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Planning memo 1
Regional cycling networks and cycle superhighways

LISA ROHRER & JONAS KAČKUS TYBJERG



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Introduction



Helsinki's "Baana" cycling and pedestrian route developed in the space of a former railway. Source: Shutterstock

Within the Nordic Cycle Network, planners and practitioners discuss critical topics to improve cycling conditions in their cities and regions. This memo is the first in a series of publications in which we dive into the literature and policies concerning these topics. The aim is to provide practitioners and policymakers, as well as researchers and other actors, with insights into the academic discourse, shed light on how Nordic cities and regions are working with the topic, highlight useful tools and initiatives, identify ongoing challenges facing practitioners today, and assist with making informed decisions.

In this memo, we explore noteworthy examples and challenges of creating cohesive **regional cycling networks**. Extended cycling paths, like cycle superhighways, can accommodate commuters and support local as well as regional mobility. However, municipalities have different priorities, resources, and conditions for cycling, and working across administrative borders to establish high-quality infrastructure requires strong collaboration, commitment, and support. The knowledge curated for this memo uses inputs from an online workshop held in September 2025 among the Nordic Cycle Network, complemented by a literature review and a policy review. In the online workshop, regions with highly detailed strategies shared their experiences in developing cycle superhighways, which served as the basis for presenting good practices.

In the literature review, we found that regional cycling and superhighways research focusses on the value of cycle highways, key attractiveness features of the infrastructure that enable efficient and safe travel for cyclists, the role of electric bicycles, and key principles and methods for developing high-quality regional networks. Based on the policy review, we found that cycling highways are more commonly discussed in regional strategies, while local strategies highlight the need to collaborate across municipalities. Financing cycle superhighways is frequently mentioned as a barrier for effective planning. There is also a cross-country initiative in Southern Sweden and Denmark for developing greater regional connectivity. As the most long-standing and developed organisation for supporting cycle superhighway work, the Office for Cycle Superhighways in Denmark provides several noteworthy practices, namely their organisational structure in collaboration with municipalities and the region, and through the tools they offer to support regional cycling developments. Despite progress in recent years, especially in Denmark and Sweden, ongoing challenges include funding concerns, communication about superhighways, conflicts of interests regarding land use and improving network fragmentation, and obtaining long-term commitment and support for the work.

Introduktion



Helsinkis "Baana" cykel- og gangsti bygget på det tidligere jernbanespor. Kilde: Shutterstock

Inden for det Nordiske cykelnetværk (Nordic Cycle Network) drøfter planlæggere og fagfolk centrale emner for at forbedre cykelforholdene i byer og regioner. Dette notat er det første i en række publikationer, hvor vi dykker ned i litteraturen og politikkerne omkring disse emner. Målet er at give fagfolk og beslutningstagere, samt forskere og andre aktører, indsigt i den akademiske diskurs, belyse hvordan nordiske byer og regioner arbejder med emnet, fremhæve nyttige værktøjer og initiativer, identificere aktuelle udfordringer for fagfolk og hjælpe med at træffe informerede beslutninger.

I dette notat undersøger vi væsentlige eksempler og udfordringer ved at skabe sammenhængende **regionale cykelnetværk**. Forlængede cykelstier, såsom cykelsuperstier, kan imødekomme pendlere og understøtte både lokal og regional mobilitet. Kommuner har dog forskellige prioriteter, ressourcer og forudsætninger for cykling, og samarbejde på tværs af administrative grænser for at etablere infrastruktur af høj kvalitet kræver stærkt samarbejde, engagement og støtte. Den viden, der er samlet til dette notat, bygger på input fra en online workshop afholdt i september 2025 med det Nordiske cykelnetværk, suppleret med en litteraturgennemgang og en politikgennemgang. Under workshoppen delte regioner med detaljerede strategier deres erfaringer med udviklingen af cykelsuperstier, hvilket dannede grundlag for at fremhæve gode praksisser.

I litteraturgennemgangen fandt vi, at forskning i regionale cykelnetværk og superstier fokuserer på værdien af cykelsuperstier, centrale attraktivitetstræk ved infrastrukturen, der muliggør effektiv og sikker rejse for cyklister, elcyklens rolle samt nøgleprincipper og metoder til udvikling af regionale netværk. I politikgennemgangen fandt vi, at cykelsuperstier oftere diskuteres i regionale strategier, mens lokale strategier fremhæver behovet for samarbejde på tværs af kommuner. Finansiering af cykelsuperstier nævnes ofte som en barriere for effektiv planlægning. Der findes også et grænseoverskridende initiativ mellem Sydsverige og Danmark, som har til formål at styrke den regionale sammenhæng. Som den mest veletablerede og erfarne organisation til støtte for arbejdet med cykelsuperstier tilbyder Sekretariatet for Supercykelstier i Danmark en række bemærkelsesværdige praksisser. Det gælder både deres organisatoriske struktur, som bygger på tæt samarbejde med kommuner og regionen, og de værktøjer, de stiller til rådighed for at understøtte den regionale cykeludvikling. På trods af fremskridt i de seneste år, særligt i Danmark og Sverige, består der stadig en række udfordringer. Disse omfatter finansieringsproblemer, kommunikation om cykelsuperstier, interessekonflikter vedrørende arealanvendelse, behovet for at reducere netværksfragmentering samt at sikre langsigtet engagement og støtte til indsatsen.

Regional cycling networks and cycle superhighways: What does the research say?



Cyclist riding along the Göta River — part of Gothenburg's cycling network connecting the harbour area, city centre, and surrounding suburbs. Source: iStock

While cycling is primarily considered an urban phenomenon, there is a growing body of literature that considers the significance of cycling in regional planning. In the Nordic Region, among other places, the concept of *cycle superhighways* has gained traction over the past decade (see Box 1). However, the benefits and impacts of these cycle highways, how they are used compared to other cycling paths, and how to plan for them, remain relatively underexplored.

BOX 1. WHAT IS A CYCLE SUPERHIGHWAY?

A *cycle highway* is a continual cycling route within a region, designed for commuting smoothly through safe, low-stress, and limited or non-stop travel (Vierø & Szell, 2025; Skov-Petersen et al., 2017; United Nations, 2025). These routes are often designed to connect residential areas with study and work locations as well as transportation nodes. They are often designated by clear markings and separated from vehicle traffic, and include critical design elements such as lighting, safe widths for passing, and high levels of maintenance. The term *superhighway* is often used when these cohesive routes extend beyond a single municipality, enabling regional accessibility and requiring cross-(municipal) border collaboration (Rich et al., 2021). Cycle routes, highways, and superhighways are all part of a cycle route network that enable cycling through a geographical area for commuting, recreation, tourism, or other purposes (United Nations, 2025).

According to the Cycle Superhighways of the Capital Region, cycle superhighways are one of three regional transport pillars, complementing highways for cars and the regional train network. They are grounded in five key principles: coherency, accessibility, comfort, safety, and perceived security (Helledi, 2025). Region Skåne defines their superhighway network with similar principles: safety and security, accessibility, comfort, and flow (Lañas Roddar, 2025).

A review[1] of the recent academic literature on cycle superhighways and regional cycling networks in the Nordic countries reveals that most studies use Denmark, and specifically the Copenhagen region, as their focus, with fewer studies emerging from Sweden, Finland, or Norway. No academic studies were found on superhighways and regional cycling networks within Iceland. Despite the potential for cycle highways to be utilised in smaller urban or rural areas (Vierø & Szell, 2025; Schmidt et al., 2024), the studies from Sweden, Finland, and Norway mainly focus on capital regions or large urban areas (De Jong et al., 2023; Lamuela Orta, 2025; Tozluoğlu et al., 2024). Several articles focus on specific cycle highway projects to understand their value, to identify the effects on cyclists' behaviour and perceptions, and to test whether the development of cycle highways can lead to increased cycling overall (Rich et al., 2021; Lamuela Orta, 2025; Skov-Petersen et al., 2017; Hallberg et al., 2021). Most of the articles evaluate cycling networks more generally, with reference to regional cycle highways as a form of high-quality infrastructure.

Common themes mentioned in the Nordic studies on regional cycling networks include existing and potential *value* (i.e., societal benefits like overall costs and emissions reductions); the specific *attributes* that make them successful (compared to other cycling infrastructure, for example); and the *use of the electric bicycles* (e-bikes) on such paths. The literature also presents and expands upon some existing mobility concepts (e.g., accessibility, bikeability, suitability; Vierø & Szell, 2025; Nielsen & Skov-Petersen, 2018) and frameworks (e.g., the classification of levels of traffic stress; (Vierø & Szell, 2025). Several articles also provide insights on methods for *future planning of regional cycling* networks (Steinacker et al., 2025).

The value of cycle highways

Cycle highways are often developed as initiatives to improve cycling conditions, particularly for commuters across municipalities within a region. Cycle highways have many of the attractive attributes that are shown to be favoured by cyclists, and cyclists who used upgraded cycling highways in Copenhagen also reported an increase in satisfaction with the quality of the infrastructure compared to control sites (Skov-Petersen et al., 2017). However, the value of cycle highways extends beyond those who directly use them. A cost-benefit analysis has shown that the proposed bicycle infrastructure for the Greater Copenhagen cycle superhighways project exceeds the positive value of other types of network infrastructure that is often prioritised (Rich et al., 2021). In addition to user benefits like time savings, the researchers found the most significant benefits in the area of health, showing how use of the cycleways can enable people to live and work longer, thus saving money and relieving pressure on the health system (Rich et al., 2021).

1. A literature review was conducted in August 2025 using key word searches related to cycle highways and regional networks within the Scopus database. The search was narrowed to the geographical scope of Denmark, Finland, Iceland, Norway, and Sweden and the dates 2015 to present. After filtering out irrelevant articles, a total of 19 articles were evaluated for this literature review.

While not directly evaluating cycle highways, another study from Västra Götaland[2] in Sweden shows the potential of e-bikes to replace passenger cars and reduce transport-related emissions between 10.1% and 22.8% compared to 2018 levels (depending on which kinds of trips are replaced; Tozluoğlu et al., 2024). The potential for reductions is greater in municipalities with high population density—for example, in Gothenburg, where the research reports a potential of 45% of car emissions due to e-bike substitutions. Based on their findings, the researchers suggest that policymakers can promote e-bike usage and develop appropriate infrastructure that supports e-bikes to achieve emission reduction goals (Tozluoğlu et al., 2024). This includes regional cycling networks, like cycle highways.

Cycle highways as attractive cycling infrastructure

Often, cycle highways are mentioned in studies looking at qualities of effective cycling paths, as many studies highlight that the cycle highway includes meaningful elements in its design and inherently in its definition. The studies prove that efficiency is not the only key factor when choosing where to cycle, and cyclists will deviate from the shortest paths based on qualities of the cycling infrastructure or the perceptions of the space around them (Chou et al., 2023; De Jong et al., 2023). Attractive qualities include fewer crossings/intersections and less disruptions, separated or dedicated cycle paths, flatter topography, and scenic paths (Chou et al., 2023; De Jong et al., 2023; Lamuela Orta, 2025; Łukawska et al., 2023; Nielsen & Skov-Petersen, 2018; Prato et al., 2018; Skov-Petersen et al., 2017; Vierø & Szell, 2025). Several articles also emphasize the importance of network density and geographical reach of the network routes (Nielsen & Skov-Petersen, 2018; Vierø & Szell, 2025). Fragmentation is a concern for cyclists, but "even minor expansions of existing infrastructure can have significant effects if these expansions are carried out at locations that increase network connectivity" (Hallberg et al., 2021, p. 413).

Using data from 16 cycling counters across Helsinki, Lamuela Orta (2025) evaluated the increase of cycling between 2018 and 2024 throughout the city. The research revealed that, on the whole, the counters measured a decline in bicycle trips during this period; however, there were two exceptions from the two counters located along the North Cycling Highway, which revealed a 50% increase in traffic. The article highlights several characteristics of the cycle highway that likely contributed to this success, such as the geographical extension of the route, its separation from car intersections, approved plans for further expansion of the route (which signals its continued relevancy), increasing amenities along the route, and high-quality public transport alternatives along the route (Lamuela Orta, 2025). Liu et al. (2025) identified similar attributes in their study of route choice in Greater Gothenburg, showing that those who commute by bicycle prefer bike paths separated from car traffic and aim to avoid signalized intersections. For planners and policymakers, this could mean prioritizing signal timing for cyclists or redesigning paths that enable cyclists to avoid intersections. However, some of these attributes, such as facilitating higher speeds, may discourage more vulnerable cyclists to use these paths (Schneider et al., 2023). This was also noted by Lamuela Orta (2025) who found that

2. The region of Västra Götaland is comprised of 49 municipalities, including Sweden's second-largest city, Gothenburg.

children made up only 2% of the total cyclists/pedestrians observed on the North Cycling Highway in Helsinki. Based on this observation, they posit that the cycle highways are not a typical path for children to bike to school. In a Copenhagen-based study, researchers also note that "interactions with other motorised and non-motorised transport modes are … a deterring factor for cyclists," which could mean that cycle superhighways themselves may make cyclists uncomfortable if there is not enough space to navigate among different speeds and forms of mobility within the shared path (Łukawska et al., 2023, p. 1).

While some articles focus on which factors attract cyclists to use cycling infrastructure, other articles identify what drives cyclists to make detours away from the shortest-distance routes (Chou et al., 2023; De Jong et al., 2023; Prato et al., 2018). While cycling is typically higher in dense urban areas compared to suburban or rural areas, research shows that cyclists tend to make detours to avoid city centres in which there is a high concentration of pedestrians or which may involve more stop-and-go traffic and less smooth and efficient travel, such as shopping streets (Chou et al., 2023; De Jong et al., 2023). In their study of cycling demand and route choice in Oslo, De Jong et al. (2023) found that cyclists deviate from the shortest route to avoid highway environments with heavy car traffic. Prato et al. (2018) found similar results among cyclists in the Copenhagen Region, who revealed an aversion for unpaved and hilly surfaces and were willing to make detours to avoid industrial areas.

Several studies revealed interesting results with regards to choosing more scenic routes. Research on cyclists' behaviour and route choice in Oslo and Copenhagen shows that water-facing routes are preferred (De Jong et al., 2023; Łukawska et al., 2023). Interestingly, green spaces did not necessarily have a positive correlation with cyclists in the research. While Łukawska et al. (2023) suggest that cyclists generally prefer scenic water and green areas over high-rise urban environments for longer trips, other studies from Oslo and Copenhagen show that people deviate from green spaces or recreation areas, potentially due to poor lighting or inappropriate surfaces for cycling. Chou et al. (2023) distinguishes these areas from zones with dedicated cycling infrastructure and cycle superhighways, away from which significantly few detours are made. Prato et al. (2018) provide a caveat to these conclusions. Their study of Copenhagen cyclists shows that cyclists make detours to enjoy scenic routes (parks, forests, and coastal locations) and perceive them as shorter, but this is somewhat dependent on time of day and air temperature—when temperatures are less than five degrees Celsius, cyclists are less likely to make such detours (Prato et al., 2018). However, it should be noted that the study did not focus exclusively on cycle superhighways but on route choice behaviour of cyclists throughout the Copenhagen Region.

Electric bicycles and cycle highways

One of the most common topics coupled with cycle superhighways and regional cycling network is the rise of the e-bike. The literature highlights that e-bikes are used for longer distances (Steinacker et al., 2025) and are more gender-balanced than conventional bikes (Lamuela Orta, 2025). In their 2024 study on e-bike potential in Västra-Götaland

(Sweden), Tozluoğlu and colleagues show that e-bikes could replace 57.6% of car trips. According to their models, if the top 70% of feasible car users (ranked by shortest to longest daily travel distances) switch to e-bikes, emissions could be reduced by 10.1% compared to 2018 levels. If all feasible car users adopt e-bikes, a reduction of up to 22.8% in emissions could be achieved (Tozluoğlu et al., 2024).

The main finding from Hallberg and colleagues (2021) is that bicycle type (conventional versus electric) plays a key factor in the overall impact and importance of a bicycle network. If electric bicycles are not considered, travel time benefits will be underestimated by as much as 25% (Hallberg et al., 2021). The authors also found that the emergence of the e-bike means people may use the bicycle for longer distances and a wider range of trips. Furthermore, they suggest that cycle superhighways, in combination with increasing shares of electric bicycles, can cause more substitutions of car trips for bicycle trips. This is somewhat contradictory to results from Skov-Petersen et al. (2017) whose evaluation of the effects of upgrading to cycle highways in Copenhagen showed that significant increases in weekday cycling traffic[3] could be mainly attributed to the relocation of cyclists from other routes. It is worth noting, however, that the latter study evaluated results only two years after improvements were made, and at that point, showed that induced cycling trips (trips not previously made by cycling) were estimated at about 4-5%.

In their cost-benefit analysis of the cycle superhighways in the Capital Region of Denmark, Rich et al. (2021) note that, while the return on investment for the cycle superhighways project in the Capital Region of Denmark is higher than traditional public transport or road infrastructure projects, the intensity of this return is somewhat less when calculating for electric bikes compared to conventional bikes. This is because most of the societal benefits come from external health benefits that result in expense savings in health systems. Their research also notes several challenges to the emerging bicycle technologies within the cycle superhighways network, such as different speeds of travel, adjustments of infrastructure design that benefit some speeds over others, and the different pace of market uptake and adoption of e-bikes and other non-traditional bicycles (e.g., cargo bikes, pedelecs; Rich et al., 2021).

Planning at the regional scale

The regional scale plays a significant role in cycling planning. As Nielsen and Skov-Petersen (2018) demonstrate in their research in Denmark, the regional scale has a strong influence on overall *bikeability* and *accessibility*. Bikeability is the "ability of a person to bike or the ability of the urban landscape to be biked" while accessibility refers to "the ease of reaching an important destination from a given origin, given a radius of activity based on a distance or time budget" (Nielsen & Skov-Petersen, 2018, p. 36; 37). Their study notes that larger cities have an advantage in supporting cycling between residential areas and workplaces, but this does not have to be the case. Also, in the context of Denmark, Vierø & Szell (2025) highlight the uneven distribution of low-stress cycling infrastructure: "It is crucial that cycling research and planning also addresses rural and suburban areas,

3. The study specifies rush hour, daylight traffic.

as cycling requires safe and well-connected bicycle infrastructure everywhere" (Vierø & Szell, 2025). Lukawska et al. (2023) also emphasize the importance of "building long, continuous stretches of dedicated, protected bicycle infrastructure outside of high-rise urban environments in order to make cycling more attractive" (p. 1).

Several articles provide insights into different approaches for effective future planning and expansion of regional cycling and superhighway infrastructure. Considering the case of growing the cycle superhighway network in Copenhagen, Paulsen and Rich (2023) introduce a reverse geographical mapping approach that allows a more detailed breakdown at the level of network links and makes it possible to apply a more stringent optimisation approach with respect to the timing and prioritisation of network expansions. Two years later, alongside two additional researchers, another study was carried out to compare two approaches for planning cycle superhighway extensions in Copenhagen—an optimisation method that looks at social benefits of network extensions, and a network science approach that seeks to understand qualities that are considered efficient like connecting fragmented components, shortest path distances, and network coverage (Steinacker et al., 2025). By applying both methods to the evaluation of the cycling superhighway network in Copenhagen, the authors identified that the optimisation approach achieves a "higher net present value" while the abstract conceptual planning "achieves comparable performance with simpler and often more robust evaluation functions" (Steinacker et al., 2025, p. 9). While both approaches have advantages and disadvantages according to the authors, they both require multiple stages and revisions within planning processes, and neither are sufficient in themselves for planning network expansions. Public participation and other planning aspects must also be considered. On the whole, the authors suggest that "both approaches may help design more efficient bike path networks to support cycling and the transition to more sustainable urban mobility" (Steinacker et al., 2025, p. 10).

Regional networks and superhighways in Nordic cycling strategies



The C25 supercykelväg, also known as Hardebergaspåret, is an 11-kilometre cycle path in Region Skåne linking Lund to Södra Sandby.
Source: Innovation Skåne

Regional cycling networks and cycle superhighways are addressed at varying degrees in local and regional cycling strategies in the Nordic Region. The amount of attention they receive differs not only between Nordic countries, but also across regions within the same country. Regional cycling networks and cycle superhighways are primarily outlined in regional cycling strategies, rather than local strategies that cover individual cities (Greater Copenhagen, 2021; Region Skåne, n.d.; Super Cykelstier, n.d.-a). This review shows that while regional strategies focus on the broader planning and implementation of cycle superhighways, local municipal cycling strategies provide more context-specific and place-based solutions to enhance mobility.

Cycle superhighways in regional strategies

Denmark (Region Midtjylland and the Capital Region) and Sweden (Region Skåne and Region Stockholm) have the most detailed and structured strategies of the analysed areas[4] when it comes to planning cycle highways (Greater Copenhagen, 2021; Region Skåne, n.d.; Super Cykelstier, n.d.-a, n.d.-b). While most places have integrated the planning for regional cycle networks and cycle superhighways into their local or regional strategies, Denmark benefits from a separate public entity—the Office for Cycle Superhighways—tasked with facilitating the collaboration between municipalities and regions and helping to guide the cycle superhighway development.

4. The findings here are based on a review of the local and regional strategies of the network members within the Nordic Cycle Network project. This includes Aarhus, Copenhagen, Roskilde, Capital Region, and Region Midtjylland (Denmark); Helsinki, Tampere, Helsinki Region (Finland); Reykjavik, Capital Region (Iceland); Bergen, Oslo (Norway); Gothenburg, Helsingborg, Malmö, Örebro, Stockholm, Region Stockholm, Region Skåne (Sweden)

Not all areas use the same phrasing to describe the regional networks. While some introduce the term of cycle superhighways (*supercykelstier* or *supercykelvägar*), others choose to name the regional networks as commuter cycle networks (*pendlingscykelnät*), regional cycle routes (*regionala cykelstråk*), the Banna network, bicycle highways, or simply long cycling paths.

Overarching principles of cycle superhighways, widely applied across regions, guide network development and offer a general definition of what constitutes a cycle superhighway. While the characteristics vary among the municipalities and regions, there are several main principles that apply across the Nordic Region: (1) the path is wide enough for cyclists travelling at different speeds to pass each other with ease; (2) at intersections, cyclists on cycle superhighways are given priority, allowing continuous movement and reducing stop-start interruptions; (3) it is maintained at a high level with regular sweeping and snow removal; (4) it is used for longer trips (to work or school) and sometimes for recreational purposes; (5) it usually connects neighbouring municipalities, joins suburban neighbourhoods to the city centre, and links to other transportation hubs; (6) it is separated from other traffic; and (7) it includes constant lighting (City of Copenhagen, 2011; City of Helsinki Urban Environment, 2020; City Planning Helsingborg Committee, 2017; Gothenburg Traffic Office, 2015; Malmö municipality, 2024; Region Stockholm, 2014; Roskilde kommune, 2017). When discussing the regional cycling networks, most areas base the discussion on benefits of reducing the climate impact by reducing car travel as well as promoting health of local societies.

Although cycle superhighways in the Nordics share general characteristics, regions with more advanced plans provide more detailed descriptions of the routes. For instance, in Denmark (in both the Capital Region and Region Midtjylland), cycle superhighways have specific quality goals that ensure a good cycling experience: coherence, accessibility, comfort, safety, sense of security and identity (Super Cykelstier, n.d.-b, n.d.-a). Both regions have a specific cycle superhighway logo (an orange background with the letter "C") that helps cyclists to recognise and follow the route with ease. In the Capital Region, the regional Office for Cycle Superhighways has close collaboration with the Capital Region and the surrounding 27 municipalities to cooperate on bicycle infrastructure, otherwise known as the Cycle Superhighway Collaboration. In Region Midtjylland, the collaboration involves the regional authority and 12 nearby municipalities (see Figure 1).

Region Skåne currently collaborates with seven municipalities as well as the Swedish Transport Administration and also has similar characteristics, describing the concept as being commuter-focused, developed through upgrading existing paths, spanning 5–20 km of cycling corridors, and aiming to provide high-quality everyday infrastructure rather than new or recreational paths, with progress prioritised over perfection (Region Skåne, n.d.). Similarly to Denmark, Skåne has a dedicated logo for marking these paths as cycle superhighways.

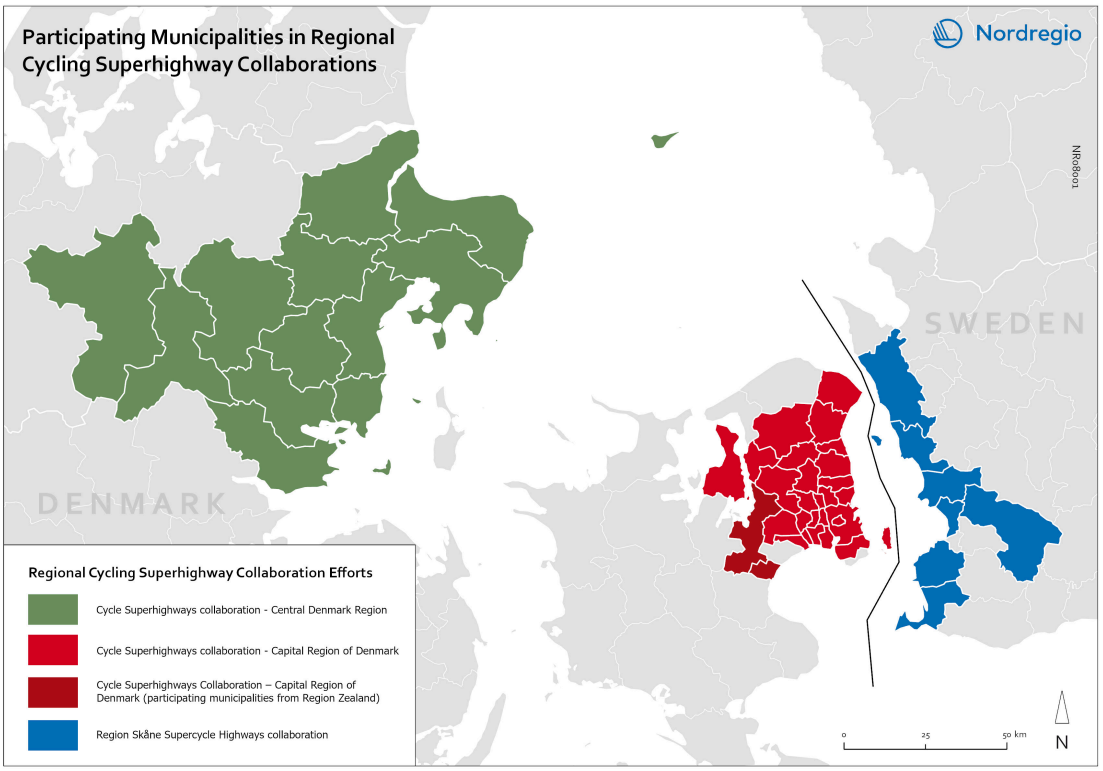

Figure 1. Participating municipalities in regional cycling superhighway collaborations, Denmark and Skåne

Table 1. Participating municipalities in regional cycling superhighway collaboration

CYCLE SUPERHIGHWAYS (ZEALAND)		CYCLE SUPERHIGHWAYS (JUTLAND)	SUPERCYCLE HIGHWAYS (SKÅNE)
Capital Region Denmark		Central Denmark Region	Region Skåne
Albertslund	Herlev	Aarhus	Helsingborg
Allerød	Hillerød	Favrskov	Kävlinge
Ballerup	Hvidovre	Hedensted	Landskrona
Brøndby	Høje-Taastrup	Herning	Lomma
Copenhagen	Hørsholm	Horsens	Lund
Egedal	Ishøj	Ikast-Brande	Malmö
Fredensborg	Lyngby-Taarbæk	Norddjurs	Vellinge
Frederiksberg	Tårnby	Odder	
Frederikssund	Rudersdal	Randers	
Furesø	Rødovre	Silkeborg	
Gentofte	Vallensbæk	Skanderborg	
Gladsaxe	Region Zealand	Syddjurs	
Glostrup	Roskilde		
Helsingør	Solrød		

Nevertheless, unlike the other strategies, the cycle superhighways in Skåne have developed a system, comprised of two levels, to organise the process. Generally, at Level 1, the cycling path becomes a cycle superhighway. At Level 2, infrastructure upgrades are added and enhanced. The idea is that road operators draw up an action plan for each path, detailing needed measures for it to reach the standard Level 1 and, following that, Level 2 (Region Skåne, n.d.). The upgrades for the different routes are both technical and communicative (e.g., demarcating with signs). Most importantly, however, is that cycle highways meet or are improved over time to include the primary principles of safety and security, accessibility, comfort, and flow.

Cycle superhighways in local strategies

As mentioned above, some local cycling strategies also incorporate regional cycling networks, but to a lesser extent. With some exceptions, local cycling (or mobility) plans focus on cycling within the urban area of the city and its centre, rather than in suburbs or beyond city limits. They emphasize the necessity of collaboration across municipal boundaries rather than introducing the concept itself. In some instances, the strategies outline how the regional network should look or how long the route is planned to be; however, compared to the regional strategies described above, the municipal ones are less structured and focus on future possibilities of such collaboration (City of Helsinki Urban Environment, 2020; City of Reykjavík, 2021; Oslo kommune, 2015). On the other hand, Copenhagen's cycling strategy proposes intelligent traffic systems along cycle superhighways in which the traffic signals are programmed to adapt to cyclist speed during, for example, rush hour times in the city. These "green waves" save cyclists from frequently breaking or coming to a complete halt during their journey (City of Copenhagen, 2011). The city has plans to expand these routes in 2026, with the idea of using barometers that account for different cycling speeds to improve bicycle traffic flow (Niranjan, 2025). In this way, the city adopts some of the same principles of the cycle superhighways (like coherency and comfort) even in dense urban environments. In Region Skåne, the local municipalities integrate their local strategies into the broader regional cycling plan, highlighting synergies and demonstrating a coordinated approach to the development of regional cycling networks (City Planning Helsingborg Committee, 2017; Malmö municipality, 2024; Region Skåne, n.d.).

Cross-country regional cycling strategies

To reinforce cycling connections across municipal and national borders, the Greater Copenhagen collaboration (regional cooperation of municipalities in Denmark and Sweden) brings together Denmark's Capital Region and Sweden's Skåne Region. The Greater Copenhagen cycling strategy offers a more nuanced perspective on cycle superhighways spanning both countries. To optimise travel across the region and accommodate substantial cross-border commuting, the strategy proposes to extend the cycle superhighways throughout the Greater Copenhagen area (see Figure 2). The

strategy focuses on identifying key transport hubs in and around the area of coverage to create a coherent transport system. While doing so, it takes note of interregional transport corridors, recreational routes, regional commuter connections, and synergies with public transport. The cycle superhighways are also considered in terms of integrating the network within the more extensive Trans-European Transport Network (TEN-T). Additionally, the strategy seeks to integrate cycling in Mobility as a Service (MaaS) solutions to cover longer travels. While not directly related to cycle superhighways, such initiatives would leverage digital solutions to inform individuals about the possibility to bring bicycles on public transport, ticketing on trains, and parking options (Greater Copenhagen, 2021). While the strategy highlights several important initiatives, it is not an official strategy for the Greater Copenhagen area or Skåne, and its points are only proposals to initiatives.

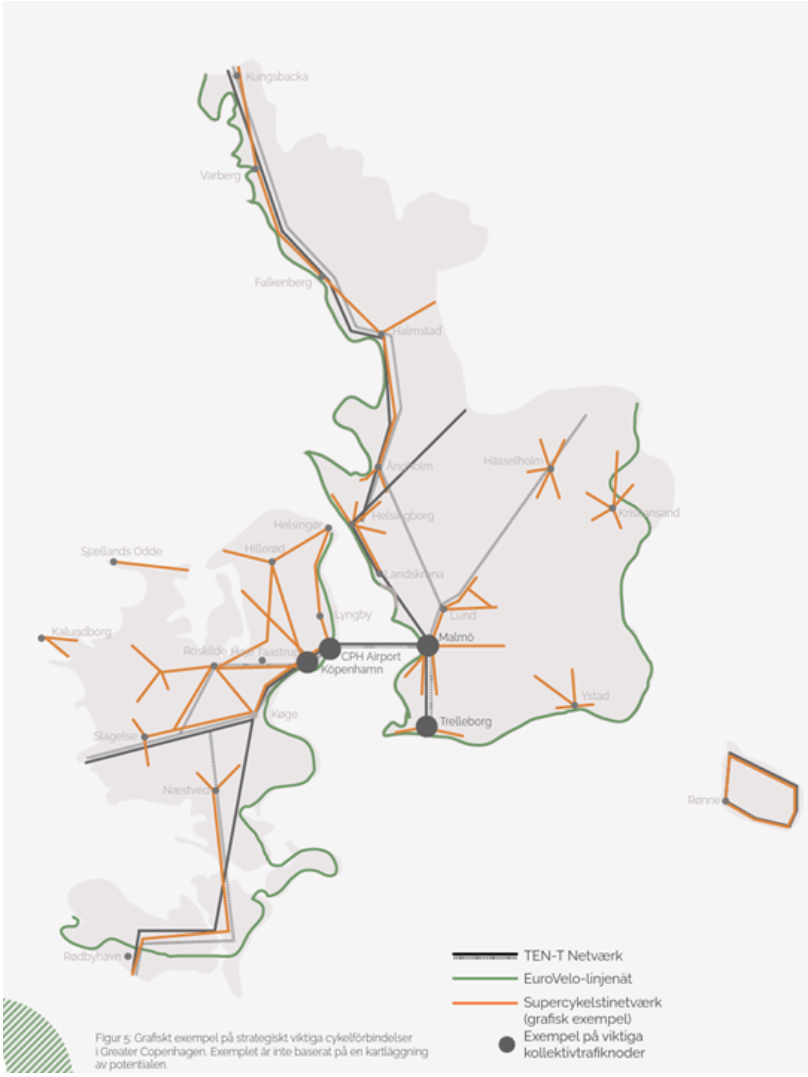

Figure 2. Graphic example of strategically important cycling connections across the Greater Copenhagen area. Source: Greater Copenhagen, 2021

Financing of cycle superhighways

The financing measures are crucial in the development of cycle superhighways and receives significant attention within the strategies. While there are some differences, the regional networks are financed by the formal cycle route planning at both regional and municipal levels. In some instances, the responsibility is divided between the municipalities with support from regional authorities and national transport authorities (Region Skåne, n.d.; Region Stockholm, 2014; Super Cykelstier, n.d.-b).

Noteworthy practices



Cycle superhighways in the Capital Region of Denmark work with design principles that enable cyclists to maintain flow. The paths are demarcated with their designated orange "C" logo. Source: The Cycle Superhighways, the Capital Region of Denmark

The Office for Cycle Superhighways

Compared to other cycle superhighway initiatives that are coordinated by regional authorities, the organisational structure of the Office for Cycle Superhighways provides unique support to regional cycling progress in the Capital Region of Denmark. The collaboration in Copenhagen has been taking place since 2009 after politicians in the city began discussing how to improve mobility by developing a strategy for cycling across municipal borders. It grew from 15 municipalities to 27, thanks to strong political will and active engagement from municipal planners. The Office is its own entity, made up of five individuals who are employed by the municipalities and the region. They facilitate the collaboration by ensuring a common strategy and concept, while also coordinating communication, branding, and following up with data and results. The work involves a steering committee made up of heads of traffic from all 27 municipalities which meets quarterly to approve the scheduled superhighway work. Furthermore, project groups, made up of cycling planners, engineers, and climate planners (among others) gather for regular meetings to discuss regional priorities. When the planners intend to improve cycling infrastructure, the Office helps them find information and knowledge which they can use to argue their case with local politicians or municipal departments to gain the necessary support. This includes data, user studies, and impact assessments that highlight the benefits of cycle superhighway implementation.[5] They also provide guidelines (such as how to communicate[6] about cycle superhighways to the public and other actors, best practices for linking cycle superhighways to public transport hubs[7]), as well as tools (such as the route assessment tool[8]) to enable effective cycle superhighway planning and implementation. The Office is 65% funded by the region, with municipalities

5. For example, cross-sectional user survey on the cycle superhighways (https://supercykelstier.dk/wp-content/uploads/2024/12/Tvaergaaende-brugerundersoegelse-2024.pdf) or mapping solutions and knowledge gathering of speed pedelecs on cycle superhighways (https://supercykelstier.dk/wp-content/uploads/2020/04/Speed-pedelecs-på-supercykelstier-Via-Trafik-rapport.pdf).
6. See https://supercykelstier.dk/concept/communication/
7. See https://supercykelstier.dk/concept/design-and-build-special-sections/connectivity-to-public-transport/
8. See https://supercykelstier.dk/concept/route-assessment-tool/

covering the remaining costs. However, when it comes to the infrastructure of the cycle superhighways, the municipalities cover the majority of costs, supported in part by state funding.

Route Assessment Tool

The Office for Cycle Superhighways' Route Assessment Tool is used by different municipalities to evaluate whether a cycling route meets the recommended design and infrastructure standards for a cycle superhighway as agreed upon by the municipalities in the collaboration. For example, the tool recommends a bidirectional cycle path to maintain a width of at least 3 metres if the estimated peak hour traffic is more than 200 cyclists (and at least 4 metres for more than 1,500 cyclists). This ensures ample room for cyclists travelling both ways, as well as other cyclists to "overtake" at a higher speed. The tool also clarifies design suggestions for cycle highways in urban and rural areas. For example, bidirectional cycle paths are less risky outside of urban areas where road crossings may be less frequent, whereas unidirectional paths are advised for urban areas. It is also recommended to separate cyclists from pedestrians rather than establishing multi-use paths. The tool also makes suggestions regarding road verges, speed limits for car traffic when cycle superhighways run alongside roads, and principles for gradients and curves along the path to accommodate safe travel for higher cycling speeds (Super Cykelstier, n.d.-c).

Ongoing challenges



Cyclists on Gothersgade in Copenhagen experience a narrow city street with heavy traffic and many intersections. The route runs directly through the inner city and is crowded during rush hour. Source: iStock

Funding concerns

While local actors have indicated that the cycle superhighway facilitation is important, the Office is currently facing potential financial concerns. Only as of November 2025, funds were agreed upon to support the continuation of the work for another year after there were concerns about regional funding halting in 2026 (Transportministeriet, 2025; Bue Lauritzen, 2025). But a long-term solution is still needed, which could mean looking towards funding from the state to ensure continued collaboration for high-quality commuter cycling networks. One solution for the Office to achieve this is to show how these cross-municipal cycling routes are key for increasing overall cycling at the national level and for achieving other national transport and cycling strategy goals. In terms of infrastructure, regions have no road authority in Denmark, so continuous cycle superhighway progress depends on financial and human resource support from municipalities.

In Skåne, the cycle superhighway projects have designated funding through the regional transport and infrastructure plan. Municipalities can be granted around 50% state co-financing, and up to 75% if there is greater regional benefit in the project.

Communication

As the Office for Cycle Superhighways states, it is important to maintain ongoing dialogue by communicating with users, politicians, and planners. However, it is not always straightforward. Region Skåne has remarked that the terminology of "super" highways can create high expectations for cycle routes that are difficult to live up to. However, the region finds it important to launch the superhighways even if the entire route is not up to the highest standards yet.

The Office for Cycle Superhighways has also learned from many years of experience to utilise different language to describe certain superhighway patterns and behaviours—for example, "flow" is a better descriptor than "speed" to emphasise the continuity and travel experience on cycle superhighways, which can vary depending on the cyclist. Everyone has their own flow, regardless of the speed at which they travel.

Conflicts of interest

Developing and upgrading cycling infrastructure can involve trade-offs. One challenge highlighted by Region Skåne is the risk of land-use conflicts in the built environment, particularly with green areas, when widening the path. When developing new paths, cycle superhighways could ideally follow former train tracks to reduce incursion into nature, but this is not always possible.

Furthermore, it can be a challenge to maintain high-quality routes throughout the entire network. According to the Office for Cycle Superhighways, the work of developing cycle superhighways is often more like a puzzle, working to link fragmented routes or update existing infrastructure by improving lighting and wayfinding or prioritising cyclists at traffic lights (Helledi, 2025).

Long-term commitment and support

The Office for Cycle Superhighways reports a timeline of 6 to 10 years for cycle highway projects, from planning and route screening to data collection to construction, followed by signage, road markings, and post-construction evaluation. The routes also require annual data collection and continued maintenance and upgrades over time, meaning that long-term commitment is needed from multiple actors to make cycling superhighways a success. In Skåne, it is important for municipalities to value the long-term role of developing cycling highways and growing the level of ambition to increase cycling for the region as whole.

Municipalities and regions can also face obstacles when it comes to developing high-quality cycling infrastructure (and thus barriers to increase cycling and improve quality of life) when they lack political support at the national level. Ambition and commitment from the state could influence local drive and lead to an increase in safe and active regional transport.

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Lisa Rohrer & Jonas Kačkus Tybjerg

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Nordregio
Holmamiralens Väg 10
Skeppsholmen
Stockholm, Sweden
www.nordregio.org