NATURE TRAILS AND URBAN INCLUSION

The integration of city spaces into Sweden's long trekking trails

Source. 1https://tuvessonskan.se/2022/11/20/Skåneleden-har-kommit-till-Malmö/

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Abstract

Cities have long been poorly integrated into nature trails, which are popularly associated with rural areas. Yet these trails can be seen as places of connection between the urban and the rural, constituting a mélange of cultural identities that are assembled in these places and in turn act on these places through interwoven socio-materialities. How these characteristics of place-making are assembled has implications for environmental justice, social inclusion, as well as the future of urban spaces. This thesis examines three prominent long nature trails in Sweden, which weave through its most populous cities. It undertakes comparative case study analysis of the nature of this integration, drawing upon document analysis, expert interviews, and limited participant observation. Based on empirical analysis, I argue that the integration of cities into long distance nature trails must be an active and intentional process. Analysis also shows that the relationship between cities and nature is constantly evolving which influences strategic urban planning goals and the physical pathways of these nature trails. These insights are discussed in relation to scholarship on environmental justice, public health, and the benefits of long nature trails. Overall, Sweden's integration of city spaces into long distance trails over the past five decades has been an impressive shift to better include urban residents into outdoor activities, despite not being at the forefront of the Swedish policy agenda.

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Preface and acknowledgements

My motivation for writing this thesis stems from my experience hiking on the Skåneleden Trail in southern Sweden. SL3 was well maintained and passed through numerous villages and small cities that provided amenities such grocery stores, restaurants, and sleeping accommodations for trekkers who need supplies or a bed to rest in for the night. The subtrail was fairly connected to public transportation services, including train stations and bus stops, which made it easily accessible from different areas. It was surprising to me that Skåne felt less densely populated than where I live in Norway, but the accessibility to a variety of trails was far better, both in terms of physical accessibility as well as ease of information. This curiosity was piqued even further when I saw a marker for the Skåneleden Trail in the middle of the city of Malmö.

From these encounters, I began questioning how Sweden's trail infrastructure and accessibility could be so different from their western neighbor, Norway. I also questioned what strategies Swedish planners employed to build out and maintain these trails and if they can be utilized by other countries or cities. Furthermore, I wanted to explore the interactions between some of the various actors in these different trail systems and urban spaces to identify how they work together to keep these trails functioning at a high capacity. I am thankful to the respective trail representatives for taking the time to speak to me in the pursuit of this knowledge.

I would like to express my sincerest gratitude to my supervisor, Professor Siddharth Sareen, for his guidance in this thesis as well as helping me to realize my passion for research. Through working with Sid on the ROLES project and listening to his feedback for this thesis, I discovered that my recreational pursuits can be examined in connection to societies and the green transition in ways I had not previously considered. I am excited to continue developing my skills as a researcher and studying the relationships between people and the natural environment in a future PhD position.

I would also like to convey my appreciation for the friends I have met through this program over the past two years. I have been extremely lucky to learn more about Norway, Colombia, Greece, Italy, and the Faroe Islands while in your company. I hope that I will always have a couch to crash on should I decide to visit any of you in the future, as you are always welcome to visit me wherever I end up in the world.

1. Introduction: The importance of outdoor connection in urban and peri-urban spaces

As more people move into urban settings, we are losing our long-standing connection to nature, a connection that is integral to what makes us human. Many rural residents feel that they live in and interact with nature all the time (Johansen et al., 2021), but most urban residents rarely experience nature in a typical week (Cox et al., 2017). In 2018, 55% of the world's population lived in urban areas, and that number is expected to grow to 68% by 2050 (United Nations, 2019). The United Nations (UN) Sustainable Development Goal (SDG) 11 centers on sustainable cities and communities and, within that goal, targets include protecting cultural and natural heritage (11.4), providing universal access to green spaces (11.7), and supporting environmental links between urban, peri-urban, and rural areas (11.a) (UN General Assembly, 2015). Protecting nature and incorporating wilderness, or at the very least access to wilderness, into urban spaces to allow people the ability to continue experiencing nature is important, not only for environmental sustainability including protecting biodiversity but also, for the wellbeing of humankind through maintaining that relationship to our environment (Næss, 1986; Emerson, 1836; Leopold, 1949;). One method of achieving these SDG subgoals is through the creation and maintenance of long trekking/cycling trails. Within the past 100 years, these types of long trail systems have become more popular around the world (Schasberger et al., 2009; Yahel et al, 2021). These trails serve multiple purposes that contribute to our overall wellbeing, social connections, and environmental conservation.

> When we attempt to defend nature in our rich industrial societies, the argument of our opponents is often that we are doing it to secure beauty, recreation, and other nonvital interests for ourselves. Our position is strengthened if, after honest reflection, we find that the destruction of Nature (and our place) threatens us in our innermost self. If so, we are more convincingly defending our vital interests, not merely something "out there." We are engaged in self-defense. To defend fundamental human rights is vital self-defense. - Arne Næss (1986)

Today, long trails serve as a recreational outlet that allows people to take a break from their busy lives, get in touch with nature, and even possibly identify a deeper part of themselves. Many

hikers are motivated by the challenge of long-distance hiking trails and find immense feelings of success and satisfaction upon their completion (Mayer & Lukacs, 2021, p. 3). But, at the same time, when hiking long trails is treated as an activity that is seen to fall outside of normal routines, it is more difficult to integrate city spaces into them, as the latter tend to prioritize activities related to production. And while these trails allow us to connect with ourselves as individuals, they can provide opportunities to share a variety of experiences with others, a socially beneficial practice. In a study on long distance Hungarian hikers, when speaking about the Kinizsi-100 trail, one hiker stated:

> I didn't know where these people were going for hours. Some of them were talking to each other, some of them were silent and tired, but all of them seemed to be connected by something invisible. I felt like I should go with them. (Mayer & Lukács, 2021, p. 3)

Long trail systems connect villages, towns, and cities which gives travelers a window into how other people live; the linking of rural, peri-urban, and urban spaces presents opportunities for interactions between people that otherwise might not exist. The trails can also provide glimpses into the past by following historic and cultural pathways which allow trekkers to connect with the people who came before us and played roles in building and shaping the societies we live in today. This connection to the past is often found in pilgrim routes whereby hikers follow historically influenced trails that usually lead to a shrine or religious site of importance (Vistad et al., 2020, p. 2). Additionally, these long trails often pass through a variety of natural landscapes and biotic communities, the preservation of which is essential for sustainability (Spernbauer et al., 2023).

Like in the other Nordic countries, nature plays an important role in Swedish culture. The concept and practice of *allemansrätt* – every person's right - gives people the freedom to roam the countryside. But as cities are taking up more area and encroaching on the countryside, and as more nature in the countryside is taken over for expanding economic activity, access to nature must be planned within more of an urban context. Some of the more extensive trail systems (Sörmlandsleden, Bohusleden/Gotaleden, and Skåneleden) in Sweden run near or through the country's most populous cities (Stockholm, Göteborg, and Malmö), making them convenient for urban dwellers who want to hop on trails. Other trail access points that lie outside of the city

centers are accessible by public transportation. One can wonder just how intentional it was to integrate these urban spaces into the trail systems and what mechanisms were employed to achieve this fusion.

Figure 1 depicts each of the trail systems in relation to the respective cities. The red trail in the top right of the map is the Sörmlandsleden trail which begins outside of Stockholm. The blue trail system in the middle comprises all the trails managed by West Sweden Trails, including Bohusleden and Gotaleden, that are situated around the city of Göteborg. The orange trail at the bottom of the map shows the entire Skåneleden trail system, with Malmö in the southwest corner.

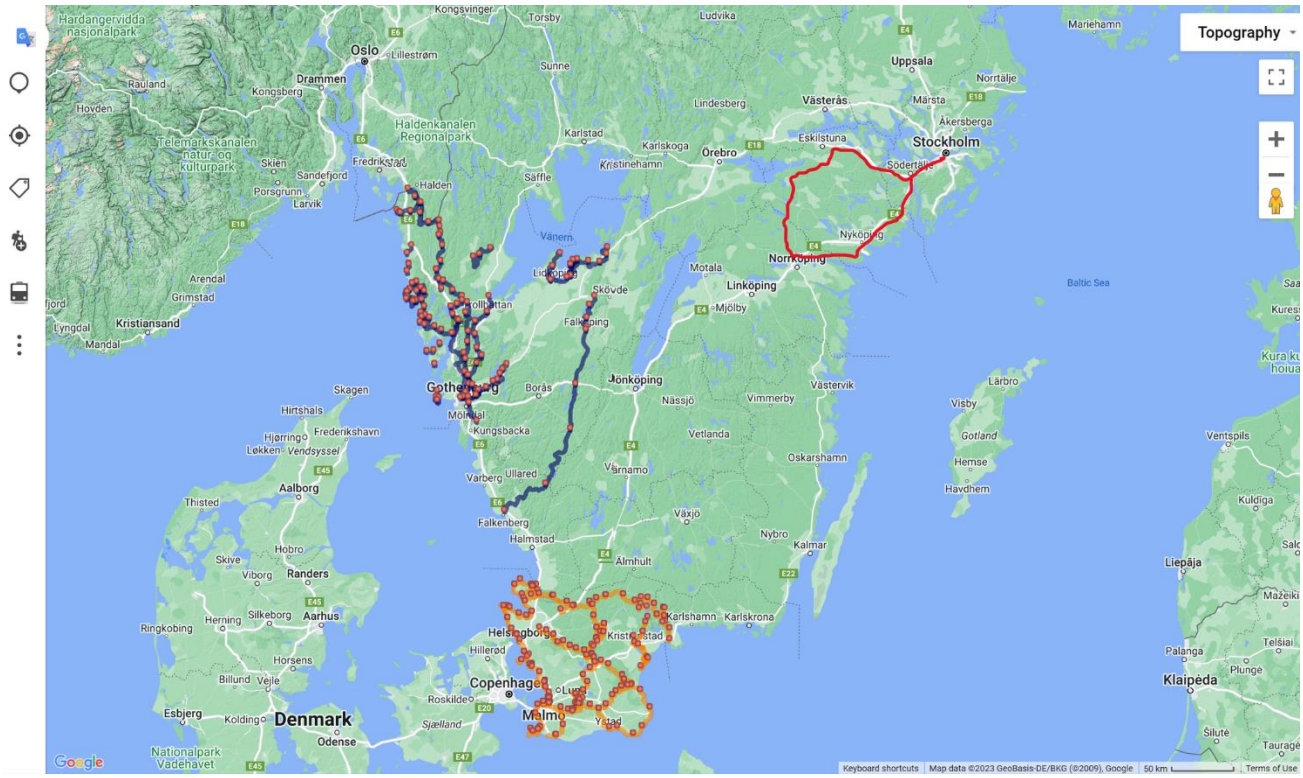

Figure 1: Overview of trails in Sweden
Source: Author's contribution, adapted from Google Maps and trail websites

The introduction serves as a space to state my motivation for the thesis topic being explored. I then present the problem statement followed by the research questions and objectives. The final component of the introduction outlines the structure for the remainder of the thesis.

1.1. Problem statement

As reflected by Johansen et al., (2021) "outdoor recreation is still envisioned as a set of distinct activities taking place in their own time and space, rather than as something that is deeply embedded in, and largely inextricable from, the rhythms of everyday life" (p. 133). While not everyone has mountains right in their backyard, many people find solace in the outdoors to maintain their physical and mental health. Studies have shown that contact with nature impacts health in the areas of physical activity, social cohesion, and stress reduction (Hartig et al., 2014; Venter et al., 2021). But outdoor recreation and exploring our relationship with nature is often overshadowed by our occupational and academic responsibilities which have a heightened sense of priority in many societies today. And as we continue to separate these parts of our lives and give priority to the activities that take place within weekday business hours, especially in urban spaces which more visibly promote these profit-driven actions, we are doing ourselves a great disservice. In this thesis, I engage with this problematization by exploring the intentionality of including access to outdoor recreation in urban areas with the focus on long trail systems through centering on the relationship between three of Sweden's most populous cities and their respective nearby long-distance nature trails.

As cities continue to grow in both population and area, there is a need for actors (politicians, strategic planners, transportation providers, etc.,) at city, regional, and national levels to ensure that these urbanites still have access to nature in a way that is accessible, inclusive, and contributes to overall public health, while at the same time protecting the wilderness from the metropolitan threat. Within this context, the environmental policies are studied include urban settings and trail building. Additionally, the study includes an examination of the efficacy of transportation services and digital tools in providing ease of access to these trail systems for urban residents, which has ties to the field of environmental justice in terms of securing residents equitable, inclusive access to nature.

1.2. Research questions and objectives

To address this problem statement, two sets of questions have been identified. The first question and sub-question comprise the focus of the thesis, and the subsequent question and sub-question

further explores aspects of inclusion and accessibility in relation to these long trail systems in urban settings. A linked research objective is provided alongside each set of research questions.

Research question 1: How do national, regional, and municipal policies structure the planning, expansion, and maintenance of long hiking trail systems in Sweden?

- **Sub-question 1**: What mechanisms are in place to provide access to these trails for urban residents?

Linked research objective 1: Understand the policies at these different levels of governance regarding these systems, in terms of how they address accessibility to outdoor resources (especially for urban dwellers), economic impacts, and protection of the country's/cities' natural heritage.

Research question 2: How do the different organizations advocate for equity for all urban residents to be able to access these trail systems?

- **Sub-question 2:** What is the messaging from these different organizations and what infrastructure services are provided to make the trails inclusive in an equitable manner?

Linked research objective 2: Review the different resources available, websites and messaging, for the respective trails and how they contribute to accessibility and inclusivity, and analyze the access to these trails using public transportation and digital platform services as an indicator of accessibility and inclusion.

1.3. Thesis Structure

Section 2 recognizes the theoretical foundation for the study and introduces the analytical framework that is employed to process data within the respective context. This theoretical foundation assists with recognizing why the issue of long trails within urban settings is worth exploring while the analytical framework serves to evaluate the more practical applications of the study. Section 3 presents the literature review which introduces relevant academia that further supports the exploration of the topic. Section 4 identifies the research strategies, whilst the subsequent section 5 details the methods that were utilized for data collection and analysis. Section 6 provides overall background to the case study and introduces how the research project

aligns within the Swedish setting. The empirical analysis is conducted in Section 7, which aims to directly address the research questions. The thematic implications are subsequently discussed in Section 8 in relation to the research objectives, including policy recommendations and implications for future research. Section 9 concludes with a summary and aspirations for the future of nature trails that run through urban settings.

2. Theoretical perspective and analytical framework

The selection of the separate theoretical grounding and the analytical structure was an integral part of this thesis process. According to political scientist Elinor Ostrom, frameworks are the most conventional form of theoretical analysis which serves to classify the various components and "general relationships among these elements that one needs to consider for institutional analysis and they organize diagnostic and prescriptive inquiry. They provide a general set of variables that can be used to analyze all types of institutional arrangements" (2011, p. 8). Meanwhile, the use of theories allows researchers to specify the more relevant elements of the framework within the context of the questions being explored (Ostrom, 2011). In this study, the theory was recognized before the analytical framework and there was some trial and error involved in identifying, or in this case adapting, an analytical framework that identified and evaluated the main elements being studied within the project.

The central idea of this thesis being studied is providing access to long distance nature trails for urban residents and understanding how this has emerged within each of the respective trails and corresponding cities. This thesis combines aspects of deep ecology to form the basis of the study, while an adapted Political Economy of Policies and Institutions (PEPI) framework is employed to analyze the empirical observations. Deep ecology provides the theoretical bedrock for why we need to maintain a connection with nature while the modified PEPI framework serves to analyze the institutions and relationships between, and motivations of, different actors that establish and maintain the trails in relation to the respective cities which thereby allows urban residents to retain this intrinsic affiliation with nature. The adaptations applied to the analytical framework serve to include key infrastructure and accessibility of these trails and how they relate to urban residents.

2.1. Theoretical foundation: Deep ecology

The contribution of deep ecology to this thesis is more philosophical than practical or employable; the concept of deep ecology provides the foundation to maintain an interwoven connection with nature. That is not to say that deep ecology cannot be practiced but, for the purposes of this study, the focus is on the theoretical foundation that Norwegian philosopher Arne Næss and related authors in the field highlight about the relationship between humans and the natural environment. Deep ecology, also known as "ecosophy," is an idea that was developed by Næss that invites deeper questioning of our environmental concerns and encourages greater exploration of possible answers, moving further than just superficial responses. He calls out a difference between shallow ecology, which is simply being concerned with combating environmental issues to uphold structures that benefit wealthy people in developed countries, and deep ecology which calls for more profound thought, analysis, and actions to address environmental issues for an even greater good. Næss acknowledges that environmental issues are not restricted to the natural landscape and include social aspects and inequalities. He summarized this by stating "ecologically responsible policies are concerned only in part with pollution and resource depletion. There are deeper concerns which touch upon principles of diversity, complexity, autonomy, decentralization, symbiosis, egalitarianism, and classlessness" (Næss, 1973). Our interactions with nature have far reaching impacts across social and environmental fields that are not easily seen when using a surface view.

The relationship between mankind and nature is further explored in Næss's (1985) essay, where he builds upon the idea of self-realization and the role of nature in what makes us human. Næss questions how far the self really extends and supposes that it must go past the idea of the "ego," continues beyond the individual, and concludes that the self lacks a definitive boundary. He argues that a vital aspect of self-realization is the process of identification through which people experience a higher-level unity that is not restricted to individuals, or even humans, but extends to any higher entity that induces the feeling of identification, including but not limited to animals, plants, mountains, and oceans (Næss, 1985). Næss builds upon the works of writers such as Aldo Leopold and Rachel Carson who identified more spiritual approaches to nature as well as the importance of conservation with the aim of maintaining biotic communities (Devall

& Sessions, 1985). As humans, we are part of our environment just as much as our environment is part of us.

The notions of self-awareness, reflection, and mankind's changing relationship with nature are not new and can be associated with the transcendentalist movement of the mid-19th century. Consider American philosopher Ralph Waldo Emerson who said, "In the presence of nature, a wild delight runs through the man, in spite of real sorrows…Yet it is certain that the power to produce this delight, does not reside in nature, but in man, or in harmony of both," (Emerson, 1836, pp. 11-14). Emerson's essay was inspirational for subsequent philosophers and transcendentalists including Henry David Thoreau who went so far as to remove himself from society to live in the woods and, as a result, wrote about mankind as part of nature and nature as a reflection of human emotions in his book Walden (1854). Since the industrial revolution, combined with the process of rapid modern urbanization, people have uniquely struggled to maintain their bond to nature.

Philosophical questions relating to the relationship between humans and nature can be traced back even further, but one important aspect of the deep ecology movement is that it considers modern problems that have been introduced since the full swing of the industrial revolution. The mainstream worldview sets humans as dominant over nature; nature has, consequently, been assigned the primary purpose to provide resources for humans with the goal of continuous economic growth and material production. The majority values high technological progress and solutions in the support of consumerism. In contrast, deep ecology considers harmony with nature and proposes that all nature has intrinsic equality without one species being endowed with inherent rights to rule. Ecosophy acknowledges that there are no boundaries, and everything is connected. It recognizes that nature is finite, and any material needs should be for the betterment of the ecosphere as a whole and not just prosperous individuals (Devall & Sessions, 1985).

Within this thesis, it is acknowledged that rapid urbanization has fractured the relationship that industrial societies have with their natural landscapes. As the global population continues to move into cities and urban settings, this schism is becoming more apparent as urban spaces grow to overtake peri-urban and rural areas. As such, it is important to identify strategies to restore this connection between people and nature. Even if some of these solutions do not have immediate quantifiable impacts, beginning to heal that relationship can be a catalyst for greater change. This

leads to studying the importance of providing opportunities for people to participate in outdoor recreation activities. The forthcoming literature review in section 3 includes attention to the impacts of accessing outdoor spaces, with special focus on urban residents, as an aspect of deep ecology.

2.2. Conceptual framework: Adapted political economy of policies and institutions

Planning is both theoretical and practical; many researchers continue to question the relationship between theoretical planning approaches and their practical applications, especially when it comes to urban projects (Fainstein, 2005; Monclús et al., 2022, p. 251). The realm of planning is vast and can be explored in numerous contexts which made it difficult to narrow down which aspect to study. After searching through a variety of conceptual frameworks on urban planning, I realized that I am not looking to explore just the development of the physical trails but also the actors and processes through which the trails were enabled to even come into existence and later modified to allow for the integration of city spaces. Additionally, one of the aims of this project is to identify how key infrastructure services, such as transportation services and digital platforms, are incorporated into enhancing the accessibility of these trails for urban residents. The analytical framework that will be utilized to answer the research questions and achieve the associated objectives draws from Prakash Kashwan's Political Economy of Policies and Institutions (PEPI) framework which, in turn, is derived from Elinor Ostrom's Institutional Analysis and Development (IAD) framework.

The IAD framework was developed in 2005 by Ostrom and other scholars at the Ostrom Workshop which facilitated analysis of institutional processes that included both individual and collective choices. The IAD framework can be utilized to analyze norms, institutional settings, incentive structures, and rules; and the framework has been adapted to a variety of scenarios by social scientists since its formation (Ostrom, 2011). The IAD framework is shown in Figure 2.

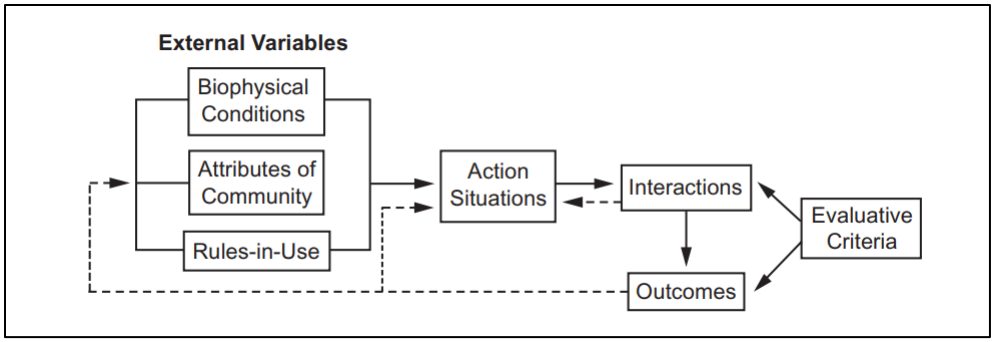

Figure 2. Institutional Analysis and Development Framework
Source: E. Ostrom (2011, p. 10)

In simple terms, the IAD framework looks at institution and policy developments in which "inputs are processed by policymakers into outputs that have outcomes that are evaluated, with feedback effects" (McGinnis, 2011, p. 173). Institutions are human-constructed opportunities or limitations that are created by choices and the consequences of said choices which are then held together by structural variables (McGinnis, 2011, p. 170; Ostrom, 2011, p. 9). Inputs include the external variables that encompass the context in which the action situations are positioned. The action situation can be used to describe, analyze, or explain activities within institutions and represents the social space where individuals interact. The outcomes are shaped by a feedback mechanism that is constantly recycling changes in the external variables and space of interaction. Outcomes are generally evaluated based on criteria including economic efficiency, redistributive equity, accountability, conformance to values of local actors, and/or sustainability (Ostrom, 2011, pp. 16-17). In the case of this study, the evaluative criteria focus on economic efficiency, redistributive equity, accountability, and sustainability. But the IAD framework is extremely dense and requires coverage of many different factors for effective analysis, thus it is difficult to know exactly what should be included in the action situations.

Environmental policy and politics scientist Professor Prakash Kashwan's adaptation of the IAD, the Political Economy of Policies and Institutions framework, further accounts for social groups and additional non-political actors who "mobilize to influence the framing, development and enforcement of environmental justice policies and institutions" (Kashwan, 2022, p. 3). Kashwan takes out the "action situation" and replaces it with the institutions of governance along with the various the actors (both political and non-political) to identify the policies that are created because of these interactions and then the outcomes produced by these policies. The PEPI framework further incorporates comparative environmental politics (CEP), to conduct a

comparative analysis of the approach to environmental justice in different countries. He does this through CEP, which analyzes how the "differences in political systems shape who participates in policymaking, what kind of policies come about, whether they are successful in protecting the environment, and how they intersect with social justice concerns" (Kashwan, 2022, p. 2). The PEPI framework is shown in Figure 3.

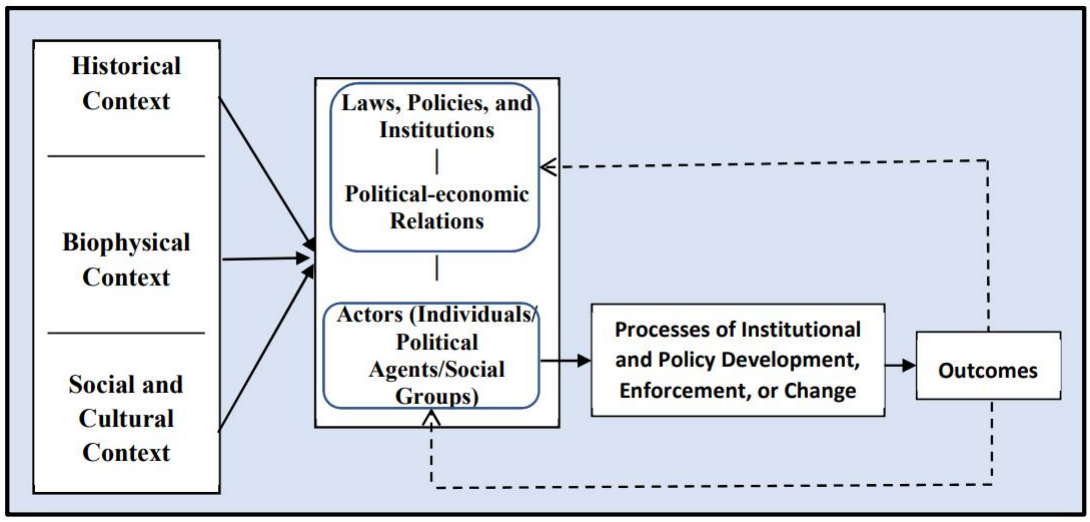

Figure 3. Political Economy of Policies and Institutions Framework
Source: Kashwan (2022, p. 4)

But both the IAD and the PEPI lack the incorporation of infrastructure that has come about both as a tool and a result of the feedback loop. And these key infrastructures, including transportation and digital platforms, are important both as devices and indicators of accessibility for urban residents to nature. Additionally, Kashwan utilizes the PEPI to analyze international case studies while this thesis study looks at case studies within a national context; as such, the "social and cultural context" is less relevant as an external variable within the analysis of cities in the same country. That is not to say that the social and cultural context is not important, but that element is used more to explain the case study within the Swedish context in section 6 rather than serving as an external variable in the analysis for the study.

Thus, an adapted PEPI framework, depicted in Figure 4, is created which removes the social and cultural context and includes the infrastructure in the analysis.

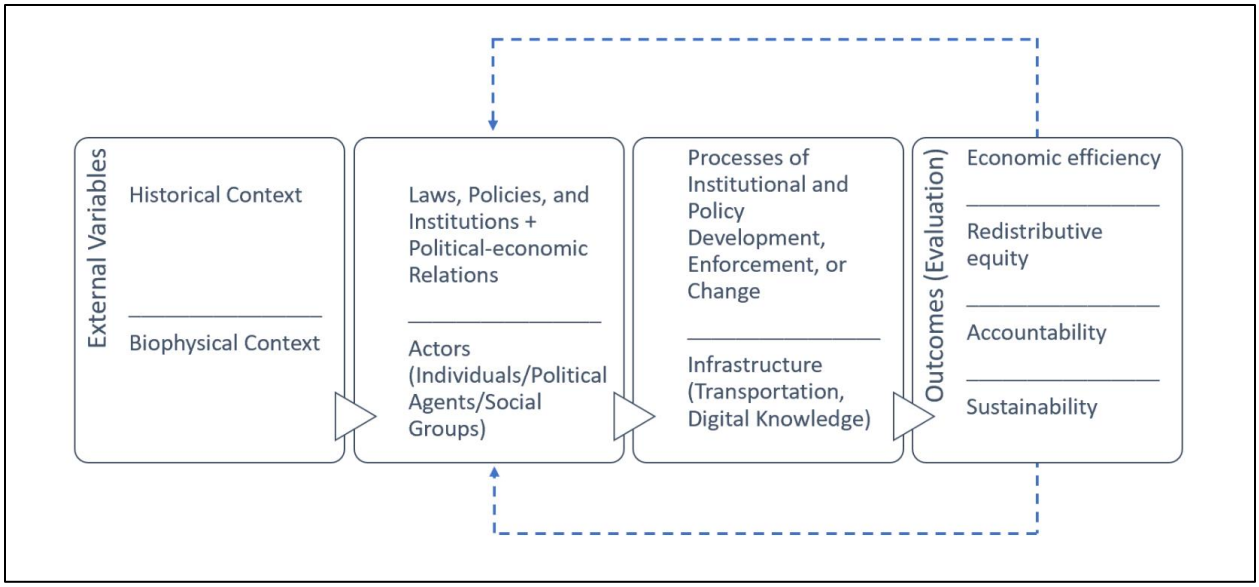

Figure 4. Adapted PEPI Framework
Source: Author's contribution, adapted from Kashwan (2022) and Ostrom (2005)

Within the external variables, the historical context provides an overview of the backgrounds of the different trails and cities. The biophysical context examines the trails in relation to the cities when they were first initiated, as well as significant trail updates since the trail inauguration. These variables help to establish each of the cases and provide the reader with basic knowledge about each case within the context of the study.

Laws, policies, and institutions examine the different levels of governance within Sweden, especially regarding land use planning of natural resources. The political-economic relations analyze the budgeting associated with projects, especially government sponsored funding initiatives. The actors include national, regional, and municipal government organizations as well as trail organizations, traffic agencies, and individuals including urban residents and trail users.

Institutional policy development utilizes a variety of documents to identify trail and city goals, especially in the areas of green space development and public health. Institutional policy development also heavily incorporates the respective interviews to build a more robust picture of the goals and current strategies being employed. Infrastructure analyzes the transportation services and digital platforms that are available to urban residents to provide physical access to the trails as well as information about trail usage.

Lastly, the evaluation criteria are integrated into the outcomes in an effort to determine which aspects of the observed outcomes are satisfactory and which aspects require improvement within each case study. The evaluation criteria being studied are economic efficiency, redistributive equity, accountability, and sustainability. These criteria were selected as they most relate to the themes that are developed within the literature review.

Economic efficiency is established based on the net benefits associated with the allocation of resources (McGinnis, 2011; Ostrom, 2011). This is important when it comes to considering the benefits and potential rate of return on the investments that have been made into the trails, which then influences if more economic support will be provided in the future. Within the context of trails, this is usually displayed by how many people are using or engaging with trails; if hikers are not accessing the trails, then there is seen to be less return on investment. This can be measured through the number of visitors as well as engagement through news articles and social media.

Redistributive equity deals with the distribution of resources to poorer individuals or people/groups that do not have access. “Although equity would dictate that scarce resources be used where they produce the greatest net benefit, equity goals may temper this objective, and the result is the provision of facilities that benefit particularly needy groups” (Ostrom, 2011, p. 16). For this study, redistributive equity is applied to how the trails have been moved to be more accessible to people who are less likely to have access. Specifically, how they have been moved closer to the cities for urban residents who lack access to nature.

Accountability refers to the actors being held accountable to the citizens/trail users (McGinnis, 2011; Ostrom, 2011). For this study, it is measured by factors such as engagement with communities, feedback mechanisms, and the incorporation of trail user suggestions into the system.

Finally, the evaluation criterion for sustainability is not related to the more commonly associated concept of “environmental sustainability,” but with the continuation of the system as a whole (McGinnis, 2011; Ostrom, 2011). This criterion questions if these trails can survive and thrive while integrating the cities or if they are bleeding resources at a higher intake rate.

3. Literature review

The literature review consists of three sub-sections covering the following subjects: environmental justice, outdoor recreation, and the breadth of benefits associated with long nature trails. These themes are important to understanding the motivation behind the thesis topic as well as positioning the study within relevant scholarship and highlighting its importance. The literature review begins by exploring environmental justice research with a focus on the considerations of urban governance regimes when developing and implementing environmental strategic plans and policies, especially relating to providing equitable access to nature among urban residents. The subsequent subsection assists in explaining the importance of accessing nature, especially for urban residents. The literature review concludes by examining how long trails are typically facilitated, and the benefits they provide within urban settings.

3.1. Equitable land access: Nature is for everyone

Environmental justice explores the relationship between humans and nature focusing on the nature-based benefits and burdens that are experienced by human communities resulting from human activities (Baxter, 2004; Glotzbach, 2011; Kortetmäki, 2017). Research on urban green space includes aspects of environmental justice; simply put, there is a lack of equitably distributed green space within most cities (Wolch et al., 2014; Suárez et al., 2020; Elbakidze et al., 2022) and it could be argued that this extends to accessing nature trails, especially routes that cover large distances.

Trivalent environmental justice is built upon three dimensions: distribution, recognition, and procedure. Distributional justices acknowledge that there is "physically unequal allocation of environmental benefits and ills" (Jenkins et al., 2016, p. 176). The distributional tenet evaluates where the injustices emerge and asks how to re-distribute the benefits as well as the burdens, so they are absorbed more evenly across societies. Recognition-based justice prompts us to acknowledge "the divergent perspectives rooted in social, cultural, ethnic, racial, and gender differences" (Jenkins et al., 2016, p. 177). Recognition-based justice is concerned with intersectionality, understanding the different social groups that are living together, and developing policies that provide equal political and environmental rights. Lastly, procedural justice relates to the political decision-making processes and is practiced as "a call for equitable

procedures that engage all stakeholders in a non-discriminatory way…it is also driven by softer non-regulatory influences such as practices, norms, values, and behaviors" (Jenkins et al., 2016, p. 178). Procedural justice advocates for equal representation within a wide range of institutions in order to influence how decisions are being made and allow for as many voices as possible to be incorporated.

Green space is often analyzed using quantitative indicators including distance to green space or green space per capita (Venter et al., 2021). But some of these quantitative studies overlook qualitative markers such as "accessibility (distributive justice) and preferences (recognition) between social groups" which can result in uneven opportunities for recreation activities (Suárez et al., 2020, p. 134). Recognition between different groups is an important aspect of utilizing social data to develop effective strategic planning and providing equitable land access. For example, one study (Ulrich, 1981) exposed men and women to images of nature and measured heart rate and brain wave patterns, the results showed that positive physiological responses to nature are significantly stronger for women. By understanding findings like these and utilizing them within urban environmental planning, we can expand from just considering the traditionally dominant white male demographic to make spaces more inviting and functional to a wider range of people.

The Scandinavian tradition of *allemansrätt* has underpinnings of environmental justice. This tradition "allows people, whatever their origin, to visit, walk, and use non-motorized vehicles on all land, public as well as privately owned, and to harvest some of its resources" (Sténs & Sandström, 2014, pp 106-107). While not explicitly stated in relation to the broad field of environmental justice, the basic premise of this custom reflects distributive and recognitive tenets in the idea that people should have the same ability to access nature regardless of their socio-economic status or any of their other individual traits. When looking at cities and access to outdoor recreation, "most research on urban green space and health has focused on parks, with studies also examining green cover" (Wolch et al., 2014, p. 235), green cover being foliage that provides shade and aides in cooling urban areas which can mitigate the risk of heat-related illnesses for urban residents. There is currently not a lot of literature specifically focused on the impact of long hiking trails running through urban spaces or, looked at from another angle, how urban residents access nearby nature trails that are not necessarily neighborhood park settings.

In their article, Johansen et al, (2021) discuss the relationship with outdoor recreation and rural nature; although focusing on the interactions that rural residents have with nature, they point out that rural spaces are overwhelmingly seen "more as recreational reserves, potential places of settlement for city dwellers, areas set aside for nature and cultural landscape conservation, and ecosystem services" (p. 133). In this sense, there is a lack of distributional justice between urban and rural dwellers, in that people who live in the city get the benefits of both city and rural life whereas those who live in the countryside must handle unequal burdens that come with the influx of people escaping their metropolis for the weekend. But the authors indirectly point to an aspect of distributive justice from the perspective of urban dwellers in that they do not have the same access to nature, which has been achieved through decades of policy planning and construction that has effectively separated city spaces from natural landscapes. It is important to note that their study took place in Denmark, which shares the cultural basis of *allemansrätt* as well as the Scandinavian lifestyle of *friluftsliv*, translating to "free air life," that has now become more associated with work-leisure dualism (wherein recreational opportunities are seen as practicing this lifestyle) rather than expressing an existence that truly incorporates nature into daily routines (Johansen et al., 2021, p. 140). Considering most hiking trails run through rural spaces, many urban residents have no other choice than to travel to these rural areas to engage in these kinds of activities. The authors point out that outdoor recreation is often seen as a delineation from daily life for many urban residents but, due to how cities have developed, urbanites are limited in their opportunities to experience nature and effectively incorporate it into their lifestyles in the same way as rural residents. Of course, there are many tradeoffs that are made when deciding to live in rural, peri-urban, or urban places, but many urbanites did not have recognition and lacked procedural representation as the cities were being built.

One could argue that there is a lack of procedural justice within the practice of *allemansrätt* in Sweden. Unlike in Iceland and Norway where every person's right to access nature is legally sanctioned, the right of public access in Sweden lacks formal constraints. There have been attempts to regulate the practice, which have generally been initiated by landowners or businesses that wish to have exclusive rights to landscapes and their respective natural resources for economic benefits. This makes it an even more amazing phenomenon within Sweden as, these efforts to formally regulate *allemansrätt* have been opposed by both political leaders and many urban residents (Sténs & Sandström, 2014). So, despite the lack of official laws relating to

the custom, procedural justice is still being practiced in the conservation of the informal institution.

Access to outdoor spaces should not be reserved for specific groups of people; experiences with and in nature should be distributed fairly and everyone who is interested in interacting with nature should be welcome to do so. When it comes to cities providing access to green spaces and trekking trails, developers should include all the impacted social groups in planning and decision processes and account for the different needs and values of these groups.

3.2. Outdoor recreation in the wake of urbanization

Ecosophy identifies the necessity of human connection with the environment from a philosophical perspective. Næss argued that ecology helps people to understand their relationship with nature as part of a larger process of connecting with themselves. This relationship between people and nature goes beyond ecological or philosophical reflections and is a topic that is worthy of study within a variety of framings. Within the context of this study, it is essential to establish practical reasons that providing access to nature needs to be a priority for urban governance regimes and associated stakeholder organizations.

Looking at urban green space is the predominant lens through which social scientists study how city residents access outdoor spaces. This means that, even within a Scandinavian setting, the study of cultural aspects such as *allemansrätt* and *friluftsliv* must also be examined from a different angle. This is greatly influenced by the nature of cities that have been built to insulate people from natural landscapes. Comparing the study by Johansen et al, (2021) which focuses on rural recreation where people "live in nature all the time" to studies that look at access to nature (usually as a measure of public health) within cities, they generally focus on "urban green space" which does not contribute to the same activities that are at the essence of *allemansrätt* and *friluftsliv*. Norwegian mountaineer Nils Petter Faarlund uses the term *friluftsliv* to invoke ecological sensitivity rather than promote commercialized outdoor activities; *friluftsliv* is connected to specific spaces and activities that allow for connections with nature and include "hiking in the mountains an on plains, walking or trekking in woods and forests, fishing, paddling, and swimming in lakes, fjords and rivers" (Tråsavik et al., 2023, p. 5). Access to outdoor recreation is more than just a point for public health initiatives, but due to the separation

between cities and nature that has developed as cities have evolved and grown, it also shifts how cultural foundations fit within city limits.

Although difficult to pinpoint exactly when the trend began, there has been a shift away from active lifestyles that incorporate the outdoors (be it through occupation or transportation considerations) towards an increasingly sedentary and indoor-centered way of life which has been compounded by urbanization (Wolf & Wohlfart, 2014, p. 89). While there are many benefits to urbanization, such as economic growth, technological advances, and a natural blending of cultures, living in urban settings can result in a variety of health risks including cardiovascular disease, high blood pressure, and obesity, to name a few (Shanahan et al., 2015; Cox et al., 2017). Outdoor recreation is incredibly important for promoting public health and contributing to hearty cities. An abundance of applicable scholarship has established that access to nature, and participation in outdoor activities, can help to counterbalance some of the negative health associations that may come with living in urban settings (Penedo & Dahn, 2005; Mitchell & Popham, 2008; Keniger et al., 2013; Shanahan et al., 2015; Twohig-Bennet & Jones, 2018). When people have access to outdoor green spaces, they may be encouraged to become more active in their leisure time and visit natural environments more often (Bell et al., 2007). By being more active, especially in outdoor green spaces, urbanites are literally taking steps to take care of their bodies.

Accessing nature can result in more than just physical health benefits, as it can also have positive impacts on mental health. Some urban residents do not have as many opportunities to intentionally access nature, but just seeing the natural environment can improve a person's mood and provide stress relief (Bell et al., 2007; Cox et al., 2017). Having access to green space has been shown to reduce stress cortisol levels which leads to people feeling better mentally (Ward Thompson et al., 2012). Interactions with nature also promote social exchanges and encourage communal cohesion and support (Keniger et al., 2013). While not everyone may be predisposed to actively jaunting about in nature, providing opportunities to access natural environments has proven benefits for physical, mental, and even societal wellbeing.

3.3. Integrating trails for growth: The social, economic, and environmental benefits

The next step is understanding how we go from simply getting outside to studying the incorporation of cities into long trail systems and the benefits these corridors bring. Similar to

how Næss argues that experiencing nature helps us to know ourselves individually, these long trail systems can help us to know ourselves culturally, historically, and communally. Rather than just focusing on settings like local parks or neighborhood walking trails, there is emerging research on the wide-reaching impacts of long trail systems. Unlike localized green spaces such as neighborhood parks, long trail systems tend to pass through multiple regional boundaries and experience various topographic changes which gives them distinct characteristics that are worth exploring. Long distance hiking trails, especially those that may be cross-national or cross-regional, assist with integration between people from different communities and cultures (Yahel et al., 2021). In Sweden, the planning of these trails is conducted at the regional and municipal levels, which provides opportunities for greater communication between the different levels of governance and neighboring communities. It also allows for more stakeholders to be engaged, such as various trail and conservation organizations (Schasberger et al., 2009). Long trail systems provide a means to study the history and various cultural differences that may arise across regions (Yahner et al., 1995). These trails may provide insights as to how different communities developed and how they interacted with each other in the past. Additionally, these trails provide an avenue of contact between modern urban, peri-urban, and rural populations who otherwise may not have opportunities to interact (Johansen et al., 2021). Through these interactions, people from different backgrounds can be exposed to new ideas and ways of living which helps to promote spatial justice and societal cohesion.

Along with the more social aspects of these long trail systems, they can provide economic benefits. In the United States, for example, a cost-benefit analysis found that for every $1.00 invested in trail development there was an estimated direct medical benefit of $2.94 (Courtenay & Lookingbill, 2014, p. 272). Although the healthcare system in the United States is very different from that in Sweden, the takeaway is still valid that trails can have economic benefits for healthcare by reducing stress and improving physical health. Considering that the healthcare system in Sweden is state owned and directed, this attributes to a direct savings for the government.

These long trail systems are becoming more popular among trekking tourists and, as such, can bring more money to local businesses that are near the trails (Schasberger et al., 2009; Kil et al., 2012; Courtenay & Lookingbill, 2014). This can, in turn, lead to downtown revitalization efforts that promote vitality in struggling urban spaces. For residents who own homes adjacent to

greenways, studies have shown that the proximity to trails can positively impact property values (Greer 2000, p 10; Bowen, 2009). There are direct economic benefits for the municipalities, cities, and urban residents when these long trails are integrated into these city spaces.

From an environmental perspective, outdoor recreation can contribute to healing landscapes. One of the main drivers that leads people to participate in outdoor recreation is to experience nature; by having encounters with nature, people directly interact with biodiversity which can deepen their connection to the environment, and stimulates place attachment (Beery & Jönsson, 2017). As people become more attached to their environments, this can provide more opportunities to highlight biodiversity conservation and inspire people to become involved in conservation efforts. It is easier to build these strong bonds to nature in childhood but not impossible to encourage developing a deep consideration for nature with adults (Bell et al., 2007; Harbrow, 2019). Additionally, people who intentionally interact with nature may be more likely to become sympathetic towards the natural environment and become involved with conservation volunteering (Keniger et al., 2013). Active experiences in nature are necessary to keep cities healthy, both in terms of urban societies as well as natural biodiversity.

As more cities promote travel methods with lower carbon footprints, building walking and/or cycling trails connect people to nature as well as to each other across different communities. Not only do long trail systems provide recreational and social opportunities, but they also allow for transportation-related physical activity across urban, peri-urban, and rural landscapes (Schasberger et al., 2009). Through the incorporation of these long trails through city centers, or urban areas with high population density, trail builders and urban planners actively encourage people to participate in green transportation methods to access both spaces inside and outside of the cities. Promoting these forms of micro mobility can reduce public transportation costs as well as greenhouse gas emissions associated with automobile transport methods (Courtenay & Lookingbill, 2014). Continuing in line with environmental benefits, when these vast trail systems are carefully planned out and well maintained, they may help to prevent vegetation loss, habitat fragmentation, and other natural resource degradation (Spernbauer et al., 2023). Especially when urbanization is a leading cause in deforestation and decreasing biodiversity, mitigation measures such as the establishment of formal trails are a step in the right direction towards maintaining or bolstering the natural landscapes near urban settings.

In 1999, the Pennsylvania Environmental Council took interest in municipalities located along the Susquehanna River in Pennsylvania. The project area included 36 municipalities with a population of 190,000 people, including the city of Wilkes-Barre that had 43,000 residents. The council subscribed to the idea that "nature-based outdoor recreation encourages healthy practices" and wanted to develop more trails in the region and promote the trails as places for physical activity. In addition, the council wanted to make these trails involved with the local urban, suburban, and rural communities as well as conduct wellness-related trail research. The council initially had 21 partners, including local trail and health service organizations, along with state and national partners to develop trails and identify the benefits of these trails within the region; by the time the program ended in 2008, there were over 40 partners. In 2003, the council applied to a call for grants from Active Living by Design (ALbD) which provided funding for the council to develop the Wellness Trails Partnership which aimed to "ensure than every urban, suburban, and rural community would be an active place" (Schasberger et al., 2009, p. 337). The program was funded until 2008 and, during that time, more than 30 of 93 planned miles of multi-use trail were opened in Luzerne County, Pennsylvania; these trails connect over 12 communities.

Within only eight years, the county was able to leverage $332,000 to bring in over $9 million of additional funding for public health services and trail building projects. This money went towards public health programs throughout the county, supported Maternal and Family Health Services at WIC nutrition centers, and led to an increase in local outdoor program registration among residents. But more than health benefits, these partnerships allowed for the revitalization of downtown Wilkes-Barre which resulted in a 10% increase in downtown office occupancy, replaced aging infrastructure such as sidewalks, and allowed for updated assessments of safety measures to create more walkable conditions within the community. Additionally, "while the partnership participated in planning to revitalize urban communities, it emphasized developing trails in urban, suburban, and rural areas, rather than trying to affect suburban development patterns to encourage proximity of uses and connectivity" (Schasberger et al., 2009, p. 343). One of the main conclusions from the study was that "trails that connect suburban and rural areas to a revitalized urban core provide a strong basis for active living across landscapes" (Schasberger et al., 2009, p. 344). Follow-on programs leverage the resulting 2008 "Greater Wyoming Valley

Watershed Conservation Plan" to account for the land conservation strategies that would preserve the natural environment within the watershed.

The case of Pennsylvania considers a relatively small population, but similar results have also been observed in larger cities. The Portland metropolitan area's "Greenspaces Master Plan" (Oregon Metro, 1992) envisioned 1,200 miles of regional trails and greenways. The plan identified resource-based, human-use, and economic values that served as the basis for investing more in regional trails. Resource-based values include nature protection and conservation such as protecting shorelines, water quality of surface and groundwater, and maintaining natural vegetation and biodiversity. Human-use values are related to advocating for healthy lifestyles and better integrating green spaces in the metropolitan design to promote wilderness recreation experiences. The economic values include protecting air and water quality, which leads to increased land marketability, the reduction of healthcare costs, and eco-tourism. As of 2013, over 300 miles of regional trails were built. The process is still ongoing and continues to receive a variety of grants and other funding opportunities from national and state actors:

> Relatively small expenditures on new trail systems can fundamentally change the dynamics of a region. In the Portland/Vancouver metropolitan area, an initial investment in a 46 kilometer loop trail (Oregon Metro 1992) stimulated the development of over 480 kilometers of trails used by millions of people each year. (Courtenay & Lookingbill, 2014, p. 271)

The various projects that have been and are currently being implemented to achieve the master plan have had a great influence on city planning, including transportation patterns, and continue to bring in funding that benefits communities around the city (Oregon Metro, 2013). These programs are spread throughout the city and the municipal government is working to ensure that the benefits are just and profitable for communities of different demographic and socio-economic compositions.

Another way to look at the benefits of trails through cities is to look at how simply focusing on green space is not a sufficient solution for many cities. A study on green space in the city of Hangzhou, the capital of Zhejiang Province in China, found that many parks do not have the same benefits as trails. The city has approximately 6 million residents and it is reported that over 90% of the city's population has easy access to green space throughout the city. But, despite an

impressive urban greening program that began in the early 2010s, most parks are "not suited to active recreation… [they are] 'window dressing' which seldom allows active use…located close to main roads, increasing users' exposure to air pollution and making it difficult to escape traffic noise" (Wolch et al., 2014, p. 237). In addition, studies have found that these small parks effectively drive out low-income earners and promote gentrification through a localization of benefits that are concentrated in dense urban areas. On the other hand, long nature trails pass through many different areas meaning that the benefits are not confined to one specific area. That is not to say that regional trails would automatically improve these conditions, but goals that focus on making cities "just green enough" can overlook valuable benefits of exploring other options that could better enhance public health, environmental equity, and social justice in urban spaces.

As seen in the available literature, there is an understanding that urban green space is not equally distributed throughout cities and the construction of neighborhood parks is not an all-inclusive method in helping those who live in these cities maintain a relationship with nature. At the same time, it is acknowledged that experiences in nature have a variety of benefits, and by bringing long nature trails into more densely populated areas these benefits become more wide reaching. As explained in the next section, it is valuable to understand for what purposes the research is taking place as well as how that research is conducted.

4. Research strategy

Identifying the research strategy that fit with the research questions and objectives was an important part of understanding the goals of the project and developing the process to conduct the study. When building out this study, it became clear early on in the process that there is no one answer to the research questions and the answers may differ depending on the methods employed or the framing of the data. One way to find the research strategy is to define the purpose of the study. According to Alma College associate professor William Gorton, Ph.D.:

> Advocates of naturalism remain wedded to the view that science is a fundamentally empirical enterprise. Second, most naturalists hold that the primary aim of science is to produce causal explanations grounded in lawlike regularities. And, finally, naturalists typically support value neutrality – the view that the role of science is to describe and

> explain the work, not to make value judgements. (n.d., Naturalism and the Unity of Scientific Method section, para. 4)

This study is anti-naturalist, meaning that the aim is to search for meaning from the phenomena and aim to use that awareness in a larger social context.

Logical positivism aims to find the objective truth through testing hypothesis against data with a view to verifying them. Interpretivism, on the other hand, states that social phenomena have meaning, and the goal is not necessarily to predict social phenomena but rather to understand it from a social perspective. (Mandt Larsen, 2021a). Thus, it was important to understand and acknowledge that this project does not express a positivist ideology, rather the project and the findings are interpretive in nature. Additionally, while deductive arguments assert that the truth of the premises guarantees the truth of the conclusion, that would mean that there will be one overarching answer that neatly fulfills the research questions and objectives (Mandt Larsen, 2021b). But this thesis is non-deductive in that the answers that are determined support a truth, but do not necessarily define the one truth or a complete truth. Rather, this thesis – and the project it is based on – looks to understand as many aspects of integrating nature trails into cities as possible and potentially how that could be used to promote trails running through cities in the future.

4.1. Qualitative research

Many social aspects of the world cannot be explained in positivist terms and the best way to analyze them is simply through searching for the possible meanings behind how people interact with and within their societies and, by extension, their environments (Merriam, 2002, p. 4). Qualitative research is often utilized by social scientists to "understand situations in their uniqueness as part of a particular context and the interactions there" (Patton, 1985, as cited in Merriam, 2002, p. 5). Qualitative research is, in essence, explorative. While some projects may be looking for a concrete answer, within the social sciences it is usually more common to find qualitative projects that are looking to discover all the relevant aspects, understanding all of the possibilities, gaining insight into the social phenomena, and developing new ideas (Øgaard, 2021).

The research objective of this thesis is fundamentally qualitative in nature and, as such, the methods employed follow that approach. The logic for this thesis is both inductive and abductive while the different methods employed are literature reviews, case studies, qualitative interviews, as well as observation gained through personal experiences on the trails.

4.1.1. Induction

Induction begins by analyzing pragmatic observations with the aim of identifying new insights and categories (Sovacool et al., 2018, p. 28). According to Danermark et al., (2002), inductive research takes place when the researcher uses "a number of observations to draw universally valid conclusions about a whole population. To see similarities in a number of observations and draw the conclusion that these similarities also apply to non-studied cases" (p. 80). Induction is very useful for answering "what" questions and allows the researcher to identify patterns or emerging trends when analyzing the data (Blaikie, 2009). To answer the presented research questions, existing programs and policy documents have been identified for analysis. Identifying patterns is an important first step to better understanding the social phenomena being explored and, as such, it is helpful to utilize additional research strategies to recognize the motivations.

But induction has its pitfalls, such as how are we to justify the use of inductive reasoning without using inductive reasoning? According to Solomon, we do not know if nature is uniform or non-uniform. If nature is non-uniform, then both inductive and non-inductive reasoning will likely lead to incorrect conclusions. If nature is uniform, however, then non-inductive reasoning is more likely to lead to incorrect conclusions while inductive reasoning has greater probability of resulting in a correct conclusion. Thus, in both scenarios where nature is uniform and non-uniform, it is more rational to utilize inductive reasoning over non-inductive reasoning (Mandt Larsen, 2021b). When using induction, we assume that nature and society operate uniformly and everything will fall nicely into these emerging generalizations.

4.1.2. Abduction

Abduction does not necessarily conclude with an absolute answer, but abductive research postulates the best answer using the information that is available (Langhelle, 2022). One aspect of the research objective is to understand the different actors involved, if the trail planning is actively incorporated in urban planning policies, and the reasons why trails may be included or

overlooked. Another component of this study is to understand the role that environmental justice plays in the development and maintenance of trails through cities; this focuses on the aspect of equitable access to these trails. Although the second research question is a "how" question, there is still an underlying element of identifying why these systems have evolved to work the way they do today and the inclusion, or exclusion, of social equity. This motivation makes the research abductive as well as inductive. The abductive strategy utilized for this study is more reflective of the understanding as put forward by Blaikie (2009); he asserts that abduction is used to analyze the actions of social actors to provide the theories that create the foundation for the meanings. In this study, various stakeholders, multiple levels of governance, and authority, are examined to understand why the trails were established in the form in which they exist today.

5. Research method

5.1. Purpose

This is an empirical study that combines basic research with applied research; the research objective is to explore and understand the phenomenon and then go one step further to assess the social impacts of the phenomenon (Blaikie, 2009, p. 84).

5.2. Multi-method research: Data collection

When undertaking any research project, it is essential to determine what methods would best suit the study to provide the most relevant information to answer the research questions and meet the research goals (Patton, 2009). Mixed method designs combine both qualitative and quantitative research techniques or methods (Yin, 2009); within this study, quantitative research methods are not being actively employed in that data is not being collected through instruments nor is it presented numerically (Creswell, 2015).

Multimethod research studies, however, combine methods within either qualitatively or quantitatively based studies (Mik-Meyer, 2020). As previously stated, this research topic is qualitative in nature and the employment of more qualitative methods is beneficial for further exploration of the topic, which qualifies it as a multimethod research study. One of the more common combinations of qualitative methods is interviews, observations, and document analysis (Mik-Meyer, 2020). This approach presents an opportunity to collect a variety of social

perspectives and provides a realistic representation of the real world, which is very complex and has interactions between many different social groups and stakeholders. There is less emphasis on observations as a method for this study, but the researcher's own observations while hiking these trails did provide the initial inquiry and motivation for studying these trail systems in an urban locale. The addition of the case studies to the combination of methods provides an arena to discuss three cities but highlights the differences in the complex social phenomena that arises within the context of these trails within the same country.

5.2.1. Literature review

The first method that is employed in this study is a literature review. This method serves to explore and emphasize relevant scholarship and provides a foundation for the study. As explained by Yin (2009), the literature review functions as a step in answering questions, but a literature review on its own does not provide answers to the questions being explored. The literature review is a presentation of information that is already known within the field, but it is further utilized by the researcher to develop more discerning questions about the topic within the scope of the study. This did, in fact, happen within this thesis; the process of reviewing articles helped to further narrow the scope of the study and better define the research objectives.

Academic research articles were predominantly found through Elsevier (also known as Science Direct), JSTOR, and Google Scholar. Keywords and phrases such as "long-distance trails," "through-hiking," "outdoor recreation benefits," and "Sweden nature trails" were used as initial search terms. From there, titles were assessed based on their relevance to the topic and seemingly relevant articles were quickly skimmed to assess applicability. Additional sources were found through snowballing using studies cited directly in the texts as well as the reference lists of key articles. The gray literature utilized for analysis, including government documents and strategic planning agendas, was found through the respective city and trail websites.

The literature review includes research from three themes to provide a basis for the study. Currently, there is not a lot of literature on the impact of integrating urban spaces into continuous, long nature trails, though the topic is emerging; as such, it was required to pull insights from each of these thematic arenas and build a narrative on how they all fit together within this context.

5.2.2. Case studies

Case studies are "in-depth examinations of one or more subjects of study (cases) and associated contextual conditions" (Sovacool et al., 2018, p. 18). According to Yin (1998), case studies are the preferred method when the researcher has little control over events, the focus is on contemporary phenomenon within some real-life context, and the researcher is trying to answer how or why that phenomenon is taking place. This research project is also interested in determining who are the main actors, how they interact, and how these interactions benefit urban populations in terms of their trail access. Case studies include a variety of evidence, including documents, artifacts, interviews, and observations, which provides well rounded data points that can be analyzed.

The selected cases were identified partly through observation, as the researcher has hiked in both Göteborg and Malmö. As the second and third largest cities in Sweden, it then made sense to include Stockholm as Sweden's most populous city to better understand the urban context of long hiking trails. Additionally, considering an overwhelming majority of Sweden's population lives in urban spaces, looking at city spaces reflects the norm for many Swedish residents (Tätorter I Sverige, 2022). There is the understanding that Sweden is a large country and there are many less densely populated rural areas. But the majority of hiking trails are already situated in these rural spaces and the respective pastoral residents have different considerations for accessing these trails than people who have more metropolitan lifestyles.

5.2.3. Qualitative interviews

The inclusion of semi-structured, open-ended interviews allows for a more in-depth analysis of the policies by engaging with actors that are creating and implementing the policies, as well as the physical trails. In this case, the semi-structured interview is a valuable tool because it can "help develop understanding of the ways in which managers make sense of, and create meanings about, their jobs and environment" (Qu & Dumay, 2011, p. 246). The ideal sample size was nine interviews, three from within the different spotlight municipalities to capture the respective outlooks and approaches from various stakeholder organizations between the different locations. The initial thought behind this goal was to collect a wider range of insights from the various actors who influence trail positioning and facilitation. Despite sending messages to politicians,

trail agencies, multiple planning offices, and responding with follow-ups by phone and email, only four people responded that they would be able to partake in an interview. Although additional interviews could have yielded deeper and/or wider insights, when considering the time constraints there came a point where continuing to devote time to reaching out to potential interview participants would have taken time away from the data analysis and writing process. Even though the goal of nine interviews was not reached, the information gained from the experts that did agree to interviews proved to be very insightful and revealed connections that otherwise likely would not have been identified just through the literature review and case studies.

The use of both purposeful and snowball sampling strategies was employed to identify prospective interview participants (Koerber & McMichael, 2008). Initially, prospective interviewees were found using purposeful sampling by searching the various organization websites; focus was placed on the municipal planning offices, the Swedish Trail Association, and the individual organizations that manage the trails. Many times, this meant sending an inquiry to the general organization email and waiting to be directed towards a specific individual who was interested in participating in interviews, as well as had the knowledge and experience to answer the interview questions. As interview data was analyzed, additional organizations were added to the list of prospective sources to continue following emerging trends.

Following the first interview, the incorporation of snowball sampling became usable as I was able to ask participants if they could recommend other potential participants (Koerber & McMichael, 2008). From these recommendations, it became easier to contact additional prospective interview participants with specific contact information for other subject matter experts within similar positions in other municipalities. I utilized emails as well as reached out to suggested participants on LinkedIn for greater visibility. 20 interview candidates were contacted in various stakeholder organizations, but only four were able to allocate time to discuss the project.

Table 1: List of interviews

Interview number	Title/Expertise	Trail - City
1	Communication manager and GIS Coordinator	Bohusleden, Gotaleden - Göteborg
2	Regional Development and Trail Manager	Skåneleden - Malmö
3	Tourism Manager and Trail Developer	Bohusleden, Hallandsleden, and Skåneleden - Halmstad
4	Trail Developer	Gotaleden - Göteborg

As can be seen in Table 1, one of the interview participants was not from any of the selected cities/trails but, rather, was affiliated with the city of Halmstad, in Halland County, that is situated between Skåne County (Malmö) and Västra Götaland County (Göteborg). The representatives associated with both Bohusleden and Skåneleden suggested reaching out to the management organization of the connecting trail, Hallandsleden. The information gained in this interview contributed to additional trail history as well as provided information about overarching national and regional policies related to hiking and transportation services.

Additionally, no interviews were conducted with representatives from Stockholm, despite expending considerable effort to schedule such interviews. Those approached responded that they did not have adequate time for this task. Although this presents a slight imbalance in the information between Stockholm and the two southern cities, additional gray literature was utilized to mitigate this imbalance and help build out the case of Sörmlandsleden and Stockholm.

5.2.4. Observation

While observation was not employed during the project study, reflecting on observations made while hiking the Skåneleden, Gotaleden, and Bohusleden trails helped to guide this research project and influence which aspects of the trails to examine. In general, ethnographic field studies allow researchers to witness and delve into the everyday realities that are being lived (Blommaert & Jie, 2010). The experiences on the trails allowed the researcher to experience the reality of these trails and how they are accessed by urban citizens, especially those without cars.

5.3. Thematic data analysis: The story of nature interactions in Swedish cities

Due to the need to draw insights from multiple research areas to address the specific topic, a narrative analysis was ideal for this research. According to Sovacool et al., (2018), a narrative approach is "particularly useful for exploratory reviews that seek to synthesize insights from a variety of perspectives and disciplines, or areas where insufficient data exists to conduct a systematic review or meta-analysis" (p. 23). This type of analysis also fits in with the use of the adapted PEPI framework to identify how city spaces have been incorporated into the trails, which requires pulling from various sources and integrating the data through this lens to build the story.

One type of narrative analysis is known as a thematic analysis which "moves beyond counting explicit words or phrases and focuses on identifying and describing both implicit and explicit ideas" (Namey et al., 2008 as cited by Alhojailan & Ibrahim, 2012, p. 40). The thematic approach is beneficial when looking at multiple case studies to identify common thematic elements (Riessman, 2005). Instead of just conducting a search through the documents and interviews to see how often words like "nature" or "hiking" were mentioned, looking for broader themes within this context presents a more detailed picture that is better representative of reality.

It is important to point out that the undertaking of semi-structured interviews and document analysis allowed for concurrent data analysis. The first step was identifying interview participants and gathering municipal documents that address city plans (urban planning and climate goals) as well as other pertinent reports that reflect current attitudes and conditions within the cities. Once the source material was collected, the next step was going through the source material (municipal gray literature and interviews) and working each of the cases through the analytical framework. The analytical framework provided a means to study the cases in a structured manner that made it easy to follow and provided a uniform way to study the data within each of the different phases and elements. Due to the lack of uniform data between the cases, however, such as no interviews in Stockholm and less gray literature from Goteborg and Malmö, the analysis is not identical between each of the cases; this means that some of the elements within the analytical framework have more or less input which results in slightly varying levels of analysis between the individual elements of the three case studies.

The information from the source data was also used to identify the different themes in relation to the outdoor trail systems within each of the cases and the larger Sweden context. The themes were identified corresponding with the literature review: environmental justice in the access to long nature trails for urban residents, the public health impacts of these trails, and the overall benefits of the trails. This was done to understand how these themes played out in each case and is further explored in the discussion.

5.4. Ethics and Consent

The data for this thesis has been collected and used in accordance with the guidelines of the University of Stavanger and the Norsk senter for forskningsdata (NSD). Interviews were conducted with consent from participants and personal data, including audio files, was gathered and stored using approved programs.

5.5. Limitations

In terms of the methodological limitations, there are inherent negatives about utilizing qualitative research methods. One fallback to using induction is "inductive inference can never be either analytically or empirically certain = the internal limitations of induction" (Danermark et al., 2002, p. 80). Furthermore, as the researcher I am interpreting the data collected within the scope of the project; despite attempts to be objective in the analysis of data, this is an innately subjective process as I am using my own frame of reference which can be restrictive. These research objectives and questions do not allow for empiric certainty and there is likely no "right answer," which is fully acknowledged in the research design and application. Additionally, there is not enough space or time to explore all the facets of urban planning, trail planning, the historic and cultural significance of these trails, or the complexity of urban mobility structures which all play a role in understanding the research objective within the context of this thesis.

One of the more prominent logistical limitations of this study is the language barrier; as an American learning Norwegian trying to read documents written in Swedish, I am constrained by the data that I can digest. Not all the national and municipal documentation is available in English, and some of the English materials are broad summaries of larger publications written in Swedish and may omit important information within the scope of the study. Google Translate is an incredibly useful tool but it does not always provide perfect and comprehendible translations.

Following some of the interviews where Swedish terminology was used, it would take a few attempts to properly spell the words to even use Google Translate to settle upon a sufficient English interpretation.

6. The case of Sweden: Urbanizing *allemansrätt*

While not unique to Sweden, *allemansrätt* is engrained in Swedish culture. Within the Swedish setting, *allemansrätt* allows "The freedom for everyone to roam, and to some extent stay on any landowner's property regardless of their will, to make use of the water in lakes and streams for boating, bathing, laundry etc." (Statens offentliga utredningar (Swedish Government Official Reports) (SOU) 1940: 12, 268, as cited in Sténs & Sandström, 2014, p. 106). The right extends to other recreational activities including hiking, camping, and cycling and encourages people to be good stewards of nature while they are present in the natural environment.

The idea, and practice, of *allemansrätt* is an important aspect of the Swedish national identity, the nation's image, and Scandinavian culture as a whole (Sténs & Sandström, 2014). Beginning in the 1930s, participation in outdoor recreation activities increased in Sweden as a result of societal democratization alongside greater attention to workers' welfare. The combination of these two trends provided opportunities for more types of people to engage in outdoor activities, which had previously been accessible largely to wealthy men who made up a minority of society, and allowed more time for urban residents to connect with nature by regulating work hours and promoting workers' welfare (Sténs & Sandström, 2014, p. 110). Within Sweden, the Swedish Parliament was led by the social democratic party for over half a century, through their leadership the collective needs were prioritized over private property rights which further rooted the practice into the culture. These trends contributed to emphasizing the Swedish relationship with the outdoors by opening the natural environment to the public thereby enhancing the role of nature in what it means to be "Swedish".

As mentioned in section 3.1, an interesting aspect of Sweden's *allemansrätt* is that there are very few formal laws that define the constraints of this right and the interpretation is very much cultural and customary. The lack of legal limitations has caused friction between some landowners and the public, as well as landowners and commercial industries that have engaged in activities on private land. Despite this tension, the increasingly urban population has shown

great resistance to placing limitations on, or even formalizing, *allemansrätt* due to a strong interest in maintaining open access to outdoor spaces and recreation activities (Sténs & Sandström, 2014, p. 115). As of 2020, 9,088,367 people lived in urban areas throughout Sweden, this accounted for 88% of Sweden's population (Tätorter I Sverige, 2022). The cultural importance of maintaining public access to nature, despite lacking solid legal foundations, in a country that has rapidly urbanized over the past century makes Sweden an excellent case to study how urban settings remain connected to the natural environment.

As seen in Figure 5, over the past 175 years, rural populations have been on the decline while urban populations have increased. The shift towards population urbanization begins approximately 10 years before 1900, and the trend continues in extreme following WWII. While the rural population appears to level out during the 1970s, the urban population continues to climb with more people moving into the cities each year.

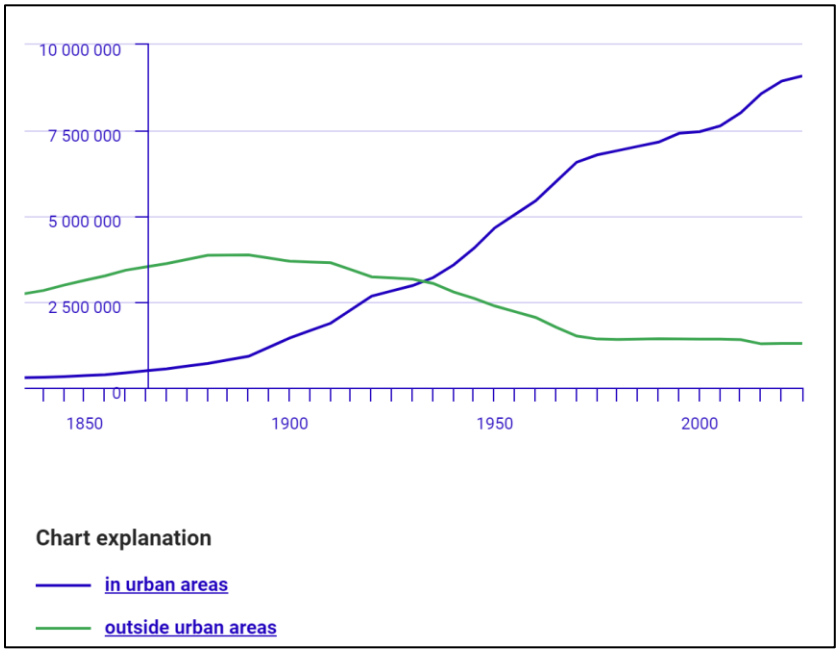

Figure 5: Sweden population transition between urban and rural areas
Source: Snabba fakta om Sverige (2022).

The country has three levels of government - national, county (regional), and municipal; each level of government has different responsibilities when it comes to land-use planning activities. The national government is responsible for framework legislation that defines land-use planning systems and establishes basic guidelines that must be followed by counties and municipalities. The national level also defines building codes and designates protected spaces such as natural

reserves or heritage sites. There is no official spatial plan at the national level in Sweden, but the national government does implement an Environmental Code which provides regulations for permitted land uses. The county governments oversee regional development projects by engaging with each of the impacted municipalities and act as coordinators between individual municipalities (OECD, 2017).

The municipalities are accountable for local land-use planning; they prepare a Comprehensive Plan for strategic planning and a Detailed Development Plan for implementation. The Comprehensive Plan serves as the main tool for decisions regarding using land and water areas. The Comprehensive Plans are reviewed at least once during each legislative period by the municipal council and must comply with national guidelines, as verified by county administrative boards. The Detailed Development Plan is the legal mechanism through which land use is regulated at the municipal level. This document provides rights to landowners, and they are reviewed between 5-15 years, depending on the area. Municipalities oversee housing provisions through public housing companies. Lastly, the municipalities provide the technical infrastructure that is required to develop land (OECD, 2017).

Within these different case studies, the population and land use data pertain to the individual cities, but the environmental plans are municipal based. For the respective trails, the intention is to focus on their relation to the core city spaces as opposed to the larger municipalities; this is done to pay attention to the greatest area of population density with respect to trail accessibility.

7. Results and Empirical Analysis

The answers to the research questions follow a similar to logic to Sweden's approach to *allemansrätt*; there are informal national guidelines that provide information for best practices regarding structuring, maintaining, and expanding long hiking trail systems within Sweden. The "From Patient to Citizen" policy (Preposition 1999/2000:79) was implemented by the Swedish Parliament – *Riksdag* – in 2000 which aimed to speed up "development towards a society where everyone, regardless of disability, can participate on equal terms" (Mebus et al., 2013, p. 16) in a variety of activities ranging from everyday errands to recreation opportunities. The plan was implemented from 2000-2010 and was replaced by an updated strategy for implementing the disability policy (Commemoration S2012.028). These policies gave authority to the Swedish

Environmental Protection Agency (EPA) to create guidelines for how to implement greater accessibility within protected environments (Schibbye et al., 2007). In 2007, the EPA worked with the Nature Conservation Office to develop a guide for the planning and management of natural and cultural areas - *Friluftsanordningar: en vägledning för planering och förvaltning*. This guide covered topics including maintaining the historic and cultural value of these sites and how to build infrastructure to make them more accessible to a variety of people while ensuring safety measures.

In 2013, the EPA provided additional updates and published an updated guide for accessibility - *Tillgängliga natur- och kulturområden: en handbok för planering och genomförande av tillgänglighetsåtgärder i skyddade utomhusmiljöer*. This updated guide uses the 2006 UN Convention on the Rights of Persons with Disabilities, specifically Article 9, as a starting point for explaining why it is necessary to ensure that nature trails are accessible to as many people as possible. “A rule of thumb is that a measure that is essential for 10 percent facilitates access for 40 percent and is convenient for 100 percent” (Mebus et al., 2013, p. 11). These policies also delegated responsibility down to the counties and municipalities for managing their respective protected nature and cultural areas. While the 2013 Accessibility Guide predominantly focuses on creating spaces that are more accessible for people who have functional impairments, it does acknowledge the importance of improving accessibility between different spaces such as better integrating urban centers when building out plans for encouraging visitation to protected landscapes.

The National Framework for Hiking Trails - *Nationellt ramverk för vandringsleder* - was a project that took place between 2019-2022 with the aim of creating a guide to assist organizations and people with the development and management of hiking trails throughout Sweden (Aguirre, 2022). This framework builds upon the policies that were implemented by the *Riksdag* as well as the guides that were published by the EPA and provides additional trail-specific guidance. Financed by the Swedish Agency for Growth and the Swedish Agency for Agriculture, the project group comprised representatives from various counties and municipalities throughout Sweden to collaboratively develop the framework to achieve development towards sustainable, quality-assured, and attractive hiking trails (Aguirre, 2022). The framework applies to lowland hiking trails that are not at high altitude and generally pass through the countryside or along the coast without the need for highly technical gear. The various

trails are managed by the regional and municipal governments, who may then decide to keep trail management in house or delegate the responsibilities to external trail organizations. The policies established by the EPA and the framework are non-binding, meaning there are no consequences if municipalities or trail management organizations decide not to adopt the suggested strategies including trail ratings, facilities, signage, and digital presence.

Thus, much of the work that is involved in creating and managing these trails is conducted at the regional and municipal level of governance and by the individual trail organizations where applicable. Additionally, any goals for public health relating to outdoor recreation accessibility are also taking place within those levels of governance. This leads to the sub-question of how these hiking trails are made available to urban residents. Furthermore, this leads to the exploration of how these different actors advocate for urban residents to provide inclusive and equitable access to the trails that have predominantly resided in rural spaces, which is where the use of the use of the analytical framework is employed.

In the subsequent subsections (7.1-7.3), the respective cities and the corresponding trails will be examined utilizing the analytical framework. Each case is worked through the analytical framework to understand how the trail institutions have developed and how they interact with the associated urban centers. Utilizing visual guides in the form of tables that work through the analytical framework, subsection 7.4 provides a short comparative analysis between each of the trails/cities to assess if and how the institutions have developed differently. Additionally, subsection 7.5 begins to analyze the evolution of trail institutions and external actors that will be further explored in the discussion (section 8).

7.1. Sörmlandsleden/Stockholm

Historical Context

Stockholm is both Sweden's capital and the country's most populous city; founded in 1251 it is also the oldest of the three cities within the study. At the end of 2021, 970,770 people lived in the city of Stockholm. Within the city, 55% of the land has been built up, 39.4% of the land is classified as "open marshland and other land," 4.9% is woodland, and 0.7% of the land is utilized for agricultural purposes (Snabba Fakta Om Sverige, 2020).

The Sörmlandsleden trail system was inaugurated in 1973, but the trail's beginnings started over 15 years prior when members from a Swedish hiking organization - Friluftsfrämjandet's local branch in Södertälje – developed the concept to build a circular lowland hiking trail that ran from Lida Nature Reserve located just south of city of Stockholm, down to Kolmårdens djurpark situated outside the city of Norrköping. The members initially brought the idea to the Friluftsfrämjandet's board in Stockholm, but the trail prospect was dismissed due to the perceived high financial costs associated with the creation of such a long trail. After the hiking organization board turned down the request to support the trail build out, the designers began working with Stockholm County's western neighbor Södermanland County to formally sanction and build out the trail (Sörmlandsleden, 2022).

From 1973 to 1980, the trail was managed by the Södertälje Friluftsfrämjandet's branch with support from Södermanland County. Since 1980, the trail has been managed by the Sörmlandsleden Association, which was established as a separate organization to formally manage, continue expanding the trail, and work with the various regional and municipal governments, national agencies, and private companies to advocate for the trail (Sörmlandsleden, 2022).

Biophysical Context

The first stretch of the trail was informally established in the mid-1960s between Gnesta and Kolmården. When the trail was inaugurated in the early 1970s, it began in the town of Ånhammar, which is situated approximately 100 km west of the city of Stockholm. Figure 6 presents the entire trail map; as seen from the image, most of the trail is west of Stockholm with section 1 starting just southeast of the city.

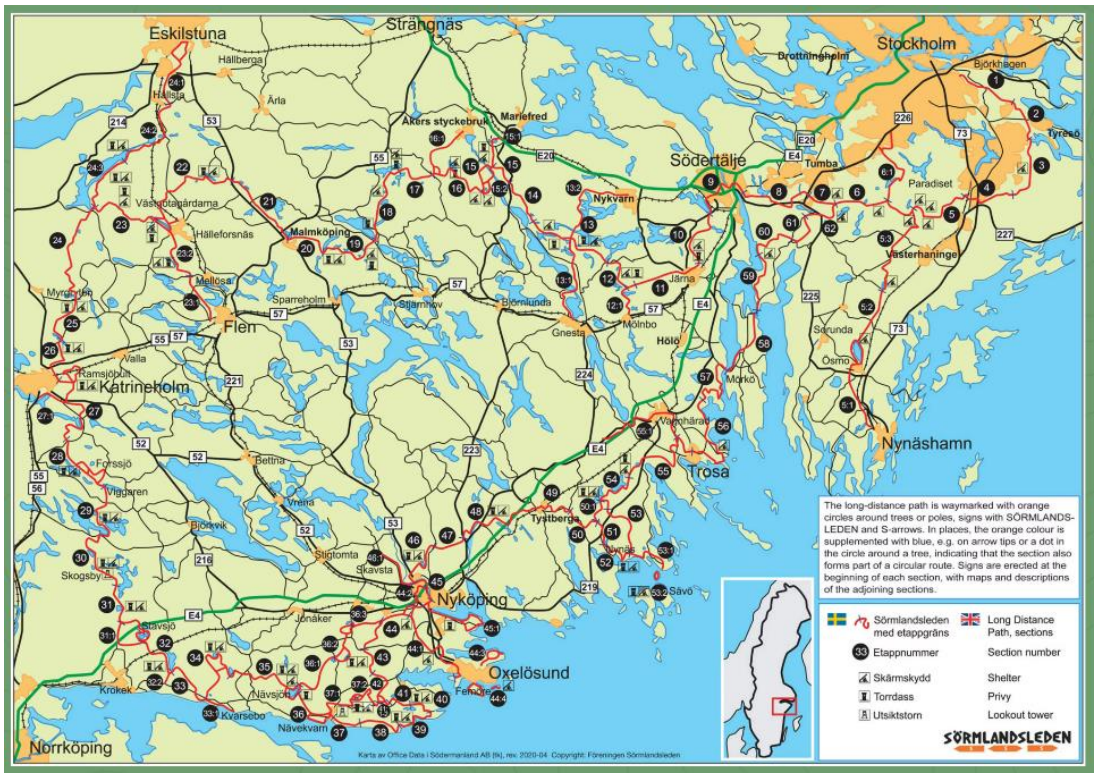

Figure 6. Sörmlandsleden overview map
Source: https://www.sormlandsleden.se/

Laws, Policies, and Institutions + Political-economic relations

The main political institutions within this study are Stockholm's County and Municipal governments. Regarding the trail, the municipal government is largely disengaged with the Sörmlandsleden trail and is, instead, focusing on city goals for public health and recreation. There is little evidence to suggest that the municipality is contributing funds to the trail association. The Stockholm County government appears to be more engaged with the trail but is still largely absent from the trail history and interactions with the trail management association (Sörmlandsleden, 2022). Within both levels of government, the emphasis seems to be on projects that originate from within the county/city (*Översiktsplan För Stockholm*, 2018).

An integral part of trail building within Sweden is getting approval from landowners who will be impacted by the trail route. Since *allemansrätt* is not a formally institutionalized law, the association had to decide how best to interact with the landowners. It was determined that a written statement was required, which formally acknowledged the landowners' agreement to allow the trail to run through their land (Sörmlandsleden, 2022).

From the available information, politicians within Stockholm have yet to recognize the benefits that the Sörmlandsleden trail can bring to the Stockholm region and, as a result, do not seem to provide steady economic support. Annual membership fees constitute a large part of the association's income. While the physical facilitation of the trail does not pose a funding issue as it is carried out by unpaid volunteers, the association relies on irregular grant awards or donations to continue with administrative costs and material maintenance fees. For example, a number of private companies, including outdoor store Naturkompaniet and aircraft manufacturer Boeing, have awarded and/or donated funds to the trail throughout its history (Sörmlandsleden, 2022).

Actors

The trail is managed by the Sörmlandsleden Association, which is run by a board and three employees who oversee the administrative matters of the trail. Additionally, over 150 volunteers assist with the maintenance and facilitation of the trail, which largely includes updating signage and ensuring that hikers have clear and safe pathways (Sörmlandsleden, 2022).

The trail runs through three counties: Stockholm, Södermanland, and Östergötland. Within those three counties, the trail runs through at least 15 municipalities; this is based on the stage map available on the website that details the area of the 94 stages. The trail also runs through several smaller cities but stops outside city limits of larger cities such as Stockholm and Norrköping. The association must interact with each of these regions, municipalities, and cities to get approval for the trail and work with the planning and traffic offices to develop new trail routes or make any changes (Sörmlandsleden, 2022).

Several private companies, including outdoor store Naturkompaniet and aircraft manufacturer Boeing, have awarded and/or donated funds to the trail throughout its history.

Not without note are the nearly 1,000 landowners who have agreed to let the trail pass through their land. The landowners range from large forestry companies to individual families. The landowners do not receive compensation for allowing the trail to run through their properties.

Institutional Policy Development, Enforcement and Change

From the beginning, the trail developers saw the cities as separate spaces from the trail. The city spaces were not integrated into the trail planning, rather the trail was always meant to stop right on the city border.

For the city of Stockholm, several documents were studied (list is available in Appendix B) to gather information about the city's public health goals, transport targets, and see if there was any mention of increasing access to hiking trails. The city's 2018 urban development plan map (part of the larger Stockholm City Plan) illustrates protected nature areas, proposed nature reserves, and ecological corridors within the city limits, but individual nature trails are not identified. The city's Accessibility Strategy – *Framkomlighetsstrategin* – also known as Stockholm's Traffic Strategy – promotes a city where "everyone feels welcome and where it is attractive to live, study, work and run a business" (Trafikkontoret Stockholms stad, 2022, p. 6). The plan focuses on how to best develop the city's roads and streets, especially as the city continues to grow in both area and population. Within the plan, there is more of a focus on freight transport, public transport, cars, and cycling though there are mentions of pedestrian traffic patterns. But the emphasis on walking and the development/maintenance of footpaths is often juxtaposed with the transportation needs of businesses and the use of walking is framed within that same business context – people walking to work or school. But the accessibility plan does recognize the advantages of walking in terms of being environmentally friendly, reducing traffic congestion, and providing physical, social, and recreational benefits (Trafikkontoret Stockholms stad, 2022, p. 37).

The city's 2020 Citizen Survey asked citizens their thoughts about the environment, traffic, and travel patterns within the city of Stockholm. The survey was sent to 18,000 people as a sample of the population of 762,106 who are between the ages of 16-79. From the survey, it was found that the main reason that Stockholm residents use cars is for "leisure trips and the purchase of daily goods" (Lindell & Miljöförvaltningen i Stockholms stad, 2020, p. 5) while cars also constituted the most common mode of transportation for holiday travel in 2020. Additionally, referencing preferences among various demographic groups as mentioned in Section 3.1, more women want to see a greater range of footpaths in the city as well as greater accessibility for bicycles. The survey also asked residents which environmental issues they felt the municipality should prioritize, of the nine possibilities, the most important issue was to prioritize the city's water

quality followed by the protection and preservation of the city's nature and biodiversity (Lindell & Miljöförvaltningen i Stockholms stad, 2020).

Stockholm's Climate Action Plan 2020-2023 only mentions biodiversity when looking at the impact that food has on the climate. Furthermore, there is only one mention of nature (in the environmental sense), and it is when talking about procuring less energy-intensive nature contracts as can be found in the management of parks and nature reserves (Stockholm Environment and Health Department, 2020).

The 2018 Stockholm City Plan is a more broad document that sets out targets for the city as it continues to grow over the next 25 years. The plan notes that nature plays a significant role in the Stockholm identity and access to green space is important for public health. The section "Green city on the water" (*Översiktsplan För Stockholm*, 2018, pp. 87-89) discusses the need for more integration with nature which "contains much on Stockholm's history, in the form of its historic landscape, ancient monuments, parks and gardens" (*Översiktsplan För Stockholm*, 2018, p. 87). It goes on to state that "the creation of 'Stockholm corridors' – well-maintained green links with popular functions along well-used walking routes – can strengthen the cohesive function of the city's natural areas and parks" (*Översiktsplan För Stockholm*, 2018, p. 87).

The subsequent section, "Culture, sport, and recreation" (*Översiktsplan För Stockholm*, 2018, pp. 91-93), highlights the strong interest in culture, sport, and recreation among Stockholm's residents and visitors, alike. The plan once again identifies the importance of access to green space and recreation to public health and maintaining a healthy city. The document also acknowledges that "socioeconomic status is a background factor that affects how physically active people are, and it is therefore especially vital to provide equal access to sports facilities and green spaces throughout the city" (2018, p. 92) Furthermore, the section calls for the incorporation of the public health perspective into the planning process and recognition of the different needs between each of the areas of the city when it comes to how the socioeconomic status may influence the accessibility for people to partake in physical outdoor pursuits.

Based on the available documentation, there appears to be no plans to further integrate the city of Stockholm into the Sörmlandsleden trail system.

Infrastructure

Transportation

The public transportation provider servicing the part of the trail that runs through Stockholm County is Stockholm Public Transport - *AB Storstockholms Lokaltrafik (SL)*. The nearest trail sections can be accessed by using the subway, the Nacka outdoor area for section one is close to the Björkhagen subway station, as well as a few bus routes that are within fifteen minutes' walk of the section starts. Based on the available information, it is difficult to determine if the trail was built with existing transportation stops in mind or how the stops and the trail have intermingled throughout the past few decades. It is also unclear just how much the trail organization engages with the transport provider to guarantee that the stops remain operational and continue to provide access to these trail entry points.

One thing of note about the trail is that, although cycling on the trail is permitted by public law, the Sörmlandsleden Association has decided that cycling is prohibited. This is likely due to the attempt to preserve the trail for the enjoyment of hikers, as bikes can contribute to accelerated trail damage, especially following heavy rains. While traveling on the trail can only be done by foot, the trail entry points can still be accessed through a variety of transportation options such as public transportation, private vehicles, and bicycles.

Website

The Sörmlandsleden trail website was developed in 2001. The site has the option to be translated into 12 languages which makes it accessible to many different people; this function simply uses the Google Translate platform to convert the Swedish text on the page to the visitor's language of choice. Each of the trail subsections has its own page which provides information about how to get to the section entry point and any especially noteworthy sites hikers should be sure not to miss while on that section.

As shown in Figure 7, the webpages for the respective trail sections do have an imbedded Google hosted map, but it only points to the starting point of the section and does not show the trail direction.

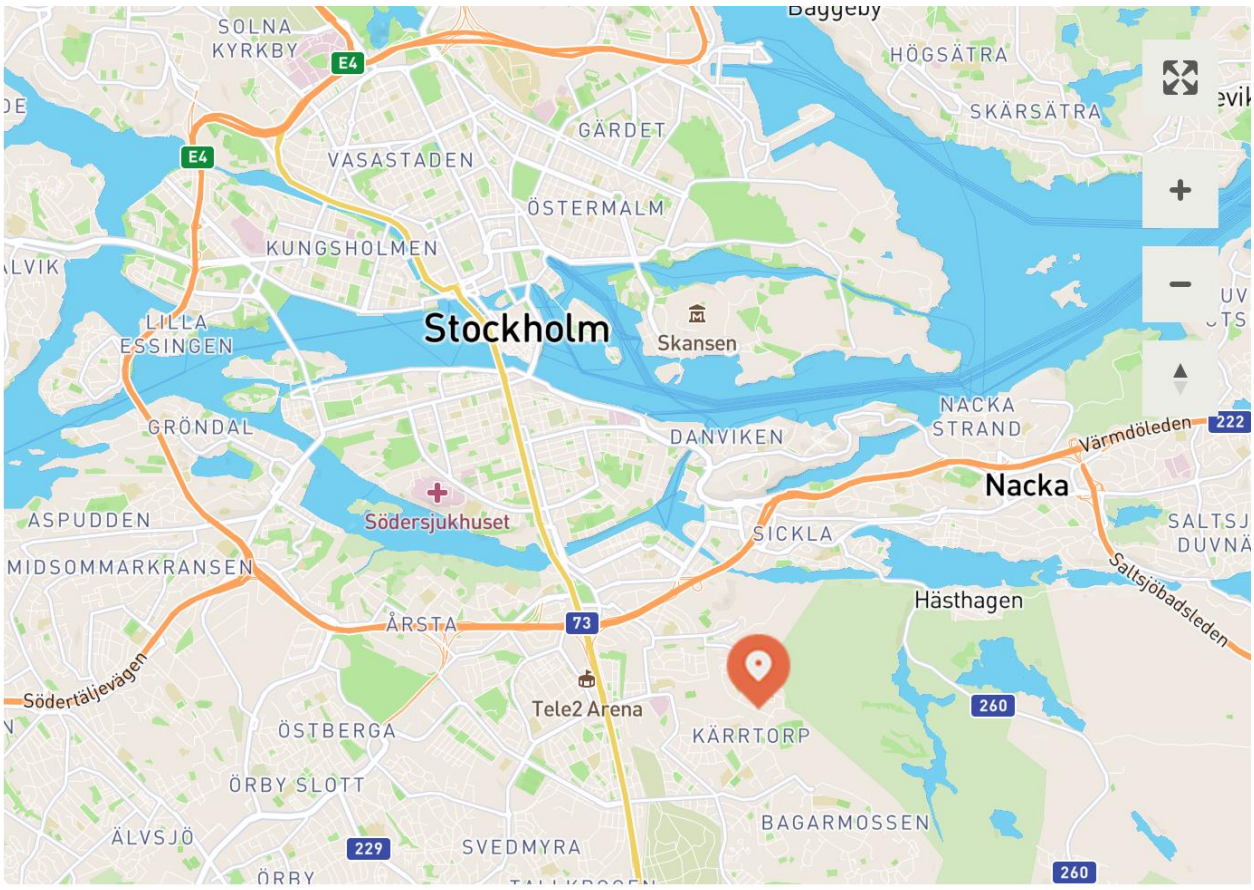

Figure 7. Stockholm section trail start
Source: https://www.sormlandsleden.se/

In order to access more in-depth trail Geographic Information System (GIS) data, such as the detailed section map, the Sörmlandsleden website requires a paid annual membership to the Sörmlandsleden Association. The default section map that is available to the public is shown in Figure 7 which does not provide non-members with the practical ability to zoom in on the trail or determine the trail direction. Figure 8 shows what is available on the section page to non-members when they attempt to view the more detailed section map. Even without the detailed map, however, the sites for each of the sections do include detailed information for accessing the trail using public transportation services.

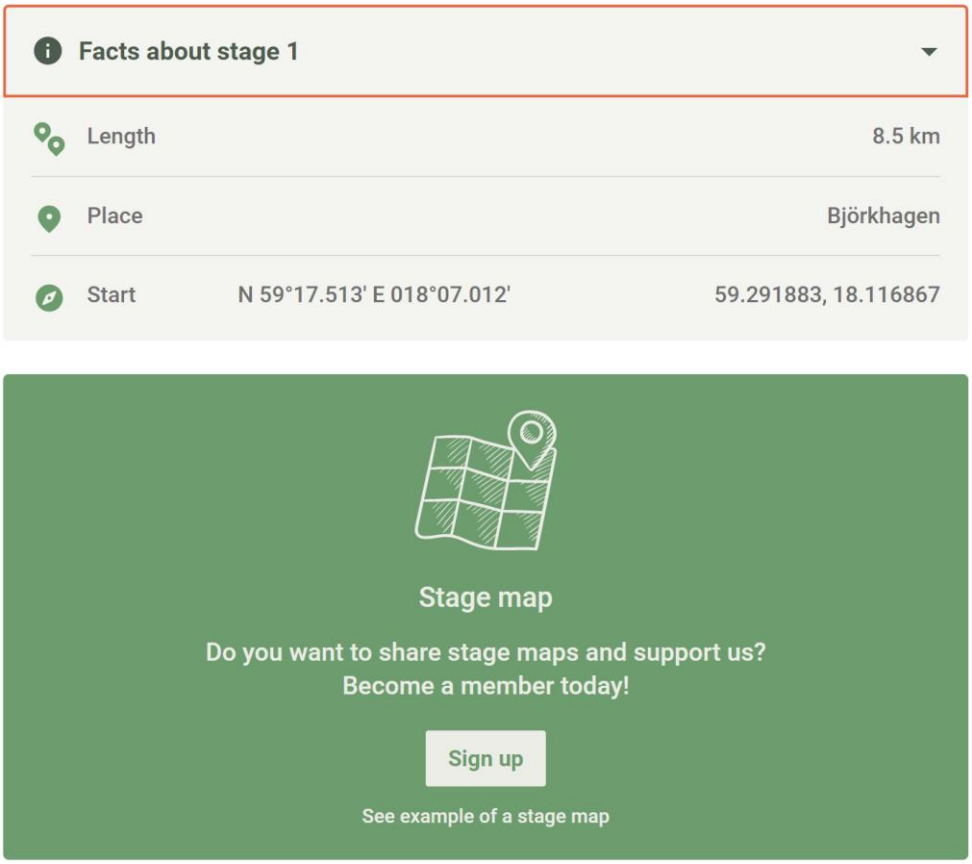

Figure 8. Stage 1 facts (unpaid access)
Source: https://www.sormlandsleden.se/

The trail also has an informal Facebook group called "Sörmlandsleden" which was established in 2010; as of the beginning of 2023, the group has 28,000 members who connect to find hiking partners and share experiences they have had while on the trail. This group acts independently of the Sörmlandsleden Association and individuals do not have to be a member of both groups. The Facebook group is open to everyone with a Facebook account and does not require any membership fees.

Outcomes

Economic Efficiency

The creation of additional trails that could better integrate the city of Stockholm into the larger trail system cannot be done without steady financial support. The Sörmlandsleden Association has acknowledged that they have faced multiple economic struggles since the trail's inception 50 years ago. In the late 1990s, the trail's financial reserves were depleted and there was talk about

shutting down the administration of the trails. The Sörmlandsleden Association engaged with the municipalities, county councils, and county boards to highlight the importance of the trail within the region and discuss the precarious future. This outreach led to ad hoc financial contributions from the involved regional and municipal governments to ensure that visitors could continue to enjoy the trail.

In the 1980s, the association had ten cabins that could be rented by hikers along the trail. By the early 2000s, the cabins were deemed financially unfeasible due to costly maintenance fees.

The lack of stable funding means that developing more trails is unlikely without additional funding sources aimed towards this goal. Considering the plans for the city of Stockholm to improve access to nature areas, there could be an opportunity for the trail association to work with the city government to further build out the trail and connect to Stockholm's nature reserves and parks through the current and proposed green corridors. This could align with the city's goals to encourage outdoor recreation and connection with nature for urban residents while providing a more reliable funding source for the trail association to develop trails that would serve the city as well as preserve and/or update existing trail amenities. But while this could be an opportunity, there are currently no public plans available regarding such a partnership.

Redistributive Equity

There is still a very clear separation between the more rural nature trail and the large city spaces without any visible strategies to bridge that gap. The lack of integration of the larger cities, such as Stockholm, into the trail does not bode well for providing equitable and inclusive access for urban dwellers. This means that people living in cities must travel further to access the trail while the trail organization is not actively trying to make urban residents feel received in these spaces. At the same time, the trail association is still developing new loops and adding to trail infrastructure within Stockholm County. In 2017, a viewing tower was built on Torbnerget at stage 5:3 by the Haninge municipality which marks the highest point in Stockholm County.

When considering the creation and management of the trail website, it does not support redistributive equity. The membership fee for Sörmlandsleden Association is 200 SEK (approximately 20 USD); while that may not be a high price to pay, it can be discouraging to those who do not have the ability to spend money on what may be perceived as non-essential needs.

Accountability

Feedback, engagement, and policy changes based on interactions with trail users are factors that indicate accountability. The trail association conducts annual meetings that are open to members as well as sends out surveys to gauge member's opinions on various aspects of the trail. In 2020, the association sent out a survey to all the members regarding access to the detailed subsection trail maps; the response rate of this survey was approximately half of the registered members. 50 percent of the respondents stated that they were only members so that they could access these maps while the other 50 percent continued to be members to support the organization and trail maintenance. The association acknowledged that the membership dues are an important aspect of the trail's finances and, it appears that, the response was not enough to force the trail organization to reconsider releasing the detailed maps to the public.

The organization acknowledges of the landowners who have signed agreements allowing the trail to run through their properties. From the information available, it is unclear how the organization and/or municipalities maintain these agreements with the landowners to address any concerns that come up. Though, it is reasonable to speculate that feedback from the landowners led the trail association to decide that bicycles are not allowed on the trail.

From the perspective of this research project, inquiries for interviews were sent out to the Sörmlandsleden Association, Stockholm urban planners, and Stockholm politicians; after numerous follow-ups, the trail association stated they were unable to participate in the study while the other organizations/politicians either did not respond to the request or stated that they did not have time to participate in the study. Although I am not a resident of the area and have not been on this particular trail, it is interesting that representatives from Sörmlandsleden Association declined to be part of the research project which could have provided a means to promote trail awareness or discuss strategies for trail management. Concerning the city of Stockholm, as the largest and capital city of Sweden, it is expected that the politicians and governmental offices may be contacted by a lot of research studies and might be less likely to participate in these studies due to time constraints.

Sustainability

The trail celebrates its 50th anniversary in May 2023, which is certainly an occasion to celebrate; but the uncertain financial circumstances of the past three decades should not be taken lightly.

The various financial crises throughout the years cast a shadow of doubt on the trail's continued survival. And with 50 years of operation also comes the need for trail maintenance to update the older, built infrastructure of the trail such as bridges and walkways. Although there are volunteers who may help to build out this infrastructure, there are still costs associated with the materials and potential labor costs for professionals, such as carpenters, to verify that this trail infrastructure is properly constructed. This is important to maintaining trail safety for visitors, but without the funding it is unclear how this will be managed.

7.2. Bohusleden & Gotaleden/ Göteborg

Historical Context

The youngest of the three cities, Göteborg celebrated its 400th year anniversary in 2021. The city is Sweden's second most populous with a population of 587,549 people at the end of 2021. Within the city, 31.9% of the land has been built up, 29.6% is classified as "open marshland and other land," 29% is woodland, and 9.4% of the land is utilized for agricultural purposes (Snabba Fakta Om Sverige, 2020).

The Bohusleden trail was inaugurated in 1985 and runs from Vassbotten till Strömstad city. The trail was created during a time when trail developers made an effort to keep trails more separate from the larger cities; at this time, one of the main allures of hiking was to get out of the city (Interview number 1). As a result of this separation mentality, the trail intentionally does not directly pass through Göteborg.

The Gotaleden trail was inaugurated in 2019. The trail was developed by a local resident of the Lerum Municipality, located between Göteborg and Alingsås. The developer was preparing for the El Camino hike in Spain and was walking between the two cities to train; during that training, he realized how beautiful the nature was in between the cities and recognized there was an opportunity to make an enjoyable hiking trail. More than that, he acknowledged that few hiking trails existed in the area that combined good hiking, creature comforts, and cultural-historic sites (Interview number 4). Additionally, the area offers 10 commuter train stations that provided a starting point to develop the trail running along the tracks which provide easy access to and from the trail, as well as connecting all these great amenities.

Biophysical Context

Bohusleden and Gotaleden are part of a larger trail system known as West Sweden Trails. West Sweden Trails includes ten subtrails broken into 110 sections spanning over 1,200 kilometers in Västra Götaland County (West Sweden Trails, 2022). The various trails cross over a variety of natural landscapes that are accessible by hikers and cyclists, alike, including coastal trails, fields, mossy forests, as well as urban spaces. Gotaleden and Bohusleden are two subtrails that are easily accessible from Göteborg. The Bohusleden trail runs north-south between Strömstad and Lindome; the trail runs east along the city of Göteborg in a semi-circle. The Gotaleden trail runs west-east from Göteborg to the town of Alingsås; the first section of the Gotaleden trail begins right outside the tourist office at Kungsportsplastsen, a large square in the city center, making it easy for even inexperienced hikers to find the start of the trail. Sections two and three of the Gotaleden trail intersect with Bohusleden for 18 km before the two subtrails split at the town of Jonsered.

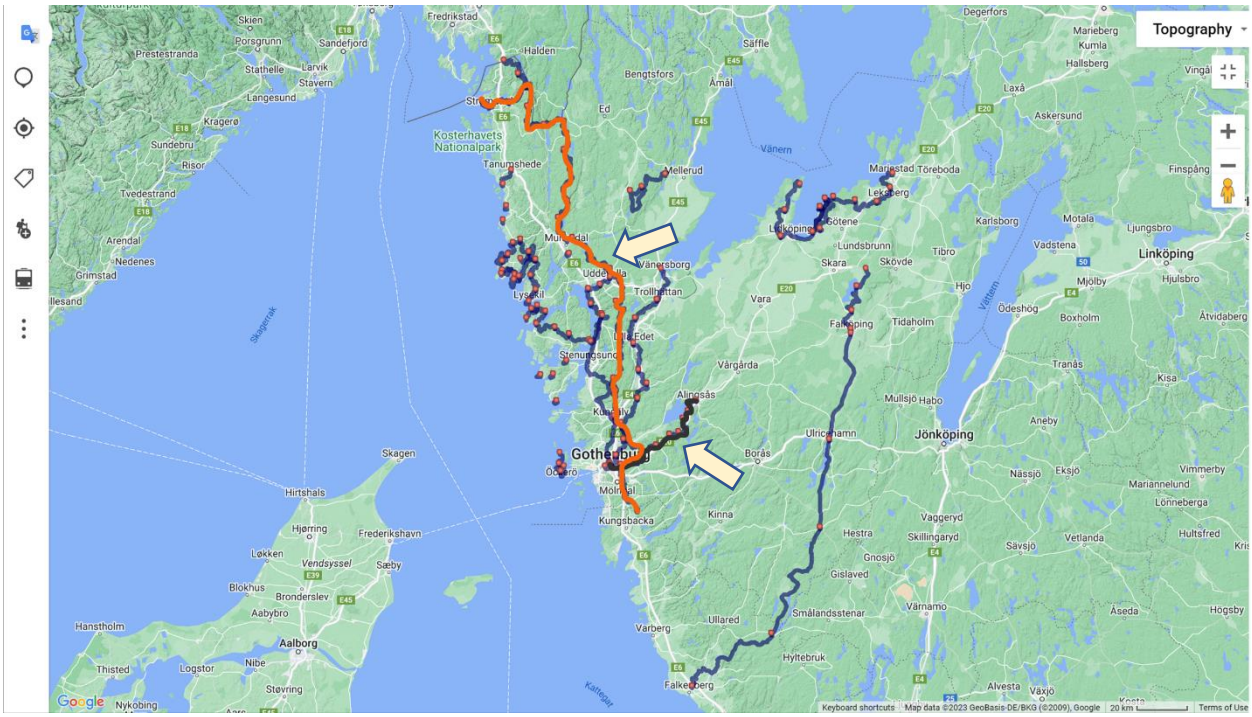

Figure 9. West Sweden Trails overview map

Source: https://www.westswedentrails.com/en/kartplaneringsverktyg/west-sweden-trails

Figure 9 shows all the trails associated with the West Sweden Trails organization; the Bohusleden trail (orange) and Gotaleden trail (dark gray/green) have been identified to show the length of the trails and position within Västra Götaland County; additional trails managed by the West Sweden Trails organization are dark blue.

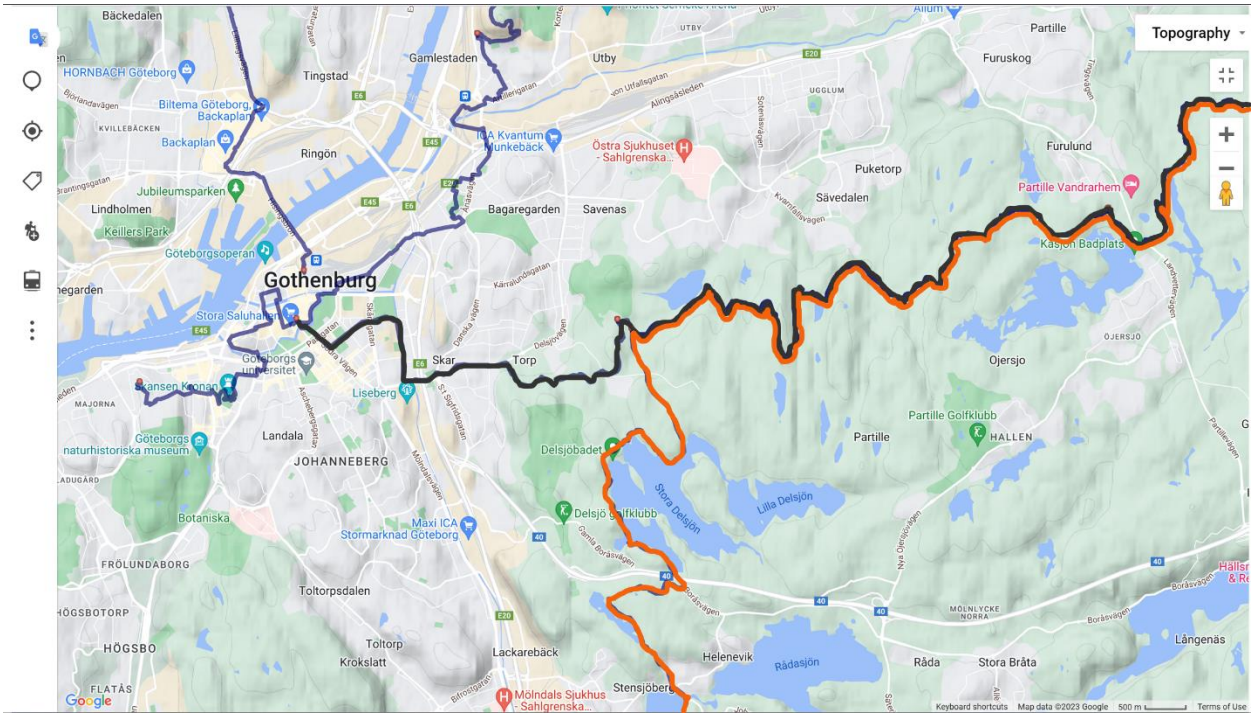

Figure 10. Map of Gotaleden and Bohusleden from Göteborg
Source: https://www.westswedentrails.com/en/kartplaneringsverktyg/west-sweden-trails

Figure 10 shows the Bohusleden Trail (orange) and the Gotaleden Trail (dark gray/green) relative to the center of Göteborg to highlight the spatial relationship between the trails and the city. It is interesting, if one looks closely enough, to note that the Gotaleden trail passes by the city's amusement park Liseberg; while this is not necessarily an important fact, it does show how the trail moves through the city and highlights how it utilizes existing high-volume public transport stops, making it easily accessible from popular urban destinations.

Laws, Policies, and Institutions + Political-economic relations

The main political institutions involved with West Sweden Trails are the Västra Götaland County Administrative Board and the Göteborg municipal government. Both the county and municipal governments are very engaged with trail planning, building, and maintenance. The County works with the trail management organization to engage with all the impacted municipalities and assist with communication and collaboration; the region has established a variety of health goals, one of which is to promote the use of hiking trails for residents (Interview number 4).

The municipal government of Göteborg is also very involved with the trails that run through the city. For the creation of Gotaleden, specifically, the trail developer searched through available

funding proposals to build out the trail. At the time, the municipality of Göteborg was reflecting on ideas to better employ the railways to allow people in the cities to reach different nature reserves or natural landscapes utilizing public transportation. The "trails to rails" program does not originate in Göteborg and has been employed in many cities, especially where railways are becoming more obsolete. But the city recognized the value of these commuter trains to reach nearby nature reserves (Interview number 1). When the trail developer reached out to the municipality, they realized that the goals aligned, and the city provided funding that had already been put aside for such a project. Göteborg's buy-in made it easy to convince the surrounding municipalities to contribute funding to the trail build-out along the commuter rail. In addition, the municipality worked with the Swedish Board of Agriculture to secure additional grants for the project (Interview number 1).

As with the case of Sörmlandsleden, there is a requirement to work with landowners in order for the trails to pass through privately-owned land. These agreements are crucial to the continuation of existing trails and the creation of new trails. The trail management organization, county administrative board, and the municipalities work together to maintain close communication and with the landowners to field any concerns and solve issues as they arise. Additionally, the trail management organization works with insurance companies to ensure that there are mitigation steps in place should anything go wrong on the trails.

Actors

The Västra Götaland County Administrative Board and individual municipalities partner with organizations such as the West Coast Foundation (*Västkuststiftelsen)*, the West Sweden Tourist Board, and the Administration for Cultural Development to develop and maintain the trails including trail conditions, trail markings, and facilities. The trails are managed, maintained, and marketed by the municipalities while the non-profit organization, *Västkuststiftelsen*, acts as a monitoring and supporting organization regarding regulations for management, education, and improvements. *Västkuststiftelsen*, with support from the Swedish Growth Agency, and the Swedish Board of Agriculture, plans to continue developing trail infrastructure to provide recreation opportunities to the public and introduce new windbreaks, fireplaces, public toilets, rest area amenities, and trail markings along all the trails to promote safety and accessibility (West Sweden Trails, 2022).

For the trail segments that run directly through the city of Göteborg, *Västkuststiftelsen* works very closely with the Traffic Communicate which handles everything regarding the roads and traffic. This organization is especially important for maintaining the safety of the hikers as well as drivers; the trail management office works with the Traffic Communicate to develop the best route through the city and place the trail markings in easily viewed spaces that are not obstructed by other traffic signs. The trail organization also tries to work with the public transportation provider, Västtrafik, to ensure that trail access points are accessible with public transportation and develop programs that are aimed towards outdoor recreation (Interview number 1).

Institutional Policy Development, Enforcement and Change

For the case study of Göteborg, the city's Development Strategy 2035 and Environment and Climate Programme 2021-2030 were utilized to gather information about the city's public health goals, environmental targets, and transportation strategy. Additionally, the interview with the region's representative provided more information about how these goals and strategies align with developing and maintaining the trails in and around the city. One of the environmental goals is for the people of Göteborg to have a healthy living environment. The aim of the goal is to promote the health and well-being of the people of Gothenburg by "strengthening the environmental health factors that affect people positively and reducing the effects of factors that have a negative impact" (Gothenburg City Council, 2019, p. 26). The city has established indicators to track this goal, one of which is "proportion of green and blue spaces in coherent urban development (or equivalent designation in future comprehensive plans)," as of 2018, the situation was 55% of the target value to integrate more blue and green spaces into urban development. The Development Strategy acknowledges that there are many conflicts of interest when it comes to planning and how daily life will be impacted by changes to urban development plans and programs. "The planning of housing, location of businesses and the design of the joint public areas must focus on day-to-day life and contribute to simplifying people's lives and creating a pleasant city life for public health and to protect the environment" (Brunnkvist & Claesson, 2014, p. 16)

But the city is committed to ensuring that residents have access to green spaces and ecosystem services. Nature's ecosystems, also known as ecosystem services, have a wide range of benefits that make them important for incorporating into urban planning. Green spaces such as parks and

long trail systems provide access “to cultural heritage, inspiration, cultivation, meeting places, experiences in nature and recreation [which] have far-reaching positive effects on public health and quality of life. Green spaces provide other benefits such as managing precipitation, equalizing temperatures, reducing noise and cleaning the air” (Gothenburg City Council, 2019, p. 30). The importance of ecosystem services is well recognized in Göteborg’s city planning and goals, even if nature trails are not specifically mentioned.

Infrastructure

Transportation

The Gotaleden trail was developed naturally based on the current commuter train routes running between Göteborg and Alingsås. In this way, the trail was planned out so that hikers could access the trail by using public transportation and would not need a car. Additionally, some stages are accessible to people with mobility impairments (Interview number 4).

Västkuststiftelsen works with the Traffic Communicate to manage any changes to trail routes that could impact traffic patterns as well as determine best actions when traffic patterns could affect current trail paths. The organization also makes an effort to collaborate with Västtrafik to ensure that public transportation service routes extend to nearby nature reserves as well as the closer trail entry points that are positioned outside of the city center. The organization acknowledges that it can be difficult at times working with the public service provider, however, as the funding constraints do not always allow for the goals of both organizations to be achieved (Interview number 1).

Website

The website for the trails in West Sweden Trails conveniently has all of the trails located in one place. Each of the trails within the overall portfolio utilize the same user interface platform which makes it easy to jump between the various trails and have the similar type of trail data, including difficulty, length, transportation accessibility information, and detailed section trail maps with the respective section amenities. The website is available in Swedish, English, and German with an attractive user interface making it just as easy to navigate as the physical trails. The website has tips for hiking, cycling, bringing dogs on the trail, and even has a guide on how to use the website to get the most use out of the available resources.

Figure 11 illustrates how the different trail stages are displayed in an overview of the whole trail; this specific trail is Gotaleden. The trail sections are neatly displayed with pertinent metadata presented next to the section thumbnail. For someone looking to do a day hike, this helps to remove some of the guess work that can come with planning nature treks.

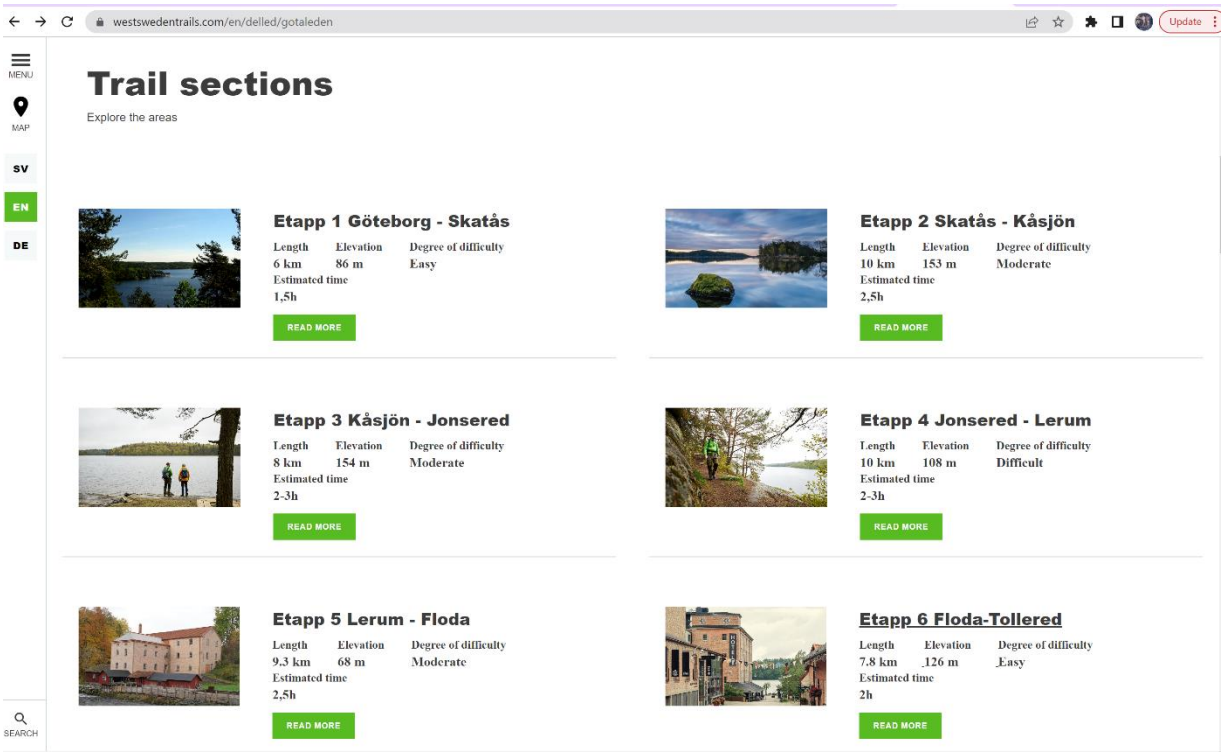

Figure 11. West Sweden Trails section overview
Source: https://www.westswedentrails.com/en/delled/gotaleden

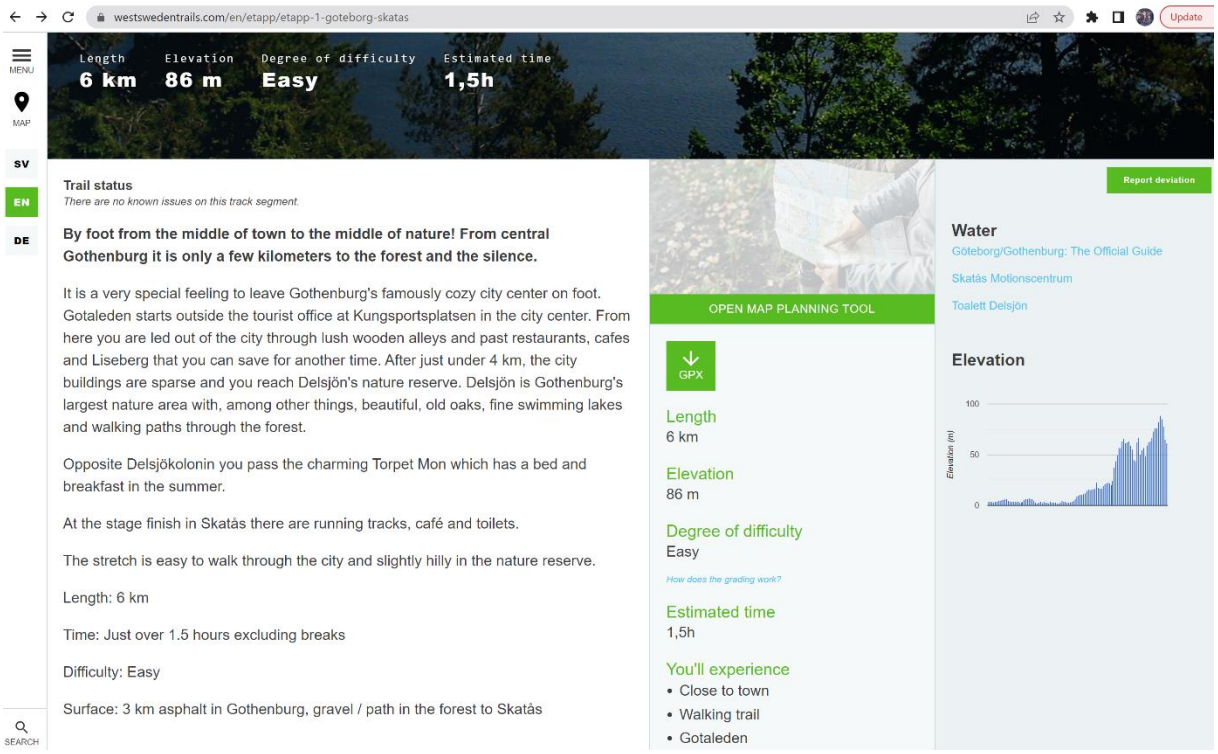

Figure 12. West Sweden Trail section information
Source: https://www.westswedentrails.com/en/etapp/etapp-1-goteborg-skatas

Figure 12 shows the information that is generally included within each of the trail sections, providing an overview on how to reach the section start, sights that should not be missed, and interesting cultural/historic information that is relevant to the trail section. Once again, this makes the trail sections feel accessible to people who are trying to plan out their hikes, be it through backpacking trips or shorter day hikes. This information also helps to prevent injury, as information is presented in a clear way that will help potential hikers understand the activity level required for each section.

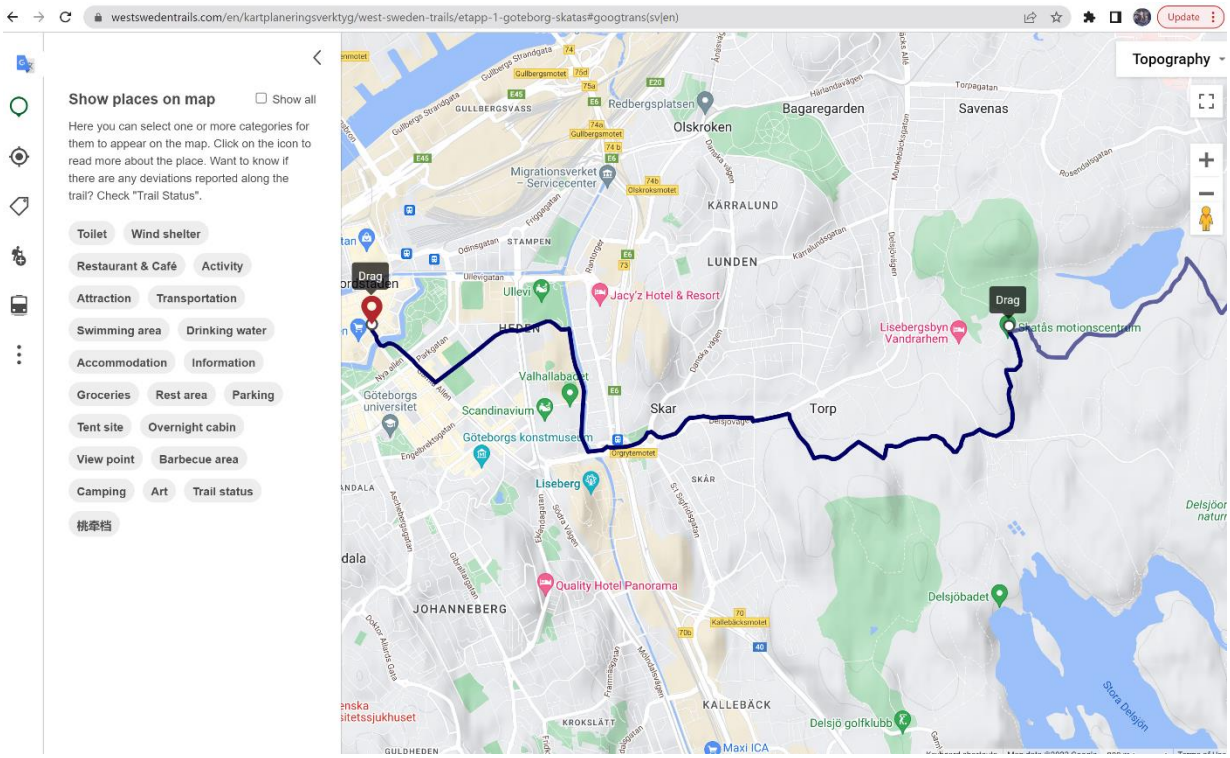

Figure 13. West Sweden Trails map planning tool
Source: https://www.westswedentrails.com/en/kartplaneringsverktyg

Figure 13 shows the map planning tool for Section 1 of the Gotaleden trail. The map tool utilizes Google and has a variety of utilities making it useful for planning excursions on the trail. Users can select different amenities to identify where they are situated along the trail, which is very useful for planning long through hikes and planning restocking stops. They can look for keywords to identify places that they want to visit and use the planning tool to create their own route by combining trail segments and creating a downloadable .gpx-file.

While on the trail, hikers can use the website to find their location. Additionally, the trail has a built-in tool that shows the closest bus and train lines in relation to each of the section start/end points and integrates with the public transportation provider to show departure and arrival times.

The website is free for users to access all of these tools to plan out their hikes.

Outcomes

Economic Efficiency

A steady stream of funding grants awarded by the county and municipal governments as well as organizations such as the Swedish Board of Agriculture, Swedish Growth Agency, and the

European Union are utilized to carry out trail projects. *Västkuststiftelsen* is funded by the Västra Götaland County Administrative Board as well as other Swedish development organizations, which shows that the trails are well integrated into the strategic plans and current/projected funding structure.

Redistributive Equity

The various nature trails managed by the West Sweden Trails organization focus on the west coast of the county and pass through many of region's the more populated cities. For the residents of the city of Göteborg, there are ample opportunities to reach a number of these trails starting from the city center as well as other popular places within the city limits. The concept of the Gotaleden trail being accessible through the use of commuter trains makes it available to many people who may not have their own vehicles or may just want to reduce their use of personal vehicles for leisure activities (Interview number 4).

Accountability

Although the trail management is overseen by a non-profit organization, *Västkuststiftelsen* works with the County and municipal councils to incorporate feedback from trail users and advocate for policies that benefit the trails. The organizations make sure to communicate with the respective landowners to proactively address concerns that arise from having the trails run through private property (Interview number 1).

Sustainability

There is a very high level of sustainability associated with the trail systems in Västra Götaland County, and especially around/within the city of Göteborg. Since the inauguration of the Bohusleden trail in the mid-1980s, the growth of the trails has been immense within the county. And the various actors have recognized the importance of ensuring that the city residents have access to these trails and continue to act in support of the trails. With the incorporation of Gotaleden beginning in the city center, it has allowed for urban residents to access both trails much easier. But another indicator of the sustainability of trails is the creation of new trails. This year, a new trail called the Pilgrimage Trail will be inaugurated. Beginning at Masthugget Church and ending at Dalbo Bridge in Vänersborg, the first 13 kilometers of the trail takes hikers

directly through the city of Göteborg while simultaneously taking them on a journey through the city's cultural history.

West Sweden Trails has a great deal of support from the other actors, which has allowed for the organization to continue working with trail developers to formalize more trails as well as maintain and improve the current trail offerings within the region. The organization works closely with the municipality of Göteborg to ensure that the trails are accessible to city residents and play an active role in public health efforts. Due to these strategic partnerships, there is little doubt about the ongoing operations of these trails.

7.3. Skåneleden/Malmö

Historical Context

Founded around 1275, Malmö is Sweden's third most populous city with 351,749 residents at the end of 2021. Within the city, 45.4% of the land has been built up, 30.7% of the land is utilized for agricultural purposes, 22% is classified as "open marshland and other land," and 1.9% is woodland (Snabba Fakta Om Sverige, 2020).

The Skåneleden trail was inaugurated in 1978 with the creation of the SL1; the newest trail section SL6 is expected to be finished and open to hikers later this year (Skåneleden, 2022). The Scanian Landscape Foundation - *Stiftelsen Skånska Landskap* - was the manager of the trail before that was taken over by the Skåne Regional Council in 2011. Like the other two cases, the trail was originally developed in more rural areas to allow people to be outside of the more populated areas and be able to connect with nature (Interview number 2). But as the county has grown, along with the increase in hiking interest, the county has actively focused on diverting some of the trails to run through cities to provide greater access to more residents without using a private vehicle. As such, many of the trail changes in the past two decades have been to better integrate the cities into the trails.

Biophysical Context

The Skåneleden trail system is comprised of over 1,400 kilometers and covers the entire county of Skåne, which is the southernmost county in Sweden. The trail is divided into six subtrails which can be tackled as long hiking tours, or the 127 sections can be experienced as day hikes. The five original subtrails have various intersections which allow hikers to move between the

trails, the exception is the newest subtrail 6 which is a standalone trail. The trails run through a variety of landscapes including mountains, seascapes, lakeside coasts, beech forests, and even Skåne's largest cities. Hikers can pass through various national parks, nature reserves, and visit a plethora of cultural and historic sites (Skåneleden, 2022).

5 Öresund (SL 5) is a 214 km trail that is broken into 29 sections. The trail begins in Utvälinge, runs south along Skåne's western coast to Trelleborg, and passes through multiple cities including Malmö and Helsingborg. Along this trail, hikers can visit nature reserves, catch glimpses of Denmark to the west over the Öresund waterway which separates the two countries, and experience some of Skåne's historic and cultural sites located in the region.

Figure 14 shows the entirety of the Skåneleden trail system through Skåne County. It can be seen that the trail system is well connected between the different subtrails throughout the county.

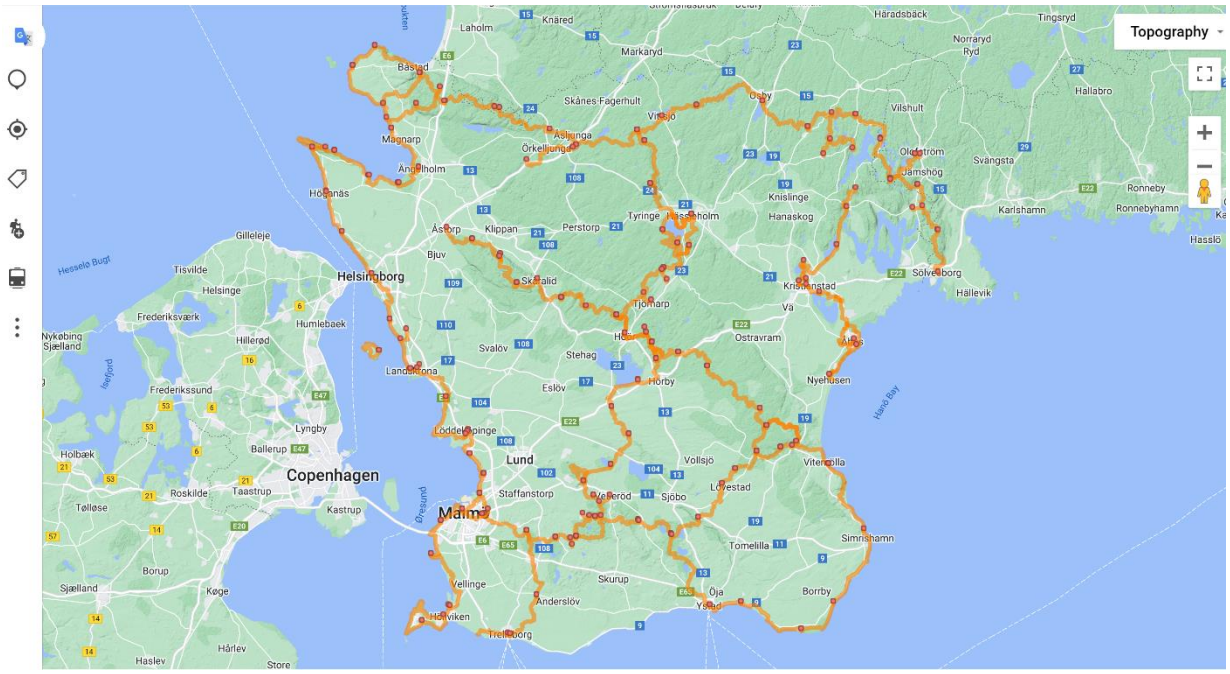

Figure 14. Skåneleden overview map
Source: https://www.skaneleden.com/en/kartplaneringsverktyg/skaneleden

Figure 15. Map of Skaneleden from Malmo
Source: https://www.skaneleden.com/en/kartplaneringsverktyg/skaneleden

Figure 15 highlights the trail sections that are near the city of Malmö. SL5 is the subsection that runs along the coast, while SL2 is the subsection that runs in the east and meets up with SL5 south of Bulltoftagard.

Laws, Policies, and Institutions + Political-economic relations

The leaders of the Skåneleden trail were key actors in the creation of the National Framework for Hiking Trails. The trail management team within Region Skåne recognized the importance of providing standards for trails to better combine neighboring trails in the possibility of a future national trekking route. While it is not a formal legal guideline for the facilitation of trails in Sweden, it does have the potential to develop institutional conduct that continues over time and becomes more engrained within the hiking culture throughout Sweden.

With the creation of the Scanian Landscape Foundation in 2011, the Skåneleden trail was kept within the Skåne Regional Council due to local politicians recognizing the importance of the Skåneleden trail as part of regional development. Skåneleden passes through 10 of the 19 nature recreation areas in Skåne County, but much of the trail runs very much outside of those nature areas. As part of strategic planning initiatives, the Scanian Landscape Foundation was made into a separate entity to specifically manage the recreation areas. But the benefits of the Skåneleden

trail were too great to be delegated outside of the County Council. The politicians recognized that the trail brings in economic benefits including tourism from neighboring countries as well as fosters collaboration between the respective municipalities. Additionally, the trail system is a way to promote public health initiatives and acts as a space to promote inclusion into Swedish culture, especially for immigrants (interview number 2). As such, Skåneleden is more than just a trail. It is a way for the County Council, specifically the department of regional development, to work with the municipalities and build a trail that serves a greater purpose than simply hiking.

One could say that Skåneleden is the most institutionalized of the three trails, as the trail is managed by the Skåne Regional Council. This provides subtle differences between the other two trails which also influences the political-economic relations. From the interview with the Skåneleden trail management, it was explicitly pointed out that tax money is used to help fund Skåneleden, from the trail development to the marketing, even the website. Since the Skåne Regional Council is the manager of the trail, the workers have greater means to look for and secure regional funding. The organization acknowledges that "this is paid with tax money and [Skåne County] wants it to be for as many people as possible…it is very important to have the [trail management] within the city council to help make it accessible regardless of where you are in Skåne" (Interview number 2). Additionally, working with the support of the county council means that the trail administrators have more direct access to obtain support from political leaders within the region and municipalities, including the city of Malmö.

Like the other two cases, the landowners are an integral part of the development and maintenance of the trails. Each of the municipalities has signed agreements with landowners where the trail crosses through private property. The relationships with the landowners can change and some landowners withdraw their consent, but these legal agreements are otherwise followed by both parties to maintain the trails.

Actors

Administrative responsibilities are managed by the Skåne Regional Council, specifically the Department of Regional Development; the organization is especially concerned with strategic development, policy making, and marketing to hikers. Trail management/maintenance is performed by the Scanian Landscape Foundation within the nature reserves through contracts with the Skåne Regional Council, while the management of trail portions that run outside the

nature reserves is handled by the individual municipal councils (Skåneleden, 2022). The trail runs through 32 municipalities throughout Skåne County who also oversee relations with respective private landowners.

The regional tourism organization, Visit Skåne, works with the County Council to coordinate with the local restaurants, hotels, and nature guides to promote to the trail to trekkers. In the past, the organization would focus on creating products specifically for international marketing. But since the County Council took over management of Skåneleden, no additional funds are provided for the purpose of international marketing. The county council has come to acknowledge the importance of creating access to local residents as a priority, with the understanding that foreign visitors will still be drawn to and benefit from these trails even without the targeted marketing efforts.

The trail is also supported by the Swedish Growth Agency and the European Union.

Institutional Policy Development, Enforcement and Change

The Comprehensive Plan for Malmö, adopted by the Malmö City Council in May 2018, details the objectives and priorities for the city until approximately 2035. The plan acknowledges that "public health is a prerequisite for social development, welfare and economic growth" (Malmö City Council, 2018, p. 7) and aims to reduce the disparity in health within the city through improving living conditions and encouraging active lifestyles. The council identifies that "a diverse selection of social spaces, green areas and parks, nature and recreational areas and leisure and sports facilities allow for people of all ages and social backgrounds to engage in recreation" (Malmö City Council, 2018, p. 7). The plan identifies the need for more equity and inclusion within the realm of outdoor recreation and public health.

Another ambition is to have a greener city, and one way that the council plans to do that is through a network of parks and green corridors. As the municipality states: "Larger, interconnected parks and nature areas are important for recreation, biodiversity and ecosystem services. By connecting parks and recreational areas with green links they become more accessible and easier to use" (Malmö City Council, 2018, p. 12). The goal is to create a system comprised of "a multitude of large and small parks, nature areas and city squares strategically placed, evenly distributed and connected by a network of green links. An aim is for every residence to have access to a larger park within 1 km" (Malmö City Council, 2018, p. 12). Figure

16 shows a projected plan for the network of green corridors that will connect parks throughout the city.

Figure 16. Malmö network of parks and green corridors
Source. Comprehensive Plan for Malmö (2018), p. 12

Infrastructure

Transportation

The public transportation service provider within Skåne is the Skånetrafiken. A number of trail access points are available within a short distance of train and bus stops throughout the county. For example, a resident in Malmö could easily take a train from the city to the east coast and hop on SL4 from a number of coastal cities. Moving north, a resident could take the train to Angelholm and access the SL1. Many cities have been well integrated into the different subtrails and connect their respective residents to the surrounding natural landscapes.

But, due to the vast area covered by the trail and the largely rural nature of Skåneleden, many trail entry points are only accessible with a private vehicle. One thing that came up the interview with the Skåneleden trail representative with regard to transportation was the closure of bus stops located in rural spaces. One decision that has been made within the region is to update the physical bus stations so that they are more accessible for people with mobility impairments; the estimated cost of these upgrades, however, is 1 million SEK for existing bus stops. Unfortunately, it is too expensive for the traffic organization and, as a result, many bus stops are

simply being shut down and taken out of services routes. Thus, during a time when the Skåne Department of Regional Development is trying to make these trails more accessible to a wider range of people, they have to deal with the consequences of disappearing bus stops. One mitigation strategy has been to try to divert the existing trails to pass by more major bus stations that are more likely guaranteed to remain in service. This creates some issues for trekkers, though, who may now need to sit on a bus for upwards of two hours to go between trail entry points that would take less than half the time by private car. While this may appear to just be a rural issue, it has the potential to impact all trail users as they may have to adjust their trekking plans to accommodate for closed bus stops.

One way the trail actors are trying to combat the lack of access through public transportation service is working in cooperation with Skånetrafiken. For example, Stiftelsen Skånska Landskap has developed a program with the public transport provider so that people with mobility impairments can order transportation services from their homes to take them to hiking areas throughout Skåne.

In order to maintain the trail, cycling is discouraged on Skåneleden, but the Skåne Regional Council recommends other cycling specific trails in the area for people who want to take their bikes out into nature.

Website

The Skåneleden management team was the original developer of the online platform user interface that is also utilized by West Sweden Trails. In the early 2000s, the organization realized that a new website was necessary to handle the large amount of online traffic, especially during the summer. In collaboration with neighboring Halland County, which also has a number of trekking and cycling trails, the website was developed to make the trail information easily accessible to a wide range of potential visitors and better serve the increased web traffic.

The Skåneleden Trail website has the same functionalities found on West Sweden trails and serves as an incredibly functional tool for potential trekkers. But Skåneleden Trail website has additional resources that promote accessibility for different types of trail visitors. At the bottom of the page, the website has four sections for resources and the “Hiking tips” section includes hyperlinks for walks near the city, accessing the trails utilizing public transport, and how to utilize the trail with mobility impairments; the ribbon is shown in Figure 17.

Figure 17. Skaneleden website navigation
Source: https://www.skaneleden.com/en/

If a user clicks on the hyperlink for walks near the city, they are directed to a webpage that identifies trail sections that pass through some of the county's largest cities. In the city of Malmö, for example, it identifies stage 14 of the SL5, which is a 6-kilometer-long trail that passes through Risaberga Park. The website also identifies stage 17 of SL2 which is a 9-kilometer-long trail that takes hikers past Lake Eksholmssjön along to Torup Castle which is one of the best-preserved medieval/Renaissance castles in Scandinavia.

Outcomes

Economic Efficiency

Since the inauguration of the trails in the later 1970s, there has been an increase in trekking and cycling activities in Skåne County. Much like the case with Göteborg, the region's politicians have recognized the importance of Skåneleden and, as a result, trails throughout the region have no shortage of funding for trail development and maintenance projects. In March 2022, the Regional Development Board allocated SEK 2.5 million for quality-enhancing measures on the trail including updating trail markings and trail infrastructure for improved safety, expanding waste sorting at meeting places along the trail, and developing systems to utilize rainwater collection from wind shelters in areas where there is no natural water supply (Skåneleden.se). In return for the investments in the trail, the many urban and suburban areas along Skåneleden have seen increased growth and economic stimulation from trail visitors.

Redistributive Equity

There is currently a big push from the Skåne Regional Council to redirect and modify the trails to make them more accessible to a wider audience, including urban dwellers. Considering the trail history when Skåneleden was built in the 1970s, it was explicitly built in rural areas that

were far away from bus stops and connected the different trail shelters. The trails were not built out with public transport in mind. The council acknowledges that making the trail more accessible to people without private vehicles is not necessarily an easy process, but it is one that will lead to greater use and enjoyment of the trail by a larger audience while simultaneously contributing to public health (Interview number 2).

Accountability

The various actors that are involved with the continued operation of Skåneleden strive to listen to trail users and people impacted by the trail. Multiple outreach programs are taking place on the trail. The County Council works with schools throughout the region to get fifth graders outside on the trail in their respective communities. The Council also works with language courses for people learning Swedish, so that people who have just arrived in Sweden "learn about the public right to access and learn about the trails" while becoming familiar with and engaging in the natural Scanian landscape (Interview number 2). Along with feedback links on the official websites and social media engagements, programs like these provide additional avenues for people to share their experiences and ideas with the actors involved with keeping Skåneleden functioning to serve members of the community.

In terms of this research project, the organizations in Skåne County were helpful in recommending potential interview participants, even if the individuals and/or organizations were unable to participate in the interviews once contacted. This means a lot in terms of accountability as, even though the study was not being conducted or necessarily supported by the regional council or any partners, a representative from the region was still willing and able to discuss the trail and its importance to Skåne. This means that the organization is willing to engage with people, hear feedback, and make improvements based on the responses.

Sustainability

With the trail management being performed by the Skåne Regional Council, there is no shortage of opportunities to find funding or plan initiatives to keep the trail operational.

The placement of the trail through the city of Malmö has multiple purposes. First, it is the view of the Skåne Regional Council that "everyone should be close to hiking" (Interview number 2). By having the trail lead through the city, it provides greater access to people who previously

lacked close proximity. In addition, having the bright orange Skåneleden trail signs running through the city presents a great opportunity for marketing. Instead of sending funds to Visit Skåne specifically for international guests, the placement of the trail and signs through popular city squares shows people "this is the Skåneleden trail, you can start walking from here and you can walk the whole coastline of West Sweden" (Interview number 2). This allows for new people to continually discover the trail, including city residents.

7.4. Comparative Analysis

Following the comprehensive coverage of the three cases, it is helpful to draw on this analysis and identify some of the key differences between the trails as well as what significance it has for the main research questions. The subsequent tables are intended to highlight the significance of the comparison between the cases, with a short summary following to distinguish the research implications.

Table 2. Comparative laws, economic conditions, and actors

Case	Institutions, Laws, Policies	Political-Economic Relations	Actors
Stockholm/ Sörmlandsleden	*Allemansrätt* (informal); Stockholm County government (semi-engaged); Stockholm Municipal government (not engaged); EPA Accessibility Guide (2013)	Unstable funding sources; lack of visible government recognition of economic benefits of trail development	Sörmlandsleden Association (board, employees, volunteers, members); Stockholm County; Södermanland County; Östergötland County; 15+ Municipalities; Private Companies; Landowners; Stockholm Public Transport
Göteborg/ Bohusleden & Gotaleden	*Allemansrätt* (informal); Västra Götaland County government (engaged); Göteborgstad Municipal government (engaged); EPA Accessibility Guide (2013); National Framework for Hiking Trails (2022)	Stable funding provided by county and municipal governments as well as Swedish Board of Agriculture, Swedish Growth Agency, and the European Union; Regional and Municipal politicians recognize economic benefits of trail development	West Sweden Trails (*Västkuststiftelsen*); Västra Götaland County; 40+ municipalities; West Sweden Tourist Board; Administration for Cultural Development; Swedish Growth Agency; Västtrafik; Landowners; Halland County; Skåne County
Malmö/ Skåneleden	*Allemansrätt* (informal); Skåne County Government (engaged), Malmö Municipal government (engaged); EPA Accessibility Guide (2013); National Framework for Hiking Trails (2022)	Stable funding provided by Regional Development Board, Swedish Growth Agency, and European Agricultural Fund for Rural Development (with additional support from municipalities); Regional and Municipal politicians recognize economic benefits of trail development	Skåne County; 32 municipalities; Scanian Landscape Foundation (*Stiftelsen Skånska Landskap)*; Administration for Cultural Development; Swedish Growth Agency; Skånetrafiken; Landowners; European Agricultural Fund for Rural Development; Västra Götaland County; Halland County;

Table 2 shows that, despite having a list of similar actors between the trails, the policies and political-economic results are quite different between Sörmlandsleden and the other trail systems. Sörmlandsleden is quite different than the trails found in Southern Sweden. While the trail follows some of the guidelines as set out by the 2013 EPA Accessibility Guide, it continues to have its own trail markings and appears to be less engaged with municipal (urban) governments to promote the trail and gather support for policy initiatives. Skåneleden, Bohusleden, and Gotaleden are all making trail changes to incorporate updated guidance from the National Framework for Hiking Trails to bring consistency to the trails thus making them more accessible to a variety of people. The southern trails are more recognized by politicians for their economic and social benefits, which is reflected in the advocation of steady funding for trail development and maintenance. The trail actors in southern Sweden are more engaged in the government institutions, either through contracts with the government to manage the trails as between Västra Götaland County and *Västkuststiftelsen* or through the trail management being a duty that is integrated within the government as is the case with Skåne.

Looking at the institutions, laws, and policies, all of the trails have a foundation in *allemansrätt* to justify why the trails are in existence in the first place. But, as previously discussed, that is not a formal law and it provides no legitimate protections for the continued existence of these trails. Thus, the engagement of the county and municipal governments becomes an essential component to the survival of these trails, as well as a needed support for these pathways to change and better integrate urban settings. This can be seen when looking at the political-economic relations. With the case of Sörmlandsleden, the trail organization seems to be a lone actor without continuous support from the surrounding governmental boards. These boards show up when there is dire need, but they are not as actively involved in maintaining the trail system and providing steady funding. Additionally, there seems to be less support from individual politicians advocating for the trail and trying to incorporate the more densely populated areas.

In the cases of Bohusleden, Gotaleden, and Skåneleden, the representatives interviewed all stated that the trails receive firm and continual support from the county boards, municipal governments, and they are consistently on the agendas of local politicians. The connection between the government and trails has also highlighted the economic benefits of trail development in these

spaces, which has even attracted the attention and support of various European Union councils. This relationship between the trails and political entities has allowed for reliable funding that goes towards maintenance and expansion of these trails, without the same level of crisis as experienced in the more northern trail.

While the tradition of *allemansrätt* allows for these trail systems to exist, pass through private land, and be accessible for everyone who wants to take part in nature, the tradition does not guarantee the sustainability of these trails. There is a need for synergy between the trail organizations and various levels of local governments to ensure that the trails are being managed in a way that visibly maximizes the societal benefits. In relation to the first research question, the involvement of the national government does not have as much bearing on these trails as the involvement of the county and municipal levels. While national agencies, such as the Swedish Board of Agriculture and Swedish Growth Agency, can financially support these trails, it seems that this support is bolstered by the more regional and local governments that have more frequent interactions in the daily workings of the respective trail systems.

Table 3. Comparative institutions and infrastructures

Case	Institutional and Policy Development	Infrastructure – Transportation	Infrastructure – Digital Platforms
Stockholm/ Sörmlandsleden	Stockholm City Plan; Stockholm City Plan – Urban Development Map; Climate Action Plan 2020-2023; City of Stockholm's Accessibility Strategy; Stockholm Citizen Survey 2020	No agreements and/or collaboration with Stockholms Lokaltrafik (public transportation service provider); Trail does not allow cycling	Sörmlandsleden.se Limited access to non-members of the association, full access for paying members
Göteborg/ Bohusleden & Gotaleden	Development Strategy Göteborg 2035; Environment and Climate Programme for the City of Göteborg 2021–2030; Interviews	Routinely collaborating with Västtrafik (public transportation service provider) to provide access to trail entry points; Cycling neither encouraged nor discouraged	Westswedentrails.se Free access to website for all Resources for accessibility (public transport, mobility impairments, near-city trail segments)
Malmö/ Skåneleden	Comprehensive Plan for Malmö: Summary in English; Interviews	Routinely collaborating with Skånetrafiken (public transportation service provider) to provide access with trail entry points; Cycling discouraged as agreements concluded between Skåneleden and the landowner only include hiking	Skåneleden.se Free access to website for all Resources for accessibility (public transport, mobility impairments, near-city trail segments)

From Table 3, it is notable that Stockholm has an abundance of formal documentation that details the goals for the city; despite the amount of available documentation, there is no mention of integrating the city into long trail system or using them to promote public health initiatives. The focus within Stockholm is recreation facilities and green corridors that run within the city, not so much connecting to surrounding peri-urban and rural spaces. This made it difficult to find policies that were related to trail building and strategic initiatives related to nature trails. Although less gray literature was found for Göteborg and Malmö, the interviews with the trail representatives provided well rounded insight into the cities' strategic goals and how they aligned with the respective trails. Even though the trails were still not mentioned outright in the documentation of the latter two cities, the interviews proved that the trails did have priority.

With regard to transportation, it was not suggested that the Sörmlandsleden Association tries to work with the regional mobility service providers to ensure that people can continue to access various destinations on the trail. The trail management organizations for the other two trails, however, actively engage with both the relevant municipal transportation offices as well as the respective public transportation service providers. Through the collaboration with Västtrafik and Skånetrafiken, the trail organizations are working to create programs that provide easier access to the trails. While some of these programs have been more successful than others, the continuous efforts to create effective programs inspires confidence in the trail organization.

Concerning the websites, this is one instance where my personal preferences influence the analysis of the digital platforms. Once again, the Sörmlandsleden is the outlier when compared to Bohusleden, Gotaleden, and Skåneleden. Being able to access the trail maps without paying a membership fee is a very attractive feature that makes the trails accessible to a wide range of potential visitors. The need to pay for accessing detailed trail map information gives off a feeling of separation, where it does not seem like the Sörmlandsleden Association is really concerned with giving people information so much as they are with generating a profit from the online visitors. In terms of the user interface, the continuity between West Sweden Trails, Skåneleden, and Hallandsleden makes all of the trails feel connected and does not require users to learn new website navigation. Additionally, the availability of information related to transportation, accessing trail sections with mobility impairments, and identifying trail sections close to cities makes these websites incredibly useful. The fact that these trails all utilize the same web

platform makes it seem like an easy task to plan a trip between Göteborg and Malmö. The unconnected user interface for the Sörmlandsleden feels less accessible in comparison.

Table 4. A Comparison of outcomes

Case	Economic Efficiency	Redistributive Equity	Accountability	Sustainability
Stockholm/ Sörmlandsleden	Unstable funding sources and trail largely runs on membership fees and ad hoc grants/donations	No plan to further integrate Stockholm (or any larger cities)	Written agreements with landowners	Unsustainable: Lack of funding sources has caused the removal of trail services and retained the need for membership fees; likely unable to support increase in trail visitors without funds in long-term
Göteborg/ Bohusleden & Gotaleden	Stable funding from national and international government organizations	Gotaleden begins in the city center outside the tourist office, connects with Bohusleden; Easy access with Västtrafik to various stages of each trail with bus/train; provides access between urban, peri-urban, and rural spaces	Written agreements with landowners; High levels of community engagement through local programs and the use of social media; Works with local transportation provider maintain trail entry points; trail organization works with governments	Very Sustainable: Stable funding provided by a variety of organizations to expand the trail, maintain the existing trail, and improve facilities along the trail; proven engagement of visitors with the trail and demonstrated growth
Malmö/ Skåneleden	Stable funding from national and international government organizations SEK 2.5 million from Regional Development Board for trail upgrades - Mar 2022; SEK 1 million between 2022-2023 from Regional Development Board for the investment in fifth graders on Skåneleden – Feb 2022; Kraftsamling Outdoor Skåne project financed by European Agricultural Fund for Rural Development – Aug 2022	Three trail stages in Malmö city as of Spring 2022; Easy access with Skånetrafiken to various stages of subtrails with bus/train; provides access between urban, peri-urban, and rural spaces	Written agreements with landowners; High levels of community engagement through local programs and the use of social media; Works with local transportation provider to improve accessibility for more trail users; trail organization is situated within regional government council	Very Sustainable: Stable funding provided by a variety of organizations to expand the trail, maintain the existing trail, and improve facilities along the trail; proven engagement of visitors with the trail and demonstrated growth

As seen from Table 4, based on an overall review of the outcomes from each of these cases, the trails in southern Sweden seem to be more successful in many aspects. The trails run through the cities which provide direct access to urban residents who may want to use them. Additionally, the increased funding provided by the various government agencies is used to present better experiences for the visitors out on the trails.

In terms of economic efficiency, Skåneleden is very transparent about funding sources which, once again, instills confidence in the trail managers. The website provides updates on new grants that have been awarded and details how the funds will be spent within the trail. *Västkuststiftelsen* does not provide the same level of updates regarding funding on the website, but the organization does actively search for grant opportunities and works with the municipal and regional councils to apply for funding through various national and European agencies. In contrast, Sörmlandsleden is shown to largely run on the membership fees as collected by the Sörmlandsleden Association as well as ad hoc funding awards when the organization expresses dire financial need.

The southern trail systems are also making visible progress in rerouting the trails, and building new trail systems, to better connect urban residents to nature. In addition, the trail organizations are learning from past planning shortfalls (not developing trails with public transportation in mind) and adding the mobility aspect to their trail planning. The managers of the trails in Västra Götaland County, Skåne County, and Halland County all want to give urban residents the impression that these regional hiking trails exist just beyond their front doors. That same initiative is not being taken in the case of Sörmlandsleden, meaning the residents in the nearby cities still need to navigate mobility challenges.

All of the trails utilize written agreements with the landowners to ensure that the rights of the landowners are being respected. Additionally, there is an online presence for each of these trails (and management organizations) that provides a space for user/visitor feedback. But the high levels of engagement with the urban communities stands out for the trails in southern Sweden. As well as their ability to understand that urban dwellers want access to these trails and repositioning the trails and creating novel community programs as a result.

When looking at the overall sustainability of these trails, it is clear that the trails in southern Sweden are very sustainable and there are no doubts about the continued trail futures. The

collaborative efforts between the respective trail organizations, as well as the trail organizations and the pertinent government administrations, denotes that the larger region is working to build a national trail system that will continue to incorporate existing trails in Sweden. And it is clear that, in this effort, these trail leaders will work with any other trails to assist with making them accessible to as many people as possible.

7.5. The Halland connection

When out trekking, hikers often encounter paths that divert away from the main trail. These paths can be especially rewarding, by offering magnificent views or passing through important historic sites, before reconnecting with the main trail. During the interview process, the representatives from Skåneleden and West Sweden Trails both suggested that I reach out to the region of Halland, which is situated between Skåne County and Västra Götaland County. The largest city in Halland County is Halmstad, with a population that does not even surpass 75,000 residents (Interview number 3). But these small cities with populations in the tens of thousands are the norm in Sweden rather than large cities with hundreds of thousands of inhabitants. This means that it is also an important consideration for trail building and making trails accessible to urban residents.

What makes Halland County significant, within the context of this study, is the Hallandsleden trail; the trail runs through the county and connects Skåneleden to Bohusleden, thereby connecting the three counties along Sweden's southwest coast. In addition to an already established trail that runs through the woodland areas, county administrators are poised to open a coastal trail in 2025 which will give hikers more options for trekking (Interview number 3). The existing forest trail is more rugged and will appeal to the traditional hiker who wants to backpack and tent in nature. The highly anticipated coastal trail runs through Halmstad as well as the county's smaller cities and towns, providing more creature comforts to hikers, such as cafes, restaurants, and accommodation for those who want to hike but not necessarily sleep out under the stars.

The case of Halland is interesting because the trail developers and managers are aware of hikers' diverse needs and wants, and they are doing their best to accommodate. While Halland County sees itself largely as a tourist destination catering to visitors from Germany and Denmark, the administrative board does also want to make these outdoor recreation activities attractive and

easily accessible to local residents. Currently, Hallandsleden trail management falls under a department at Visit Halland, the county's tourism organization. But there is a plan to create a separate organization within the Halland County government that will focus on all the hiking and cycling trails in the county which will work together with Visit Halland to make the trails just as valuable to Halland residents as they are profitable from visiting tourists. The creation of this new organization is possible through the financial support of the regional politicians who want as many residents as possible to "have a national hiking trail just outside their house. That's much, much better for social sustainability…and public health" (Interview number 3). This transition from a tourism-centric purpose to include local residents is indicative of the larger shift in Sweden's perceptions on hiking and other outdoor activities, including cycling.

The creation of the coastal trail in Halland County also provides insights into how trails are being built today as opposed to fifty years ago. Along the coast of Halland County exist many informal trails that have been created and maintained by residents. With the assistance of funding from the Swedish Growth Agency and the municipal government, the trail managers are working to formalize the trail by signing agreements with the impacted landowners, working to build safe trail infrastructure such as bridges, and adding trail signage for easy navigation. In addition, the coastal trail is being built with public transportation in mind. "The main problem is that you put trails in the 70s and 80s where people don't live…so that's why we are changing so that it is much easier to make a trail where you have transportation and where there are public transport stops…the trail goes through every city where we have train stations" (Interview number 3). Visit Halland is also being very strategic with its planning considering the construction of an underwater road/railway between Germany and Denmark. When the tunnel is ready in 2029, "that will make it very easy to take the train from Berlin or Hamburg to jump off in Halmstad and go to the coastal trail for a week and then take the train back" (Interview number 3). While Visit Halland acknowledges that there are deficiencies when it comes to public transportation, they are always working with the regional transportation service providers to improve the services and make them more appealing to people who are trying to get out into nature.

Hallandsleden and additional trails in Halland County also use the same website platform as West Sweden Trails and Skåneleden. This contributes to making trail navigation easy for hikers both when planning long backpacking trips and when out on the trails. This is all part of a larger goal to make southern Sweden into Europe's best coastal hiking and biking destination by 2030.

8. Discussion

The discussion serves to provide thoughts on the cases and relate back to the research questions and objectives. The section begins by connecting the empirical analysis back to the literature review and reposition the findings within the relevant scholarship. The discussion further explores the case of Halland and what it means in the larger context, especially in regard to integrating less populated cities into the trails. It continues by reviewing the use of an adapted framework as opposed to using the IAD or the PEPI in their states as a means to assist with the data analysis. Finally, the section offers key policy recommendations to better integrate large cities into currently existing nature trails.

Environmental justice (accountability and redistributive equity)

Developing the title of this thesis entailed difficult choices, as the order of the words is very important. Especially when considering the subtitle, "the integration of city spaces into long trekking trails," it implies that long trekking trails are established separately without concern for urban spaces and the cities are later integrated. If the words were moved around to read "the integration of long trekking trails into city spaces," then the meaning would change to suggest that the urban regimes are bringing these trails into the city limits as part of urban planning strategies. There is certainly a mix of these two understandings that has taken place but, when the history of the trails is considered, it becomes clear that there is a retrofitting of cities into these systems which is important for understanding the shifting relationship between urban, peri-urban, and rural spaces.

All the trails being studied were developed during a time when there was a desire to preserve a distinct separation between city spaces and the natural landscape. Building the trails in rural areas meant that urban residents largely lacked access to these trails without traveling further out, usually by use of personal vehicles, to reach trail entrances. And intentionally building these trails away from the more densely populated areas meant that public transportation providers were less likely to service these areas, which further reinforces the need for a personal vehicle. This implicitly suggested that people with lower socio-economic standing, or those less likely to be able afford private vehicles, did not have the same entitlement to access natural landscapes. Within the past 50 years, this absence of access for urban residents has become more visible and

the perspective has shifted. As politicians have become more aware of the wide-reaching impacts of these class delineations, many have put forward policies to bring more equity and inclusion into the urban spaces, especially concerning public health initiatives and accessing outdoor spaces. Each of the city planning guides addressed making resources available to everyone within the communities, regardless of their socioeconomic status or other individual demographic characteristics.

This study is not all inclusive, and there are opportunities to delve deeper into different aspects of accountability and redistributive equity. As noted by Wolch et al., (2014) "within cities, green space is not always equitably distributed. Access is often highly stratified based on income, ethno-racial characteristics, age, gender, (dis)ability, and other axes of difference," (p. 235). With trail segments that run through the cities of Göteborg and Malmö, it could be interesting to look at the demographic and socioeconomic information of the neighborhoods that the respective trails pass through; this research could contribute to current and upcoming projects regarding nature-based solutions for urban health related to greening city spaces (see PhD in Urban Greening and Health – Wageningen University and Research). Redistributive equity would place these trails in communities that currently lack green space and easy access to recreational activities. While accountability would include listening to communities that want these types of amenities to be part of their neighborhoods and working with them to incorporate these kinds of trails.

Urban health and allemansrätt (sustainability)

These long hiking trails have an abundance of benefits and, especially when considering cities, one of the more valuable advantages of having nature trails is the betterment of public health. In each of the interviews, the representatives acknowledged that public health is a concern in cities, especially considering how lifestyles have changed to become less active. Recalling the case of Pennsylvania from Section 3.3, the integration of more urban spaces into the creation of trails contributes to public health initiatives and revitalization efforts which generates circular sustainability. By making trails accessible to people living in cities, it improves their mental and physical health which then leads to health and longevity within the cities themselves.

Trail programs that engage children in the early stages of life to establish strong relationships with nature help to instill good practices from a young age. Additionally, the programs that bring

together non-native inhabitants to the nature trails also introduce cultural norms and help people feel more welcomed in a new society. Especially in the Scandinavian countries, access to nature is a deeply embedded cultural aspect of what it means to be Scandinavian. Through the promotion of active movement and engagement with nature, these trail organizations are doing more than simply acting as good stewards for nature, they're also encouraging greater integration of the natural environment into the daily rhythms of life, as suggested by Johnasen et el., (2021). The trails in their own right contribute to physical activity and health benefits, but the additional programs that are offered by the trail management organizations are a way to better incorporate *allemansrätt* into the urban context.

Trail building (economic efficiency and accountability)

Trails offer more benefits than just public health programs, as these long-distance nature trails bring economic stimulation to cities and regions through a variety of methods. As seen with Hallandsleden, the trails were predominantly intended to bring in tourists, which invigorates local economies. But the trails in southern Sweden offer so much more, as seen by the investments made by the Swedish Growth Agency and the Swedish Board of Agriculture. With the funds provided, the trails have expanded both in terms of area as well as services provided. And the investments made in the trails have resulted in greater economic benefits for local communities and businesses situated along the trails. As with the case of Oregon from Section 3.3, it is a testament to these trails that they continue receiving political and financial support from different government agencies. If the value of these trails was not recognized, then they would not be receiving millions of SEK of funding. This can also be seen in the annual increase in trail visitors, as mentioned by each of the interview participants.

These nature trails also present another avenue for government institutions to engage with citizens, especially in instances where the trail management is designated as a governmental duty. Building trails that effectively connect the urban, peri-urban, and rural spaces that essentially make up Sweden is a challenging task, but one that reaps great rewards. It is clear through the rerouting of the trails in southern Sweden that the governments are listening to the citizens to bring nature back into the cities, or at least provide greater ease of access to urban residents for connecting with nature.

The emergence of Hallandsleden

The case of Halland County, and to a lesser extent the small city of Halmstad, was an unexpected yet welcome addition to the study. While Hallandsleden, and the respective city of Halmstad, was not run through the analytical framework, there were still pertinent takeaways that came from speaking with a representative from the region. It is interesting to see how the politicians have come to acknowledge the benefits of the different hiking and cycling trails in the area as more than just bringing business from tourism. The shift towards ensuring that these trails are attractive and accessible to local residents through the creation of a separate organization to handle the administrative management of the trails is a middle ground between the two neighboring counties. While Skåneleden is managed by the regional development department and the trail systems in Västra Götaland are managed by a contracted non-profit organization, the creation of a separate trail department within the Halland County government highlights the importance of proper trail management, but also proves that there is not just one "right" way to do it. There does, however, seem to be a very important aspect of integration within a government institution in order to have a successful trail story which is not as prominent with the case of Sörmlandsleden in which a completely independent organization is responsible for all aspects of the trail.

Reflections on choice of framework

As previously mentioned, frameworks facilitate diagnostic and prescriptive inquiry, meaning that they provide a structure for the analysis of the data. Unfortunately, not all frameworks are one size fits all and sometimes there may be aspects of a framework that work while other factors do not apply. Ostrom's IAD was a great starting point for looking at how the external variables and action situations have allowed for the trails to move into each of these cities over the past five decades. This framework is commonly used by social scientists who are studying the development of public goods or common-pool resources systems (McGinnis, 2011). Although segments pass through private land, these long-distance nature trails are largely public goods. In terms of this project, though, this framework in its original state did not explicitly break out how institutions, such as the levels of government present in Sweden, or the different actors directly influenced how these trails have changed shape since their respective inaugurations.

Kashwan's adaptation of the IAD allowed for even more rigid structuring of the data analysis through the inclusion of institutions, economics, and actors but it still did not go far enough in

acknowledging the outcomes of these interactions through the removal of the evaluative criteria. It is the synthesis of all of these analytical elements that allowed for such a thorough examination of the data. In some ways, modifying an adapted framework seemed wrong, as though the framework were being manipulated to present a specific set of datum. But through the combination of these two frameworks, it allowed for the best way to analyze the data that was available and explore the phenomena from a variety of angles to provide a more holistic picture. This presentation of data makes it easier to see the similarities and differences between each of the cases, but it also allows for more broad narratives to emerge within the country of Sweden. And it allowed me, as the researcher, to see what was working in these cases and is more likely to lead to success in further integration of cities into these long trail systems as opposed to what isn't working, such as a lack of institutional support.

Policy recommendations

The collaboration in southern Sweden presents an interesting potential opportunity for a pilot program that could address the lack of transportation in some of the more remote areas of the trails. Each of the trail organizations tries to work with public transportation service providers in the regions to enable better access to outdoor recreation locations, but they all seem to be less than successful in those endeavors. Instead of utilizing regional providers or following routes that cater to workday commuter needs, there could be an opportunity to create bus routes that follow the trails and connect between the counties. This could be similar to how buses operate in some of the national parks in the United States. Alternative Transportation Systems (ATS) within the United States National Park Service has been implemented more as a solution against the increasing number of private vehicles that are entering National Park Spaces. Along with alleviating vehicular congestion within parks, ATS aims to reduce transportation related emissions and better connect visitors to different areas of the park. Based on my personal experience in the Grand Canyon, buses are used during the peak season to help hikers get between the North and South Rim visitor centers. One of the first ATS pilot programs, that is still in operation today, is the Island Explorer shuttle bus in Acadia National Park. This shuttle service "has since become a successful means of transportation for visitors and residents to, from, and within the park (Pettengill et al., 2012; Zimmerman et al., 2004, as cited in Spernbauer et al., 2022, p. 1). The Island Explorer shuttle is a fare-free bus service that provides transportation to residents and tourists.

> Implemented in 1999, the Island Explorer includes 17 clean-fuel, propane buses that run on seven routes and efficiently link the hotels, motels, and campgrounds of the area with park attractions and the Bar Harbor Airport. The shuttle buses have bicycle racks and provide full access for disabled passengers. The Island Explorer runs from the end of June through the middle of October, and each route runs on its own pre-established schedule. (*Island Explorer – Acadia National* Park, 2023)

A similar program could exist in the summer where buses follow the trail at a reasonable interval (daily or weekly) and then connect back to the urban centers. This would provide access to hikers while on the trail, but also could help urban residents access those less accessible stops that are situated further outside the cities.

Influenced by the data of "what worked and what didn't," one suggestion that could better integrate trails into cities would be the creation of a national trail organization or management team with the goal of creating a national trail system. Based on the cases, this type of organization would ideally be integrated within the government in some way to provide direct communication downwards to each of the counties and municipalities. This means that the organization would be a government agency or a non-profit organization that has been delegated responsibilities from the government. Like Sweden's national parks, this type of organization could possibly fall under the Environmental Protection Agency (https://naturvardsverket.se., n.d.), especially when considering EPA guidelines influence the development and maintenance of nature trails. As in the case of southern Sweden, having trail organizations that have direct ties to the government provide more funding opportunities, and it also allows for better integration of strategic and developmental objectives with the counties and municipalities. Additionally, government imbedded trail management allows for greater ease of engagement with politicians who are more likely to support trail endeavors. The creation of such a nationally recognized trail system could have far reaching impacts. Similar to how pilgrimage trails help people to feel connected to their history or religion, a national trail could allow people to feel more connected within Sweden. This could also present an opportunity for more cities to get involved and market the trails to residents and tourists alike. The fact that a person can walk or cycle from the center of Malmö to the center of Göteborg, and experience amazing Swedish nature along the way, should be celebrated. If these large cities can connect, it shows that smaller cities in Sweden can

do the same while also seting an example for other countries who may be able to connect cities through nature.

A national trail would also have the potential to become an international trail through the joining of the North Sea Trail system. This trail system will connect seven partner countries (Sweden, Norway, Scotland, England, the Netherlands, Denmark, and Germany). The project was originally funded by the Interreg IIIB North Sea Programme which supports transnational partnerships and promotes sustainable communities within the North Sea Region (https://northsearegion.eu/, n.d.). The trail is now managed by the North Sea Trail Association and having a Swedish trail organization at the national level of government would allow for more streamline communication and goal setting between Sweden, the partner nations, and the Association.

Sweden has a lot to offer as a great example for making hiking available to a wide range of people and creating pathways between urban and rural spaces. The formalization of trail signage, difficulty levels, and infrastructure make Swedish trails inviting to new hikers as well as the more experienced nature lovers. Guidelines such as “the distance between respective joint markings should not exceed 250 meters” or “the joint marking should be placed at a height of approximately 150-180 cm about the ground and adopted to the conditions on site” (National Framework for Hiking, 2022, p. 15) help to make people feel comfortable on the trails and decrease the potential for getting lost. The signposts and distance signs on the regional trails help hikers orient themselves on the trails and a lot of them provide overviews of other trails in the area to alert hikers to local trail systems; the use of different colors for trail markers helps to prevent hikers from getting mixed up and following the wrong trail. Based on my experiences hiking around Norway’s southwest coast, trail markings are not always easily visible and usually only consist of a red “T” painted on a rock or tree, regardless of what trail you are on. Trying to find these markings in inclement weather, especially snow, becomes incredibly difficult and makes it easy to get lost on-trail. And trying to distinguish which trail you are following in an area that may have multiple paths is made even more difficult by using only one marker throughout the trail system. The joint marking guidelines that are found in Sweden’s National Framework for Hiking are just one way that trails in neighboring countries could be made safer and more accessible to more people.

9. Conclusion

Although these trail runs through quintessential urban settings that feel removed from nature, the fact that the paths lead directly through city centers means that they are providing direct access for urbanites to the rest of the trail that leads them into the wilder environment. The route of these trails is also symbolic in that it shows that there is more than one way for people to access nature from the center of the city; with the motivation and time, a person could set out on a hike from the centers of Göteborg or Malmö and follow a path that leads directly into nature without the use of vehicles. The programs that work with different communities make hiking available to a wide range of people. School programs that bring elementary school students out to the trails provide access to kids regardless of their socio-economic background. Language curriculums that take place out on the regional trails invite people who may not be fully immersed in Swedish culture, providing an inclusive environment to then learn more about the culture and what nature means.

Imagine the possibilities if, in the future, there were as many trails leading to and from the city as roads for vehicles. If, instead of just paved highways, these trails connected people to each other by using the natural landscape. If we prioritized accessing nature through simply using our own bodies without being reliant on personal vehicles to allow us to break out of the concrete settings. Envision what the world could look like if we incorporated this into national, regional, and urban planning. Long distance nature trails provide many opportunities and benefits to society and research is continuing to emerge that supports these claims. While these types of trails may not be feasible in every environment, it is not impossible to think that cities can be easily included to help combat the separation of urban communities from the surrounding natural landscapes.

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Appendix A – Qualitative Interview Guide

Trail Organizations and Volunteers

1. As a trail representative for (trail), can you tell me a little bit about the hiking opportunities that are available in the area?
2. Does the trail organization have overarching goals for ensuring that people living in the more urban areas in Sweden have access to hiking trails?
3. Can you tell me anything about how these trails are planned out? Does the trail organization have authority in facilitating the trails or does the organization act more as a social group to organize hikes, or even a voice of advocacy for outdoor recreation opportunities?
4. What organizations does your office work with to incorporate the city into these long trails?
    a. Stockholm (Sörmlandsleden) – The trail starts a few kilometers outside of the city, can you talk about the factors that were considered that led to the trail starting at that spot?
    b. Göteborg (Bohusleden) - The trail starts a few kilometers outside of the city, can you talk about the factors that were considered that led to the trail starting at that spot?
    c. Malmö (Skåneleden) – One of the subtrails runs right through the city center, can you talk about the factors that were considered that allowed the trail to run through the city?
5. How does your office engage with the city's residents and interest groups to incorporate these kinds of trails into short and long-term planning goals?
6. Do you know anything about the history of the trail and how it relates to the city? Is there perhaps cultural significance that this trail was used to connect some of the smaller villages to this large city?
7. Does your office coordinate with transportation companies to ensure that there are public services providing access to these trail areas?
8. What tools does your office use to provide information to the city's residents regarding outdoor recreation opportunities like these long trails?

9. I have seen the website for the trail, and it has a lot of really good information – can you tell me a little about the process of building the website, how you decided on this format, who provides your online services, and possibly how you utilize metadata to assist with your planning?
    a. Stockholm – Can you tell me a little about why you decided to charge for access to maps and additional trail information while the other trails provide this access for free?
10. Do you monitor trail usage and, if so, how do you utilize that data for improving services or future planning?

Appendix B – Documents included in analysis

1. National
    a. *Nationellt ramverk för vandringsleder, Kvalitetskriterier*
    National framework for hiking trails, quality criteria
    https://corporate.visitskane.com/sv/filer/221111-kvalitetskriterier
    b. *Naturvårdsverket Vägledning friluftsanordningar*
    Outdoor devices – a guide for planning and management
    https://www.naturvardsverket.se/om-oss/publikationer/1200/friluftsanordningar/
    c. *Klimatpolitiska rådets rapport 2022*
    Swedish Climate Policy Council Report 2022
    https://www.klimatpolitiskaradet.se/en/report-2022/
    d. *Tillgängliga natur- och kulturområden: En handbok för planering och genomförande av tillgänglighetsåtgärder i skyddade utomhusmiljöer*
    Available nature and cultural areas: One manual for planning and implementation of accessibility measures in protected outdoor environments
    https://www.naturvardsverket.se/vagledning-och-stod/friluftsliv/tillgangliga-natur--och-kulturomraden/
2. Stockholm/Sörmlandsleden
    a. *Framkomlighetsstrategin: Många möjligheter till rörelse och vistelse*
    Accessibility strategy: Many possibilities for movement and stay
    "Stockholm's Traffic strategy"
    https://start.stockholm/globalassets/start/om-stockholms-stad/politik-och-demokrati/styrdokument/stockholms-stads-framkomlighetsstrategi.pdf
    b. *Klimathandlingsplanen 2020-2023*
    Climate Action Plan 2020-2023
    https://miljobarometern.stockholm.se/miljomal/klimathandlingsplan-2020-2023/
    c. *Medborgarenkät 2020: Enkätundersökning om miljö, trafik och resvanor*
    Citizen Survey 2020: Survey on the environment, traffic and travel habits
    https://miljobarometern.stockholm.se/stockholmarna/

d. Stockholm City Plan (English version)
https://vaxer.stockholm/globalassets/tema/oversiktplan-ny_light/english_stockholm_city_plan.pdf

e. Stockholm city plan: urban development map (English version)
https://vaxer.stockholm/globalassets/tema/oversiktplan-ny_light/urban_development_map_stockholm_city_plan.pdf

f. *Sörmlandsleden 40 år*
Sörmlandsleden 40-year history
https://www.sormlandsleden.se/om-foreningen/

g. *Sörmlandsledens 50-åriga historia*
Sörmlandsleden 50-year history
https://www.sormlandsleden.se/om-foreningen/

h. *Hur alltihop började: Sörmlandsledens tidiga historia och bakgrund*
How it all began: The early history and background of the Sörmlandsleden
https://www.sormlandsleden.se/om-foreningen/

3. Göteborg/Bohusleden and Gotaleden
    a. Environment and Climate Programme 2021-2030
    https://goteborg.se/wps/wcm/connect/be800f8b-8c25-498e-80e8-b982d56ddc08/Environment+and+Climate+Programme+for+the+City+of+Gothenburg+2021%E2%80%932030.pdf?MOD=AJPERES
    b. Development Strategy 2035: Planning and building committee
    https://costtu1203gothenburg.files.wordpress.com/2015/09/gothenburg-development-strategy-2035-planning-and-building-committee-city-of-gothenburg.pdf
4. Malmö/Skåneleden
    a. Comprehensive Plan for Malmö: Summary in English
    https://malmo.se/Welcome-to-Malmo/Sustainable-Malmo/Sustainable-Urban-Development/Sustainable-Urban-Planning.html