Magisteruppsats

Master's Thesis – One Year

Kulturgeografi
Human Geography

Enhancing Rural Transport Accessibility in Jämtland Härjedalen

Stefan Elmroth
MID SWEDEN UNIVERSITY
Department of Social Sciences

**Examiner:** Daniel Laven, daniel.laven@miun.se
**Supervisor:** Dimitri Ioannides, dimitri.ioannides@miun.se
**Author:** Stefan Elmroth, stel0901@student.miun.se
**Degree program:** Master’s Program in Tourism, 60 credits
**Main field of study:** Human Geography
**Semester, year:** HT, 2014
ENHANCING RURAL TRANSPORT ACCESSIBILITY IN JÄMTLAND

HÄRJEDALEN

A Master’s Thesis

Presented to

Mid Sweden University

In Partial Fulfilment

Of the Requirements for the Degree

Master of Human Geography

By

Stefan Elmroth

June 2015
ENHANCING RURAL TRANSPORT ACCESSIBILITY IN JÄMTLAND

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ABSTRACT

Urbanization has taken its toll on rural regions around the world. Infrastructural deficits and a shift to more modern ways of living has caused depopulation and trends of decreasing development in rural regions. Can enhanced accessibility through sustainable transport infrastructure help with this situation? This thesis aims to find out which transport alternatives would be best for promoting more sustainable travel, in the case of Jämtland Härjedalen. To learn more about this, a series of in-depth, personal interviews have been conducted with authorities, professional tourism promoters and destination representatives in Jämtland Härjedalen. Findings are then compared to existing research on the subject of accessibility, transportation and sustainability in rural regions. The main objective is to find the most effective options for improving Jämtland Härjedalen’s sustainable transportation infrastructure. The research is qualitative in nature and is conducted through the eyes of a constructivist human geographer. In a large, sparsely populated region like Jämtland Härjedalen, the transport sector is by far responsible for the greatest share of greenhouse gas emissions. The participants of the interviews have suggested that the most fitting alternative is to increase collective travel to major destination hubs and then provide sustainable carpool or car rental services locally. Another unanimous suggestion is to manage physical planning in a way which favors more walkable communities. Further research could expand on the actual impacts of implementing enhanced infrastructure in rural regions.

KEYWORDS: Accessibility, transport, sustainability, rural, tourism, Jämtland, Härjedalen.
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June 2015

Approved:

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Ph. D. Dimitri Ioannides

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Ph. D. Daniel Laven
ACKNOWLEDGEMENTS

I would like to thank my advisor, Ph. D. Dimitri Ioannides, for his support during the writing of this thesis. Another thanks goes to Mats Forslund of Jämtland Härjedalen Turism, for his support and help with setting up valuable contacts for my interviews. A big thanks to all of the interview participants that gave me a bit of their time, in order to help with the collection of data. I am also grateful for the pleasant learning environment of ETOUR and Mid Sweden University.
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INTRODUCTION

Rural regions all over the world have seen drastic changes in the way the landscape is being used in recent decades (McAreavey & McDonagh 2010). Factors such as depopulation, agricultural restructuring, urbanization, degradation of the natural environment and infrastructural deficits have taken their toll on rural regions (McDonagh 2007). Traditional human and natural resources, which previously contributed to the economic base in rural areas have now become subject to different demands in the countryside (Daugstad 2008). The situation is no different in the region of Jämtland Härjedalen. For example, an increasing number of local businesses in the rural areas of Jämtland Härjedalen, as well as other rural areas around the world, have begun to look towards tourism as a reliable source of income, now that their previous activities such as farming and more production-oriented operations have been rendered obsolete in many cases (Hall 2005; McAreavey & McDonagh 2010).

According to Hall & Page (2014) there is a significant demand for access to rural environments and green areas in general. Not only is access to rural destinations required for many leisure activities, but it also contributes to a higher quality of life, while also leading to increased visits to the countryside. The latter is a factor which is of economic importance to rural regions, given their turn towards a stronger reliance on tourism (Hall & Page 2014).

With the increasing demand for sustainable services, not least in the tourism sector (Page 2005), it would make sense to have a more environmentally friendly way to collectively travel to these rural destinations. It seems to be a paradox that the only way to travel to nature-based, often winter oriented destinations or attractions, is by fossil fuel emitting cars or busses. Given that the bus is indeed a collective form of travel, it is of course better than travelling alone or with very few people in each vehicle. However, there are even more sustainable methods of travel to consider for these kinds of trips. Various stakeholders in the rural region of Jämtland Härjedalen have proposed an improvement of transport infrastructure in their area to help make the transition from traditional use of the landscape towards a more tourism oriented development. The main proposition is a railroad that connects all the significant destinations between Röros of Norway and Sveg of Sweden. A railroad would be an environmentally sustainable alternative to consider. However, a deeper analysis regarding the economic benefit of a railroad as opposed to other forms of travel is required, in order to find out if the railroad is a fitting alternative for enhancing the
accessibility of Jämtland Härjedalen. The idea is that a railroad would not only provide a practical and sustainable way of travelling, but also reduce traffic accidents, strengthen the rural areas financially, as well as increase accessibility in general (Levinson et al. 1996).

Problem Statement

Page (2005) stresses how important transport infrastructure is for the development of tourism, especially in rural areas. Thus, there is a need for improved accessibility in terms of transport to and within the destinations in Jämtland Härjedalen, in order to make these rural regions develop their tourism and general attractiveness. However, previous literature from the introduction chapter has demonstrated a series of obstacles that rural destinations need to overcome. This research paper aims to generate knowledge concerning the relationships of accessibility, transportation, sustainability and tourism in the case of Jämtland Härjedalen. Major objectives that are to be investigated are as follows:

- Given the obstacles mentioned during this introducing chapter, what are the most effective options for improving Jämtland Härjedalen’s sustainable transportation infrastructure?
  - Building a railroad?
  - Highways favouring electric cars?
  - Hub-and-spoke system consisting of collective travel in combination with more flexible sustainable local transport?
- How does one create an integrated sustainable transportation policy in regions such as Jämtland Härjedalen?
  - Transport to and from the destinations
  - Transport within the destinations

The first objective regarding the most sustainable transportation solution that would enhance accessibility for visitors to Jämtland Härjedalen, as well as integrating sustainable transportation policies in regions such as Jämtland Härjedalen, are the primary objectives for my research. It should be pointed out that there is no existing railroad between Sveg and Røros, which means that building a completely new rail is necessary if the railroad alternative is to be considered. In the next chapter, containing the literature review, I shall cover the most important aspects of accessibility, distance, transport, rural tourism and sustainability in relation to my research problem.
LITERATURE REVIEW

Accessibility

The first theme we need to understand is accessibility and the way it can influence a rural region such as Jämtland Härjedalen. According to Hall (2005) “the relative attractiveness of a destination is a function of the accessibility of the destination and the personal utility derived from the destination” (Hall 2005, pp 69). Accessibility can refer to many different aspects, but basically describes the ease of access of specific locations in space and place. It is important to recognize that the type of accessibility that will be mentioned in this thesis is structural accessibility. Structural accessibility means that I am referring to the availability and the quality of the transport infrastructure in the given area, as opposed to for example political accessibility, which is more of a social approach (Weaver and Lawton 2014). Availability of services is also a type of structural accessibility. However, I have chosen to focus on transport infrastructure in this particular case. Accessibility is also closely related to the movement minimization concept, or the concept of distance decay (Lee et al. 2012), not least when one considers the perceptions and costs in terms of traveling the distance between different locations (Forbes 1964; Weaver and Lawton 2014). The topic of distance will be more closely covered in the next theme of this literature review.

Accessibility is not to be confused with mobility. Farrington (2007) explains how there can be misconceptions regarding accessibility only being an attribute of place and mobility only deriving from personal features. Accessibility involves characteristics from both place and person. To quote Farrington (2007): “A place is not just ‘more’ or ‘less’ accessible, but accessible relative to people in all their different circumstances: people experience more, or less, access to places.” (Farrington 2007, pp 320). Farrington (2007) gives an example of how a person with good transport ability may be perceived to have low accessibility to significant facilities, if the person in question resides in a remote rural region with long distances to travel to the facilities needed. At the same time, a person with low transport ability (e.g. a person without a vehicle) may have great accessibility to his or her required services if this person resides in close proximity to said services (Farrington 2007). This approach to the concept of accessibility helps policymakers understand how personal characteristics such as wealth, health and age can influence the way people perceive the degree of access that they have to the services that they need. Although the personal perception of access is important, the spatial aspect of access is still also significant in regards to the place in question (Farrington 2007). Accessibility is technically a quality,
which requires a specific location to be part of a transport system (Hall 2005). In the case of Jämtland Härjedalen, one can wonder if the implementation of a railway system would increase the accessibility of these rural regions and, therefore, their quality and relative attractiveness. In the case of improving the transport accessibility infrastructure in Jämtland Härjedalen, it may be of interest to understand the key aspects of tourist travel behavior. This brings us to the next theme below.

**Distance**

Hall (2005), claims that distance is the basic factor when it comes to the understanding of travel behavior. The spatial distribution of travel is directly related to the distance that the tourist has to travel. In order to understand the mobility of tourists, we must also understand the concept of space and time. However, the psychology behind how tourists perceive the factor of distance is not only measured in terms of physical distance; it is also influenced by aspects, which do not possess metric properties of distance (Gatrell 1983). According to Chapman (1983) these intangible aspects of viewing distance consist of:

- **Time distance**, the time it takes to travel from one point to another. In the case of this study, it would be measured by the amount of time it takes to travel by car, bus, train, or even by air between destinations in Jämtland Härjedalen;
- **Economic distance**, the amount of money it costs to travel between certain destinations. Measures how much it costs to travel in Jämtland Härjedalen;
- **Cognitive distance**, peoples’ perception of how accessible a destination is, relative to all the aspects of distance. The accessibility of the destinations in Jämtland Härjedalen would be measured by how easy it is perceived by tourists to travel the distance to and within the destinations of Jämtland Härjedalen;
- **Social distance**, the accessibility of the destinations of Jämtland Härjedalen, in relation to different social groups. For example, it is more or less mandatory to drive a car if you want to have access to the rural areas of the Jämtland Härjedalen region. Not everyone has a car, depending on e.g. age and financial situation.

Intangible aspects of how tourists perceive distance are indeed important to understand (Hall 2005), but adequate transport systems are a requirement for tourists to be able to travel to any of the destinations that they are interested in visiting (Lamb & Davidson 1996). Thus, we also need to take into account our next theme regarding transportation.
Transport

First of all, I shall clearly illustrate what I mean by transport in the context of this thesis. The following quote by Prideaux (2000) defines tourism transport systems in a way which resembles the use of the word transport in the context of this case study:

“The tourism transport system is defined as the operation of, and interaction between, transport modes, ways and terminals that support tourism resorts in terms of passenger and freight flows into and out of destinations, the provision of transport services within the destination, and the provision of connecting transport modes in the tourism generating region” (Prideaux 2000, pp 56).

Transport systems have throughout history meant a great deal for the ability to travel between and within destinations (Kaul 1985). Starting with the first engineered road systems in the form of horse and cart trails, together with organized sea travel in ancient times, and then moving on to more technologically advanced ways of travel, such as the steam train of the industrial era, humanity has further developed its transport systems depending on modes such as cars, electric trains, turbo-prop planes and later even high speed rail, electric vehicles and jet airplanes (Prideaux 2000). All of these new transport technologies have enabled people to travel to many of the most remote places on the planet, faster and cheaper than ever. Transport systems such as the railroads of the 19th century had allowed for strong development and growth in the destinations connected to the railroad network at the time. The same thing happened in the 20th century because of the rising popularity of the private automobile. According to Prideaux (2000), the enhanced transport infrastructure has a strong connection to the development and growth of the tourism destinations of the 19th and 20th century. Kaiser and Helber (1978) suggest that it was because rail was the most appropriate form of transport in the 19th century, much like cars in the 20th century. They were simply the most economical and practical ways of traveling in their respective eras. One can wonder if the railroad would still be the most economical and practical way of traveling in the rural landscape of Jämtland Härjedalen, or if it is time for new forms of transport systems to really shine in this new century that we live in.

Projects such as the Green Highway (2015) have started to expand the infrastructure required for electric cars to be usable in more remote rural areas, rather than just the major urban areas that were previously the only place with proper infrastructure for electric cars. The Green Highway (2015) is a project dedicated to increase the electric car infrastructure in the mid regions of Sweden and Norway, originally running from Sundsvall to Trondheim. The Green Highway has since started to expand their electric car infrastructure in the form
of charging stations south, towards Härjedalen. The railroad vision of building a railroad from Sveg to Röros is starting to look outdated, as the signs begin to point towards electric cars being the new big transport solution of Jämtland Härjedalen. Just like the predecessors of the electric car (i.e. the railroad and the car) had previously been the most appropriate alternatives of their respective eras in past.

Page (2005), recognizes that the transport system is one of the most important factors when it comes to the development of international and rural tourism. A lot of the demand for travel at a global level is completely dominated by large urban areas and world cities (e.g. New York, Beijing, Tokyo), which are now starting to assume the title of mega cities (Page 2005). So what happens to rural regions like the ones of Jämtland Härjedalen?

“Transportation is one of the three fundamental components of tourism. The other two are the tourism product (or supply) and the tourism market (or demand). Without transportation, most forms of tourism could not exist. In some cases, the transportation experience is the tourism experience (e.g. cruises, scenic and heritage rail trips, and motor coach, automobiles and bicycle tours)” (Lamb and Davidson 1996, p. 264).

This quote by Lamb & Davidson (1996) clearly supports the understanding of the importance of an adequate transportation infrastructure. If tourism is becoming an essential source of development in the areas outside urban city centers (Page 2005), like the ones in Jämtland Härjedalen; then there needs to be adequate ways of providing these areas with visitors in a sustainable manner.

Page (2005) discusses how tourism transport is one of the global factors that contribute to the concept of climate change. There seems to be little doubt concerning tourism transport and the effects it can have not only on the global climate, but also on a local level (Root 2003). Most modes of transport in the tourism sector tend to have some sort of environmental imprint. This includes aspects such as noise pollution, health and safety issues, air pollution and ecological impacts. There is almost an acceptance associated with the environmental impacts that the transport sector brings (Page 2005). The demand for transport mobility is likely inevitable and it is vital that we see a development towards more sustainable alternatives than the current trend of fossil fuel driven vehicles (Carpenter 1994). Carpenter (1994) argues that the railroad would be a reasonable alternative to car transportation and transportation in general. While it does not get rid of all of the above mentioned effects like noise pollution, health and safety issues, influences on the ecology of the landscape it runs through, it seems to be one of the more sustainable ways of working around the issue of climate change (Carpenter 1994). Schwanen (2011) has proposed that we need to provide
tourists and the general population with a wider range of sustainable alternatives for transportation. Examples include walking, cycling, local public transport, high speed rail and electric cars. High speed rail and electric cars would be the most realistic for the rural regions (Schwanen 2011). Though the car is more or less mandatory in a low density landscape, which lacks collective transport infrastructure, since local public transport is hard to finance with a limited demand. Due to long distances in rural areas, it is not realistic to expect people to walk or even cycle to their destinations. Rail is a sustainable alternative, yet not very flexible in its nature. The rail can only pass through a specific route, which is inappropriate for a rural region with a dispersed population. That leaves us with cars as the most realistic form of transportation in rural areas as of today.

Having covered accessibility, distance and transportation, it is time to look at what all this means for the actual region I am focusing on. The authorities in the rural region of Jämtland Härjedalen claim that they are in need of an enhanced transport infrastructure (JarnvagRoros 2015; Persson 2013). In the next theme, I shall cover the existing literature on sustainability and why it is important to keep in mind for the enhancement of transport infrastructure in Jämtland Härjedalen.

**Sustainability**

The term Sustainable Development was made popular following the Brundtland Report (Our Common Future) in 1987 (Weaver and Lawton 2014). An early and broad definition from the Brundtland Report reads: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987, pp 43). However, sustainable development is a complex concept which is hard to define in detail. There is also no universal consensus among scientists as to what exactly sustainable development is (Manning et al 2011). While it is hard to agree upon a definition that holds true to every situation possible, it is also necessary to work with some sort of structure for what sustainable development is supposed to be (Hacking and Guthrie 2008). In 1994, an economist named John Elkington suggested that sustainability consists of three main categories, all of which need to be taken into account in order to achieve true sustainable development in all aspects. This was originally intended for business economy. However, it has found a place as a respectable theory in areas such as the development of transport and tourism as well. The theory is called the Triple Bottom Line.
There are many different models to illustrate the concept of sustainable development but I have chosen the overlapping circles presented by Adams (2006) below.

![Overlapping Circles of Sustainable Development](image)

**Figure 1: Overlapping Circles of Sustainable Development**

According to Kauppila et al. (2009), the concept of sustainable development is widely recognized as three basic categories of factors which need to be considered when planning and managing tourism sustainably: “The focal factors in sustainable tourism planning are a long-term viewpoint and comprehensiveness. The latter refers to three basic elements of sustainability – ecological, economic and socio-cultural – and how to take them into account in planning” (Kauppila et al. 2009, pp 425).

Hacking and Guthrie (2008) explain that the theory has had several extensions and proposed modifications, but the basic idea is the following: One part is the financial aspect, where there needs to be an economic balance, which is meant to assure future economic sustainability for continued activity. Another part is the actual environmental aspect, where the organization needs to consider everything from the planet’s climate change as a whole, to the local ecology and how the activities of the organization affects it. The last part consists of the social and cultural aspects which need to be taken into account for social sustainability to work. The idea is to develop society in a way which is not harmful for any of the cultures.
which operate in it. If any of these parts are compromised, there will not be sustainable development (Hacking and Guthrie 2008).

While the Triple Bottom Line and the concept of sustainable development has generally been well received in the entire environmental debate, the term sustainable development itself is actually an oxymoron (Weaver and Lawton 2014). This means that some critics have referred to the term ‘sustainable’ as a steady state of little change, while ‘development’ implies some sort of growth by definition. Therefore, it is viewed as mutually exclusive by some. Meaning, the critics claim, that the term ‘sustainable’, which implies something stable and consistent, does not fit well with the term ‘development’, which implies a form of expansion or growth.

**Sustainable Transport**

The importance of transport has been made apparent all throughout history. The following quote by Greene and Wegener puts into words how important transport infrastructure has been for the development of society:

> “Since the beginning of human history transport has been an engine of growth. Without transport there would have been no trade nor cities. The Roman Empire was built on efficient highways, the wealth of Venice on Mediterranean trade routes. Without high sea navigation, there would not have been a British Empire and America would have remained undiscovered. Without railways, the American West would not have been settled and Pittsburgh and Manchester would have remained country towns.” (Greene and Wegener 1997, pp. 177)

Greene and Wegener (1997) continue to describe how modern economies would not function without the possibilities opened up by the mobility of cars, lorries, high-speed trains and airplanes. Transport systems are said to have played a part in determining the location of economic clusters and cities, as well as the success of regions. Theories have been formed around the idea that transport systems may have great effect on the development of economies and societies (Khadaroo and Seetanah 2007).

However, more and more concerns regarding climate change are starting to emerge. Almost everyone recognizes that we have an over-reliance on fossil fuels for our transportation needs. This over-reliance on fossil fuels has forced us to think about ‘cleaner’ transportation methods in the future. Thus, it would make sense to focus on the choice between electric trains and electric cars when proposing potential transport infrastructure solutions for Jämtland Härjedalen. However, to be truly sustainable, this proposed transport
infrastructure solution needs to consider all aspects of the Triple Bottom Line (Adams 2006; Hacking & Guthrie 2008; Kauppila et al. 2009; Weaver and Lawton 2014).

Rural Regions and Tourism

Mountain and rural regions have throughout most of history been of importance for leisure activities (Towner 1996). However, with the personal mobility of individuals being much greater today than it was in the past for the general population, much because of a significant increase in car ownership, the use of mountain and rural areas has changed significantly. Tourism, as well as local businesses in general, are operating in different ways in present days, compared to past traditions in rural regions (Cloke 1993). Hall (2005) describes how these changes have resulted in the restructuring of rural regions: a loss of population in these areas has caused local businesses to realize the importance of tourism for the continued economic development in these areas. The lack of proper infrastructure interferes with the ability to achieve sustainable development in terms of social, economic and environmental aspects (Burch et al. 1999). To quote Hall (2005) regarding the increased importance of tourism in rural regions: “Changes to rural areas have been inextricably linked to developments in both global and local economies and tourism has emerged as one of the central means by which rural areas can ‘adjust’ to the new global environment” (Hall 2005, p. 228). Accordingly, Hall and Jenkins (1998) propose that a progressive increase of tourism flows towards selected (i.e. rural) regions could potentially:

- Stimulate an increased local employment and income rate;
- Strengthen the local economy in order to improve the general infrastructure. Not only basics, like water, roads and sewage, but also communications and thus accessibility;
- Improve quality of life and support locals with amenities such as sports, recreation, outdoor activities, culture and arts.

So the question that emerges is whether increased accessibility (e.g., through enhanced transport infrastructure) would single handedly make the rural tourism more attractive, and thus strengthening the regional economy of rural areas, or if there are other obstacles which prevent the tourism industry to grow in rural areas? Also, if there are certain areas which are harder to rejuvenate than others?
Jämtland, Härjedalen is located in the center region of Sweden. Thus, the region of Jämtland Härjedalen (and also the Västernorrland County) is often referred to as mid Sweden. The region shares similarities in the way that the landscape is being used. For example, the landscape was historically mostly used for agricultural activities and forestry, much like many other rural regions around the world (McAreavey & McDonagh 2010; McDonagh 2007; Daugstad 2008). However, in recent years, the region of Jämtland Härjedalen has chosen to focus on tourism (Jamtland 2015). The landscape is typically relatively mountainous with lots of forest and quite a few lakes. The climate normally accounts for snowy, cold winters, as well as reasonably high temperatures during the summer. This allows for a high diversity of nature-based activities during all four seasons, which is characteristic for the region. Most of the population resides in Östersund. The rest
of the population is scattered across the vast natural environments with low population densities. Jämtland Härjedalen are counties which possess a large part of their respective countries’ total area, yet have few inhabitants in relation to their countries’ total population. For example; even though Jämtland and Härjedalen covers 12% of Sweden’s total area, these two counties only have 1.4% of the total population of Sweden. An interesting comparison to make is; if Jämtland and Härjedalen were as densely populated as the Netherlands, this region would have a population of 23 million, as opposed to the 126000 people that live in Jämtland and Härjedalen today (Jamtland 2015).

Current Transport Infrastructure

The region of Jämtland Härjedalen can be accessed by car, bus, train or airplane. There are four major airports with good access to the region of Jämtland Härjedalen in Røros, Trondheim, Sveg and Östersund. There is a local train connection between Sundsvall and Trondheim. There are also regular train arrivals from major Swedish and Norwegian cities towards Trondheim and Östersund. There are important road connections for cars and busses between major Swedish and Norwegian cities. The region of Jämtland Härjedalen is part of a collaborative project called the Green Highway (2015), which is based on sustainable and renewable transport accessibility. The project involves a highway between Sundsvall and Trondheim with emphasis on electric car-friendly transport.

Figure 3: Current Transport Infrastructure (Jamtland 2015)
**Brief History**

Hedebanan was a Swedish railway project, which was constructed in 1924. It ran from the Swedish town of Sveg into Hede, further west in Härjedalen. Between the years 1934 and 1965, there were tourist trains coming from all over the country to the skiing destinations of west Härjedalen. A continuation of the Hedebanan, stretching to Funäsdalen near the Norwegian border was planned, but the project was later cancelled by the Swedish Minister of Communications, Olof Palme in 1966, as a result of an inquiry from the Swedish government. The Hedebanan project was built a while after the success of Tvärbanan between Sundsvall and Trondheim. Unfortunately, it is believed that the construction of Hedebanan took too long, and that the development of the other infrastructure expansions of nearby regions, had left Härjedalen behind (Länsstyrelsen Jämtlands län 2010). There was even a railway station built in Funäsdalen, but the railway was never finished. From an economic standpoint, the Hedebanan had never been truly successful from the beginning. Ever since the cancellation of the Hedebanan, there has been discussion on whether or not it was a correct decision to cancel the construction of the railroad running west through Härjedalen (TH 2013).

**A Political Proposition**

The Center Political Party, a Swedish political party, propose that an improvement of the local infrastructure is needed in the region of Jämtland Härjedalen. Like many rural regions around the world, the Swedish region of Jämtland Härjedalen lacks adequate infrastructure required for sustainable regional development. The argument proposed by Anders Häggkvist, Vice Chairman of the municipality of Härjedalen, is that a railroad would be a reasonable choice for enhancing transport infrastructure, in order to improve the growth of rural areas in Jämtland Härjedalen (Persson 2013). The proposal is generally well received by authorities and stakeholders, as well as the public if one accounts for postings on social media such as Twitter and Facebook (JarnvagRoros 2015). Today, 97% of visitors to Härjedalen arrive there with their personal cars (Persson 2013). Anders Häggkvist and his supporters suggest that there is a need for innovation and a new way of thinking when it comes to sustainable transport systems, and it appears to these observers that a railway would be a good alternative. One of the main arguments by the stakeholders of Härjedalen, is that a railroad between Røros and Sveg would presumably mean a stronger connection between Härjedalen and Trondheim. Trondheim is one of Europe’s fastest growing regions (Persson 2015; Trondelag 2015).
METHOD

Case Study

Data seems to generally have been accumulated through case studies and in an inductive manner within the field of rural development (Gao 2009). A case study is appropriate for my research, because the fields of accessibility, rural development and transport are highly subjective, depending on which region of the world you choose to do research on (Page 2005; Hall & Page 2014). Hall & Page 2014 continue to explain how economical and geographical factors influence various regions all over the world in different ways, depending on their individual economic situation and geographical location. Thus, it is important to research the region of Jämtland Härjedalen as a unique case. While this only brings yet another case to the existing theory on rural development through enhanced transport infrastructure, it will also allow researchers to look at similarities between cases. By no means is existing literature on accessibility, distance, transport, rural development and sustainability irrelevant, but perhaps also not universally applied to all rural regions in the world. Thus, I have chosen to use existing literature as secondary data with the ability to support and validate the primary data.

A Mixed-Method Approach

There has been much debate on whether qualitative or quantitative methods are the strongest for obtaining data in the field of tourism and social science in general (Jennings 2001). I have chosen to primarily use qualitative methods, since I would like to understand in-depth how and why the infrastructure and regional development of Jämtland Härjedalen looks the way it does today. This deeper understanding of the studied phenomenon is also the major advantage of undertaking a qualitative approach when undertaking research on a specific topic for the sake of clarification and in-depth understanding (Creswell 2009). Qualitative methods usually involve the collection of data in the natural environment of the studied subject, where the researcher has direct contact with the participants (Creswell 2009). I have chosen a mixed-method approach. During the first part of data collection, I conducted a series of in-depth interviews with important stakeholders regarding the transport infrastructure of Jämtland Härjedalen. Then I conducted an observational study, in order to help triangulate my findings, and thus improve the validity of my study.
Interviews and Non-Participant Observational Study

The primary data collection has relied on face-to-face interviews with representatives of the most important authorities and stakeholders involved with the region of Jämtland Härjedalen and its accessibility, in order to understand their perception of the situation. Examples of valuable authorities that I have chosen to interview are local municipalities and Trafikanalys (i.e. the Swedish traffic and infrastructure analysis unit). Examples of important stakeholders are the local destination representatives, as well as the tourist information centers of the region. The interview protocol used to conduct my interviews can be found in Appendix A, at the end of this thesis. There is of course a complete and detailed list of interview participants in Appendix B, also at the end of this thesis.

In addition to the interviews, I also did a non-participant observational study at the airport and the train station of Östersund, which is the most central town in Jämtland Härjedalen. This was to get an idea of how people generally chose to travel locally, once they arrive in Jämtland Härjedalen. Thus helping to answer the second research question of finding out how to improve accessibility within the destinations of Jämtland Härjedalen.

Reliability and Validity

The 9 interview participants, displayed in Appendix B, were chosen based on the consultancy of Mats Forslund, CEO of Jämtland Härjedalen Turism (JHT). JHT is the tourism promotion organization of Jämtland Härjedalen and Mats Forslund has a good understanding of the most important stakeholders in the region.

Before starting to conduct the main interviews, I first did a pilot interview with Marie of the tourism information center of Sveg. The purpose of the pilot interview was to see if my interview protocol was well structured, or if there were any changes to be made, in order to achieve the best possible data collection. The interviews consist of open-ended questions, in order to obtain a deep understanding regarding feelings, perceptions and opinions from the participants in the rural region of Jämtland Härjedalen. There were only a small number of interview questions, where the participants were free to talk about their view on the subject, whilst allowing me as the data collector to probe for additional information.

The interviews were conducted in Swedish, which means that I had to translate the results and interpretations to English for this thesis. This may raise questions of things being lost in translation, but I do not think that is the case. If anything, it is most likely better that the interviews were conducted in Swedish, so that the participants were given a chance to express themselves fully, in their mother tongue.
I tried to do all of the interviews in person, because that is the best way to conduct an interview in a proper manner. The perks of doing interviews in person are mainly the ability to interpret feelings and to be able to read body language, in relation to the topic that is being discussed. That makes it easier when figuring out appropriate follow-up questions and further dialogue. This is especially important when conducting in-depth, personal interviews with open-ended questions and probing. However, due to a relatively tight timeframe, it was not possible to arrange interviews in person with everyone that was far away from my location. Thus, I have conducted some of my interviews over the phone.

I was very careful to inform my interview participants about the option to disguise their identity in the final thesis, as well as telling them that the conversation was being recorded. Nevertheless, none of them chose anonymity. Some of the interview participants have requested that I show them what I have written about within their response. That is of course exactly what I will do before publishing my work.

Being a resident of Östersund and having lived here for most of my life, I personally feel like I may have some potential bias towards the region of Jämtland Härjedalen. By no means do I intentionally favor any sides to the arguments about accessibility and transport infrastructure in Jämtland Härjedalen. However, there may be some deeply rooted affections to my birthplace.

**Grounded Theory**

As a human geographer of the constructivist epistemology, I have chosen to use grounded theory for my research. Meaning that I base the interpretation of the data on what was found out from the interviews, rather than a pre-existing framework which would be tested. An inductive approach was chosen, due to the importance of finding out the in-depth perceptions of my interview participants (Strauss and Corbin 1990).

All of the interviews were recorded. When all of the interviews were done and I found that I did not get any new findings, the most important results from each of the interviews were written down. The data was then grouped together and analyzed based on the relevance to the research problem. Finally, the findings were categorized into the themes displayed in the analysis chapter, which is the next part of this thesis. Thus, the results from the research are a product of the findings that emerged from my in-depth interviews. The open-ended interview questions displayed in Appendix A, together with additional probing during the interviews, has allowed for the interview participants to fully express their perception of the transport related accessibility of Jämtland Härjedalen. Hence, the presentation of the results
and the analysis of the categories displayed in the next chapter are based on the data presented by my interview participants, and not on anything which was previously constructed as a framework prior to the interviews.

**Ethical Considerations**

As for the pilot interview, which I first undertook, I was very well received by the interviewee. It did not feel like I was intruding in any way. Rather, the participant seemed pleased with the fact that I am investigating the questions and issues of accessibility in the region. The same holds true for the actual interviews when collecting the qualitative data for this thesis. When I was conducting the non-participant observational studies, I did not have any personal communications with the participants of the study. There is always the moral dilemma of observing people without their knowledge, but they could not possibly be harmed by my simple observations of non-private data. However, I did speak to some of the taxi drivers at both the airport and the train station when there were no visitors arriving yet. The question is if the information that I got from the taxi drivers contains any bias towards the taxi business, or if that information can be used for generalizations even though it came from the taxi drivers.
ANALYSIS

The Importance of Accessibility

All of the participants from my interviews agree that accessibility through transport infrastructure is important for the development of tourism, and thus the general development of rural Jämtland Härjedalen. Jonas of destination Funäsfjällen expresses this importance like he stated during our interview:

“Accessibility is one of the most important keys to success here. It is one of the most important and deciding factors for developing the tourism destination. Accessibility in the form of transport and infrastructure is absolutely vital to running the activities which develop the region, since almost all of the base financial activities here are tourism related.” – Jonas

Jonas and the other respondents from rural areas describe how tourism is the lifeblood of rural Jämtland Härjedalen, with the exception of small portions of traditional industries, such as for example forestry and mechanical services. This also ties back to what has been said during the literature review, about the current rural development and urbanization leading toward a strong reliance on tourism instead of traditional activities (Hall 2005; McDonagh 2007; Daugstad 2008; McAreeavey and McDonagh 2010).

The population of Jämtland Härjedalen is sparse. The region covers 12.5% of Sweden, yet only 1.5% of the total population lives there (JHT 2012). This is coupled with the fact that the region of Jämtland Härjedalen (particularly the major skiing destinations) see a drastic increase in traffic during peak season, meaning that the transport infrastructure will be put under a lot of stress. For example: every weekend during the peak winter season, large amounts of visitors, equal to the population of a small town, moves in and out of the tourist accommodation available at the skiing destination in Vemdalen alone (JHT 2012). Not surprisingly, this causes the local destination organizations and other relevant stakeholders to cry out for better maintenance of current infrastructure, together with potential expansion of the existing infrastructure. Unfortunately, the issue of seasonality proves complicated when determining the degree of financial support from authorities for conducting such efforts (i.e. building new infrastructure as well as maintaining the old one). Among the interview participants, Thony, Chief of Trade and Industry in Härjedalen Municipality, as well as JHT (2012), raise an interesting point in regards to financing the investments required for enhancing or constructing new transport infrastructure:
The model by Trafikverket for determining how much money should be spent on the long term infrastructure investments in each region of Sweden, is determined mainly by population density. Jämtland Härjedalen is a largely rural region with lots of space and few inhabitants. During peak seasons, there is a much greater need for proper infrastructure than what is accounted for in this model (the amount of inhabitants per area). Thus leaving Jämtland Härjedalen with a rather small amount of investment for making adequate improvements to cater for the large amounts of people travelling in Jämtland Härjedalen during peak seasons.” – Thony

Another issue with seasonality seems to be the willingness to set up transportation in a region, which only really thrives during the winter months. What will for example a bus company do during the summer months, when there aren’t enough tourists to finance their company and keep them afloat? Jonas of Funäsfjällen puts it this way:

“Another issue is the aspect of seasonal tourism. The rural areas of Jämtland Härjedalen are often largely dependent on their winter tourism. There are difficulties presented by the fact that the transport infrastructure is only used during the winter. What would a transport company do during the off-season, if they can’t finance their company due to low volumes of visitors during these off seasons?” – Jonas

It is understandable that transport entrepreneurs would be skeptical about investing their capital into something so unforgiving. Jonas further discusses the difficulties presented by seasonality in an area with lacking transport opportunities and concludes that:

“The main issue seems to be the volumes of visitors choosing to travel to Funäsfjällen and other rural areas of Jämtland Härjedalen. A low volume of tourists during the off-season months impacts the way that the investments are distributed across the region.” – Jonas

Different Conditions in Terms of Available Infrastructure

The difference between those who were lucky enough to have railroads constructed in their area in the past, compared to those who did not, was also made apparent during the interviews. A good example is when Ewa of Destination Åre puts it like this:

“We have the base for transport infrastructure available to us. I.e. we have the roads, the railroads and the airports in relative proximity. We just aren’t completely using them to their full potential.” – Ewa

While Ewa states that they do have the necessary transport infrastructure base for improving accessibility at the destination of Åre, Jonas of Funäsfjällen puts it like this:
“While destinations such as Åre complain that the trains aren’t always in time, we would be very happy to actually have a railroad at all. This statement is often used jokingly, although there is a serious undertone associated with it.” – Jonas

After seeing the success of the railroad from Sundsvall to Trondheim, and being denied the construction of the Hedebanan project, it is understandable that there may be some envy coming from the destinations of Härjedalen. This is especially since there is a focus on sustainability and increasing collective travel to, and within the region of Jämtland Härjedalen nowadays (JHT 2012). The political proposition about starting a project for building a railroad from Sveg to Røros is very well received by local stakeholders of Härjedalen, since it would likely mean a great increase in accessibility and thus revenues for them. However, after talking to experts in the area of constructing new railroads, it seems that it would not be such a good idea. Maria, destination manager of Vemdalen, who has earlier been the CFO of Statens järnvägar (i.e. the Swedish railway authority) puts it like this:

“For the eyes of a local Vemdalen resident, it seems like a great idea. However, from the eyes of the tax-paying citizen Maria, it seems rather flawed. We will simply never earn back the investment for building such a substantial railroad at this moment in time. It is simply not realistic from an economic point of view. The cost difference between building regular roads and a railroad isn’t even comparable. The investments required are gigantic for building new railroads, let alone high speed rail.” – Maria

Hence, at this moment, the idea of building a railroad between Sveg and Røros is at best seen as a vision, or even utopia. Nevertheless, Jonas, Mats and Thony believe that having the vision of building a new railroad between Sveg and Røros, while approaching it with creative eyes, could lead to something great. New, innovative alternatives for successful transport accessibility could emerge, but not necessarily literally as a railroad. Jonas, Mats and Thony genuinely believe that the idea is worth investigating.

The existing railway system between Sundsvall and Storlien (i.e. Mittbanan) is fortunate for that part of the region to have, at least for those destinations that are connected to it. Another alternative is the Inlandsbanan, which runs north to south through Jämtland Härjedalen. Inlandsbanan is, however, not adapted for the use of electric driven trains, and is thus not as environmentally friendly as desired. These railway systems are part of the resources that function as a decent base when thinking about enhancing the transport accessibility of Jämtland Härjedalen, as stated by Ewa of Destination Åre. If adjustments toward high speed rail, or even just electric driven trains are to be made, it will be very expensive. Jan states during an interview:
“Great investments have to be made, if the railway system is to be improved and upgraded for high speed rail in the region. For example the Mittbanan between Sundsvall and Storlien is in need of such improvements. Inlandsbanan is running on rather old technology, and would also have to be upgraded significantly. The investments required would be substantial. Perhaps not even realistic.” – Jan

The desperate need of maintenance of the railroad is also causing some problems with the time schedule for trains, not least in Åre. Ewa believes that this delay nuisance could be influencing the decision of potential visitors, some of whom may choose to either use their car, or to choose a different destination altogether. Ewa stated the following when we were talking about the time schedule issues and the potential impacts of it:

“The infrastructure can always get better. However, the most obvious flaws are the train tracks and regular road maintenance, which is causing delays and safety issues. Another issue is the lack of regular transport from the airports in Östersund and Trondheim. There are transfer busses available for booking travel between Östersund airport and Åre, but only if current demand suggests so. One can wonder if there would be more visitors coming to Åre if more convenient and relatively inexpensive travel would be available. It’s a question of the chicken or the egg, really.” – Ewa

The point Ewa made about this situation being a question of the chicken or the egg is interesting. Would there be an increase in demand for flights to the airports and ultimately the destinations, if there were cheaper and more convenient transfer alternatives between the airports and the local destinations? The same goes for major train hubs.

The Role of Accessibility in Rural Regions

“Accessibility and transport is one of three very important pillars when it comes to attracting tourists and visitors to Åre. It is hard to measure exactly how much it weighs in importance, relative to the other two, namely the tourism product and the sales channels used for marketing it. Weakening or strengthening any of these three pillars would definitely have a significant impact on the development of Åre as a tourist destination.” – Ewa

This quote by Ewa of Destination Åre has strong similarities with what Lamb and Davidson has said about tourism in general: “Transportation is one of the three fundamental components of tourism. The other two are the tourism product (or supply) and the tourism market (or demand). Without transportation, most forms of tourism could not exist.” (Lamb and Davidson 1996, p. 264)

However, as Ewa pointed out, it is hard to evaluate exactly how much of the visitor flow is influenced by the transport infrastructure, in relation to other factors. Nevertheless, adequate transport infrastructure is still mandatory for the development of rural regions, as
was agreed upon by all participants, together with support from the theoretical framework (Lamb and Davidson 1996; Hall 2005; McDonagh 2007; Daugstad 2008; McAreavey and McDonagh 2010).

The Issue of Sustainability

Sustainability is being talked about and approached from seemingly different angles amongst the participants of my interviews. As we all may know by now, sustainability is commonly seen as the balance between economic, environmental and sociocultural factors, according to the Triple Bottom Line (Hacking and Guthrie 2008; Kauppila et al. 2009). Some of the participants from my interviews would express their views on sustainability in the case of their organization in a way similar to what Jonas of Funäsdalen told me during our interview:

“Funäsdalen is a destination which very much aspires and desires to become a destination which is friendly towards the development of more sustainable transportation alternatives.” – Jonas

While part of the participants of this study express that sustainability is one of their primary goals with their organization, others have expressed themselves similar to what Maria of Vemdalen had to say on the matter of sustainability:

“Unfortunately, I believe that decisions are made without environmental sustainability in mind. This is because the demand is the deciding factor. Demand, in turn, is decided by the amount of time, money and effort required to make the choice between environmentally friendly and the alternatives.”
– Maria

Maria’s response would seem to be on the other end of the spectrum, in relation to Jonas’ response. However, looking at her wording, it would seem that Maria would actually have liked for the environmental factors to be part of the decision-making process, although she seems to recognize that the economic factor is receiving more credit in reality. In essence, all of the participants were either agreeing with Jonas’ or Maria’s statements, at a fairly equal distribution. Ewa of Destination Åre also wanted to highlight how important sustainability is for destinations that rely on natural environments as their tourism product:

“Sustainability is an important question. Not only because of the earth’s climate as a whole, but also because of the nature of the tourism product in Åre. The product consists of activities operated in natural environments, not least with a demand for snow. If these natural settings were to get affected in bad ways, it would mean a direct, negative impact on the development of Åre as a destination.” – Ewa
Jämtland Härjedalen Turism (JHT), which is the professional platform for developing regional and international tourism in Jämtland Härjedalen, has proposed that there is a clear need for more sustainable alternatives to travel within the region of Jämtland Härjedalen (JHT 2012). JHT also suggests that we need to see an increase in collective forms of travel within the region of Jämtland Härjedalen. However, given the response from the interviews, not least from the destination representatives in areas without a railroad, it seems like a tall order. In addition to the difficulties with financing collective forms of travel in rural regions, there are some other issues with collective travel when it comes to travelling to destinations with a focus on skiing and outdoor activities. Johanna of Lofsdalen brings up some interesting points that are also shared by Ewa, Jonas, Maria and Marie:

“The issue with travelling collectively is also practical. If you, for instance, would like to travel to the mountains and ski with your family, which most of the visitors to Lofsdalen do, it would be a great hassle. Especially if you have to switch transport vehicles often. Imagine having to bring all of your equipment and your luggage, while keeping your family together. All of this with limited amounts of space on the bus or the train” – Johanna

Johanna continues to explain something interesting, which coincides with what has been said about distance in the literature review (Chapman 1983; Gatrell 1983; Lamb and Davidson 1996; Hall 2005). This type of suggestion reappeared one way or the other during almost every interview:

“It is necessary to achieve environmentally friendly alternatives of transport that also considers the aspects of time, money and practicality. Travelers have been known to choose the most convenient alternative, considering the cost, the ease of access and the amount of time it would take to travel.” – Johanna

The local destination representatives feel like they don’t have much power to impact the way that people choose to travel to and from their destinations, let alone the region of Jämtland Härjedalen as a whole. What they have more influence on, however, is how people choose to travel within their destination. Maria of Vemdalen says that they are trying to undertake measures for tourists to be able to stay in one place during their stay in Vemdalen. Keeping travel at a minimum within the destination is also a form of sustainable mindset.

“Traveling within the destination depends largely on the season. If you’re here during the winter, you’re likely to ski in Vemdalen, live in Vemdalen, eat in Vemdalen and generally just reside in Vemdalen for your stay. Thus, you will not have to travel long distances. Hence, you do not need your car to travel everywhere within the destination. During the summer, however, you do often want to travel great distances between the different rural attractions, such as cycling, fishing, climbing and looking at wildlife.” – Maria
Judging from all of the responses by the participants of my interviews, regarding the issues of the current transport infrastructure, it seems like there is some room for improvements to the accessibility of Jämtland Härjedalen, as of today. The next topic will bring up some of the potential enhancements for the future, according to my participants.

Transport and Accessibility in Jämtland Härjedalen

It is clear that the interviews with destination representatives, authorities, as well as the organizations of development in Jämtland Härjedalen all suggest that some kind of changes are due for improving accessibility in the region. However, not everyone agrees upon the same types of solutions for the future of accessibility in Jämtland Härjedalen. When asked about the possibility of increasing the accessibility and availability of electric cars, most of the participants of my interviews replied with something similar to what Marie of Sveg had to say about electric cars:

“I honestly know too little about it, but I am skeptical.” – Marie

This response is understandable, especially in rural Härjedalen. The required infrastructure for electric cars has not quite reached rural Härjedalen yet and they have not gotten a chance to see them in action. Maria of Vemdalen specifically puts into words why she is skeptical about electric cars in Härjedalen as of today:

“Electric cars today don’t have enough range for the rural areas of Härjedalen. I think that the electric car development is going too slow for Sweden. I believe that the skepticism against electric car technology among people in rural environments is too strong. They do not trust a 100% electric driven car will run the long stretches between villages in rural Härjedalen. Let alone if the electric car will even start during the ice cold winters of Northern Sweden. The amount of people who actually drive electric cars are also too few to make major investments in the technology and infrastructure for them at this time.” – Maria

Maria and Marie are not the only ones of the interview participants feeling skeptical about the use of electric cars in rural Jämtland Härjedalen. For instance, Ewa of Destination Åre pointed out another difficulty with electric cars in the region:

“The Green Highway and the concept of electric cars seems great, but I’m afraid that the technology and most importantly the range of the electric car doesn’t hold up to the demands and the amount of travel required to access our destination. Keep in mind that the biggest part of our tourism market comes from the Stockholm region. That is about 700 kilometers from Åre, coupled with a lacking electric car adapted infrastructure on the way between Åre and Stockholm. It’s just not realistic to expect our main visitors to use their electric cars when travelling to our destination.” – Ewa
Judging by the rather skeptical answers to the question of using an electric car when travelling to Jämtland Härjedalen, it would seem that the idea of using electric cars as the main form of travel, at this point in time, is not the solution to the issue of sustainable transport in Jämtland Härjedalen. There are simply too many obstacles as of now. Jonas of Funäsfjällen explains how he would like the transport infrastructure to be:

“In the best of worlds, we would of course like a railroad connection, a more developed airport and a well maintained road system with electric chargers. If you, for example, would like to arrange a larger event or perhaps a conference, it is mandatory to have adequate infrastructure, and to be in relative proximity to major travelling hubs. It is currently very likely that visitors and managers would choose to go to for example Åre instead of Funäsfjällen with their events and conferences. This is also true for arrangements such as sports events.”

– Jonas

Jonas realizes that this is only a dream scenario, but this is what would be best for the development of rural Häjedalen. What Jonas is also trying to say, is that geography clearly matters a lot when it comes to questions of accessibility. According to JHT (2012), 93% of the visitors to Funäsfjällen travel by car, which is understandable, given that they do not have many other alternatives as of today. A little probing during the interviews led us to the idea of electric car rental services at the local destinations in rural Jämtland Härjedalen. The participants found the idea of an electric car rental service interesting. It could also be combined with the use of collective travel to the major hubs of the region, which would fit into the sustainable travel strategy of JHT (2012). Jonas of Funäsfjällen told me what he and the rest of Funäsfjällen are working on toward sustainable travel:

“We are currently working on the option of travelling collectively to our destination. We would also like to offer a car pool system with environmentally friendly transport.” – Jonas

Then again, there is still the issue of financing the idea of having an environmentally friendly car rental service, or a car pool system. Nevertheless, even if something seems hard to achieve today, that does not mean it cannot be achieved in the future. Hence, I asked the interview participants about what mode of transport they would most like to see in the future.

**Recommended Transport Infrastructure in Jämtland Härjedalen**

The question about preferred transport infrastructure involves not only travel to the region of Jämtland Härjedalen as a whole, but also the question about travelling locally within the destination. This first part of recommended transport infrastructure in Jämtland Härjedalen will be about enhancing accessibility on a regional, national and international
level. The participants of my interviews have proposed different types of solutions for enhancing accessibility in Jämtland Härjedalen. Some of them would like to see further efforts in developing the existing airports in Jämtland Härjedalen, like Marie of Sveg:

“If the airport is an option, and if you do not only consider environmentally friendly alternatives, I would very much like to see an increase in air traffic through Sveg airport. That would provide a convenient way of travelling to Härjedalen, while making it easier to attract international tourists. Also for the airport to be expanded, if need be.” – Marie

Jonas of Funäsfjällen would like to see a stronger development towards more environmentally friendly ways of travelling to Jämtland Härjedalen. During the interview, he states that:

“The initiative to investigate the option of building a railroad between Sveg and Röros should definitely be acted upon. Even if the railway wouldn’t be the definitive answer to enhancing transport infrastructure in Jämtland Härjedalen, an investigation could potentially lead to other creative solutions, such as for example electric car friendly roads. Oil is a finite resource, which means that we can’t rely on regular fossil fueled vehicle roads in the future.” – Jonas

Ewa of Destination Åre is more interested in seeing an improvement of the existing railroad system, which according to her could get a lot better:

“The most appropriate mode of transport to focus efforts on for the future is, for me, the train. As of today, the train has several flaws which need addressing for the trains to function at a reasonable standard. For example, travelling collectively either by bus or train in general, brings issues of practicality concerning luggage and holding together a group (e.g. a family). Thus, we need solutions to the space issues. Another flaw is the poor maintenance of the train tracks, causing frequent delays in the time schedule. Last, but not least, is the issue of time and money. Travelling by train takes much longer than e.g. a plane, yet the costs are still comparable. This provides motives for the traveler to choose the option which is most practical to him/her, for the amount of effort and money spent. Solving these issues would put the train in a much greater spot, providing a sustainable way of travelling.” – Ewa

Others, like Märit, were more inclined to see efforts in developing and adjusting toward the use of alternative form of fuels for driving vehicles on the existing road network:
“I would like to see more use of bio fuel powered vehicles. I have a bio gas car myself and it works very well. Jämtland Härjedalen is a geographically large region, with very few people in relation to its size. The amount of land that we have available for growing the vegetation needed for large scale bio fuel consumption is there. We also have quite a bit of recycled compost material that we can use for making bio fuel. The process of using bio fuel on a large scale would function as a smart way of recycling resources. There would not be a need for constructing new transport infrastructure either, since we would be able to use the existing roads for transportation with the use of bio gas powered vehicles.” – Märit

Finally, there were those who believed that it isn’t realistic to focus on a single form of transportation in Jämtland Härjedalen:

“I do not have a personal favorite when it comes to modes of transport. It isn’t possible to reason in those lines, since all modes of transport that we currently have access to, are all very important. With all of our transport modes, such as trains, airplanes, cars and electric cars, we do actually have a good base to stand on. Although the roads are definitely top priority at the moment, based on current demand.” – Thony

Local Transport Accessibility

In addition to the interviews, I also did an observational study at the airport and the train station of Östersund, which is the most central town in Jämtland Härjedalen. This was to get an idea of how people generally chose to travel locally, once they arrive in Jämtland Härjedalen. The results of my observations were as follows:

- During weekends, a larger share of those who arrive by train or flight are picked up by friends and relatives in a car, as opposed to weekdays.
- During very early hours or very late hours, people tend to take a taxi to a higher extent than during the day.
- Approximately 10-15 people walk towards or from the city center every time a train arrives in Östersund train station. The airport is too far away for walking in to the city center of Östersund.
- Approximately a third of all visitors who arrive at the airport take a taxi from there. Significantly fewer people take a taxi from the train station, compared to the airport.
- Many of the tourists who are going to the mountains (e.g. Åre) are inclined to take an airport taxi transfer.
When I asked my interview participants about their views on travelling locally at their destinations, the answers were more unanimous than what was uncovered during the questions of large scale transportation. Johanna of Lofsdalen sums up one of the major points that almost all of them made:

“We would like for tourists and visitors to be able to travel around within our destination without having to use their personal vehicle. The aim is to be able to cater to all of their needs in relatively close proximity, so that they do not have to use their car.” – Johanna

Another proposal came from Marie of Sveg, who would like to increase local collective travel opportunities by bus:

“I would like to see more busses locally in Härjedalen. The question is if an increase in bus traffic would increase the amount of collective travel, or if it would not be cost efficient to have more bus travel opportunities. One must not forget the locals when thinking about enhancement of the transport infrastructure in Härjedalen. There are many elderly, for example, who do not have many options to get around. The mean age of the population in Härjedalen is getting higher and higher, as more of the young population migrates to larger cities. These people can’t rely on driving a car, since they often times aren’t allowed to drive anymore. The only other option is the rather expensive taxi alternative.” – Marie

A different angle on busses, from a managerial perspective, came from Maria of Vemdalen. She told me that there are busses running locally in the destination of Vemdalen, but there are obvious financial issues with keeping busses running, even during peak season:

“There is a bus connection travelling around for tourists in Vemdalen. This bus currently sets the company back 1.5 million Swedish Kronor annually, and is only available because it provides a comfortable way of travelling within the destination.” – Maria

This is a setback that Maria is ready to take, in order to increase the satisfaction of her tourists. The convenience of the bus will supposedly help keep customers coming back to Vemdalen. However, it is also a clear example of the financial difficulties with having local busses in the countryside. The same issue arises when talking about the alternative of having electric and/or bio fuel car rental services locally at the destinations.
DISCUSSION

The State of Transport Infrastructure and Accessibility in Jämtland Härjedalen

It has been stated by the participants of my in-depth interviews that accessibility is one of the most important aspects when developing a tourism destination in Jämtland Härjedalen. The results of the interviews have also shown that tourism is the lifeblood of the rural regions in Jämtland Härjedalen, which further speaks for the importance of adequate transport infrastructure. The tourists need the rural areas to be accessible, in order to travel there. The question is how much of an impact the transport infrastructure and the accessibility has on the development if rural Jämtland Härjedalen, in relation to the tourism product and the market demand. The problem does not appear to be that there is an immediate lack of visitors to all rural areas of Jämtland Härjedalen, but more so the fact that the existing transport infrastructure is poorly maintained, together with a lack of options for sustainable travelling alternatives in the region. However, there are still issues of attracting more visitors in the most remote areas.

In some parts of Jämtland Härjedalen (e.g. Vemdalen and Åre), the pressure on current transport infrastructure is too high during peak seasons. Both the roads and the railroads are in need of better maintenance. The method of determining the long term distribution of financial support for transport infrastructure from authorities seems to favour the more populated regions of Sweden. Since Jämtland Härjedalen is so sparsely populated, they are offered a relatively low degree of financial support for maintaining and constructing transport infrastructure, based on the low amount of permanent residents of the region. This is suboptimal for the development of the vital transport infrastructure, especially during peak tourist seasons. Since the region is so sparsely populated, spread out over a relatively large area, the residents and travellers are completely dependent on their personal vehicle. In fact, the county of Jämtland Härjedalen has the longest mean driving length per trip and per person every year, compared to any other county in Sweden (Länsstyrelsen Jämtlands län 2014).

The Aspect of Sustainability

The pie chart in Figure 4 below clearly illustrates that the majority of all greenhouse gas emissions in Jämtland Härjedalen comes from transportation. The act of changing the reliance on fossil fuel energy sources and starting to use renewable energy sources is one of
the greatest challenges in the environmental strategy of Jämtland Härjedalen, according to Jämtlands Länsstyrelse (2014), as well as the participants of my interviews. Jämtland Härjedalen Turism (2012) and Länsstyrelsen Jämtlands län (2014) have agreed that there is a need for better physical planning, a need for an increase in collective travel, better infrastructure for walking and cycling, as well as better opportunities to work from home.

**Figure 4: Share of Green House Gas Emissions** (Länsstyrelsen Jämtlands län 2014)

These propositions would indeed reduce the reliance on using a personal transport vehicle, but there are still many places in the rural areas of Jämtland Härjedalen, where it is just not realistic to travel without a car. Länsstyrelsen Jämtlands län (2014) have proposed that, since there is still a strong reliance on personal vehicles in rural areas, it is important to focus on finding new sources of energy to fuel the vehicles, which are still needed for travel in Jämtland Härjedalen. Electric cars and bio fuel are the most popular alternatives to consider as of today.

The use of electric cars was, however, greeted with skepticism by the participants of my interviews. The use of bio fuel for cars in Jämtland Härjedalen was only recommended by one of the participants. The Green Highway project is working on constructing a corridor of electric car friendly transport infrastructure between Sundsvall and Trondheim (Green Highway 2015). However, that corridor only covers one of the roads that pass through Jämtland Härjedalen (i.e. the E14). Nevertheless, it is the ambition of the Green Highway project to also expand the electric car friendly infrastructure beyond the E14. Just recently,
charging stations have been added in Funäsdalen as well. Hopefully that type of development will continue to make the rural areas of Jämtland Härjedalen more accessible via the use of electric cars.

The Obstacles of Sustainable Travel

The proposal of building a completely new railroad between Sveg and Röros would definitely provide opportunities to travel collectively and in an environmentally sustainable manner through Härjedalen. However, much like most other projects to construct brand new transport infrastructure, issues with financing arise. This is even more so the case than when constructing new roads. In fact, building a railroad costs about six times more than building a regular road, if you factor in maintenance (Betong 2015). Thus, it is not financially sustainable to construct a new railroad between Sveg and Röros at this moment. The same issue arose when presenting the idea of using bio fuel powered vehicles to a greater extent. The infrastructure required to make it work is expensive and it requires great efforts of adaptation to convert from fossil fuels to bio fuels. The resources are there (i.e. vast amounts of land to grow the vegetation used to make gas, together with the potential recycling of biological waste), but a complete conversion of power and fuel use does not happen overnight. Nevertheless, investments toward a more sustainable way of travelling have to be made. Not only to meet the goals of the environmental strategy of Länsstyrelsen Jämtlands län and Jämtland Härjedalen Turism, but also to keep attracting tourists to rural Jämtland Härjedalen in the future. The question is; who would be willing to invest in something which does not promise good business? Also, how do we travel sustainably if no one is willing to provide the opportunities to do so? It is a complicated scenario.
CONCLUSION

A Need for Enhanced Transport Accessibility

The results of my primary data, together with the support of the literature review on themes like accessibility, distance, transport, rural tourism and sustainability has provided an understanding of the importance of accessibility in rural regions. The region of Jämtland Härjedalen is one of those rural regions that rely heavily on the tourism industry to survive. It has been stated that tourism is the lifeblood of rural Jämtland Härjedalen and that the aspect of accessibility, together with the tourism product and the demand, is one of the three essential factors that are required to make tourism possible.

The accessibility of rural Jämtland Härjedalen is currently under critique, because the lacking transport infrastructure has a considerable impact on the capacity of the tourism industry in Jämtland Härjedalen. Increasing concerns are rising among the destination representatives in the region. The stakeholders of the tourism destinations are asking for enhanced transport infrastructure, mainly for the sake of attracting tourists, and thus keeping the development of Jämtland Härjedalen alive. In order to generate suggestions and to find out what the most appropriate way of enhancing the transport infrastructure of Jämtland Härjedalen would be, I have asked for the opinions of national and regional authorities, professional tourism promoters and destination representatives relating to their perception of the situation. It is my intention to present the results of my findings as an answer to the main research objectives of this thesis.

The Most Sustainable Transportation Solution

A report from Länsstyrelsen Jämtlands län (2014) shows that by far the greatest share of greenhouse gas emissions in the region of Jämtland Härjedalen comes from the transport sector. Thus, there is a clear need to find an alternative to the fossil driven vehicles that are used in Jämtland Härjedalen today. The results from the participants of my in-depth interviews show that the majority of the answers favor the idea of an increase in collective travel, together with a local car pool and/or car rental service with environmentally friendly vehicles. However, the general opinion also says that there is a need for many different forms of travel, and that one single concept cannot realistically replace all of them. The concept of building a new railroad from Sveg to Röros, as well as to upgrade and maintain the existing railroads up to environmental standards, was proposed by a couple of the interview
The idea of using a railroad as the main form of collective travel is good, from a purely environmental perspective. However, it is not sustainable in the word’s true meaning. The financial issues that arise are too great to justify the construction of such substantial projects at this time.

Transportation Alternatives

![Diagram of transportation alternatives](image)

Figure 5: Multimodal Hub and Spoke System

The most agreed upon environmentally friendly alternative of transportation was indeed the idea of having a multimodal hub and spoke system of sustainable travel, as presented in Figure 5 above. The model in Figure 5 was made by me as the author, in attempt to visually describe the idea of a multimodal hub and spoke system that could fit Jämtland Härjedalen, according to the results proposed by my interview participants. However, there were many different types of priorities coming from the range of participants during the interviews. Some wanted increased air traffic for attracting international tourists, others wanted to favor the railroad systems. There were also those who wanted to further promote the idea of electric car friendly infrastructure, such as the Green Highway (2015) project. Yet another suggestion was to put most of the efforts into alternative fuels (e.g. bio fuel and ethanol) to be used with adapted eco-fuel vehicles on existing infrastructure, without the need for major construction of new transport infrastructure. Finally, especially the authorities, insisted that it is not realistic to have one favorite transportation mode. Thus, the
results conclude that there is no unanimous, or even any clear majorities of the interview participants, that agree upon a specific alternative in terms of long distance travel.

Nevertheless, almost all of the interview participants agreed that there should be a focus on the ability to walk to all of the necessary commodities within each destination. Meaning that there should be efforts within the physical planning to enable such short range travel. For destinations with more spread out activities, outside of the reasonable proximity for walking, there should be a car pool or car rental service with environmentally friendly vehicles, as was stated during the topic of sustainability. The idea of local, regular bus lines was greeted with skepticism, because the concept has been known to be hard to maintain sustainably in rural regions. Not least because of the seasonality associated with many of the rural destinations of Jämtland Härjedalen. Many of them are skiing destinations during the winter. According to the interviews: It appears that the main issue with sustainable accessibility in rural Jämtland Härjedalen is the financial aspect. Building new transport infrastructure is too costly to be financially sustainable. Keeping a sustainable transportation service steadily operational in the rural regions of Jämtland Härjedalen also proves difficult.

Study Limitations

Due to a relatively small time window, the contents of this one year Master’s thesis, with only about two months of focusing on the actual thesis, has been confined to conducting research on part of a big problem. The part of accessibility and transport infrastructure is only one aspect of the issue of depopulation and the development of the rural countryside, together with its relation to urbanization. The results of this study are based on the qualitative perceptions of the major stakeholders in the region of Jämtland Härjedalen, and thus not necessarily absolute objective facts. However, the results of this study are the perceptions of some of the most important stakeholders that operate in the region, when it comes to the tourism industry. Thus, the value of the findings from this thesis are significant in their own right.

Suggestions for Further Research

This thesis focuses on finding out what the perceptions of important stakeholders such as authorities, professional tourism promoters and destination representatives think about the enhancement of transport infrastructure, and thus accessibility, in Jämtland Härjedalen. My recommendation is to evaluate the potential impacts of the different transportation alternatives suggested by the interview participants. It has been said that there is a need for
greater co-operation between authorities and the private sector, in terms of adapting toward more sustainable transportation alternatives. Thus, a political perspective would be of interest to the subject of sustainable transport. Finally, in a broader sense, further research on the effects of urbanization and its impacts on Jämtland Härjedalen, together with other rural regions.
REFERENCES


Appendix A: Interview Protocol

My name is Stefan Elmroth and I am a master’s student at Mid Sweden University, with a major in human geography. I would like to ask you a few questions regarding the accessibility in our region. Can I talk to you for about 20 minutes?

I would like to record this conversation, since it would make things easier when documenting what we talked about. You may of course remain anonymous if you so desire.

Accessibility is a broad term, but when I talk about accessibility in this case, I refer to the transport infrastructure of this region. When I talk about this region, I am referring to Jämtland Härjedalen.

1. How important is accessibility to you, when it comes to transport?
2. What do you think it would mean for the region if the accessibility were to be enhanced?
3. Traditional activities have changed, mainly in the countryside. Do you believe that tourism could strengthen the development in the rural regions?
4. Do you usually keep sustainability in mind during questions of transport?
5. What type of transport would you prefer to see in our region in the future?
## Appendix B: List of Interview Participants

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<tr>
<th>Name</th>
<th>Position</th>
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<th>Type</th>
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<tbody>
<tr>
<td>Ewa Jerlinder</td>
<td>Destination Developer</td>
<td>Åre</td>
<td>Destination Representative</td>
<td>2015-05-06</td>
</tr>
<tr>
<td>Jan Molde</td>
<td>Strategist of Infrastructure</td>
<td>Östersund</td>
<td>Regional Authority</td>
<td>2015-04-18</td>
</tr>
<tr>
<td>Johanna Mattsson</td>
<td>Destination Manager</td>
<td>Lofsdalen</td>
<td>Destination Representative</td>
<td>2015-04-20</td>
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<tr>
<td>Jonas Kojan</td>
<td>Destination Manager</td>
<td>Funäsfjällen</td>
<td>Destination Representative</td>
<td>2015-04-16</td>
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<tr>
<td>Maria Cederberg</td>
<td>CEO</td>
<td>Vemdalen</td>
<td>Destination Representative</td>
<td>2015-04-15</td>
</tr>
<tr>
<td>Marie Ygberg</td>
<td>Generalist</td>
<td>Sveg</td>
<td>Tourist Information</td>
<td>2015-03-12</td>
</tr>
<tr>
<td>Mats Forslund</td>
<td>CEO</td>
<td>Östersund</td>
<td>Tourism Organization</td>
<td>2015-04-13</td>
</tr>
<tr>
<td>Märit Izzo</td>
<td>Traffic Analyst</td>
<td>Östersund</td>
<td>National Authority</td>
<td>2015-05-11</td>
</tr>
<tr>
<td>Thony Gustafson</td>
<td>Chief of Trade and Industry</td>
<td>Sveg</td>
<td>Regional Authority</td>
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