Transport infrastructure, the state and nation building

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The 19th century was a time of national redefinition in Sweden and many other countries in the Nordic Sphere. Sweden had "lost" Finland to Russia in the 1808-09 war and established a union with Norway from 1814. Denmark was in a process of geographical redefinition mostly to the south, which eventually led to war with Germany.

Transport infrastructure projects were a means of supporting the redefined geography of the nations and between nations. Sweden sought to reallocate interest from east to west, and the construction of Göta Kanal was an example of that, over time intertwined with political processes and economic growth. Norway, Denmark and Finland all initiated canal-projects which were gradually followed by and combined with railroad investments, often intended to connect distant parts of the countries to the more populated regions, but also shaping the national perception.

As the 20th century approached interest was partly redirected to air-transport and road-transport. National air-services and air-ports were established with different aspects of public and private sector involvement, but often with a strong national branding aspect. The national arena should be connected to global markets and regions.

The panel will discuss the role of transport infrastructure as a means for nation building and the different organizational and financing perspectives that were utilized in the establishment of these systems.

An International Regime with Bilateral Cooperation. Towards a Historical Approach to Transnational Infrastructure Development in the Nordics

Martin Eriksson, Umeå University; Lena Andersson-Skog, Umeå University

This paper aims to propose a general historical approach for the study of transnational and/or transborder infrastructure development between the Nordic countries. We note that historical research on Nordic transport cooperation primarily has focused on individual network industries such as telephony and civil aviation. We broaden this perspective by incorporating insights from research on European transnational transport cooperation which has highlighted the role of the Nordic council as a facilitator for traffic cooperation between the Nordic countries. In this respect, we suggest that the study of transnational/transborder infrastructure projects promoted by the Nordic council should be divided into two stages, where the formulation of political visions of a particular infrastructure project is separated from its implementation. While the political perspectives introduced and formulated by the Nordic Council were important for the rise of an inter-Nordic transport agenda, they were not sufficient to implement specific projects. We therefore conclude that the cooperation between national agencies in transport sector has been a crucial but overlooked force behind the development of inter-Nordic infrastructure.

Nation-building or Nordic cooperation? - The Chicago Conference 1944 on civil aviation and the conflicting position of the Nordic countries.

Lars Fälting, Uppsala University; Jan Ottosson, Uppsala University

The aim of this article is to interpret the positioning of the Scandinavian countries during the 1994 Chicago conference on civil aviation. we will discuss the various views expressed during the Chicago conference from the Nordic countries, with special interest in the various positions taken by the Scandinavian countries. Further, we will show how the Scandinavian countries defined their positions, and how they tried to influence the major powers during the conference. Most of earlier research has discussed the interaction between United States and Great Britain, and their different views on bilateral and multilateral agreements in the shaping of the civil aviation regulatory regime. However, one aspect, which not has been discussed in earlier research concern the positions taken by the small states in the periphery of Europe. We will especially discuss the role of Norway and the Swedish positions during the conference, based on archival material. Further we will illuminate the conflict between nation-building and the possibilities of Nordic cooperation in the new era of the making of civil aviation in the shadow of WWII.

Göta Kanal as a national-identy shaping transport infrastructure project

Björn Hasselgren, Uppsala University

Sweden's national identity was challenged in the early years of the 19th century as, after the war against Russia 1808-09 Finland was lost and, partly as a consequence, a liberal revolution ending the supreme reign during the Gustavian in March 1809.

Having lost all its land-areas east of Sweden the country had to refocus its geopolitical position in a European perspective. The main actors behind the 1809 revolution were inspired by liberal views relating to both the political and constitutional setting to be preferred and with a liberal view on trade and industrial policies. New trade-patterns had to be fostered, connecting the Swedish harbours and towns situated at the east-coast with the west-coast and further trade-routes via the Nordic Sea.

The ideas relating to building a canal connecting the Baltics and the North Sea had been discussed over time in Sweden. Until the last years of the 1700s however, a lacking passage through the difficult falls at Trollhättan had hindered most of these plans. With the Trollhätte Canal in place new possibilities were opened for a continuation of the earlier plans for the Göta Kanal-project.

Besides being one the largest infrastructure projects to date in Sweden Göta Kanal, and as such of a particular interest for economic historians, the project as described above also was an important measure for the new regime of post 1809 to reconstruct the image of Sweden. Prosperity in the agricultural sector, furthering of trade in general and a support to industries along the canal-stretch were all mentioned in the argumentation for the canal. As the project was initiated, and during the prolonged construction phase from 1810-1832 a number of additional arguments in support of the canal were added, such as defense-policy, innovation in the technology-industry in Sweden in general ansd as a possible means of connecting Sweden to Norway, the new western outpost of the Swedish realm following the 1814 union of the countries.

The events in relation to Göta Kanal form a nation building perspective will be further outlined in the paper/presentation. An ongoing research project regarding Göta Kanal at Uppsala University/Economic History Department is one starting point, another being a recent PhD-project by Gauchet (2020), focusing on the political and national identity related aspects of the Göta Kanal-project.

Gauchet, T (2020) A political history of the Gotha Canal Technology, infrastructure and power in Northern Europe (1790s - 1832)

Current Nordic cross-border transport infrastructure planning projects and their contribution to a Nordic identity

Anna Lundgren, Nordregio

This research paper links to a research application aiming at comparing transport infrastructure planning in Sweden, Denmark and Norway to identify enabling and hampering factors for improved cross-border transport infrastructure planning. The research will focus on current transport infrastructure planning plans and processes.

National transport infrastructure plans and planning processes in the Nordic countries are to a large extent framed within the different national institutional contexts and dependent on past decisions and negotiations of competing interests as well as on different cultures, norms and planning practises. Hence, we find both important dimensions of path dependence and elements of increasing returns which are common in areas of large investments (the Hallandsås tunnel in the Southern part of Sweden is one example of this). The national framing along with the large public investments involved in transport infrastructure and the long-term structural effects on mobility patterns, make transport infrastructure a vital component in nation building and in sustaining a national identity.

In this research we will redirect our focus from the national to the Nordic perspective, and explore how large transport infrastructure investments contribute to the construction and sustaining of a Nordic identity.

Three case studies of transport infratructure planning projects that are currently on the political agenda will be included in the study; the road and railway connection between Helsingborg, Sweden and Helsingör in Denmark, the railroad between Stockholm and Oslo and the road connection between Hemavan in Sweden and Mo-i-Rana in Norway. Parallels will be drawn to previous large Nordic cross-border transport infrastructure investments and their contribution to a Nordic identity.

Comparative costs of railways vs alternative transportation modes

Haris Kitsikopoulos, NYU

This paper is an attempt to calculate the operating cost of British railways from the earliest form of this technology c. 1600 to the peak of railway construction c. 1870 as well as contrast it to the respective figures of roads and canals.

The earliest form of railways involved the use of wooden rails, wagons and wheels drawn by horses in order to move coal and other minerals from the pits to embarkation points along river

routes. The primitive form of this technology went through gradual improvements, particularly when it comes to the material used, from wood to cast-iron and eventually the more durable wrought-iron. The initial phase of diffusion during the 17th century was fairly slow but picked up considerable pace during the 18th century. The paper calculates the level of the initial capital investment and then proceeds to estimate the operating cost per ton per mile which oscillated within a fairly wide range, depending mainly on morphological conditions, but with a main value of c. 8d.

The next stage in the evolution of this technology is written in the early years of the 19th century with the emergence of high-pressure steam engines. A much less known intermediary stage between the early, primitive railways and those operated by locomotives was the used of fixed steam engines which pulled a train of wagons, a stage that lasted briefly. The paper contrasts information from two contemporary studies and a particular line operated by such engines showing the drastic decline of the respective cost figure.

The next and more detailed segment of the paper focuses on railways driven by locomotives. The discussion reveals the enormous increase in the capital cost of such projects which, however, was coupled with an even more impressive increased capacity to move merchandise. As a result, operating cost per ton per mile declined to a mean figure of 1.24d.

The last segment of the paper offers a contrast of railways with the operating cost of roads and canals. The former offered the benefit of relying on the existing infrastructure of turnpikes and common roads but its operating cost (at 7d) was still substantially higher than the respective figure of railways. Canals, on the other hand, exhibited a wider range of costs depending on the type of boats used and their speed with the slowest option matching the operating cost of railways at c. 1d/ton/mile. However, they found it difficult to compete with railways due to the latter offering superior speed and liberating the movement of goods from problems caused by seasonal variations of the weather.

The concluding segment summarizes the evidence and places it in the context of the impact the comparative costs of various modes of transportation had on the expansion of their respective networks during the 19th century showing the diffusion of railway lines dwarfing the expansion of roads and canals, trends reflected on capital expenditures, all presented in graphical form.

It ought to be noted that the proposed paper is a chapter of a book manuscript in progress regarding the diffusion of steam power from the 1770s to 1870. The manuscript is the companion volume of a published book dealing with the invention and diffusion of the first generation of steam engines, i.e., the Newcomen model (*Innovation and Technological Diffusion: An Economic History of the Early Steam Engines*, New York and London: Routledge, 2016). Both projects utilize a fair amount of information found while holding a fellowship at the Dibner Library of Rare Books (Smithsonian) and, as result, a fair amount of the utilized

literature refers to 18th- and 19th-century publications. The subject of the particular chapter is the first attempt to provide a detailed analysis in calculating the evolution of the operating cost of railways, including its earliest form, and contrast it to alternative transportation modes.