METHODOLOGY HANDBOOK

MUNICIPAL QUALIFICATION OF DENMARK'S RECREATIONAL CYCLING NETWORK

FROM PLANNING NETWORK TO DIGITAL VISUALIZATION

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CONTENT

BACKGROUND

Denmark holds great potential for cycling tourism, but there is a need to create a more cohesive infrastructure.

For many tourists, the bicycle is a natural way to explore the landscape and enjoy nature. In recent years, there has been investment in basic cycling infrastructure through new bike routes and signage. However, the majority of Denmark's official cycling network has been designed with the purpose of getting from A to B. As a result, many of these routes are not relevant for a cycling guest who seeks good experiences and flexibility.

We are therefore faced with a fundamental national challenge of developing cohesive cycling experiences that, in terms of service quality, can compete with the best cycling countries Denmark is up against.

The project "Better Conditions for Cycling Tourism in Denmark" was launched to address this challenge and has carried out the following activities during the period 2020-2024:
- Mapping of infrastructure for recreational cycling.
- Design and development of a network based on cycling hubs.
- Demonstration in selected areas
- Rollout of the system in several municipalities
- National operational model and organization

The project is part of the initiatives for sustainable and green tourism development in the "National Strategy for Sustainable Growth in Danish Tourism." The project is also included in the Agreement on the Summer Package from June 2020.

"Better Conditions for Cycling Tourism in Denmark" is also closely connected to the project "The Future Recreational Network," managed by Dansk Cykelturisme. The projects are carried out under a shared vision of creating a cohesive recreational cycling network in Denmark.

The project is approaching its completion and is now ready to be implemented. The development of recreational infrastructure is a shared responsibility and a task that must be carried out collectively across authorities, administrations, and sectors. Enhancing the recreational infrastructure will ensure that guests' expectations for nature and outdoor experiences are met - while also contributing to a higher quality of life for local residents.

The recreational cycling network allows cycling guests to plan the exact trip they desire, and destinations and tourism operators can create customized tour suggestions tailored to specific seasons, target groups, and themes.

Cykel-kærlig hilsen

DANSK KYST & NATUR TURISME

USER GUIDE

This method handbook summarizes the work of the previous years in the form of principles for planning and designation, as well as the associated data foundation. Additionally, the handbook outlines, through six steps, how the country's municipalities can work to qualify the so-called "planning network" into a network that can create cohesive cycling experiences on existing bike-friendly infrastructure. This is to the benefit of guests, businesses, and locals.

The primary target audience for this method handbook is municipal planners working with mobility and recreation. The secondary target audience includes all those working with recreational infrastructure and tourism development, as the document can provide inspiration for planning cohesive infrastructure with high recreational value.

Additional materials to support the work with Denmark's recreational cycling network can be found at www.cykeloplevelser.dk.
The method handbook initially introduces concepts and ideas related to recreational cycling. It then provides a step-by-step guide for working with the cycling network. At the end, there are references with principles and data foundations, which can serve as a reference and guide to support the work.

All the principles and recommendations regarding distances are presented as guidelines that should generally be followed. However, the final assessment of a route will be a comprehensive evaluation, where all the principles are considered together in the overall assessment of the route.

- On www.cykeloplevelser.dk,both background materials and additional resources are available for use in the work with the recreational cycling network.

Background materials include a range of technical documents, articles on recreational infrastructure and its value, as well as an elaboration of the data-supported method used in the planning and designation of the recreational cycling network.

Available resources include, among other things, a draft for case handling, PowerPoint presentations for the process, inspirational videos, and additional marketing materials, including those for dissemination.

Stay updated on the website, which is continuously updated.

WWW.CYKELOPLEVELSER.DK

DENMARK'S RECREATIONAL CYCLING NETWORK

A RECREATIONAL CYCLING NETWORK

A new recreational cycling network aims to provide cyclists with better opportunities to plan a cycling trip along bike-friendly routes. The network connects great cycling experiences with a focus on providing access to commercial businesses and services, as well as cultural and nature experiences.

The bike-friendly routes run on existing infrastructure and are connected by a hub-based network. The network system increases flexibility and provides an easy solution for cyclists of all levels. In a hub-based network, the hubs are numbered and are not special in themselves. They are simply places where roads meet, and cyclists need to make a route choice.

Both Belgium and the Netherlands have good experience with a hub system, which gives cycling guests a range of options to plan the exact trip they want – and return to the starting point – without cycling the same route more than once. The roads and paths included in the

network have been selected with the aim of allowing cyclists to plan an enriching trip with the same start and end point, according to their own needs and desires, without using the same r oute twice.

The routes are selected to avoid major highways and noisy traffic, instead passing through beautiful nature, facilities, and local attractions. The goal is not to travel quickly from A to B, but to enjoy the journey as much as possible. While super cycle paths are the highways for cyclists, the cycling network serves as their "daisy route."

A first national planning version of the cycling network has been developed. This is based on a range of publicly available data, three guiding principles, and international experience. By designating a national planning network, a foundation for national consistency within the network is ensured. The density of the network is designed to provide a good experience, allowing for half- and full-

day trips without the need to make too many decisions along the way. However, the density also reflects the art of what is feasible. The network is built on existing roads and paths, and therefore depends on the existing bike-friendly infrastructure. This is also a national cycling network, where the density seeks to balance future costs for signage, the best possible experience for cyclists, and ensuring that a cycling trip will consist of a manageable number of route choices. Ultimately, there has also been consideration for creating a fairly consistent network, where the network on the central Jutland heath plain does not appear significantly thinner than it would in the eastern Jutland glacial landscape.

Over time, the network will be densified by, for example, working to secure crossings of major roads and by moving the recreational infrastructure away from the main roads, into the landscape and around service facilities and attractions.

The designation of the recreational cycling network is therefore about identifying the best roads and paths that connect interesting locations in a safe and cohesive manner.

A cycling network is not organized based on which routes might be interesting, but rather offers a network of bike-friendly stretches that allow each cyclist to create their own cycling route.

There are already good regional and national cycling routes in Denmark, and the cycling network is connected to them, both physically and through the incorporation of the Danish Road Directorate's principles for national cycling routes, which are also embedded in the principles and designation of the network. In the future, special thematic day trips could be promoted on top of the network, such as a church tour or a route that passes local farm shops and unique dining spots via the network.

CYCLING NETWORK; THE NETHERLANDS

The Dutch network consists of two systems that are integrated and synchronized: longdistance routes (LF-routes) and the junction network. LF-routes are longer A-to-B or A-to-A routes that are continuously marked and available in both directions. Currently, there are 26 LF-routes, but the goal is to reduce this number to 10 iconic routes. This is because 26 routes are difficult to communicate and do not clearly signal that all routes are equally iconic.
The target audience for LF-routes is cycling tourists on cycling holidays. The junction network, with approximately 9,000 junctions, connects around 34,000 kilometers of bike-friendly routes across the Netherlands. This creates a dense network of cycling options, allowing cyclists to easily find their ideal route without having to stop for navigation or orientation at every intersection. The primary target audience for the junction network is cyclists on recreational day trips.

The Dutch cycling network is based on a number of principles, including:
- To connect tourist areas, rural areas, and city centers.
- City centers are included in the planning because they are central to connections with public transport and because a large portion of the target audience lives in the cities.
- Use of existing infrastructure, i.e., existing bike paths and quiet roads.
- Not to create the fastest routes, but rather routes that offer the opportunity for a great landscape experience.
- To design the routes so that they pass by points of special interest (e.g., viewpoints, museums, restaurants, accom- modations, etc.).

Experiences from countries like the Netherlands show that the junction network evolves over time, as new infrastructure and developments emerge, aligned with new societal goals. In the Netherlands, approximately 1,000 km of the network's total 34,000 km is modified each year. Additionally, experiences also demonstrate that the digital and physical infrastructure must be integrated, and that the junctions are not stationary.

COMPONENTS OF THE NETWORK
A GLOSSARY OF TERMS

The cycling network is fundamentally composed of the roads and paths included in the network, the numbered junctions that have been designated, and the signs and information boards that will eventually guide the cyclists.

NETWORK SECTION
A network section is a part of the cycling network that connects two cycling junctions, where cyclists travel on their bike. The network is planned using existing bike-friendly infrastructure, and thus does not require new construction at its outset. Over time, improvements and densification of the network can be made through the addition of new infrastructure, either on a larger or smaller scale.

CYCLING JUNCTION
A cycling junction is a numbered location in the network where a cyclist can choose between two or more different network sections, each leading to a new cycling junction. The exception is a 'dead-end junction,' where the network only allows cyclists to return on the same route back to the previous junction. This could occur, for example, where a road leads to a specific experience, and there is no option to take a different route back. Another exception is a 'support junction,' which is designated to provide clear and unambiguous route guidance.

Junctions are numbered from 1 to 99, and the same number cannot be used for the next 5 junctions to ensure clear and unambiguous route guidance. The planning network starts with numbers 20-80, leaving numbers 1-19 and 81-99 available to be assigned when the network is reviewed and qualified.

SIGNAGE
The physical signage of the network consists of signs indicating a junction, signs showing the direction to other junctions, and more general informational signage.

The Danish Road Directorate approved in early 2024 that new cycle signs for the cycling junction network will be incorporated into the regulations on road markings when these are
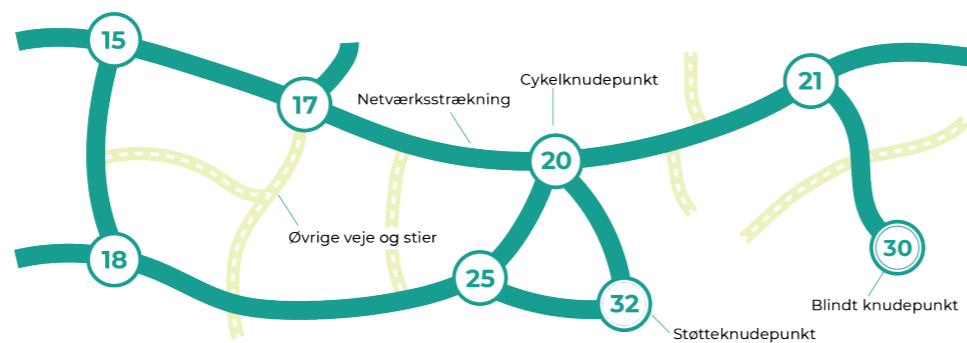
The recreational cycling network consists of cyclist-friendly routes and numbered junctions for navigation.

updated. With the approval of the new signage system, it will be possible to begin implementing a physically signed cycling network throughout Denmark.

THE DIGITAL NETWORK
The network also has a digital twin, which is integrated in GeoFA under the "Roads and Traffic" theme layer. From here, it is possible to retrieve data, work with network planning in the municipal GIS, and upload the updated data back to GeoFA.

Wayfinding tools, destination organizations, tourism operators, etc., can also retrieve data for use in the digital promotion of the recreational cycling network.

In terms of data, the junction network is also made up of two components: cycling junctions and cycling junction sections. The two junction-related theme layers are located in GeoFA under "Roads

and Traffic."

The planning network has been uploaded by Dansk Kyst- og Naturturisme with a public access code that ensures it is initially only visible to authorities.

Geographic Data in Geo-Danmark (GeoFA) is a voluntary collection of public sector data deemed valuable across municipal borders – both for authorities and other external users. It is voluntary for authorities to use the database for storing and displaying data, and it is free for third parties to retrieve and use data locally.

GeoFA consists of a specification and a database. The specification, with ongoing updates, has existed for 10 years and can be used by municipalities (and others) to ensure that data is recorded/described consistently, enabling data exchange across municipalities.

The planning network is found in GeoFA in two parts: Bicycle Junctions (5608) and Bicycle Junction Segments (5609). Both have been entered for the entire country by the user 'dknt' with the planning status: 2 – planned, and off_ status

When the municipalities have worked with the planning network and qualified it into a finished digital network, they must take ownership of the data. This is done by:
1. Changing the "CVR" from 'dknt' to the municipality's CVR number
2. Changing the off_code to 1: visible to everyone
3. Changing the planning status to 1: established

TOWARDS A
DIGITAL NETWORK

A recreational cycling network is not fully signed the moment it is decided upon; it requires a qualification process, and the network thus exists in several variations. The first network – the planning network – is designated based on data and in accordance with the national principles for planning and designation. This network is made available to authorities in GeoFA. This methodology handbook describes the qualification process that ensures the data-supported planning network is developed into a network that can be digitally made available to cyclists, the tourism industry, and others who can benefit from it.

Vejle Municipality, on behalf of five test municipalities, has applied for permanent approval of the signs used for wayfinding on the cycling network. The Danish Road Directorate has approved the inclusion of

these new signs in the road marking regulation when it is next issued.

Once the network is qualified and signposted, there is an expectation that it will, to some extent, be a dynamic network. When new bike paths are constructed, new residential areas are developed, a museum relocates, a new hotel opens, or changes occur in infrastructure, land use, services, and facilities, these updates should be reflected in the cycling network. In the Netherlands, around 1,000 km of the network's total 34,000 km is modified each year. As a result, a new version of the network will emerge. As part of this work, there will be an ongoing process that aligns with national principles and continues to rely on data.
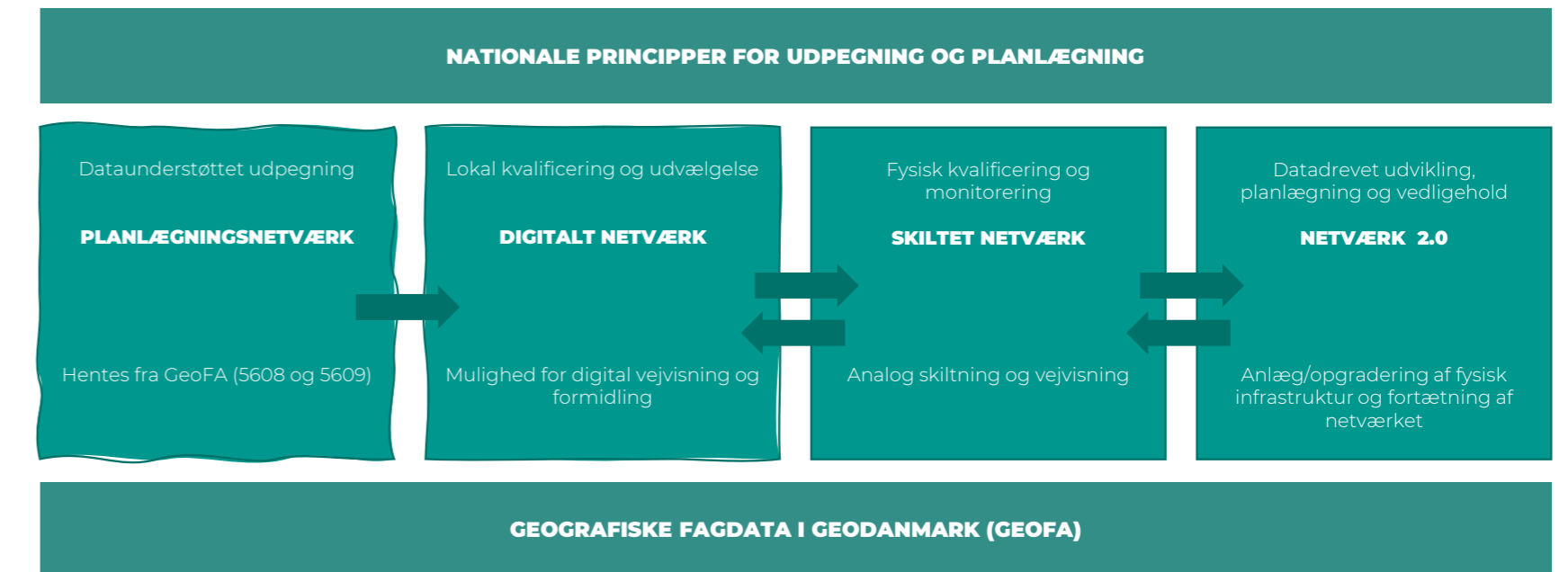
The work with the recreational cycling network is an ongoing process, starting with the planning network, which is qualified into a digital network and will eventually be signposted physically.
Once the network is established, it will continue to develop through the densification and improvement of routes.

Throughout the process, one must adhere to the guiding principles of "experiences and variation," "services and accessibility," and "coherence and safety," while keeping the data up-dated in GeoFA. This will involve both data used in the work on the cycling network under the outdoor theme and the two cycling junction-related thematic layers under "Roads and Traffic." The qualification process from the planning network to the digital network is described in this methodology handbook.

NATIONALE PRINCIPPER FOR UDPEGNING OG PLANLÆGNING			
Dataunderstøttet udpegning **PLANLÆGNINGSNETVÆRK**	Lokal kvalificering og udvælgelse **DIGITALT NETVÆRK**	Fysisk kvalificering og monitorering **SKILTET NETVÆRK**	Datadrevet udvikling, planlægning og vedligehold **NETVÆRK 2.0**
Hentes fra GeoFA (5608 og 5609)	Mulighed for digital vejvisning og formidling	Analog skiltning og vejvisning	Anlæg/opgradering af fysisk infrastruktur og fortætning af netværket
GEOGRAFISKE FAGDATA I GEODANMARK (GEOFA)			

A PLANNING NETWORK

The national planning network is built on three pillars:

· A solid data foundation
· Well-established principles for designation
· Practical experiences from 29 municipalities

DATA FOUNDATION

The planning network has been designed and identified through a data-supported process. A wide range of data sources were initially mapped, screened, and evaluated.
The first reflections and results can be found in the document "The Data Architecture of Recreational Infrastructure: Preliminary Catalog," which is available on www.cykeloplevelser.dk.

The evaluation of individual data sources included a general assessment of the content and quality of the data and data types that are relevant to the principles for identification and are practically available. The evaluation examined, among

other things, whether the data is reasonably comprehensive or if there are significant gaps, including geographic inconsistencies in completeness. It also considered whether one can expect the data to be updated appropriately by the responsible party, and whether there is an opportunity to address any significant gaps.

More than 30 data sources have been evaluated and assessed, with 15 sources being included in the identification of the planning network. Some data sources are used multiple times, while others contribute only a single input.

On www.cykeloplevelser.dk, you can find both background material on the work with the data foundation, summarized in "From Data Foundation to Planning Network," and at the end of this methodology handbook, there is also an overview of the data foundation for the planning network.

4 DATAKATEGORIER

The 15 data sources are generally categorized as follows:

ROADS AND PATHS: Data on the location of the road and path network and its key characteristics – such as road or path type, traffic type, surface material, speed limits, etc.

EXPERIENTIAL OPPORTUNITIES: Data on attractions and points of interest that can be experienced along the way - such as a top attraction, a scenic viewpoint, a special landscape, etc.

FACILITIES: Data on amenities that are useful along the way, such as ice cream kiosks, shopping opportunities, water fountains, tables/benches, toilets, tourist information, or bicycle service points.

ROUTES, SECTIONS OG NODES: Data on existing routes for cyclists, hikers, etc., as well as the new network's sections and nodes, including associated equipment, such as signs, etc.
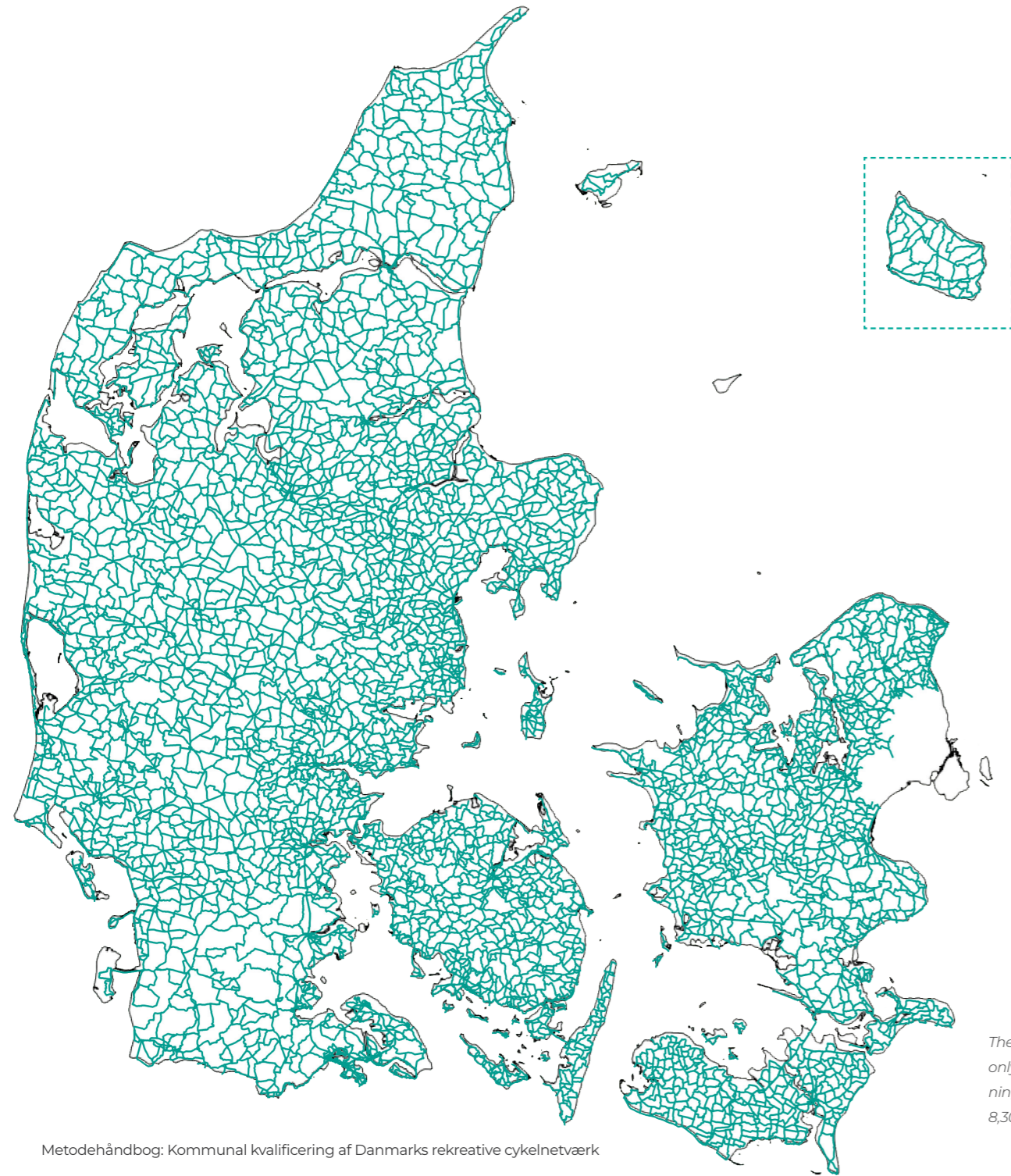
PRINCIPLES FOR SELECTION AND PLANNING

With the goal that the cycling trip should contribute to experiences, not just transport, and with an interdisciplinary foundation in endorphins, landscape planning, flow theory, and storytelling, three guiding principles have been formulated for the planning and designation of a recreational cycling network. In essence, these principles are based on the same ideas and experiences used in the development of cycling infrastructure in other European countries, such as the Netherlands and Belgium.

The three principles are:
Experiences and Variation
Cycling on the network should be an enjoyable experience. It should neither be boring nor too difficult. To avoid a dull experience, it is important that something is constantly happening, either in the landscape

The national planning network, as it is visible to authorities, consists only of networks that have been qualified for public display. The planning network spans nearly 32,000 km and includes approximately 8,300 junctions.

you are cycling through or through variation in the roads and paths you cycle on.

Service and Accessibility
The cycling network should guide cyclists past selected attractions and points of interest. Additionally, cyclists should pass by places where they can buy food and drinks, accommodation options, and other facilities and services that make the cycling journey easy and enjoyable.

Safety and cohesion
It must be safe to cycle on the network, so traffic safety should be a high priority. Additionally, the cycling network must be continuous - there should be no "gaps" in the network. All sections must, of course, be cycleable, meaning cyclists should not have to dismount to push their bikes, for example, up a staircase, over a curb, or through non-cycleable barriers. Pavement quality becomes an important focus, as it should also be comfortable to ride on the network.

The principles for the network have been formulated to ensure that a network is created where the quality cycling experience and access to attractions and services are the focus, while also laying the foundation for a safe and comfortable cycling journey. Experiences and attractions are addressed in the first two principles to indicate that the network should not be created solely based on safe cycling infrastructure, but with an eye to the possible experiences, which should then be connected through safe and cyclist-friendly infrastructure.

When transitioning from principles to the development of the recreational cycling network, traffic safety takes center stage. While the principles emphasize delivering a great cycling experience into the network, the work on the planning network focuses on ensuring a safe and secure cycling experience. With the infrastructure currently available, it is not feasible to create a cycling network that simultaneously follows a single continuous path while also providing access to attractions and facilities.

To develop a recreational cycling network in Denmark, the principles must serve as guiding stars, pointing toward the desired network 20–30 years into the future. The planning network thus represents the art of the possible — balancing a safe recreational cycling network with the integration of attractions along the way and opportunities for dining and accommodation.

PRACTICAL EXPERIENCES
A total of 29 municipalities have worked on qualifying their cycling networks, either fully or partially, within their territories. The collaboration with these municipalities has spanned several years, enabling the final network to build on experiences gained both in the early stages and later phases of the process. These insights have helped refine and optimize the approach, ensuring a more comprehensive and functional recreational cycling network.

Local insights inevitably lead to adjustments in the data-defined planning network. Elements like traffic volumes, unique shelters, planned bike paths, dangerous intersections, and similar factors may not have been accounted for in the designation of the national network. Municipalities and destination organizations are key players in refining the planning network into a digital resource that can be showcased and effectively used by cycling tourists.

The insights from the 29 municipalities reveal that starting with a planning network makes it easier to evaluate the suitability of routes and the network's density. Additionally, the qualification processes have shown that the planning network serves as a strong foundation, accurately identifying 75-90% of the routes' placements.

QUALIFICATION PROCESS

QUALIFICATION METHOD

The qualification process relies on two critical elements: a clear understanding of the guiding principles with their associated parameters and recommendations, and the involvement of a well-rounded interdisciplinary team to incorporate local insights and establish a solid foundation.

PRIORITIZATION OF PRINCIPLES

There is no fixed formula for prioritizing the balance between experiences, cohesion, comfort, and traffic safety within the cycling network. As a starting point, the network must be cohesive — there should not be isolated stretches that are disconnected from one another. This interconnected network should provide access to good experiences (either along the way or at the destination) on infrastructure that is neither unsafe nor hazardous. The evaluation from one stretch to the next will determine whether it is too

dangerous or uncomfortable to cycle on, considering the experiences offered by that particular route. Some routes will clearly be too dangerous due to traffic and will never be suitable for inclusion in the network. Some stretches will not be "worth the journey" because the experiences they offer are not sufficient to justify placing a route along a potentially unsafe road. Other stretches will be necessary for maintaining cohesion, even if they do not fully meet the criteria for experiences or are only marginally safe from a traffic perspective — such as when a route crosses or runs alongside a main or rural road. Ideally, these routes can be improved through targeted efforts.

Prioritizing that certain attractions, landmarks, places, and experiences should be accessible via the cycling network will inevitably lead to compromises. Every municipality will
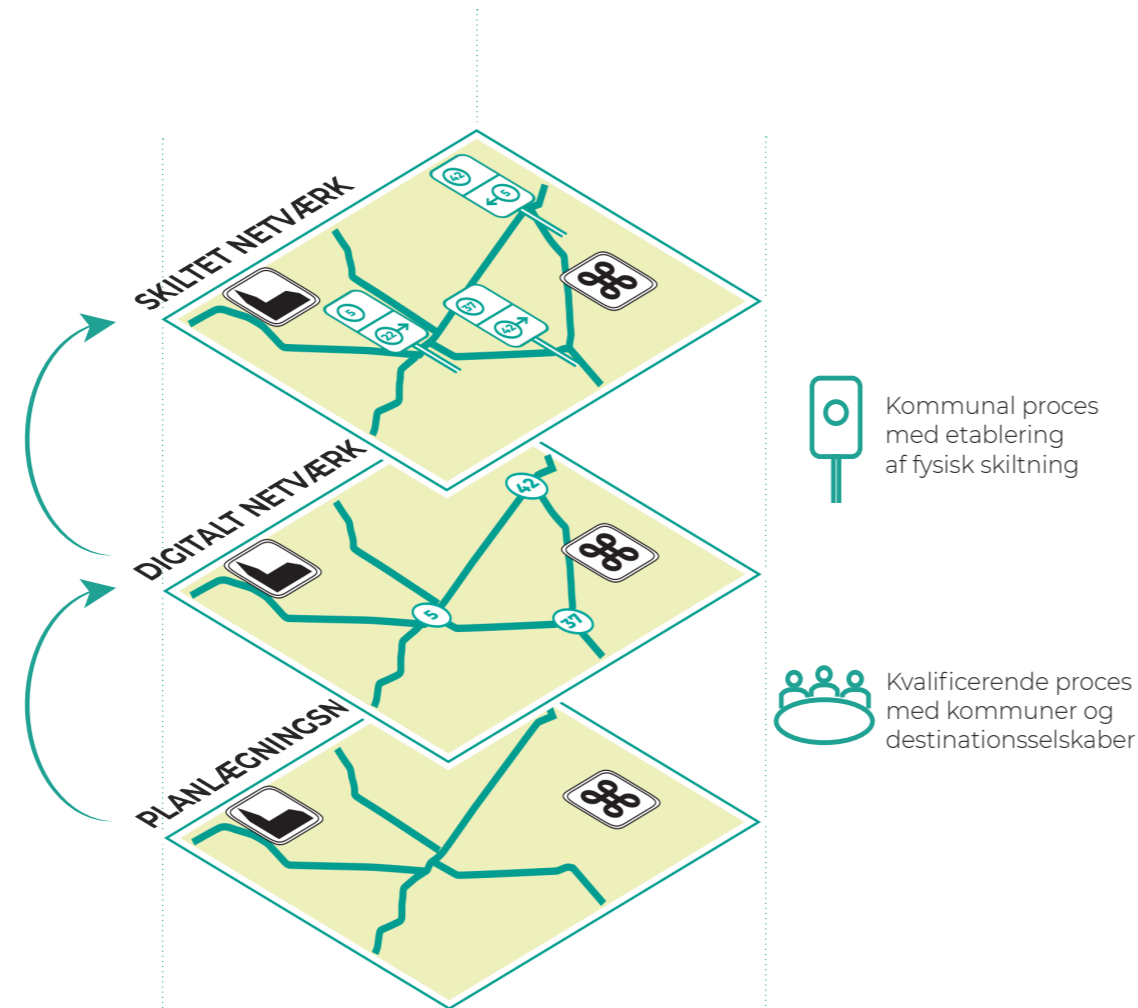
face the challenge of having the cycling network cross or, in some cases, run along main or rural roads. While this is not ideal in principle, it will be necessary to achieve a cohesive network. Additionally, many attractions are located in areas where there is no dedicated cycling infrastructure right now, but this should not exclude these places from being part of the recreational cycling network.

For example, an amusement park in the forest might not have access via a segregated cycle path, but it should still be connected to the network. In the initial stages, one might compromise on comfort, but this could also highlight the necessity for improved cycling infrastructure in these areas. The destination company will play a significant role in evaluating which attractions, landmarks, and

facilities should be linked by the network.

DISTANCES IN THE NETWORK

Just as there is no rigid prioritization key for the application of principles, there are no strict rules for distances and gradients in the network. However, the table below offers a series of recommendations that can guide the qualification work.

At the end of this method handbook, there is a guide to be used in the qualification process. Here, the principles are expanded upon, and the complete data foundation for the planning network is presented.

Kommunal proces med etablering af fysisk skiltning

Kvalificerende proces med kommuner og destinationsselskaber

RECOMMENDATIONS REGARDING DISTANCES

Segments	It is recommended to aim for a segment length (distance between nodes) between one and five kilometers. No segments should be longer than 10 kilometers.
	Segments should avoid roads and paths with a gradient of more than 6%, or if these are included, the gradient should be communicated as part of the network information.
	Shorter sections along country roads and main roads can be accepted in the network if they contribute to creating a connected network. However, safety must not be compromised, and the sections should still not exceed a length of approximately 500 meters.
Circular routes	The network will provide opportunities for circular routes. It is recommended that the majority of these routes aim to be between 8-20 km in length, in consideration of the goal to facilitate half-day and full-day trips for recreational purposes.
Dead ends	Denmark has a lot of coastline, so there will undoubtedly be a number of dead ends (e.g., stretches that end at the coast or beach). Dead ends in the cycling network should not exceed a total length of 5-6 km (round trip).
Facilities and accomodation	Toilets and water should be available at intervals of no more than 10 km, while rest areas should be provided every 5 km. The network should be accessible from accommodation facilities – summer house areas, campsites, bed & breakfasts, hotels, etc.

EXPERTISE AND LOCAL INSIGHT

To develop and gain positive outcomes from a cycling network, several levels within the municipalities must be involved in the project. Revising and implementing a cycling network requires resources, and the work can be politically anchored both in tourism and business development, planning, and infrastructure. Furthermore, it is important that the work on the network, in the long term, is anchored within the municipal finance committee and integrated into the municipal plan, as this will ensure a strong and binding foundation for the development of the network in connection with other planning efforts.

At the administrative level, decisions need to be made regarding where the development work should be located. Practical experience shows that it is beneficial if the project manager comes from a development department, with overall contact to other administrative branches and the destination organization.

In addition, a team of employees should be established to work on the revision of the planning network. This team should include employees with expertise in areas such as: planning, GIS, tourism

and business development, rural areas, traffic and roads (including maintenance), nature, culture and recreation, and possibly health. All areas of expertise are relevant and will provide important input for the designation of the recreational cycling network. Additionally, local knowledge is a valuable resource, as it is easier to assess the suitability of a route if one has firsthand knowledge of the location where it is situated.

The team of municipal employees must collectively be able to qualify the planning network based on their various areas of expertise. This includes considering how the future physical network will interact with the different activities facilitated by the infrastructure (such as traffic, access to nature and culture, active lifestyles, etc.), as well as understanding how a cycling network can become an integral part of the municipal offerings for residents, businesses, and visitors.

Once the cycling network is completed and ready for implementation, it transitions from a development phase to an operational phase. Operations (primarily maintenance) are crucial for the future of the network, where it will be important to ensure that data, signs, and routes

are properly maintained. Therefore, it is essential to involve the municipality's maintenance staff early in the process to secure their engagement with the network. Additionally, there should be ongoing focus on ensuring the digital twin of the physical network is consistently updated and maintained.

Finally, the network must be communicated, and local anchoring needs to be secured. On a municipal level, this will typically involve the departments of Culture & Leisure and Health, along with collaboration with the local destination management organization.

GET EQUIPPED FOR THE WORK

Throughout 2024, Dansk Kyst- og Naturturisme will conduct a series of seminars where you can gain an overview of the cycling hub network and the work with the recreational cycling network in Denmark.

Additionally, www.cykeloplevelser.dk will be continuously updated, and Dansk Kyst- og Naturturisme will be present at various conferences and collaborations.

The recreational network will be anchored across departments and require interdisciplinary collaboration.

TIMELINE

The qualification process itself can proceed over six stages and aims to qualify the planning network within the municipal context, assessing whether the sections of the planning network are relevant and meet the principles of experiences and variation, service and accessibility, as well as safety and cohesion.

The entire qualification process should not take more than three months; however, if landowner dialogue is required, it should be expected that this will take additional time. Therefore, it is important to create a timeline for the work at the outset, so that the working group, and any other relevant individuals, can reserve time in their calendars for the activities related to the task.

The time required for the qualification process is not extensive, but it does demand considerable coordination to ensure that everyone is present and prepared at the same time.

The experiences regarding time consumption are as follows:
• Overall duration: 3-6 months
• 3-4 meetings in the working group: approximately 10 hours
• Physical inspection of selected stretches: 1-2 days
• Individual preparation: between 10 and   20 hours
• Participation in workshops: two days

This results in an estimated time commitment of approximately 50 hours per employee, from the start of the qualification process to the completion of the digital network. Of course, this will depend on several factors, including the size of the network, local knowledge, and the need for physical inspections. Experience shows that the more relevant expertise represented in the working group and the more local knowledge they have, the faster the process will proceed.

The person handling the GIS updates can anticipate spending additional hours on the project.

The report contains principles for the National Cycling Routes. These principles should be used as a basis for evaluation when municipalities apply for changes to the existing National Cycling Routes or when planning a new National Cycling Route.

It is also hoped that municipalities will see the principles as a useful tool for improving/upgrading existing National Cycling Routes.

All the principles in the report are formulated as recommendations for the routes and paths, which should generally be followed. However, the final assessment of a stretch will be a comprehensive evaluation, where all the principles are integrated into an overall assessment of the stretch.

The report can be downloaded via
www.vejdirektoratet.dk/udgivelse/principper-de-nationale-cykelruter