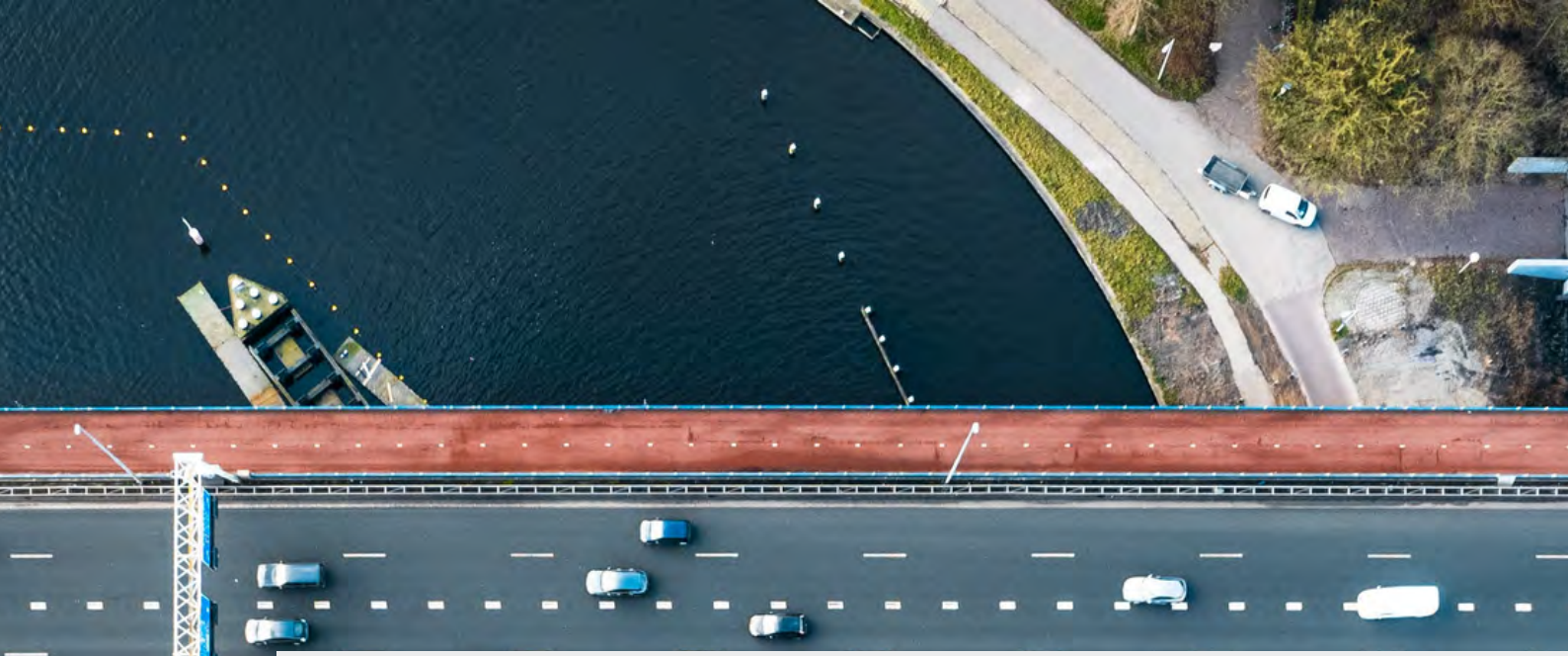

Nordregio

Facilitating cross-border transport infrastructure planning in the Nordic Region

Anna Lundgren, Linnea Löfving and Lars Westin

Nordregio Report 2023:6

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Foreword

This report is the second and final report in the project titled NORDINFRA – "Nordic transport infrastructure planning – institutional barriers and opportunities for coordination" (*Nordisk transport infrastrukturplanering. Institutionella hinder och möjligheter till samordning*) (2021-2023).

NORDINFRA is a research project led by Nordregio and conducted by researchers from Nordregio and Umeå University. The project is financed by the Swedish Transport Administration (Trafikverket). The aim of the project is to increase knowledge about cross-border transport infrastructure planning in the Nordic Region. The project sets out not only to identify barriers to cross-border transport infrastructure planning, but also to highlight opportunities and propose measures to facilitate cross-border transport infrastructure planning.

The first report, *Cross-border transport infrastructure planning in the Nordic Region – An introduction* (2023), was primarily based on desk studies and provided background to the topic by taking a close look at the various transport infrastructure planning systems in Denmark, Finland, Norway and Sweden. The report focused on questions including policy goals, the main players and their responsibilities, central elements of the planning process and analytical tools, as well as the role of the EU and the importance of Nordic perspectives and policies with regard to Nordic transport planning.

In this second report, we examined experiences of cross-border transport infrastructure planning were exemined by conducting interviews with stakeholders in three transport infrastructure planning projects in early phases. These case studies are the "fixed HH link" between Helsingborg and Helsingør; the Stockholm-Oslo rail link; and the link from Mo i Rana, via Hemavan and Umeå, across the Kvarken Strait to Vaasa.

The two reports are complementary. The first report furnishes background information, while this second report provides empirical data and a final, forward-looking analysis, including the potential for developing cross-border transport infrastructure planning in the Nordic Region.

The reports are written by Anna Lundgren, Linnea Löfving from Nordregio and Lars Westin from Umeå University. While a steering group with representatives from the Swedish Transport Administration and a reference group with representatives from academia have provided comments and input to the project, the authors are responsible for the content and suggestions for further improving cross-border transport infrastructure planning in the Nordic Region.

Björn Hasselgren
The Swedish Transport Administration
Chair of the steering group

Photo: Melvin, unsplash.com

Sammanfattning

Denna rapport är den andra rapporten i forskningsprojektet NORDINFRA: Nordisk transportinfrastrukturplanering. Institutionella hinder och möjligheter till samordning *(Nordic Transport infrastructure planning. Institutional barriers and opportunities for coordination)* (2021–2023). Syftet med NORDINFRA är att öka kunskapen om gränsöverskridande transportinfrastruktur i Norden genom att identifiera hinder för gränsöverskridande transportinfrastruktur, peka på möjligheter och föreslå åtgärder för att underlätta planering av gränsöverskridande transportinfrastruktur. Projektet som har finansierats av Trafikverket har letts av Nordregio, och genomförts av forskare från Nordregio och Umeå universitet.

I den första rapporten, *Cross-border transport infrastructure planning in the Nordic Region – An introduction* (2023) gavs en bakgrund och fördjupning av hur gränsöverskridande transportinfrastrukturplanering bedrivs inom ramen för de olika planeringssystemen i Danmark, Finland, Norge och Sverige, samt vilken roll den nordiska och EU-kontexten spelar. Den här andra och sista rapporten i projektet bygger på empiri från intervjuer i tre fallstudier av infrastrukturprojekt i tidiga skeden; den fasta HH-förbindelsen mellan Helsingborg och Helsingör, järnvägsförbindelsen Stockholm–Oslo, och länken från Mo i Rana, via Hemavan och Umeå, över Kvarken till Vasa. I intervjuerna med intressenter från fallstudieprojekten har vi ställt frågor om hur de ser på formella och informella hinder för gränsöverskridande transportinfrastrukturplanering, och hur dessa hinder skulle kunna överbryggas. De båda rapporterna är komplementära.

Precis som skrivbordsstudierna i den första rapporten visade, bekräftar intervjuerna att gränsöverskridande transportinfrastrukturplanering involverar många aktörer på olika administrativa nivåer, från ministerier och transportmyndigheter på den nationella nivån, till regioner, kommuner, gränsöverskridande organisationer, privata företag och lobbygrupper. Intervjuerna visar också att den nationella nivån och regeringarna har en särskilt central roll då dessa i stor utsträckning sätter ramarna och på så sätt påverkar de övriga aktörernas agerande. Även om våra resultat visar stora utmaningar för gränsöverskridande transportinfrastrukturplanering, har vi även fått exempel på framgångsrika planeringsinsatser och förslag på åtgärder för att ytterligare utveckla transportplaneringen över nationsgränserna. Utmaningarna har sammanfattats i sju nyckelområden:

- Att acceptera att gränsöverskridande transportinfrastrukturplanering är komplext
- Att ha förståelse för att den nationella planeringen för transportinfrastruktur har en nyckelroll
- Att hantera bristen på tydliga uppdrag och mandat för gränsöverskridande transportinfrastrukturplanering
- Att systematiskt dela information och kunskap om transportinfrastrukturplanering
- Att beakta att gränsöverskridande transportinfrastruktur när allt kommer omkring är en fråga om prioritieringar
- Att involvera regionala och andra intressenter i den gränsöverskridande transportinfrastrukturplaneringen
- Att lära hantverket om hur man samarbetar kring gränsöverskridande transportinfrastrukturplanering

Den främsta potentialen för att förbättra gränsöverskridande transportinfrastrukturplanering i Norden är beroende av att de nationella regeringarna i högre grad prioriterar det nordiska politiska samarbetet inom transportinfrastruktur. För att utveckla det nordiska samarbetet kring transportinfrastruktur, ska vikten av tydliga mandat och uppdrag inte underskattas. Även om regioner, kommuner, gränsöverskridande organisationer och andra aktörer är viktiga kan de inte ersätta de nationella myndigheternas centrala roll.

Genom att skapa en gemensam nordisk kunskapsbas om transportflödena i det nordiska transportsystemet, transportsystemets funktionssätt och om hur investeringar i transportinfrastruktur i ett land påverkar flödena i de andra nordiska länderna, skulle den samlade kunskapsnivån kunna höjas. Denna skulle också kunna fungera som en gemensam nordisk plattform för kunskaps- och

erfarenhetsutbyte som bas och för att utveckla strukturer för fördjupat samarbete kring bl.a. gemensamma analysverktyg. Sammantaget bedöms dessa insatser kunna bidra till att underlätta den nordiska gränsöverskridande transportinfrastrukturplaneringen och till att utveckla ett transportsystem som gynnar de nordiska länderna och Norden som helhet.

Photo: Jon Flobrant, unsplash.com

Summary

This report is the second report in the research project titled NORDINFRA – "Nordic transport infrastructure planning – institutional barriers and opportunities for coordination" (*Nordic transport infrastructure planning. Institutional barriers and opportunities for coordination*) (2021-2023). The aim of NORDINFRA is to increase knowledge about cross-border transport infrastructure planning in the Nordic countries by identifying barriers, highlighting opportunities and proposing measures to facilitate the planning of cross-border transport infrastructure. The project has been financed by the Swedish Transport Administration. It is led by Nordregio and carried out by researchers from Nordregio and Umeå University.

The first report, *Cross-border transport infrastructure planning in the Nordic Region – An introduction* (2023), provided background information and in-depth insight into how cross-border transport infrastructure planning is shaped by the different planning systems in Denmark, Finland, Norway and Sweden and by the Nordic and EU context. This report is based on empirical data from three case studies of infrastructure projects in early phases, namely the fixed HH link between Helsingborg and Helsingør, the Stockholm-Oslo rail link, and the link from Mo i Rana, via Hemavan and Umeå, across the Kvarken Strait to Vaasa. In interviews with stakeholders from these regions, we asked how they view formal and informal barriers to the development of cross-border transport infrastructure and how these barriers could be reduced. The two reports are complementary.

As the desk studies in the first report showed, the interviews confirm that cross-border transport infrastructure planning involves many players at different levels of government, from national ministries and transport authorities through to regions, municipalities, cross-border organisations, private companies and lobby groups. However, the interviews in the case study areas also show that governments at the national level have a central role and that their actions are

pivotal as they largely shape the framework and influence the actions of the other players. Although our findings show that cross-border transport infrastructure planning poses major challenges, we also found examples of successful planning efforts and proposals for measures to enhance transport planning across national borders. The challenges have been summarised and grouped into seven key areas:

- Recognising the complexity of cross-border transport infrastructure planning
- Understanding that transport infrastructure planning at the national government level plays a key role
- Addressing the lack of clear assignments/mandates to perform cross-border transport infrastructure planning
- Sharing information and knowledge on transport infrastructure planning in a systematic way
- Acknowledging that cross-border transport infrastructure is ultimately a matter of priority
- Involving regional and other stakeholders in cross-border transport infrastructure planning
- Learning the “craftsmanship” of cooperation in cross-border transport infrastructure planning

The main potential for improving cross-border transport infrastructure planning in the Nordic countries lies in the interest of the national governments in prioritising Nordic political cooperation in the field of transport infrastructure. The importance of clear assignments and mandates from the political leaders to the national transport authorities to work on and enhance cooperation should not be underestimated. Although regions, municipalities, cross-border organisations and other players are important actors, they cannot replace the national authorities.

By creating a common Nordic knowledge base on the Nordic transport system's flows, its functioning and how investments in transport infrastructure in one country affect flows in the other Nordic countries, the overall level of knowledge would be raised. A joint Nordic knowledge base could also serve as a common Nordic platform for the exchange of knowledge and experiences and for developing structures for in-depth cooperation on matters such as common analytical tools. All in all, such a knowledge base can be expected to contribute to facilitating Nordic cross-border transport infrastructure planning and the development of a transport system that benefits all countries and the Nordic Region as a whole.

Photo: Pietro Rampazo, unsplash.com

Introduction

This report is the second and final report in the research project titled NORDINFRA – "Nordic transport infrastructure planning – institutional barriers and opportunities for coordination" (*Nordisk transport infrastrukturplanering. Institutionella hinder och möjligheter till samordning*). The NORDINFRA project has been financed by the Swedish Transport Administration (Trafikverket) for the period 2021-2023. It is led by Nordregio and conducted by researchers from Nordregio and Umeå University.

The aim of the project has been to increase knowledge about cross-border transport infrastructure planning in the Nordic Region. More specifically, the project attempts to identify barriers, highlight opportunities and propose measures to facilitate cross-border transport infrastructure planning across national borders in the Nordic Region. Although the new geopolitical situation with with Finland's and Sweden's membership in NATO is likely to increase cooperation in related fields, such as defence and contingency planning, this has not been studied in this report.

The first report, *Cross-border transport infrastructure planning in the Nordic Region – An introduction* (2023), was primarily based on desk studies and provided background to the topic by looking closely at the different transport infrastructure planning systems in Denmark, Finland, Norway and Sweden. The report contains a comparative overview of e.g. policy goals, the main players and their responsibilities, central elements of the planning process and analytical tools. Moreover, it provides an overview of EU and Nordic perspectives and policies related to cross-border transport infrastructure planning.

In this second report, we examine experiences regarding cross-border transport infrastructure planning. Three different case studies were selected in collaboration with the Swedish Transport Administration; the proposed fixed HH link between Helsingborg and Helsingør; the proposed new Stockholm-Oslo rail

connection; and the on-going attempts to improve the multi-modal corridor from Mo i Rana, via Hemavan and Umeå, across the Kvarken Strait to Vaasa. The case studies represent cross-border transport infrastructure planning projects in early phases across the Swedish-Danish border, Swedish-Norwegian border and the Swedish-Finnish border. A common feature is that they are being furthered by local and regional players in the respective areas.

In semi-structured interviews conducted via Teams with stakeholder representatives involved in cross-border transport infrastructure planning at the national, regional and local levels, we focused on barriers to cross-border transport infrastructure planning and on the potential for overcoming those obstacles. The interviewees were selected using the snowball principle. A total of 29 interviews were conducted from October 2022 to March 2023 (see appendix for a list of the interviews).

We departed from an institutional theory framework (e.g. North, 1990) and in the interviews, we explored how formal rules – such as laws, regulations and differences in organisational and formal structures between countries – and informal rules – such as language, norms and practices – influence cross-border transport infrastructure planning (see appendix for the interview guide).

It is important to note that the two NORDINFRA reports are complementary. While the first report provides background information, this second report adds empirical data and a concluding, forward-looking analysis of our findings.

We wish to thank all those that contributed by participating in the interviews and by sharing their knowledge and experiences with us during the project. We also wish to express our sincere thanks to the reference group and the steering group for their in-depth knowledge and valuable comments on our work.

The structure of the report is as follows: the introduction is followed by a brief description of the three case studies. Next the findings from the case studies are presented, followed by a discussion of the potential for improving cross-border transport infrastructure planning. The report closes with some final remarks.

Photo: Erik Odiin, unsplash.com

Three case studies

In this section we present and give a brief introduction to the three case studies selected; the proposed "fixed HH link" between Helsingborg and Helsingør; the proposed new Stockholm-Oslo rail connection; and the multi-modal corridor from Mo i Rana in Norway, across Sweden and the Kvarken Strait, to Vaasa in Finland.

In all three cases, increased cross-border collaboration and improved cross-border transport infrastructure have been promoted by regional and local stakeholders for decades. All three case studies feature the involvement of at least two countries and stakeholders at the national, regional and local levels. While the fixed HH link involves a fairly short distance, the multi-modal corridor from Mo i Rana to Vaasa is at the other extreme and the Stockholm-Oslo link is in between.

Helsingborg-Helsingør

With Helsingborg located on the Swedish side of the Öresund Strait and Helsingør on the Danish side, this link represents the closest connection between Sweden and Denmark with a distance of just three kilometres across the strait. Regular transport services by ferry for passengers and freight started in the first half of the 19th century. At the beginning of the 20th century, cross-border trade increased, rising to one ferry crossing the strait every five minutes in the 1960s. Until the opening of the Öresund Bridge between Malmö and Copenhagen in 2000, the ferry link between Helsingborg and Helsingør was the main transport link between Sweden and Denmark.

A fixed link, including both road and rail, between Helsingborg and Helsingør is expected to increase transport opportunities and help reduce vulnerability of the traffic system across the Öresund Strait. Furthermore, an HH link would extend the labour market in the northern part of the Greater Copenhagen Region and also create work opportunities during the construction phase. Besides the

national transport administration agencies in Denmark and Sweden, regional and local stakeholders also play an important role. The two cities to be joined by the proposed fixed HH link, namely Helsingborg and Helsingør, are responsible for physical planning at the local level. Region Skåne and Region Hovedstaden perform a key role, but their mandates depend on the public administration structure in the respective countries. For example, Region Skåne has a mandate both for the planning of transport infrastructure and the management and operation of regional transport, whereas these issues fall within the responsibility of the national government in the case of Region Hovedstaden. To lobby for a fixed HH link, "HH2030-gruppen" was established in 2009. It consists of more than 40 municipalities, organisations and private companies. Furthermore, the Greater Copenhagen cross-border organisation plays an important role. Based on a common agreement concluded in 2016 (and updated in 2020), it advocates increased cross-border transport infrastructure links across the Öresund Strait.

Fixed HH link

The strategic analysis (Strategisk analyse/Förberedande studie) "Fast förbindelse mellem Helsingör och Helsingborg" was the result of collaboration among the Swedish Transport Administration (Trafikverket), the Danish Road Directorate (Vejdirektoratet) and the Danish Transport, Construction and Housing Authority (Trafik-, Bygge- og Boligstyrelsen) in 2021. The task of conducting the analysis was jointly assigned by the governments concerned.

A possible next step to continue the process of establishing the fixed link would be for the national governments to instruct the transport authorities in the respective countries to start a more detailed physical planning process ("lokaliseringsutredning").

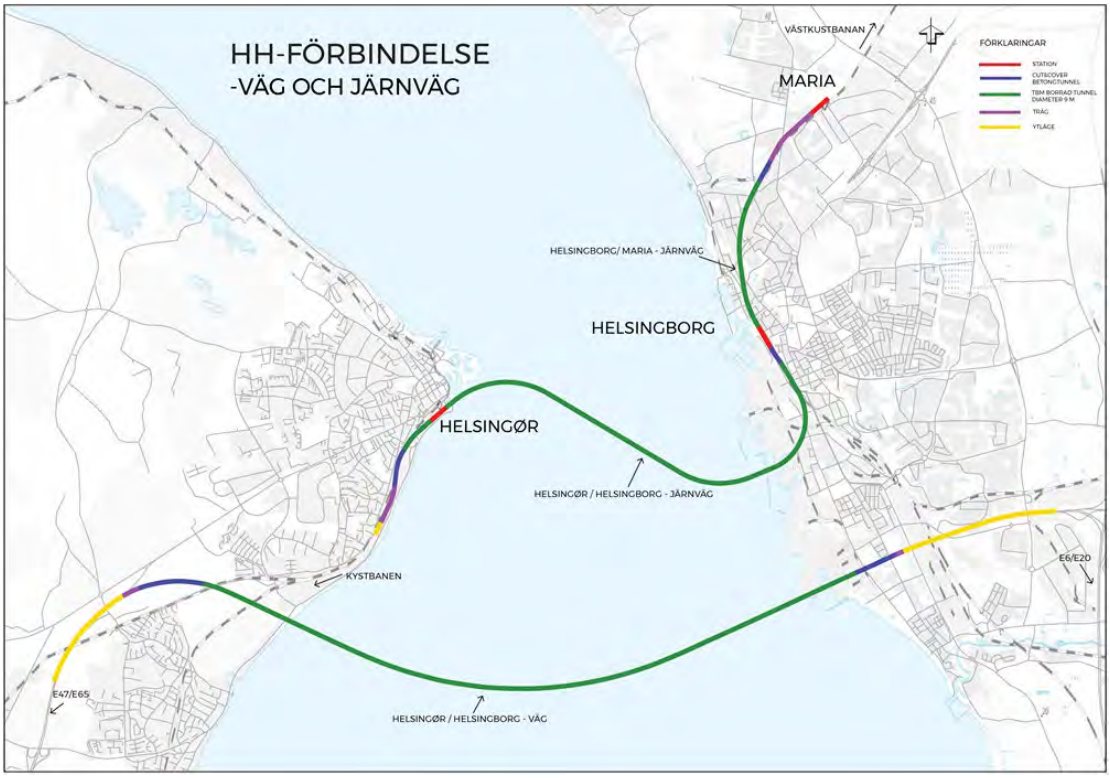

Figure 1. Fixed HH link, Trafikverket et al. 2021, p. 9.

Stockholm-Oslo

The straight-line distance from Stockholm to Oslo is estimated at 400 kilometres. However, due to long travel times, limited supply of rail options and low rail punctuality, most of the end-to-end travel between the capital cities takes place by air. Road transport is also an important travel mode, while rail connections are weak. The travel time by rail is estimated to be 5 h 14 min (2017) (Jernbanedirektoratet and Trafikverket, 2022). In order to facilitate travel between Oslo and Stockholm – which are important trading partners – and to increase sustainable economic growth and development along the link, investments in new and improved rail links between Stockholm and Oslo have been advocated by interest groups from both countries.

There are several alternative links and routes that could potentially decrease travel time. A joint pilot study by the Norwegian Railway Directorate (Jernbanedirektoratet) and the Swedish Transport Administration (2022) (here we refer to fact box) investigated two alternative routes for a new 250 km/h railway connection (Gränsbanan): one northern route via Lilleström and a southern route via Ski, both ending in Arvika.

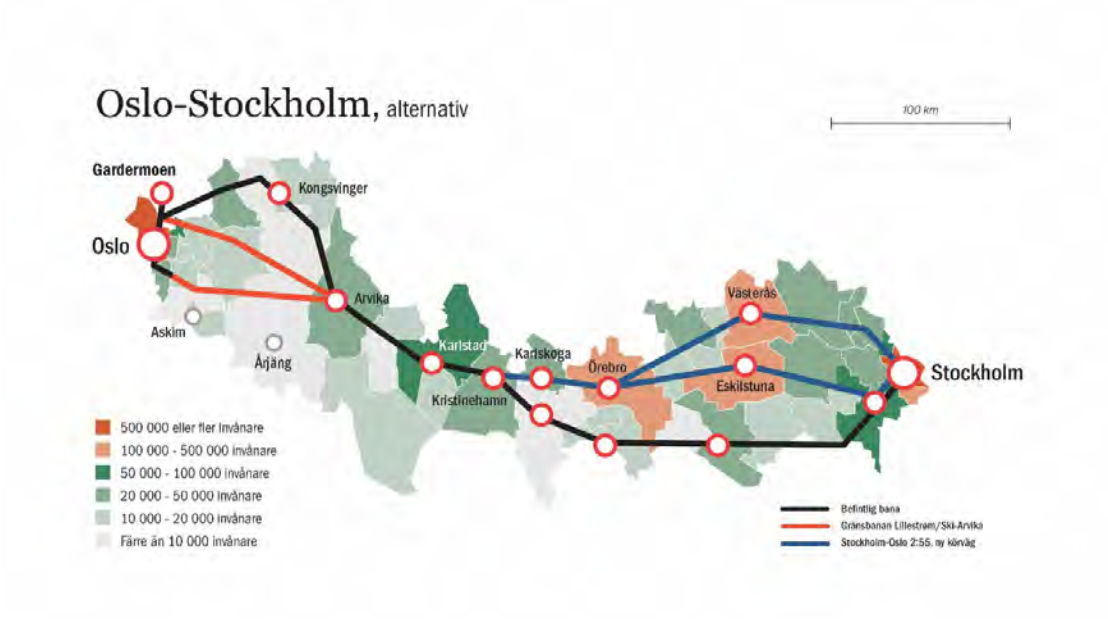

Figure 2. Alternative Oslo-Stockholm routes, Jernbanedirektoratet and Trafikverket, 2022, p. 12.

The proposed rail links are expected to decrease the end-to-end travel time by 77-79 minutes, dramatically increase the number of passengers at the expense of air traffic and influence the development of an extended and integrated labour market. As a next step, the pilot study recommended a joint Swedish-Norwegian study on strategic measures.

Oslo-Stockholm pilot study

In February 2022, the Ministry of Transport tasked the Norwegian Railway Directorate with developing a pilot study (mulighetsstudie) for the Oslo-Stockholm link. The aim was to provide background knowledge to establish whether a study on strategic measures should be drawn up. The Swedish Transport Administration was assigned a similar task by the Swedish Infrastructure Ministry in June 2022 and the decision was made to conduct a joint project. The study focused on one of the potential routes, Arvika-Ski/Lillestrøm (Gränsbanan), and included evaluations of market, capacity, financial and cost-and-benefit analyses. The pilot study was presented in September 2022.

Mo i Rana via Umeå to Vaasa

The 500-kilometre-long corridor between Vaasa in Finland and Mo i Rana in Norway follows the European road E12 and the Ume River. The corridor consists of a mix of road, ferry, rail and air links. The ferry connects roads on the two sides of the Kvarken Strait. A short rail link connects Vaasa central railway station with Vaasa harbour. A rail link also connects the harbour in Umeå with Storuman, halfway between Umeå and Mo i Rana. Between Storuman and Mo i Rana, the road is the only land-based connection.

Figure 3. The corridor from Vaasa in Finland, via Holmsund, Umeå and Storuman, through to Mo i Rana and Mosjoen in Norway. Source: Interreg Botnia Atlantica, 2018, p.5.

Although there are several airports along the corridor, there are no direct flights. The main stakeholders in the development of the corridor represent the national transport planning authorities, the regions, the municipalities and the cross-border organisations.

Based on discussions in the 1950s aimed at strengthening east-west connections and the growing tourism sector, the Blue Highway association was established in 1963. Although ferries have existed for long time during the summers, year around ferries between Umeå and Vaasa started in 1972 and the Kvarken Council

was formed. In 2020 the status of the council changed and it was renamed the Kvarken Council EGTC (European Grouping of Territorial Cooperation). Collaboration at the Swedish-Norwegian border was stepped up by establishment of the MidtSkandia organisation in 1988. Today the three organisations work closely together.

Over the years, there has been a focus on many aspects of transport and infrastructure planning along the corridor, especially with regard to the condition of the E12 road. On the Norwegian side, there was a difficult stretch of the road near Umskaret. In 2006, a tunnel was opened. It was financed by Norway, but players on both sides of the border benefited. A large airport is set to open in Mo i Rana in 2025 and will also benefit both sides of the border.

Several other projects have been proposed, such as the link over the Kvarken Strait. The ferry is run by the Umeå and Vaasa municipalities, which also own the harbours. A fixed link between Umeå and Vaasa could reduce the travel time to one hour, with no waiting time. Other projects under discussion are an extended rail link from Storuman to the Norwegian coast, electrification of the existing rail link from Hällnäs to Storuman and an airline route from Umeå to Hemavan or the forthcoming airport in Mo i Rana.

The Kvarken Strait – E12 corridor to Mo i Rana

The approximately 500-km-long corridor from Vaasa in Finland, via Umeå and Hemavan in Sweden, through to Mo i Rana in Norway involves three countries and potentially all modes of transportation. Interaction across the two borders, the Kvarken Strait and the Scandinavian Mountains has long been an important aspect of life in the region. The corridor is connected by the TEN-T comprehensive European road E12, the Wasaline ferry, a joint harbour company for Umeå and Vaasa, a railway in Vaasa and from Umeå harbour to Storuman, and five airports. A new airport is under construction in Mo i Rana. There is ongoing discussion regarding improved connections (e.g. more ferries or a fixed link) over the Kvarken Strait, larger freight yards, internal air connections between the airports of the region and improved rail and road standards.

Photo: Nicolai Bernsten, unsplash.com

Cross-border transport infrastructure planning – experiences drawn from case studies

In our first report (*Cross-border transport infrastructure planning in the Nordic Region – An introduction*), we identified several obstacles to cross-border transport infrastructure planning found in the relevant literature. These are to a large extent related to different formal structures and to challenges of governance, such as different political decision-making structures, different ways of calculating costs and benefits, different financing models and different legal and administrative frameworks.

In this section, we will examine and discuss seven key challenges for cross-border transport infrastructure planning brought up in our case study interviews which relate both to formal structures and informal rules, norms and practices. In the following section we will investigate the opportunities for improvement which were raised in the interviews conducted.

1. Recognising the complexity of cross-border transport infrastructure planning

The presence of the borders is immediately obvious and yet is often overlooked. Naturally borders matter a great deal. Some of the interviewees posed the rhetorical question: "Why should it be more difficult to plan across the border?" This a reasonable question to ask. However, the case studies show that it is much more complicated to plan international cross-border transport infrastructure than intranational infrastructure.

"If it wasn't for the national border, the infrastructure would have been there a long time ago."

There are numerous reasons for this. Firstly, nation states matter. Each country

has its own National Transport Plan. To some extent those plans take a wider view beyond the national borders, but the main focus is on planning within the country concerned. Secondly, each individual country has developed its own organisational structure, division of responsibilities and decision-making structures. Those are laid down in laws and regulations and are furthermore embedded in routines and practices.

"Both countries [Sweden and Denmark] are most concerned with national transport infrastructure. Cross-border transport infrastructure always comes second. Everyone can see the problem with the ticketing system, where national ticketing problems are solved first. That is probably how it works in both Denmark and Sweden."

"We have different roles and assignments. We need to learn how they work in other countries."

"The public administration models are different in the different countries. The Swedish Transport Administration has large autonomy compared to Denmark."

In general, language seems to be a minor obstacle in relations between the countries in question. Between Sweden, Norway and Denmark, the Scandinavian languages can be fairly well understood. However, in relation to Finland, communication with non-Scandinavian speaking Finns sometimes poses a problem. While resorting to English is an option, it may also hamper the quality of the interaction due to limited vocabulary. Despite cultural differences between the countries, these were not referred to as major barriers to interaction. According to the interviewees involved in cross-border transport infrastructure planning and/or projects, it tends to be lack of familiarity with the organisational structures across the border that sometimes makes it difficult to liaise. The interviewees from all our case studies reported generally good or even very good cross-border collaboration between the stakeholders, once those obstacles had been overcome.

"We work fairly well together across the Nordic borders, but there is great potential for improved collaboration."

One cultural difference experienced and raised by several of the interviewees relates to the degree of formality applied to matters such as planning and the decision-making process. For example, according to the interviewees, Sweden and Finland tend to take a more formal approach to written communication than in Norway. Decision-making was reported to be quicker in Norway than in Sweden. Swedes were perceived to be more informal in meetings than Danes, while Norwegians were reported to be more prone to reconsider previous decisions than Swedes. Both Norwegian and Danish interviewees perceived that the Swedish Transport Administration had a wider role and mandate in relation to the relevant ministry than the equivalent authorities in Norway and Denmark. Differences with regard to how decisions are made and anchored within the organisation or among partners were noted as obstacles by the interviewees. That accords with previous knowledge and literature (see e.g. Lundgren et al. 2022).

"We have worked very well together with surprisingly few conflicts."

2. Understanding that transport infrastructure planning at the national government level plays a key role

In all of the Nordic countries examined, transport infrastructure planning takes place at several levels of government. For example, the National Transport Plans are deliberated on by national-level decision-makers; the regions and local authorities are involved in transport infrastructure planning and public transportation; and the EU supports the development of Trans-European Transport Networks (TEN-T) and regional development through its transport and regional policy.

When it comes to cross-border transport infrastructure planning, we find that all these levels of government are involved and contribute within their respective area of responsibility. However, none of them is explicitly responsible for planning cross-border transport infrastructure. One interviewee noted that "cross-border commuters are not voters", meaning that no political body is directly responsible for cross-border infrastructure.

With regard to the question of how cross-border transport infrastructure planning can be improved, the case study interviewees almost unanimously identified the government at national level and its agencies as playing the key role.

"I think we have very good cooperation in HH and Greater Copenhagen and we want to cooperate. That is not the problem. Nor are language or culture. The problem is that the national [level perspective] counts more, especially concerning the economy."

"The Barents cooperation showed that it is important to work with the whole corridor, to identify demand and then also include it in the National Transport Plans."

In all Nordic countries, the national government is responsible for conducting national planning of transport infrastructure, including large investments in the national transport networks. This means that the national governments play a key role in transport infrastructure planning in general and also in cross-border transport infrastructure planning. The extent to which national politicians – besides the responsible minister– are involved in advocating individual transport infrastructure projects depends on the political system in the respective countries. In Finland, for example, Members of Parliament at the national level are elected from time to time to top positions at the regional and local levels, while that is not a practice in for example Sweden.

"Cooperation at the ministerial level between the Nordic countries would signal to everyone in the sector how important it is."

3. Addressing the lack of clear assignments/mandates to perform cross-border transport infrastructure planning

Both interviewees representing national transport infrastructure authorities and interviewees from local and regional stakeholders indicated that a common response from national transport authorities when asked to investigate cross-border transport infrastructure or to complement an ongoing study was: "we don't have this assignment".

Despite both similarities and differences between the Nordic countries as regards how transport policy is organised at the national level – for example, the organisational structure in Denmark and Norway suggests that the transport authorities work more closely with the ministry than, say, in Sweden – the need for clear and explicit mandates and assignments to be issued by the national government with regard to cross-border collaboration seems to be a common feature among the countries.

"We implement the policies that we have been assigned to implement. We have a mandate to engage in dialogue, collect information and report, but when it comes to cooperation with other countries, we need a clear mandate."

"If we don't have an assignment, we cannot prioritise. There must be a demand. If there is a couple of years' difference in the planning periods, it doesn't matter so much."

"The main problem arises when the national transport authorities don't have the assignment to cooperate."

The voiced need for explicit mandates demonstrates that policymaking in transport infrastructure at the level of national government takes place in large, hierarchical organisations where the civil servants have restricted mandates to work with specific regions or on specific transport infrastructure projects.

The interviews furthermore show that although the interviewees are very knowledgeable about their own region or transport infrastructure project, they have only limited insight into Nordic transport infrastructure planning overall. By contrast, civil servants from regional and cross-border organisations usually have wider roles which include framing the development of their region into a wider territorial context. The voiced need for clear assignments and mandates is linked to the role played by formal and informal rules. Formal rules relate to regulations and instructions, while informal rules relate to culture, norms and practice. Both types come with incentives and sanctions. In practice, this means that there are many incentives for civil servants to "stick to the rules".

4. Sharing information and knowledge on transport infrastructure planning in a systematic way

Transport infrastructure planning is complex and cross-border transport infrastructure planning is even more complex. Making informed decisions and taking action requires coordination and well-developed information channels, horizontally and vertically, as well as internally and externally. This, however, does not always seem to be the case. Several of the interviewees working for the national governments and their transport authorities reported a lack of knowledge about the arenas and forums in which discussions and deliberations

about cross-border transport infrastructure priorities and strategies actually take place.

"I think there is cooperation at ministerial level between the Nordic countries, that they meet in various fora?"

"In the region we don't have so much contact with the EU. That is taken care of by people at the head office."

Given that civil servants in national government and transport agencies are part of a large organisation with hierarchical structures and also seems to lack knowledge of the bigger picture, it is not surprising that they stick to the formal mandate and the precise assignment that they have been given, rather than taking a more proactive approach. That makes shared information and analyses of for example transport flows and impact analyses even more important.

"There are no joint models for calculation, planning etc. Even if the planning processes are similar, they are not the same."

"There are simply no transport models that cross the national borders."

Although many national analyses on cross-border transport infrastructure projects have been conducted, acceptance of those analyses by the neighbouring country has sometimes proven difficult. This is probably also one of the reasons why both the HH and Stockholm-Oslo analyses were performed jointly. The representatives in the interviews underlined the importance of having the same assignment and time frame in order to facilitate the development of cross-border joint analyses. However, in the case of HH, although the analysis was conducted as a joint project, the findings have been interpreted differently in Denmark and Sweden in some respects.

"We need to be better at sharing knowledge and information, to have the same perception of reality as regards transport infrastructure and a forum where we can discuss those issues."

In the case of HH, interviewees from both sides of the Öresund Strait mentioned both good collaboration and a lack of trust related to the sharing of information, selection of data and being explicit about national/regional priorities. Lack of trust, however, was not raised in the other case studies, even though it was acknowledged that the Covid-19 pandemic and the subsequent restrictions on borders had left their mark on the lively cross-border collaboration between the Nordic countries. As in all types of relations and negotiations, trust and informal relations are likely to influence collaboration and decision-making.

5. Acknowledging that cross-border transport infrastructure is ultimately a matter of priority

Priorities of transport infrastructure and cross-border transport infrastructure depend on political priorities, which may be influenced of strategic or tactic considerations or issues of timing, and on what is considered to be effective management of economic resources. The National Transport Plans show that the national perspective is the main priority in all the Nordic countries. In the interviews, we came across several explanations as to why cross-border transport infrastructure is not accorded higher priority in the National Plans.

One of the obstacles relates to the fact that insufficient consideration is given to cross-border effects, network impacts and externalities at the Nordic level. This means that the full cost of the cross-border investment is considered, but the benefits on both sides of the national border are not always given due weight. Furthermore, additional impacts – such as impacts on the labour market and property market, as well as other long-term effects of the investments – are usually only partly included in the analyses or not included at all.

"Stockholm-Oslo is more than a cross-border link. It deals with regional development, with the potential for increased cooperation between Norway and Sweden and with reducing CO2 emissions from aviation traffic."

"The success in Barents comes when several countries lobby for the same project. Then we can get the projects into the National Transport Plan."

A second issue concerns the strong focus on roads and railways in the National Transport Plans. Freight and passenger flows generated by harbours, cross-border ferry lines and aviation are not included in the planning processes in the same way as road and rail transport. The players involved in sea transport and aviation often represent other stakeholders, such as municipalities, municipal or regional companies or private stakeholders, that are usually not engaged in long-term transport infrastructure planning in the same way as the stakeholders representing road and rail transport. That may reflect the long-lasting and strong involvement of the state in agencies for the operation and maintenance of roads, rail transport and national airports. As a result, network effects, externalities and other impacts from those modes of transport have not been taken into consideration to the same extent in the National Transport Plans.

A third issue concerns the situation in which national stakeholders have a positive attitude towards investment in cross-border transport infrastructure, but there is disagreement among local and regional stakeholders as to where the new route should be located. This challenge can be seen in the case of Denmark and Sweden, where three alternative routes – with different benefits – to support the Öresund Bridge link have been put up for debate. Three alternative routes have likewise been proposed for the Stockholm-Oslo link. In the case of the Kvarken Strait, regions and municipalities have supported different and sometimes competing ferry lines. It is likely that a lack of consensus among the local and regional stakeholders involved impacts negatively on national decision-makers' leeway and interest in taking action.

6. Involving regional and other stakeholders in cross-border transport infrastructure planning

Besides national government policymakers, regional stakeholders play a significant role in cross-border transport infrastructure planning. The regional development strategies place the development of the region in the framework of a wider territorial context. If the region is situated in proximity to a national border, that often also involves a trans-national context. Local and regional stakeholders are usually also involved in the operation and management of local and regional transport. Finally, they are also frequently consulted or otherwise involved as stakeholders in national transport infrastructure planning.

In some cases, the responsible government level is not mirrored by the same level of government on the other side of the border. For example, in the Öresund region, while the national government authorities on both sides of the strait are responsible for railway planning, it is the regional level of government that is responsible for regional railway traffic on the Swedish side. However, the equivalent task is the responsibility of the national government on the Danish side. This "mismatch" sometimes complicates relations.

"Transport infrastructure planning in Sweden is very hierarchical and formal. In Finland the local parliamentarians participate in the work and getting in contact with national level decision-makers is much easier."

"Regional cooperation is key to identifying regional demand, bottle necks and challenges. Air, port and freight transport is driven by market logic, and we are involved in special arenas where we work with those."

"In the cross-border regions we can see the actual effects of cross-border traffic, the flows of trade and the importance of those working smoothly. But I also see great potential for development."

In the case studies, several regional or interregional players are involved in transport infrastructure planning. In the case of the Helsingborg-Helsingør link, those include for example Region Skåne, Region Hovedstaden, the Greater Copenhagen cross-border organisation and the "HH-gruppen" lobby organisation. Along the Stockholm-Oslo link we find several regions, larger territorial organisations such as Osloregionen (Oslo Region Alliance), the cross-border organisation Värmland-Östfold and special-purpose and lobby organisations, such as "Stockholm-Oslo 2.55" and "Oslo-Stockholm under tre timer". The interviews indicate that involving different types of players may be beneficial to reaching out widely to shape public opinion and accessing various policymakers.

The third case study, stretching from Mo i Rana in Norway via Umeå in Sweden to Vaasa in Finland, involves long distances as well as several modes of transport. The players are more scattered and the whole link also seems to be less well-coordinated among the national and regional players concerned. There are also several cross-border associations involved, such as the Blue Highway Association, Kvarken Council EGTC and MidtSkandia, and cross-border infrastructure

facilities. For example, the Kvarken ports and Wasaline ferry which are co-owned by Vaasa and Umeå.

"I am responsible for the railway. After that, it is port and sea transport, and we are no longer involved. We have little coordination with what is happening on the other side of the border."

"The Ore connection is probably the strongest cross-border collaboration we have where we have formalised the cooperation."

In this northern case study, we also find different – and stronger – national government involvement than in the other case studies. In the northern parts of the Nordic Region, there are several national, EU/international and cross-border organisations that overlap territorially. One of them is the Barents Euro-Arctic Council, where the foreign ministers from Finland, Norway and Sweden (and previously also Russia) are represented along with the European Commission. The Steering Committee for the Barents Euro-Arctic Transport Area (BEATA) involves the transport ministers and representatives from the regional councils (except for Sweden, where the regions are represented by the County Administrative Boards).

The Joint Barents Transport plan, which was updated in 2019, includes proposals for the development of transport routes in the area and was confirmed in a joint declaration in 2021 as an important pillar for cooperation and achieving results. Furthermore, the interviews show that collaboration to manage and develop long-existing cross-border road and rail connections, e.g. the Iron ore/Ofoten line between Sweden and Norway, and bridges and border crossings between Sweden and Finland, are facilitated not only by formal cooperation, but also by personal and informal relations that some individuals have developed over the years while solving specific tasks related to obstacles to existing routes and traffic.

The involvement of regions and cross-border organisations and the interplay between different levels of government were described in the previous NORDINFRA report (Lundgren et al. 2022). This is further illustrated in our case study interviews, which show that regional and cross-border regional collaboration comes in many forms, including involvement of multiple levels of government, e.g. Barents Euro-Arctic Council, "Oslo-Stockholm under tre timer" with the involvement of public and private sector players, or the formalisation of Kvarken Council EGTC. The interviewees pointed out that different organisational forms have various advantages and disadvantages.

"For processes that require a long-term commitment, a company represents a commitment where the shareholders have a responsibility for the company."

"This [the demand for development of infrastructure] is about economic dynamics where the driving forces are found in the regional and local perspectives, not the national perspective."

7. Learning the "craftsmanship" of cooperation in cross-border transport infrastructure planning

As mentioned earlier, transport infrastructure planning per se is a highly complex area which involves many players and stakeholders. Cross-border transport infrastructure involves even more stakeholders, as well as other dimensions, which are important to consider. These dimensions may be of a formal character, such as different national laws, regulations, rules and assignments, but can also involve international diplomacy. They may also be of a more informal character, e.g. different planning or decision-making procedures, routines and practices in the organisations that are to collaborate. Working in this context involves a learning process. Ultimately it is not organisations that collaborate (even though that is often how it is described), but people.

This means that individuals who are involved in cross-border collaboration come to possess special and often tacit knowledge and personal experiences which can help facilitate smoother and more efficient work. We can describe this tacit knowledge as the "craftsmanship" of planning cross-border infrastructure and of improving facilities for transportation and its operation. In our interviews, the important role of interpersonal relations and cross-national knowledge and skills were mentioned several times.

"Several of our contacts have studied here and many contacts are personal contacts. When people retire, finding new contacts always poses a problem."

"Contacts are like a set of informal opportunities. When people change job or move, these may be lost and formal contacts between organisations become more important."

In relation to collaboration, several of the interviews also addressed the question of when collaboration works best and the extent of the collaboration. While most of the interviewees were keen for more cooperation, two of our interviewees representing national government stakeholders were less inclined.

"It is when we have common interests that cooperation works best, and it is also important to build personal relations across the border."

"Cooperation works well as it is today. More cooperation is an issue of priority."

Several of the interviewees pointed out that it is through collaboration in projects that knowledge and interpersonal relationships are built. Others suggested that cooperation may spread from one area to another.

Although most of the interviewees expressed frustration with the lack of interest in investments in cross-border transport infrastructure and the need for better coordination between national level authorities, most seemed to be fairly satisfied with the regional and cross-border arenas and platforms for collaboration at hand. However, there was one exception to that: the lack of a political Nordic arena for cross-border transport infrastructure issues. This will be discussed in further detail in the next section. Several interviewees also highlighted that Nordic and European collaboration can be expected to increase

in the future due to the changing geopolitical order caused by the Russian invasion of Ukraine.

"The world around us is changing. I think it will be even more important to cooperate across borders in the Nordics, both in infrastructure and contingency planning."

"The national ministerial level needs to talk to each other and formalise their cooperation. And then we need them to talk to us in the cross-border regions."

"The most important thing is the collaboration between ministers. That they give a clear mandate to their ministries. A Nordic Council of Ministers for Transport, and a Nordic TEN-T network where urban nodes are given a clear status."

Photo: Kotryna Juskaite

Potential for improving cross-border transport infrastructure planning

In the previous section, we presented key challenges related to barriers to cross-border transport infrastructure planning in the Nordic Region. In this forward-looking section, we will focus on the potential for improving cross-border transport infrastructure planning. We will concentrate on three main issues that were raised in our interviews: increased political cooperation in the Nordic Region, the need for increased joint knowledge on Nordic transport infrastructure planning and the development of joint tools.

1. Increase Nordic political collaboration on transport infrastructure

There is a sharp contrast between 1) the Nordic countries' dependency on international trade, the amount of transported goods and mobility within the Nordic Region and 2) the narrow national perspectives in the National Transport Plans and lack of political priority accorded to cross-border transport infrastructure. This is further illustrated by the fact that there is no dedicated Nordic political platform for transport infrastructure policy issues, although several political bodies, including the Nordic Council, have been pushing for such a platform and attempts to strengthen the Nordic political dialogue have been made.

Moreover, there is no regularly updated comprehensive overview of the transport infrastructure system in the Nordic Region that is also integrated with the national overviews and models of the transport networks and associated flows. Recent developments, such as Russia's aggression against Ukraine and the new geopolitical situation in Europe, further emphasise the need for a strategic overview of transport infrastructure and transport flows in the Nordic Region.

A large majority of the case study interviews indicate that the main potential for

improving cross-border transport infrastructure planning lies with improved Nordic political cooperation, primarily at the ministerial and government level. It is only through national-level government mandates and assignments from the responsible ministries to their respective authorities that the national authorities will have the necessary mandate to increase cooperation among the countries, improve coordination among the National Transport Plans and initiate and facilitate more synchronised planning processes. The cross-border Joint Barents Transport Plan can serve as inspiration here. Only two interviewees indicated that the current collaboration between the Nordic countries on cross-border transport infrastructure planning is sufficient.

One possibility to strengthen the Nordic national level government cooperation on transport infrastructure could be through the re-installation of a Council of Ministers for Transport (MR-Transport) within the Nordic Council of Ministers. Such a council could serve as a political platform for joint discussions on Nordic collaboration regarding transport infrastructure. Today, the national transport administration agencies cooperate primarily through sector-based platforms such as the NVS (Nordic Road Association) and the NJS (Forum for Nordic Railway Professionals). However, according to the interviews, not all countries participate regularly. Although the Nordic transport administration agencies meet for the exchange of information on a regular basis and the cooperation on singular projects between the countries is reported to work well, the impact of these efforts on the overall system for Nordic cross-border transport infrastructure planning seems to be limited.

It is likely that enhanced Nordic political collaboration on transport infrastructure would also help improve and increase cooperation among the national transport administration agencies. Increased collaboration at national level would lend formal legitimacy to increased cooperation in the Nordic Region among those players involved in transport infrastructure planning in general and those involved in cross-border transport infrastructure planning in particular. More formalised collaboration would also help improve knowledge about the different planning systems and governance structures, which would in turn facilitate further cooperation.

2. Facilitate a joint Nordic knowledge base on transport infrastructure

The Nordic countries are small countries characterised by long distances and a common history. Global trade is important and cross-border transport infrastructure supports the flow of goods and passengers. That is beneficial for extended labour markets, economic growth and Nordic freedom of movement alike. However, today there is no comprehensive and regularly updated overview of freight and passenger flows within the Nordic Region covering all modes of transport. There is also a lack of systematic overview as to how priorities in the countries' National Transport Plans impact transport flows in the other Nordic countries and the Nordic Region as a whole.

The creation of a joint Nordic knowledge base on transport infrastructure in the

Nordic Region would help overcome some of those challenges. This knowledge base should focus on increasing knowledge and in-depth understanding of transport flows in the Nordic Region, including the above-mentioned overview of freight and transport flows and how the different National Transport Plans' impact transport flows in the other Nordic countries and in the Nordic territory as a whole.

The knowledge base would serve as a common platform for the exchange of knowledge and experiences. It would also act as a platform for in-depth collaboration between the Nordic countries in prioritised areas within transport infrastructure planning. Based on the interviews, this should include both joint analyses and the development of joint analytical tools. Better coordination between the transport plans can be expected to be beneficial for the Nordic transport system. At minimum, the time frames of the National Transport Plans should be coordinated. Some interviewees pointed to increased knowledge and better coordination as the first steps towards a Nordic transport model. Although rail transport stands out as being particularly important for joint analyses, a joint comprehensive knowledge base should cover the whole transport system, e.g. including roads, ports and airports. The development of joint analyses should apply a transport route perspective and also target a socioeconomic efficiency perspective, including analyses of how CO2 emissions can be curbed by investing in relevant infrastructure and technologies and how the switch to CO2 efficient modes of transport can be achieved.

It is important to note that a joint Nordic knowledge base would not replace the national analyses conducted in each individual country. By complementing those analyses, it would contribute to increased knowledge and information sharing, boost understanding of the ways in which the Nordic transport system is an integrated system and facilitate cooperation between the transport authorities. It would also increase knowledge about how transport infrastructure planning is conducted in the various Nordic countries and could also form the basis for more institutionalised and structured cooperation between the Nordic countries. EU transport policy and TEN-T would be important frameworks and points of departure for this work.

Knowledge generated by the knowledge base could feed not only into future National Transport Plans, but also into EU transport policy. It could provide knowledge for prioritisation of cross-border transport infrastructure. Furthermore, it could be expected to facilitate bilateral and multilateral agreements on transport infrastructure. Although transport policy would remain a national policy area, a joint knowledge base could facilitate informed decision-making by policymakers on cross-border transport infrastructure. However, as highlighted in some of the interviews, it is important to note that issues should not be "locked into" international collaboration when they could just as well be solved bilaterally.

Regional stakeholders should be appropriately involved in creating a Nordic knowledge base. Through their in-depth knowledge and insight into economic and labour market development in their regions i.e. those factors that drive the

demand for transport infrastructure the regional stakeholders and cross-border regions play an important role.

A joint Nordic knowledge base for transport could also increase preparedness to tackle future challenges. Many global challenges with the potential to impact the Nordic transport system and the flow of goods and passengers are currently materialising. Examples of such challenges are the Russian aggression against Ukraine and its impact on trade flows, the related application by Sweden and Finland to join NATO, the green transition with both positive and negative implications for different industries and the transport sector, rising and volatile energy prices and their impact on industries and households, and the impact of new infrastructure investments such as the Fehmarn Link.

3. Develop joint Nordic tools for transport infrastructure planning

Overall, there are marked similarities in the way in which the Nordic countries conduct transport infrastructure planning. The time frames, the major steps in the processes and the methods for financing and management of transport infrastructure have many features in common. Nevertheless, there are also differences, for example when it comes to the division of responsibilities between different levels of government, decision-making procedures, cost-benefit calculation models and use and attitudes towards different financing models.

However, increasing political collaboration in the Nordic Region at national level and a joint knowledge base would provide not only legitimacy and a mandate but also a framework for transport authorities to develop joint analytical tools. That would enable, for example, analyses of trends and impacts of national transport infrastructure investments on the other countries in the Nordic Region. Statistics collected by Eurostat and other international bodies would serve as a point of departure for that work.

One important obstacle raised in the interviews is the different national calculation models for impact analysis and the fact that in the analysis of cross-border transport infrastructure investments, all costs in a country are included, while eventual benefits from flows from other countries are included only to a limited degree. Several of the interviewees maintained that a common basic model which includes effects generated from other countries would not only be feasible but could also be developed at fairly low cost. A common and flexible basic model for current transport flows and making forecasts and investment calculations would allow each country to include their own national forecast and parameters in an integrated Nordic system for the calculation of impacts and costs. It would also allow the countries to accept, modify, or as today, largely neglect detailed forecasts from other countries, before taking decisions on investments in transport infrastructure. However, over time it is expected that knowledge would increase based on feedback loops from such joint simulations, as well as the actual development of the Nordic transport system in response to measures taken and other influencing factors.

According to the interviews, cost-benefit discussions should involve not only the cross-border perspective, but also consider benefits at different territorial levels, e.g. regional, cross-border, national and Nordic benefits for different target groups, such as business sector perspectives, passenger and freight transport. It should also be considered how ongoing digitalisation can compensate for a lack of transport infrastructure, substitute for physical transportation or stimulate transport in various ways.

The financing of cross-border transport infrastructure is another important area that was frequently discussed in our interviews. The countries have varying experiences of previous financing arrangements – which have also influenced public opinion. For example, in Norway, it is possible to learn from and draw on lengthy experience of working with public concession models and tolls, while Sweden has different experiences of public-private partnerships (PPP) and scepticism is greater there. There is a potential for knowledge sharing, joint Nordic analyses and international outlooks. For example, "Stockholm-Oslo 2.55" has explored various alternative financing models. Previous experiences of existing cross-border routes, such as the Öresund Bridge, Svinesund Bridge and other Nordic agreements, could serve as examples to learn from.

Several of the interviewees noted that the level of interest in financing cross-border transport infrastructure investments may be affected by asymmetries in the sharing of costs and benefits between countries. If the benefits are expected to be higher on the other side of the border, this may influence the interest in financing. The examples mentioned in this context are the Fehmarn Belt link, where Denmark was expected to have a stronger interest than Germany and bore a larger share of the costs, the Umskaret Tunnel near Mo i Rana, where Norway took on a larger share of the costs even though both sides benefit from the investment, and the HH link, where Sweden appears to have a stronger interest than Denmark. It could however be assumed that it is easier to reach joint agreements if cross-border projects are negotiated in baskets allowing for evening out of the total benefits and costs.

However, it is important to note that development of both a Nordic knowledge base and joint analytical tools will be dependent on political prioritisation of Nordic transport policy and cross-border transport infrastructure planning.

Photo: Fabian Muller, unsplash.com

Conclusions and final remarks

This report is the second and final report in the project titled *NORDINFRA – "Nordic Transport infrastructure planning – institutional obstacles and opportunities for coordination"*. The first report, "*Cross-border transport infrastructure planning in the Nordic Region – An introduction"* (2023), was based on desk studies and provided a comparative overview of the central elements of the transport infrastructure planning systems in Denmark, Finland, Norway and Sweden, as well as how those are linked to the EU and Nordic perspectives. In this report we have looked closely into case study interviews to understand barriers and enabling factors for improved cross-border transport infrastructure planning. The two reports are complementary.

Our findings from the project, conducted in 2021-2023, show that cross-border transport infrastructure planning faces major challenges, but also bears potential for improvement. The main conclusion of this study is that national governments play a key role in transport policy, and that improving cross-border transport infrastructure planning in the Nordic Region is dependent on prioritisation of this area by the governments of the Nordic countries. Compared to the European Union, which is rooted in international law, the Nordic Council of Ministers is based on intergovernmental cooperation, and legal collaboration between the Nordic countries has been decreasing over the years (see e.g. Lorange Backer, 2018).

The chief potential for improving cross-border transport infrastructure planning in the Nordic Region lies in the national governments' interest in complementing the national and EU perspectives with stronger engagement in the Nordic perspective and the Nordic transport system. Unless national governments prioritise a Nordic perspective on transport infrastructure planning and send clear signals to their national transport authorities and mandate them to engage in those issues, Nordic collaboration will be limited to analyses and collaboration on individual cross-border projects and sector-specific information sharing,

mainly within the rail and road sectors. Although many regional and local players and stakeholders are involved in cross-border transport infrastructure and also make strong contributions to the development of cross-border infrastructure planning, their roles and mandate are limited.

Clear political signals and mandates to create a joint Nordic knowledge base for the Nordic transport system and develop joint tools for analysis and planning would give the transport authorities the mandate to engage in collaboration across the borders and help improve cross-border transport infrastructure planning.

The findings show that in cross-border projects and in border regions, cross-border knowledge and skills are developed over time. The same is true of the "craftsmanship" of cross-border collaboration, which may compensate both for formal and informal obstacles. Previous examples show that institutionalised structural collaboration over time can help generate in-depth knowledge about the Nordic transport system and how it works, as well as how cross-border transport infrastructure planning can be facilitated.

Final remarks and future research

Policymaking and policy processes, such as cross-border transport infrastructure planning, involve numerous players and interests, such as government and government agencies, experts, politics, business, the legislature, interest groups, media etc. From the literature on policymaking and policy processes, we can learn that policies are formulated in the context of policy discourses (Hajer, 2003). They are also the results of past negotiations, increasing returns, critical junctures and place-binding constraints (Pierson, 2000). Challenges can be found along various lines, such as hegemonic interests, power relations, lack of adequate problem analysis or appropriate policy processes or policy solutions, as well as the ability to deal with issues of communication, transparency and legitimacy. Cross-border transport infrastructure planning requires a multi-method approach (Groenewegen and de Jong, 2008) and in-depth studies that engage with real-world policymaking processes (Marsden and Reardon, 2017). It should also include different spatial perspectives (Peña and Durand, 2022).

This work has been guided by institutional theory focusing on how formal and informal rules frame players' roles and behaviour (e.g. North 1990, Williamson, 2000, Voigt 2014) in cross-border transport infrastructure planning in the Nordic Region. To further increase knowledge on cross-border transport infrastructure planning, future research could engage more with the specific collaboration mechanisms at play and the outcome of these processes, as well as with the development of the suggested analytical tools for joint transport infrastructure planning in the Nordic Region.

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Appendix

List of interviews

City of Helsingborg (two interviews)
Danish Road Directorate
Greater Copenhagen
Grensekomiteen Värmland-Østfold
Helsingør municipality (two interviews)
HH-gruppen
Hovedstaden Region
Kvarken Council EGTC (two interviews)
MidtSkandia/Rana Utveckling (two interviews)
Norwegian Public Roads Administration
Ministry of Transport, Norway
Norwegian Railway Directorate
Oslo-Stockholm 2.55
Osloregionen (Oslo Region Alliance)
Oslo-Sthlm under tre timer AS
Skåne Region (two interviews)
Stockholm Region
Swedish Transport Administration (six interviews with representatives from different regions and departments)

Interview guide (Semi-structured interviews)

Nordregio is currently doing a research project with Umeå University on behalf of the Swedish Transport Administration about cross-border transport infrastructure planning in the Nordic Region. We want to ask some interview questions about formal and informal obstacles to cross-border transport infrastructure planning. The interview takes about 60 minutes.

1. We would like to record the interview for research purposes, is that okay? If we want to cite you, you will be asked first.

2. Looking at the overall picture, how would you describe the Nordic cooperation on cross-border transport infrastructure today?

3. You have indicated that you participate in the following collaborations...
To what extent would you say the actors involved have the assignments, mandates and resources to achieve their goals? What have been the main successes? What have been the main difficulties and areas of conflict?

Now we will ask some questions about informal enablers and obstacles to cross-border cooperation in transport infrastructure. By informal we mean language and culture, but also norms, values and different practices.

4. How do informal enablers and obstacles influence cooperation in cross-border transport infrastructure? Can you give examples?

5. To what extent are language, culture, norms or values an obstacle? Can you give examples?

6. To what extent are different approaches to conducting planning and working with cross-border transport infrastructure an obstacle? Can you give examples?

Now two final issues where we look ahead:

7. Should cross-border transport infrastructure cooperation be strengthened and, if so, what is more important?

8. At what level(s) should it be strengthened?

9. Now the interview is over, is there anything you want to add?
Thank you for your participation! If you have any questions, please feel free to contact us... The results of the survey will be presented in a research report to the Swedish Transport Administration in the spring of 2023.

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About this publication

Facilitating cross-border transport infrastructure planning in the Nordic Region

This report is the second and final report in the project titled NORDINFRA – "Nordic transport infrastructure planning – institutional barriers and opportunities for coordination" (Nordisk transport infrastrukturplanering. Institutionella hinder och möjligheter till samordning) (2021-2023). NORDINFRA is a research project led by Nordregio and conducted by researchers from Nordregio and Umeå University, financed by the Swedish Transport Administration (Trafikverket). The aim of the project is to increase knowledge about cross-border transport infrastructure planning in the Nordic Region. The project sets out not only to identify barriers to cross-border transport infrastructure planning, but also to highlight opportunities and propose measures to facilitate cross-border transport infrastructure planning.

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