



AALBORG UNIVERSITET
K Ø R F N H A V N

Aalborg Universitet København
Statens Byggeforskningsinstitut
A. C. Meyers Vænge 15
2450 København SV
Danmark

Studiesekretær: Silpa Stella Rondón Pinto
Telefon: 9940 2285
master@sbi.aau.dk

Studenterrapport

Uddannelse: MASTER I UNIVERSELT DESIGN OG TILGÆNGELIGHED

Semester: M8: Masterprojekt

**Titel på masterprojekt: Public Bus Transport on the Ring Road in Iceland.
Current Status of and Responsibility for the Accessibility for
Wheelchair Users.**

Projektperiode: Efterår 2015

Vejleder: Camilla Ryhl

Studerende:



Harpa Cilia Ingólfssdóttir

Antal normalsider: 53

Afleveringsdato: 2016.01.07



AALBORG UNIVERSITET
KØBENHAVN

Studenterrapport

Public Bus Transport on the Ring Road in Iceland

Current Status of and Responsibility for the Accessibility for Wheelchair Users

Harpa Cilia Ingólfssdóttir



Education: Master i Universelt Design og Tilgængelighed

University: Aalborg University, Copenhagen

Supervisor: Camilla Ryhl

Semester: M8: Masterprojekt

Delivery date: 07.01.2016

Acknowledgements

This report is a final product of a longer process. I want to use this opportunity to show my gratitude. I believe that we all have a purpose on this earth, and what we do has effects and consequences. I am not sure of where this education will lead me to, but I know that it has been of great value. I want to thank Aalborg University in Copenhagen for providing the Master in Universal Design and Accessibility program; also I want to thank all the teachers, lecturers and René for a great time and good education. Especially I want to thank my mentor Camilla Ryhl for everything, I knew my version of accessibility matters before I entered the program, thank you for introducing me to your world of Universal Design and equality for all humans. This journey would not have been as educating and enjoyable without my fellow students, thank you each and every one. Though, one in particular; dear Ulla, thank you for being my friend and host me every single time I joined the class in Denmark and our good conversations. It has been a great opportunity for a foreigner to study in Denmark, but it would not have been possible without the endless love and support of my husband, Ivon, and my family. Thank you dear Ivon for all the help concerning proofreading and correcting my English grammar, thank you for all the good comments, discussions and motivations 😊 .

- Harpa Cilia Ingólfssdóttir

Table of Contents

1	Abstract	3
2	Introduction	4
3	The case description	5
	Defining the case	8
	Key concepts	8
	Icelandic Public entities mentioned in this case study and their roles.....	8
	Limiting the case-study.....	9
4	Methodology	10
	Quantitative and qualitative methods.....	10
	The bus stops, posts and timetables	10
	Buildings on the Ring road servicing the busses.....	11
	The Busses servicing the Ring road.....	11
	Bus routes on the Ring road.....	12
	The map.....	13
5	Theoretical approach	14
	Theoretical knowledge	15
	Technological knowledge	18
	Practical knowledge.....	20
6	The case study; Public Bus Transport on the Ring Road in Iceland	23
	The busses	23
	Driving and exploring the Ring road	24
	Bus-stops providing food and restroom facilities.....	42
	Roles and responsibilities – The interviews	44
	A. The Icelandic Road and Costal Administration (IRCA), <i>Vegagerðin</i>	44
	B. Strætó bs.....	45
	C. SVAust.....	46
7	The case study in three aspects of universal design knowledge	47
	The case according to the theoretical knowledge aspect of UD	47
	The case according to the Technological knowledge aspect of UD	49
	The case according to the Practical knowledge aspects of UD	50
8	Conclusion	53
9	Appendix	55
	Appendix II: Guidelines for rest rooms on extended bus stops	57
	Appendix: III: Questionnaire for the interviews.....	58
	Appendix: IIII: Illustation of bus stops on the Ring road in Iceland	61
10	References	62

1 Abstract

The majority of travellers can choose between travel methods, but not all.

As for the accessibility of public bus transport, it is not enough to be able to get into a bus, the traveller has to be able to disembark and to enter the buildings at stop-overs, either for food or rest-room stops.

The case study is about the public bus transport on the Ring road in Iceland. It focuses on the accessibility for wheelchair users to exploit the potential of travelling between communities, towns and villages in rural Iceland. The research covers and includes vehicles (busses), the actual sites where the bus stops are and the service providers and locales on the way, such as shops and restaurants with restrooms, and food service. The infrastructure, the operators and the ownership of the businesses will be investigated and analysed in this case study, also exploration of who is responsible for issues concerning accessibility for wheelchair users in the various aspects of the public bus transport service on the Ring road in Iceland. These roles and responsibilities will be investigated with the case study process, and by interviewing representatives of some of the key stakeholders.

The Universal Design theory is one of the main theories which will be used to investigate and discuss the importance and possibilities of providing equal access for everyone to travel with the public bus transport system.

Abstrakt

De fleste der rejser har mulighed for at vælge mellem transportmetoder, men ikke alle.

Med hensyn til tilgængelighed af offentlig bus transport, er det ikke nok at kunne komme ind i bussen for når rejsen er slut skal passageren nemt kunne komme ud af bussen igen. Alle stoppesteder bør være tilgængelige og undervejs må den rejsende have mulighed for at komme ind i service bygningerne på stoppestederne, til at få information, købe billetter, mad eller til at komme på toilettet.

Casestudiet handler om den offentlige bus service på Islands ringevej. Den fokuserer på tilgængelighed for kørestolsbrugere, kundegruppens mulighed for at udnytte den service der findes undervejs og rejse mellem byer og landsbyer i landdistrikterne i Island. Undersøgelsen fokuserer på køretøjet (busserne), de aktuelle stoppesteder, og de serviceudbydere og lokaler (butikker, toiletter, restauranter o.s.v) der findes på ruten. Undersøgelesen vil også analysere infrastrukturen, operatørerne og ejerskabet af virksomhederne, og på den måde udforske hvem der er ansvarlig for tilgængelighed for kørestolsbrugere i de forskellige aspekter af offentlig bus transport på ringvejen i Island. Disse roller og ansvar vil blive undersøgt med casestudie processen og ved at interviewe repræsentanter for nogle af de centrale interessenter.

Teorien om universel design (UD) er hovedteorien som bruges til at undersøge og diskutere betydningen af, og mulighederne for, at give lige adgang for kørestols brugere til at rejse med offentlig bus.

2 Introduction

According to Statistics Iceland (Hagstofa Íslands) the population in Iceland on the 1st of January 2014 counted 325,671 persons (Hagstofa Íslands, 2015). Looking at numbers from the Social Insurance Administration in Iceland for 2014 the number of disability beneficiaries was 16.326 persons. Elderly persons receiving pension from the state 67 years and older, are 31.336 and 1.600 people are rehabilitating pensioners (Tryggingastofnun). Thus the total number of individuals accepting pension from the Icelandic state is 49.262, which is about 15% of the population. Neither employed individuals with disabilities, those who run their own business and do not accept pension from the State nor children under the age of 18 are included in these numbers.

These may not be high numbers compared to the big picture as stated in the *World report on disability*, from the World Health Organisation (WHO), which states that over a billion people worldwide are estimated to be living with a disability, which is about 15% of the world's population. Disability varies according to a complex mix of factors, including age, sex, stage of life. Culture and available resources are also big factors and that can vary markedly across location (p.44 in the report (WHO, 2011)). It might be of interest that the rate of pension beneficiaries in Iceland is also 15% of the total population (incl. pensioners 67 years and older and excl. children under age of 18).

Most people will, at some point in their life, experience disability in some form, as a child, a parent, when getting old, because of sickness or accident, for a short time or for the long term, either personally or in caring for disabled or sick family and friends. Visiting families and friends is a part of life and should be available for all during ones whole lifetime, also it is as important to receive visitors, and to be able to travel for work or leisure.

In Iceland there are three ways of scheduled travelling; by car, airplane or boat. The sailing part is limited as there are only four ferries with scheduled trips and two of them take cars, on the other two island travellers have to walk or arrange transport on the islands. Air travel is also limited because there are much fewer airports in use now than there were a few years back. Another reason is that the smaller aeroplanes that are used for the smaller towns are not accessible for e.g. wheelchair users. Iceland has no trains yet so the remaining option is travelling by car or bus. For persons who do not own a car or do not want to or cannot hire a rental car, the only option is to use public transport. This applies equally to men, women, persons with some kind of disability and individuals that do not have health problems or impairment. But the difference is that disabled persons might not have the same possibilities as others to access information, or vehicles used for public transport and reaching destinations. For most people transport is important, and according to the Icelandic survey *Sumarferðir 2014*, 83% use personal cars, 10% are passengers in private cars, 2% travel by air and 4% travel using other recourses (Reynarsson, 2014). In the Icelandic report there are no specific questions about if the users have reduced mobility or other disabilities.

Route 1, or the Ring Road, is a national road in Iceland that runs around the island and connects most of the inhabited parts of the country. The total length of the road is 1,332 kilometres, according to *Vegagerðin*, (The Icelandic Road and Coastal Administration). Most people use private cars or other kinds of vehicles to travel on the Ring Road, others choose to walk or bicycle. The only public transport is via scheduled bus routes.

The majority of travellers can choose between travel methods, but not all. It is interesting to know if people with disabilities can choose their way of travelling on an equal footing with others. As for the accessibility of public transport, it is not enough to be able to get into a bus,

the traveller has to be able to disembark and to enter the buildings at stop-overs, either for food or rest-room stops.

In some cases, people's incomes might be the reason for the choice of travelling; another reason could be their desire to experience the country without themselves concentrating on driving. Another angle is that many would like to use environmentally friendly resources. They could for example be travelling on bikes or hitch hiking with the possibility to go part of the way by busses, or use the busses (public transport) as the main resource. A third reason might be that there are no other options, the traveller does not have a private car, or a driver's license, he/she might not afford to hire a rental car, or, as may be the case of rural Iceland, it might be that the destination does not have an airport nearby or the airplanes on that route are not suitable for passengers using wheelchairs.

Due to the increase in tourism in Iceland over the past few years, and the increase in participation of persons with reduced mobility or sensory impairment in the society, it is of great importance that public transport facilities must be accessible for all, not the least in regard to the increased numbers of the elderly, who are able and willing to travel, despite reduction in mobility and often also of the senses, especially sight and hearing.

It is not enough for persons with mobility difficulties to be able to enter the busses, they must be able to disembark as well as to use the service facilities at stop-overs and destinations, such as rest-rooms and restaurants. Furthermore, there must be adequate facilities in the bus to secure safety and comfort.

3 The case description

The Ring road connects most of the regions of the country, it connects many municipalities directly to the road, either going through them or passing nearby.

§ 35 in *Act on the Affairs of Disabled People*, no. 59/1992 (59/1992 Lög um málefni fatlaðs fólks) states that municipalities must provide disabled people the opportunity of transport within their area. The goal of special transport services for disabled persons is to enable those who cannot make use of public bus transport within the municipality, due to disability, to pursue employment, education and enjoy leisure activities. As required by law the Ministry of welfare has published guidelines for the municipalities on the implementation of special transport services for disabled persons within the municipalities. One of the provisions in the guidelines is that the user must have a legal residence in the municipality to be eligible for the service. Also; the service is only offered within the municipality's borders, but agreements can be made between two or more adjacent municipalities on sharing the special services. The missing link is that full access to public bus transport between municipalities is not mentioned in the concept of the law. On the other hand in §7 of the Act, it states that disabled persons are entitled to all public service provided by the State or the municipalities.

To be able to travel freely is of great importance to most people, and according to the *World report on disability*, published by the World Health Organization (WHO) in 2011, enabling environments is one of the top topics. In chapter 6 of the report the first paragraph states i.a:

“Environments – physical, social, and attitudinal – can either disable people with impairments or foster their participation and inclusion.” (WHO, 2011)

Users of public transport, for long-distance travel in busses – rural travel, are of all ages and come from different social groups. The travellers are of multiple nationalities, i.e. both the

locals and foreign tourists, either travelling for business or leisure. They all have different interests and needs.

Due to the importance of the Ring Road as a major, and more than often only, connection in rural Iceland the case study concerns accessibility for wheelchair users to travel around the country, on the Ring road, by public bus transport. The study involves scheduled busses, bus-stops and service locales, to evaluate if they are adequate and provided with the necessary facilities, for wheelchair users to be able to travel equally to others. The access for wheelchair users was chosen, since they more often experience greater barriers than other groups of disabled persons. For example, a blind or a deaf person would probably be able to step into a bus even though he or she can't see or hear the surroundings or the vehicle, but a person in a wheelchair can't embark or disembark without proper equipment and facilities in the vehicle and/or at the service locales on the way.

There are many stakeholders involved in the public bus transport system, and it is intriguing to explore the connection between them and their responsibilities. The case study explores the combination of stakeholders involved in the public bus transport system and their responsibility and roles within the matter.

Iceland is a part of the western world and the Icelandic government signed the **UN Convention on the Rights of Persons with Disabilities (CRPD)** in 2007, and added an obligation for executing it according to a subsequent change to the Icelandic *Act on the Affairs of Disabled People, no. 59/1992*. By signing, participants promise working according to the principles stated in the strategy, even though the country has not yet ratified the convention.

An important fact is, that the Icelandic building code is very clear on accessibility for all, in buildings hosting public service. This has been a requirement since 1979, when accessibility for all in buildings for the public became part of the Icelandic building code. Later building codes have become more detailed in accessibility matters. Universal design strategy was integrated in the latest edition of the Law on Constructions, (Lög um mannvirki no. 160/2010) 2010, (Alþingi, 2010) and the related building code from 2012 (Byggingareglugerð nr. 112/2012) (Ministry for the Environment, 2012), and is required as part of the overall design of all buildings, it is also supported by the earlier accessibility minimum standards as well as new definitions being added as demands instead of being suggestions. The case study explores the actual conditions of the built environment at the bus-stops, in accordance with the current legal environment.

Roles and responsibility in the public bus transport system

Roles and responsibility are to be located by investigating the involved partners and the legal environment. By investigating both the legal part and the partners it will enlighten if the system is in the hands of a single stakeholder or a complex approach of many parties. Examples of issues concerning the roles and responsibility are; is the bus company responsible for their service to be accessible for all passengers? Is the owner of the service locale responsible for providing accessible service to the passengers arriving with the bus? Is it maybe the local municipality's responsibility or the State's? Is the system a one-sided or shared responsibility?

The case subject is twofold; firstly to investigate if public bus transport on the Ring road is accessible for persons using wheelchairs, secondly to explore where the responsibility in providing public transport and services, lies. What is the current status of public bus transport regarding access for wheelchair users? Who are the stakeholders and what is their role?

The public bus transport system should be for all citizens. Some individuals choose not to use public bus transport and others do, some might not have a choice, especially those with low income, young people and the elderly. If the purpose of public transport is to provide service for all people, then it might be suitable to check if it also provides equal treatment.

It might not be enough for the Convention on the Rights of Persons with Disabilities (CRPD) to stand-alone, as it is not yet a legal act, but Iceland does have laws and regulations applying to the right of people with disabilities (Alþingi, 2010):

“Chapter 1; Purpose and definition.

Article 1. The objective of this Act is to ensure disabled people equal rights and living standards comparable with other citizens and the conditions for a normal life.” - Act on the Affairs of Disabled People, no. 59/1992

There is a great amount of traffic on the Ring road and many interesting destinations and stops. These are serviced by both publicly run busses, as well as busses from privately run companies. The Ring road runs through, or by, many small towns and villages. Most of them have service facilities for travellers. The relevant issues that need to be evaluated are; the busses, the outdoor bus-stops with timetables and the service locales where the public transport buses stop for 30 minutes or more.

In Iceland there are several privately run bus companies that operate on the Ring road but they are not a part of the public bus system unless they have a contract with the municipalities. The municipalities around the Ring road invite the public bus transport to tender. The party that is awarded the contract receives a concession for the service and the right to offer public transport. The tender winner can recruit a subcontractor if needed. The other parties, i.e. private companies, offer travellers tickets such as “Iceland on your own – bus passport” or “Full Circle Passport” but they are not allowed to offer single rides as the concession party, or advertise regular single-ride bus tickets, on the Ring road as well as on other routes.

This case study will only be restricted to the transport companies who have been awarded the official concession for public transport on the Ring road in Iceland and their associates; i.e. Strætó bs (a public transport company owned by the organisation of municipalities in the Capital Region of Iceland (SSH) (Samband Sveitarfélaga á Höfuðborgarsvæðinu) and Strætisvagnar Austurlands (SVAust).

The Icelandic Road and Coastal Authority (IRCA) (Vegagerðin) contracts the regional municipal area organizations to supervise the transport service on their local routes and to take charge of the administrating and supervising of their routes. Most of the regional organizations have made a contract with Strætó bs to handle the coordination, safety, security, quality control etc. for the routes. The regional organisations either make direct arrangements about the actual driving through tender or through Strætó bs. The driving (manpower and vehicles) is sent to tender and the winner is offered a contract and a franchise by the municipalities or the regional organizations. The regional organisations on the East coast of Iceland are not contracted to Strætó bs. as all the others on the Ring road but have their own operator; SVAust which operates on the East coast.

Defining the case

By asking the following questions I will investigate the possibility for wheelchair users to travel with public bus transport around Iceland and the conditions of the service on the way. The issue is to explore travel with public transport on the Ring road in Iceland and analyse each of the bus stops on the way. I will investigate if it is possible for wheelchair users to use the offered public transport. The responsibility in the complex ownership of all involved partners making public transport system work is also one of the main topics for this case study.

1. What is the current status of the public bus transport system on the Ring Road in Iceland regarding accessibility for wheelchair users?
2. Who are the stakeholders and what are their roles and responsibilities?

Key concepts

The Ring road: Iceland's national route number 1: The road is unbroken for 1. 332 km and connects towns and villages as well as serves as the main and often only road for transport of goods and people.

Public bus transport in Iceland:

Is a year-round transport service, which is partly funded (subsidised) by the state, for use by the general public and run by the local municipalities. In the ongoing process of proposal for new public transport laws the definition of public transport is:

Regular trips on a given route according to a published schedule, where the service is open to all and passengers are picked up and set off at a bus-stop or a bus-terminal.

Bus stops:

Are designated places for passengers to embark or disembark from the bus.

Extended bus stop:

A bus stop where the bus / vehicle will stop for an extended time period, at a service locality, where passengers have the time for nourishment and a visit to the restrooms.

Long distance rural transport:

The rural bus-transport connecting the destinations and towns around Iceland.

Universal design:

“Universal design is a process that enables and empowers a diverse population by improving human performance, health and wellness, and social participation” (Steinfeld & Maisel, 2012).

Icelandic Public entities mentioned in this case study and their roles

Vegagerðin

The Icelandic Road and Coastal Administration (IRCA) (<http://vegagerdin.is>) has diverse functions, and is responsible for the construction, service and maintenance of all public roads in Iceland, also the IRCA is responsible for overseeing projects in the field of all public transport in Iceland, including bus transport, such as invitation for tender, negotiating contracts and supervising grants to support the public bus transport system. The IRCA is directly under the Ministry of the Interior.

Mannvirkjastofnun

The Icelandic Construction Authority (<http://www.mannvirkjastofnun.is>) is responsible for matters regarding the Icelandic Building Code and the laws and regulations on construction. The ICA is directly under the Minister of the Environment.

Strætó bs:

Is a public transport company operating in the capital of Reykjavík and surrounding municipalities. Strætó bs is owned by the seven municipalities of the Capital area (SSH) (Samband Sveitarfélaga á Höfuðborgarsvæðinu) the municipalities in SSH are: Garðabær, Hafnarfjarðarkaupstaðar, Kjósarhreppur, Kópavogsbær, Mosfellsbær, Reykjavíkurborg and Seltjarnarnesbær.

In 2011 Strætó bs made the first service contract to the other municipalities (regional organization) regarding counseling, supervision of tender, contracts with contractors and control, information to passengers from the service desk, sales of tickets etc. of the public bus transport. Since January 2014 Strætó bs has also run the local special transport services for disabled persons on the whole Capital Area.

SVAust:

The East Iceland Bus Service is a public transportation company owned and run by the Regional Association of Local Authorities in Eastern Iceland, together with Austurbrú – the East Iceland Bridge. It provides public bus transport service between all the communities on East coast, from the village of Borgarfjörður eystri in the north as far south as the town of Breiðdalsvík, also it connects the towns of Djúpvogur and Höfn in the south-east part of Iceland, which are not linked to other routes of SVAust.

Limiting the case-study

“Disability is hard to measure and among many other things the ways of measuring vary according to the purpose and application of the data and it may also vary across countries because of different understanding of disability issues” (WHO, 2011)

This case-study is limited to only covering accessibility and conditions for wheelchair users, but does not in any way diminish the importance of accessibility for other individuals with disabilities. To further limit the scope of the case-study; both the journey from home to the initial departing station of the public bus transport and the journey from the final disembarking station to the final destination, is not part of this report. This does not indicate that transport other than rural public bus transport on the Ring road is less important; simply that it would be another case study. The main terminals of each route in Akureyri, Egilsstaðir and Reykjavík are at the beginning and end of each route so they are not rated as a bus-stop underway, and therefore not part of this case study. As mentioned in the case definition, there are also private companies driving the same route, these companies are not a part of this case study.



Figure 1: Figure from (Nowegian Directorate for Children, 2013), page 84. The circle (line around the figures) indicates the definition of the case study.

4 Methodology

I use the case study methods as presented by Robert K. Yin in the latest edition of *Case Study Research: Design and Methods* published in 2013 (Yin, R.K., 2013). The author describes these methods as a useful tool for delving into the problem, to make direct observations and to collecting the data. He simplifies it in a good way by saying:

“Compared to other methods, the strength of the case study method is its ability to examine, in-depth, a “case” within its “real-life” context.”
– Robert K. Yin

The case study is about using a single case, or small number of cases, as a subject to analyse and research in depth a real-life situation. The case study should be used for information purpose only or as an evidence-based information gathering for further use.

Quantitative and qualitative methods

The gathering of data is done with quantitative and qualitative methods:

a) On site – Quantitative methods

The case study involves numerical analysis of data collected with questionnaires/checklist made for the purpose; to be used on site, see Appendix I.

How are the actual conditions at the bus stops and service locales used for extended breaks during the trip? On site I will use a quantitative method of collecting data in the form of checklists designed for the assignment, and photographs. I will travel the Ring road, clockwise, from the capital city of Reykjavík northward and then on to the east coast and back to Reykjavík along the south coast. At each bus stop on the way I will fill in the checklist, take measurements as needed and photograph the actual situation. The checklists are based on the requirements from the Icelandic building code (Iceland Construction Authority (Mannvirkjastofnun), 2013) and the registration forms from the “God Adgang” Label system (God adgang).

b) Interviews – Qualitative methods

The case study involves one to one based interviews with persons from:

- The Icelandic Road and Coastal Administration (*Vegagerðin*)
- Strætó bs; the service provider for public bus transport on the Ring road, except for
- SVAust; a regional public bus transport organization on the East coast, which is not in cooperation with Strætó bs,

I will formulate some key questions for the stakeholders and also give them an opportunity to speak freely about matters that each of them feels are important in relation to the case. The interviews will be recorded and I will write an extraction of the conversations and answers. The basic questions are shown in Appendix III: Questionnaires

The bus stops, posts and timetables

For the sites and bus-stops I will review the site with the help of a customized checklist, based on the criteria of God Adgang in Denmark (www.Godadgang.dk) and the relevant requirements of the Icelandic building code (Iceland Construction Authority (Mannvirkjastofnun), 2013).

God Adgang is a Danish registrant for accessibility in buildings, surroundings and services. Its subsidiary in Iceland is *Aðgengi og Algild hönnun ehf* (www.AccessIceland.is). God Adgangs' registration system is based on a customized and detailed checklist for every kind of business and built environment. It takes into consideration the 7 different groups of disability; wheelchair users, blind-/visually impaired persons, the deaf, persons with asthma and allergy, mentally impaired people and dyslexic individuals.

I have chosen to combine the requirements of God Adgang for bus stops, and the Icelandic building code, as a foundation for a checklist for the case study. The reason for this is that the requirements from God Adgang are too detailed for this project, and there are no specific requirements for bus-stops in the Icelandic Building Code, or the associated guidelines, therefore the appropriate general requirements from the Building Code are used for the built environment e.g. the service locales, and the requirements of God Adgang are used for evaluating the actual bus stops (poles, schedules and accessibility).

Each bus stop will be surveyed according to accessibility requirements for wheelchair users only. This narrowing down of the "disability groups" is mainly to simplify the process and, as mentioned earlier, there are certain needs and requirements, which are necessary to be taken under consideration for the sites to be accessible for wheelchair users, which do not necessarily apply to other groups. The questionnaires will be based on known details needed for wheelchair users to be able to travel e.g. requirements in the building code no. 112/2012 and the bus stop criteria from God Adgangs database. See Appendix I: Checklist for registration.

Buildings on the Ring road servicing the busses

The requirements in the Icelandic Building Code do not apply to the actual bus stops but they do apply to the buildings of the service locales at the extended bus stops. Also, the government has not yet produced checklists for all the articles of the building code, but there are some guidelines to be found at:

<http://www.mannvirkjastofnun.is/byggingar/leidbeiningar/leidbeiningar-vid-byggingarreglugerd-112-2012/>.

For the buildings at the extended bus-stop locales (where the bus stops for 30 minutes) I will use the Icelandic Building Code no. 112/2012

(<http://www.mannvirkjastofnun.is/byggingar/byggingarreglugerd/>) and also use the guidelines published by the Icelandic Building Authority (Mannvirkjastofnun, 2013) for universal design of restrooms and baths; no. 6.8.3 *Algild hönnun snyrtinga og baðherbergja* as a requirement base for the rest rooms, see Appendix II: Guidelines to rest rooms/WC

The Busses servicing the Ring road

The only requirements for accessibility for wheelchair-users are to be found in the regulation no. 822/2004 *Reglugerð um gerð og búnað ökutækja* (The Regulation on construction and equipment of vehicles (Ministry of Communication, 2004)). In the regulation there are 3 categories of vehicles for human transport, categories I, II and III and sub-categories A and B. *Category I* is for vehicles exceeding 22 seated passengers, with standing-space as well and frequent embarking and disembarking of passengers.

Category II is for vehicles exceeding 22 seated passengers and with standing-space that doesn't require an area more or equal to two double seats.

Category III is for vehicles for 22 seated passengers or more.

Category A is for vehicles for less than 22 seated and standing passengers.

Category B applies to vehicles for less than 22 seated passengers.

The only stated requirement for persons with disabilities in regulation no. 822/2004 is for category I, which states that for category I the vehicle shall have at least 4 seats reserved and marked for disabled people. Most of the busses used for rural transport in Iceland are in category III.

Therefore, one of the questions in the checklist is; *“is the bus accessible for a wheelchair user?”* The answer is **“NO”** if there is no evidence or documentation of a vehicle equipped with either a wheelchair lift or a ramp suitable for accessing wheelchairs to a bus.

Bus routes on the Ring road

Each bus route of the public bus transport on the Ring road will be surveyed, using the official route numbers as provided by the bus companies. The Ring road will be travelled clockwise, beginning and ending in the capital, Reykjavik city. The stops on each route are numbered with the number of the route, followed with the stop’s number in an ascending numerical order, beginning with number one (1) in each separate route. For example, the first stop on route no. 51, would be; 51–01.

First, the sites (bus-stops) are visited, photographed and the checklist is filled out for each site. Secondly, each route is registered by bus-stop. The bus stops are numbered by their position, counting clockwise around Iceland, on each designated route. At each stop the site is surveyed, photographed and a short comment/review is noted on the actual situation. Then the checklist is filled in according to the criteria for wheelchair access and the guidelines from God Adgang and The *Iceland Construction Authority* (Iceland Construction Authority (Mannvirkjastofnun), 2013). The result is summarised in a spreadsheet using colours and letters; **“Y”** and a green colour for yes, **“N”** and rose colour for no and if relevant, finally **“O”** and grey colour for not applied or irrelevant.

Access for people using wheelchair?	
Yes	Y
No	N
Not applied	O

Figure 2: Showing letters and colours for registration.


Pictures	Description - Comments	Accessible bus?	Post - barrier free?	Time table reachable?	Sheltered posts?	WC - Wheelchair	Food-service	30 min stop	App-gps?
	57-02: The Second stop is at is at the small rural community of Grundarhverfi. The shelter is a short distance from the gas station and the wheelchair access to the sidewalk is a little further up the road.	N	Y	Y	Y	O	O	N	Y

Figure 3: Demonstrating registration of each stop by information from the checklist and showing letters and colours for registration.

Thirdly the whole route is summarised by site numbers to check if the actual bus, bus-stop or service locales are accessible for wheelchair users. All the three questions for the posts; *Barrier free access – Timetable reachable – Shelter* must be answered with a “**Y**” (**yes**) to be considered as a post accessible for wheelchair users. Also the two questions for *WC* and *Food* must be answered with a “**Y**” (**yes**) to fulfil the accessibility requirements for the extended stops. Furthermore I will display the summarised result in colours and letters; “**Y**” and a green colour for yes, a “**N**” and a rose colour for no, and if relevant, an “**O**” and a grey colour for not applied or irrelevant. To further display the routes I will use figures and maps. See appendix IIII: Map of Iceland /Routes/Stops

Strætó - Route 57				
Reykjavík - Akureyri				
Stops	Bus	Posters	WC/food	30 min.
57-xx	N	Y	O	Y

Figure 4: Demonstrating summarised registration showing letters and colours for registration of accessibility for wheelchair users.

The map

In the same way as referring to sources I will provide the case with it’s own map, produced from the Internet media, *My Maps* on Google.

This map uses the same photographs and text as in the registration sheets in the case study, therefore there is no new information added but simply another way of illustrating the location of the sites and the information of each stop. An illustration of the map is to be seen on Appendix 4. As on the checklists, the map shows photographs of the actual situation on the bus-stops, where the passengers wait for the busses, as well as a short information text. The bus-stops are for Strætó bs. and SVAust. The maps name is:

Public Bus Transport on the Ring Road in Iceland; and the online site is:

<https://www.google.com/maps/d/u/0/edit?mid=zhxsvqWWWQy8.kZPb0-TRXlpU>



Figure 5: Image of the online map showing the location of each route and each bus-stop. The map is in a bigger format in Appendix IIII and can also be found on MyMaps on Google through the link mentioned above the figure.

5 Theoretical approach

I will use the theory of Universal Design (UD) to investigate and discuss the importance and possibilities to provide equal access for everyone to travel with public bus transport. I will investigate if the theory of UD and the contents of the 7 UD principles can be used to argue for different approaches to creating documents for the agreements, contracts and tendering process. I will also argue for the UD theory and its principles as a tool for persons in managing positions, responsible for public transport, to become aware of matters concerning accessibility for people with impairments.

Universal Design

The origin of the term Universal Design can be traced to Ron Mace, founder and program director of The Centre for Universal Design; he was born in 1941 and passed away in 1998. He was an advocate and devoted his work for the rights of people with disabilities and he coined the term “universal design” (Center for Universal Design, 2008). The term is to describe the concept of:

“Designing all products and the built environment to be aesthetic and usable to the greatest extent possible by everyone, regardless of their age, ability, or status in life”
- Ron Mace

In 1997 a group of designers and engineers, including the lawyer Ron Mace, presented the 7 Universal Design principles, which might / could / can be used whenever universal design is the issue. The 7 principles are supposed to apply to all universally usable things and to be practised in cooperation with all aspects of the process inclusive economic, engineering, cultural, gender and environmental (Connell, o.fl., 1997).

The 7 universal design principles can be found on The Center for Universal Design’s homepage: https://www.ncsu.edu/ncsu/design/cud/about_ud/udprinciplestext.htm

UD - PRINCIPLE ONE: Equitable Use

The design is useful and marketable to people with diverse abilities (Connell, o.fl., 1997).

UD - PRINCIPLE SEVEN: Size and Space for Approach and Use

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility (Connell, o.fl., 1997).

Regarding this case study, principles no. 1 and no 7, will be used as guidelines for analysing the actual condition on site, and the buildings used for extended stops where passengers can enter the building and order food and use the rest-rooms. These two principles could also be used in drafting agreements and contracts regarding public bus transport.

Universal design is a broad theme with multiple aspects. According to Dr. Inger Marie Lid the definition of Universal Design (UD) is to envelope it as a vision, a strategy, and a tool and professional terminology. It also contains the term value, value of human beings, as in equal worth and equal opportunities. Every human being should be seen and treated with respect and value and of equal worth. The terms equal and value are the essence of the definition of UD and the main purpose of UD is to obtain accessibility on all levels and terms that safeguards each individual as equally worthy (Lid, 2013).

Furthermore, Dr. Inger Marie Lid’s three factors principle are used in this case study to address the topic of responsibility in public bus transport on the Ring road in Iceland. The three factors are three ways of approaching the theoretical and practical knowledge of universal design. In

her book *Universell Utforming Verdigrunnlag, kunnskap og praksis*, she presents that her theory of universal design includes **Theoretical knowledge, Technical Knowledge and Practical knowledge**. This is because the knowledge of universal design is no different than other kinds of knowledge, and it must be interpreted and implemented through practice. She calls it *Evidence-Based Practice* and explains it as: “A good practice is based on research, professionals' experience and knowledge of NGOs and municipal councils” (Lid, 2013).

Following principles as a method for presenting the case research on each of the topics; the theoretical, the technical, and the practical topics regarding public bus transport on the Ring road in Iceland.

Theoretical knowledge	Technical Knowledge	Practical knowledge
Knowledge that variations in disabilities are the condition of individuals. To know what this involves, both in a democratic and political sense.	Knowledge on how the authorities can facilitate full social participation of individuals with disabilities. For example, by maintaining accessibility for the diverse groups of individuals by utilizing appropriate technological solutions and services.	To practice discretion and evaluation in a multidisciplinary context, where universal design is incorporated into actual projects. Universal design is part of the process. (Lid, 2013)(53)

Theoretical knowledge

The Universal Design theoretical knowledge in this case may include the knowledge of what it means to have equal rights and to be treated equally, what is contained in policies, demands, laws and regulations concerning human rights, and who has the power over policies and their implementation. To be able to demonstrate discrimination one must know what to compare. Discrimination could for example be the separation of a group of people entering a building, if the main entrance is not accessible for all, and the one individual in the group using a wheelchair must separate from the group to access by the different entrance.

Disability and discrimination

In the journal *Disability Studies Quarterly*, Theresa Degener, professor of Law, studies the definition of disability through various laws in Germany on disability and rehabilitation, and foreign discrimination laws (Degener, 2006). In her paper she raises the question of emphasis in the definition of disability. Whether e.g. the German and foreign discrimination laws are based on the *medical/individual model* of disability, or, if it is more focused on the *social model/human rights model of disability*. In the *medical/individual* model of disability the focus is on the disabled persons impairment as a cause for the difficulties and problems the individual faces in their daily life, whereas the *social/human rights model* focus on placing the difficulties and problem individual with disability faces in daily life onto the barriers the environment and the society creates outside the individual disabled person.

She confirms that there is a big difference in interpretation of the term disability, between countries and also within each country. Furthermore it depends on the issue, there are different approaches and definitions when handling rights to healthcare, assistance, or social benefits, because the benefits must be need-based in order to be rational, in contrast with

equal treatment which is a right of all people, not certain groups. According to Degener there is at the moment no universal international legal definition of disability, but the World Health Organization (WHO) has been working on it and she mentions the International Classification of Functioning (ICF) in that context.

As she points out, the anti-discrimination law aims to prevent unequal treatment whether the discrimination is because of the medical definitions or the social interpretation of disability. But because of the difficulties in finding the right way of defining disability, an interesting fact in the paper is that there is a new analysis on the matter, which is to view discrimination regarding disability as a neglect of the disabled persons' needs. The neglect of disability as a human difference has been regarded as the third source of disability discrimination (Bagenstos, 2000) (Degener, 2006). The conclusion in Degener's findings is that the legal definition of disability is complex and should vary according to the legal context and purpose of the law. She explains it by referring to the social (welfare) law as a method to provide disability right benefits that might just serve a small group of disabled people and to anti-discrimination laws that must cover much larger group and a more comprehensive definition of disability. In this case I will approach the definition of disability from the third source of discrimination, the neglect of a person's needs. The case study will reveal if wheelchair users have the same opportunities to use public bus transport on the Ring road in Iceland, and if not, to analyse whether it is due to neglect of the disabled person's needs, by the public service providers, and other stakeholders.

As the third source of discrimination (neglect of needs) is not yet an official definition and has no legal status, it is important to research which authorized principles and legal documents are used in the matter of public bus transport in Iceland and the rights of disabled people according to the current laws and regulations.

In Iceland the issues concerning people with disabilities and public transport are mainly managed within three ministries:

- Ministry of the Environment: Planning and Construction Authority
- Ministry of welfare: Handles the public issues of people with disabilities in cooperation with the Union of Local Authorities.
- Ministry of the Interior: Handles the control of local government, transport and human rights obligations

The first document that states human rights in Iceland is the Constitution of the Republic of Iceland, 33/1944, where, in chapter VII, article 65 it states that: "**All men are equal before the law**" and it continues "**...and enjoy human rights irrespective of sex, religion, opinion, national origin, race, colour, property, birth or other status.**" In 1995 a paragraph containing statement of equal rights in all respect for men and women was added to article 65.

As supportive documents the Icelandic parliament (Alþingi) has passed laws concerning the rights of people with disability. In 1992 the first law concerning the rights of disabled persons was passed: Act on the Affairs of Disabled People, no. 59/1992, (Ministry of Welfare, 2010) (Lög um málefni fatlaðs fólks). The first section of article no. 1 reads as follows:

"The objective of this Act is to ensure disabled people equal rights and a standard of living comparable to other citizens and to create conditions for normal life"
(Ministry of Welfare, 2010)

The law does not mention the words “anti-discrimination” but it states equal rights and it also states that the Icelandic government has undertaken international commitments that shall be taken into account. The international commitments in this context are the UN Convention on the Rights of Persons with Disabilities (CRPD). Furthermore the article states that the government shall guarantee that the NGO federations of disabled people and organisations shall be able to have an impact on policy, strategies and decisions concerning disabled people.

The Parliament of Iceland has not yet implemented the Convention on the Rights of Persons with Disabilities, but it was signed on behalf of the Icelandic government on the 30th of March 2007. Nevertheless, the obligation of taking the Convention on the Rights of Persons with Disabilities into consideration was added with a change of the Act on the Affairs of Disabled People, no. 59/1992 in 2010, (Ministry of Welfare, 2010).

As for this case the most important articles, concerning public transport in the UN CRPD, is mainly stated in articles 1, 3, 5 and 9.

The Convention on the Rights of Persons with Disabilities can be found on the following site: <http://www.un.org/disabilities/convention/conventionfull.shtml>

Article 1 – Purpose

The prior topics are stated; “*the full and equal enjoyment of all human rights*” and the “*fundamental freedoms by all persons with disabilities*”. The article mentions certain impairments that in some situations and interaction with various barriers might hinder a person in participation in the society but the main issue according to the public transport is the *fundamental freedom*.

Article 3 - General principles

The list of principles are long and each and every one is important to the case but the most important aspects to the public transport are; firstly “*individual autonomy including the freedom to make one’s own choices, and independence of persons*”, secondly “*Full and effective participation and inclusion in society*” and thirdly “*Equality of opportunity*”. It is important to pause on the fourth topic; “*Accessibility*” as that is perhaps the topic that relates the most to the various stakeholders in operating the public bus transport on the Ring road in Iceland. (The accessibility definition of the CRPD is in article 9.)

Article 5 - Equality and non-discrimination

Equality and non- discrimination is very important in context with the Constitution of the Republic Iceland and the Icelandic law of disabled peoples affairs no. 59/1992, (Ministry of Welfare, 2010) because in the §2 of Article 5 it states:

“States Parties shall prohibit all discrimination on the basis of disability and guarantee to persons with disabilities equal and effective legal protection against discrimination on all grounds.” (United Nations, 2006)

It is also important, and related to the concept of public transport, that in § 4 it is mentioned that special arrangements or measures needed to improve or achieve equality of persons with disability shall not be considered discrimination.

Article 9 - Accessibility

The convention is a clear guideline on equal rights of disabled persons to travel, both in rural areas as well as in the urban areas:

(<http://www.un.org/disabilities/default.asp?id=269>)

“To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications” (United Nations, 2006)

Further in Article 9 states that elimination of barriers to accessibility applies i.e. to “buildings, roads, transportation and other indoor and outdoor facilities”. It is also important to the case to identify the statement in paragraph 2 that reads:

“To ensure that private entities that offer facilities and services which are open or provided to the public take into account all aspects of accessibility for persons with disabilities” (United Nations, 2006)

But it is not enough to have laws and regulations if they are not followed through with policies and goals. To activate and implement the chosen policy or goal, participants need to communicate.

In 2012 “A Nordic Charter” was drafted by representatives from all five of the Nordic countries, working together on making a statement for a better society through universal design, the common denominator in the charter is the UN CRPD.

“Many sectors in society can benefit greatly from co-operation and increased participation by different groups of stakeholders. Sectors, which handle community planning, architecture, transport, education, public services, information and communication technology, health and culture, are examples where dialogue and cooperation can improve the solutions.” (The Nordic group, 2012)

By publishing this charter the group of representatives from Norway, Sweden, Iceland, Denmark and Finland demonstrate that it is possible to work together on universal design and human rights across borders and, if it is possible to work across borders, it should also be possible to work together in the local community. The group has made a clear statement about the importance of universal design as an investment in a society where everyone has the right and possibility to participate. Also, they write about the way of ensuring sustainability and social responsibility through universal design, and encourage multisectoral and multidisciplinary tasks to ensure sustainable solutions, both environmentally and economically, through universal design (The Nordic group, 2012)

Technological knowledge

Who is responsible for the Public Bus Transport in Iceland, in regard to policy making, both from the public and private sectors, the accessibility of the vehicles and the service to the passengers during the journey? I will use the theory of Corporate Social Responsibility to build a platform for analysing the different partners involved. The involved partners are i.e. the Icelandic authorities, the users, the service providers in both public and in private sectors, and the building owners.

Because of the importance of public transport for the society, moving people and goods must be of interest in the aspect of Corporate Social Responsibility (CSR). In a large scarcely populated country like Iceland, with long distances between communities, hard winters, rough landscape and the crucial issue of having only about 350.000 inhabitants, it might not be a profitable business to run public bus transport all year round. Of course it is important and should be a goal to earn as much money as possible, but it might not be an option to

charge for the real cost. In that aspect the social part might be a bigger issue than the business one.

In order to get this business running it needs and gets financial support from the authorities, decided on each year by the government. Even though the funds are divided among the regional organizations, the municipalities are also obliged to support the system in many ways including financially. But the municipalities are the ones who carry the final financial responsibility, as they harvest the profit or have to bear the losses of the operations.

The term CSR has mainly been used for expressing responsibility of the privately owned organizations, which are run for profit, but it has been demonstrated that implementation of CSR principles are of high importance in public management as well. According to *Di Bitetto et al.* CSR has only been used in the term of private organisation and private responsibility, while in the public sector there is nothing that requires managers in the public sector and public employees to be accountable for their work. In their book *Public Management as Corporate Social Responsibility; The bottom line of Government*, they show the way of expanding the term of CSR from just private corporate responsibility to private and/or public responsibility (Di Bitetto, Chymis, & D'Anselmi, 2015). In the book there is a reference to the European Commission and the *Renewed EU strategy 2011-14 for Corporate Social Responsibility* which states, in the new definition, that to fully complete the term of CSR private and/or public organisations and managements must not only implement social responsibility but also environmental, **ethical**, **human rights** and **consumer concerns** into their business operation and it is important to implement all of the issues into the core strategy in close collaboration with all stakeholders (The European Commission, 2011).

When profit maximization is the top priority the consumers concerns might be overlooked or simply not taken into consideration. One of the biggest benefits of social responsibility (SR) in the private sector was when firms voluntarily practised SR because by taking action and responsibility they improved trust and strengthened their relationship with their customers and the society at large. The same applies to the public sector accountability (Di Bitetto, Chymis, & D'Anselmi, 2015).

In this case study the stakeholders' roles and responsibilities, in the public bus transport sector in Iceland will be explored.

The term Public – Private Partnership (PPP) might be of relevance when discussing responsibility and cooperation in complex situations with different stakeholders, and how it might be imported into action.

In the paper "*A slice or the whole cake? Network ownership governance and public – private partnership in Finland*" the authors discuss and analyse the public – private partnership (PPP) theory. They analyse models for the technical infrastructure with different ownership and governance (O&G), also they describe the different O&G models in Finland by studying market layers of ownership, operation and service. It is interesting to see that the infrastructure and ownership of public organizations in Finland is similar to Iceland, even though their case does not specify bus transport, the ports in Finland are a part of the public transport as in Iceland and the roads are run by state owned company, as in Iceland. According to *Leviäkangas et al.* the ownership of a network is an inseperatable element of governance. Governance is in "The slice or the whole cake" report seen as the common denominator for administration and management, to provide accessibility and supply services.

The Finnish report is meant to investigate the infrastructure according to financial analysis, and interestingly the conclusion is that: “ownership does not appear to hinder performance from the financial point of view” (Leviäkangas, Nokkala, & Talvitie, 2015). So it seems that the actual ownership does not matter in regard to the cash flow or the returns, but it does not take into account the importance of public – private partnership concerning responsibility and roles.

The responsibility and roles in the infrastructure of the diverse stakeholders in the case of public bus transport on the Ring road in Iceland is one of the main issue in this case study and will be viewed by the PPP model.

Practical knowledge

Humans are of different cultures e.g. Asian, European, African, and so on, and reside in different countries, under different conditions, but as dr. Inger Marie Lid addresses in her book *Universal Utforming*:

“The basic democratic value is for all people to experience respect as equal worth”
(Lid, 2013).

Furthermore in the book “Trends in Universal Design” Dr. Inger Marie Lid examines the strategy of universal design in the perspective of humanism. The diversity of human and human dignity is her perspective in the article, and she points out that if we don’t take the whole human lifespan into consideration when building new facilities or surroundings, we don’t embrace the diversity of people in the society. Also, if we take the human factor out of the universal design (UD) concept, we risk that the design part could be reduced to minimum standards only and then the UD concept does not work in its full democratic potential to be design for all people. She also points out that there is a risk that the democratic and ethical potential of universal design strategy will fall short if the human embodied dignity is taken away from it (The Delta Centre, 2013).

Surveys concerning public bus transport in Iceland

One of the arguments used by both private and public organizations, in regard to implementing changes that might be costly, is that the changes will only benefit a small group of people. Another argument, which is frequently used, is that it doesn’t matter if the accessibility isn’t good, because there aren’t any persons with disability coming anyway.

To gain insight on the information available on public transport services, two surveys have been conducted in Iceland. They are a transport survey by *The Statistics of Iceland (Hagstofan)* and a user survey by Land-ráð sf for *The Icelandic road and coastal administration (Vegagerðin)*.

The transport survey

The transport survey “*Who uses public transport? (Hverjir nota almenningsamgöngur?)*”, was conducted in 2014 and published in 2015. In the foreword the author mentions that the research questions have limitations, because they are very open and inaccurate. The main concept of the survey is “public transport” which is not accurately defined in the survey and is therefore open to a wide interpretation by the respondents themselves (*Statistics Iceland (Hagstofa Íslands), 2015*). In the report the author suggests, to those who are interested in the topic, to read another report made by The Icelandic road and coastal administration (Vegagerðin) where the research is *Summertrips 2014 (Sumarferðir 2014)*.

The collecting of data for the report “*Who uses public Transport?*”, was by a telephone survey in May and August 2014. The calls were made to private residences where a single individual from each household was selected to represent and reply for the whole family. The participants were asked whether they used public transport regularly. Those who answered the question in the negative way are asked to give the reasons, i.e. whether it is because of the cost, poor access, distance to the station, because the person chooses to use their own vehicles, or other reasons. The survey is based on answers from people aged 16 and older, and the conclusion is that in 2014 only 18 % of the inhabitants in Iceland used public transport, versus 67% who chose to use private cars for transport. The difference between men and women is not significant, but the conclusion, which might be useful for this case analysis is shown on figure 6, it shows that there is a difference between the number of passengers in the urban areas versus the rural areas, and their reason for not using public transportation. The first column shows the urban areas and the purple colour in the column shows the response to the answer “*No, access too difficult*”. The conclusion is that in urban areas “access too difficult” is the reason for 2,9% comparing to 10,2% in the rural areas (Statistics Iceland (Hagstofa Íslands), 2015), for not using public transport.

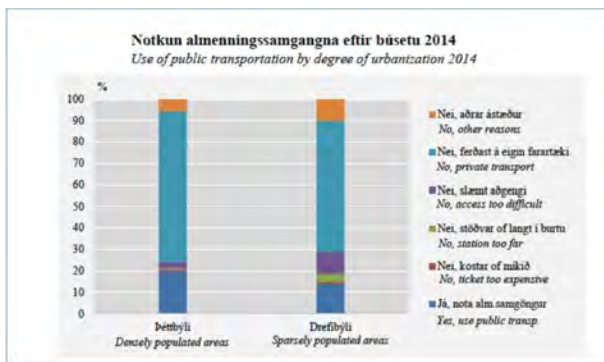


Figure 6: “*Use of public transportation by degree of urbanization 2014*” The figure is from the surveys report (Figure2) and shows the difference between densely populated areas and sparsely populated areas (Statistics Iceland (Hagstofa Íslands), 2015).

The conclusion of the answer “*No, access too difficult*” will be further analysed in the discussion of the case study.

A user survey

In the user survey *Summertrips 2014. An attitude survey for The Icelandic road and coastal administration (Sumarferðir 2014. Viðhorfskönnun fyrir Vegagerðina)* the purpose was to gather information on local travel habits and their possible changes from the previous years. The survey was an on-line survey made by a market and media research company, MMR ehf, reaching 1,200 randomly chosen participants. Two new topics were added to the survey in 2014; a questions on the use of Strætó in the rural area and if the growth in tourism has made a difference to the travel behaviour of the local inhabitants.

The survey is divided into three aspects; trips outside the residential areas, domestic flights and trips within the capital city area. This report will only consider the conclusions regarding the busses (Strætó) and the trips outside the residential areas. The tree main areas are the capital area, peripheral area next to the capital area and the rural areas.

The conclusion was that the average proportion of participants in the survey using public transport outside of their residential area, in the summer of 2014, was 8 % for the whole country. The average proportion of persons living in the capital area who travelled outside

their residential area was 6% versus 7% for person from the rural areas of Iceland. Proportionally most trips were from the perimeter area or 14 %.

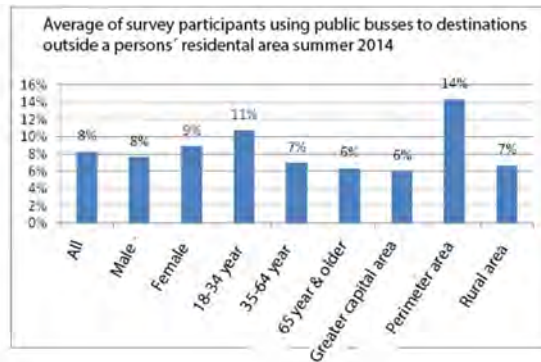


Figure 7: "Average of survey participants using public buses to destinations outside a persons' residential area summer 2014" The figure is from the surveys report (Figure 3 in the survey) and shows the difference between densely populated areas and sparsely populated areas (Reynarsson, 2014).

In this survey there are neither questions about why the person chooses to use or not to use the public transport option, nor if they would choose the public transport option more often if something were different. The lack of questions, or how they are asked in surveys, often reduces the usefulness of the results, even though the topic addresses an interesting area. But the conclusion is in itself a kind of an answer; the absence or neglect of interest in asking the relevant questions is also a result worth noting.

Methods for "better practice" in public transport

To obtain information about the attitude of public transport users with mobility difficulties the report from the Department for Transport, London, UK, titled "Transport for Everyone: an action plan to improve accessibility for all" from 2012, gives an idea of how the situation is in England, and which could be used as an indication of the situation in other countries. The following figure shows a higher rate of passengers with mobility difficulties using local busses than passengers that don't have mobility difficulties. It shows 71 trips per year per person with mobility difficulties versus 66 trips per year per person not with mobility difficulties. The figure also shows that people with mobility difficulties seem not to have the same recourses or possibilities for driving cars as the drivers, only 281 trips per year made by persons with mobility difficulties as the driver, versus 540 trips per year for others. That indicates that public transport or other forms for transport, where the person is a passenger, is very important to persons with mobility difficulties (Department for Transport, 2012).

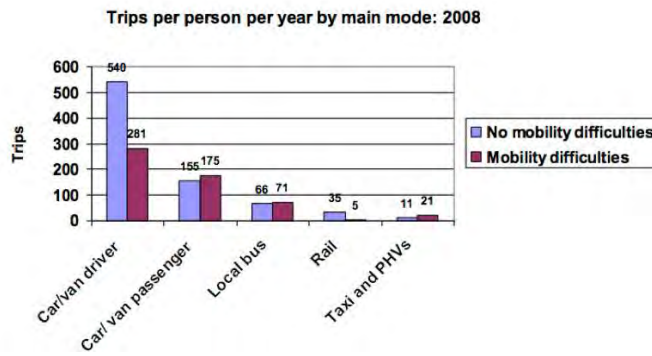


Figure 8: "Trips per person per year by main mode: 2008" The figure is from the surveys report (Figure 2 in the survey) and shows the difference between densely populated areas and sparsely populated areas; Source: National travel Survey 2010, UK (Department for Transport, 2012).

The fact that the survey takes only local busses into consideration might decrease the possibility to transfer the results over to rural bus transport. It might nevertheless give a reason for further research and it will be discussed in the case study discussion.

6 The case study; Public Bus Transport on the Ring Road in Iceland

The case study is about the public bus transport on the Ring road in Iceland. It focuses on the accessibility for wheelchair users to exploit the potential of travelling between communities, towns and villages in rural Iceland. The research covers and includes vehicles (busses), the actual sites where the bus stops are and the service providers and locales on the way, such as shops and restaurants with restrooms, and food service. I will investigate and analyse the infrastructure, the operators and the ownership of the businesses, also to explore who is responsible for issues concerning accessibility for wheelchair users in the various aspects of public bus transport on the Ring road in Iceland. These roles and responsibilities will be investigated with the case study process and by interviewing representatives of some of the key stakeholders.

This case study on public bus transport on the Icelandic Ring road with regards to accessibility for wheelchair users will be done in the following steps:

1. Analysing which aspects need to be researched
2. Preparation of research documentation i.e. questions for interviews and checklist for on site evaluation.
3. On site research and data collecting by driving along all the bus-routes in question on the Ring road and registering the actual status of each bus-stop by photographing, measuring and completing the relevant checklists. The Ring road trip began and ended in Reykjavík city, travelling clockwise around the island by driving west, north, east and then south coast back to Reykjavík.
4. Interviews: When back in Reykjavík the interviews took place.
5. Collection of references and theoretical knowledge.

The busses

The facts about the busses in rural public transport are simple to explain. There are no busses accessible for wheelchair users used in long distance transport neither on the Ring road nor anywhere else in rural Iceland. This is confirmed both by representatives from Strætó bs and SVAust and by sending a requirement for information on the matter to the online information desk (service-desk) of Strætó.

The buses within the capital city and the larger towns in Iceland are on the other hand mainly low-floor busses and can therefore be used by wheelchair users.

According to the interviewee from Strætó bs there are mainly two reasons for their choice of busses. The main reason is the safety of the passengers. The safety of the passengers might be at risk when driving outside the urban area if the busses are not suitable for rural driving, since roads in Iceland can often lie over high and rough mountain passes, and during the wintertime snow and ice can be the dominant situation on the road. Also, according to Strætós' rules it is not allowed to drive low floor busses in rural areas. Another reason might also be that there are not as many seats in low-floor busses as in "long-drive" busses, and the seats in low-floor busses do not have seat belts as in other bus types. This complicates the situation, since by law in Iceland all vehicles for long-distance passenger transport must have seat belts installed. The current legislation does not mention limitation of standing

passengers in vehicles travelling on roads where the speed limit exceeds 80 km/hour. In 2014 a proposed amendment to the legislation on passenger transport was sent to the parliament (Alþingi), but the case is still in the discussion phase. One of the proposed changes is, that in 2019 all exemptions on allowing standing passengers in vehicles driving on roads with speed limits exceeding 80 km/h are to be prohibited. The year 2019 is mentioned so as not to disturb the current contracts on public transport in rural areas in Iceland, which allow standing passengers in certain routes. All these contracts will expire in 2018



Figure 9: A bus from Strætó used for rural transport, photo from Strætó bs.

Driving and exploring the Ring road

Driving and researching the actual sites at the bus stops on the Ring road in Iceland took place between the 14th and 22nd of September 2015. The added information about the journey, sites and the surroundings of the bus stops are a mixture of facts and fiction, the fiction added only for entertainment value and to make the narrative of the drive between bus stops more interesting. The isolated facts on each bus stop are itemized in the tables following the tales.

Route 57 Reykjavík - Akureyri

The trip begins at Mjódd (57-00) in Reykjavík city. Mjódd is the main bus terminal for Strætó in Reykjavík as well as the start of all rural bus routes leaving Reykjavík. Bus no 57 leaves Mjódd at 9:00 heading north to Akureyri.

In the urban areas on the way the bus stops are the regular bus stops in the area. In rural areas the intersections of local roads on the Ring road are often used as a bus stop for embarking and disembarking of passenger. It might be a good idea to inform the service desk beforehand about wanting to get on board. Also the passenger on the bus must inform the driver where he or she wants to disembark.

When leaving Mjódd in Reykjavík city the first 15 km are within the city limits with the neighbouring town of Mosfellsbær. Beyond Mosfellsbær we arrive at the first rural stop (57-01) on the schedule for **Route 57 Reykjavík – Akureyri**. It is a sheltered bus stop at the roots of Mt. Esja, a popular hiking area for the residents of the Greater capital city area as well as for all outdoor enthusiasts. The next stop (57-02) is at the small rural community of Grundarhverfi on Kjalarnes, which is within the municipality of Reykjavík. The next stop (57-03) might count as several stops, but only one will be registered in the town centre of Akranes. On the way to Akranes the Ring road dips under a 6 km long undersea tunnel, crossing the Hvalfjörður fjord and shortening the route by 45 km. Leaving Akranes the road crosses agricultural lowlands and quickly passes under the windy and often dangerously turbulent mountainside of Mt. Hafnarfjall where vehicles are quite often blown off the road by gusts of wind. If surviving the windy mountain, the fourth stop is in the town of Borgarnes, the birthplace of the famous Snorri Sturluson author of Snorra-Edda and more. The town is a “drive-through” town but the bus stops in Hyrnan (57-04), a service station/restaurant, for 5 minutes. The operators have extended the place several times, and now both outdoor and indoor facilities are very good regarding accessibility for wheelchair users.

Next stop (57-05) is at the road shop and service station called Baula, on a crossroads 20 km north of Borgarnes, and the following stop (57-06) is at the small community of Bifröst. At Bifröst there is a hotel, a shop and in the past few years the area has been established as a centre for education in the western part of Iceland with a university and apartments for staff and students. Many students take courses where they only stay at the university for short periods at a time. The area is also known for its beautiful landscape, lakes and river. The road to the next stop can be magnificent during summer but it can be difficult during the wintertime as it crosses the mountain road of Holtavörðuheiði, connecting south and north Iceland, at a maximum elevation of 407 m and 37 km long. It is often closed because of snow and blizzards. When coming down the mountain, to the valley in Hrutafjörður the recently built service station of the oil/gas company N1 at Staðarskáli is like an oasis in the desert. This is the main stop on the way to Akureyri and the road junction for the road to the Western fjords. The passengers have an opportunity to buy some food and use the rest-rooms if needed. The stops duration is approximately 30 minutes and the new building facilities, both inside as outside, are excellent in regards to accessibility for wheelchair users. The bus stop sign (57-07) is situated close to the building and can be difficult for strangers to locate, also the schedules are situated high on the post for sitting-down or shorter users.

The eighth bus stop-post (57-08) is at the intersection of the road to Hvammstangi, a small fishing village, 6 km off the Ring road along the east coast of the Miðfjörður fiord. The road shop and a hotel Víðigerði is the ninth bus stop (57-09) according to the timetable, its' parking lot is parallel to the Ring road and the bus only needs to slow down and drive off the road and in again to pick up or let off passengers. There is no bus stop sign, and according to the employee working there when the registration took place, the bus does not always stop to check for potential passengers even when asked to in advance. The locals have often complained to the service desk that there were people wanting to get on the bus that day, but the bus passed anyway. Next town is the tenth stop on the way to Akureyri and that is in a drive through the small town of Blönduós. The bus stop sign (57-10) is at a new gas station, owned by the N1 gas company, but there is no time to stop so the passengers are picked up at the bus stop poster. To get to the next stop in the town of Sauðárkrókur (57-11), the bus exits the Ring road for a detour but connects again when arriving at the stop (57-12) at the small community of Varmahlíð. The shopping and service centre in Varmahlíð is near to the Ring road and the owner has improved the facilities over the past years. Wheelchair users entering from the north side of the building could use the facilities at Varmahlíð, but sadly there is no time for leaving the bus. The one hour and eleven minute drive from Varmahlíð to Akureyri on the Ring road can easily change, especially during winter as the mountain roads along the way reach up to 540 m above sea level on the Öxnadalshéiði mountain pass. During winter the road is often framed on both sides by 3-5 meter high snow faces formed by the snowploughs, and thick fog is often than not the norm in the spring and autumn, but on the bright summer nights or other time of the day the magnificence of the mountains helps the locals to forget all about the difficult other seasons.

Arrival Akureyri, the capital of Northern Iceland, is approximately 15:29, or after a six and half hour trip from Mjódd in Reykjavík. The passengers can start with enjoying the new culture center Hof in Akureyri, close by the final bus stop (57-13). Following is Table 1: Route 57 Reykjavík – Akureyri which is in three parts and shows the posts in photos, text and colour.

Table 1: Route 57 Reykjavík – Akureyri, part 1/3





Strætó bs										
Route 57		Reykjavík - Akureyri - Reykjavík			Yes	Y				
Date:		Sep-15			No	N				
					Not appl.	O				
Pictures	Description - Comments	Accessible bus?	Post - barrier free?	Time table reachable?	Sheltered posts?	WC - Wheelchair	Food-service	30 min stop	App-gps?	
	57-00: The trip starts at Mjódd in Reykjavík. Mjódd is the main bus terminal for Strætó in Reykjavík as well as the start of all rural bus routes leaving Reykjavík	N	Y	Y	Y	Y	Y	Y	Y	
	57-01: The first stop is near Mt. Esja. This is a stop at the beginning of a popular hiking path up the mountain. Part of the hiking route is accessible for wheelchair users.	N	N	N	Y	O	O	N	Y	
	57-02: The Second stop is at is at the small rural community of Grundarhverfi. The shelter is a short distance from the gas station and the wheelchair access to the sidewalk is a little further up the road.	N	Y	Y	Y	O	O	N	Y	
	57-03: Akranes is a bit off the Ring road, but is part of the bus route.	N	Y	Y	Y	O	O	N	Y	

Table 1: Route 57 Reykjavík – Akureyri, part 2/3











Pictures	Description - Comments	Accessible bus?	Post - barrier	Time table	Sheltered posts?	WC - Wheelcha	Food-service	30 min stop	App-ips?
	57-04: Borgarnes is a small town with connections to the routes west to Snæfellsnes, Breidafjörður ferry and the Westfjords. Connection to routes: 58, 59 and 82.	N	Y	Y	Y	Y	Y	N	Y
	57-05: Baula is a shop and service station on the Ring road and connects to the route 81. Possible but not an easy access for wheelchairusers because of little space behind the sign (difficult to get the wheelchair close enough).	N	Y	Y	N	O	O	N	Y
	57-06: The stop at Bifröst is in front of the local hotel situated in a small university community. There is a boarding school and apartments. The post is on the grass, and not surrounded by a pavement so the access can be difficult for wheelchairusers.	N	N	N	N	O	O	N	Y
	57-07: Staðarskáli is the main stop on the way from Reykjavík to Akureyri. Here the passengers can enter the service building, use the rest-rooms and buy food and drinks. Staðarskáli is 163 km from Reykjavík.	N	Y	N	Y	Y	Y	Y	Y
	57-08: At the crossroads to Hvammstangi. Both the poster and timetable are out of reach for wheelchair users.	N	N	N	N	O	O	N	Y

Table 1: Route 57 Reykjavík – Akureyri, part 3/3

Pictures	Description - Comments	Accessible bus?	Post - barrier free?	Time table reachable?	Sheltered posts?	WC - Wheelchair	Food-service	30 min stop	App-gps?
	57-09: Viðigerði, there is no post and the bus does not always stop there, not even when the staff at Viðigerði has called and informed to the service desk in Reykjavik that there are passengers waiting at the location.	N	O	O	O	O	O	N	N
	57-10: Blönduós is a small town and connects to route 84 to Skagatrönd. There is no shelter at the post, but there is a service station on the other side of the parking lot.	N	N	N	N	Y	Y	N	Y
	57-11: Sauðárkrókur in Skagafjörður. The post is at a gas station. The access to the service station is difficult, it is without steps and has a high slope. For manual wheelchair the access is possible with assistance. Bus route 85 to Hofsó and Hólar (Agriculture university, museum and a historic church place), connect here.	N	N	N	N	N	Y	N	Y
	57-12: Varmahlíð in Skagafjörður. The post is in front of a service station with the local store and restaurant. The access to the building is fine from the north side but the main entrance is with several steps.	N	N	N	N	Y	Y	N	Y
	57-13: Hof in Akureyri is the end point of route 57. The stop is in front of the Hof Culture house. It is possible to wait and use the rest rooms and restaurant. The stop is a link to route 78 to Dalvík, Ólafsfjörður and Siglufjörður to the north and route 56 and 79 going further east.	N	N	N	N	Y	Y	Y	Y

Route 56 Akureyri - Egilsstaðir

The route from Akureyri to Egilsstaðir starts at the Hof cultural centre (56-00) in the centre of Akureyri, departing at 15:35.

The first stop is at the intersection at the bridge over the Fnjóská River; Fnjóskárbrú (56-01), there is neither a sign nor a poster indicating the bus stop, but there is flat gravel and some containers for garbage and recycling waste.

The next stop, at the shop and café in Fosshóll near the Goðafoss waterfall (56-02), is a popular tourist stop with a magnificent waterfall just a few meters from the Ring road. The bus stop sign is on the border to a parking lot near a shop. It has a gravel surface, which is difficult to manoeuvre for wheelchair users. There is no time for using the facilities in the shop at this stop.

The third stop is at Laugar (56-03,) another small road shop but there is no time to use the facilities there. The surface at the bus stop post is asphalt so it is accessible.

Next there is the community at Skútustaðir (56-04) on Lake Mývatn. The stop is at a self-service gas station near a hotel, but there is no bus stop sign for Strætó, so it is hard to know where to wait for the bus or if it stops there at all.

The fifth stop is at one of the most popular places in this area; the village of Reykjahlíð on lake Mývatn (56-05). Many of the most magnificent places in Northern Iceland are close by. One of these places is Dimmuborgir, where legend has it that all 13 of the Icelandic Xmas time Lads (ice.: "Jólasveinar") reside with their parents and the Yule cat. The surroundings are a wonder of nature as described the Café Dimmuborgir website: *"The hills are full of guardian spirits, some big, some small... elves, trolls and other rockdwellers."*

(http://www.visitdimmuborgir.is/en/page/en_dimmuborgir).

The bus does not have scheduled bus stop there, but it might stop at the intersection of the Ring road and the road leading up to Dimmuborgir. The Strætó bus might stop at the hot spring nature baths on the way to the next scheduled stop, if requested and the time schedule allowing, but otherwise it can drop the passengers off at the intersection.

From Reykjahlíð to Jökulsá á Fjöllum there is about a 30 minute drive past still another wonder of nature, where tourists like to be dropped off on the way; Námaskard, which is a desert in light brown hues intermixed with various rainbow colours around the various hot springs. One can walk around in the fractured surroundings and get up close to the boiling pits of mud and water. The bus does not have scheduled bus stop there but might stop at the intersection for embarking and disembarking.

Next scheduled stop, the sixth from Akureyri, is near the mighty glacial river of Jökulsá á Fjöllum (56-06) at the intersection of the road leading north to Europe's most powerful waterfall, Dettifoss. There is no bus stop sign at the intersection so it can be difficult to know where to wait for the bus.

In just under 30 minutes another intersection on the Ring road is indicated as a scheduled bus stop (56-07). The intersection leads north to the town of Vopnafjörður, but there is no bus stop sign so it is not easy to locate where to wait for the bus. The eighth bus stop is at Skjöldófsstaðir (56-08) a self-service gas station parallel to the Ring road.

The stop at Fellabær (56-09) is in a small community near the town of Egilsstaðir. The stop is at the gas station where the area is laid with asphalt, so it has easy access in regards to the

surface material, but the bus stop sign and the timetable is attached to a light post on a raised pavement. The pavement is about 15 cm higher than the asphalt and the edge on the cut and slope from the asphalt up to the pavement is too high for wheelchair access.

The final stop and destination arrives at 19:06 in the afternoon at the camping site in Egilsstaðir (56-10).

The trip from Akureyri is about four and half hours long. There is no stop long enough for the passengers to go to the rest-rooms, and no service available on the way either in the bus or at the bus stops other than the small WC in the bus. The passengers waiting at the bus stops, where service is available can enjoy it before they embark the bus. Now we are exactly half-way around Iceland on the Ring road. Following is Table 2: Route 56 Akureyri – Egilsstaðir which is in three parts and shows the posts in photos, text and colour.

Table 2: Route 56 Reykjavík – Akureyri, part 1/3





Strætó bs									
Route 56	Akureyri - Egilsstaðir - Akureyri	Yes	Y						
Date:	Sep-15	No	N						
		Not appl.	O						
Pictures	Description - Comments	Accessible bus?	Post - barrier	Time table	Sheltered posts?	WC - Wheelcha	Food-service	30 min stop	
	56-00: Hof in Akureyri is the end point of route 57. The stop is in front of the Hof Culture house. It is possible to wait and use the rest rooms and restaurant. The stop is a link to route 78 to Dalvík, Ólafsfjörður and Siglufjörður to the north and route 56 and 79 going further east.	N	Y	Y	N	Y	Y	Y	
	56-01: Fnjóskárbrú intersection. No sign, post or timetable. Surface is of rough gravel.	N	O	O	O	O	O	N	
	56-02: Fosshóll - Goðafoss. The shelter is inside the service building, which can be used when open. The poster and timetable are near the Ring road. Gravel surface around the poster.	N	N	N	N	N	Y	N	
	56-03: Laugar - a shop and gas station on the Ring road, near a small community by the same name..	N	Y	Y	N	N	N	N	

Table 2: Route 56 Reykjavík – Akureyri, part 2/3








Pictures	Description - Comments	Accessibl	Post -	Time	Sheltered	WC -	Food-	30 min
		e bus?	barrier	table	posts?	Wheelcha	service	stop
	56-04: Skútustaðir. The post is supposed to be at the self service gas station, but was not to be found. In the old service building there is a restaurant and possibility to wait inside, access for wheelchair users is possible but not easy.	N	O	O	O	N	N	N
	56-05: Reykjahlíð at lake Mývatn. There is no shelter but during summer. It is possible to wait inside the information centre nearby. The gas station is a selve service station with no service. The local store nearby provides rest-rooms, accessible from the outside. But the poster can not be seen from there.	N	N	N	N	Y	Y	N
	56-06: Jökulsá á Fjöllum. Intersection to Hólsfjallavegur and the Dettifoss waterfall.	N	O	O	O	O	O	N
	56-07: Vopnafjörður - intersection. There is no bus stop sign so it is not easy to locate where to wait for the bus. The area is all gravel surface.	N	O	O	O	O	O	N
	56-08: Skjöldófsstaðir. The stop is at a self service gas tation, but there are neither a post nor a time table to be found.	N	O	O	O	O	O	N

Table 2: Route 56 Reykjavík – Akureyri, part 3/3

Pictures	Description - Comments	Accesible	Post -	Time table	Sheltered	WC -	Wheelchair	Food-	30 min
		bus ?	barrier	reachable?	posts?	Wheelchair	service	stop	
	56-09: Fellabær, a village next to Egilsstaðir. The bustop sign and schedule are attached to a post on a raised pavement.	N	Y	N	N	O	O	O	N
	56-10: Egilsstaðir - Camping. Good access but there is no sign for Strætó. People can wait inside the information - camping center.	N	O	O	Y	Y	N	Y	

Route 1 and 2 with SVAust – Egilsstaðir – Breiðdalsvík

On entering the domain of SVAust, the bus operator on the East Coast, the routes are numbered separately from the routes of Strætó bs.

The first bus leaving Egilsstaðir on Route 1 departs from the camping site in Egilsstaðir (01-00) at 09:02 and arrives at the Molinn shopping center (01-01) in the town of Reyðarfjörður at 09:35, passing through one of the few forested areas in Iceland.

When travelling onwards on the route to the village Breiðdalsvík, passengers need to change in Reyðarfjörður and continue on Route 2. The next bus departing on route 2, leaves Molinn (02-00) at 16:19 so it's a long wait to continue the trip. Another bus departs Egilsstaðir camping site at 16:20 and arriving at Molinn in Reyðarfjörður at 16:55, which is too late for continuing on route 2.

Continuing with Route 2 from Reyðarfjörður the next stop is the fishing village of Fáskrúðsfjörður (02-01), there are few stops in the town and the chosen stop is at Skólavegur next to the camping site on one hand and the cemetery on the other, there are no bus stop signs at the bus stops, so it is difficult to know where to wait for the bus.

The next stop is in the village of Stöðvarfjörður, at the Brekkan – information centre, there was no sign visible so it is also difficult to know where to wait for the bus at Stöðvarfjörður (02-02).

The final stop on Route 2 is in front of the shop Kaupfjelaðið (02-03) in the village of Breiðdalsvík at 17:25 in the afternoon. There are no bus stop signs in Breiðdalsvík, so it is not easy to know where to wait and to know when the bus is scheduled. Local people working in Breiðdalsvík, at the site where the bus is supposed to stop, all tell the same story; that people waiting can't rely on the bus to stop even though they have called the SVAust to tell them that there are people waiting. According to an employee at the place, just few days before the registration took place the bus did not stop and left 5 persons waiting at the bus stop with no option of leaving the village. Following is Table 3: Route 1 and 2 Egilsstaðir – Breiðdalsvík which is in two parts and shows the posts in photos, text and colours.

Table 3: Route 1 and 2 Egilsstaðir – Breiðdalsvík, part 1/2






SVAust							
Route 1 and 2		Egilsstaðir - Breiðdalsvík - Egilsstaðir			Yes	Y	
Date:		September 2015			No	N	
					Not appl.	O	
breyting í skjali							
Bus stop - Pictures	Description - Comments	Accessible bus?	Post - barrier free?	Time table reachable?	Sheltered bus stops	WC - Wheelchair	Food- service accessible 30 min stop
	01-00: Egilsstaðir - Camping. Good access but there is no sign for Straetó. People can wait inside the information - camping senter.	N	O	O	Y	Y	N Y
	01-01 / 02-00: Reyðarfjörður - The post is at the local shopping center (Molinn). Passengers can wait inside the shopping center or the bakery when open. Route 01 ends here and Route 2 departs from here.	N	Y	O	N	O	O N
	02-01: Fáskrúðsfjörður. The stop is next to the camping site on one hand and the cemetery on the other, there are no bus stop signs at the bus stops so it is harf	N	O	O	O	O	O N
	02-02: Stöðvarfjörður. The stop is at the information posters located on a side parking lot.	N	O	O	O	O	O N

Table 3: Route 1 and 2 Egilsstaðir – Breiðdalsvík, part 2/2

Bus stop - Pictures	Description - Comments	Accessible bus?	Post - barrier free?	Time table reachable?	Sheltered bus stops	WC - Wheelchair	Food- service accessible	30 min stop
	02-03: Breiðdalsvík is a small village. The stop is at the store, in front of the local hotel or the other store in the village. Local people tell that the busses do not always stop, even when people have ordered seats.	N	O	O	O	Y	Y	Y
	The Gap: No public transport driving is between Breiðdalsvík og Djúpvogur. Passengers to Djúpvogur or Höfn needs to turn and travel the other way for 1.000 km to get there.	O	O	O	O	O	O	O

The Gap

Then there is a gap in public bus transport on the Ring road, with no option for public bus transport. The road from Breiðdalsvík to the next village on the Ring road; Djúpvogur, is not on any schedule. The route was on schedule for some time a few years back, but when SVAust got a restraining order on Sterna Travel, a private bussing company, for servicing the route, public bus transport ceased between these posts. The case continued when Sterna Travel had the restraining order withdrawn and filed a suit for compensation for lost income and damage to their reputation. The gap is 62 km long, and passengers wanting to use public bus transport from Breiðdalsvík to Djúpvogur have to travel the other way around Iceland, counter-clockwise, a distance of 1295 km.

Route 4 with SVAust: Djúpvogur - Höfn



The bus departs from Hotel Framtíð (04-00) in Djúpvogur at 08:15. There is a designated parking space in front of the hotel in Djúpvogur for wheelchair users, indicating that the hotel may be accessible for wheelchair users. The area outside the hotel is gravel so it is not easy for wheelchair users to travel around in the area.

The bus arrives at the Camping site (04-01) in the town of Höfn, at 09:35 in the morning. The bus does take a detour to the local airport at Höfn on the way back to Djúpvogur, - it does not stop at Höfn on the way back, but that is under consideration by SVAust.

The sites at Djúpvogur and Höfn were only surveyed at the level of looking for and registering the absence of any bus-stops indications at all in both places. The area around the camping site in Höfn, the parking lot and paths are with a gravel surface, causing difficulties for wheelchair users to travel around in the area. The camping site is not a year-round operation.

It is open from the 15th of April to the 30th of September. It is worth mentioning that after driving along a rough mountainside where rocks may tumble down at any time the route passes through one of the most beautiful mountain areas on the Ring road. The area is called Lón and it is passed about 30 minutes before arriving at Höfn and 20 minutes before driving through the tunnel that freed the travellers from a very steep, narrow and dangerous pass called Almannaskarð. Following is Table 4: Route 4 Djúpivogur - Höfn

Table 4: Route 4 Djúpivogur - Höfn

SVAust									
Route 4	Djúpivogur - Höfn - Djúpivogur				Yes	Y			
Date:	September 2015				No	N			
					Not appl.	O			
Bus stop - Pictures	Description - Comments	Accessible bus?	Post - barrier free?	Time table reachable?	Sheltered bus stops	WC - Wheelchair	Food - service accessible	30 min stop	
	04-00: Djúpivogur. The bus departs from Hotel Framtið. There is a designated parking space in front of the hotel for wheelchair users, indicating that the hotel may be accessible for wheelchair users. The area outside is gravel.	N	O	O	O	O	O	N	
	04-01: In Höfn the bus stops at the camping area. There is no bus stop visible for the traveller so it is not easy to find out where to wait for the bus. The information center for the camping area is close to the parking area and most likely the passengers going or arriving with the public transport bus are allowed to use the service on opening hours.	N	O	O	O	O	O	N	
	The bus drives from Höfn to to the airport near Höfn and then back to Djúpivogur with stop in Höfn.								

Route 51 with Strætó bs - Höfn – Reykjavík

Leaving the SVAust serviced east coast, Strætó bs. takes over as the operator on the route from Höfn to Reykjavík.

Route 51 departs at 11:55 from the N1 service station (51-00) in Höfn. There is neither a poster nor a timetable for the passengers. During service station opening hours travellers can wait inside. There is an accessible WC and café/shop.

The first stop is at the Jökulsárlón glacial lagoon (51-01). The iceberg filled lagoon is one of a kind and many would like to get out of the bus there and take some pictures, but the bus just stops for embarking and disembarking. A time schedule or bus stop sign for Strætó was not to be seen when the registration took place, and the surface where the busses stop is very rough gravel with rocks and very difficult for wheelchair users and individuals with mobility or sight impairment. A small café nearby can offer shelter while waiting.

After driving along the slopes of the highest mountain in Iceland, Mt. Hvannadalshnjúkur, the bus arrives at the service station at Freysnes (51-02) at 13:30. The bus stops in Freysnes for 15 minutes and the facilities are suitable for wheelchair users, both for supplying food and to use the rest rooms, that is if the 15 minutes stop is adequate. The bus stop sign and timetable are on a stand right next to the entrance to the service station with and surrounded by a concrete surface.

The third stop is at Skaftafell (51-03), one of the visitor centres of the vast Vatnajökull National park. Most of the service facilities at Skaftafell are accessible for wheelchair users as well as some of the nearby hiking routes, but the bus only stops for embarking and disembarking.

The village of Kirkjubæjarklaustur is the fourth stop. The bus stops at the N1 service station (51-04). The surface outside is concrete, but it is difficult to enter due to a narrow sidewalk surrounding the building and a steep ramp from leading from the parking lot onto the sidewalk. Because of weather condition the owner of the building has erected shelters in front of the entrances in the middle of the sidewalk, resulting in reduced or no accessibility for wheelchair users. It is possible to enter through the entrance, where the ramp is situated, and exit from the second entrance on the same side, as they are located on either side of the shelter. The bus stop sign with the timetable is located on the sidewalk near the second entrance with no access for wheelchair users from the parking lot, except by entering and exiting as described previously, on either side of the shelter. The rest-rooms are not accessible for wheelchair users but the restaurant is, once the building has been entered.

After driving across the vast moss covered lava-fields from the enormous Laki volcanic eruptions of the late 18th century, and the silent black sands of the Mýrdalssandur desert, the bus arrives at the Víkurskáli service station (51-05) in the coastal village of Vík. The bus stops for 15 minutes, according to the on line timetable, when arriving in Vík on the way to Reykjavík and 30 minutes when the bus is driving east, from Reykjavík to Höfn. The service station is not accessible for wheelchair users, and even if the individual were to be assisted into the building, the rest-rooms are not accessible for wheelchair users. But the wheelchair user would be able to order some food at the restaurant and shop.

The sixth stop is near the beautiful Skógarfoss waterfall (51-06) and surrounding community of boarding schools, hotels, cafés and restaurants. There is a bus stop sign with a timetable, but the sign is not accessible for wheelchair user as the surrounding is with a rough gravel surface.

Leaving Skógar, the road passes below the recently famous Eyjafjallajökull volcano and arrives at one of the newly renovated and extended N1 service station (51-07) in the town of Hvolsvöllur at 14:55. The station has a restaurant and rest rooms accessible for all. The bus stop sign and the timetable for the bus are situated at the south end of the 15 cm high sidewalk surrounding the service building. The wheelchair user needs to know that the ramp onto the sidewalk surrounding the building is situated in front of the new main entrance, on the east side of the station.

The town of Hella is in the middle of the Southern agricultural lowlands. The bus stops at an outdoor bus terminal, where all the main bus companies servicing the Ring road have their own designated platform to place their signs and to park their buses. Strætó's platform (51-08) is the largest. It is triangular in shape while the others are more in the manner of regular sidewalks between the bus lanes. The triangular shaped platform has a surrounding concrete sidewalk and a rock garden in the middle, where the bus stop sign is placed, along with a bench and a flowerpot. The platform is about 10-15 cm higher than the street, without a ramp for wheelchair access.

Selfoss, the largest town on the Southern lowlands, is 40 km east of Reykjavík. The bus stops at the local N1 service station (51-09). The stop sign and timetable are reached from a platform, on the west side of the building. The platform is about 20 cm higher than the surrounding street and is without a ramp, therefore neither the building nor the bus top is accessible for wheelchair users.

Situated on top of an active hot spring area, the town of Hveragerði has extensive greenhouse agriculture. The stop is near the Shell service station, with a shelter, a signpost with a timetable and a ramp onto the sidewalk, thus being accessible for wheelchair users.

Finally the bus arrives at Mjódd (51-11) in Reykjavík city at 17:15 after a six hours and ten minutes journey from Höfn. Following is Table 5: Route 51 Höfn – Reykjavík the table is in three parts.

Table 5: Route 51 Höfn – Reykjavík, part 1/3









Strætó bs										
Route 51		Höfn - Reykjavík - Höfn				Yes	Y			
Date:		Sep-15				No	N			
						Not appl.	O			
Pictures	Description - Comments	Accessible bus?	Post - barrier	Time table	Sheltered posts?	WC - Wheelstha	Food-service	30 min stop		
	51-00: The route 51 from Höfn starts at N1 gas station. There is no poster or timetable for the passengers. When open at the service station travellers can wait inside and there is a accessible wc and service.	N	O	O	O	Y	Y	Y		
	51-01: Jökulsárlón. A time schedule or bus stop sign for Strætó was not to be seen. The surface is very rough gravel difficult for traveling for wheelchair users and individuals with mobility or sight impairment.	N	O	O	O	N	N	N		
	51-02: Freysnes. The bus stop sign and timetable are on a stand right next to the shop entrance to the service station surrounded a concrete surface.	N	Y	Y	Y	Y	Y	N		
	51-03: Skaftafell. Most of the service facilities at Skaftafell are accessible for wheelchair users as well as some of the nearby hiking routes, but the bus only stops for embarking and disembarking.	N	Y	Y	Y	Y	Y	N		

Table 5: Route 51 Höfn – Reykjavík, part 2/3

Pictures	Description - Comments	Accessible bus?	Post- barrier free?	Time table reachable?	Sheltered post?	WC - Wheelchair	Food- service	30 min stop
	51-04: Kirkjubæjarklaustur is a small village on the way from Höfn to Reykjavík. The stop is at a gas station. The entrance is barely accessible for wheelchair users with assistance. Wheelchair users can't access the poster and timetable.	N	N	N	Y	N	Y	N
	51-05: Vík is a small coastal village on the south coast. The stop is at the local gas station, but there is no access for wheelchair users. This is the main stop on the way from Reykjavík to Höfn and back. The duration of the stop is 15 minutes, going west (from Höfn to Rvk.), and 30 minutes going east (from Rvk. to Höfn).	N	N	N	N	N	N	Y
	51-06: Skógar. There is a bus stop sign with a timetable, but the sign is not accessible for wheelchair user as the surrounding is with a rough gravel surface.	N	N	N	N	N	N	N
	51-07: Hvalsvöllur N1 service station. Good access from the east side of the building, where you can access the poster. Unfortunately you will have to go to the other side again to get down.	N	Y	Y	Y	Y	Y	N

Table 5: Route 51 Höfn – Reykjavík, part 3/3

Pictures	Description - Comments	Accessible bus?	Post - barrier	Time table reachable?	Sheltered posts?	WC - Wheelchair	Food-service	30 min stop
	51-08: Hella. The poster and stop is situated on a concrete island without wheelchair access. The poster is located in a rock garden in the middle of the island, and isn't accessible for wheelchair users.	N	N	N	N	N	N	N
	51-09: Selfoss at N1 Service station. The stop sign and timetable are reached from a platform, on the west side of the building, 20 cm above the surrounding road. Neither the building, nor the bus-stop is accessible.	N	N	N	N	N	N	N
	51-10: Hveragerði. The stop near the Shell service station, has a poster, timetable and a shelter, with a ramp onto the sidewalk, thus being accessible.	N	Y	Y	Y	O	O	N
	51-11: The end station and the start is at Mjódd in Reykjavík.	N	Y	Y	Y	Y	Y	Y

Routes registration summary

To summarize the routes the questions are compiled. There is just one question for the busses so it is left as it is in the registration but the questions about the posts are three; *Barrier free access – Timetable reachable – Shelter*. All the three questions must be answered with “Y” (yes) to be considered as accessible for wheelchair users. As well the two questions for WC and Food needs to be answered with “Y” (yes) to fulfil the accessibility requirements for the extended stops. The summarised result are also in colours and letters; “Y” and a green colour for yes, “N” and a rose colour for no and if relevant, “O” and a grey colour for not applied or irrelevant.

Table 6: summary Route 57

Strætó - Route 57 Reykjavík - Akureyri				
Stops	Bus	Posters	WC/food	30 min.
57-00	N	Y	O	Y
57-01	N	N	O	N
57-02	N	Y	O	N
57-03	N	Y	O	N
57-04	N	Y	Y	N
57-05	N	Y	O	N
57-06	N	N	O	N
57-07	N	N	Y	Y
57-08	N	N	O	N
57-09	N	O	O	N
57-10	N	N	Y	N
57-11	N	N	N	N
57-12	N	N	Y	N
57-13	N	N	Y	Y

Access for people using wheelchair?	
Yes	Y
No	N
Not appl.	O

Table 7: summary Route 56

Strætó - Route 56 Akureyri - Egilsstaðir				
Stops	Bus	Posters	WC/food	30 min.
56-00	N	N	Y	Y
56-01	N	O	O	N
56-02	N	N	N	N
56-03	N	Y	N	N
56-04	N	O	N	N
56-05	N	N	Y	N
56-06	N	O	O	N
56-07	N	O	O	N
56-08	N	O	O	N
56-09	N	N	O	N
56-10	N	O	Y	Y

Access for people using wheelchair?	
Yes	Y
No	N
Not appl.	O

Table 8: summary Route 1 & 2

SVAust - Routes 1-2 Egilsstaðir - Breiðdalsvík				
Stops	Bus	Posters	WC/food	30 min.
01-00	N	O	N	Y
01-01 / 02-00	N	N	O	N
02-01	N	O	O	N
02-02	N	O	O	N
02-03	N	O	Y	Y

Access for people using wheelchair?	
Yes	Y
No	N
Not appl.	O

Table 9: summary Route 4

SVAust - Route 4 Djúpivogur - Höfn				
Stops	Bus	Posters	WC/food	30 min.
04-00	N	O	O	Y
04-01	N	O	O	Y

Access for people using wheelchair?	
Yes	Y
No	N
Not appl.	O

Table 10: summary Route 1 & 2

Strætó - Route 51 Höfn - Reykjavík				
Stops	Bus	Posters	WC/food	30 min.
51-00	N	O	Y	Y
51-01	N	O	N	N
51-02	N	Y	Y	N
51-03	N	Y	Y	N
51-04	N	N	N	N
51-05	N	N	N	N/Y
51-06	N	N	N	N
51-07	N	Y	Y	N
51-08	N	N	N	N
51-09	N	N	N	N
51-10	N	Y	O	N
51-11	N	Y	O	Y

Access for people using wheelchair?	
Yes	Y
No	N
Not appl.	O

Table 11: summary in %

Accessible Busses			%	
Yes	Y	0	0	
No	N	44	100	
Not appl.	O	0	0	
Total stops			44	

Accessible Posters			%	
Yes	Y	11	25	
No	N	18	41	
Not appl.	O	15	34	
Total stops			44	

Accessible wc/food			%	
Yes	Y	14	32	
No	N	11	25	
Not appl.	O	19	43	
Total stops			44	

Acc. in 30 min. stop*			%	
Yes	Y	1	100	
No	N	0	0	
Not appl.	O	0	0	
Total ext. stop			1	

*15 min. stop when travelling Reykjavik - Höfn

Table 11, indicates that there are no busses accessible for wheelchair users as their proportion is 100% for “N”, meaning not accessible. The proportion of accessible posts on the Ring road is 25 %. 41 % of the posts are not accessible for wheelchair users. The unmarked stops, the stops without bus-signs and/or time table are 34 % of all the stops on the Ring road. Furthermore the 34 % of the stops rated as “O” in the registration (meaning neither posts nor time tables) are in most cases at areas considered inaccessible for wheelchair users, such as with a rough gravel surface etc. The “O” rated stops could therefore also be rated as “N” for “No, not accessible for wheelchair users” then the inaccessible stops would be 75 % of the entire numbers of bus- stops on the Ring road. There is only one stop rated as accessible when it comes to extended stops of 30 minutes. Actually there are only two extended stops on the whole Ring road; one stop of 15 minutes and another of 30 minutes when going clockwise around, and 2 stops of 30 minutes each when travelling counterclockwise around Iceland. The proportion of accessible extended stops of 30 minutes is therefore 100 % if travelling clockwise on the Ring road, and 50% when travelling counterclockwise. The ratio would still be 50% even though both places had 30 minutes stops either way, as only one of them is considered accessible for wheelchair users (see figures 10 – 13). The bus stops with possible service, but no extended stops are more numerous than the ones with extended stops time. 32 % of them are accessible for wheelchair users, but the bus does only stop for picking up and letting off passengers.

Bus-stops providing food and restroom facilities

According to the interviewee from Strætó the duration of the bus stops underway are not for the benefit of the passengers, but to comply with the laws and regulations that require a certain resting time for the drivers. The passengers have access to a small toilet in the bus that they can use during the trip. There are no requirements by law or in regulations on the maximum length of travel time or kilometres for the passengers.

As for the mobility-reduced passengers, the small toilet in the bus is very difficult to use because of its narrowness and steep steps. The facilities in the busses are not accessible for individuals who are wheelchair users, even though he or she could get into the bus.

For busses driving under the name of Strætó there are two stops of 30 minutes each:

On route 57 Reykjavík – Akureyri / Akureyri - Reykjavík

Total length of route 57 is 388 km with a 30 minutes stop in Staðarskáli (57-07) in Hrutafjörður, which are 163 km from Reykjavík and 225 km from Akureyri.

(<http://www.vegagerdin.is/vegakerfid/vegallengdir/>)

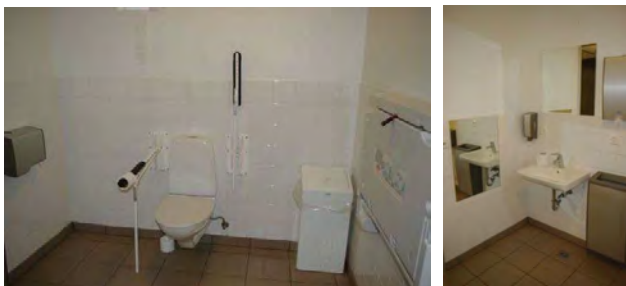


Figure 10: WC in Staðarskáli Figure 11: Wash-basins in Staðarskáli

The rest room facilities in Staðarskáli (stop 57-07) (figures 10 and 11) are considered accessible for wheelchair users according to the guidelines published by the Icelandic Construction Authority (Mannvirkjastofnun, 2013) for universal design in restrooms and baths; no. 6.8.3 *Algild hönnun snyrtinga og baðherbergja*.

(Iceland Construction Authority (Mannvirkjastofnun), 2013)

On route 51 Reykjavík – Höfn

Total length of Route 51 is 457 km and there is a 15 minutes stop in the time schedule in Vík in Mýrdal (51-05) on the way from Höfn to Reykjavík but 30 minutes stop when driving from Reykjavík to Höfn. The location of Víkurskáli is 186 km from Reykjavík, and 272 km from Höfn. The reason for this time difference is not fully known but according to the interviewee from Strætó it has been this way for a long time. It might be because there is a switch of busses on the route and the bus drivers continuing the route might have had the rest required for the drivers.

(<http://www.vegagerdin.is/vegakerfid/vegallengdir/>)



Figure 12: WC in Vík Figure 13: Wash-basins in Vík

The rest room facilities in Vík (stop 51-05) (figures 12 and 13) are NOT considered accessible for wheelchair users according to the guidelines published by the Icelandic Construction Authority (Mannvirkjastofnun, 2013) for universal design in restrooms and baths; no. 6.8.3 *Algild hönnun snyrtinga og baðherbergja* as a requirement base for the rest rooms.

(Iceland Construction Authority (Mannvirkjastofnun), 2013)

Roles and responsibilities – The interviews

Following are summaries of three interviews, which are meant to throw light on the structure of public bus transport on the Ring road, and the division of responsibility.

The interviews cover the public sector of the infrastructure of the public bus transport, the first interview is with representatives from state owned administration the *Icelandic Road and Coastal Administration*, with the aim to gather information on the financial support from the state into the public transport, and how it is shared between the municipalities, also if there are any requirements or demands regarding accessibility for persons with disability in the contracts between those parties.

The second interview is with a representative from the municipally owned organization, which runs the infrastructure, the routes, the time schedule and tender for the actual servicing (driving) of the routes. This organization, Strætó bs, is owned by the seven municipalities comprising the greater capital area of Reykjavík. Strætó bs, runs approximately 75% of the public bus transport on the Ring road. Strætó bs is a municipally owned organization and it owns and runs the public bus transport system in Reykjavík city and the greater capital area, as well as operating public bus transport in other regional organizations across the country. The third party is a representative of a regional administration that runs the remaining 25% of the public bus transport on the Ring Road, the East Iceland Bus Service (Strætisvagnar austurland) SVAust. The infrastructure could be similar to Strætó bs but because of not being an organization with ownership infrastructure it is quite different.

A. The Icelandic Road and Coastal Administration (IRCA), *Vegagerðin*

The first interview was with two representatives of the Icelandic Road and Coastal Administration (IRCA), *Vegagerðin*, they were Mr. Hannes M. Sigurðsson, the financial manager and Ms. Etna Sigurðardóttir, the business administrator.

The role of the IRCA in public transport is to administrate finance from the government to the municipalities. According to the representatives, the government is neither obligated by law to finance public transport nor to support the municipalities or the regions of municipalities to provide the services. But because of financial difficulties of running the system the government has provided financial support for quite a number of years.

The municipalities are grouped into 8 regional organizations around the country, 7 of them are in contact with the ring road. The following illustration is from a report made by a committee formed by the Ministry of the Interior, showing the location of each region. (Starfshópur samgönguráðherra um endurskoðun á starfsemi landshlutasamtaka sveitarfélaganna, 2009).

The regional municipal organizations which are contracted to the IRCA to provide public transport on the Ring road are: Samtök sveitarfélaga á Vesturlandi **SSV**, Fjórðungssamband Vestfirðinga **FV**, Samtök sveitarfélaga á Norðurlandi vestra **SSNV**, Eyþing **Eyþing**, Samband sveitarfélaga á Austurlandi **SSA**, Samtök sunnlenskra sveitarfélaga **SASS**, Samtök sveitarfélaga á höfuðborgarsvæðinu **SSH**.

The regional municipal organizations hold three scheduled meetings a year, where they have a shared platform for discussions and workshops. Also conferences and meeting are arranged for special occasions.

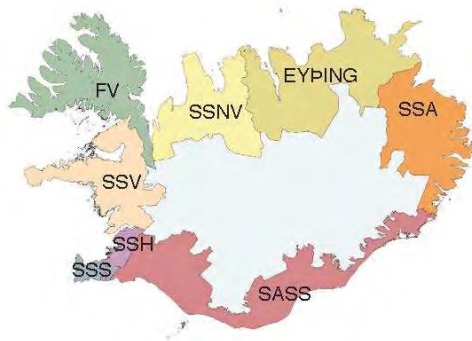


Figure 14: Illustration of the areas of regional municipal organizations in Iceland

Each municipality has a franchise on the public transport routes within their boundaries they are obliged to offer the concession for serving the routes out to tender. The municipalities form regional organizations, as mentioned above. Five of them have contracted Strætó bs, which is a public transport company run and owned by the regional organization in the greater capital area of Reykjavík, to service their areas. The SSA, on the east coast, is the only regional organization on the Ring road, which runs its own public transport service without using the service of Strætó bs.

Asked about the contracts to the individual regional organizations they said that there are no obligation or demands concerning accessible public transport or service, in regard to public transport, to meet the needs of disabled people, in the contracts. If there are to be changes made to the contract the demands would have to come from the government, either in legal form, as a change in the legally binding regulation or as a clear policy. The RCA representatives said that they are not aware of any signs of changes in the direction of making public transport accessible for all, including wheelchair users. They know about the UN convention of the rights of people with disabilities but they have not studied the contents and they have heard about universal design but not studied the definition. This interview has open their eyes to the fact that people with disability such as wheelchair users cannot travel between towns in Iceland with public transport.

B. Strætó bs

The second interviewee is a representative from Strætó bs, an organisation owned by the regional organization in the greater capital area of Reykjavík, Her name is Ms. Ragnheiður Einarsdóttir and she is an expert in the Transport planning department of Strætó bs.

The role of Strætó is to mediate the tender between the regional organizations and the drivers and to take care of coordination of the daily activities, structure the time table, security, establish and maintain the GPS positioning system in the busses and stops etc. as well as running the information desk and web site.

One of the tasks of Strætó is to structure the time-tables, but the location of the stops is in cooperation with the municipalities, and each municipality has the responsibility of erecting the bus-stop post and to maintain it. Strætó provides the bus-stop post with the Stræto logo and sign and connects its' location to the GPS system.

Another important issue is the positioning devices Strætó provides for both the busses and the locations (posts), thus the traveller can, with a simple smart phone application (app), receive real time information on the actual location of the bus, and if its on schedule or not.

The passengers in the bus also receive both textual and auditory information on the next station.

The contracts on public transport in rural areas do not include requirements for access of wheelchair users. There are some requirements for low-floor city busses, but they are not used for rural service, since the city busses are not allowed outside the city limits, most likely because of safety requirements. None of the busses that services rural areas in association with Strætó is accessible for wheelchair users.

No contracts are made with the operators of the long term stops, i.e. shops, restaurants, gas stations, they seem simply to be chosen by agreement between the drivers and the operators of the stops. The interviewee is not aware of any requirements for a maximum length of a journey without a stop for the passengers, but there are rules applying to the driver. The rural busses are provided with a toilet for the passengers.

There was a question if Strætó has made a customer survey. The answer is yes; in the city and the capital area but not in the rural areas. According to the interviewee one of the things that must be done so that Strætó can provide fully accessible public transport is: *“To begin with, if the busses are to be able to serve this group, there is a question whether they can be equipped with lifts or ramps for wheelchairs and provide space inside the busses for wheelchairs.”*

Public transport on the Ring road is not a profitable business but the two most popular routes; nos. 51 and 57 do make a small profit. The profit is used to subsidize the other routes. Also the summer time is more profitable than the winter-time, and balance each other. The public transport services are bound by contract to provide service all-year round.

The last question on the business matter was if she believes that making a policy about access for everyone would make a difference. The answer is that she believes that making a policy would shake things up and make people think and talk about it. Possibly the municipalities could make a policy because it would be a kind of a political move.

The last questions are more personal and concerns her knowledge about universal design and the UN convention of the rights of people with disability. The first question is negative, she does not know what universal design stands for but she has heard about the UN convention but does not know the content in details. This is the first time she has thought about rural public transport as an option for people with disability.

C. SVAust

The third interviewee is a project manager of The East Iceland Bus Service (Strætisvagnar austurland) **SVAust**, that runs the public transport for the regional organization in the east part of Iceland. His name is Mr. Páll Baldursson and he has been working there for almost a year. The project is originally a concept of the Regional Association of Local Authorities in Eastern Iceland together with AUSTURBRÚ - the East Iceland Bridge, but now it has been entrusted to AUSTURBRÚ while one of the municipalities, Fjarðarbyggð, runs all daily administrative matters. The decision-making and locating who is responsible for what is a bit complicated since no one really owns the business. To find out who is to take responsibility for or finance for example maintenance, additions or other changes is not simple. The aim of the project is to make a good, frequent and safe transportation for the locals and tourists. There are three main factors in this system.

- The First is the Alcoa Fjarðaál Aluminium plant personnel transportation, which is the basic factor as for the reason that **SVAust** uses Alcoa's busses as theirs. The aluminium smelting company owns the busses, hires the drivers but **SVAust** runs the extra seats and sells it as public transport.

- The second factor is the municipal transportation services for school transportation etc.
- The third factor is the bus route franchises from the old system that belongs to the municipalities.

The reason for the missing link between Breiðdalsvík and Djúpvogur is because of a restraining order the Association of Local Authorities in East (SSA) put on to one of the private bus companies. The issue was that SSA claimed that the private bus company did not have the right to transport tourists and sell trips on the same routes as the public service is driving. The District and the Supreme Court rejected the injunction although it is mentioned that the private company is not allowed to advertise single trips for sale. The private company has filed a claim for damages and the case is still running. SVAust is working on establishing the route again but it has not been implemented.

There are no demands or requirements about accessible transport for wheelchair users between the towns and nothing mentioned in the contracts or policies. The busses are not accessible for wheelchair user, and during the winter some of the routes are only accessible for highland trucks. This might change in the near future when long awaited tunnels through the high mountains will be constructed.

The last question is if he knows or has heard about universal design or the UN convention of rights for people with disabilities. The answer is that he knows about both but has not worked within their contents. As for the future he finds the subject of accessible public transport very interesting and important but no one has yet talked about it in his line of work. This interview might be the first step.

7 The case study in three aspects of universal design knowledge

It is known and accepted that people are different and have different abilities. Some people have special needs and other depends on special conditions. According to the Icelandic legislation, regulation, conventions and acts everyone ought to have access to public transport.

All of my three informants agree on the importance of the public transport and they also agree on that they have not thought about access for people with disability on the rural routes and they have not experienced any requirements in that direction through their work. One way of finding out if there is a neglect or deficiency of implementation of requirements for equal rights and equal treatment of persons with disability, according to public transport in Iceland, is by analysing the case through the three knowledge aspects of Universal Design (Lid, 2013) When the knowledge has been analysed and studied it must be interpreted and implemented through practice.

The case according to the theoretical knowledge aspect of UD

The urban and rural public transport does not have the same requirements when it comes to type of vehicles used for human transport and stop-posters.

The municipalities are obliged by law (Act on the Affairs of Disabled People, no. 59/1992) (Ministry of Welfare, 2010) to offer transport for people with disabilities within the municipalities but there is no obligation for transport between the municipalities. A person living in e.g. Akureyri, in the north part of Iceland, has a right to local transport in urban

Akureyri, with vehicles fully accessible for wheelchairs, but the transport is not offered between municipalities, only within the municipality where the person resides. Thus, the same person does not have access to the local transport within other municipalities. In some cases there might be an exception when people from the countryside needs to stay in the capital city for medical reasons.

According to the interviewee from IRCA everyone has the same right to use public transport *“Everyone has the same right to use public transport we just don’t do anything specific for anyone”* What he means is that there is no discrimination in using public transport but there is no effort in finding solutions or implementing recourses to make the public transport system work for everyone including wheelchair users. Wheelchair users will not be forbidden to embark if they can but there is no equipment available to make it possible.

In this case study the issue is common public bus transport in rural areas and if it is accessible to wheelchair users. When analysing the results from the registration of routes it is very clear that, at the moment, there is no vehicle in use for public bus transport on the rural routes with direct access for wheelchair users or equipped with lifts or ramps to be used as access for wheelchairs. And according to the interviewees there is nothing that indicates that changes will be made in the near future.

To be able to use the public bus transport there is more to it than the vehicles, the bus stops and timetables have to be accessible also the places and services where people have opportunity for extended stops. The extended stops are for the driver to rest but it is also convenient for the passengers to get the time to stretch out and use the restrooms and buy some food and drinks. It is also relevant to survey the places with connections to other routes, where the passenger might have to wait at the site. In this relation, universal design thinking might be of equal or more relevance than the laws and regulations, meaning that the regulations are of importance as guidelines for the improvements, but when evaluating the situation at the beginning, it might be enough to check if the universal design principles (Connell, o.fl., 1997) are fulfilled. If the site, post with timetable or the area around it does not live up to minimum universal design *PRINCIPLE ONE: Equitable Use and PRINCIPLE SEVEN: Size and Space for Approach and Use*, it does not fulfil the criteria of equal use for everyone.

The principles are clear, but how can they be used in this case? I would like to see them used as goals for quality of the service in the way of e.g. when positioning the poster/signs and timetable, the 7th principle would be the guideline. It means that the 7th principle can be used to evaluate if the site has a good space or a clear line of sight, and to continue, if the answer is “no”, to the next step which would be to investigate guidelines and regulations about how to make it better.

The person who has the job of choosing the location must be aware of the definition of the UD 7 principle, and survey the site and its’ surroundings according to the definition. If the site is not appropriate, according to the 7th principle, the person needs to relocate or start a procedure to make the wanted location acceptable. Then it might be appropriated to implement the requirements of the regulations to alter the site according to the accessibility standards, which should be adequate to fulfil the definitions asked for in the 7th principle of universal design. The principles could also be used as requirements, questions or checklist for regarding agreements and contracts in the public bus transport sector. Which implies to use the principle as tool to review the agreements or contracts. And if not then it is possible to point out the need for broadening the concept of transport for all people and implement strategies, policies, requirements or goals.

Icelandic laws and regulations regarding equal rights for persons with disability

Iceland does not have separate laws regarding non-discrimination, but equality is mentioned in the Constitution of the Republic of Iceland, 33/1944, where in chapter VII, article 65 it states that “*All men are equal before the law*” and it adds “*...and enjoy human rights irrespective of sex, religion, opinion, national origin, race, colour, property, birth or other status. Men and women shall enjoy equal rights in all respects.*” By mentioning some aspects of human diversity but not all might be a kind of discrimination as it could be difficult to argue for some groups of people or certain rights if they aren’t mentioned in the text. An interpretation could even be that though all men are equal, the rights are just for some. It might not be wise to take for granted that the constitution could be used exclusively as an argument in a case concerning equal rights for disabled persons as disability is not specified in it. By not specifying people with disabilities, might be defined as neglecting the human rights of people with disabilities (Degener, 2006) (Bagenstos, 2000)

But there are laws to be referred to such as *Act on the Affairs of Disabled People, no. 59/1992*, (Ministry of Welfare, 2010) (*Lög um málefni fatlaðs fólks*):

Chapter II, Management and organization, of the Act, states that municipalities can make an alliance or agreement about working together in certain issues regarding disabled persons affairs, so if it is not possible to implement requirements of public transport for all in the regular contracts, the regional municipalities organizations could make a separate contract or agreement about the matter. If equal treatment and human rights in general are to be maintained, these issues should be incorporated into the regular contract.

Chapter III, General service, §7 of the Act, states that people with disabilities shall have equal rights regarding general public service from the state and municipalities.

Due to the fact that the contracts involved in public bus transport do not consider access or service to disabled persons equal to others, it could be interpreted as the third source of disability discrimination (Degener, 2006) (Bagenstos, 2000), meaning the neglect of equal rights of disabled people in policymaking, contract documents and strategies, even though they are stated by law. In short; neglect of fulfilling a lawful obligation. To illustrate this in practice, all the involved stakeholders, including the state, municipalities as well as public and private organizations, must begin working on implementing i.e. the universal design ideology and principles, at least principle no. 1 and no. 7 (Connell, o.fl., 1997), the human rights and equal treatment definitions from the Icelandic legislation to be found today and the UN Convention on the Rights of Persons with Disabilities (CRPD) (United Nations, 2006) into policies, strategies, contracts and tender documents for public bus transport.

The case according to the Technological knowledge aspect of UD

According to the interviewees in this case study, contracts, agreements and tender documents regarding public bus transport, do not contain requirements regarding accessibility or special solutions or condition for disabled persons. The Icelandic laws, regulations and agreements contain requirements on human right, equal right and equal treatment matters. It seems that these legal aspects are not taken into account in public transport matters, and seem to be open to interpretation by the parties involved.

When discussing equal access and equal treatment according to disability in public transport inevitably the questions of who are the stakeholders and their responsibility comes to mind. Is it equal responsibility or is there a discrepancy among the stakeholders concerning responsibility by role or ownership?

Until recently the term Corporate Social Responsibility (CSR) has mainly been used to express responsibility of the privately owned organizations which are run for profit, but recently the term has been widened to include public management and public organizations (Di Bitetto, Chymis, & D'Anselmi, 2015). And furthermore the term has widened from being only about social responsibility, to also involve environmental, **ethical, human rights** and **consumer concerns** into the business operation.

The Icelandic Road and Coastal Administration (IRCA)(Vegagerðin) is a public administration directly under the Icelandic Ministry of Interior. The IRCA has an important role in public bus transport, actually, several roles, by law. Law no. 73/2001 *Law on passenger transport* (Lög um farþegaflutninga) states, in paragraph six about *Concessions*, that the IRCA supervises the organization of public vehicular transport on land. The IRCA used to run the whole system of public transport and made contracts directly to private transport companies through by tender based on concessional routes. In the law no. 73/2001, § 6 it continues with pointing out that only the holder of the concession is allowed to service that route with scheduled rides, and the service contract shall contain requirements made by the IRCA. The requirements are i.e. concerning time schedule, routes, stops, allowed vehicles, environmental standards etc.

The IRCA is also obligated to offer courses for drivers concerning public bus transport.

In § 7 of the transport law the IRCA can allocate a municipality, or regional organization, a monopoly agreement to organize and manage public transport for the routes, which is the present situation. The IRCA grant the local municipalities organisations a monopoly on public bus transport within their area. The local organisations are obliged to offer the routes within their area to tender.

The IRCA also has another important role; each year it divides the financial support, allocated by the Ministry of the Interior for the public transport system, between the municipalities, where each municipality receives its' share in proportion to its' share when the IRCA handled the matter.

The case according to the Practical knowledge aspects of UD

At present the municipalities operate their public bus transport routes and invite them for tender. The bidders are both public and private organizations and companies. Strætó bs, is the operator on Routes 51, 56 and 57 which is a publicly owned organization. Strætó bs. offers the actual driving of the routes to tender, which are more often than not handled by private companies or even individuals located within the area. In the case of SVAust, the regional organization invited their routes for tender without mediation. Furthermore the sites for stops and signs with timetables are placed in cooperation of the municipalities and Strætó (in routes 51, 56 and 57) and the private owners of the sites or services. All together the complex combination of stakeholders might fit in the technical infrastructure of the public – private partnership (PPP) (Leviäkangas, Nokkala, & Talvitie, 2015). According to *Leviäkangas et al.* the ownership of a network is an inseparable element of governance. In this case study the ownership might be the same as the tenderee (bidder) because even though the tender is for a limited time, the tenderee is the responsible one while the tender is active.

In *"The slice or the whole cake"* report by *Leviäkangas et al.* one of the conclusions defines that ownership does not hinder the cash flow or the return,s and that might support the

opinion of a win-win relationship. When a bus stops at a shop and the passengers disembark the bus for entering the service provided by the shopowner, it is not just a service by the public transport busdriver to his passengers, it also provides customers to the privately run shop. Then a question of responsibility arises; Whether is it the busdriver or the owner of the bus route who is responsible for accessibility for his passengers to the service facilities provided to the travellers, or is it the shop owners responsibility to his customers? Or might it be a shared responsibility? It might also be the municipalities responsibility to offer equal access for everyone in their area? Where does the responsibilities of the IRCA or the Minister of the Interior lie? Should the demand for equality for all be part of the package when public funds are allotted?

The answer must be that every partner is responsible in some way. The state owned authority (IRCA) should pass on the legal requirements and follow them through in agreements and contracts to their partners. Furthermore it should supervise that all the stakeholders fulfill their obligation, or use a third party to follow-up on the matter. The municipalities are responsible for serving all of their inhabitants (Alþingi, 2010), and the same ought to apply to others travelling through their area, without exceptions and discrimination, and the private shop owners are responsible for their service and facilities to be accessible for everyone (Alþingi, 2010).

The results of this case study regarding the accessibility for wheelchair users to the public bus transport busses are decisive; there are no accessible busses in the rural public bus transport system in Iceland.

This conclusion indicates that public bus transport on the Ring road in Iceland is not suitable for persons using wheelchairs, but what about the bus stops?

The posts – signs and time tables – are varying, and are sometimes missing. Route 57; Reykjavík – Akureyri, has the best result in *posts* and for *WC* and *food*, though many stops are marked with *not applied or irrelevant* for WC/food. Also for the extended stops, the facilities on Route 57 are better than in the extended stop on Route 51; Höfn – Reykjavík.

As shown on table 11, the proportion of accessible posts on the whole Ring road is only 25% of all the posts and 41 % of the posts are not accessible for wheelchair users. The unmarked stops, the stops without bus-signs and/or time table are 34 % of all the stops on the Ring road, which may be considered to high a proportion of the scheduled bus-stops. Furthermore, the 34 % of the stops rated “O” in the registration (meaning neither posts nor time tables) are in most cases at areas with a rough gravel surface and with no consideration for wheelchair accessibility. The “O” rated stops could therefore be rated as “N” for “No, not accessible for wheelchair users” and if that is the case the unaccessible stops are 75 % of the entire numbers of bus-stops on the Ring road.

How can this situation be improved on?

All stakeholders must be aware of the actual situation, and it would be easier if all stakeholders agreed on defining and implementing the needed changes. The demand, or strategies for improvements, could both be governmental and/or municipal requirements that all the stakeholders in the public bus transport system must obey. Or simply by agreement and a workshop with all the involved partners. There are no guidelines or demands in the Icelandic Building Code regarding bus stops, other than general requirements that all public services shall be accessible for all by design, and according to the universal design requirements. There might be a need to generate Icelandic guidelines and checklists exclusively for bus-stops and extended stops, regarding accessibility for all people.

The shared platform for meetings, discussion, and workshops of all the stakeholders exists through the quarterly general meetings of the united regional municipal organization. According to the interviewees from the IRCA (Vegagerðin) the IRCA has been invited to a meeting concerning the public bus transport system, and according to the interviewee from Strætó bs, they are invited to partake in the general meeting in February 2016. Only a few more invitations are needed to bring all the other stakeholders to the table, either at the general meeting, or at a separate plenum.

But would it make any difference in the number of users of the public bus transport system? As stated from the interviewees from Strætó and SVAust there are no busses in rural public bus transport accessible for wheelchair users, so why should they try to use the system. In the Icelandic surveys *“Who uses public transport? (Hverjir nota almenningssamgöngur?)”* (Statistics Iceland (Hagstofa Íslands), 2015), and *Summertrips 2014* (Reynarsson, 2014) no questions are asked regarding the user’s ability, or inability, to use the public bus-transport and if they would use it if possible. Also it would be helpful to ask for what needs to be done so everyone can use the public bus-transport. The question about why the person does not use the public – bus transport in the survey *“Who uses public transport?”*, might give an idea about the subject, even though the users condition is not a part of the question.

The result is given in two columns one for densely populated areas, or the urban area, and the other column is for the sparsely populated areas, or the rural areas, see figure 6. Comparing the results on these two areas show that more persons uses public bus-transport in the urban areas; 19.9% versus 14.1% in the rural areas. The answers why people do not use public bus transport are in most cases because the person uses private cars. The private car users are 70.4% of the inhabitants in urban areas versus 61% in the rural areas. The fact that 10.2% in the rural areas state that the reason for not using the public bus transport is because of poor access, versus 2.9% in the urban areas. Even though the “poor access” is not defined or the answerer is not analysed according to his/her ability or disability, the results show that improvement of accessibility in rural areas might also increase the number of users in the rural areas. One other fact occurs in the figure, and that is in the rural areas the reason “to long distance to the bus stop” is also one of the reason for not using the system, while this reason is barely noticeable for the urban areas.

Surveys and reports may be usable in decision making and the report made by the Department for Transport, London UK, called *“Transport for Everyone: an action plan to improve accessibility for all”* from 2012 (Department for Transport, 2012) might actually give answers regarding use of public transport for passengers with mobility difficulties. The report expresses the use of personal cars and public transport by users with and without mobility difficulties, see figure 8. The result is that persons with mobility problems do not use private cars to the same extent, as persons without mobility difficulties. The numbers are 281 trips per year for persons with mobility difficulties, versus 540 trips per year for persons without mobility difficulties. The figure also shows that that person with mobility problems uses local busses more frequently than persons without mobility difficulties, the numbers being 71 trips per year for persons with mobility difficulties versus 66 trips per year for persons without mobility difficulties. A similar result occurs when the person is a passenger in a car, then the numbers are 175 trips per year for persons with mobility difficulties versus 155 trips per year for persons without mobility difficulties. If the UK research is to be reflected to the situation in Iceland the conclusion might be that the importance of accessible public transport for everyone, including persons with mobility difficulties is high in the rural areas of Iceland.

The results mentioned in these three surveys support the importance of a rural public bus transport system accessible for all, inclusive persons with disability. It concerns people's freedom to travel and people's independence. The surveys indicate that persons with disability do not have the same opportunity to access private cars, especially as a driver, and thus be free and independent. They also indicate that one of the reasons for not using the Icelandic public bus transport system is that it is too difficult, the accessibility is too poor and the distances to the bus stops are too great. The results of this case study reflect the outcomes of these surveys; 100 % of the busses are not accessible, 75% of the total stops are not marked or are not accessible. Furthermore, only 32 % of the facilities at the bus stops are rated as accessible for wheelchair users, but only one of these are used for extended stops.. The place of departure and arrival often service the travellers with needed goods or service but that is at the beginning and in the end of the journey of the route. If the passenger wants to continue to the next route on the Ring road in most cases the traveller needs to stay for the night and continue the day after. The main terminals of each route in Akureyri, Egilsstaðir and Reykjavík often have facilities that supply the travellers with needed goods or services, but as these are at the beginning and end of each route they are not rated as a bus-stop underway.

Then who is going to pay? As the result of the analysis of the responsibility and the fact that a significant share of the cost of the rural public bus transports is publicly funded, the greater responsibility might rest with the public stakeholders. But if the system is analysed with the CSR and PPP models all involved stakeholders should carry shared responsibility. The stakeholders may be of different kinds and sizes, but nevertheless it may give a better result if everyone worked together, as every stakeholder in the chain would benefit from more efficient public bus-transport. The beneficiary would be increase of users of the public bus transport and that would lower the need for publicly funded money from the State, give higher income from each route to the municipalities or the organized municipality organizations, more customers to the privately owned services where the bus – stop signs are located and last but not least better service and freedom to persons with disability. There is one stakeholder that might gain more than others; the consumers or the passengers – the public. To get their point of view the consumers concerns should be involved in the process of improvement of the public bus transport system. The representatives of the consumers could be recruited from NGO organizations or by specialized questionnaires or surveys.

8 Conclusion

Collecting information about public bus transport on the Ring road is important and can be crucial for improvement of the route for certain passengers; in this case study the situation for wheelchair users is the main issue. This method can be widely used; for the smaller communities or towns up to the larger municipalities, as well as the whole country.

There is a lack of public strategies and guidelines concerning equal access to the public bus transport on the Ring road, both concerning universal design and accessibility issues for people with disabilities. There is also a lack or neglect of implementing equal rights and equal treatment of persons with disabilities into the processes of tendering and contracting for the public bus transport system in rural Iceland. This lack, or neglect of the issues of equal access, for persons using wheelchairs, to the public bus transport system concerns all stakeholders from the State down to the local operators.

The required laws and regulations are in place, including the UN CRPD, stating that disabled persons shall have equal rights to transport and participation in the society.

I call it neglect, as it is my experience and opinion after conversing with representatives of the stakeholders involved in this case study, that it is not because of deliberate decisions of keeping wheelchair users away from public bus transport on the Ring Road, but more of not realising the importance of the matter, and that wheelchair users must be able to travel outside of their municipality as well as within it.

This case study's conclusion is that the public bus transport system on the Ring road in Iceland is not accessible for wheelchair users. The busses are not accessible, the stops are only accessible in 25% of the cases, and the one stop with an extended stop is accessible for wheelchair user. It might be worth investigating if the extended stops are frequent enough or long enough for the passengers in the current situation.

The public bus transport system is run by public authorities through the municipalities and regional municipalities' organizations, as well as supported financially by the State through The Icelandic Road and Coastal Administration (Vegagerðin). The system does not function without diverse private stakeholders providing the driving and servicing along the routes.

The answer to the question of responsibility in the matters of public bus transport along the Ring roads is that the main responsibility lies with the State and the municipalities, however other stakeholders also share the responsibility, i.e. those who are contracted to provide services.

Also there are parties who are not contracted to provide services in the public bus transport sector, but are nevertheless involved, as they service both the drivers and the passengers on the route. These parties are responsible for their assets (locales), and by using these assets to provide services to the public, they are also stakeholders in the public bus transport system, thus sharing the responsibility to provide equal access for everyone, including wheelchair users.

The regional municipal organizations have three scheduled general meetings each year where they have a shared platform for discussions and workshops. This platform could be a launch pad to a new era of equal access for wheelchair users to the public bus transport system in rural Iceland.

9 Appendix

Appendix I: Checklist for registration

Checklist based on God adgangs registrationsheet and criteria for busstops.

(FTA registreringsark for Busstoppesteder 17/10/15 14:06)

Applies to: wheelchair users

Niveau: Limited, adapted to the "Busstops on the Ringroad in Iceland" project

Date of assessment/registration:

No. or a location of site (bus stop):

1.0	Bus-stops - general	Yes	No	Text/numbers	Irrel.
1.1	Specify the location of the bus-stop:				
1.2	Specify the route number of the bus stopping at the bus-stop:				
1.3	Specify the surface of the bus-stop:				
	Hard: Concrete/Asphalt/Tiles				
	Soft: Gravel/Sand/Gras				
	<i>The surface must be hard, dense, smooth/level, and without changes in level</i>				
1.4	Is there a platform at the bus-stop				
1.5	Indicate the width of the platform:				
1.6	Indicate the length of the platform:				
	<i>The platform must be at least: width = 200 cm, length = 150 cm</i>				
1.7	Indicate the height of the curb or the platform in cm:				
	<i>Maximum height of a curbstone is 8 cm.</i>				
	<i>Maximum height of wheelchair access to platform is 2,5 cm.</i>				
1.8	Is there solid objects at the bus stop, which may block the entry and exit:				

		Yes	No	Text/ numb ers	Irrel.
2.0	Bus-stop - Posts/signs/Timetable-sign				
2.1	Indicate if the Stop-sign/Time-table is located outside the walking area.				
	<i>The post is to be located outside the walk-way but in the reach of a wheelchair user.</i>				
2.2	Indicate if the Stop-sign/Time-table is provided with visual information about the busses using the stop-sign:				
2.3	Indicate if the Stop-sign/Time-table is provided with visual information about the time schedule for the busses:				
2.4	Indicate the height of the time schedule in cm:				
	<i>The height of the time table should be min. 140 and max. 160 cm above ground.</i>				
2.5	Indicate if the post is provided with GPS - location device:				

		Yes	No	Text/ numb ers	Irrel.
3.0	Bus stop - shelter				
3.1	Indicate if there is a shelter at the bus stop				
3.2	Indicate the width of the shelter opening				
	<i>The width of opening of the shelter should be min. 90 cm.</i>				
3.3	Indicate if there is interior lighting in the shelter				

Appendix II: Guidelines for rest rooms on extended bus stops

An illustration from guidelines to rest rooms / WC from the Iceland Construction Authority. No. 6.8.3 *Universal design of rest-rooms and bathrooms* (6.8.3 Algild hönnun snyrtinga og baðherbergja.) A link to an online link:

<http://www.mannvirkjastofnun.is/byggingar/leidbeiningar/leidbeiningar-vid-byggingarreglugerd-112-2012/>

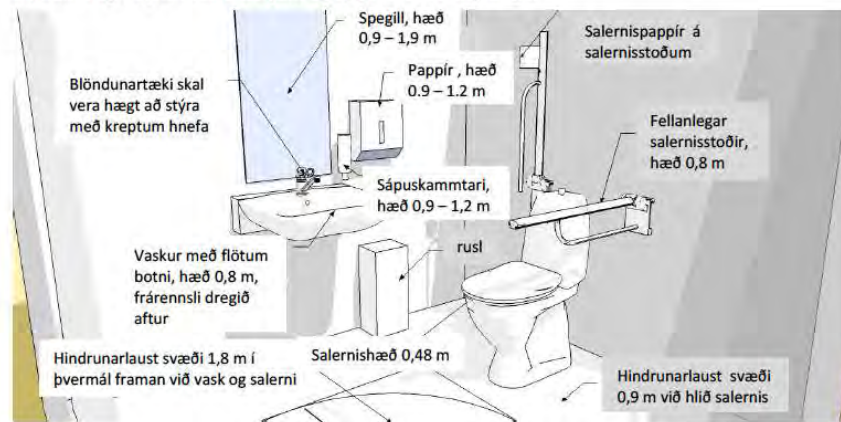


Leiðbeiningar

6.8.3

Útgáfa 2.0
Dags. 31.05.2013

Myndir 6 og 7 sýna hæð á tækjum og fylgihlutum á snyrtingu.



Appendix: III: Questionnaire for the interviews

The interviews are conducted as a conversation about questions referring to the following three main stakeholders:

- A. The role and responsibility of the Icelandic Road and Coastal Administration (“Vegagerðin”) in public bus transport on the Ring road
- B. The municipality’s / region’s role and responsibility in public bus transport on the Ring road
- C. The operators’ role and responsibility in public transport on the Ring road

A. The Icelandic Road and Coastal Administration (IRA)

1. Is there a general policy / policies or goals for public bus transport in Iceland?
2. Has the IRCA its own strategy and / or objectives on public transport?
3. Is there a focus on accessibility for all in IRCA’s policy?
4. Is there a focus on accessibility for all in IRCA’s contracts with the municipalities? - What is used as the base? (e.g. UN Convention for disabled persons / or the Law on Disabled Persons Affairs etc.)
5. Are all the contracts with municipal and/or regional organizations unanimous? If not.... what is the difference?
6. If there are demands or requirements on accessibility, what are they and how is implementation insured?
7. Is the IRCA responsible for the following:
 - a) Vehicles used for public transport; do they comply with the provisions in the contracts with the municipal and/or regional organizations?
 - b) Destinations (Timetables/ WC / food etc.); do they comply with the provisions of the contracts with the municipal and/or regional organizations regarding accessibility for all?
 - c) If the IRCA bears some responsibility in what sense is it and if there are others, who is it and what do the share?
8. If IRCA is not responsible who is?
9. Is there a difference in public transport within the municipalities/regions and between the municipalities/regions?
 - a) If yes - In what way?

B. The municipality's (regions) role and responsibility in public bus transport on the Ring road.

SVAust

1. Is there a general policy / policies or goals for public bus transport in the region?
2. Has the region its own strategy and / or objectives regarding public bus transport?
3. Is there a focus on accessibility for all in the region's policy?
4. Is there focus on accessibility for all in the region's contracts with: a) IRA? b) to the private sector? - What is used as the base? (e.g. UN Convention for disabled persons / or the Law on Disabled Persons Affairs etc.)
5. If there are demands or requirements on accessibility, what are they and how is implementation insured?
6. Is the municipality/region responsible for the following?
 - a) Vehicles used for public transport; do they comply with the provisions in the contracts with the IRA?
 - is there a requirement for the busses to be accessible for wheelchair users?
 - if not, is it on the agenda / goals?
 - b) Destinations (Timetables/ WC / food etc.); do they comply with the provisions of the contracts with the IRA regarding accessibility for all?
 - c) If the region bears some responsibility, in what sense is it and if there are others, whom is it and what do they share?
7. If the region is not responsible who is?
8. Is there a difference in public transport within the municipalities/regions and between the municipalities/regions?
 - a) If yes - In what way?

C. The operators role and responsibility in public bus transport on the Ring road

There are three aspects of private sectors in public transport in Iceland.

1. Strætó, the company that has the agreement with the regions about running the day-to-day basis and coordination of the system.

1. Has the private company its own strategy and / or objectives regarding public bus transport?
2. Is there a focus on accessibility for all in the company's policy?
3. Is there focus on accessibility for all in the companies contract with: a) authorities? b) to other private companies? - What is used as the base? (e.g. UN Convention for disabled persons / or the Law on Disabled Persons Affairs etc.?)
9. If there are demands or requirements on accessibility, what are they and how is implementation insured?
4. Is the company responsible for the following?
 - a) Vehicles used for public transport; do they comply with the provisions in the contracts with the IRA?
 - b) Destinations (Timetables/ WC / food etc.); do they comply with the provisions of the contracts with the IRA regarding accessibility for all?
- a) If the company bears some responsibility, in what sense is it and if there are others, whom is it and what do they share?
5. If the company is not responsible who is?
6. Is there a difference in public transport within the municipalities/regions and between the municipalities/regions?
 - a) If yes - In what way?

Appendix: IIII: Illustation of bus stops on the Ring road in Iceland



10 References

- Alþingi. (2010, 12 27). *Lög um breytingu á lögum nr. 59/1992, um málefni fatlaðra, með síðari breytingum*. Retrieved 11 24, 2015 from althingi.is: <http://www.althingi.is0/altext/stjt/2010.152.html>
- Alþingi. (2010, 12 28). *Lagasafn / Lög um mannvirki 2010 nr. 160 28. desember*. Retrieved 01 03, 2016 from althingi.is: www.althingi.is/lagas/nuna/2010160.html
- Bagenstos, S. R. (2000). *Subordination, stigma, and "Disability"*. Virginia: Virginia Law Review, 86.
- Center for Universal Design, N. C. (2008). *Ronald L. Mace*. Retrieved 12 20, 2015 from www.ncsu.edu: https://www.ncsu.edu/ncsu/design/cud/about_us/usronmace.htm
- Connell, B. R., Jones, M., Mace, R., Mueller, J., Mullick, A., Ostroff, E., et al. (1997, 1 4). *www.ncsu.edu/ncsu/design/cud/about_ud/udprinciplestext.htm*. (T. C. Design, Editor, T. C. Design, Producer, & NC State University) Retrieved 12 17, 2015 from www.ncsu.edu: www.ncsu.edu/ncsu/design/cud/about_ud/udprinciplestext.htm
- Degener, T. (2006). The Definition of Disability in German and Foreign Discrimination Law. *Disability Studies Quarterly*, 26 (No. 2).
- Department for Transport. (2012). *Transport for Everyone: an action plan to improve accessibility for all*. Crown.
- Di Bitetto, M., Chymis, A., & D'Anselmi, P. (2015). *Public Managements as Corporate Social Responsibility, The Economic Bottom Line of Government*. (S. Idowu, & R. Schmidpeter, Eds.) Switzerland: Springer International Publishing.
- God adgang. (n.d.). *Godadgang.dk/dk/a-maerket/kravliste.asp*. Retrieved 12 28, 2015 from [Godadgang.dk](http://www.godadgang.dk): <http://www.godadgang.dk/dk/a-maerket/kravliste.asp>
- Hagstofa Íslands. (2015, 10 12). *gamli.hagstofa.is/hagtolor/Mannfjoldi*. Retrieved 11 27, 2015 from Hagstofa Íslands: <http://gamli.hagstofa.is/Hagtolor/Mannfjoldi>
- Iceland Construction Authority (Mannvirkjastofnun). (2013, 05 31). *mannvirkjastofnun.is*. Retrieved 12 18, 2015 from www.mvs.is: www.mannvirkjastofnun.is/byggingar/leiðbeiningar/leidbeiningar-vid-byggingarreglugerd-112-2012/
- Leviäkangas, P. J., Nokkala, M. J., & Talvitie, A. P. (2015). *A slice or the whole cake? Network ownership, governance and public - private partnership in Finland*. Elsevier Ltd.
- Lid, I. M. (2013). *Universell utforming Verdigrunnlag, kunnskap og praksis*. Oslo, Norge: Cappelen Damm AS.
- Ministry for the Environment. (2012, 01 24). *Reglugerðarsafn/ Byggingarreglugerð 112/2012*. Retrieved 01 03, 2016 from [Reglugerd.is](http://www.reglugerd.is): <http://www.reglugerd.is/reglugerdir/allar/nr/112-2012>
- Ministry of Communication. (2004, 09 24). *Reglugerðasafn/822/2004 Reglugerð um gerð og búnað ökutækja*. Retrieved 12 18, 2015 from [Reglugerd.is](http://www.reglugerd.is): www.reglugerd.is/reglugerdir/allar/nr/822-2004
- Ministry of Welfare. (2010, 12 27). *Act on the Affairs of Disabled People, No. 59/1992, with amendment*. Retrieved 11 24, 2015 from eng.velferdarraduneyti.is: http://www.media/acrobat-enskar_sidur/Act_on_the_Affairs_of_People_with_Disabilities_no_59_1992_with_subsequent_amendments.pdf
- Nowegian Directorate for Children. (2013). *Trends in Universal Design*. The Delta Centre.
- Reynarsson, B. (2014). *Sumarferðir 2014*. Land-ráð sf.
- Starfshópur samgönguráðherra um endurskoðun á starfsemi landshlutasamtaka sveitarfélaganna. (2009). *stjornarrad.is/media/sl/Landshlutasamtok_hlutverk_juli2009.pdf*. (Samgönguráðuneytið) Retrieved 12 14, 2015 from [stjornarrad.is](http://www.stjornarrad.is): <http://www.stjornarrad.is>
- Statistics Iceland (Hagstofa Íslands). (2015). *Hverjir nota almenningsamgöngur?* Statistics Iceland. Reykjavík: Hagtíðindi 100.árg. 16. tbl. 2015:3.

Steinfeld, E., & Maisel, J. L. (2012). *Universal Design: Creating Inclusive Environments*. Hoboken, New Jersey: John Wiley & Sons, Inc.

The Delta Centre. (2013). *Trends in Universal Design*. (D. I. Lid, Ed.) Oslo, Norway: Norwegian Directorate for Children, Youth and Family Affairs.

The European Commission. (2011). *A renewed EU strategy 2011-14 for Corporate Social Responsibility*. Brussels: European Commission.

The Nordic group. (2012). *A Nordic Charter*. (E. Björk, & E. Winterberg, Eds.) Retrieved 11 24, 2015 from final_charter_englich_2012_05_30_a12_2: <http://www.arcada.fi>

Tryggingastofnun. (n.d.). *mælaborð/TR*. (Tryggingastofnun, Producer) Retrieved 11 27, 2015 from www.tr.is: <http://www.tr.is/maelabordid>

United Nations. (2006). *Convention on the rights of persons with disabilities*. (t. U. section, Producer, & Department of Public Information - Unitet Nations) Retrieved 01 03, 2016 from www.un.org: www.un.org/disabilities/convention/conventionfull.shtml

WHO. (2011). *World report on disability*. Geneva: World Health Organization.