

## PUBLIC TRANSPORT IN URBAN REGIONS 1840-1940 THE COPENHAGEN REGION AS A CASE STUDY

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*Public transport infrastructure became one of the crucial framework conditions for the urban regions that began to develop from the mid-19th century as an offshoot of the urbanization of industrial capitalism in North America and Europe. In 1940, the Danish metropolitan area (the Copenhagen region) had reached 1 million inhabitants. As an urban region, it was by far the largest in the Nordic countries and ranked among the larger European ones, if we disregard the very large metropolitan areas and other large cities, especially in England, France, Germany, Northern Italy and the Soviet Union. The Danish metropolitan area can thus be included as an example of the features of the development of public transport in a major European urban region in the 100 years between 1840 and 1940, but also of the challenges and conflicts that followed the expansion of public transport in step with the ever-increasing spread of the metropolis. The development of public transport in The Danish metropolitan area can also be taken as an example of how European urban regions during the period moved from regional urban unplannedness to a higher degree of regional urban planning as a result of the increasingly intrusive regional framework conditions for urban regionality, which resulted from fewer and more potent regional actors.*

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Like other European capitals and other large cities, pre-industrial Copenhagen transformed from the mid-19th century into an urban region, where increasingly larger and functionally diverse urban units interacted with real capital, labor, goods and services. With this urban process, there was also an increasing need for regional framework conditions for the Copenhagen region's function as an urban region.

These included regional physical planning, which was to prevent unplanned urban sprawl and ensure both sufficient and appropriately located areas for real capital, labor housing, traffic and supply lines and regional recreational areas in consideration of the labor's productive capacity. This and the functionality of real capital also fed regional water and energy supply and wastewater and waste management. Added to this was a regionally uniform hospital and high school offer in consideration of the labor's productive capacity and regional road traffic and public transport to ensure the localization of real capital, labor settlement and commuting, and the mobility of goods and services.

Like most European city regions, these framework conditions were also provided regionally uncoordinated for a very long period by various actors in the Copenhagen region. These included the state during its transformation from a night watchman state to a universalist welfare state, individual municipalities based on their narrow economic interests or need to achieve regional influence, joint municipal collaborations for the sake of more rational forms of operation through cooperation and economies of scale, and private actors driven by commercial gain.

As in most of Europe's city regions, a regional municipal body was first established in the Copenhagen region in the post-war period to provide framework conditions for the functioning of the urban region, but as elsewhere on the continent, the body was closed down after a short number of years. Behind this was globalization and increased competition between the world's urban regions, which followed the dissolution of the bipolar economic and political world order after the collapse of the Soviet-controlled Eastern Bloc around 1990 and a simultaneous neoliberal reorientation. From this, the urban regions

would achieve stronger competitiveness if they were freed from regional planning and management and the municipalities could thus act on market terms and in competition with each other.<sup>1</sup>

## From fortress city to urban region, 1840-1918

As in the rest of Europe, the formation of the Copenhagen urban region or the Danish metropolitan area was initiated by the urbanization that followed industrial capitalism from the mid-19th century. Copenhagen's pre-industrial district developed into a central city with financial, commercial and administrative functions, and around it, up to the end of the First World War, two urban layers with industrial and residential areas was developed in the Copenhagen and Frederiksberg urban districts, whereby the two cities formed an increasingly larger and integrated capital. Outside, wealthy residential suburbs arose in Gentofte Municipality and other residential suburbs in Søborg, Tårnby and Kastrup.

In relation to this urban-regional process, the municipal structure of the emerging metropolitan area nevertheless became fragmented. Although Frederiksberg was upgraded to a market town, and parts of the surrounding parish municipalities were incorporated into the Municipality of Copenhagen, the capital remained divided into two market town municipalities, whereby these expanded municipal powers could only be exercised within the borders of each of the two capital municipalities. The surrounding suburban catchment area was also divided into a larger number of parish municipalities and Copenhagen County Municipality, which had limited regional powers and only within the borders of the county municipality.

The regional framework conditions for the function of the capital metropolis as an urban region were thus only provided when the state had a national interest in this, the Municipality of Copenhagen needed common regional solutions throughout the capital area, and Gentofte Municipality looked after its special interests for the local wealthy suburbs. The other urban-regional framework conditions were thus haphazardly created by individual municipalities and private actors within the borders of each individual municipality or specific business areas.

This fragmented creation of regional framework conditions for the functioning of the capital metropolis was clearly evident in terms of the traffic infrastructure. With the transition from a liberalist night watchman state to a socially conservative welfare state, the state increasingly came to provide the general conditions of production in society. For the capital metropolis, this meant that the state established, expanded and rerouted the railway lines through and to/from the metropolis in three stages, while at the same time being behind the massive expansion of Copenhagen's ports in the form of the construction of the North and Free Ports, the Kalvebod and Islands Brygge ports and the South Port.

A very crucial infrastructural prerequisite for the capital metropolis's goods import and export, passenger traffic between it and the rest of the country and abroad, as well as freight traffic to/from the capital's freight stations and industrial and utility plants that had rail connections. This freight traffic and thus very crucial regional framework conditions for the function of the capital metropolis as an urban region, were also stimulated by the fact that the Municipality of Copenhagen took the lead in establishing continuous and paved main streets throughout the entire capital area, but were made more difficult by the fact that the Copenhagen County Municipality did not upgrade the adjacent access roads outside the capital area.

Apart from the main streets that Gentofte Municipality built between the local wealthy suburbs and the capital, it also became impossible to extend tram and omnibus lines to the rest of the suburban area. A serious barrier to commuting in the emerging capital metropolis and thus to its urban regional function

<sup>1</sup> Henning Bro, *Fra bestetræk til S-tog. Hovedstadsmetropolens trafikale infrastruktur 1850-1990*, 2026, pp. 17-55.

and development, which was supported by the fact that the metropolis had a fragmented tram and omnibus system during the period.

From 1863 to approximately 1900 in the form of an increasingly large private companies with headquarters in the municipalities of Copenhagen, Frederiksberg and Gentofte. With the electrification of tram traffic, around the turn of the century these companies were indeed merged into three: Copenhagen Tramway Company (municipalized in 1911), Frederiksberg Tramway and Electricity Company (FSEA, semi-municipal) and North Zealand Electricity and Tramway Company (NESA, municipalized in 1915). However, right up until the end of the First World War, the provision and operation of tramways and omnibuses was market-determined and uncoordinated established, characterised by incoherent ticket, fare and timetable systems and an inadequate service for the entire metropolitan area.

In other urban regions of Europe, public passenger transport took on the same fragmented character as in the Danish capital metropolis, but became such a major challenge in the largest metropolises that tunnels and elevated railways became the solution. First in the London metropolis, which already in 1863 had its first underground line, which became the starting point for an increasingly widespread underground network as the metropolis spread further. Later in the central parts of Paris and Berlin, which got underground lines established in 1900 and 1902. In the Hamburg metropolis and certain other European urban regions, on the other hand, elevated railways were established in the central parts of the city and connecting lines established from there to the suburbs.

Strongly inspired by this, negotiations were initiated in the Danish capital metropolis at the same time about a ring railway on the Valby-Copenhagen H-Hellerup section, which over long stretches in Copenhagen and in Frederiksberg was to be run as an elevated railway on the track areas that would be left over from the reorganisation of the metropolis' railway lines in connection with the opening of Copenhagen's third central station in 1911. In Hellerup, the ring railway was to continue as a suburban railway out to and through the wealthy northern suburbs.

However, the plans for such elevated and local railway facilities stalled due to disagreements between Danish State Railways (DSB) and the two metropolitan municipalities about the financing of the expensive elevated railway section. In addition, DSB's ring and suburban railways would pose serious competition to the Copenhagen Municipality's tramways (KS) and give the state railways the decisive influence on the development not only in the outer districts that were incorporated into Copenhagen in 1901-1902, but also in the surrounding suburbs, where the further expansion of the capital metropolis would be located, and which the Copenhagen Municipality wanted to incorporate into a future Copenhagen-led metropolitan municipality from the time around the First World War.<sup>2</sup>

## Urban region expansion, interwar period

Throughout the interwar period, the third urban layer was also expanded with industrial and residential areas, which in the Copenhagen and Frederiksberg outer districts extended around the capital's two older urban layers at the same time as the central city spread out on the outermost inner and older urban layer. At the same time, a 5-15 km wide concentric suburban belt with residential suburbs and industrial and residential suburbs in Gladsaxe, Lyngby, Glostrup and Kastrup was formed around the capital's third urban layer.

<sup>2</sup> Henning Bro, *Fra bestetræk til S-tog. Hovedstadsmetropolens trafikale infrastruktur 1850-1990*, 2026, pp.79-148.

Since the Municipality of Copenhagen failed to form a metropolitan municipality, the metropolitan metropolis' municipal structure remained fragmented in relation to the urban-regional development that the capital metropolis simultaneously underwent during the period. The state and the Municipality of Copenhagen thus remained central actors behind the creation of regional framework conditions for the capital metropolis's urban-regional function.

With the formation of the early welfare state, the state took on the task of creating additional general conditions of production and actual social planning, while the Municipality of Copenhagen sought to gain control over the entire capital metropolis by creating additional urban-regional framework conditions in order to ultimately incorporate it into the municipality.

With control over NESAs and the The Standvej gasworks (Standvejsgasværket), Gentofte Municipality became a significant regional supply player, while a larger number of municipalities entered into regional collaborations to achieve a number of rational joint solutions. At the same time, a number of regional framework conditions continued to be created by individual municipalities within their own borders and private players in certain business areas.

In the area of traffic infrastructure, this actor structure led to the state expanding the capital's main lines and ports with the establishment of a new ring freight line, new freight stations and the final completion of South Harbour (Sydhavnen). In 1917, the state also established local railways to the suburbs of the North Region, which were replaced by suburban railways (S-trains) in the years 1934-1936, and at the same time the state established regional bus lines along Køge Bugt and the suburbs of the West Region, where it was initially not possible to lay out suburban railways. Finally, the state upgraded the Copenhagen County Municipality's country road to access roads from the capital.

With its own tram company and control over NESAs and the Amager railways (Amagerbanens) tram and omnibus traffic, the Municipality of Copenhagen established a unified tram system throughout the capital and on Amager, with lines to the Northern Suburbs and Søborg in the Gladsaxe suburbs. Finally, a joint municipal cooperative took over the previously private Slangerupbaneselskabet, whose local railway trains, however, only ran as far as Copenhagen L station on the border between outer Nørrebro and the incorporated Copenhagen Brønshøj district.

With these infrastructural framework conditions, the capital metropolis's goods import and export and the goods mobility between the functionally diverse urban areas of the metropolis were secured, while at the same time that labor commuting between these and especially internally in the capital and on Amager received significantly improved conditions. Nevertheless, the public transport service in the suburbs was fragmented in the form of a pronounced double traffic of the Northern suburbs and the southern Gladsaxe suburbs and an inappropriate and inadequate service of the suburbs in the West and Northwest regions.

Here, public transport was regionally uncoordinated and left to a large number of public (state and municipality) and private scheduled bus operators and characterized by incoherent fare, ticket and timetable systems and scheduled bus lines that were only carried out to the outskirts of the capital, where the traffic monopoly of Copenhagen Tramway began.

Public transport in the Danish capital metropolis thus had the same character as in many other urban regions in Europe. Here, mergers and municipalizations of private tram companies in the central parts had created the basis for unified tram systems, while the suburban public transport service was more or less fragmented and unplanned. As in the Danish metropolitan area, this was a result of the fact that

urban-regional framework conditions were only in a few cases provided by metropolitan municipalities or special regional municipal bodies that encompassed the entire metropolis. Different and often opposing stakeholder interests thus prevailed in most European urban regions.

In the Danish metropolitan area, DSB thus adopted a holistic view in relation to the entire metropolis. DSB thus aimed for a uniform traffic service for all parts of the metropolis, and especially where this was less developed. In contrast to DSB, KS' laying out of tram and bus lines in the suburbs became one of the instruments for influencing the development of housing here in order to later not only incorporate, but also fully integrate these into the Copenhagen metropolitan area, which the Copenhagen Municipality, following the Berlin model, aspired to.

It was DSB that at the same time, in the late 1930s, argued for combining the various types of public transport in a regional transport company and in a joint route planning and operation. KS, on the other hand, did not want to give up its freedom of disposition to such a transport company and thus the ability of the Municipality of Copenhagen to influence the development of the capital metropolis. It was argued that DSB and KS constituted two separate and independent systems, where KS was to handle tram and omnibus traffic in the capital and the suburbs, while DSB was to limit its activities to traffic in the surrounding countryside.

In other European urban regions, similar conflicts of interest simultaneously stood in the way of the formation of regional public transport companies. Only in the largest metropolises were such companies formed before the middle of the century. This was the case in Berlin, Hamburg, London and Paris, but it was not until the further urbanization that followed the post-war industrial growth that regional municipal bodies were formed in most of Europe's urban regions, which provided the necessary framework conditions for urban-regional development. One of these was regional public transport companies. In Scandinavia in the form of Storstockholms Lokaltrafik AB in 1971 and in the Danish capital metropolis Hovedstadsområdets Trafikselskab from 1974.<sup>3</sup>

## References

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<sup>3</sup> Henning Bro: *Fra bestetræk til S-tog. Hovedstadsmetropolens trafikale infrastruktur 1850-1990*, 2026, pp. 149-246.