mm

1.27. Onko keskisaarekkeella luiskareunatuki?

☐
☐

• luiskareunatuen leveys? (A ja B pääty)

≥ 2,5 m

A

m

☐
☐

1.28.	Rastita E, jos reunatuki varioitunut (esim. lohkeama, kivi irti)	B	m		
1.29.	Ovatko kaikki reunatuot kohtisuorassa ajorataan nähden?			<input type="checkbox"/>	
	Jos ei, niin				
	onko vinostilähtevän suojatien (reunatuki tai merkinnät vinossa)	raidan leveys			
	ylityssuunta osoitettu (esim. lohkopintaisella luonnonkiviraidalla)?	200-300 mm		<input type="checkbox"/>	

Lisätietoja

Suojatiemerkki ja painonappipylväs	Kriteeri	Mitta	K	E	E
1.30.	Onko suojatien yhteydessä suojatiemerkki?		<input type="checkbox"/>		
1.31.	Onko suojatiemerkki kadun molemmin puolin (jos 2 ajokaistaa)?		<input type="checkbox"/>		
1.32.	Onko suojatiemerkki sijoitettu heti suojatiemerkinnän reunaan?		<input type="checkbox"/>		
	• suojatiemerkin etäisyys ajoradan reunasta?	≤ 500 mm	<input type="checkbox"/>		
1.33.	Onko suojatie valo-ohjattu?		<input type="checkbox"/>		
1.34.	Onko suojatie ääniopastettu?		<input type="checkbox"/>		
1.35.	Onko suojatiellä liikennevalojen painonappi?		<input type="checkbox"/>		
	• painonapin korkeus?	900-1100 mm	<input type="checkbox"/>		
	• painonapin etäisyys suojatien reunasta?	300 mm	<input type="checkbox"/>		
	• onko painonappi koholla?		<input type="checkbox"/>		
	• onko painonappipylväessä ylityssuunnan osoitin (kohokuvio)?		<input type="checkbox"/>		
	• onko painonapissa merkkiääni?		<input type="checkbox"/>		
	• onko painonapissa merkkivalo?		<input type="checkbox"/>		
Opaslaatat, varoitusalueet ja erotteluraidat					

1.36.	Onko kulkuväylällä opaslaattoja? (suuntalaatta, huomiolaatta)	lämmitetty alue		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• johtavatko ohjaavat laatat loogisesti haluttuun paikkaan?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• erottuvatko laatat selvästi muusta päällysteestä tummuuskontrastina?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.37.	Onko ajoradan ja jalkakäytävän välissä erottelualue?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• erotteluraidan leveys?	≥ 500 mm	mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.38.	Onko jalankulku ja pyöräily erotettu erotteluraidalla?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• erotteluraidan leveys?	200-500 mm	mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• erotteluraidan materiaali?	nupu-, noppakivi, massaus				
	• erottuuko erotteluraita selvästi muusta päällysteestä?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.39.	Onko kulkureitillä pollareita?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• onko pollarit merkitty kontrastimateriaalivyöhykkeellä?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• vyöhykkeen leveys?	200-500 mm	mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• pollarin korkeus	ET: 900 mm	mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• erottuuko pollari tummuuskontrastina ympäristöstä?	PT: 600-900 mm	mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• onko tummassa pollarissa huomioraita?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• rastita E, jos pollarissa teräviä tai törmäys- tai kiinnitakertumisvaaraa aiheuttavia osia				<input type="checkbox"/>	<input type="checkbox"/>
Valaistus						
1.40.	Onko kulkureitillä valaistus?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	• onko valaisimet sijoitettu tasaisin välimatkoin kulkuväylän samalle puolelle?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

• onko kulkuväylän risteyskohdat hyvin valaistu?

☐☐☐

• onko kulkuväylän tasoerot valaistu?

☐☐☐

• rastita E, jos valaisin on rikki tai likainen?

☐☐

APPENDIX 3

Eeva Sirén

ACCESSIBILITY ASSESSMENT
- JOKISUISTO TO SALE SHOP

Degree Programme in Physiotherapy
2012

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1 INTRODUCTION

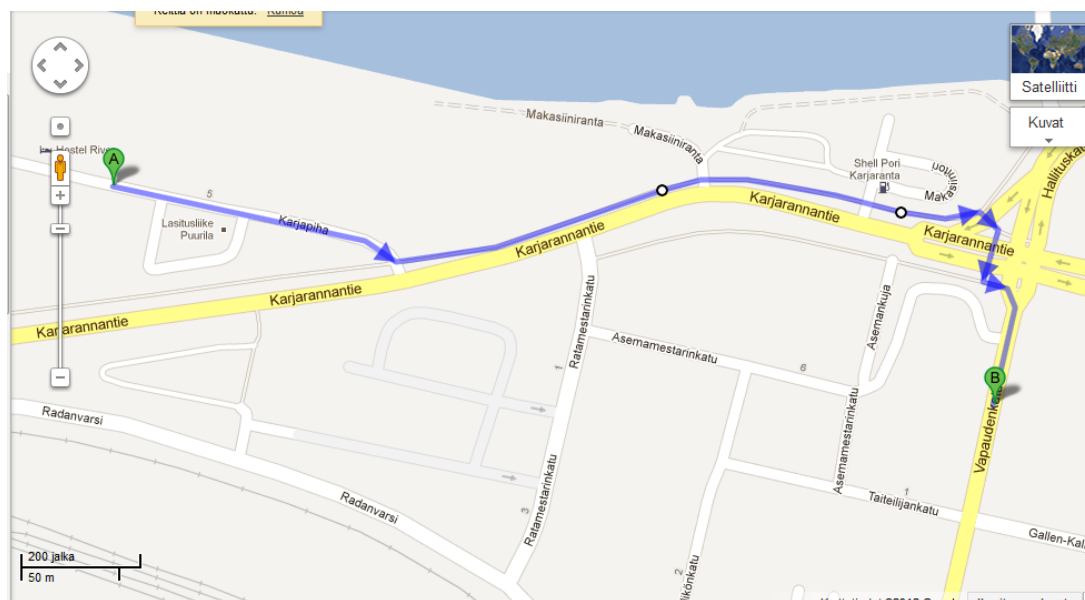
This accessibility assessment and report is a part of international Socio-economic methods of Urban REhabilitation in deprived urban areas (SURE)- project. The project is a part of the URBACT II (2009-2013) network learning and exchange program. There are nine middle sized European cities in the SURE network that utilise each other's experiences to develop their targeted areas. Together these cities try to explore how to tackle their commonly shared problems such as tourism as a way of facilitating local economic and cultural development; encouraging small enterprises and innovation; physical improvements to important buildings and open spaces.

In Pori, the target area is Karjaranta. In this area there is the Jokisuisto (Karjapiha 4) assisted living building for people with disabilities. The route assessed was from Jokisuisto to the closest grocery shop; Sale (Vapaudenkatu 1). The distance is approximately 600m and the route was chosen based on interviews of the Jokisuisto residents that use the grocery shop regularly. The assessment was done February 13, 2012 in order to study if the route is accessible during winter time. Accessibility shouldn't be dependent of seasons. Since the assessment was done during wintertime and the sidewalks were covered in ice and snow, no specific measurements were taken. One of the purposes is to draw attention to the importance of winter maintenance. The assessment tool used was Edteettömyyden arviointimenetelmän ja kartoituslomakkeen kehittäminen (ESKEH).

This accessibility assessment is the product of my bachelor's thesis and therefore does not include in-depth theoretical information. There are accessibility recommendations from ESKEH tool in the beginning of each topic.

2 RESULTS OF THE ASSESSMENT

The route



(Google maps)

2.1 Jokisuisto entrance

Good lighting is powerful enough, level and non-glaring. The contrasts are important in order to outline the environment and separate all the aspects. Sound signals should also include visual signals in order to provide accessibility for visually and hearing impaired. The sound should be pleasant and the loudness should be arranged to fit the purpose of the sound. The entrance to a building should be located so that it is easy to find from the parking place or the street. There shouldn't be any unnecessary change of direction, but if there is then it should be marked clearly.

The main entrance is in a small courtyard that can be entered from Karjapiha. The main entrance does not stand out from the street, but the area is level and there are no unnecessary turns. There is sign that says "Jokisuisto" on the side of the street. The base and the letters are in similar colors in the sign which makes it difficult to notice. The buzzers to get into the building have sound and are located at an appropriate

height. Additionally, the background of the names are lit during dark. The door is automatic and there is a grating in front of the door. The grating and the buzzers give feedback to people accessing the building. There is also a shed above the door which is high enough, but the walk way to the door can still get icy and slippery.

The courtyard is in general well maintained during wintertime and there is enough space for a car to pick up and drop off. Snow shoveling was done and gravel was added to maintain the walkways non slippery. There is a bench on the courtyard and it was covered in snow.



Picture 1. General view on the entrance taken from Karjapiha including the sign.



Picture 2. Front door buzzer



Picture 3. Front door winter maintenance and grading to give feedback



Picture 4. Bench in the courtyard covered in snow

2.2 Karjapiha

Sidewalks should be the minimum of 1500 mm wide in order to have enough space to turn with a wheelchair. Free height should be at least 2200 mm. The roads should be level and the gradient sideways should be under 3% and the length gradient under 8%. Winter maintenance should be handled in a way that there is no trash, ice or snow on the sidewalk. There shouldn't be anything on the sidewalk that can get into way. Maintenance with machines is possible when the width of the sidewalk is 2300 mm and free height over 3000 mm.

The sidewalk in front of Jokusuisto is well maintained. Snow shoveling has been done so that sidewalk is wide enough. When moving towards Karjarannantie the path on the sidewalk gets smaller, approximately 300 mm. Towards the end of the street sidewalk is filled with snow and very difficult to manage. Also the snow from the road has been piled on the sidewalk making it difficult to go around it. The sidewalk is relatively straight and the only level differences are caused by the lack of winter maintenance. The road is well maintained, so it is possible that users walk on the road instead of the sidewalk, which is a safety risk.



Picture 5. Karjapiha in front of Jokisuisto



Picture 6. Karjapiha. Pile of snow in the sidewalk



Picture 7. Karjapiha sidewalk



Picture 8. Getting to Karjarannantie from Karjapiha

2.3 Karjarannantie

See above for accessibility recommendations.

The sidewalk is well maintained by machines, since the dimensions of the side walk are large enough. The snow is shoveled, but there has been no gravel added. There is a bit of loose snow on the sides, but it doesn't affect the accessibility. At the moment the sidewalk is not slippery. The borders are clearly marked so it is easy to notice when the sidewalk ends and the road starts. The sidewalk doesn't have sudden big turns and there are no noticeable level differences. There are streetlights, but every other street light is on different side of the road causing there to be dark places on the sidewalk. Also bicycles are allowed go on the same sidewalk and during wintertime the sides for the bikes and for pedestrians can't be separated.



Picture 9. Karjarannantie

2.4 Karjarannantie-Vapaudenkatu crossing

The changes in level from sidewalk to pedestrian crossing should be maximum of 5%. There should be a barrier of 30 mm between the road and the sidewalk in order to know where they start. The lines on the road should be marked clearly with contrast colors and there shouldn't be other areas with colors and shapes nearby. The traffic sign is recommended to be set the maximum of 500mm from the start of the crossing. The sound signal button should be located the maximum of 300 mm from the crossing and 900-1100 mm high. The middle platform in the crossing that divides the pedestrian crossing in two parts should be higher than the road. The depth should be 2,5 m for strollers to fit.

In order to get to Sale it is mandatory to cross Karjarannantie. There are two possible crossings to use, but the one with traffic lights is the most popular amongst to resi-

dents. In the crossing there are two separate pedestrian crossings that are needed to cross to get to the grocery store. One is short with no traffic lights. The other crossing is longer and has traffic light with sounds. In the first crossing it is difficult to know if the sound indicates that crossing or the next one due to its close proximity. The button for pedestrians is located too far from the waiting platform due to snow, making it difficult to reach. The crossing area is not well shoveled leaving loose snow on the waiting platforms.



Picture 10. Pedestrian crossing without the lights



Picture 11. Pedestrian crossing with lights



Picture 12. The loose snow on the pedestrian crossing.

2.5 Vapaudenkatu

See Karjapiha for recommendations.

The sidewalk is in general well maintained. It has been snow shoveled with machines and it is not slippery. There are no noticeable level differences.

2.6 Main entrance to Sale

Ramp always leads from flat level area to another flat level area and shouldn't be side gradient more than 2%. The flat areas in front and end of the ramp should have a diameter of 1500 mm. The width of a ramp should be 9000 mm and the length should be the maximum of 6 m. The recommended gradient is the maximum of 5% but should not be more than 8%. When the ramp is not located next to a wall there should be a 50mm barrier on the side of the ramp. The material of the ramp should be non-slippery and hard. The most accessible stairs are straight. If they are located in front of the door then there should be 2000 mm room in front of the door. The size of the step should be 300 mm in the stepping area and 160 mm high. Both ramps and stairs should have railings. Railings should be located on both sides and shaped to be easy to grab and hold onto, round ones are usually most accessible. The railings are recommended to be at two different heights 900 mm and 700 mm. The railing should go 300 mm over from the last steps and rounded from the end, in order to support the whole way and it will be apparent when the stairs end.

The entrance to the yard is same for pedestrians and for cars. In order to get to the door it is necessary to go through drive way. This may cause dangerous moments. Also the driveway is not level. The yard is shoveled and there is gravel added. There are stairs in front of the automatic doors to the shop. The ramp is located next to the steps. The ramp and stairs are made of coarse material which makes it less slippery. Also there is a level platform before entering the shop. Ramp and stairs share a railing which is rounded so it is apparent when it will end, but it is too short and doesn't go beyond the final step. Also there are railings on both sides, but only on one level.



Picture 13. The yard of Sale is not level



Picture 14. Main entrance to sale.

3 DEVELOPMENT SUGGESTIONS

3.1 Jokisuisto entrance

The colors of the letters in the sign could be changed, in order to stand out from the color of the base. Also maybe the buzzers could have Braille added for the visually impaired. The bench outside should be also kept clear so that the residents may sit down, for example when waiting for the taxi.

3.2 Karjapiha

The owners of the buildings on this street could work in cooperation to make sure winter maintenance is taken care of on the sidewalk. It would be safer not only to the residents of Jokisuisto, but also to the customers and the visitors of these other establishments. Also the placement of the snow pile from should be carefully chosen not to cause problems for the pedestrians.

3.3 Karjarannantie

Even though the maintenance of Karjarannantie is good, gravel could be added to decrease the slipperiness. Also the sidewalk could be lit better.

3.4 Karjarannantie-Vapaudenkatu crossing

The snowplow should make a wider route on the crossing in order to make the pushing of the traffic light changing button more accessible. Also the loose snow should be shoveled to the side. The sounds of the traffic lights could be made clearer so pedestrians would know which crossing is clear to go.

3.5 Sale entrance

The yard could be level in order to make the mobility safer for customers. Also pedestrians could have an alternative route to the door so that the cars can be at a separate area and therefore ensure better safety. The railing should be made longer.

4 CONCLUSION

It can be concluded that accessibility should be taken more into account during wintertime. Jokisuisto main entrance is in general accessible, but some small details could be changed to make it even better. Also it is not enough if Jokisuisto is the only building in Karjapiha takes care of the winter maintenance. The house owners should work together to ensure the sidewalk remains accessible, since the roads are taken care of. It is not only people with disabilities that benefit from accessible sidewalks. The matter concerns every citizen and makes mobilizing easier and safer for everyone. Karjaranta-Vapaudenkatu crossing has traffic lights that has sounds. Sound signals make it safer to navigate, but the proximity of other crossings makes it a bit unclear to know where the green and the red lights are. The entrance of Sale is accessible in general and has potential to be better with minor adjustments and changes. Therefore it can be concluded that most of the route to the shop is accessible, but minor adjustments and improved winter maintenance would make it better.

During the interviews the residents were asked about how they feel about the accessibility of the route. The general view was that the route to the store is accessible. The route is straight, there are no level differences and the asphalt is in good condition. The main problem mentioned by all four residents was winter maintenance. The sidewalk in Karjapiha is not maintained during winter making it difficult to mobilize and forcing the residents to choose alternative routes. Also mentioned as a problem by all four, was the snow embankment left by the snow plow and the loose snow in crossings. During summer the problems are minimal. One resident mentioned that

during summer there are puddles in Karjarannantie and sand travel to the sidewalk from the river bank.