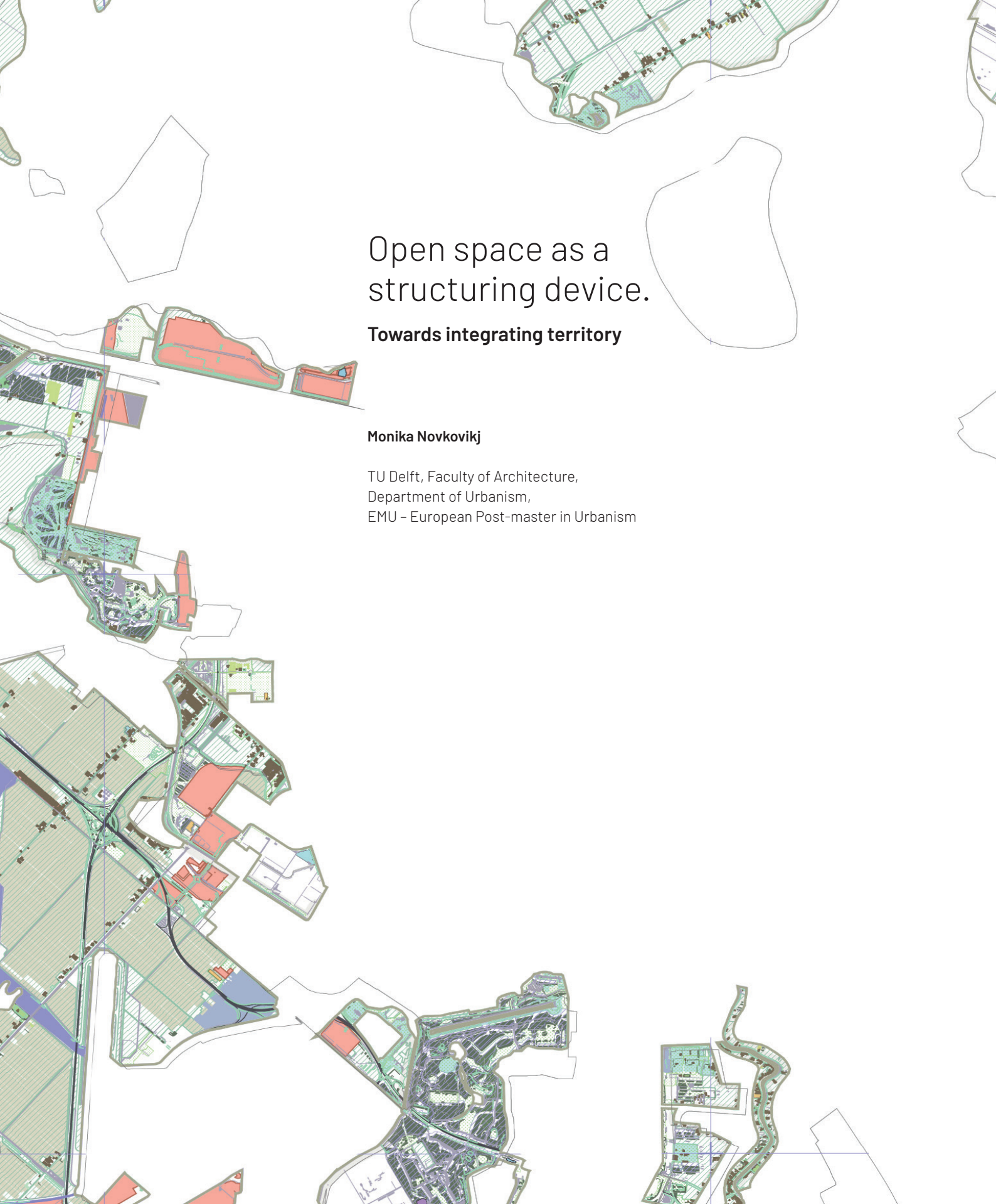

Open space as a structuring device.

Towards integrating territory

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Open space as a structuring device.

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Colophon

P4

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EUROPEAN POST-MASTER IN URBANISM EMU
strategies and design for cities and territories

TU Delft

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I dedicate this thesis to my loving parents, Valentina and Zoran, without whose support I wouldn't have had the courage to hop on board for this EMU adventure. I am endlessly thankful to my brother Marko, my aunt Jelica, my best friend Vlado, and my cousin Irina, who were my motivation throughout.

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Last but not least, I dedicate with love , the intangible but invaluable part of this book to my 'partner in crime' , IJsbrand, for he was by my side in the moments of inevitable struggle but also contentment and joy.

Because, what matters is the journey!

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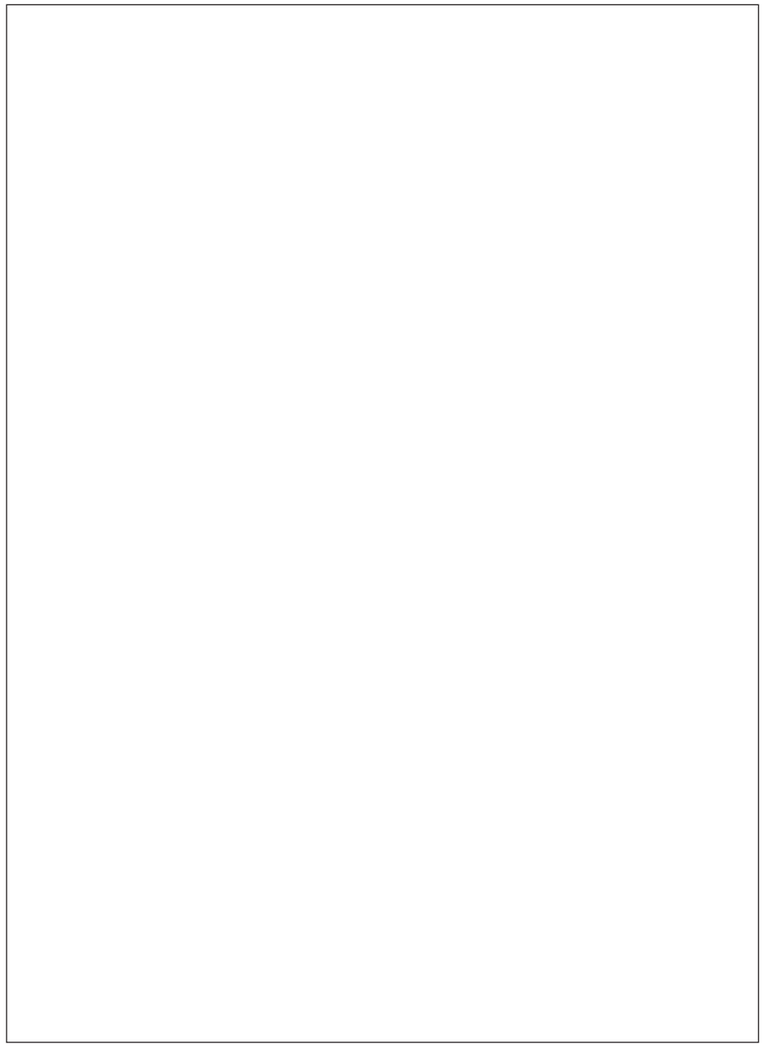
Preface

"...the landscape itself is a medium through which all ecological transactions must pass, it is the infrastructure of the future and therefore of structural rather than (or as well as) scenic significance."

Richard Weller,
The Landscape Urbanism Reader, 2006

The thesis aims to explore the potentials and possibilities of open space landscapes with the goal of utilizing them in a new spatial landscape infrastructure device of integrative socio-spatial value. It will attempt to acknowledge the hidden qualities of open spaces, often overlooked due to responsibilities limited only to administrative borders and general lack of awareness. It will develop upon the hypothesis that units of the territory are abundant in natural, historical and cultural assets which, if systematically exploited through regional design framework, could empower a multi-purpose 'regional park' capable of slowing down, halting and even reversing social, natural and cultural deterioration processes imposed by rapid urbanization, climate change manifestations and human agency.

The study will be conducted within the south part of the Noord-Holland province, which stretches from the West border of Amsterdam to the coast of the North Sea and along the North Sea canal. It is a territory chosen for its programmatic complexity, natural resource capacities and the intricate relationship between the numerous natural ecosystems and urbanization. Furthermore, he study will attempt to advance in the utilization of the 'regional park' concept notions, translating them from theorical notions to applications, through spatial design principles. These spatial design actions will be tested within the targeted metropolitan context and will set base for wider possibilities of application within regions alike, where the open space condition is of urgent nature.



PART 1

Introduction

Once upon a time lay here a truly open landscape

The Netherlands stands among the countries with the smallest number of protected landscapes in Europe (Spot On, 2017). While this might be the case because of the Dutch notion that everything has been man-made and therefore artificial, the need to revise this notion is necessary due to the ever more growing dynamics of densification pressure followed by dispersion for urbanization, the impact of climate change on the territory and the highly relevant topic of improvement of the quality of life.

The Netherlands has since long been working out policies for either its cities or its countryside while all the time leaving out the areas in between which through research have been estimated at 28% of the overall landscape. In a recent research outocome it has been observed that they are filled with non-classified occupational forms, and have not been addressed by policy documents (Spot On, 2017). As such, these territories hold hidden potentials which are currently under-recognized and consequently, under-used.

Additionally, it is under the legislation of municipalities to plan only for and within their physical borders so, more often than not, an overall regional design has been missing in order to accomplish cohesion on regional level. Furthermore, unlike the designated autonomous municipal and regional borders, historical relics, cultural heritage structures, ecosystems, polder wetlands and the inherent networks embedded in the territory aren't restricted to the limits of the invisible operative borders. On the contrary, they represent a complex category on its own, which bursts into endless tiny islands, beyond these borders and into the open space realm.

This open space under which they fall coincides with the same blurred territory described above, positioned between the urban and the rural. The acknowledgement of the contents which this territory accommodates, would bring to recognizing and better utilizing of its latent qualities and therefore ground for developing means for its protection and responsible expoliotation.



Westfriesland, an area in North Holland. An image of Westfriese Omringdijk, the completely enclosed dike and the polders in the Netherlands. It is a provincial monument which cuts across the cities of Alkmaar, Hoorn, Enkhuizen and Medemblik among others and it is with the lenght of 126 kilometers. It is an example of a powerful landscape element, which offers a fluent landscape experience, un-obstructed by physical barriers. As such the dike is a boundary itself between land and water but is beautiful in its multifunctionality for embracing rich cultural history by connecting a multitude of cultural/historical monuments. As such, this open space is given additional value and protection from degrading physical transformations.

image source: https://www.vvvhartvannoordholland.nl/content/content asp?menu=1028_000121_000000_000000

1.1 – The de*(con)*struction of the city-country dichotomy and the construction of the rural-urban continuum

The beginning of the end of the lucid border

The sharp line between the city and the countryside is long erased. What was once nature, an intact and preserved space where one could admire the god-given treasures of earth, is now a fine mosaic of interlaced green patches and myriad of programmes manifested as endless densly or sparsly built 'islands', floating in a vast space and disguised under the 'countryside' umbrella. What is common for all is that they are orchestrated and intervened on by human action, in one way or another. Accordingly, if these 'islands' of functions are judged as an assault to nature, we better declare ourselves nature-less, since this condition has surpassed any pre-conceived expectations. Thus, as Sievertsuggests, we better shed alternative light and start to appreciate what is in there, recognize the seed of change, and imagine in what way these spaces of potential can qualify for protection.

The notions about the countryside

It is clear that metropolitan city regions are and will continue the trend of developing so-called 'satellites' which will blur out the city-country border even more. The prosperity and economic strenght which guarantee perpetual success of these territories are just another argument to support that. Accepting these tendencies rather than oposing them only propels positive and constructive attitude towards understanding and acting on the implications and spatial manifestations of the decline of the city-country dichotomy.

Unfortunately, the negative view on the coutryside which is also identified as a 'suburban sprawl' or 'cancerous growth' is prematurely dismissive of this environment which represents the very contrast of the old city as we know it. Aside of impacting in a negative way the general notion of the suburb as a living place, this stance also devalues the possible social, cultural and spatial potentials embedded within the landscape. It either leaves them underexposed, or disposes their potential before they have even been recognized.

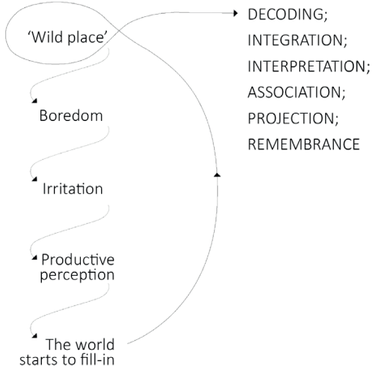
Relieving the pressure on the downtown

'We must open 'downtown' functions in new urban fields in other parts of the city as well, to reduce the pressure on the historical downtown. Such new urban fields offer a chance for the in-between landscape to become independent from the old city' (Sieverts, 2008). And one could add, become a counter-weight to the old city, as the open spaces of the countryside are under-explored and under-exploited and if done so they could partially overtake and alleviate the pressure on the overburdened metropolises.

Further, Sieverts defines public space as the fundamental carrying framework for the city, as it is the only feature that enables comprehension and percieving of the

landscape 'where we live'. He not only describes it as an experiential framework but also as a matter of identity and an essential trace for the legibility of that landscape (Sieverts, 2008). In order to obtain back the legibility and the perception of the contents that construed the landscape it is necessary for this public space framework to abandon the confinements of the conventional invisible city border and spill out into the surroundings. Therefore, *'Qualities like cosmopolitanism, intellectual engagement, tolerance, and curiosity are not bound forever to specific, historically determined form of space; they can also arise in other spaces, spaces that are publicly accessible and have the room and atmosphere for encounters.'(Sieverts, 2008).*

Besides, historically observed, between the city and the country since always there has been ecological and cultural continuum of a green and a built structure. Why wouldn't it be possible to pick it up as a reference and build on it from there, tailoring it to the contemporary demands and social/ economic/ technological dynamics? And borrow the notion on 'building' from Sieverts, to build, instead of buildings, home for ecosystems, natural habitats, recreational routes and so on? If the artificial and the natural are both created/altered by humans, and the natural has only since recently been valued as 'still natural, only built by men', then that is an argument enough to take a justified role of nature-builder as for in the future. In that spirit of dynamic evolution, the motive would be development of a new kind of cultural landscape where ecological balance and ecosystem services, food production, recreation and spatial cohesion will be brought into synergy.



'The city of tomorrow consists of a concentration of compact settlements; there will be spaces of open land both inside and outside the settled areas; these interior and exterior landscapes will fulfil particular urban functions. Open land as a structure interior to the city creates potential surfaces for water cycles and air cycles. These new functional perspectives also have retroactive effects on structures of agriculture and settlement, on the landscape's image and its function as recreation. The city's identity comes not only from its built surfaces but also from its un-built, "vegetative" surfaces.'

(Sieverts, 2008)

Towards alternative interpretation of open spaces

Transformation of the understanding of the periphery of open spaces from wilderness to a landscape is expected to bring to positive change in terms of actions within that array of spaces.
The periphery, now seen as wilderness, represents a confusing and ambiguous space at first. It takes one on a trip across a range of emotions and experiences. Only after, open spaces provide experiential loop as if a training to humans of their capacities as cultural beings, to which decoding, integration, interpretation, association, projection and remembrance are unravelled into a new level of understanding (Sieverts, 2008).

Decentralization of the mindset

'Rather than criticize a lack of urbanity, we could perceive a decentralized cultural diversity with new possibilities for cultural activities different cultural activities, to be sure, than the ones in the old city, but none the worse for that; they reach more people', (Sieverts, 2008).
As an alternative to the congested urban hot-spots of the metropolitan region an external network of cultural attractive micro-centralities can pull away the weigh from the city where cultural and ecological aims will be foregrounded. By this the importance will be emphasized on giving a way forward to ecological and cultural traits of open spaces, since they are so far, often suppressed and dominated by the industrial or transportation functions.
Besides, 'hard' infrastructures and telecommunications become more and more accessible and are to be secured for humans' disposal at all times. If the attention would be shifted towards the not so easily reproducible and vulnerable, therefore prone to depletion cultural/ecological wealth they could be more widely recognized and valued. That way their demand and appreciation would raise and will bring them in the focus as milestones for development.

1.2 – **Test case. Metropolitan region Amsterdam**



Rough demarcation of the region of interest.
(Made by author)

The area of interes is located into the south part of the North Holland province. It is a stretch of land spanning west-east, from the western edge of Amsterdam to the coast on the North Sea and falls under the territory of the Amsterdam Metropolitan Region.
It is characterized by a representative section of complex relationship between a man-made landscape and inherent geographic features, scoping from the dune landscape, to the productive landscape, the dense network of major infrastructure lines, the high value green patches, the complex water network and rich cultural historical milieu hidden in the multitude of landscape units of the fragmented territory.
In the south and the north of Amsterdam, as well as the harbor area around the North Sea canal, lot of attention is currently put in terms of planning whereas in the western part there is hardly any. This current planning disbalance could be seen as a potential for alleviating the demand pressure leaning towards Amsterdam and spatially distributing it in the direction of North Sea canal via a suitable design strategy framework.



CONTRASTS: Fisherman recreating on the edge of Noordzee canal in IJmuiden, in the front, and industrial buildings of the steel processing factory, in the back, on the right
(Photograph by author)

1.3 – **Problem field**

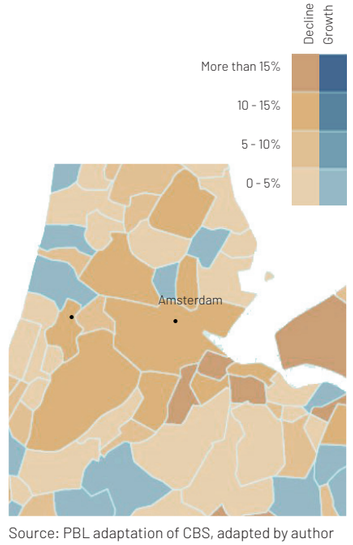


Source: PBL adaptation of CBS, adapted by author

The Netherlands stands among the countries with the smallest number of protected landscapes in Europe (Spot On, 2017). While this might be the case because of the Dutch notion that everything has been man-made and therefore artificial, the need to revise this notion is necessary due to the ever more growing dynamics of densification pressure followed by dispersion of urbanization, the impact of climate change on the environment and the highly relevant topic of improvement of the quality of life.

The Netherlands has since long been working out policies for either its cities or its countryside while all the time leaving out the areas in-between, which through research have been estimated at 28% of the landscape, filled with un-categorized occupational forms, which are not addressed by policy documents (Spot On, 2017). As such, these territories hold hidden potentials which are currently under-recognized and consequently, under-used.

The open space landscape as currently manifested in the Netherlands, interestingly is interpreted as a 'commuting area' of the metropolitan region in one of the documents of the Netherlands Environmental Assessment Agency, '*Cities in the Netherlands*' (PBL, 2016). As such, in its essence it is recognized as a buffer with an imposed trait of a connector among the intensly 'productive' urban islands of the metropolitan region, while everything in between is a grey area of secondary interest.



Source: PBL adaptation of CBS, adapted by author

Precisely that area constructs the open landscape network of the Amsterdam Metropolitan region. The abundance of open spaces is high and it is partially dictated by the existing protective mechanisms of open spaces in the form of laws and policies, and yet, the current position and future prospects of these spaces is not completely defined and envisioned (traced), let alone spatialized. Several spatial and social factors affect this justified anxiety regarding the future of open spaces. I attempt to classify them in two categories for better understanding of the challenges we might be overlooking regarding the future of open space. They are, simply, the issues at hand I detected, and I call them ***the generators*** and ***the catalysts***.

The generators *(spatial)*

As they are spatial phenomena, open spaces' integrity is eroaded primarely by physical and tangible driver:

1. Extensive urbanisation
As the Amsterdam Metropolitan Area (AMA) is striving to be internationally competitive region it has drawn up an agenda with dozens of actions in spatial and economic realms for the next years. Within its scope 1.1 million homes, 1.5 million jobs and 230,000 businesses are established. Tourists reach 14.1 million overnight stays per year. This triggers further increase of the demand for physical facilities and the number of people who want to move to the region. Likewise, the interest in

establishing new businesses exponentially rises. Additionally, the Schiphol airport, as the fourth largest European airport, makes the area's visitors' frequency and transitioning significantly high (Agenda 2016–2020 for the Amsterdam Metropolitan Area). Although the intention of the (AMA) governance body is to develop in compaxt manner, the pressure for expansion has increased and is still growing. This puts enormous burden on the open landscapes. We witness expansion of housing developments and industrial, productive and commercial platforms, plans for port extensions and further densification of the transportation networks.

2. Encroachment of open spaces

*encroachment: a gradual advance beyond usual or acceptable limits

This brings to an unexpected contrasts within the landscape, as shown in figure 1, 2 and 3, and hints the possibilities for a more cohesive a vision of multi-functionality and coexistance of different features of the region. **Except, the ingredients are there, but the binding matter is lacking.** In return, situations appear of open spaces squeezed up by all sorts of urban agglomerations, productive platforms, industrial landscapes, keeping a close eye on this inferior and neglected portion of the landscape while at the same time turning their back and hardly being aware of it. Not only these under-utilized spaces are left unattended but their qualities are, instead of emphasized, further surpressed. As a result, monotonious landscapes sucessively cover the territory, mono-functionality becomes their main characteristic and their ecosystem, cultural or socil services become of secondary importance.

CONTRASTS:
Historical heritage, Atlantic Wall. Cconcrete bunkers built by Nazi Germany during the Second World War, in the front, and new urban developments, at the edge of Haarlem in the back. (left)

Open polder space, habitat of swans, in the front, and airplanes taking off at Schiphol right behind them. (right)
(Photographs by author)







ENCROACHMENT. CLASHES BETWEEN OPEN SPACE AND (HEAVY) INDUSTRY:
The heavy industry ofthe metal manufacturing industry, Tata Steel resides right at the other end of the water, across the Noordzeekanaal, while in the front a provisional recreational zone is stretched along the water. (up)

Remains of the historically first established train connection to Ijmuiden, in the town of Ijmuiden, by the Noordzeekanaal, currently a walking/ cycling route, adjacent to a regional road coming out on the waterfront. (bottom left and right)
(Photographs by author)





FRAGMENTATION. OPEN SPACES SLICED THROUGH BY MAJOR INFRASTRUCTURES:

Many of the open landscapes within the Amsterdam Metropolitan Region are sliced through by major infrastructure lines like higways, regional roads or railway lines.
The polder landscape on the right is captured in the region between Amsterdam and Haarlem where the major A9 road runs through the plane. There aren't particular buffer zones along the higway nor the frequency of pedestrian, bicycle or animal species crossings is sufficient to get one to the other side of the grassland. Due to this the recreational and slow mobility network are obstructed and even though the openess and the span of the infrastructure offers a powerful view, the possibilities of the landscape are under-explored. (top)

Similar situation is depicted on the photographs on the bottom. The only possiblity to move in this landscape is along the major road, A9, while the rest of the landscape is inaccessible and monotonious. While it is on the one side limited by the higway it is on the other side forming a sharp edge with the housing blocks.
(Photographs by author)















A historical map of the region from around the time of the digging of the Noordzeekanaal to the North Sea, in the second part of the 19th century; A landscape free of infrastructure networks and continuous green areas.
source: https://onh.nl/verhaal/het-noordzeekanaal-een-prestatie-van-formaat

3. Fragmentation of the landscape continuum

Many of the open landscapes within the Amsterdam Metropolitan Region are sliced through by major infrastructures, highways, waterways, regional roads or railway lines. Since the construction of the first railway connection in the region, in the first years of the 19th century, between Amsterdam and Haarlem, which further extended to the north and the south, as well as the arrival of the car transport and expansion of the road network in the 40-es, what was once green and fluent landscape is now a sea of countless land units. This brought not only to physical but also functional and programmatic isolation of these units where the qualities and potentials of each of these became restricted to the limits of the units themselves. The ecological/social interaction and exchange among them was either altered or significantly diminished. The repercussions of this trend are many-fold and affect other systems in the region too. The continuous expansion of the transportation network has brought to consistent interruption of the ecological flow, fragmented and disintegrated green patches and lack of green corridors to provide for their cohesion and vitality. This affects the flora and fauna as inherent parts of the ecosystem inbuilt into these green patches.

Another visible manifestation of the fragmentation of the landscape is the discontinuity of the soft mobility flows. The fast multiple-lane roads, are often elevated following the flow of the dikes, and contain insufficient amount of crossings for cyclists or pedestrians. This significantly lowers the comprehension of the overall territory and restricts a full exploitation of any future planning strategy for the region.





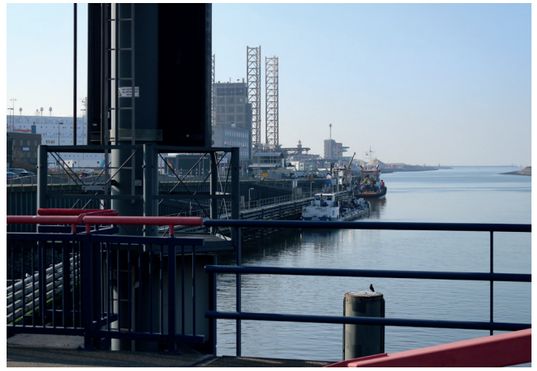
HAMPERED CONNECTIVITY. AMBIGUOUS RELATIOSNHIP BETWEEN OPEN SPACES AND RECENT HOUSING DEVELOPMENTS (top):
A frequent view around the region are vast empty areas sharply ending into a strict line of housing developments, without an articulated edge. Besides being inaccessible, these areas are not adjusted for a 'pass-through' movement and contain heritage structures. Additionally they don't have any particular relation to the neighbourhoods along their edges.

HAMPERED CONNECTIVITY. NON-EXISTANT RELATIOSHIP BETWEEN OPEN SPACES AND COMMERCIAL/PRODUCTIVE AGGLOMERATIONS (bottom):
Mega-stores and manufacturing business facilties turn their back to non-articulated open spaces which are clearly robbed of any valuable use.
(Photographs by author)



4. Hampering of the connectivity and accessibility

The fragmentation elaborated previously has impact on the overall connectivity of the sub-systems in the region. These gaps in the mobility network isolate prescious areas of the region in the way that accessibility to those is restricted. While majority of the cycling and walking routes mainly follow the big transport infrastructures and are suffuciently supplied in designated park areas, they don't ponder efficiently into the rest of the open landscapes, nor provide smooth connections from one to another green 'island'. As a result, many natural open areas are left out of sight, conveying social, cultural and economic potential for development of the overall region.







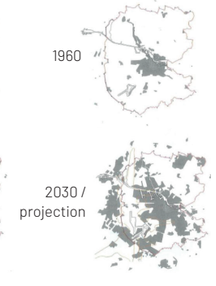




URBANIZATION PRESSURE ON HISTORICAL HERITAGE:
Many relics of historical/cultural value are inaccessible and difficult to become aware of. IJmuiden's lock at the Forteiland IJmuiden. (top)

One of the forts of the historically important regional network of forts, Stelling van Amsterdam, as a defence mechanism from the war enemies, working on the principle of flooding of the surroundings and forming a shallow water ring with Amsterdam as the center. Now neglected, out of use and in the process of decay. (bottom)
(Photographs by author;
(illustrations on the right borrowed from *Een Plan dat Werkt*)







The catalysts *(societal)*

The tangible issues described under *the generators*, generate a series of consequences which are positioned within the socio-economic realm, and which continue and speed up the process of further development and occupation of open spaces.
The economic strength of the region attracts business investments whose primary interest has its emphasis on generation of profit. This further propels a wide pool of job opportunities making the region increasingly desired.
While most of the attention it put on these factors, which in the same time require bigger capacity of physical support infrastructures and facilities, it seems that negligence and overlooked importance dominate the realm of the open spaces and their inherent ecological, cultural and topographic values. Awareness is lacking about the open-space landscape as a protective and development device while legislative tools appear as not quite effective in managing and promoting these values. An alternative should be sought for.

Problem statement.

The significant spatial fragmentation of the open landscapes coupled with fast expanding urbanization, poses pressure on and encroachment of open spaces while it undermines and neglects their inherent qualities and potentials.

NEGLIGENCE OF LOCAL CULTURAL NODES:
One of the few cultural centers in the Velsen region was recently closed. In the future it can see as a potential stirrer and benchmark in a bigger cultural route.
(Photographs by author, right)


Het Parool
HOME AMSTERDAM ELECTIONS OPINION

Cloth falls for the De Witte Theater cultural center in IJmuiden

The Witte Theater has been in an old power station © Marc Driessen since the sixties

In IJmuiden staat Het Witte Theater te koop. Zonder subsidie en zonder ruimere horecavergunning blijkt het onmogelijk om open te blijven. 'Het was precies de goede maat voor experimenten.'

DOOR: JULIA CORNELISSEN 4 JULI 2017, 14:26

"Niet alleen een verlies, maar een schande", noemt theaterproducent Marc van Warmerdam de sluiting van Het Witte Theater. "In de tijd waarin er zoveel wordt gesproken over de stad versus de provincie, kun je niet het enige vlakkevloertheater uit een stad weghalen. Dan gaat iedere IJmuidenaar inderdaad naar Amsterdam. Je moet cultuur in je eigen stad hebben, hoe klein die stad ook is."

Zijn vader Peter van Warmerdam begon eind jaren zestig de theaterworkshop 'Het Witte Tejater' in de Stadsschouwburg Velsen. Door daar het brandscherm voor voorstellingen te laten zakken, ontstond er een open sfeer waarin het publiek en de acteurs zich op dezelfde hoogte op het podium bevonden.

The curtain falls for the De Witte Theater cultural center in IJmuiden

'The White Theater is for sale in IJmuiden. Without a subsidy and without a broader catering license it is impossible to remain open. 'It was exactly the right size for experiments.'

'"Not only a loss, but a disgrace", theatre producer Marc van Warmerdam calls the closure of Het Witte Theater. "In the time when so much is being said about the city versus the province, you..."'

1.4 – **Hypothesis. How is open space an asset?**

Open space as an asset.
(defining the phenomena of open space in the context of a metropolitan region and within the body of 'landscape' as a concept)

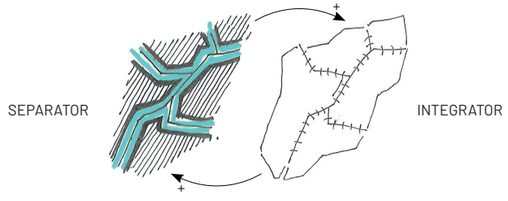
'The addition of the term 'landscape' renders a specific descriptive characteristic: urban space is made of 'landscapes', it is built with the materials of the same, first and foremost non-built space', argues P. Viganò. She goes on stressing the interesting aspect of landscape urbanism regarding open space in the construction of the contemporary city, a diffuse urban condition in which the void, in the appearance of cultivated, woodland, marshland or any other inherent spontaneous or planned formation, shall become part of the design of a new habitat. (Viganò, 2011).

In analogy to the relationship between the project and the economy* that Viganò poses in Landscape of Urbanism (Viganò, 2011, p. 14), one can imagine a number of similar project explorations to analyze the possibilities of non-conventional reuses and insertion of innovative forms of agriculture, land and relic re-animation, ecological patches and others, blended into a multi-functional strategy to cultivate disused and abandoned open spaces. Through this alternative view, landscape re-emerges as an important denominator for new modalities of living quality, reaching beyond the traditional perception, and into constructing an improved relationship with nature.

Furthermore, the rural landscape is also qualified as open space under the concept of 'Regional park'. This open landscape, a public space in its essence, holds a dual function when it comes to bringing structure to contexts like the metropolitan region. While open space separates the city from the surrounding, it in the same time plays a role of an integrator through the networks that occupy it. Ideally, the network of public open spaces behaves like a cohesive mechanism between the dispersed entities of the landscape (Nijhuis, 2014). As such, the 'landscape' is no longer a still nature object of only aesthetical value but becomes a model for natural and social processes.

Further in the thesis I will return to the positioning of the role and potentials of open space within the 'Regional Park' framework to which explanation I dedicate a section of this report.

Conceptual drawing of the potential of the open space structure at regional scale: Integrator/ Separator (made by author)



**The project and the economy refers to non-conventional reuses, of the insertion of new forms of production of wealth in the large disused and abandoned areas, of a new economy linked to forms of innovative agriculture*

Hypothesis.

Open space structures aren't supposed to be perceived as an aim in themselves as they can become crucial devices, utilized into recognizing, protecting and exploiting the qualities of the overall metropolitan region.

Only by putting a stamp on them to declare them protected in order to preserve them as they are, open and under-used, won't generate changes and processes because within a few years they will become more and more urbanized and undermined.

These in-between areas are abundant in natural, historical and cultural assets which, if systematically exploited through regional design framework, could empower a multi-purpose 'Regional park' as a protection tool to planning and design. Envisoning a meaningful landscape of important features will bring to exposure and understanding of the inherent qualities and their protection by locals, consumers and consequently, national institutions.

1.5 - **Research objective**

Fragmentation of the open space system in this research is identified as a negative aspect which undermines the overall quality of these spaces, as it was explained in the problem statement section. While the majority of disadvantages of this phenomenon are spurred by economic growth and urbanization of the region we don't expect nor project a future where the onogiong growth and development are to be put at stake. On the contrary, this current condition should become a testing field on how one can work with the existing complexities and the coming uncertanties. That is, to propose a strategy for the network of open spaces and establish a robust regional backbone with a certain extent of flexibility which will be able to cope with the dynamic progress of AMA in the future and offer spatial coherence for this highly fragmented landscape.

In that manner, it is primarily important to acknowledge the qualities of open spaces. By putting forward a design and planning concept that would help to re-valorize and acknowledge the assets hidden in the fragmented landscape, value will be added to the character of these areas while the historical past and the identity of the area will be promoted. Therefore, protective system is to be established via a development planning approach to ensure safeguarding of these open spaces, while the authenticity of each open space will be the base for this process. As such, the thesis should provide a design and planning strategy which will understands and take into account the local characteristics of the landscape of open spaces. Within the aim it is to position open spaces as integral part of the new city and its structural interior which will provide surface for deliberate design undertakings.

Research question

How to utilize the system of open spaces into an integrative structuring device that will embrace the hidden qualities of a fragmented landscape? Furthermore, how to translate that system into a cohesive regional backbone that will be flexible enough to allow for further socio-economic and spatial development of the region?

sub-questions

1. How is fragmentation of open spaces manifested in the territory? What are the hidden qualities of these open spaces?

2. What doesn the concept of Regional park entail? How can the concept of Regional park trigger positive spatial manifestations within the metropolitan region?

3. Which design strategies on the regional level should be applied to provide a flexible and coherent carrying structure of integrating capacity for the ecological, mobility and socio-cultural systems? Which design principles will contribute for qualitative spatial development of site-specific qualities of the fragmented patches?

4. How will the local design explorations inform the regional aims of the regional park? How will the local design explorations inform the regional aims of the regional park? How can the application of the design actions improve the overall quality of the region and guide the regional spatial development?

1.6 – **Relevance**

1.6.1 – **Societal relevance**

The Amsterdam Metropolitan Area plans to keep the position of active competitor on international level via its compact city strategy and an attractive landscape with possibilities for recreation and viable transportation network between the regional cores. Main reason for being a pleasant place to live is that AMA is a smart and innovative area which houses clusters of creative enterprises, Media Valley, two major airports, important financial center etc. These assets are generating economic power and consitute the region's backbone.
However, that is not the ultimate permanent formula for the economic prosperity of AMA. Balance should be created between the working and living possibilties and the vitality of the cultural life and attractive landscapes in order to close the loop of good living quality metropolitan region (www.amsterdam.nl, Municipality of Amsterdam webpage).



Structural vision for the Metropolitan Amsterdam Area for the year 2040, by the Municipality of Amsterdam

Within the structural vision for 2040 worked out by the Municiplaity of Amsterdam a great deal of attention is put on the city of Amsterdam itself as well as the territory extending to the former invisible belt of the Stelling van Amsterdam. The area stretching beyond it is not so much integrated into the overall vision even though it falls under this ambiguous category of un-identified open spaces. This might be stemming from the fact that these in-between areas from an administrative standpoit often fall neither under municipal nor local administrative rule but are governed within the scope of an 'elastic' regional administrative level which due to the complexity of tasks often result in weak institutionalization. (Dehaene, 2014)

Consequently, a viable overall design strategy for the intertwined landscapes which stretch from Amsterdam to the coast and don't know of municipal/regional borders, is somewhat lacking. In the current vision document, the intentions to develop this landscape are stated in the form of designated areas where through a manner of zoning,r metropolitan park areas are assigned. However, they don't propose an infill for them. The ambition recognized in the vision of the municipality gives focus to the design explorations of the thesis and shall be substantiated through them.

The philospher and critique Sebastien Marot claims that landscape is an alternative field for exercising the qualities of public space to accomplish welfare because:

'Like public space, landscape relates the separate parts of an urbanised space to one another. In other words, the urban in-between space does not call for a landscape approach because it is half city, half open space, but primarily because it does not yet have a fixed image, because the expressive moment in the urbanisation process has hardly occurred thus far. Urbanisation starts when surplus value arises because activities take place in the same area and the whole, and the whole begins to mean more than the sum of its parts.'

(Dehaene, 2014)

The thesis will attempt to construct that image.

1.6.2 – **Academic relevance**

The importance of open spaces, also labelled as 'in-between territories' and *'terrain vague'*, has been re-actualized as a topic and given some more though only since 20 years ago. The struggle to portray and define these intermediate areas between the city and the countryside has been supported by Thomas Sieverts' introduction of the concept of *'Zwischenstadt'* which stands for the *'...polarities that cannot easily be crystallised into neatly separated and contrasting territories: local and global, space and time, city and countryside.'*, as read by Michiel Dehaene. (Dehaene, 2014) Sieverts defined these spaces as in limbo, torn apart by their own nature. Furthermore, he states that what is lacking is an intellectual engagement into approaching these specific areas via a design assignment which will primarily be about landscape. (Sieverts, 2008)

'In designing the landscapes where we live, we need not emphasize only economic and functional aims. Those can be achieved today with almost any form of city. ***Cultural and ecological aims must be foregrounded****.'*

(Sieverts, 2008)

The relevance of the topic of open spaces is directly proportional to the urgency for addressing them and what the academic discourse in this segment should be enriched with are ideas on how the notions layed out by Sieverts and his co-thinkers could be substantiated into a promising design-to-develop tool-kit for these spaces. Due to the risk of gradual extinction of these in-between areas in the wake of a growing society striving for power and profit, this thesis will attempt through research-by-design to explore alternative mechanisms for protecting the system of open spaces and contribute to the current knowledge gap between theory and practice. Following the premise that a complete and efficient metropolitan area should rest on sufficient ecological and cultural pillars, the possibilities for their planting and integration into the metropolitan area in the form of a regional park will be exercised.

PART 2

Methodological framework

2.1 – **Theoretical background**

Landscape urbanism as theoretical foundation

I reach out to this theoretical discourse because of several reasons which I will elaborate in this section. To acknowledge, landscape urbanism arose as an implicit critique of the design disciplines' inability to provide coherent accounts of contemporary urban conditions. Its relevance is put forth by Charles Waldheim, among others, by referring to the '*temporal mutability and horizontal extensivity of the contemporary city*' (Waldheim, 2016). Similarly, contemporary landscape urbanism practices point out to the importance of using infrastructural systems and public landscapes as ordering mechanisms of the urban field. The reason for this is that precisely the landscape is a medium that can cope with temporal change, transformation and adaptation as an analogy to the contemporary and uncertain processes of society. Therefore, landscape becomes, as Stan Allen claims, a **model for process**.

Furthermore, Landscape urbanism claims conflation, integration and fluid exchange between environmental (natural) and infrastructural (artificial) systems (Waldheim, 2016). Thus, within the field appears a tendency to consider landscape as infrastructure where this design concept considers these systems as armatures for the development of urban systems and facilitators of social and ecological interactions, as well as local identity within the inherent regions (Nijhuis, 2015). Consequently, the designs imagined for particular landscapes are about putting elements within these landscapes together, rather than taking them apart, or as D. Sijmons states, it is about **relations between things and not things alone**.

A continuation of these notions is also recognized in the planning and design strategy for sustainable landscape development, put forth by Dirk Sijmons et al, in the Dutch landscape. This framework model, called the *Casco-concept*, has in its basis the premise to deal with time, uncertainty and responsibilities by building upon the physiology of the landscape. It strives to create a pattern of inter-connected zones in which long-term sustainable conditions for 'low dynamic functions' are provided while in the same time pockets are designed, intended for dynamic functions, urbanization, recreation, agriculture etc. (Han Meyer, 2016).

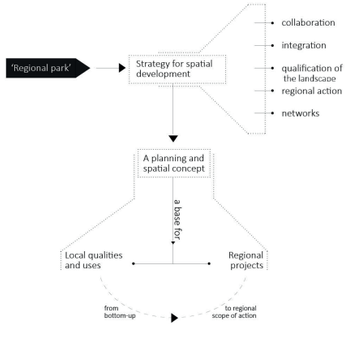
This body of theory represents a viable ground to pick up from and build the thesis design research upon. As the territory I am to explore is on the one hand highly complex in terms of interlaced systems and processes and on the other, that same territory is spatially and programatically fragmented, a project is necessary to transform the accumulation of landscapes from open spaces of reckless consumption into a valuable coherent environment of shared use and integrating natural and cultural properties. The theoretical body will provide the guidance for that.



'Plan Ooievaar' - first application of the Casco concept for a regional landscape design, in the center of the Netherlands. The plan proposed a new structural vision for the area between the Rhine and Meuse rivers to enhance and reinforce agricultural land-use, mixed land-use and nature development.
(1987, image courtesy of Dirk Sijmons)

2.1.1 – **‘REGIONAL PARK’ as a leading concept**

Definition:
The ‘Regional Park’ can be identified as a Strategy for spatial development. It is a concept backed up by collaboration, integration and qualification of the landscape, regional action and networks. Rather than perceiving it as a medium for establishing and conserving open space as such, it should be recognized as an opportunity to develop and protect the qualities of metropolitan areas. As such it could play the role of a development-based spatial concept for safeguarding the value of urban landscapes (Nijhuis, 2014).



Regional park development implies project-oriented tools for landscape oriented regional management of urban regions, and metropolitan areas as a focus of this thesis. The idea of the regional park concept entails overcoming of inadequate protection of the open spaces within urban regions by making a step ahead into the recognizing, valorization and engagement with the cultural landscape. Some of the approaches include opening up or interlinking open spaces through design actions and promoting sustainable forms of exploitation of these open spaces. The aim of these mechanisms is to bring back or establish anew the locational value of the metropolitan region, to provide a prerequisite for local recreational services and resources for safeguarding urban agriculture (cf. Apolinarski/Gailing/Röhring 2006). As L. Gailing states, a regional park can be described as an attempt to transfer the ‘park’ concept to an urban region.

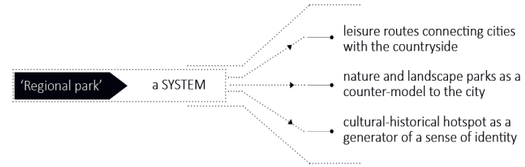
Conventional planning tools vs. Regiona park:
The first attempts to provide sufficient protection of open spaces are found within the formal tools of regional planning, urban land-use planning and landscape planning. Their mechanisms of protection reach out up to the point of controlling the extent to which urbanization will expand but they are not in charge of other qualitative project and design-oriented strategies. Because of this, an argument arises that formal plans may not be capable of reaching out sufficiently to the various stakeholders.

Origin:
The regional-park development notions appeared in the early nineties as an answer to the inability of the formal planning tools to fully engage with the issue of the open space phenomenon (cf. Gailing 2005). They not only sought for an alternative approach but were to be a response to the inherent deficiencies of the former planning mechanisms in the facing with persistent losses of shares of open space.

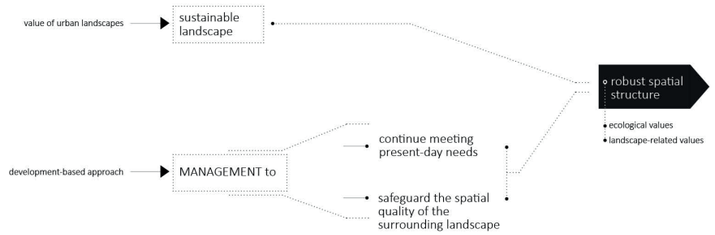
Additional reasons for development of the concept:
What is more, the regional park’s operational scope fits the needs for new creative actions in the face of rapidly growing complexity of urban regions, metropolitan regions included. Along this interpretational shift, the understanding of ‘urban sprawl’ is long surpassed. The dichotomy between open space and urban areas has faded into a complex domain of many programmes and functions which seeks intensely for identity and multi-functionality. This new urban landscape is also known by the name of ‘Zwischenstadt’ or ‘Middle landscape’. If once the city structure was compact and its communities had little or no interest into what was going on beyond the quality of their personal space now this structure is much more diffuse

and people’s wishes and lifestyles have transformed along with it. (Sieverts, 2008) New demands are placed on the use of public space within the metropolitan area that ranges from city to town to countryside. Consequently, these transitional areas become public spaces of multifunctional character which host agricultural and farming activities, tourism, conservation of natural landscapes, cultural and historical heritage, forms of housing. Because of these newly developed complex trends that are occurring within the realm of open space, action is required for re-defining the relationship between social activities and the landscape with regard to this space (Nijhuis, 2014).

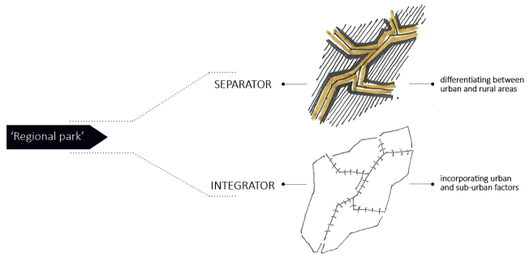
What does the park cope with?:
The issues at target by the regional park concept are found in the current condition of open spaces such as fragmentation, heterogeneity, excessive amounts of barriers and lack of inherent experiential and social quality in open spaces. It is stated by the Statistisches Bundesamt of 2006 that in Germany over 118 hectares of open space have been taken daily for new settlements and traffic infrastructure of which about half are sealed or developed. This tendency It seeks to cope with them on the level of the urban region. Indeed, according to the report of the European Community the main objective of regional parks is to revitalize the rural landscape in a spatially, socially and economically responsible way (European Community, 2001).



Under the general scope of the concept are covered the quality of the rural and urban landscape, the spatial, cultural and historical identity, the multitude of cultural lifestyles, the multifunctionality of areas, and so on. Baring in mind these generic objectives, the concept should be expolited as a development tool for the landscape with the intention to valorize and utalize a number of assets among which cultural and historical, ecological, natural, and with the spatial potential for working and living (Nijhuis, 2014).
Furthermore, besides the primary role of safeguarding the open space, the concept of ‘Regional park’ holds ambivalent trait by playing a role of an integrator, by incorporating urban and sub-urban factors, and a spatial differentiator between city and the countryside. (Nijhuis, 2014) As such, the involvement of ‘Regional parks’



as planning concepts is very much needed in spatial design-driven research on the regional scale so as to ensure further responsible and environmentally feasible development and evolvement of metropolitan areas.



The misconception about parks:
As L. Gailing reminds by quoting (cf. Siebert/Steingrube 2000), that the general misconception is that designed parks are a complete opposite of open spaces and they are therefore provided a more intensive attention and care. The progressive view offered by the regional park concept is that these park entities become landscape designed elements integrated with the non-designed character of the open spaces while in the same time encompassing the cultural and urban semi-urban landscape into this regional park structure.

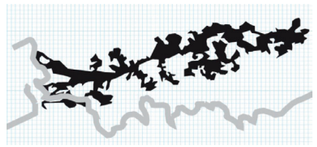
The essential planning elements:
As it has not been included among the land-use categories enumerated by the Federal Nature Conservation Act, regional parks don't hold a binding definition. However, that doesn't prevent from introducing the essential planning notions of this approach (Gailing 2005). Namely, open space should not be a protected asset but rather a design element. The traditional governance forms whould be therefore supplemented by an action and project-oriented 'strategic planning approach' (Lehmann 2003):

1. Because of their non-statutory and therefore informal nature, regional park strategies can't impose regulatory measures but can rather tap sources of finance, provide economic incentives, convince and mediate. **Planning and implementation should indeed work parallel to each other** within the regional park management framework.

2. Furthermore, the regional park concept promotes **multi-functionality** as it offers potential for integration of ecological, socio-cultural and economic interests. It is important to stress the remarkably important shift of interest of open-space policy from into exclusively ecological matters to diverse cross-sectional array of functions that are in line with the demands of the pluralistic society that we became.

3. The concept of the regional park embraces the urban landscape as a whole, thus generating principles and projects for the regional scale. Within this **regional approach** regions and local authorities can be coupled for the purpose of scaled down local open space projects. They do so by bundling and interlinking dispersed landscape project and are to provide land for regional compensation management measure.

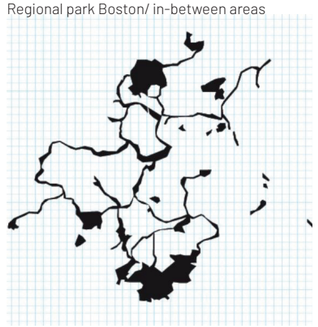
Emscherpark, Ruhr area / in-between areas



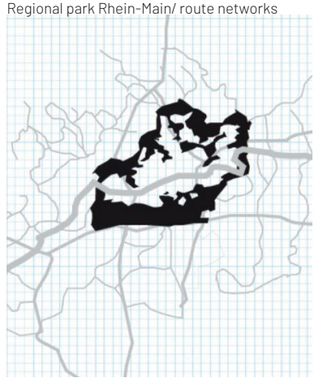
The green network of Hamburg / in-between areas



Regional park Boston/ in-between areas



Regional park Rhein-Main/ route networks



(Images' source: SPOT ON, Essaybundel, Pilot 9)

4. Another very important aspect provided by the regional park is the **'staging' of the open space**. By paying particular attention to the landscape design and aesthetical landscape interventions at the level of art, intrinsic value is added to open spaces and as such they gain significant respect among the open space users, citizens or tourist. They develop respect and appreciation for these spaces and identify with them therefore they stand for them and are willing to preserve and protect them.

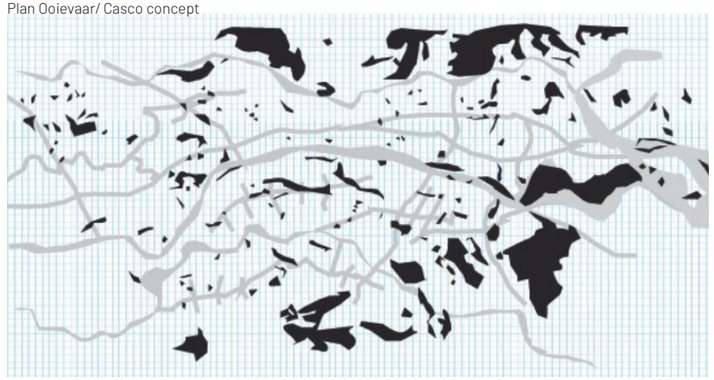
5. Gailing refers to Florida (2002), defining **open-space policy as structural policy** in the sense that the improvement of the urban landscape is adding to the regional economic strategy possibilities in enhancing soft locational conditions and attracting knowledge workers into the area.

6. Even the constitutive segments of the regional park strategy on their own have an immense influence on the socio-economic dynamics. By creating **intensive green infrastructure**, the raising of property prices can be stimulated and therefore the follow-up investment attractivity of the area.

7. Last but not least, the regional park concept holds in its capacity as strategy for urban regions a **base for cooperation between local authorities and local open space users**.

Relevance of the regiona park concept for the thesis:
With the vast framework of potential operative mechanisms, the Regional park concept could provide guidance for obtaining answers to the elaborate puzzle of complex relationships of the systems found in the area of interest. As an informal and therefore alternative approach to healing of the current challenges of the metropolitan area, the concept is expected to underline the process of transformation of the elements found within the field of open spaces into potentials, thus transcending the current spatial culprits.city and the countryside. (Nijhuis, 2014) As such, the involvement of 'Regional parks' as planning concepts is very much needed in spatial design-driven research on the regional scale so as to ensure further responsible and environmentally feasible development and evolvement of metropolitan areas.

Plan Ooievaar/ Casco concept



2.2 – **Workflow**

Problem 1.

EXTENSIVE URBANIZATION incl.:
- expansion of housing structures beyond city limits
- expansion of industrial and productive platforms
- expansion of harbours and transport infrastructure networks

ENCROACHMENT OF OPEN SPACE

FRAGMENTATION OF THE LANDSCAPE CONTINUUM:
- consistent interruption into the ecological flow
- fragmentation of the soft mobility flows

HAMPERING OF THE CONNECTIVITY AND ACCESSIBILITY TO:
- natural areas
- cultural heritage structures

PROBLEM STATEMENT

THE SIGNIFICANT SPATIAL FRAGMENTATION OF THE OPEN LANDSCAPES COUPLED WITH FAST EXPANDING URBANIZATION, POSES PRESSURE ON AND ENCROACHMENT OF OPEN SPACES WHILE IT UNDERMINES AND NEGLECTS THEIR INHERENT QUALITIES AND POTENTIALS.

Problem 2.

URBANIZATION POSING PRESSURE ON THE ALREADY SUPPRESSED OPEN
- economic strength of the region
- generator of investment
- emphasis on profit
- growing employment possibilities
- increasing attractiveness of the region
- pressure from new urban developments

Negligence and overlooked importance, qualities and potentials of the open-space landscape as a protective and development medium. Existing legislative tools appear as not so effective. Seek alternative.

• TEST CASE
- Noord Holland -
(Amsterdam West to North sea)



AIM

how?

Literature review:

1. Theoretical base
2. Precedent analyses

Leading concept:
- REGIONAL PARK

Leading principles:
- ACCESSIBILITY
- RECREATIVE USE
- ADDING VALUE TO GEOGRAPHIC FEATURES
- NEW AGRICULTURE TYPOLOGIES
- MAKING USE OF WATER DITCHES

low

REGIONAL STRUCTURAL VISION
base: mobility system, water system, soil system...

LOCAL DESIGN EXPLORATIONS
base: local qualities, historical artifacts, increased accessibility

high

FLEXIBILITY

THE OVERALL UNIFYING STRUCTURE

through-scale

THE PATCHES

OPERATIONS

ADAPT
TRANSFORM
NAVIGATE
RE-DIRECT
PERMEATE

Stage 1

overall structure:
ECOLOGICAL BACKBONE
the patches:
ground level/ topographic adjustments/ patches/ corridors

Stage 2

overall structure:
MOBILITY SYSTEM
the patches:
enhance connectivity and repair accessibility links

Stage 3

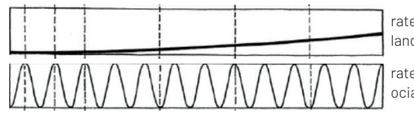
overall structure:
INHERENT LANDSCAPE CHARACTERISTICS
the patches:
local identity development (enhance multi-functionality)

PART 3

Understanding the territory

3.1 – **Landscape as a system**

The point of departure for better understanding of the territory is that **landscape is a system** and as such it will undergo a series of analyses. The aim of the analyses is to bridge the gap between the notions collected from the theoretical body and the design explorations that are to come later.



borrowed from adaptivity & resilience of Physical Urban Systems by B. Hausleitner, T. K. Bacchin (Urhahn: Polsslag van de verandering / "Pulse of change")

From observing landscape as a system stemms the realization that the environment and the objects contained in it interact on several levels and through an array of environmental factors.
Each level is allowed to operate at its own pace, protected from above by slower, larger levels but invigorated from below by faster, smaller cycles of innovation. (Holling, 2001)
The contemporary landscape is compiled of dynamic interrealtionships between cultural and environmental systems. It is rather a global system comrpised of a set of sub-systems which undergo changes at various time rates. (Fig.)
Observing the landscape through a systems lens gives means to better understanding of the complex conditions going on inside of it in a holistic way. Furthermore, phenomena within that landscape are then perceived not as individual entities but as inter-related wholes. (Hedfors, 2011)
The predominant systems of this area, the natural and the urban, contain a different rate of change and, while some changes happen fast other take a long time to manifest. Therefore, the long-term perspective should be taken into account.

The underatanding section starts with analyses of the inherent system of landscapes, its gradual transformation and current manifestation. It is to acknowledge the diversity of open spaces as different entities and explore the various conditions it offers, from soil types and hydroligical regimes to current and potential social an cultural stirrers for effective design.

3.2 – **How geographic logic affected urbanization?**

As previously explained, the territory between Amsterdam and the North Sea is characterized by a complex relationship between man-made landscape and inherent geographic features, scoping from the dune landscape, to the productive landscape, the dense network of major infrastructure lines, the high value green patches, the complex water network and rich cultural historical milieu hidden in the multitude of landscape units of the fragmented territory.

When looking at the built morphology and the patterns of urbanization in this region, it is evident that there are factors that have influenced this constellation of socio-spatial relationships. Since the object of my interest is the system of open spaces I was curious in how they came to be and what is it that still keeps them open.

The logic of open space structure

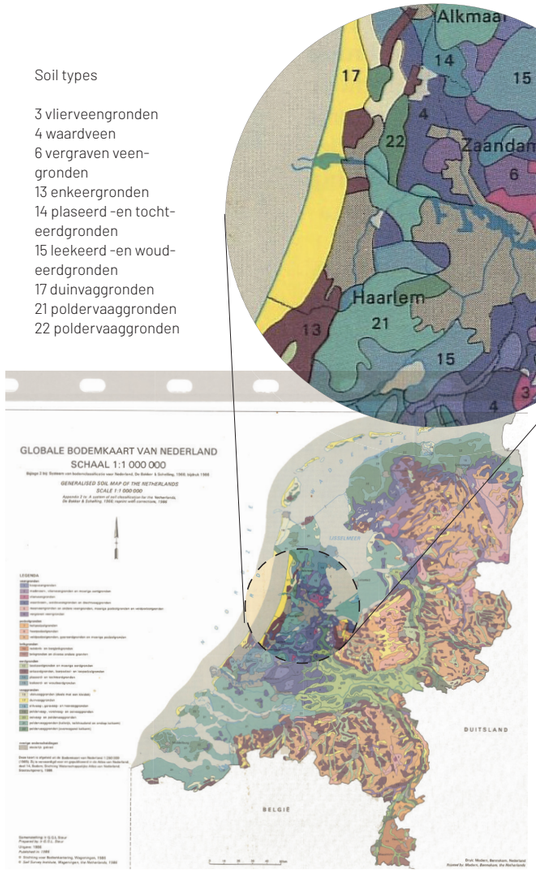
The ground layer

The southern part of the North Holland province lies between two major water bodies, the North Sea and the Ijmeer connected between each other with the river IJ and the Noordzeekanaal. The clay and peat soils here have been reclaimed from the sea and lakes found in this area, in a polder-like landscape. These soils have been artificially drained through a system of trenches, ditches and other subsurface drainage methods. (Alterra, Wageningen, 2004)

The knowledge of the water condition is relevant for the creation of the open space structure when considered in combination with the typolgies of soils found on this territory. Namely, if looking from west to east, we encounter the dune belt stretching north-south and composed of sand. Further on, there is an alternation of peat and clay soils as we move towards Amsterdam, where most of the urbanization occurs within the clay areas while the peat soils together with the remaining clay based soils remain open.



Colonization of Kennemerduinen. Borrowed from *Generating Dune Scapes*



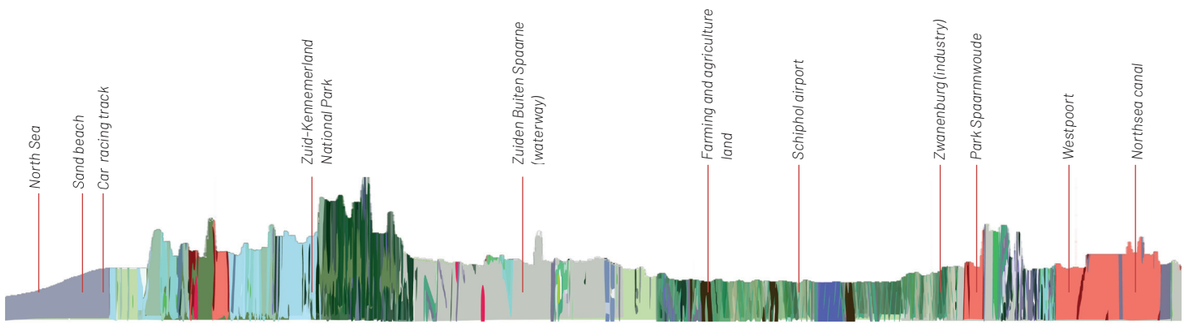
source: http://expeditieaarde.blogspot.nl/2016/06/peat-in-netherlands.html

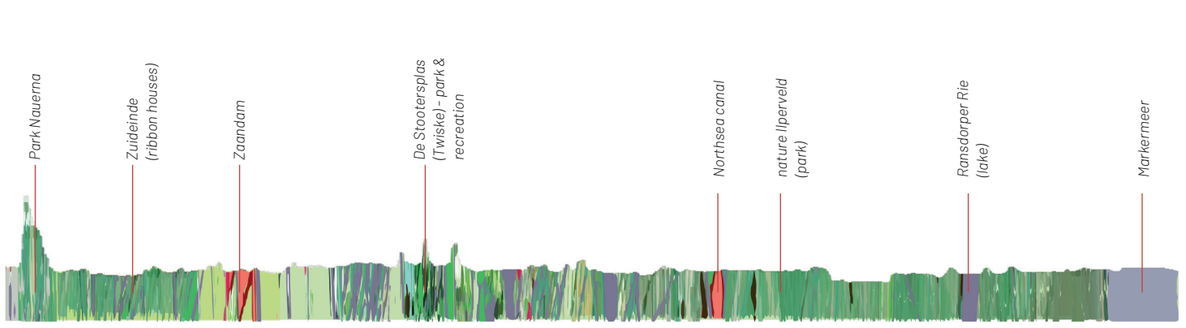
Peat is an organic material with the property of 80% water share and subsiding when drained. In general, the soils in the North Holland province are wet and fertile with shallow groundwater levels. (Alterra, Wageningen, 2004) However, the peat is an exceptionally wet soil which is very hard to grow on due to high groundwater and surface water levels or construct on due to its instabillity. One of the few occupations it can hold is for farming purposes, as pasture.

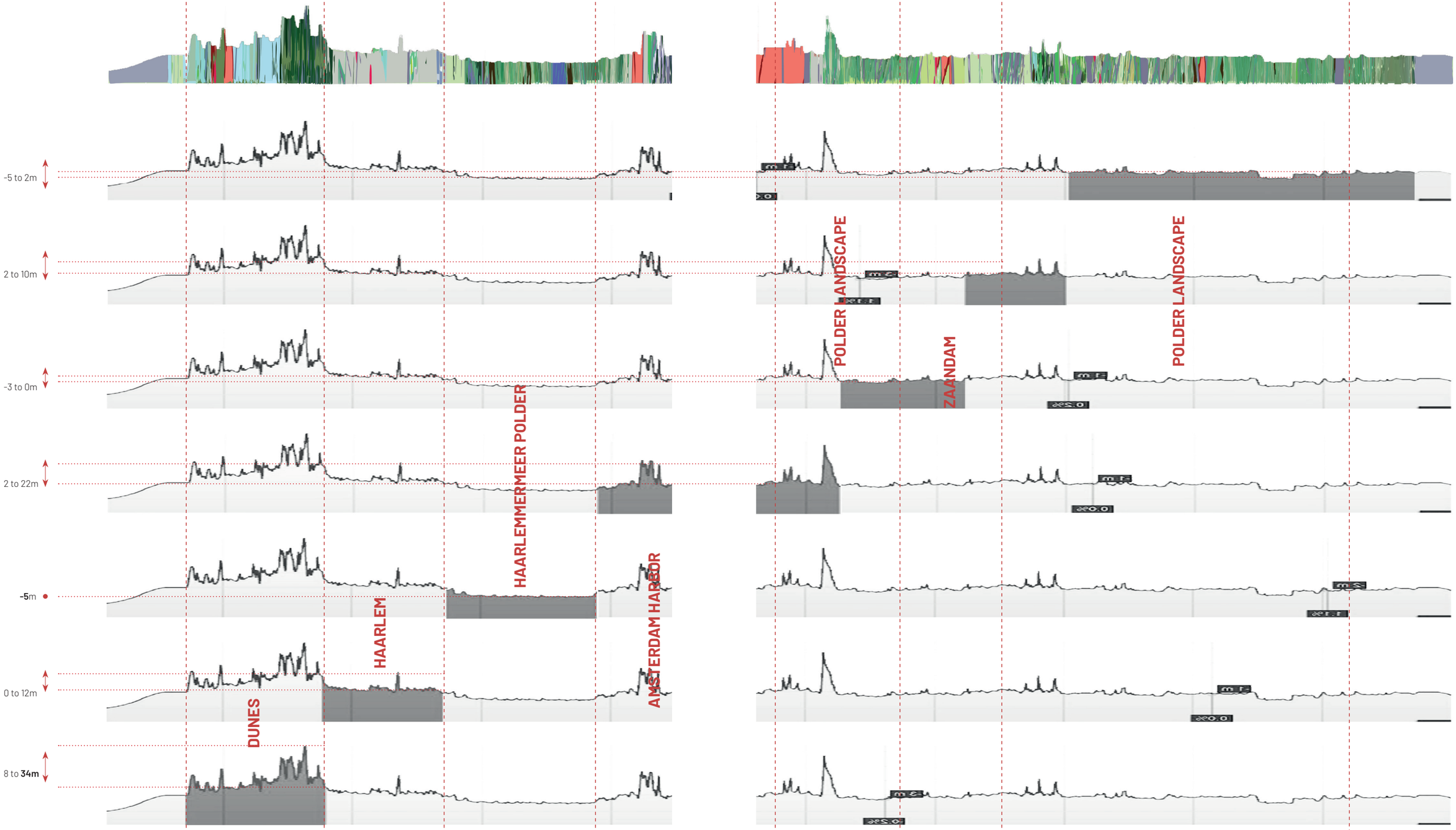
* There are many trade-offs associated with changes in groundwater level in peatland areas (see also chapter 8). Lowering the groundwater level has a direct economic benefit for agriculture, but it has the longer term effect of subsidence, which is detrimental to both agriculture, infrastructure and the environment. Lowering the groundwater level has positive effects on bird life, but negative effects on biodiversity of the vegetation.

The map on Fig. XX show in purple tones the peat based soils. These peaty patches surround the urbanized areas and indicate that the cities managed to grow while avoiding this part of the landscape due to its inconsistancy for construction.

This reading of the physical structure is a window to understanding how open spaces came to be. These analyses are expected to inform the research and are important for when design decisions are made. The design will mean change of segments of the physical structure. Therefore, it is important to know what processes are involved so as to understand how to work with those processes.

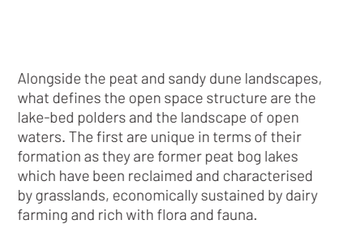


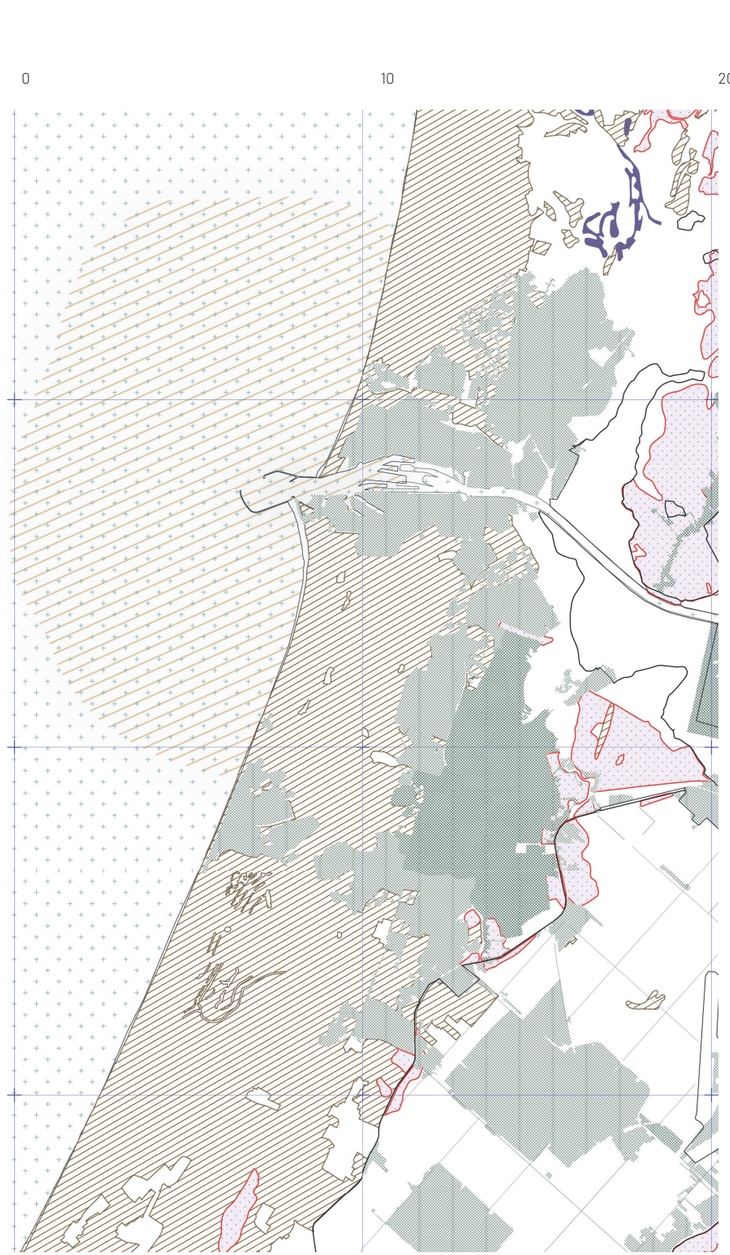


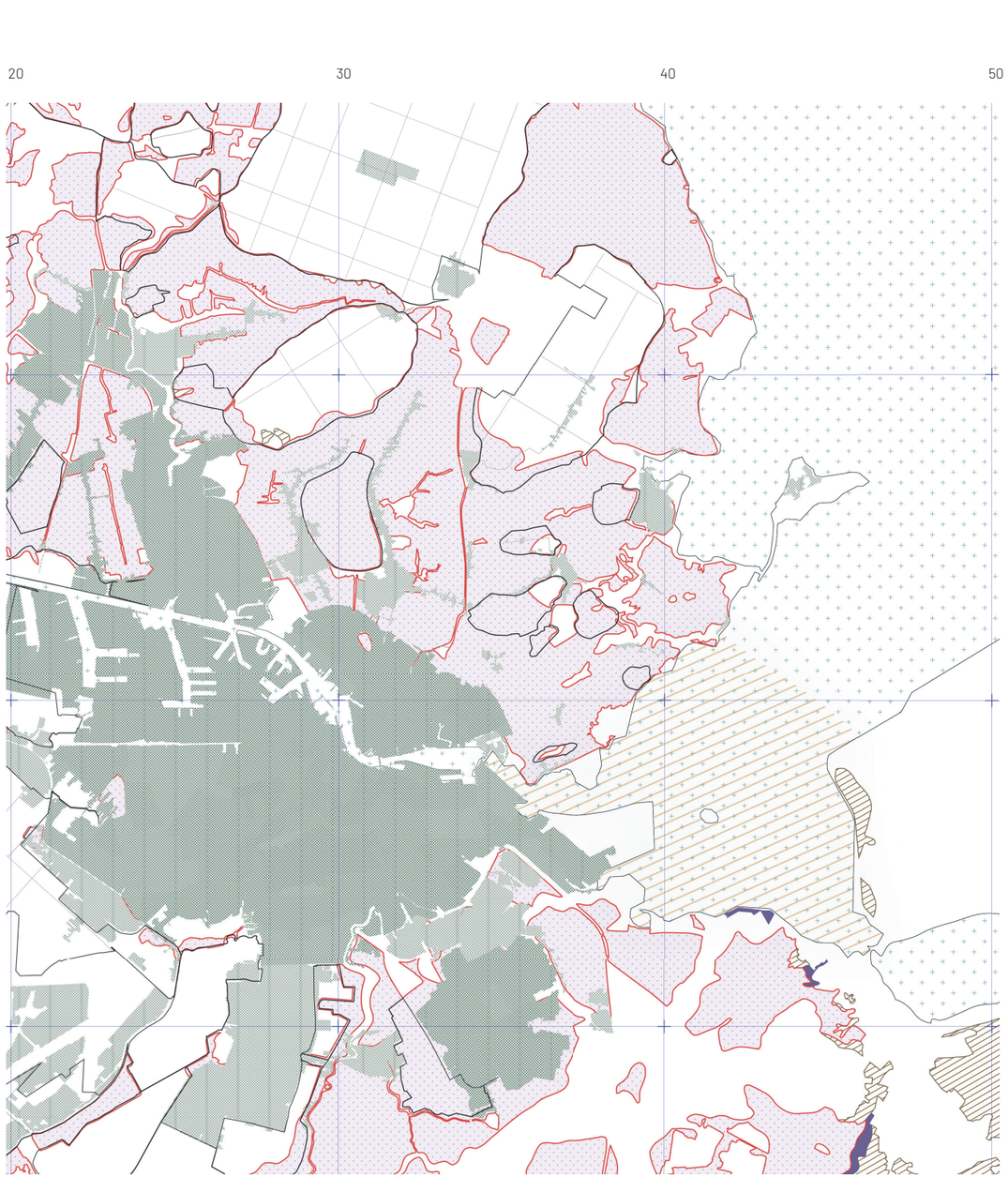

-5 to 2m
2 to 10m
-3 to 0m
2 to 22m
-5m
0 to 12m
8 to 34m
DUNES
HAARLEM
HAARLEMMERMEER POLDER
AMSTERDAM HARBOR
ZAANDAM
POLDER LANDSCAPE
POLDER LANDSCAPE

The inherent landscape types

Alongside the peat and sandy dune landscapes, what defines the open space structure are the lake-bed polders and the landscape of open waters. The first are unique in terms of their formation as they are former peat bog lakes which have been reclaimed and characterised by grasslands, economically sustained by dairy farming and rich with flora and fauna.
As low-lying lands whose water level has to be closely contolled, they have only in the last century been suited for more massive urbanization, and only in some cases respectively. Other than that, the lake-bed polders are valued for their ecosystem abundance and recognized as quiet natural areas that are worthy of preservation.
Therefore, in the wake of innovative technology when constructing in these landscapes becomes much less of challenge, a development strategy for these landscapes is necessary to highlight their quality, preserve their ecological value and protect them from ongoing encroachment.







Artificially created landscape types

Next to the basic organizing principle of the open landscapes determined by soil conditions and the water system, the system of artificial landscapes also plays a role in the formation of the open space structure.

The military logic of open spaces is shaped by the Stelling van Amsterdam waterline protection system from the late 1800s. The belt of primary, core areas, encompassed the forts and was coupled with a secondary belt of areas intended for innundation, as a protection from the enemies. Even though this protection mechnaism was succeeded by the introducing of the airplane for military uses, the waterline was considered for a certain while and constructions in the buffer area were not allowed. This enabled preserving of the openness of these areas and space for bigger freedom of natural dynamics.

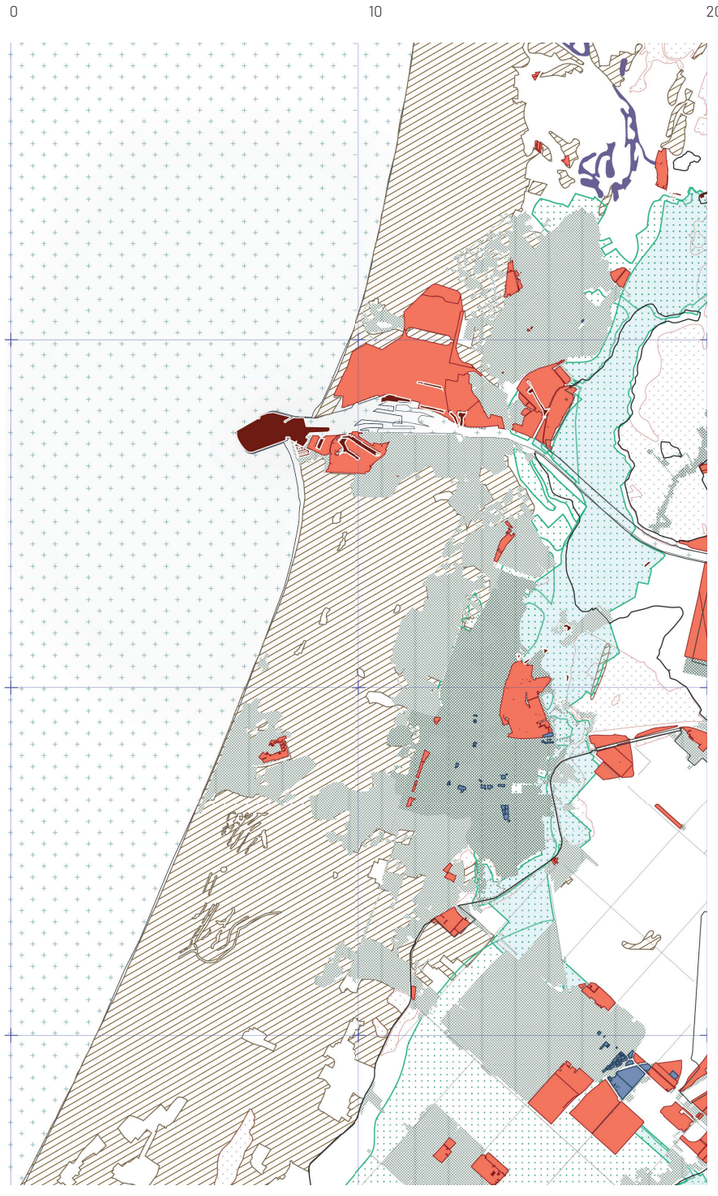
Additionally, the productive/harbor/industrial landscapes occupy a great deal of this stretch of land and to some extent dictate partially the current configuration of open spaces. Namely, the buffer areas around the productive platforms are open, un-attended or dedicated to park uses whereas the 20K zone above Schiphol airport, which occupies 15% of the Harlemmermeer polder's surface itself, permanently restricts from construction activities a significant portion of the area.

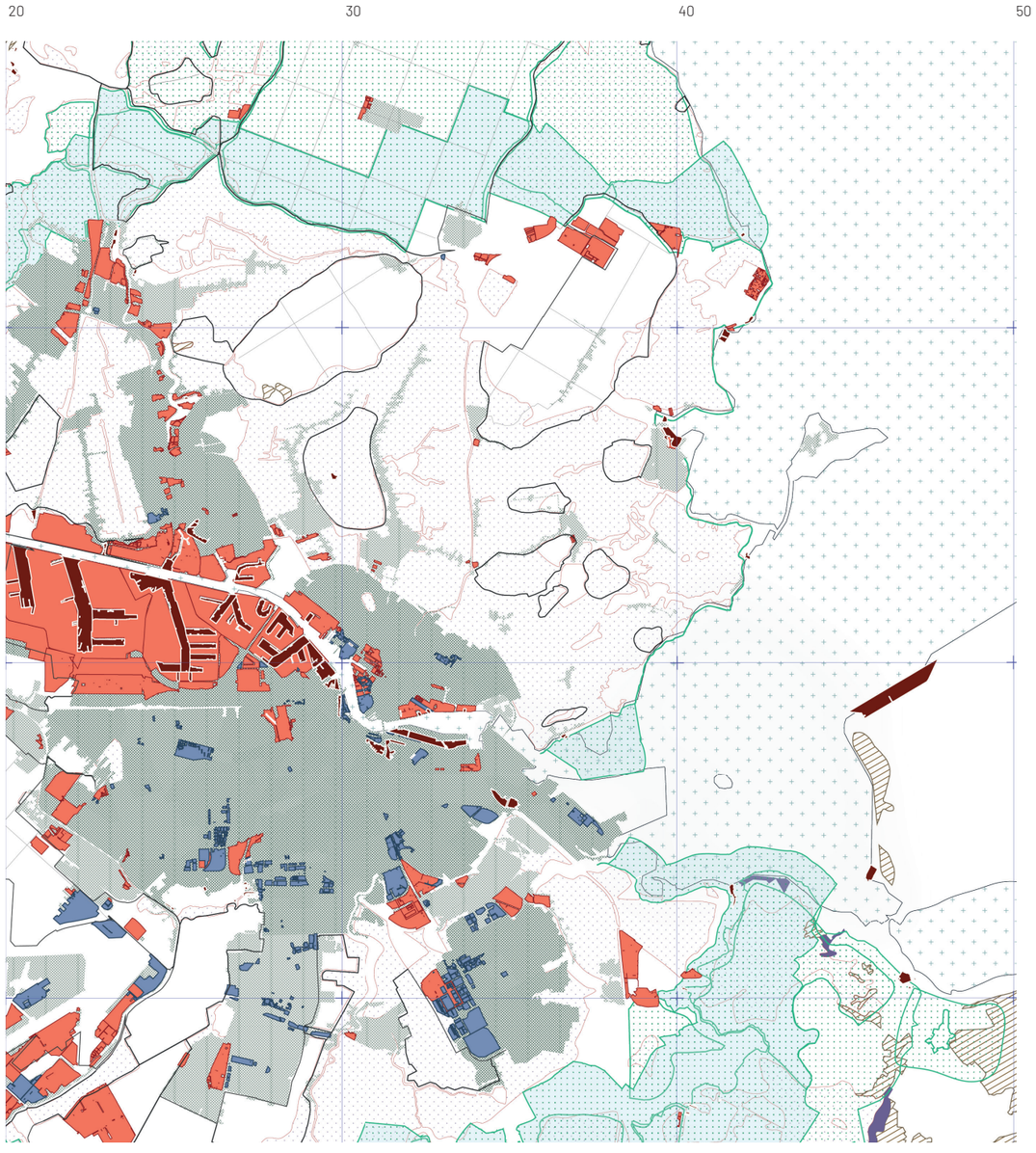
5 open space military logic

6 harbour landscape

7 industrial landscape

8 20K zone





3.3 – **Mapping the context.**

3.3.1 – **Physical transformation. Historical lens**

Significant topographic transformations and appropriation of land and nature

1815

Harlemmer meer, het IJ and Wijker meer



1868

Harlemmer polder, het IJ and Wijker meer



1883

Newly constructed Noordzeekanaal



1962

Initial formation of port structures along Noordzeekanaal



2014

Widened Noordzeekanaal and majorly developed port structures



Dutch historical cartographic maps from the listed years



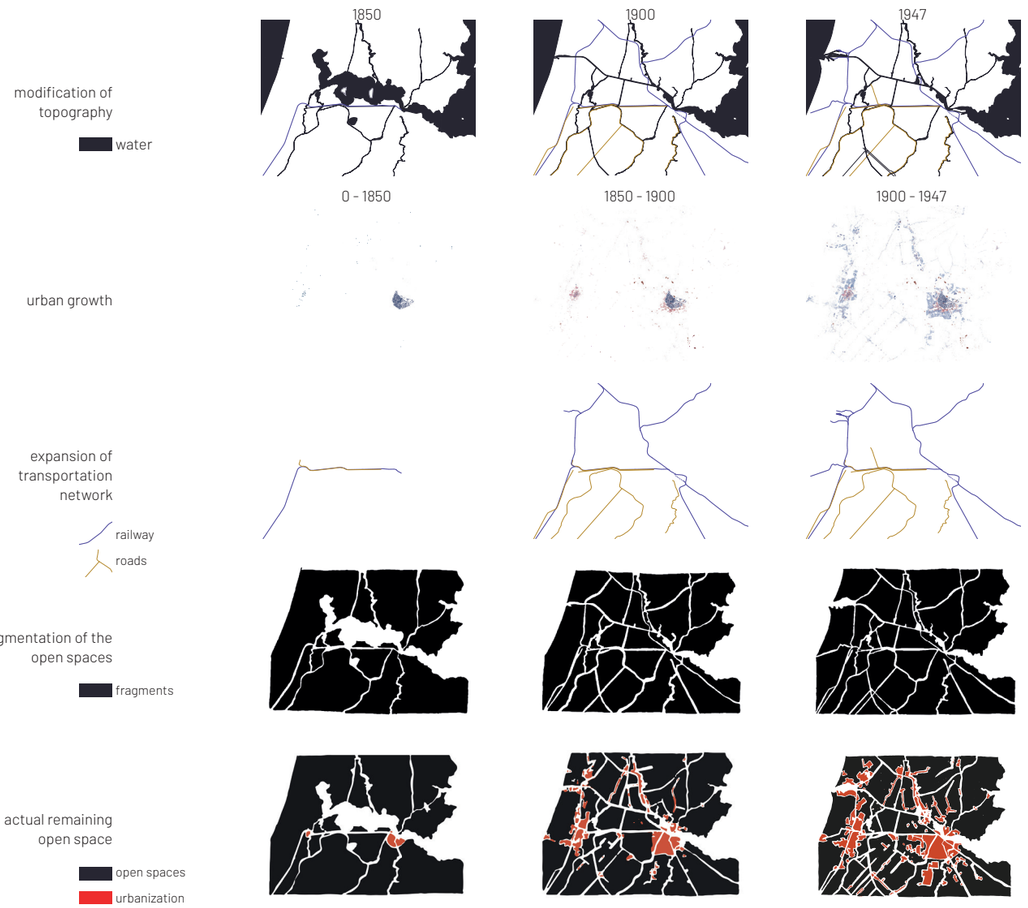
This section of the book gives an overlook on the physical transformations through a historical lens that, have occured between the 1800s and today on the territory of interest. The analyses were conducted in order to understand the logic of formation of the open spaces and with that, their diversity and different genesis. Open space as diverse entity offers different conditions, soil types, hydrological regimes, which result in various many different types of landscapes. I look at the most relevant ones in section 3.3.3.



Author's graphic interpretation of Dutch historical cartographic maps of more evident topografic transformations

Colonization of Kennemerduinen. Borrowed from *Generating Dune Scapes*

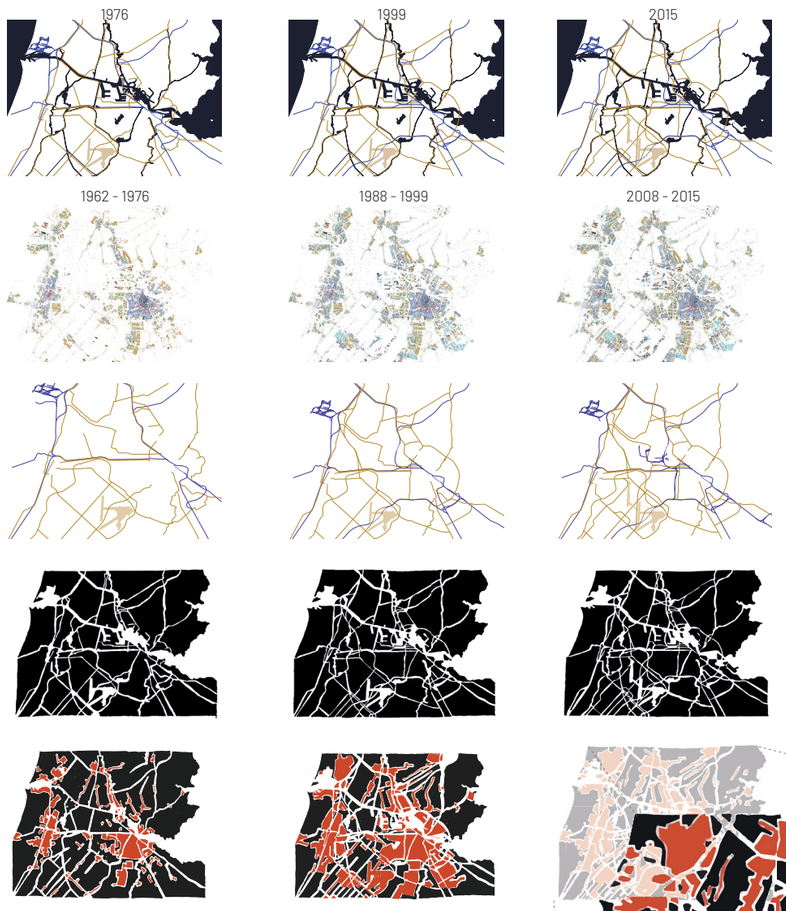
3.3.2 – **Gradual encroachment. Chronological overview**



*Haarlem and Amsterdam are the first bigger city cores in the region. Amsterdam strenghtens economically and rich merchants want to secure their weekend getaways on the edge of the dunes, in the west. Therefore, a water connection is established between the two towns along the shortest distance for faster reach. The barge canal is historically significant for that matter

*With the opening of the Noord-zeekanaal the conditions are set for economic development
*With the popularization of the car use the first connections are being strenghtened along the existing railway network
*Haarlem and Amsterdam get new connections via railways with the North
*Amesterdam is connected to Utrecht

*No major infrastructure additions are done but along the strengthened ones significant densification occurs
*The regionally important Haarlem and Amsterdam expand their borders and bite off of the surrounding open areas



*The seventies as marked by significant expansion of both the transportation network and urban development
*The first part of the Schiphol is layed out
*The ports pick a momentum and the industrial platform for steel processing at IJmuiden expands on the north side of the canal
*Urbanization is triggered further, and the region strengthens economically even more
*This results in many new infrastructure lines, slicing through the landscape (especially notable at the strip between Amsterdam and Haarlem)

*The economically strong region lays out the foundation for enclosing the ring road of Amsterdam and imposes intenationally and regionally significant extensions of the former transport system.

The gradual intensification of the transportation network and the expansion of urbanization in this part of the rgion started around the 18th century and they were greatly dependant on each other. However, the 20th century marks an era of massive expansion supported by big economic strenght.

This is reflected in the intense landscape fragmentation and the exhaustive use of open spaces. Urbanizations bursts into the open landscape, industry and business platforms land along road and railway lines that slice through the territory.

There is an outburst of functions and uses which roll out as a mosaic between the bigger city cores and pose big pressure on what was once an empty open space, bathed in nature.



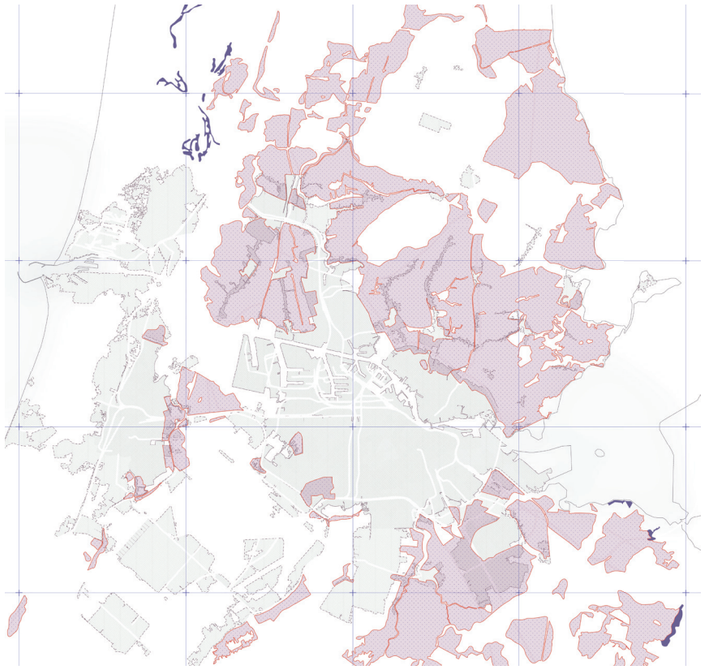
3.3.3 – **The current condition.**

Spatial manifestation of under-use and encroachment of the various open landscapes

1. Peat landscape condition.

The peat polders, similarly to the dune landscape, due to the geographic conditions have kept construction activities away and outside of their terrain. As low lying landscapes they have abundance of water and conditions for thriving of particular types of flora and fauna, dominated by wide variety of grass species and plants. Aside of that, in the swampy areas and shallow waters tree species that are resistant to water logging also thrive. Besides the indigenous vegetation, there are plenty of 'field birds' which include ducks, waders, larks and others, and nourish on the fish and insects of the slow moving polder waters (Dutch Polder System, 2010).

organic peat
sandy peat
urbanized areas



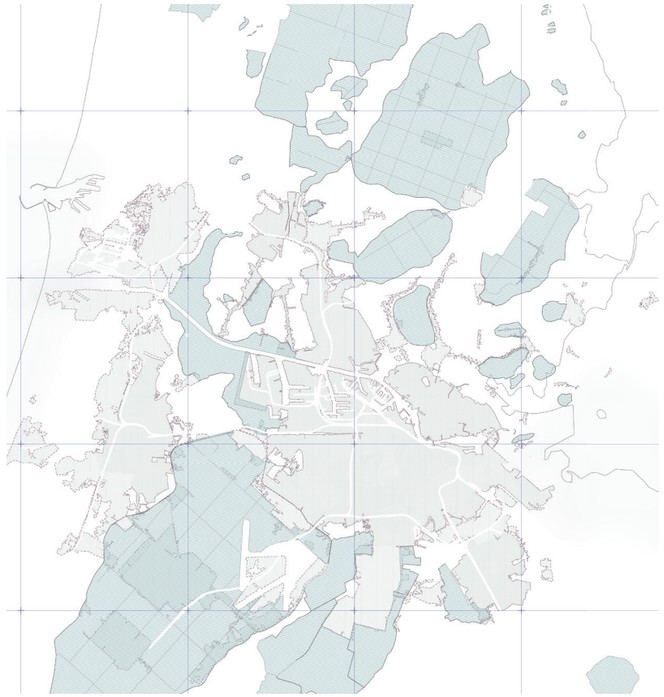
Acknowledging these aspects of the polder landscape is important in order to understand what is it that is compromised for the purpose of urbanization. By urbanization I specifically refer to the 'explosion' of the transport and other infrastructure networks into the open polder landscape for the purpose of fulfilling the ever increasing commuting requirements. Giving off the advantage to these, the polders are left with fragmented and dissociated landscape units whose only physical continuous connectors to transcend the units' border are the roads themselves. Any other ecology- or culture-driven transaction stops at the unit border as they are being disregarded as of lesser priority to the previous ones and are lacking an alternative landscape infrastructure to be carrier of that function.





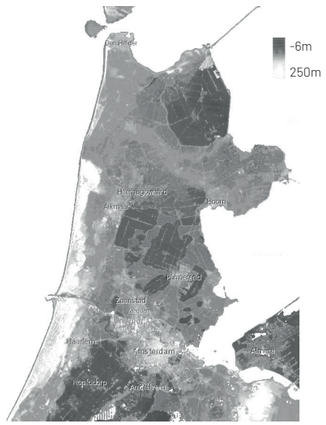
Photographs by author

lake-bed polders
urbanized areas



2. Lake-bed polders' condition.

The lake-bed polders, as part of the wider polder landscape, are among the lowest lying lands in the territory of the Netherlands (Fig. XX). These are characterized by grasslands on peaty soils parallel to variety of spatial developments which have increased historically, when comparing the events of impoldering and the current situation. The parcel of land is a building unit and a basic module which the landscape of polders is built up of. Even though the initial and most present land use of the polder landscape has been for agricultural purposes, the reclaimed polders have, since always, had close ties with the cities. Namely, the wealthy merchants have regarded the land reclamation as an attractive investment .
The more notable erasing of the city-country border happened to occur after the taking down of the city walls towards the end of the 19th century when urban expansion into the polder landscape picked up. As more and more reclaimed land was annexed by the urban area, the parcelation which previously gave directives for agricultural organization of the landscape now became a determinant for the outline and dimensions of new urban developments (http://static.nai.nl).



Source: https://ahn.arcgisonline.nl/ahnviewer/

Throughout recent history, and through the Schiphol airport as an example, we see the extensive urbanization of the polder landscapes, and especially the strategically relevant once, as it is the case with Harlemmermeerpolder. Because of its position within the Randstad and its scale, it is considered as an attractive field of urban potential. Similar role is envisioned for many other open space polders of the surrounding landscape of AMA and the spa tial manifestation can be observed in Fig. XX.




Source: Google Maps

3. Dune/ coastal landscape condition.

The dune landscapes develop at a constant rate. Therefore, the scenery contained in the coastal landscape is as equally shifting and changing, along with these natural topographic processes. The most important constituents of this scenery are the groups of vegetation which can cope with the influence of wind, water and salt. They sustain themselves through the natural coastal dynamics of tidal flows and wave movement. As one moves inland this changes and the range of plant types increases. The closer one gets to the sea line, the number of different plants gets much more limited. There exists only a particular combination of plants which is indigenous to the dune landscapes.

sand

urbanized areas



This is put forth to acknowledge the valuable content of this landscape as well as to point out the ways in which the dune landscape is currently being exploited. The site visits and the preliminary research done for the dune area, however, show that more can be gained from the current condition. The attractive coastal area is often encroached by vehichle oriented infrastructure, parking lots and big roads bordering the natural areas and the fine coast edge. Additionally, extensive built structures extend along these asphalted strips with unclear position towards public and open space areas.

It seems that their occupational purpose is outdates and requires rethinking of the functionality and relationship with the surrounding. Because of the described features the visual and other contact can't be so easily established with the dunes and the overall accessibility is diminished.







Photographs by author

Industrial and harbour landscape condition

*productive milieu
*highly urbanized context
*pollution environmental impact

4. Industrial, harbour and productive landscapes' condition.

The productive milieu of the Amsterdam Metropolitan Area is comprised of massive industrial, port, office and technology islands, scattered into or at the border of the open space landscape. When it comes to industrial production, most dominant is the steal manufacturing platform Tata Steel, on the north bank of the North Sea canaal which occupies a significant surface of the coastal area. Another one is the Amsterdam port stretching along both sides of the canal, but predominantly on the south bank. As autonomous productive units, these have over time pushed out the ecological features and established a nature-free setting with solely economic and productive aims. This has created obstructions in the green corridor flow and has impacted the surrounding urban environments from several aspects.

work locations

harbour and water related function areas

industrial production platforms

urbanized areas



For one, these productive facilities rearly build a defined relationship with their surroundings and explicitely turn their back to the open space landscape. Additionally, they often lack visual and ecological buffers that would facilitate smoother slow mobility movement and mitigate visual, air and soil pollution.

Last but not least, the smaller business and productive enterprises appropriate new chunks from the open space landscape and encroach it furher more without considering re-use of existing urban sturctures in this landscape. There is an open window for envisioning these as part of a meaningful landscape infrastructure.







Photographs by author

3.3.4 – **Fragmentation of the inherent landscape types by natural factors and water protection system**

'DROOGMAKERIJEN'.
(dry-makery)- reclaimed pieces of land

The spatial fragmentation of the open landscapes occurs on several levels and the genesis of each of these will affect the design phase in a different way. These processes of fragmentation either come from within the territory or are superimposed on top of it.

On this map I observe the topographic or ground layer 'barriers ' that separate the open landscapes physically, spatially and/or visually.

Due to the action of impoldering throughout history characteristic for this area, as well as the constant threat from water, the primary defence system of dikes was built out of the excavated soils. These man-made interventions that were ingrained into the topography are part of the territory and enclose chunks of land into well-defined autonomous spatial units which have adopted specific characteristics, very different from those of other landscape units.

As a secondary barrier there are the water canals that often times circumference the man made polders, right along the dike lines. Depending on their typology they are either an asset or a barrier for the landscape experience.

Third in-built element of the landscape are the taludes which appear out of necessity accompanying the major infrastructure lines to enable their passing-by and crossing. With the flatness of this area it is expected that there are slight manipulations of terrain heights to enable this.





major water bodies
urbanized areas
lake bed polders
small lakes and ponds
primary flood protection lines
topographic lines (-5 to 45m)
taludes and artificial ridges (1 to 2.5m)

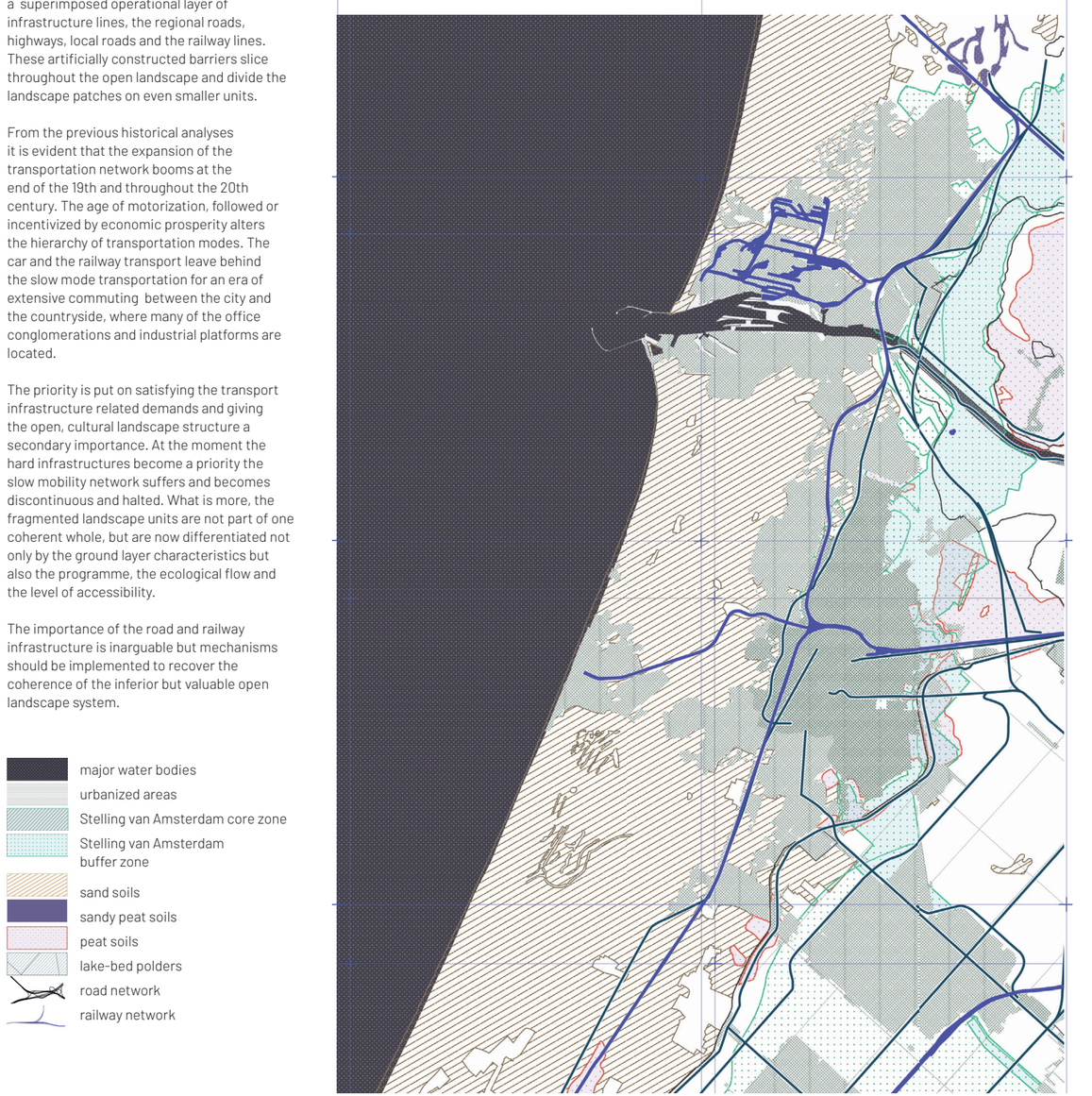
3.3.5 – **Fragmentation by major infrastructure lines**

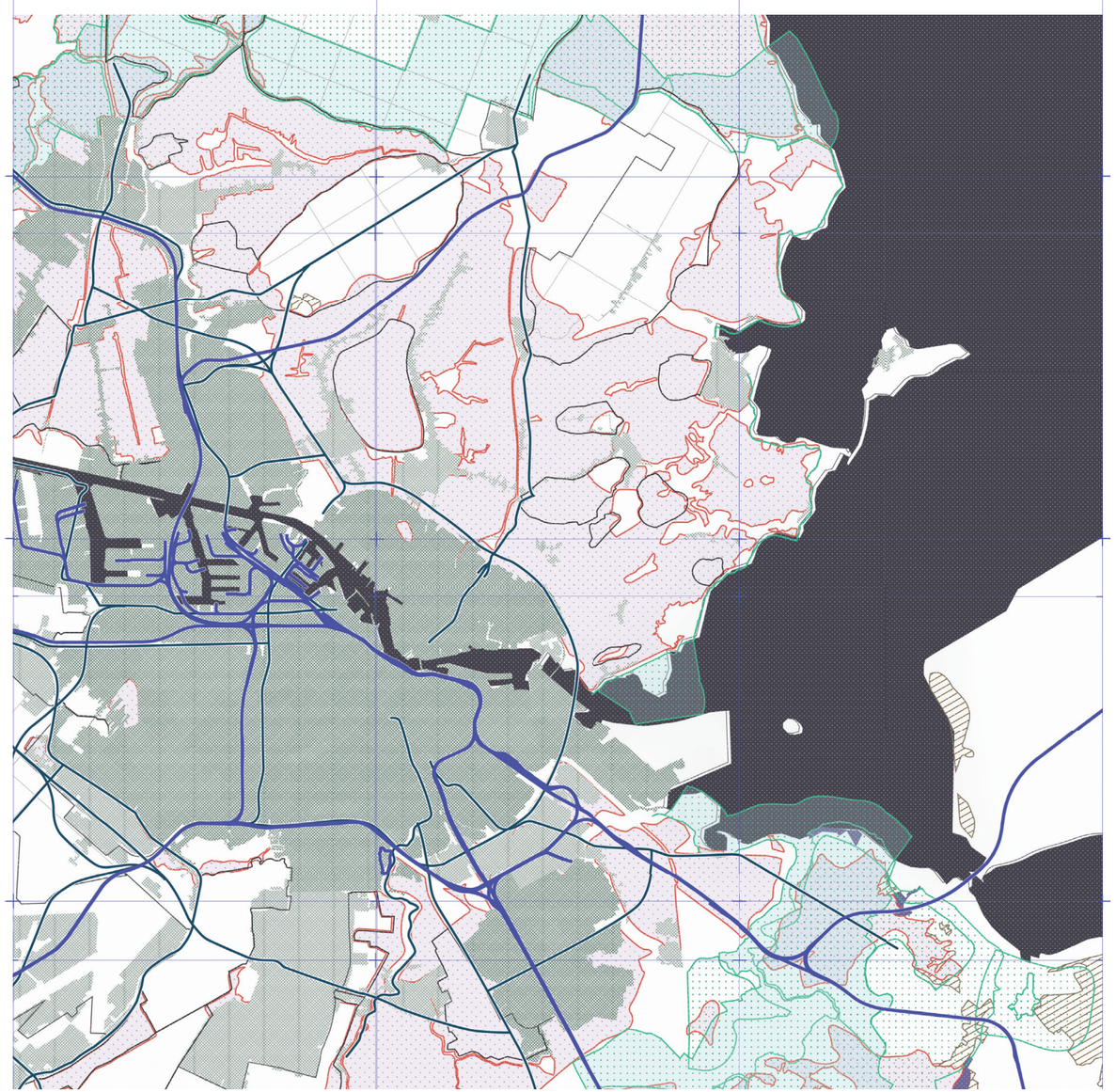
On the natural topography there is a superimposed operational layer of infrastructure lines, the regional roads, highways, local roads and the railway lines. These artificially constructed barriers slice throughout the open landscape and divide the landscape patches on even smaller units.

From the previous historical analyses it is evident that the expansion of the transportation network booms at the end of the 19th and throughout the 20th century. The age of motorization, followed or incentivized by economic prosperity alters the hierarchy of transportation modes. The car and the railway transport leave behind the slow mode transportation for an era of extensive commuting between the city and the countryside, where many of the office conglomerations and industrial platforms are located.

The priority is put on satisfying the transport infrastructure related demands and giving the open, cultural landscape structure a secondary importance. At the moment the hard infrastructures become a priority the slow mobility network suffers and becomes discontinuous and halted. What is more, the fragmented landscape units are not part of one coherent whole, but are now differentiated not only by the ground layer characteristics but also the programme, the ecological flow and the level of accessibility.

The importance of the road and railway infrastructure is inarguable but mechanisms should be implemented to recover the coherence of the inferior but valuable open landscape system.



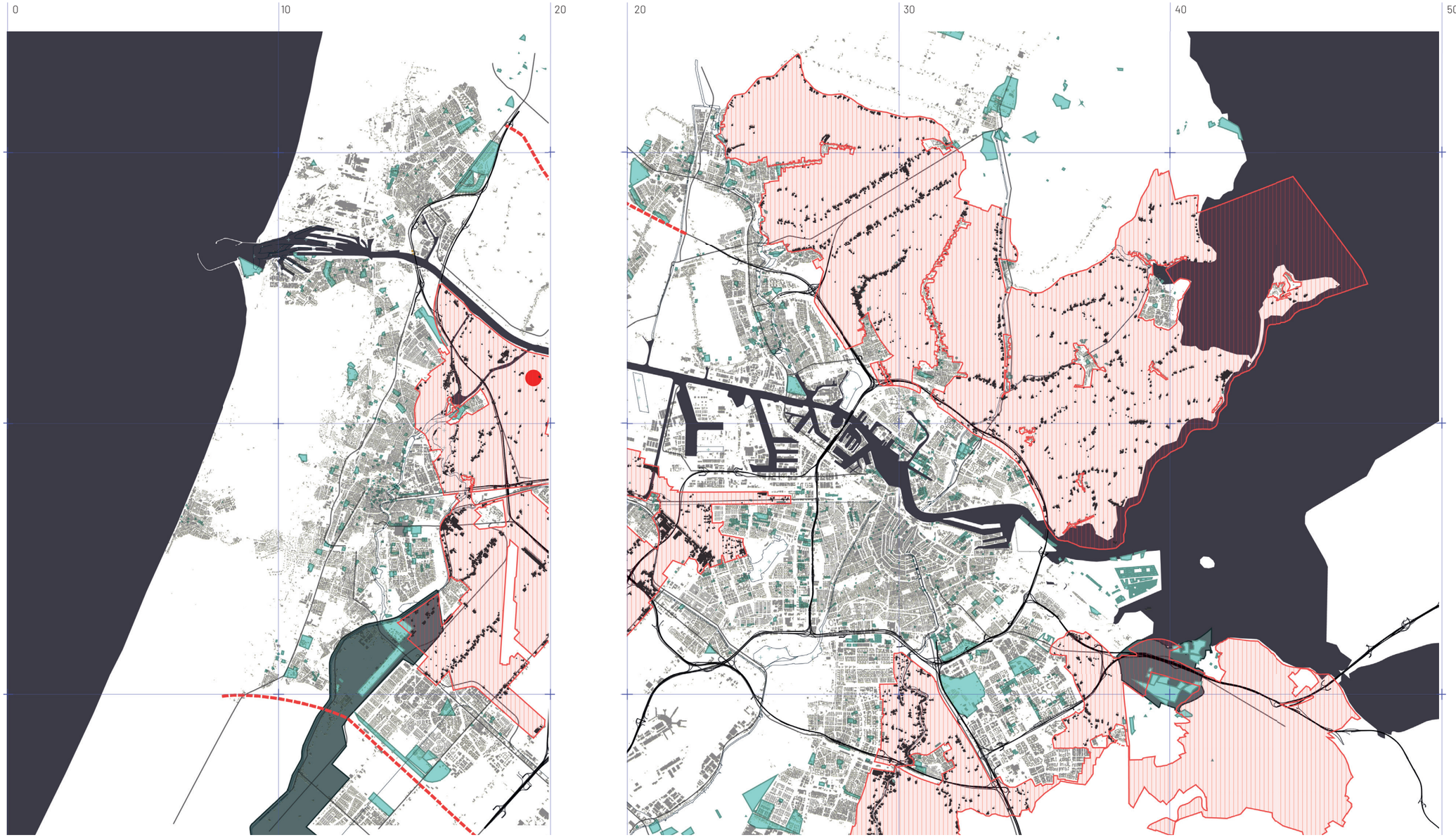


3.3.6 – **Urbanization enters the politically designated buffers.**

Last but not least, the pressure of urbanization on the landscape is recongized by the government and the municipalities. It is evident by the various measures and policies for protection of open areas that propagate, as it is the case with the Green heart of Holland and the various strategies for growing cities in a compact way.

But a question arises, are the political engagements fruitful enough in the efforts to protect the open spaces?

The Noord Holland province designated the buffer areas, marked in red on the map, that have to be kept open at all times regarding any further urbanization plans. However, with the latest structural vision documents for 2040 as well as the development plans for urban expansion outside the dense city tissues, it seems that the these in-between areas are after all not so protected and the strength of the legislation is arguable.



3.3.7 – **Conclusions.**

The urban pressure exerted on the open landscape manifests into a condition where everything starts to look the same. Furthermore, due to an advancement in construction technology the possibilties to build on more complex locations become more and more open. The rapid filling up of the voids in the 'in-between' landscape has to be supported by important transport connections.

Thus, the mosaic-like landscape becomes on one hand highly fragmented and on the other, increasingly monotonious. Therefore, to retain the contrast in the landscape experience it is a gret possibility to work with the structure of open spaces and their in-built qualities. As open spaces are free of the burden of pre-determined functions they are a 'tabula rasa' for design experimentation on achieving exciting multi-functional coherent regional structure.

3.4 – **Unravelling site-specific qualities. Diagnosis**

3.4.1 – *What is hidden?*

After the thorough process of understanding the genesis and manifestation of the disadvantages of the open space landscape, I will look at what is it that is fragmented? What is it that is encroached? What is it that is concealed in the territory?

The blurring of the border between the compact city and the countryside was elaborated in the beginning section of the first part. To recall, this trend of urbanization transcending the compact city borders and spilling out into the territory in the form of countless small 'islands', is by some defined as a negative and destructive while for others an inevitable phenomenon. Though, that is not in the focus of the thesis. Rather, it is of importance to acknowledge that the area outside the conventional city limits is worthy of attention and has thus far, with the explosive urban growth, been enriched with myriad of functions and consequently, possibilities.

In the Netherlands, light was shed on this phenomena in the end of the eighties by Willem J. Neutelings, who closely observed the affected-by-urbanization boom in the territory between Rotterdam and the Hague, within the Randstad. His re-interpretation of the area resulted into an eye-catching and stimulating graphically illustrated label, 'De Tapijtmetropool', translated as 'Patchwork metropolis'. As cited by Carlo Pisano in '*Coloring the Patchwork Metropolis*', Neutelings wrote:

'A view still held by many of the nature of a town is red stain in a green landscape. The problem of urban expansion is thus reduced to the question of which piece of green on the map can be made red. This perpetuates the absurd notion of a romantic polarity between a paradisal Arcadia and a megalomaniac metropolis, a red stain sprawling in an endless expanse of green.
In a complex area like the Randstad conurbation this model has long been inadequate for interpreting the reality of the situation. A twenty minutes drive take the Randstad dweller past sculptural oil refineries, colorful bulb-fields, intimate garden cities, medieval rings of canals, eight-lane motorways, hypermarkets, functional high-rise estates, lakes for recreation, old Dutch windmills, university campuses, tourist beaches, protected dune landscapes, glass roofs of greenhouses, reflecting business parks, motel for furniture mega-stores, rubbish tips and golf courts, airfields, market, squares and mosques.'



Image source: W, J. Neutelings, 1988. Collectie NAi, NEUR t4. (http://schatkamer.nai.nl)

Since then, this phenomenon has been ongoing and this pattern recognized by Neutelings, has become common to almost all of the Randstad. This is equally visible in the territory of the Amsterdam Metropolitan region and I attempt to visualize it on the following pages. The intensity of patterns and number of colors on the maps, assigned to the various programs of the area, illustrate the complex processes taking place in the landscape but are also announcing the presence of multitude of qualities and potentials.

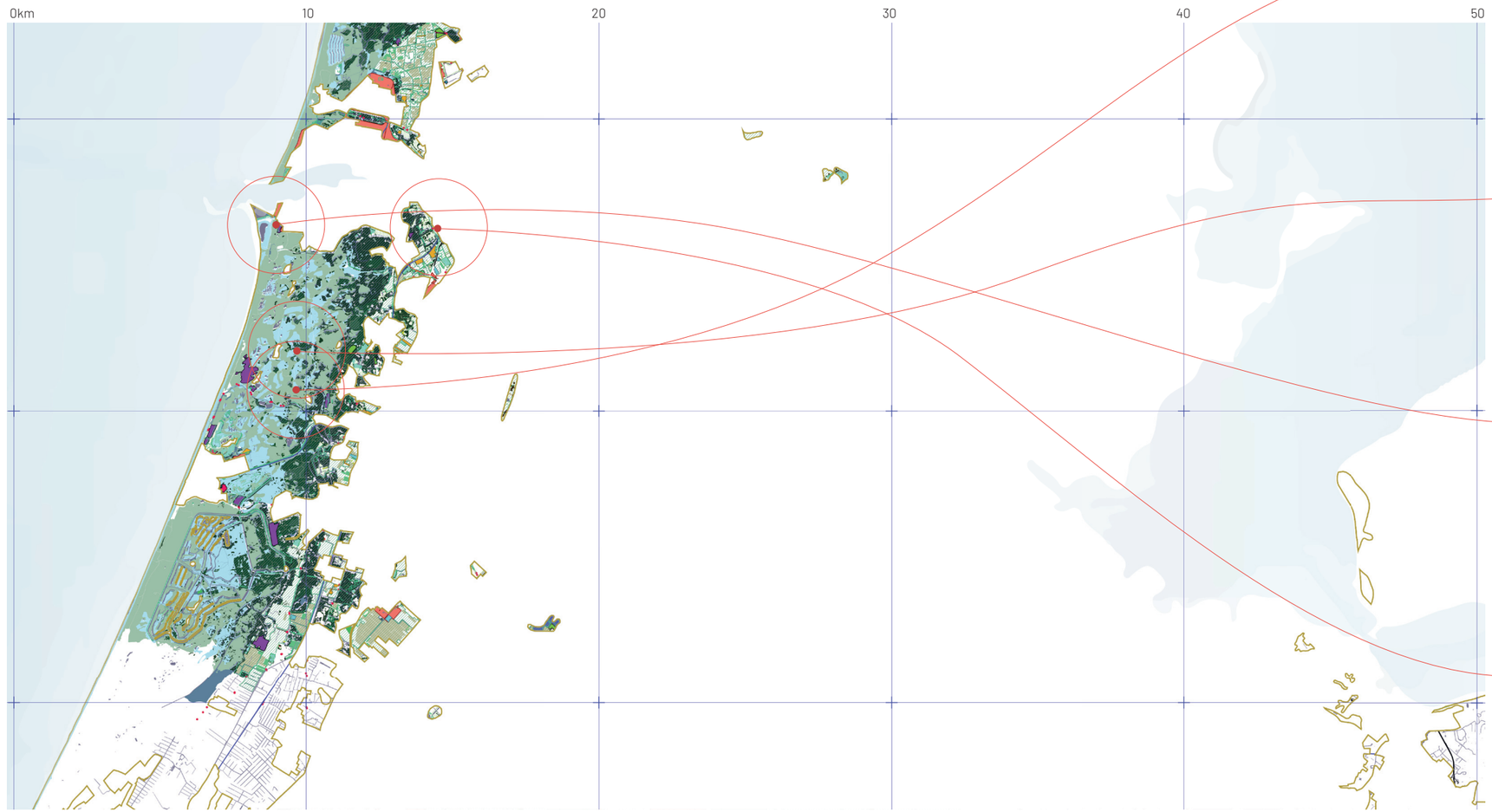
'OPEN SPACE IS NOT OPEN SPACE ONLY, IT IS DIVERSITY OF LANDSCAPES WHICH WE CAN WORK WITH' .

The dune coastal landscape

The dune landscape, as previously explained, is not a suitable ground for extensive construction. As such it is a landscape opened to nature and recreation. On top of that, it hosts one of the biggest national parks in the Netherlands, Kennemerduinen, and it flourishes in indigenous species, both vegetal and zoological. That accentuates the attractiveness of this particular strip of open spaces but is definitely not the only interesting aspect of this area.

The topographic relief is at the height of its expressiveness in the dune landscapes when compared to all other landscapes, native to the Dutch territory. As such it opens multitude of pockets where water is accumulated in small lakes, that could be used for leisure and recreation. Within a biking distance one can reach from the city to the beach, all the way through a milieu of beautiful natural habitats, historical heritage structures and paysage-like micro-worlds which make one forget for a moment the proximity of the urbanization footprint.

As such, the dune landscape carries objects that through a design strategy can be transformed into cogs of socio-cultural activities as part of a regional vision.

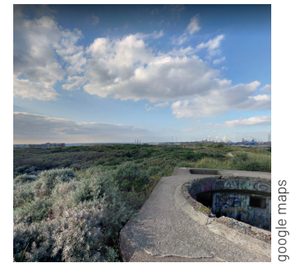


- camping areas
- park areas
- forests
  - gardens
  - tree nurseries
  - mixed forests
  - decidious forests
  - orchards
  - fruit nursery
  - fallow surfaces
  - coniferous forests
- water bodies
- productive complexes
- dry natural areas
- allotment gardens



Small lake in Zuid-Kennemerland National Park

google maps



Bunker, reminiscence from the Atlnatic Wall, Ijmuiden beach

google maps



Another lake in Zuid-Kennemerland National Park

google maps



Beeckestijn estae, in the Zuid Velsen region

google maps

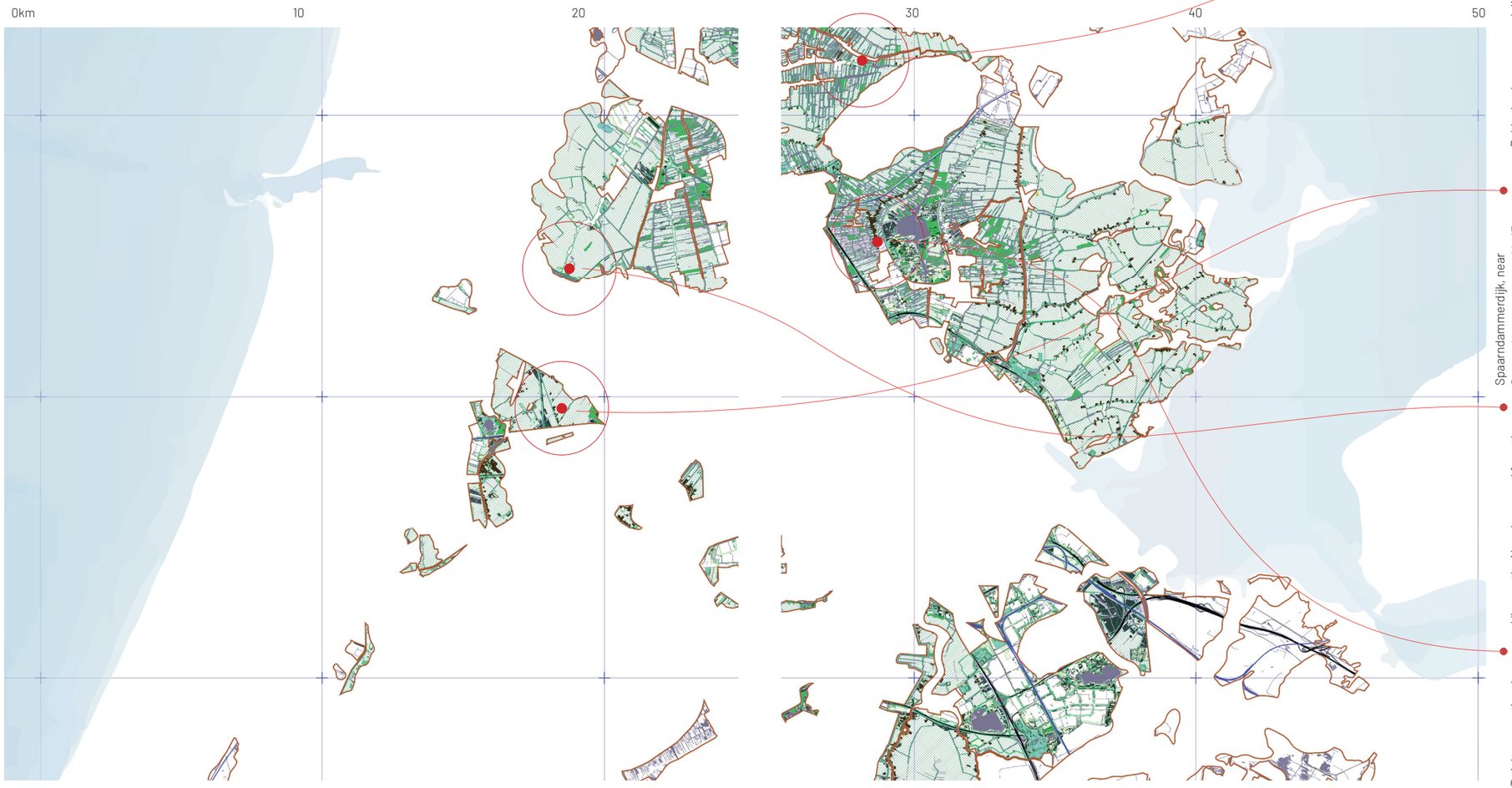
'OPEN SPACE IS NOT OPEN SPACE ONLY, IT IS DIVERSITY OF LANDSCAPES WHICH WE CAN WORK WITH' .

The peat polder landscape

The peat polders, similarly to the dune landscape, due to the geographic conditions have kept construction activities away and outside of their terrain. As low lying landscapes they have abundance of water and conditions for thriving of particular types of flora and fauna, dominated by wide variety of grass species and plants.

What is beautiful and original for these landscapes is the traditional polder structure consisted of drainage channels and waterways. While farming activity is ongoing in the polders, the lower water level it requires generates subsidance which is a challenge, especially on the long run. Therefore, maintaining higher water level brings potential soil subsidance processes to minimum while it stimulates biodiversity in the same time. From here come the initiatives of converting farm land into nature reserves but also working out a way to run farming in a more environment friendly way.

The described setting calls for a gradation in the exploitation of these landscape due to their sensitivity and valuable content but also provides possibilities for plentiful of ecology and recreatio- related activities and unique experience through subtle and moderate presence.



- recreational areas
- wet natural areas
- grassland
- agricultural areas
- green patches:
  gardens
  tree nurseries
  mixed forests
  decidious forests
  orchards
  fruit nursery
  fallow surfaces
  coniferous forests
  other forests
- primary water protection
- water system
- recreational areas



Polder landscape around Jisp, a village in Noord Holland province

https://www.google.nl/



Spaarndammerdijk, near Spaarndam, constructed in 13 century to protect the peat meadow

google maps



View on the Noordzee canal from the peat landscape on the north bank

google maps



Landscape at Twiske recreational area, by the Stootersplaats lake

https://www.pinterest.co.uk/pin/434738170260625373/

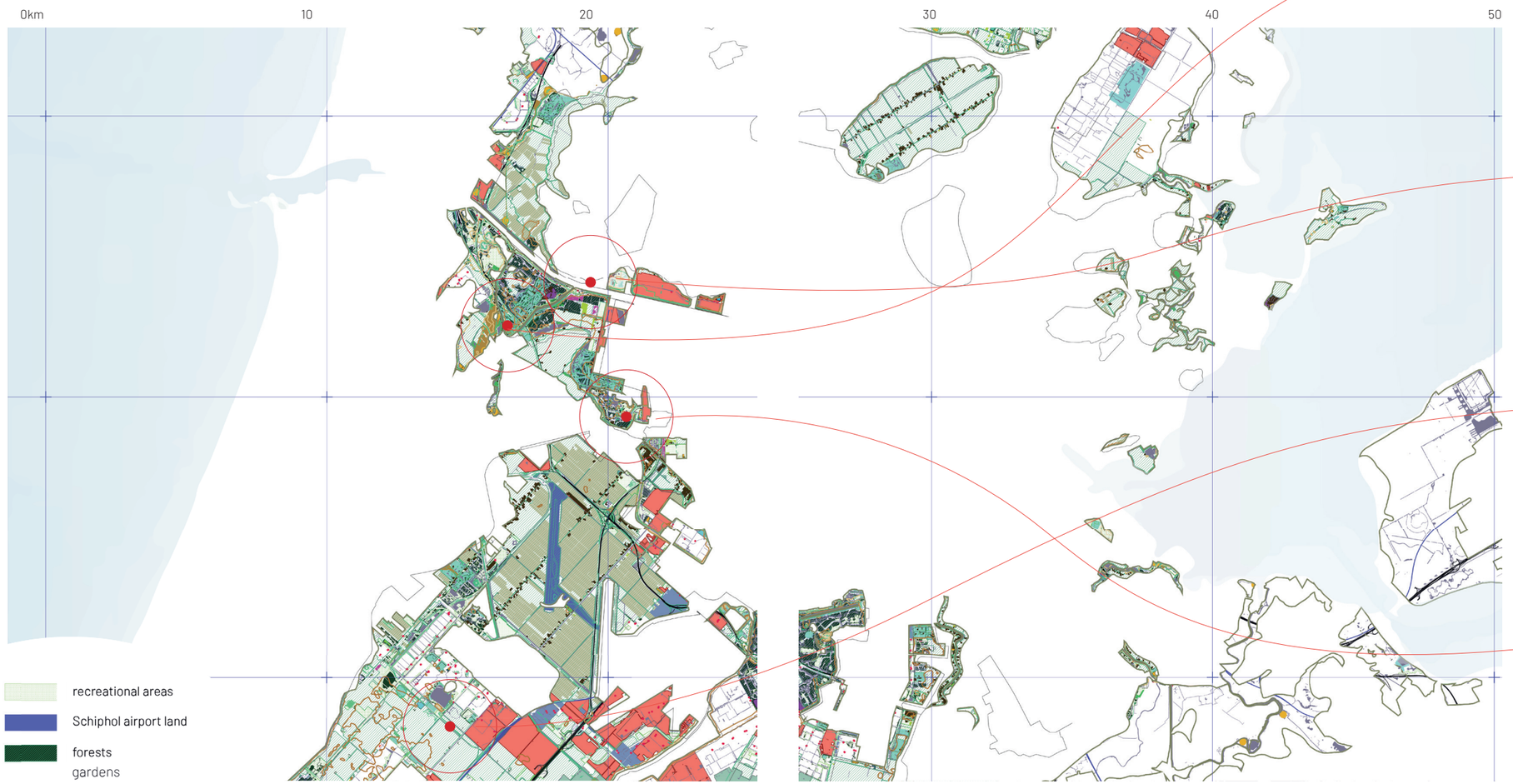
'OPEN SPACE IS NOT OPEN SPACE ONLY, IT IS DIVERSITY OF LANDSCAPES WHICH WE CAN WORK WITH' .

The lake-bed polder landscape

The lake-bed polders, as reclaimed land units, and terrain which has undergone intensive agricultural activity and has therefore obtained drier properties as a result, is a terrain of vast arrey of occupational programmes. Especially because of the pressure for urbanization, and coupled with the suitable conditions for construction, the lake-bed polders are attractive areas with serious prospects for further spatial development.

Besides their flexibility from the aspect of hosting various functions, the lake-bed polders are home to multitude of park areas, leisure complexes and culturally significant structures. For instance, the typical ribbon houses placed at the end of longitudinal narrow parcels of arable or pasture land,which are surrounded by a complex system of ditches for artificial water level control.

All of the above named, and many more inherent landscape features are potential carriers of recreational, ecological and socio-cultural activities which can be materialized by the envisioned regional structure.



- agriculture land
- grassland
- productive complexes
- water bodies
- dry natural areas
- dry natural areas
- tree nursery
- garden center
- recreational areas
- Schiphol airport land
- forests
- gardens
- tree nurseries
- mixed forests
- decidious forests
- orchards
- fruit nursery
- fallow surfaces
- coniferous forests



One of the forts of the Stelling van Amsterdam structure, at Spaarndam

google maps



View on the Noordzee canal, from the edge of the recreational area, along Amsterdamseweg

https://lh5.googleusercontent.com/p/AF1QipNiOoG-26XHRObVUUbl-XVMmrRH-b5mSfZwDDk0=rp



Pictoresque Canal at Hoofdvaart, Harlemmermeer polder

google maps



Allotment gardens along Hoofdvaart canal

http://mapio.net/pic/p-41525346/

0km 10 20 30 40 50

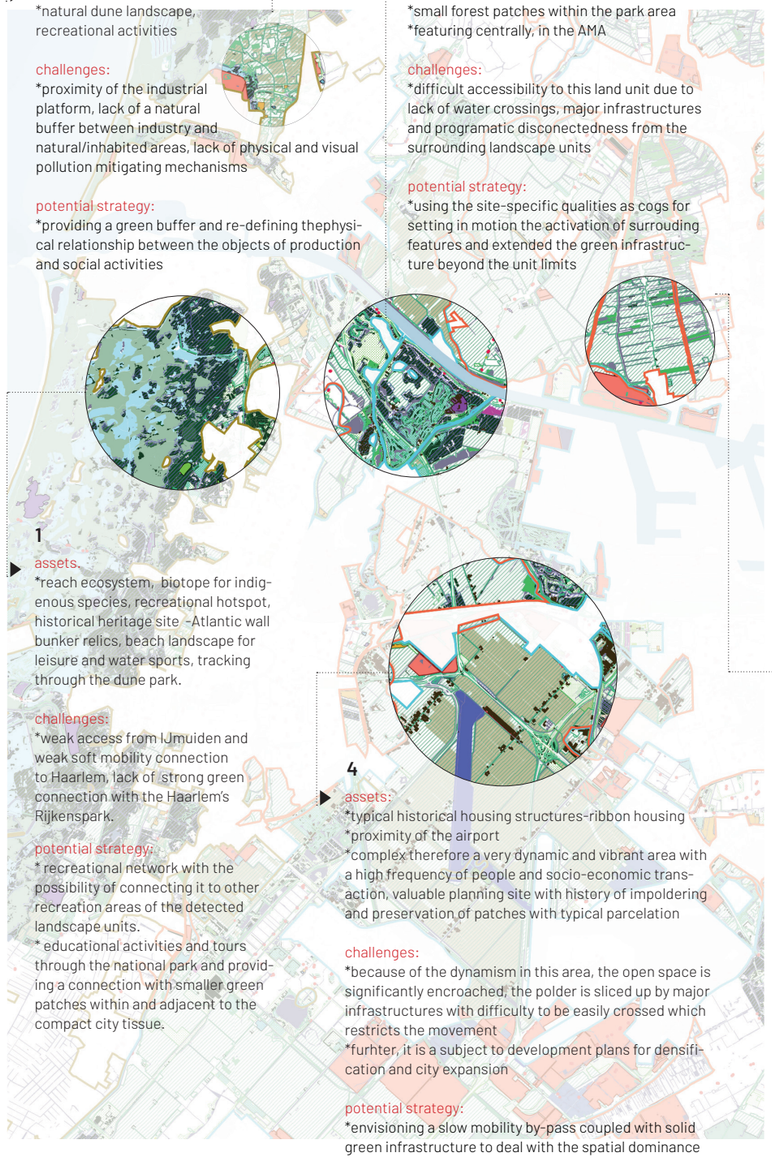
The 'knitwear' of the region. Revealing the qualities of the fragmented landscape.

Map of the numerous autonomous landscape patches unravelling the potentials of the landscape

- camping areas
- park areas
- forests
- water bodies
- productive complexes
- dry natural areas
- allotment gardens
- recreational areas
- wet natural areas
- grassland
- agricultural areas
- primary water protection
- water system
- recreational areas
- Schiphol airport land
- forests
- agriculture land
- grassland
- productive complexes
- water bodies
- dry natural areas
- dry natural areas
- tree nursery
- garden center

3.4.3 – **6 patches of complexities**

The landscape as a supplier of spatial conditions for endless programmes and processes, enabled by the individual characteristics of each patch.



5

assets:
*natural dune landscape, recreational activities

challenges:
*proximity of the industrial platform, lack of a natural buffer between industry and natural/inhabited areas, lack of physical and visual pollution mitigating mechanisms

potential strategy:
*providing a green buffer and re-defining thephysical relationship between the objects of production and social activities

2

assets:
*proximity to a significant water body, that is the North Sea canal
*presence of multitude of leisure and sports facilities and heritage structures
*small forest patches within the park area
*featuring centrally, in the AMA

challenges:
*difficult accessibility to this land unit due to lack of water crossings, major infrastructures and programatic disconectedness from the surrounding landscape units

potential strategy:
*using the site-specific qualities as cogs for setting in motion the activation of surrouding features and extended the green infrastructure beyond the unit limits

1

assets:
*reach ecosystem, biotope for indigenous species, recreational hotspot, historical heritage site -Atlantic wall bunker relics, beach landscape for leisure and water sports, tracking through the dune park.

challenges:
*weak access from IJmuiden and weak soft mobility connection to Haarlem, lack of strong green connection with the Haarlem's Rijkenspark.

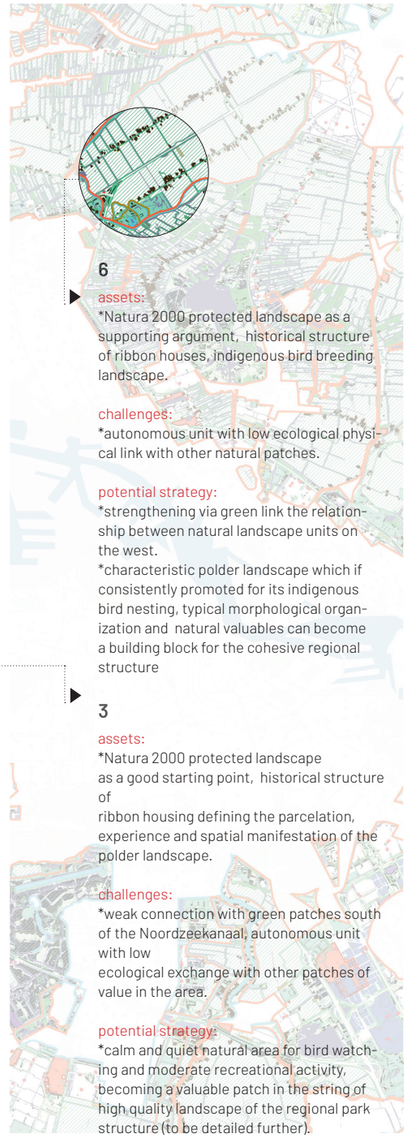
potential strategy:
* recreational network with the possibility of connecting it to other recreation areas of the detected landscape units.
* educational activities and tours through the national park and providing a connection with smaller green patches within and adjacent to the compact city tissue.

4

assets:
*typical historical housing structures-ribbon housing
*proximity of the airport
*complex therefore a very dynamic and vibrant area with a high frequency of people and socio-economic transaction, valuable planning site with history of impoldering and preservation of patches with typical parcelation

challenges:
*because of the dynamism in this area, the open space is significantly encroached, the polder is sliced up by major infrastructures with difficulty to be easily crossed which restricts the movement
*furhter, it is a subject to development plans for densification and city expansion

potential strategy:
*envisioning a slow mobility by-pass coupled with solid green infrastructure to deal with the spatial dominance of the airport



6

assets:
*Natura 2000 protected landscape as a supporting argument, historical structure of ribbon houses, indigenous bird breeding landscape.

challenges:
*autonomous unit with low ecological physical link with other natural patches.

potential strategy:
*strengthening via green link the relationship between natural landscape units on the west.
*characteristic polder landscape which if consistently promoted for its indigenous bird nesting, typical morphological organization and natural valuables can become a building block for the cohesive regional structure

3

assets:
*Natura 2000 protected landscape as a good starting point, historical structure of ribbon housing defining the parcelation, experience and spatial manifestation of the polder landscape.

challenges:
*weak connection with green patches south of the Noordzeekanaal, autonomous unit with low ecological exchange with other patches of value in the area.

potential strategy:
*calm and quiet natural area for bird watching and moderate recreational activity, becoming a valuable patch in the string of high quality landscape of the regional park structure (to be detailed further).

Only, this structure of open spaces, even though it has common base, is not a continuous zone anymore but rather a constellation of broken-down landscape units that over time have developed individuality and assets of their own. While this fragmentation is a result of the development of the dense transport infrastructure networks, the water protection system of dikes and canals and the specificities of the inherent landscapes over time, it hasn't yet wiped away the traces of the socio-cultural milieu embedded in this place. Thus, open space is not open space only, but a diversity of landscapes which designers and planners can work with. As an analogy there is the Green Heart which does represent a planning concept but then, it is not a unified whole at all. Instead, it is composed of many different landscapes intertwined within its scope.

If Neutelings proposed coherence through superimposing highways, secondary streets and tramlines to consolidate the floating fragments, this research will attempt to take a step further and transcend the notion of the transport infrastructure as a fundamental tool for achieving local and overall connectivity. Namely, if in the 'Patchwork Metropolis' the proposed structures for development were solely the artificial offsprings of engineering, they will now be only mediums (carriers) for the development of new, more robust and sustainable binding infrastructures with potential for stirring socio-cultural and ecological dynamics and of primary importance for the region.

* * *

In the following pages I demonstrate through general mapping analysis more closely the condition of some of these patches to understand the qualities they contain, the challenges they currently face, and the potentials for overcoming these challenges by utilizing the detected qualities.

3.4.4 – **The conditions of each patch**

PATCH 1

This patch was chosen as an exploration case due to its particular location. The dune landscape would pitentally play a very big role in an ecological backbone of regional reach. Therefore, evaluation of the site-specific qualities was inevitable to get a grasp on which features could become potential activators of higher level ecological dynamics. Moreover, the exploration was intended to observe the patch synthetically, looking in parallel at other significant landmarks of the landscape so as to see how those can become socio-cultural triggers as a suport of those ecological dynamics. The main obstacle to achieving this was the ***edge condition*** which is currently a strip of physical separation between two different but likely compatible settings.

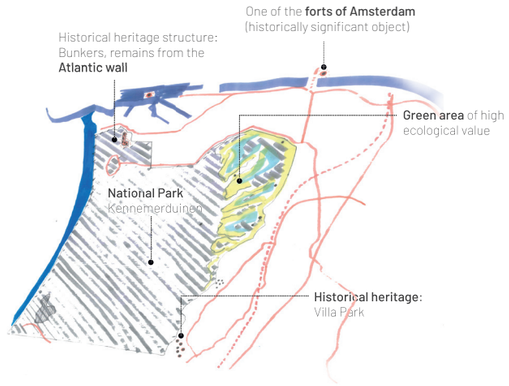
PATCH 2

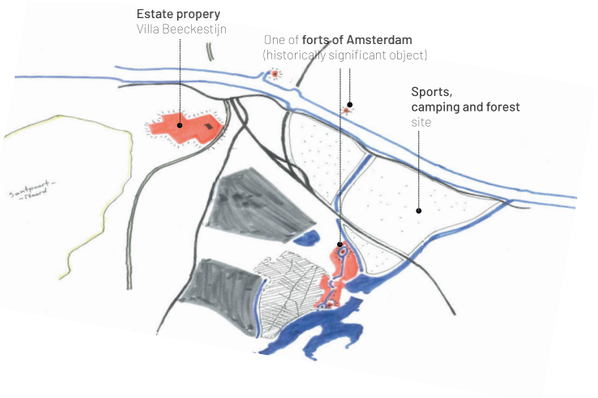
In the case of patch 2, which is more centrally positioned among the other patches and is therefore a potential cross-road for the envisioned landscape infrastructure, the obstructed connectivity and interaction with the other patches are main challenge. As a patch that is directly related to the North Sea canal, patch 2 hasn't developped any particular physical relationship with the water and the canal edge. Moreover, the ecological features are contained in the patch but do not interact or extend towards the surrounding landscape units. Thereofre, a big potential is identified in elaborating the potential activation and re-connecting of this unit through a strong landscape feature with the rest of the open space landscape.

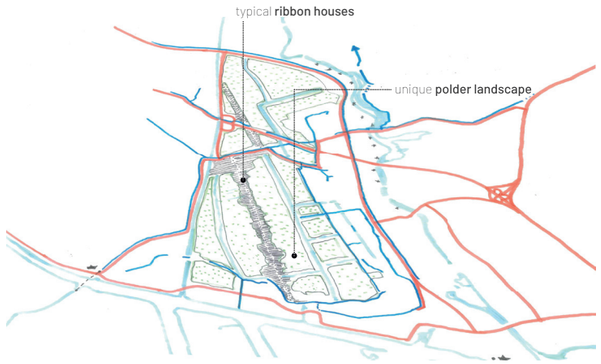
PATCH 3

It is a traditional polder landscape with a dense system of waterways for precise manipulation of water level. As such, it represents a unique natural landscape and a home of indigenous bird species. Considering its natural value, this landscape unit is quite self contained and behaves like an isolated habitat with little interaction with the neighbouring landscape units and the North Sea canal. This is not per se a weakness, it is rather an advantage of the patch to offer experiental and intimate relationship with this unique landscape fragment. For that, the accessibility needs to be enhanced and light interventions need to be applied to support the envisioned goal.

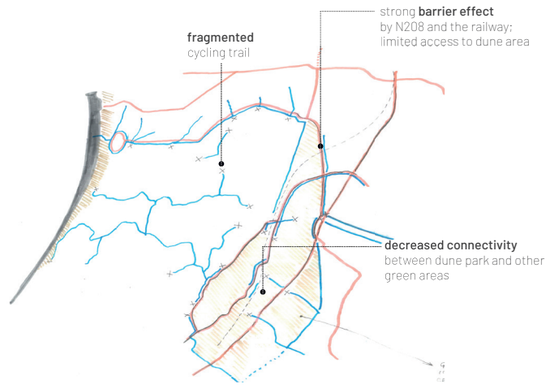
ASSETS

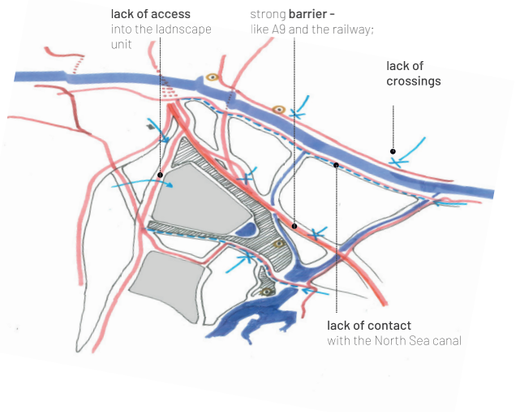


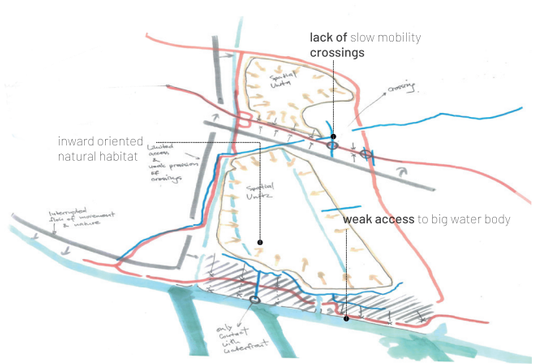




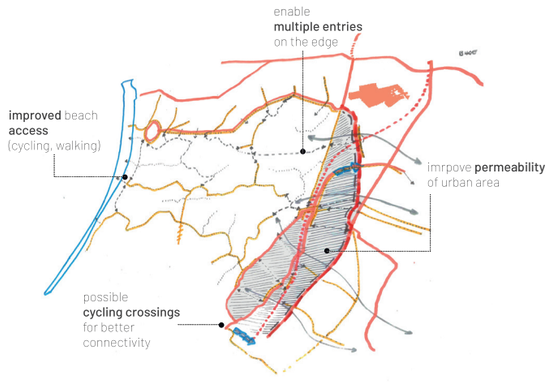
CHALLENGES

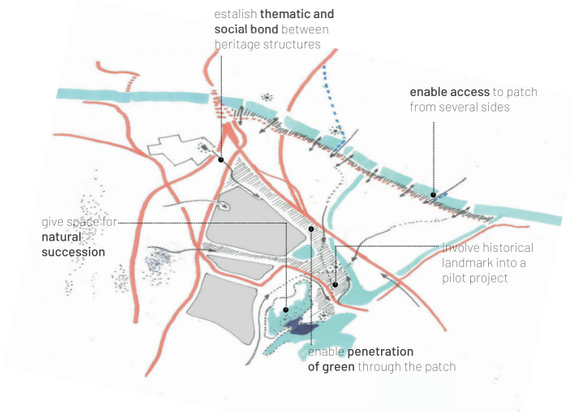


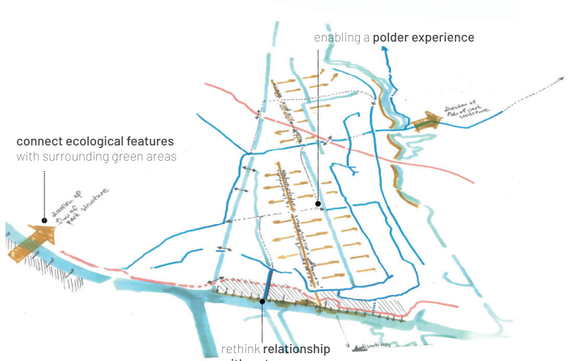




POTENTIALS







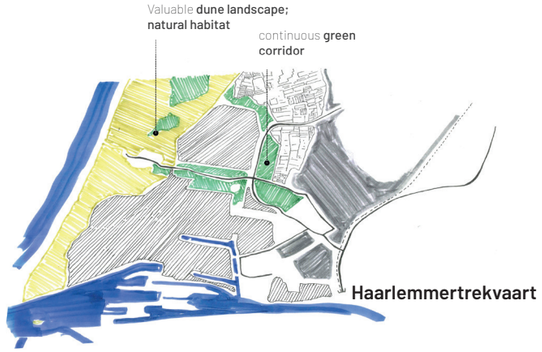
PATCH 5

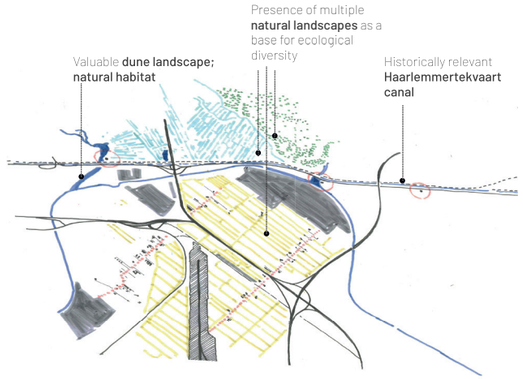
This patch which is on the edge of the Metropolitan area, is oriented toward the Nort Sea. It is very particular because of the presence of the industrial platform Tata Steel which is a major shaping element of the character and the skyline of this area. The big chimneys of the metal manufacturer are visible as far as the sight reaches and the massive industrial buildings dominate the visual field. The area is bare of green and tailored to the economic and productive needs of the dominant parties. Little space is left for social interaction, continuous movement, or development of ecological features. On top, solid buffer is lacking to separate the productive platform from the socio-cultural millieu, which seeks for its position within the open space, dunes, beaches, coast.

PATCH 6

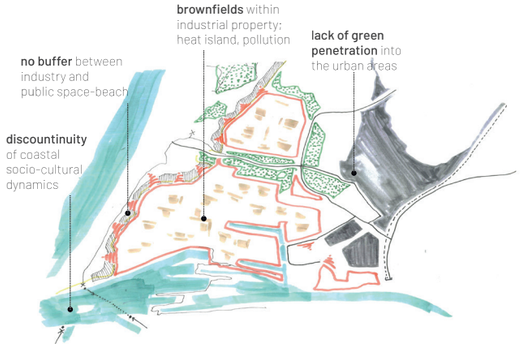
The final patch chosen for this evaluation process lies with big part of its surface in the Haarlemmermeer polder and as such it is a crossroad of many contrasting and diverse social, cultural and economic dynamics. It is a home to three distinctive natural types, the Schiphol airport, typical ribbon houses, small recent and not so recent satellite settlements and much more. It is sliced by major infrastructures since many of the nationally important roads, including the railway, cross from here. All these features put pressure on a fluid slow movement, development of spontaneous natural dynamics and access from one area to another.

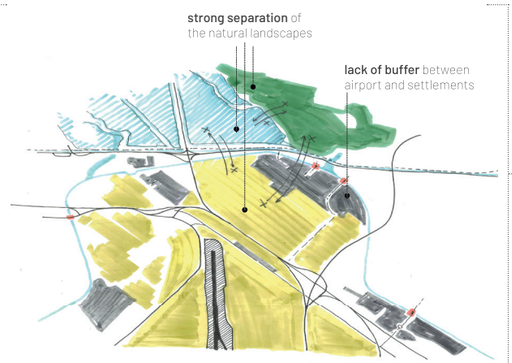
ASSETS

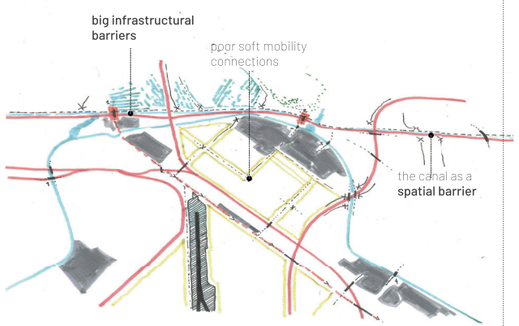




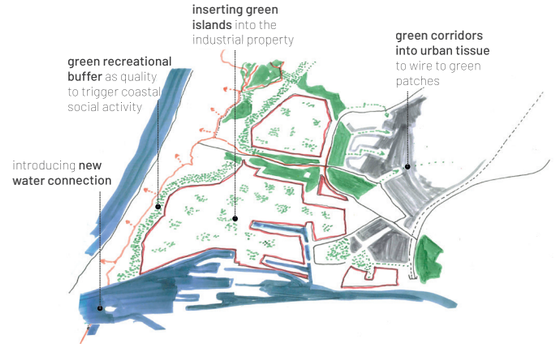
CHALLENGES

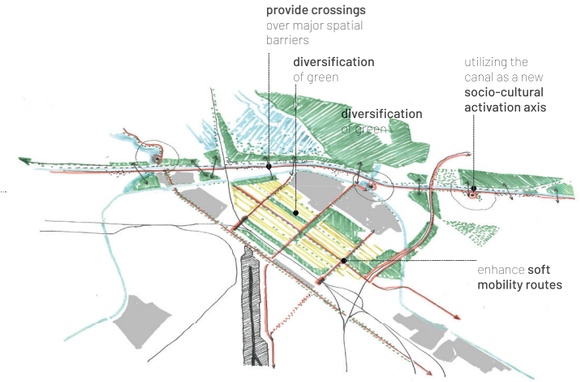






POTENTIALS





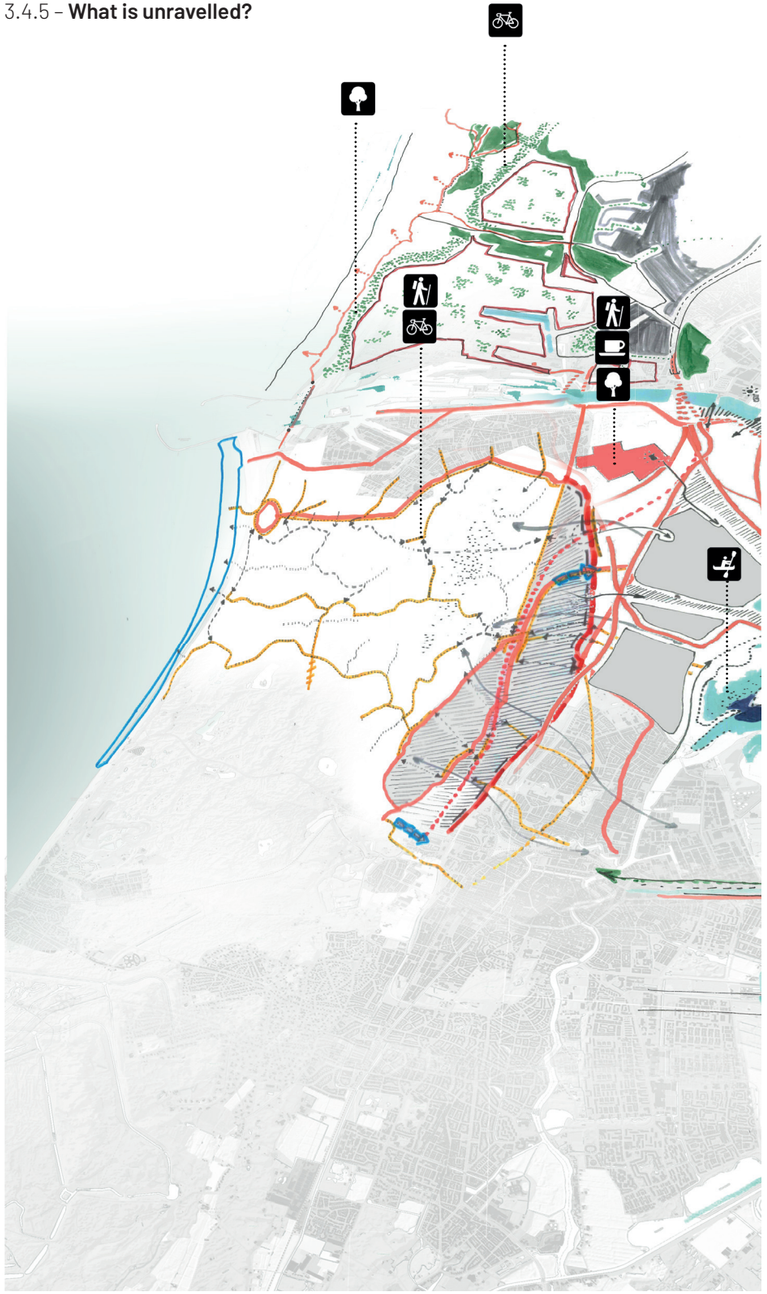
3.4.5 - **What is unravelled?**

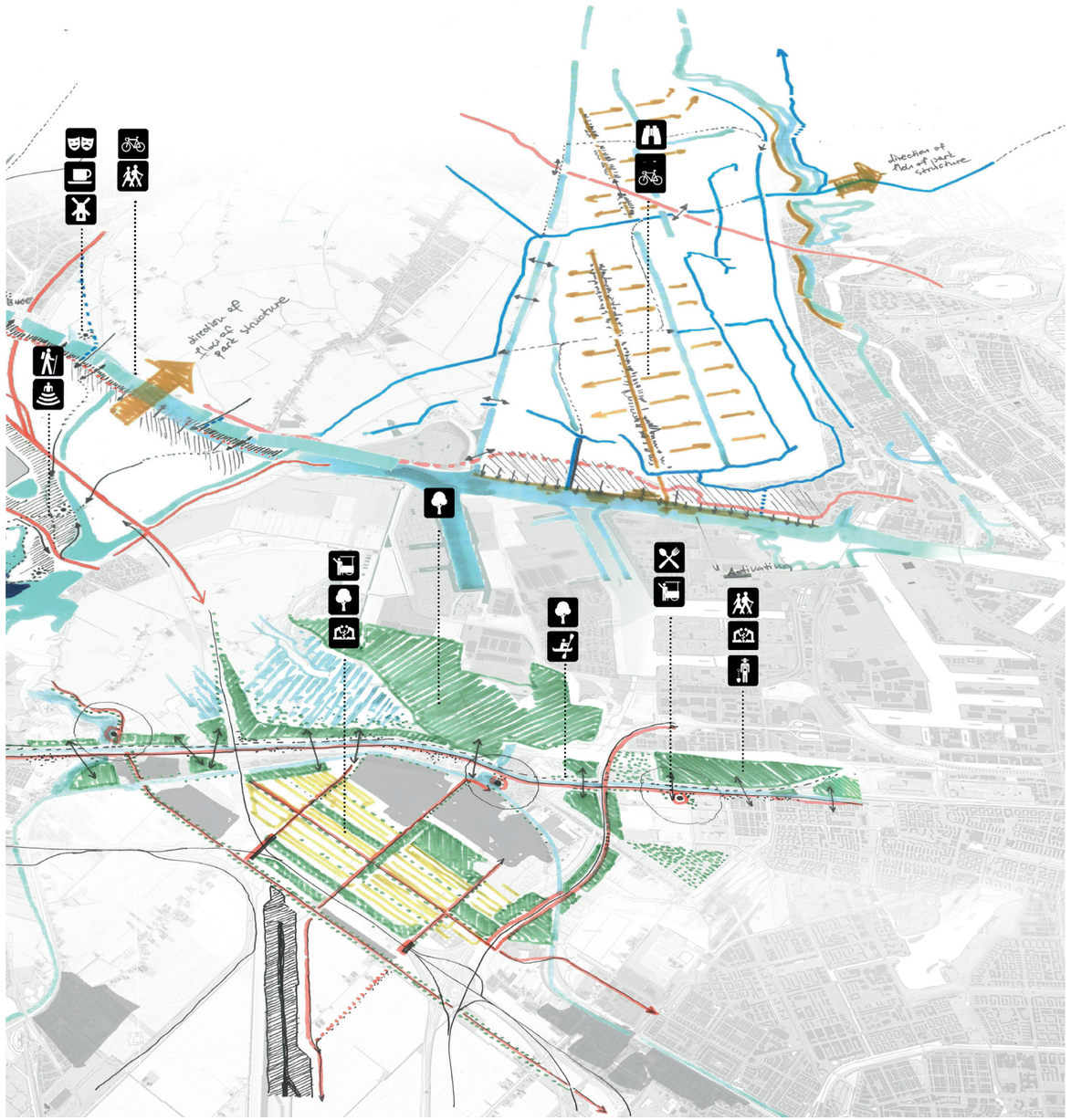
When incorporating the analyzed patches into an integral frame a general idea is obtained on how these patches could work together towards a joint strategy.

The ecological qualities within one patch now become a concern and part of a bigger whole an question how these can have impact on that whole. Similarly, the impact of accessibility and connectivity now translates to the bigger scale, and is considered at the regional level mobility flow.

From here, the initial strategy components are formed and suggest the necessity to break down the existing structure in order to build it anew. Fig. XX on the following page demonstrates this approach where I introduce an integrating backbone as a strong, permanent and robust feature that will feed and connect a system of patches, with dynamic and flexible characteristics with a degree of temporariness.

- Ecological/naturalization potential
- Hiking trails
- Canoeing
- Market for locally produced goods
- Birdwatching
- Urban farming
- Farming/Grazing
- Biking routes
- Agricultural activity
- Cafe
- Restaurant/bar
- Activation of monument structure
- Open sky theater/performing arena





3.4.6 - **Conclusion. 2 Operational structures**



PATCHES OF PLURALITIES

WHAT ARE THEY?
HOW TO ENABLE INTERACTION?

ACKNOWLEDGE THEIR DUAL ROLE:
1. INDIVIDUAL ENTITIES
2. PARTS OF A BIGGER WHOLE



STRUCTURE OF PATCHES

STEP 1:

TRANSCEND THE PATCH BORDER
AND SPILL-OUT THE OPERATIONAL
SCOPE OF EACH PATCH OUTSIDE
THEIR BORDER

+

towards a cohesive structure



BINDING STRUCTURE

STEP 2:

ENABLE INTERACTION
BETWEEN THE PATCHES.
USE THE INTERMEDIATE SPACE
TO ACCOMPLISH COHERENCE



PART 4

Towards a regional park structure

'The main objective of regional parks is to revitalise the rural landscape in a spatially, socially and economically responsible way', by (European Community, 2001; Tress et al., 2003), as cited by S. Nijhuis.

This main objective is broken into the following sub-objectives which can work with several systems of the landscape in the same time while they are also important guides in organizing the regional and local design and planning aims in a more structured way.
They consist of the following:

Quality of the rural and urban landscape (attractiveness);
Access to the countryside;
Identity (spatial and cultural);
Space for different lifestyles (multi-culture);
Multifunctional areas;
Attractive business locations;
Private participation with a view to social embedment;
Incentives for joint implementation

While all of them are somewhat crucial in treating the territory through the prism of the Regional park concept, in this thesis I will focus on the quality, access and socio-cultural identity of the open spaces with the aim to accomplish overall multi-functionality trait. These points of focus are expected to produce generic spatial principles even though every territory has its own specificities and the application of the principles will take different turn for each of them (Nijhuis, 2005).

To summarize, the spatial concept of regional parks can be understood as a system of : 1) leisure routes or "Open space networks" (Ward-Thompson, 2002) connecting cities and the countryside; 2) nature and landscape parks as a counter-model to the city (e.g. Kühn, 2003; Tummers & Tummers-Zuurmond, 1997) and, 3) cultural-historical hotspots for generating a sense of identity and "cultural biography" (e.g. Wolschke-Bulmahn, 2001; Rooijakkers, 1999). This requires the development of a landscape with scope for exploiting cultural and historical assets, tourist and leisure facilities, the sale of agricultural products, as well as places to live and work (Nijhuis, 2005).
If these functions are linked to green/recreational network they have the potential of enhancing the overall attrativeness of the landscape. Additionally, this approach is an instrumental source of inspiration for development of the natural landscape within metropolitan context. Thus, regional parks can be utilized in the development of new urban landscapes in a responsible manner, while safeguarding the spatial quality from every point of view.

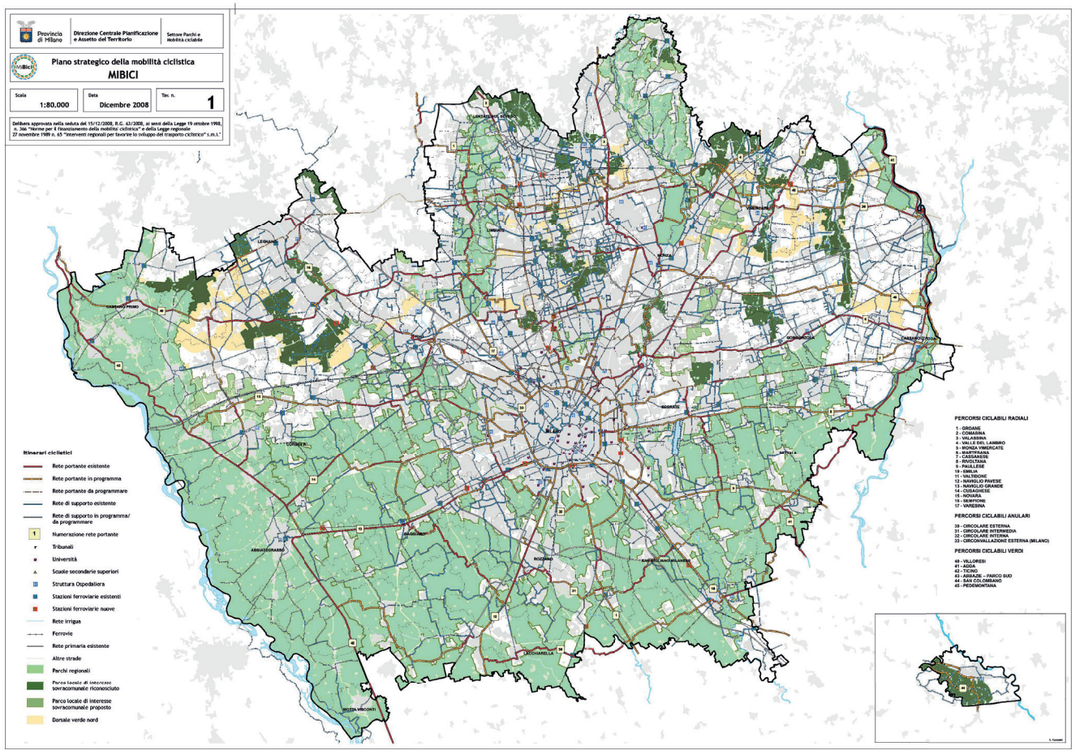




image source: http://beyondplanb.eu/projects/project_emscherpark.html
image source: http://www.europarc.org/case-studies/parco-agricolo-sud-milano-best-practices-peri-urban-agriculture/

'...:THE INCREASING CONSOLIDATION OF THE MILAN AGRICULTURAL DISTRICTS MAY CERTAINLY BE READ AS AN INDICATOR OF THE PERSISTENCE OF A VALUE ATTRIBUTION TO THE GENUINE MILANESE AGRICULTURAL TRADITION, CHARACTERIZED SINCE THE MIDDLE AGES BY A CLOSE VICINITY RELATIONSHIP OF ITS MAIN "PROPELLING ACTORS", WHICH IS TO SAY "THE CITY OF MILAN [...], RELIGIOUS AND MONASTIC CENTERS, AND BUSINESS FARMHOUSES". (BELTRAME 2000, 28)'

(MARIELLA BORASIO, 2014)

4.1 – **Learning from other projects**

Parco Agricolo Milano Sud

Location: Milano, Italy
Population: 3 063 361
Surface area: approximately 25,000 km2
Number of municipalities: 75 municipalities
Project duration: 2006 – ongoing
Costs: 4 000 000 Euro
Financial source: EU funds, Public local authorities
Corporate investment, NGO funds
Number of partners: 15 Regional park partners
(Sources: https://naturvation.eu/nbs/milano/metrobosco-project; (Steffen Nijhuis, 2017))

The Region of Lombardy established the Piano Territorial Regionale (PTR), an instrument designed to bring coherence to the strategic vision of the Region with which opportunities for local authorities were also indicated. Part of the PTR is a representation of the protected nature areas and landscapes. This also includes a number of regional parks, such as the Parco Agricolo Sud Milano.

This agricultural park was established in 1990 and is now part of the organisational structure of the new Cittá Metropolitana di Milano, which at the same time functions as a regional agricultural park and as a metropolitan park belt, which protects the open landscape from urbanisation.

A great deal of attention is paid to the:
1 protection of nature
2 the environment
3 culture and recreation
4 steering the development of agricultural activities and other traditional activities

These latter aspects give the agricultural park a strong thematic identity, which can be used in discussions and which encourages actors to participate in the park, as producers, citizens or entrepreneurs. In this way, the growth of economic, social and cultural communities is stimulated.

In the park's area plan there are three main typologies established:
1. **Agricultural land in the Metropolitan belt (open landscape);**
2. **Agricultural land and green in the urban belt, and**
3. **Connections between city and country**

The Recommended design principles and regulations differ in each of the three types. There is less enforcement and more room for interpretation in the development of the agricultural park.

Rhein-Main Regional Park

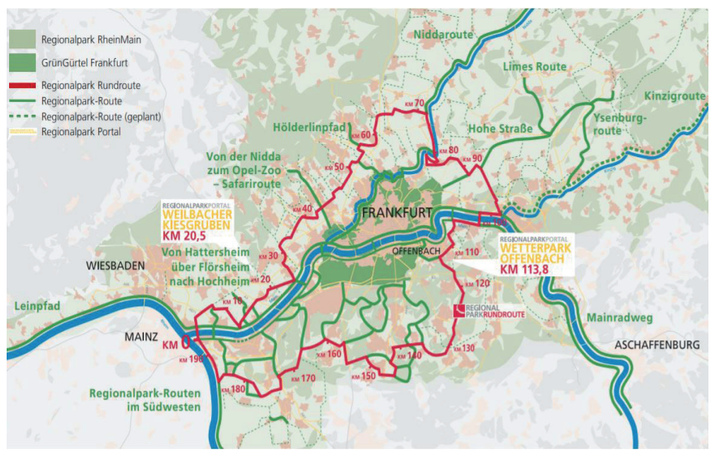
Location: region of Frankfurt Rhein-Main
Population: 3.7 million
Diameter: 100km

The region of Frankfurt Rhein-Main is located in the central part of Germany. It is a polycentric structure with a balanced proportion of built-up areas and open spaces. It contains a diverse blend of urban functions which construct a newly developed urban landscape. **These open spaces are a getaway for leisure and recreational activities and are a result of a long term design project.** As it was stated in the European Community document from 2001, **this regional park project aimed to:**

1. upgrade the open spaces,
2. interconnect them, and
3. create an equilibrium between nature, agriculture and recreational activities
(European Community, 2001)

Three step action:
Upgrading the open spaces ▸ connecting them with each other ▸ uniting and harmonizing nature agriculture, and recreational uses

The base for the park itself is the green buffer around Frankfurt and is comprised by means of **various pilot project** in different parts of the region**. The above mentioned green belt has been introduced since the 1930s and it is a strategy itself for protecting and connecting the open spaces of the landscape.** Since the 1990s, however, the regional plan has been established with the Rhein-Mein Regional Park as a **SPATIAL CONCEPT** and with the aim of further protection and development of open spaces.



http://www.regionalpark-rheinmain.de/de/erleben-entdecken/sehenswert/hofstationen/









The designated green spaces had two primary functions:
1. one of which to secure the vitality of the land regarding soil, water, air, climate, woodland and open spaces in the countryside, and
2. to preserve and develop recreational areas

Most important, the ***overall aim is to make them accessible for everyone***.

The Regional Plan is consisted of park-like network of paths and facilities which cross and interconnect the green areas of the Rhein-Mein region which is to further improve and develop the quality of regional green areas. 'Changes in recreational behavious are leading to changes in the demands made on the landscape, especially in the built-up areas of the region.

Strategic Vision for the Regional Land Use Plan:
1. safeguarding the open countryside between towns,
2. increases its perceived value, and
3. makes it more accessible to the public' is stated

It is further explained that with this idea a new kind of landscape would be created as well as a new kind of landscape use. It envisiones inclusion of the rural areas around the conurbation area, where a new set of opportunities would be made available via the attractivities provided by the Regional park. The Regional park would be linked with the networks of urban green in the various cities of the region and transitional zones would be established towards the surrounding nature parks via inclusion of the rural areas. The temporality of the Regional park is framed as a concept to be developed and extended over time and for broader areas. (Metropolregion FrankfurtRheinMain, 2005)

Interests of:
1. agriculture,
2. forestry,
3. environmental protection, and
4. recreational usage coallice to protect and develop the open space

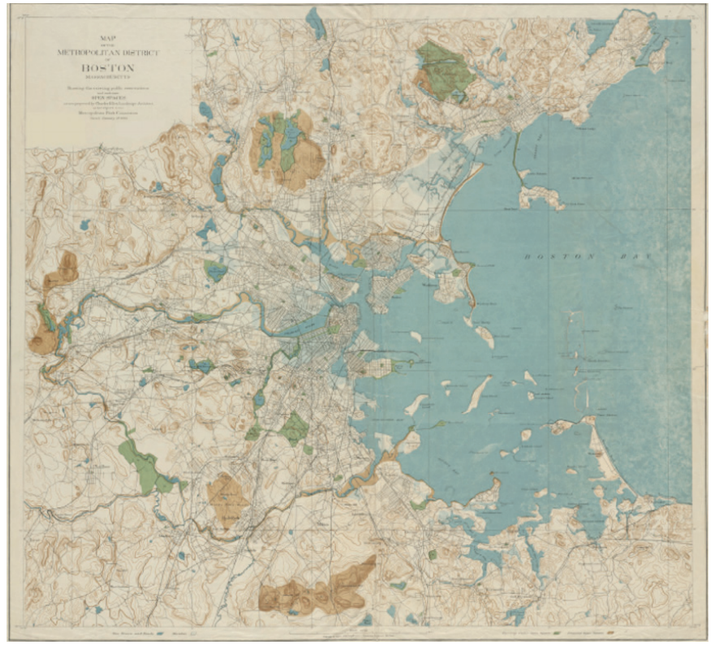
As such, the landscape park becomes an exploration ground for transforming the countryside into an artistic expression. This way, it is to enhance the attractiveness of the landscape via exploitation and development of cultural and historical assets as well as tourist and recreational facilities. It is evidently inevitable to provide good public transport connection in order to increase the level of accessibility of these areas and cater to all potential user groups. (Nijhuis, 2014) A remarkable representative is the Hattersheim-Flörsheim-Hochheim pilot project, a design approach that treats the fragmentation between agricultural and natural spaces.

The aim of strategic projects: First, the projects needs to assist in developing a regional park through regional network of recreational routes. Second, it must improve the quality of the green projects for spaces in the urban tissue. Third, it should enable visibility of cultural and historical relics, monuments and other heritage structures.

Regional park system for greater Boston

Location: Boston, Massachusetts
Population: 1 400 000
Surface area: 1,100-acre chain of green spaces (445 ha)
Number of municipalities: two municipalities: Boston and Brookline
Project duration: 1872 to 1892 and constructed by 1895
Costs: 16 million dollars

Thick plantings along their borders, separating and excluding commercial traffic. He strove to bring the landscape as close to as much of the urban population as possible. He conceived of entire systems of parks and interconnecting parkways to connect certain cities to green spaces and invested into a strong sanitary engineering aspect.
First of all he had to provide adequate space to hold the floodwaters and have at the same time room left for natural growth. Secondly, he had to protect the natural shoreline from erosion by surf during storms gradually shelving banks wide islands slightly above the usual water level which would be planted.

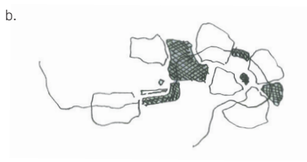


source: https://www.oldworldauctions.com/catalog/lot/115/252

a.



b.



a & b. Underlying principles of the Boston regional park system (derived by author)

«Emerald Necklace» consists of several small parks that are linked by tree-lined roads called parkways. This concept of separate but connected parks provided a way to link newly-added areas to the traditional city center while providing several forms of recreation. 1.Olmsted placed high value on nature.

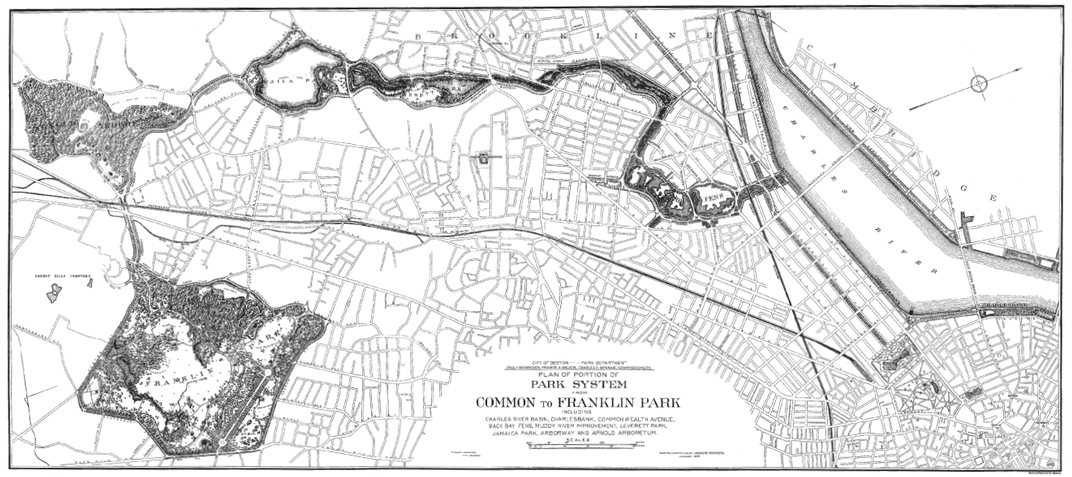
2. Believed that the imaginative nature of the developing practice of landscape design could relieve stress of crowded cities and encourage naturalness in social relations.

3. He argued that the growth of cities is inevitable and fundamentally beneficial to society, and that incorporation of parks and natural landscapes into the urban fabric could counter many of the negative effects coming from this growth. The main principles that guided early park planners:

1. Adaptation of design elements to the natural landscape
2. Creation of a rural rather than a formal atmosphere
3. Importance of large park tracts to give sense of a get-away possibility
4. Design of citywide systems of large parks connected by parkways and boulevards
5. Recognition of value of acquiring park lands in advance of outward city growt

Everything started with a group petition to the city to reserve space for public parks to encourage community and a sense of identity to public space.

Five categories determined by Eliot: oceanfront, inner bay shores and islands, tidal estuaries, outer rim forest, and small squares and parks in the city's densely-populated areas. It was of utmost importance to Eliot that the geography of the region should inform the selection of park sites.



source: https://en.wikipedia.org/wiki/Emerald_Necklace

Emscher Park, Ruhr

location: German Ruhr region
realization: 1990 – 2002
area: 450 sq. km
cost: 2.5 billion euros
population: 2,000,000

The Emscher park marked 100 years of mono-functional industrial productive landscape before a potential was recognized for strengthening of the innovative power and sustainability within its forgotten infrastructures.

The core of the problem which initialized the rethinking of this area was the sprawl, lack of open space for nature safeguarding and recreation, fragmentation of settlements and landscapes by transport infrastructure lines etc.

The crucial strategy for regeneration of the Ruhr area was to bring to the existing regional green corridors a new, connecting green corridor link. In the west the focus was on recovery of open spaces. The coherence was to be accomplished by a system of decentralized stepping stones. They would comprise a network-like system that develops, protects and connects ecological features and through that, industrial-cultural objects. (www.ruhrgebiet-regionalkunde.de)

3 main elements were to characterize the park:
1. development of regional lead planning
2. framework planning for six regional green spaces
3. local planning

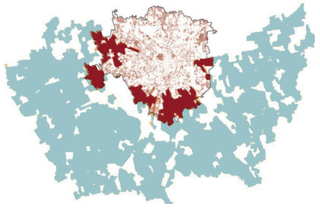
The overall characteristic of the park is that it strives to overcome fragmentation with LANDSCAPE INFRASTRUCTURAL APPROACH. It inter-connects green spaces into an ecologically strong network, structuring the Middle Landscape in the Ruhr area - INTER-CONNECTED DEVELOPMENT CONCEPT. Therefore, a new cultural landscape is to be shaped.



http://www.ruhrgebiet-regionalkunde.de/html/erneuerung_der_infrastruktur/freiraum_und_gruenflaechen_/emscherpark.php%3Fp=2,4.html

4.1.1 – **Adopted general strategies.**

Valuable lessons stemming from similarity of the context and challenges dealt with in the chosen case studies are expected to inform the process of application of principles into the research by design practice:



existing network of open spaces
open spaces that have future projects
other lands of Parco Agricolo Sud

Stakeholder scheme



1 Parco Agricolo Sud authority
2 Farmers' community
3 Municiplaity of the city of Milan
4 Citizens and visitors

Source: Interactive Landscapes, Strategies for City Edge Recovering. Graduation project, Xenia Abramovich. Politecnico di Milano, Faculty of Architecture and Society. July, 2014

PARCO AGRICOLO MILANO SUD, in Milan

MAIN STRATEGY:
* metropolitan park belt and a regional agricultural park as means for protecting the open landscape from urbanization
* environmental balanceof the metropolitan area
* safeguarding and development of farming activities
* cultural and recreational fulfullment of the users

STRATEGY 1 - PARTICIPATION OF LOCALS AS A PROTECTION MECHANISM
strong thematic identity, provided by protection of nature, the environment and culture and recreation thus encouraging participation of the locals which brings to stimulation of economic, social and cultural growth

STRATEGY 2 - ACCESSIBILITY:
connections between cities and countryside

STRATEGY 3 - EMPOWERING OF LOCAL IDENTITY:
empolying recognizing and strenghtening of the local identity thus care and motivation for protection and identifying with that space

STRATEGY 4 - protection of agricultural activities and natural environment

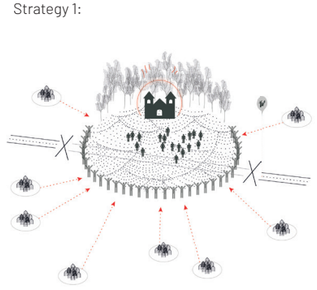
STRATEGY 5 - enhancing the architectural heritage

WHAT IS ACCOMPLISHED:
* a guarantee that open space areas will not be destroyed by urban expansion and the traditional agricultural landscape will be preserved
* awareness for environment problems, importance of traditional landscapes and sustainability planning

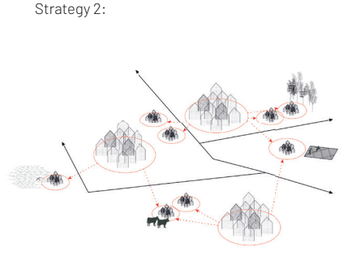
STAKEHOLDERS:
* all the land of the park is under the direction of Parco Agricolo Sud organization, but the capital of the Lombaria province, Milan, has an important role. Together they plan and manage the park surface. Fragmentation would lead to weaker management so how they dealt with is more productive. However, farmers collaborate in management of public spaces and managing and cultivating some of the traditional landscapes.

STAKEHOLDER ACTIVITIES:
*Citizens visit farms for shopping but also to learn about the park and appreciate the environment and agricultural landscape.
*Many consumers frequent the earth market where are also developed environmental education activities aimed at knowledge of the park's topics. *The development of collaborative networks between farms and allowed the park to have a greater recognition among its users.

Strategy 1:



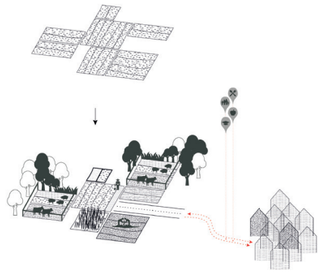
Strategy 2:



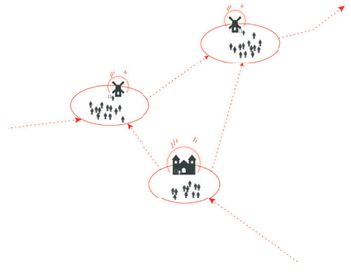
Strategy 3:



Strategy 4:



Strategy 5:



RHEIN-MAIN REGIONAL PARK





source: https://www.adfc-frankfurt.de/Frankfurt_aktuell/FFA_Archiv/Ausgabe_2016_2/2016_2_17_mtk_wo_hat.html

source: http://www.reinmein.info/ideenreich/singleview/article/eine-region-zeigt-was-in-ihr-steckt.html

MAIN STRATEGY:
3 Step approach-
* upgrading of open spaces
* connecting them with each other
* uniting and harmonizing nature, agriculture and recreational uses
* securing a network of open and green areas in the densely populated conurbation
* assign a role to green spaces to secure the vitality of the land regarding soil, water, air, climate, woodland and open space in the countryside

STRATEGY 1 - to preserve and develop recreational areas

STRATEGY 2 - ACCESSIBILITY
the common denominator is to create overall accessibility

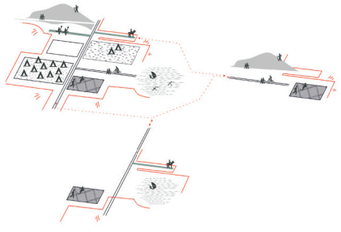
STRATEGY 3 - CONNECTING OPEN SPACES

STRATEGY 4 - NETWORK OF GREEN INTERCONNECTED AREAS

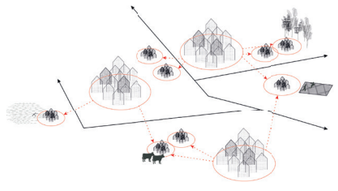
PILOT PROJECT:
Hattersheim-Flörsheim-Hochheim pilot project has combined and marked scenic routes, parks, gardens and cultural points of interest

STAKEHOLDERS:
It was developed by the Frankfurt/ Rhine-Main Conurbation Planning Association and financed by actors from the urban region. In 2005 an organization was formed by major cities, counties, planning association and the Hesse government to manage the functions of the park. (https://difu.de/node/5965#32)

Strategy 1:



Strategy 2:



Strategy 3:



REGIONAL PARK FOR THE GREATER BOSTON AREA



source: https://www.boston.gov/departments/transportation/boston-green-links

MAIN STRATEGY:
*green blue system as armature
*using social and ecological processes to establish local identity founded on local context characteristics

STRATEGY 1 - GREEN CONNECTIONS
screening the regional park spaces with thick planting along the borders

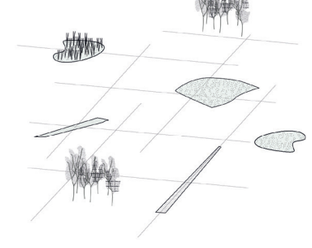
STRATEGY 2 - separating and excluding commercial traffic

STRATEGY 3 - GREEN PATCH SYSTEM
*system of several small parks linked by tree-lined roads - 'parkways'
*separate but connected parks as a device for linking newly developed areas with centralities and old cores

STRATEGY 4 - RECREATIONAL CORRIDORS
providing connections of various recreational possibilities

GOVERNANCE:
continuous unifying system irrespective of municipal boundaries

Strategy 1:



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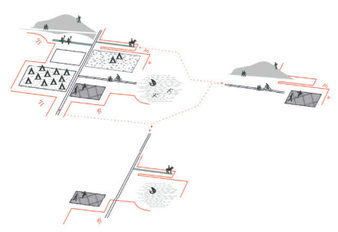

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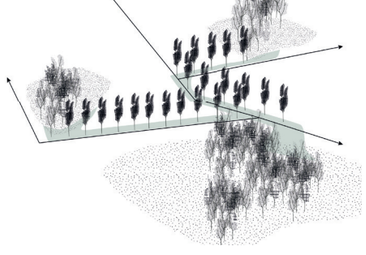


EMSCHER PARK, GERMAN RUHR REGION





source:http://fahrradtour.ruhr/emscher-park-radweg/

source: http://www.urbangreenbluegrids.com/projects/landscape-park-duisburg-nord/

MAIN STRATEGY:
* providing space for nature development, leisure and recreation and cultural heritage
* setting quality building and planning standards for the environmental, economic and social transformation of an old industrialised regio
* over-bridging fragmentation via Landscape infrastructure approach
* develop and interlink the existing patterns, formed by the previous industrail use, and to find an alternative interpretation with a new expression and compose a new landscape from the existing fragments
* setting up an informal process to stir hundreds of projects into one context
* promoting cheap dwelling solutions within existing or new buildings

STRATEGY 1 - RECYCLING OF HISTORICAL LEGACY
industrial relics were adopted to the new use of cultural activities

STRATEGY 2 - CONTINUOUS GREEN NETWORK
interconnected green space network structuring the 'Middle landscape'

STRATEGY 3 - ENABLE INDEPENDANT FUNCTIONING OF THE OPERATIVE SYSTEMS
the low-lying water park, the single fields and clumps of vegetation, the promenades at street level connecting parts of the town which were separated for decades, and the railway park with its high level promenades and the rail harp (www.latzundpartner.de). they would only connect at strategic points.

STRATEGY 4 - STRATEGIC 'FLAGSHIP' APPROACH
there were chosen project and icons that were appointed for transformation

STRATEGY 5 - INTRODUCING TERMINOLOGY TO CONSTRUCT IDENTITY
introducing terms to reference roots in the past, but via social activation through art and entertainment programs

STRATEGY 6 - ACCESSIBILITY
developing infrastructure and good connections to major cities surrounding the area

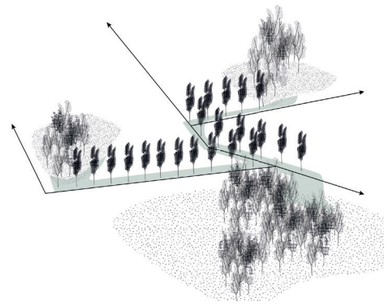
RESULT:
* transformation from an industrial to a cultural landscape
* conserved and protected industrial monuments
* improved quality of life and infrastructure
* economic revitalization

STAKEHOLDERS:
Multi-stakeholder process IBA Emscher Park Gmbh, The municipalities of the involved cities and independant organizations of the participating cities. Very high common sense of urgency was present among the various actors involved. 20 industrial municipalities were involved as a network within the Emscher region, to support each other.

Strategy 1:



Strategy 2:



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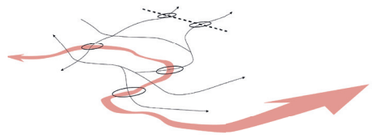

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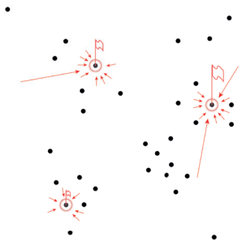

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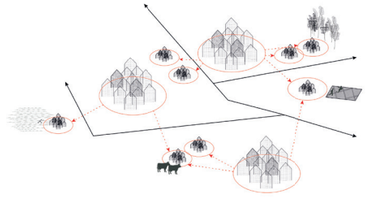

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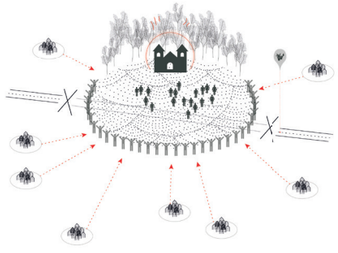


precendents_main focus

PRECEDENTS

QUALITY **how is activation of rural and agricultural landscape generated?*
**how is social attractiveness accomplished?*

ACCESS **how is accessibility to the countryside and the ecological backbone provided through design?*

SOCIO-CULTURAL IDENTITY **how is cultural/historical heritage integrated through design?*
**how is cultural/historical heritage utilized in enhancing the spatial and cultural identity of the region?*

PARCO AGRICOLO SUD MILANO

METHODS & APPROACHES:
1. success in peri-urban agriculture as an element that allows practicing soil conservation, but also food production
2. the promotion of the "km 0" phenomenon - signifies local, low impact primary ingredients, including meats, cheeses, grains, honeys, and has become the ubiquitous buzzword of the late blooming locavore movement in Italy. Development of projects: dialogue between INSTITUTION - FARMERS - AGRICULTURE UNION REPRESENTATIVES
3. "the earth market" - Earth Markets are part of a worldwide NETWORK of farmers' markets respecting the SLOW FOOD philosophy. COMMUNITY-run farmer's markets that strengthen local food networks, ... Fair prices for both consumers and producers that foster LOCAL ECONOMIES
4. multi-functionality owe time, even with mono-cultures: dialogue and promotion of actions and products. -> multi-functionality -> added value = improved economic capacity
5. re-store relationship between town and country - disseminate services and offers. publicized guide

TOOLS AND STRATEGIES:
1. 'km 0' supply chains: 2. weekend farmer's market:
3. boost of peri-urban agriculture: 4. "the earth market"

METHODS AND APPROACHES:
1. to strengthen the territorial ecological network, the Park has carried out numerous redevelopment projects of its ecological corridors, often represented by the branches of the dense irrigation network, also through the forest and floristic re-qualification of the banks of canals and canals.
2. to these areas of considerable naturalistic interest are added green additions in areas characterized by a certain anthropization but that from the point of view of flora and fauna are part of the system of green areas, which constitutes the ganglia of the ecological network of the Park.
3. compensatory afforestation as a step against soil sealing - whereby forest areas that are removed need to be replaced
4. identifying transition zones to ensure green space connectivity, protecting and managing urban and peri-urban areas

TOOLS AND STRATEGIES:
1. (compensatory) affor estation
2. green additions
3. transition zones

PROJECTS:
ex. 1: HISTORIC VILLAS AND THE GROANE PARK (A cycle touring itinerary, suitable for everyone, to get to know and enhance the landscapes of the area west of Milan)

RHEIN MAIN REGIONA PARK, FRANKFURT

motto "Making Sense of Landscape - a Landscape for the Senses"

METHODS & APPROACHES:
1. developing a 500 km-long system of park-like regional routes to form a green backbone
2. well established infrastructure e.g. shopping facilities, universities etc.
3. green axises from the surrounding landscape to the city-core of Frankfurt

GOAL:
1. active management strategy to save the remaining open spaces in between settlements in the Rhein-Main agglomeration.
2. to enhance the experiential value of regiona green corridors with a continuous system of attractive open spaces
3. to strenghten regional awareness

TOOLS:
1. the routes of the park are designed in a way that they are accompanied by tree alleys, shrubs and meadows on both sides of the paths

METHODS & APPROACHES:
1. physical linking of existing and new landscape elements e.g. recreational facilities, parks, nature conservation areas, landmarks
2. connecting local highlights with a grid of pedestrian and cycling paths
3. well established infrastructure such e.g. public transport systems
4. connections are provided by utilizing existing structures such as farm paths, called 'Regiona park routes'

PROJECTS:
ex. 1: successful development of pilot projects in various areas and sub-areas
ex. 2: The to the existing landscape features new ones are added e.g. to emphasize the value of the landscape: look outs, sculptures, landmarks + local sites activated through gardening activities and orchards

METHODS & APPROACHES:
the proposed routes interlink former alloted cultural features, natural attractivities etc.

EMSCHER PARK, GERMAN RUHR REGION

METHODS & APPROACHES:
1. chanelling the process of transformation of the industrial landscape
2. providing space for nature development, leisure and recreation and cultural heritage
3. setting quality building and planning standards for the environmental, economic and social transformation of an old industrialised region
4. develop and interlink the existing patterns, formed by the previous industrial use, and to find an alternative interpretation with a new expression and compose a new landscape from the existing fragments

TOOLS AND STRATEGIES:
1. working through scales - regiona section, 17 municipalities: programatic level - solutions for reuse of massie industrial sites and wastelands into a network of regional open spaces and strong ecological focus:
2. integration of housing, manufacturing and service industries into formerly un-attractive industrial sites
3. network of interconnected recreational areas comprising an overall regional open space (http://courses.umass.edu/latour/Germanyladungcal/index.html)

METHODS & APPROACHES:
1. over-bridging fragmentation via Landscape infrastructure approach
2. providing space for nature development, leisure and recreation

TOOLS AND STRATEGIES:
1. gradual creation of continuous green area and landscape park crossing the northern Ruhr
2. ecological improvement of the Emscher River System - redevelopment of the Emscher river and tributaries
3. using elements like gardens, water parks, old canal systems, and former infrastructure lines as promenades - PATHS, to connect neighboring cities with the park structure

METHODS & APPROACHES:
1. develop and interlink the existing patterns, formed by the previous industrial use, and to find an alternative interpretation with a new expression and compose a new landscape from the existing fragments
2. providing space for cultural heritage

TOOLS AND STRATEGIES:
1. utilization of heritage buildings

ex 1, Partial project Sinter Park - The place of the former sintering plant was heavily contaminated and there was a plan for it to be demolished demolished. Today it is a flourishing meadow and a shady grove, place for hosting a festival event, stitched to the side of the plant as a reminder of the overhead railway and an elevated walking platform of 300 meters lenght. It leads the way around the bunkers and gives views on the gardens built at various heights and depths within the bunker site. (www.latzundpartner.de)

Impressions from natural landscape in Milano Sud Regional park





source: http://www.cittametropolitana.mi.it/parco_agricolo_sud_milano/natural/boschi.html#prettyPhoto

The regional park watchtower at Weilbach



The iron tree - an unconvetional watch tower



source: https://de.wikipedia.org/wiki/Regionalpark-Turm

LAndscape park Duisburg - Nord



LAndscape park Duisburg - Nord



source: //www.latzundpartner.de

PART 5

Metropolitan Park Amsterdam-Haarlem. Application

AMBITIONS OF THE PARK
The main traits of the proposed structure should provide better:

Connectedness
Degree to which systems (similar, e.g. natural habitats) are connected in space facilitating movement between system's elements.

Porosity
Diversity of urban configuration/ material - Accomodate diversity in programme and eco-systems

Legibility
Continuity of urban configurations and difference in depth of space

Openness of the system
Ability to accomodate unforseen conditions

5.1 – **Application. Research-by-design framework elaboration**

PROBLEM

URGENCY

1

What is the nature of open spaces nowadays?

challenges

1st LEVEL ▸ major infrastructure lines/ taludes/

2nd LEVEL ▸ water protection infrastructures/ water lines

3rd LEVEL ▸ missing connections in the soft mobility network partially resulting from the above

POTENTIAL CONNECTORS (EXISTING)

2

Which physical assets are there to work with?

potentials

▸ GREEN CORRIDORS tree lanes/ linear parks

▸ GREEN PATCHES natural parks/ forests/ urban parks

▸ WATER LINES canals/ ditches

POTENTIAL CONNECTORS (TO BE PROPOSED)

INPUT FROM PRECEDENTS (design toolkit)

3

What physical re-adaptive steps can be introduced?

design tools

▸ PLACING GREEN/BLUE INFRASTRUCTURE ELEMENTS (re)forestation, greening, water storage areas...)

▸ RE-DESIGNING CRITICAL SECTIONS

▸ RE-WIRING DISCONNECTED ELEMENTS OF THE SOFT MOBILITY NETWORK

▸ RE-PROGRAMMING MONUMENTS & HERITAGE STRUCTURES OF STRATEGIC IMPORTANCE

Transitioning through scales:

Regional perspective → on the level of regional landscape infrastructure

Local elaborations → on the level of single patch / inter-patch level

+

architectural level
test interventions



how?

operations

REGIONAL PARK AS STRUCTURING DEVICE
(OVERCOMING MONO-FUNCTIONALITY)

ADAPT
TRANSFORM
NAVIGATE
RE-DIRECT
PERMEATE

PATCHES

spatial elements of uniqueand individual characteristics and qualities -> provide adequate level of exposure through design, dependingon the content of each patch.
-going to- / -passing through-

DEGREE OF OPENNESS TO CONSUMPTION

EXPLOITABLE
SEMI-EXPLOITABLE
NON-EXPLOITABLE

TRANSITIONAL
EXPERIENTIAL
INACCESSIBLE
RECREATIONAL

VALUABLE AS ECOSYSTEMS

SPINE

unifying spatial element -> should entail overall design strategic tools on regional level. ensures re-mediated ecological and social flow and

5.2 – **Regional strategy**

OVERALL STRUCTURAL VISION
When the city disintegrates into an archipelago of fragments a new role is also imposed on the landscape as a carrier of topographic characteristics, spatial cohesion and continuity.

- REGIONAL STRUCTURAL VISION
  base:
  mobility system,
  water system,
  soil system

THE OVERALL UNIFYING STRUCTURE

- spatial operations

Step 1
overall structure:
ECOLOGICAL BACKBONE

Step 2
overall structure:
MOBILITY SYSTEM

Step 3
overall structure:
INHERENT LANDSCAPE CHARACTERISTICS

*Transform:
verb

make a marked change in the form, nature, or appearance (of something)

- Transform



*Permeate:
verb

go into or through (something)

- Permeate



*Navigate:
verb

guide (a vessel or vehicle) over a specified route or terrain

- Navigate



*Redirect:
verb

direct (something) to a new or different place or purpose

- Re-direct



*Adapt:
verb

make (something) suitable for a new use or purpose; modify / become adjusted to new conditions

- Adapt



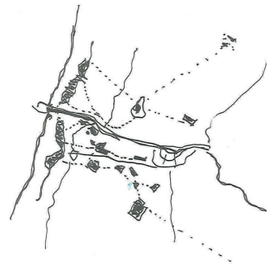
(All operations have been defined in order to clarify their use later in the report.)

CURRENT CONDITION

ELEMENTS OF STRATEGIC VISION



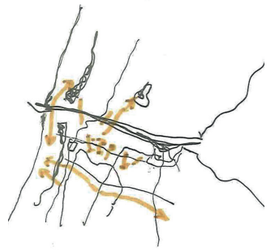
transformation



CONTINUOUS GREEN NETWORK



transformation



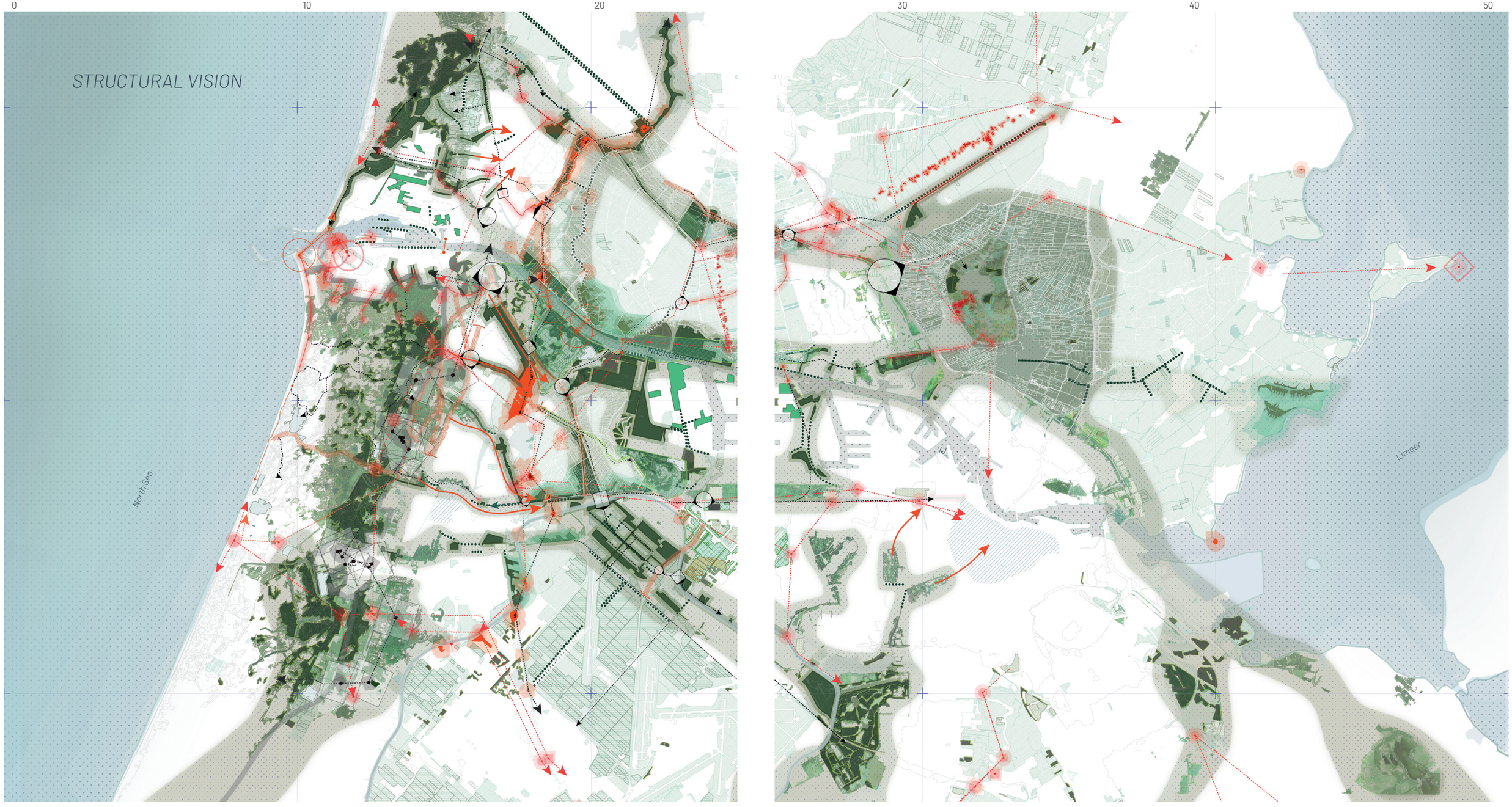
ACCESSIBILITY/ MOBILITY



transformation



MULTI-FUNCTIONALITY/ SOCIAL ATTRACTIVENESS



110 Open space as a structuring device.

111 Metropolitan Park Amsterdam-Haarlem. Application

ECOLOGICAL BACKBONE

Step 1.

PREPARATION OF GROUND LAYER.
IMPROVING LEGIBILITY.
STRUCTURING THE FUTURE GREEN PATCHWORK.

CARRYING STRUCTURE
FOR THE REGIONAL PARK

Why?

- enhance ecological value/
- provide ecosystem services/
- recover continuity of ecological network/
- re-naturalize overly artificialized landscape



mappings by author on basis of the obtained GIS data (see bibliography and sources)

STARTING POINT:
On the map on the right the green system of existing park patches is represented. Constellation of numerous open spaces of various natural value are dispersed across the southern part of the province. Currently these natural areas are highly fragmented and lack the properties of a solid regional park system. That is, except for being physically detached these don't share other common platforms for social, cultural or other interactions and are often programmatic and functional islands of their own. In order to be binded together and start behaving as one autonomous system of diversity of values, a vision and physical ecological features are proposed. Through natural patches, corridors and lanes the area is rethought so as to contribute to the desired cohesion and protect under a common umbrella these diverse values.

The existing green network of the Metropolitan area is currently highly fragmented. However the understanding and classification of the content and value of the existing green patches is used as a method to set the priorities on the potential robust green regional structure. For this, the existing green patches in and outisde urban areas as well as bigger parks on the edges of urban areas were mapped. These were to be considered and integrated into the proposed ecological backbone.

Relevant findings from mapping analyses.

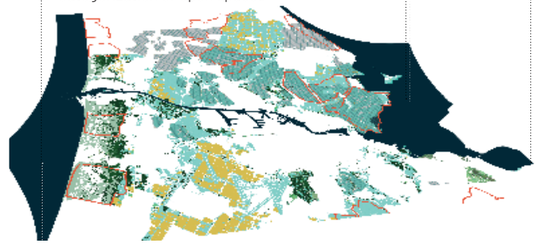
Green patches - parks



Level of protection

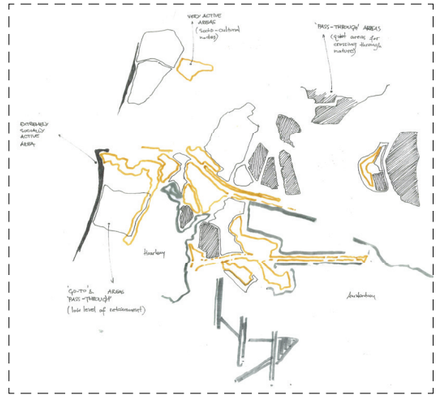


Categorization of open spaces



mapping by author on basis of the obtained GIS data (see bibliography and sources)

The findings of the analyses were derived into a set of useful information to work with. The fragmented network of green patches gave insight into how to integrate the ecological elements previously described. Furthermore, the level of protection of the open space green areas assisted into drawing a conclusion on which open spaces are to be more exploited, as opposed to areas of smaller visitors' frequency. Based on this a three level system of areas was defined, pass-through areas - areas with low level of retention, go-to areas, areas that are suitable for absorption of activity and programmes, and areas of moderate use.



\+
PHYSICAL
OPERATIONS

Transform



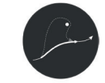
Permeate



Navigate



Re-direct

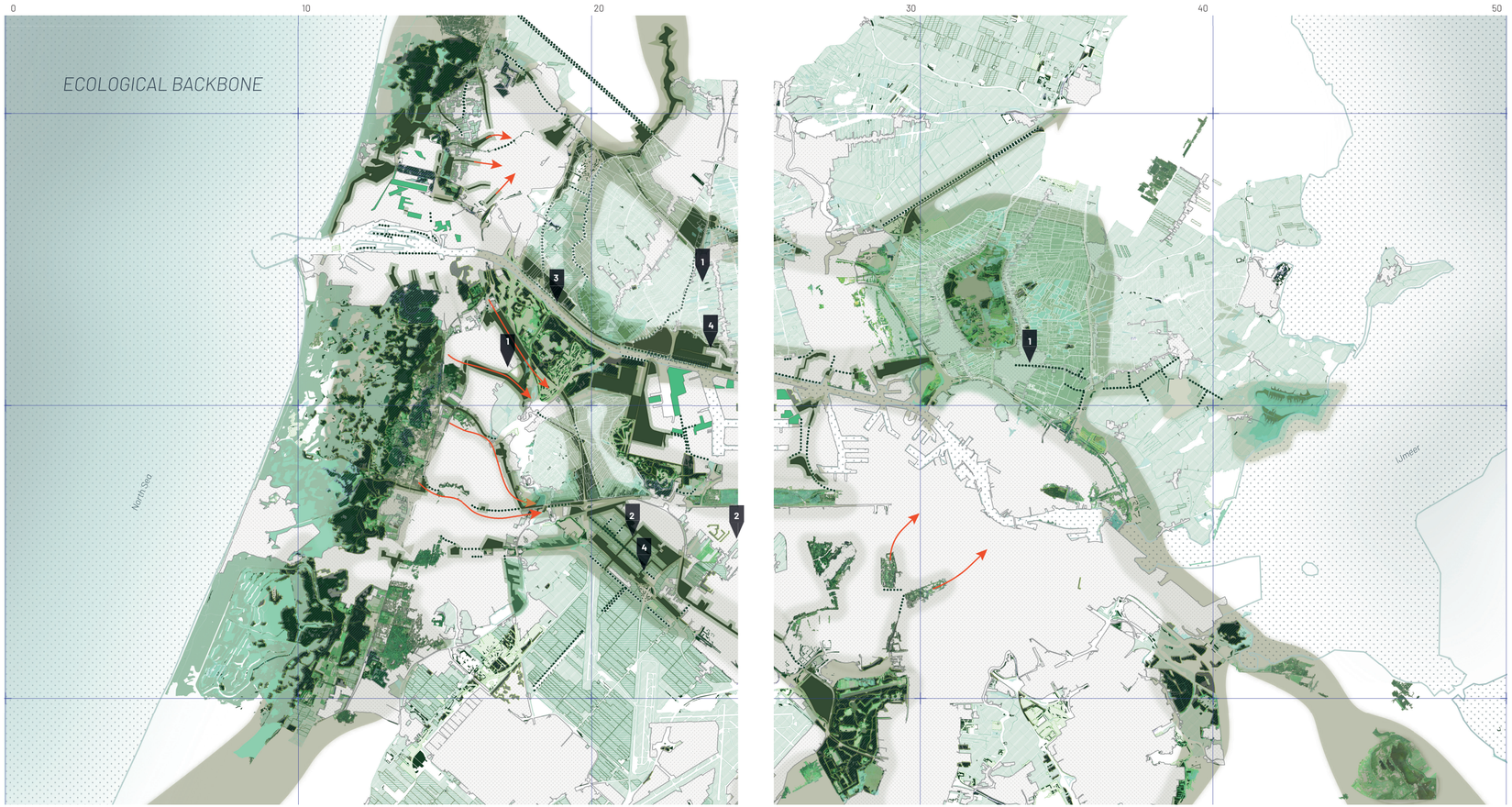


Adapt



Furthermore, it was important to understand the classification upon level of protection of these patches at national level. The governing body of protected sites, Natura 2000, as well as other national protection organizations safeguard through policies a wide range of unique natural areas relative to the eco-system diversity and indigenous habitats that have evolved in some of these patches.

Finally, the land use of the green patches of the existing green network gave insight into the types of functions and uses executed, the ground level characteristics and consequently the possibilities that each of these patches hold.



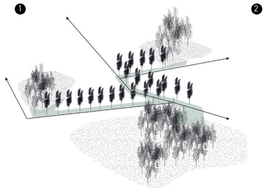
LEGEND

- major water bodies
- agricultural land
- grassland
- highly urbanized areas
- trace of ecological flow
- dunes
- existing green recreational areas

proposed

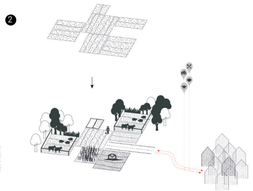
- green patches within industrial platforms
- middle-to-high vegetation patches
- linear forest/hedge patches
- tree lanes
- potential connections with inner city park patches
- natural green successionareas

APPLIED STRATEGIES:



WIRING OF FRAGMENTED GREEN PATCHES.

This strategy, as adopted from the analysed case studies and one of the leading principles of the regional park concept, is crucial for obtaining a fluent and strong green backbone which would set the basis for further development and resilience of this same structure over time. The more the time passes, the more rooted and stronger these connectors become. This is the case especially because as natural and pleasant lines in the open landscape they become the basis for slow mobility routes, next to ditch lines and as continuous natural features they enhance mobility of species. This strategy referes not only to tree lanes but also green corridors between patches of higher ecological value.



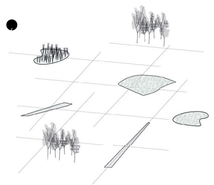
MULTI-FUNCTIONALITY IN AGRICULTURE.

Multi-functionality in agriculture and farming brings added value and improves the economic capacity of the producers. Furthermore, protected, promote and well marketed agricultural activity could restore the relationship between uran areas and the countryside.
Additionally, the structural plan envisions integration of the natural environment with agricultural activity, or rather, bringing nature to the agricultural field. This strategy works toward mitigating the impact of mono-culture and industrialization in agriculture which negatively affect biodiversity, soil health and quality of products.



GREEN RECREATIONAL CORRIDORS.

Recreational islands are abundant in the Metropolitan area. There is no problem of lack of recreational programme even though there is always space for improvement. The actual disadvantage is the limited accessibility to them and their isolation into the landscape due to under-articulated surrounding open space landscape. The proposed green corridors could represent a base for remediating the insufficient accessibility and the invisibility of recreational programs as well as using the green infrastructure backbone to rely its recreational network of cycling, hiking, horse-riding and other uses on it.



WELL LINKED GREEN PATCH SYSTEM.

The sufficient amount of green patches and stepping stones is beneficial from several aspects. While they provide secure passages for species, they also act as buffers for excess water by reducing the run-off and through evaporation. The tree canopy is essential near areas affected by heat-island effect but they also provide space for diversification of various habitats habitat. Last but not least, this strategy which promotes a wide constellation of green wood-land areas would in the same time provide basis for further development of the slow mobility network and with its permanence also gurantee permanence of other, more vulnerable features which rely on it.

Only 11% of the territory of the Netherlands is covered by forests (www.citylab.com). This places the Netherlands, together with Ireland, on the spot of least wooded countries in Europe. As a reaction to this, the Holland's State Forestry Commision, Staatsbosbeheer, has put forth a plan for enhancing the country's forest coverage by about 25% in 2016. This step is incentivized by the consistant high vlaues of CO2 carbon emissions and the will to offer to the people from the highly populated metropolitan areas of the Netherlands places to escape the city and maintain healthy lifestyle away from urbanization and in nature. The strategy for intensification of the amount of green is means for mitigating the above mentioned issues.

However, the thesis utilizes green backbone formation as a medium for confronting a rather broader challenge which under its umbrella covers a spectrum of ecological, social and accessibility issues of the open space landscape. That is the problem of fragmentation and encroachment, elaborated in the first half of this book. What the ecological backbone strives to accomplish is:

> enhance the ecological value of the open space landscape
> provide better ecosystem services
> recover the continuity of the ecological network
> re-naturalize overly artificialized landscape

The ecological structure should be established on the principle of rewiring the existing linear or massive green patches, urban parks at the fringes of urban areas, linear green corridors and ecological patches of high value into a robust and permanent carrying structure, which is to develop over medium-short, to medium, to long period of time. Its complex process of implementation would reflect into slower development dynamics due to the direct involvement of natural features which are characterized by a slow development pace. In return, this will provide a strong and more resilient green spine that will unite the smaller territorial units, nourish them, and allow for their higher occupational flexibility.

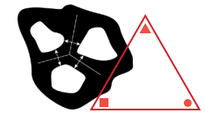
STRUCTURAL MAP OF PROPOSED STRATEGIES.

A *1. The land that belongs to the industrial platform of Tata Steel on the North Sea canal contains plentiful of underused brownfield areas and greyfields. A system of green stepping stones as small oasis could be implemented to lower the heat island effect, provide pleasant space for employees of the factory and finally, act as filters for the unavoidable air pollution generated in this zone.*

A *2. The open space area at the north of the Haarlemmermeer polder is currently serving the needs of the intense mesh of roads and railways. What if this area could be re-imagined as an analogy to the grey mesh of roads, into a green mesh of wood-land patches and tree alleys to enhance ecosystem services and provide a substantial buffer between the dominant airport infrastructures and the surrounding neighbourhoods? The inherent soils found there could potentially bare the cross of an intensive natural reserve structure and become an important green elements that is now missing in the overall ecological network.*

For the application of the strategies three main operations were taken into account. Transformation, adaptation and navigation were tools with which to imagine the physical manifestation of the concepts introduced through the strategies. The transformative design actions proposed significant changing of the interface of designated areas, as indicated in the map on the right. These are to drastically improve the ecological and environmental performance, through a sound altering of the targeted patches. Furthermore, the application of the adaptivity operation into strategic areas will mean subtle altering, adjustment, or creation of conditions to enhance the agency of natural evolvement processes that are now suffocated under the pressure of industrialization and artificialization of the landscape. Finally, the operative tool of navigation treats the ecological backbone holistically in such way that it gives the direction and intensity, as well as form and appearance, of the features constituting this backbone.

STAKEHOLDER INVOLVEMENT



public actors
private actors
civic actors

INSIGHTS ON STAKEHOLDERS' AGENCY:

This step has to be sensitive and considerate of all actors affected. For instance, if agricultural land is to be adapted to agro-forestry then the plan should be communicated in advance and presented to the farmers who operate that land. The steps of implementation should be incremental and involve the stakeholders at any stage to avoid conflict of interests. That way the level of production would be maintained and farmers would have chance to be better informed and start regarding the regional park not as one more competitor to their business but rather a valuable contributor. Farmers would benefit from activity-oriented sources of earning like for example recreational services or direct marketing of their products.

NATIONAL LEVEL
*The Rijkswaterstaat
*The Staatsbosbeheer

PROVINCIAL LEVEL
*Noord Holland province

REGIONAL LEVEL
*Regio IJmond
*Amsterdam Metropolitan Area
*Hollandse Noorderkwartier
*Hoogheemraadschap van Rijnland
*Amstel Gooi en Vecht

MUNICIPAL LEVEL
*Municipalities within the reach of the proposed structure

+

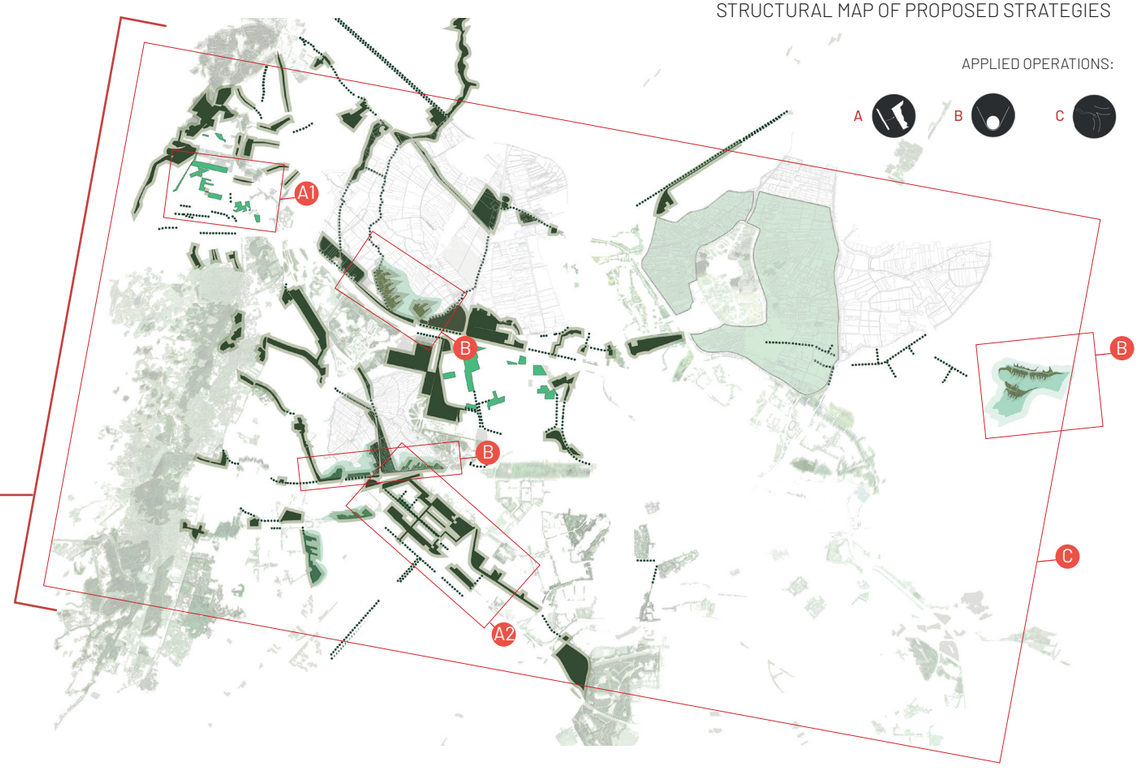
EUROPEAN LEVEL
*Natura 2000

+

*Farmers
*Farmer associations
*Port of Amsterdam
*Tata Steel

*Nature protection organizations
*Tourism organizations
*Agro-tourism organizations
*The Netherlands cycling federation
*Bird watchers

STRUCTURAL MAP OF PROPOSED STRATEGIES



THE NETWORK OF CONNECTIONS.

Step. 2

ENHANCEMENT OF OVERALL ACCESSIBILITY.

ACCESSIBILITY TO REGIONAL OPEN SPACE STRUCTURE

Why?

- to enhance soft mobility movement through the open space territory and the strategic nodes of development potential and cultural/ ecological value
- to enhance peoples' perception of the value of open spaces

The network of slow mobility in the area is quite efficient and branched out at first sight. However, when looking more closely, it is evident that the fragmentation of the territory has also affected the accessibility and connectivity between areas which share ecological, social, recreational, cultural and other values. The major infrastructure lines stretch over vast sections of land without offering possibility for pedestrians and cyclist to cross these physical barriers.

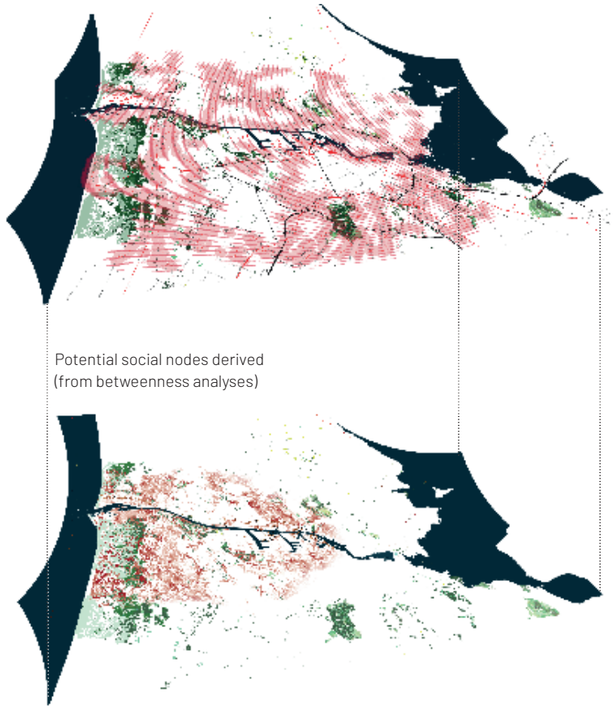
With the structural plan for the slow mobility system opportunities are presented on how to generate more fluent and uninterrupted system of cycling, walking and hiking paths. For this, main areas of interest are identified which give purpose to the enhanced soft mobility connections in the form of either, 'pass-through' areas or 'get-to' areas.

These decisions are brought upon the character of the open spaces. For instance, areas where bird breeding of indigenous bird types is noted, puts these habitats on the priority list and requires conditions which are to allow for these natural processes to continue occuring witohut obstruction. Consequently these sections of the open space landscape will be restricted from full exploitation and social activity. Therefore, the movement and socio-cultural stirring strategies will be re-directed towards open space areas which allow for higher frequency of people and uses.

On the other hand, areas which have abondance of possibilities and programmes for socio-cultural activation but do not compromise the well-being and safety of living or non-living systems, would be the open spaces to work more intensly with. This will be further demonstrated in the section of design explorations.

Relevant findings from mapping analyses.

Overall accessibility to existing green patches by public transport



Potential social nodes derived (from betweenness analyses)

mappings by author on based on the obtained GIS data (see bibliography and sources)

The findings of the conducted analyses indicated that the main focus should be placed on resolving the challenges posed by the fragmentation of the soft mobility network. Namely, the analyses ran for the proximity of parks and other green open spaces to public transportation nodes, in diameter of between 500 to 1000 meters, gave quite satisfactory results. Whereas, the movement by foot or on bicycle showed to be hampered by major infrastructure lines, water bodies or simply the areas of interest were not reachable via the existing recreational paths.

\+ PHYSICAL OPERATIONS

Transform



Permeate



Navigate



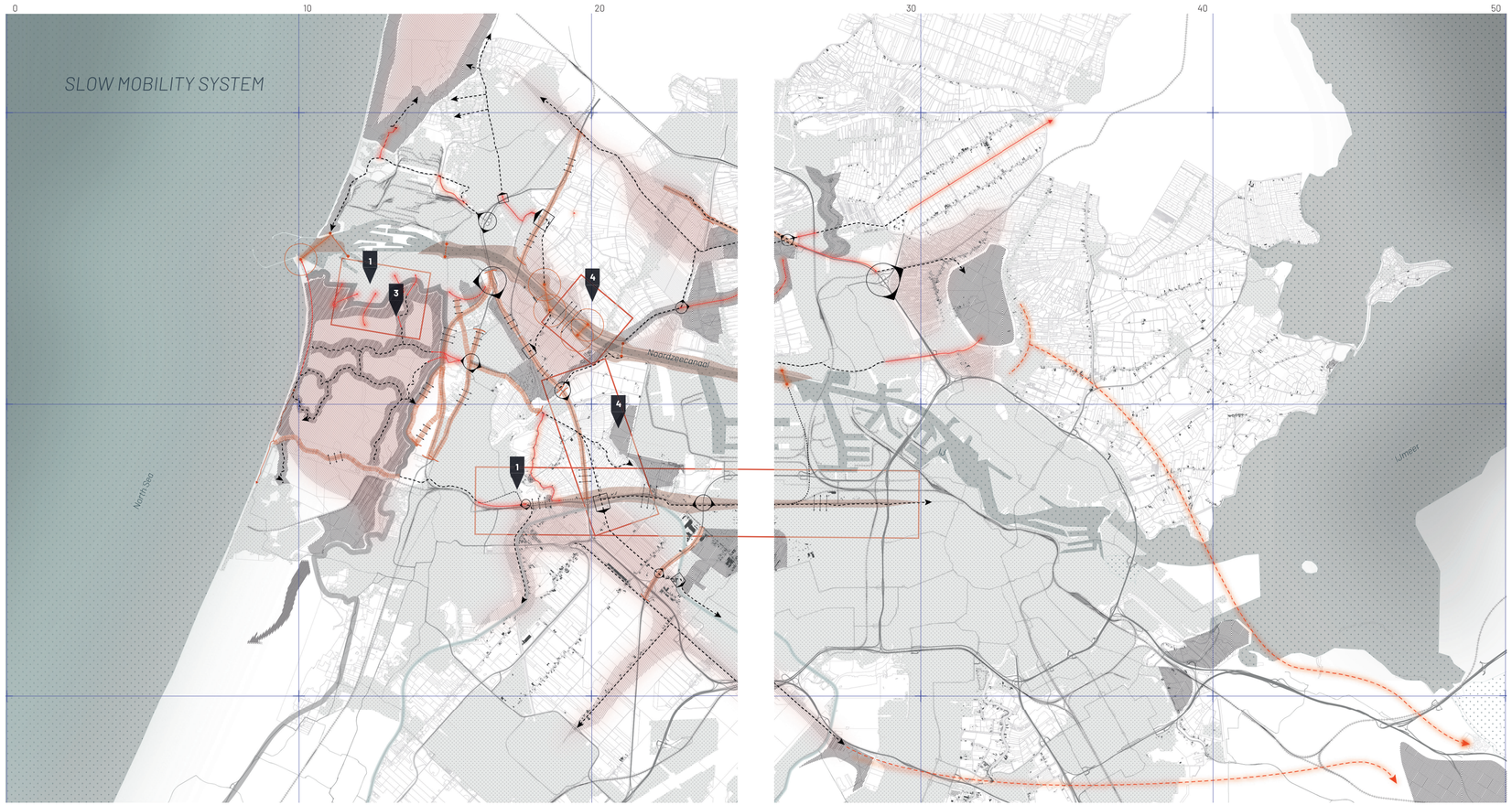
Re-direct



Adapt



The second step of the structural plan, which is the establishing of the overall accessibility vision for the region, is perceived as a continuation of the first step, the ecological backbone. The reason for this are the properties of the operational structures. The natural system, being the slowest changing one, is also the most permanent and long-lasting one. As such it is used as a guiding element for the other operational structures, the soft mobility system and the network of local socio-cultural activators, so as to provide them with higher stability and protection. Consequently, the proposed elements of the structural soft mobility plan greatly follow and build upon the location values and characteristics of the features of the ecological backbone structural plan.



121 **Open space as a structuring device.**

LEGEND

- desired high accessibility
- desired moderate accessibility
- desired low accessibility
- impermeable edge condition
- major physical barriers
- road network
- railway network
- difficult crossings + priorities of desired movement direction
- difficult crossings + priority of desired movement direction
- desired permeability
- current water barrier w/ potential for crossings
- desired ferry stops
- existing ferry stops
- existing soft mobility connections that are considered
- desired soft mobility connections
- conceptual indicator of direction of soft mobility flow

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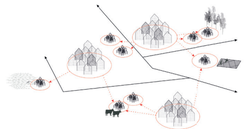
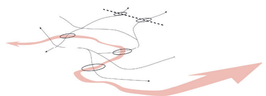
APPLIED STRATEGIES:

❶



DEVELOPING STRONG CONNECTIONS BETWEEN OPEN LANDSCAPE FEATURES AND URBAN AREAS.
This strategy is relevant for making sense of the decision to add value to the open space countryside landscape only if this added value is acknowldged, appreciated and exploited by the potential users. Those are the people which boost the population density numbers in the urban areas but are often unaware of the qualities lying outside the city borders. Since they are one of the target users and the fruits of this project should be harvested by them, it is very important to provide them with accessibility to the enhanced structure of open spaces.

❷



ENABLING INDEPENDANT FUNCTIONING OF THE DIFFERENT SYSTEMS.

Even though this strategy is not indicated on the map because of its intangible nature, it is essential for allowing unobstructed functioning of the involved systems and their internal processes. It is important to bare in mind the complex superimpositions of the processes that are going on in this context and be respectful of their evolvment patterns, whether it is cyclist rushing to work, commuter using the highway or endangered animal running through the reserves of the south. Indeed, the core of the concept of the Regional park is about creating conditions for inherent patterns to occur.

❸



EMPOWERING LOCAL IDENTITY VIA IMPROVED ACCESSIBILITY.

The previous analyses unravelled many landscape qualities which have been overlook or neglected. Their potentials are elaborated in the following section. Nevertheless, these, like the green patches, these structures, through the right strategies can gain added value and consequently bring to more attractive landscape. One needs to be able to reach them, and the means are not always there. The structural plan for the mobility system enables accessibility to these object with potential for added value, which on the map are defined as areas of interest (classified by the level of desirability.

❹



CONNECTING OPEN SPACES INTO A UNIFYING NETWORK.

As discussed in the first chapter, the force of fragmentation left many open spaces detached from each other and consequently robbed off of interaction on programmatic or physical level with the surrounding patches. Through the application of the strategy, an effort was made to explore the possibilities in which open spaces can become more integrated and inter-dependant, of course, where this is strategically desired. More often, this was done on the basis of the ecological backbone, and occasionally, some of the proposed connections opened discussion about reversing this pattern. A newly proposed important connection would then iteratively, inspire an addition of an ecological element.

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STAKEHOLDER INVOLVEMENT



▲ public actors
● private actors
■ civic actors

▲ NATIONAL LEVEL
*The Rijkswaterstaat

PROVINCIAL LEVEL
*Noord Holland province

REGIONAL LEVEL
*Regio IJmond
*Amsterdam Metropolitan Area
*Hollandse Noorderkwartier
*Hoogheemraadschap van Rijnland
*Amstel Gooi en Vecht

MUNICIPAL LEVEL
*Municipalities within the reach of the proposed structure

+

■ *Farmers
*Land-owners
*Port of Amsterdam
*Agriculture land owners

● *Fietserbond - organization for the interest of cyclists in the Netherlands
*Tourism organizations
*Agro-tourism organizations
*The Netherlands cycling federation

INSIGHTS ON STAKEHOLDERS' AGENCY:

The investment into a viable and functional slow mobility network is not new to the local governance bodies and has been for some time on the agenda of the Amsterdam Metropolital Area. In the ideal case the North Holland province should obtain a continuous cycling network of evenly distributed cycling paths across the open space territory through the structural vision put forth by the regional body. However, if integrated into a regional park system, this potential soft mobility network would have different ambitions and aims because it will be grounded into a concept of much wider agency and involved interest groups.

Power versus interest.
While the newly proposed mobility structure would indeed solve many of the mobility issues of the region and enable faster and better quality movement from one place to another it is still in the hands of the governence institutions to take part into financing and making these projects possible. This applies mostly to the strategies which collide with physical structures of national economic and productive value and which are most probably number one priority to the public institutions. Fortunately, from the agendas for development of the open space areas in the region that are indicated in the vision documents, level of awareness is demonstrated of the gap for improvement that exists when it comes to these aspects of the landscape. With pressure and influence from the less powerful but certainly more motivated and ambitious civic and private groups, which do have higher interest into the development of soft mobility routes, discussions and collaborations can be stirred towards directing funding toward this development on the institutional side.

STRUCTURAL MAP OF PROPOSED STRATEGIES



APPLIED OPERATIONS:

A  B  C  D 

STRUCTURAL MAP OF PROPOSED STRATEGIES.

A *1. As shown on the map above, the central zone of the North Sea canal is currently an obstacle for crossing from one side to the other. As part of the strategy this area is designated as an area for exploring design possibilities and actions on how to enable coherence between the north and the south bank and adapt it for additional use.*

A *2. On the other hand, the marked area et the ednge of the dunes shall be modified towards bigger permeability in order to allow for users from the IJmuiden and the smaller settlements from the surrounding to percolate more easily into the dune park area.*

As described at the beginning of the section, 4 main operation were applied to each of the operative structures to optimize their performance in the structural plan. These four were inevitable to accomplish the envisioned aims for the mobility network and were based on the previously executed analyses, the given context conditions and the structural plan for the ecological backbone. The operation of permeability was applied by providing muliple possibilities for crossing from one area to another, currently separated by strong infrastructure features as well as allowing access through multiple strategic points into an areas of higher ecological and experiential value from residential areas which are currently lacking the necessary physical links.
Furthermore, through the navigation and re-direction tools, and relative to the proposed ecological flow as well as the desired level of open space use, the path of the mobility network was traced. At the level of the regional backbone, the main mobility flows are quite defined and priritized while on the local scale, as it will be shown in the design explorations, the connection possibilties become more flexible.

Socio-cultural attractors

SOCIAL / CULTURAL SYSTEM
(overcoming mono-functionlaity)

DEVELOPMENT OF THE IDENTITY OF THE PLACE THROUGH LOCALLY SIGNIFICANT SITE-SPECIFIC FEATURES.

ADD PROGRAMMATIC / EXPERIENTIAL VALUE ON REGIONAL LEVEL

Why?

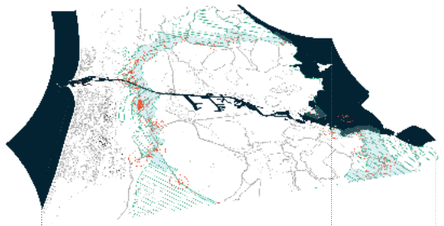
- provide unifying strategy for their joint performance
- boost the identity by using the characteristics of the site, the historical structure and other geographical features

One of the crucial aspects of a success of the Regional park project is the vitality and dynamics of socio-cultural interaction. Sieverts puts great emphasis on this in his writing *"The Zwischenstad"*. Without the social and cultural aspects, the open space landscape becomes one more solely ecological feature that is enjoyed by people to a limited extent but is under-expoilted in terms of hidden potentials. And what this strategy attempts to overcome is a Nature that is an object, a nature without internal processes, a nature for the sake of nature, as opposed to what Tjallingiiputs forth as a concept, a Nature as a process. If the network of open areas is to become part of the urban, and the urban part of nature, then coexistance of the two is inevitable in times when urbanization and nature overlap more than ever.

The structural plan consisted of strategies for bringing the social, human transactions to the open field, or at least the areas outside the dense city tissue, reaches out to the inherent landscape elements that have the potential to become these qualitative hubs that will add value to the green landscape. The operative structure of socio-cultural stirrers is by no chance intended to operateseparately to the previous two operative structures. On the contrary it is to enhance and be enhanced by the development of those.

Relevant findings from mapping analyses.

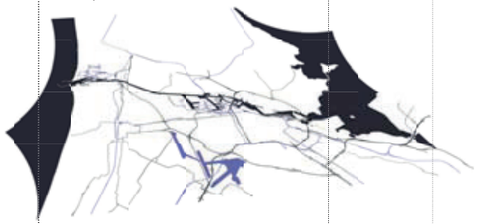
Heritage structures



Green patches - parks



Transport network as carrier



Water network as carrier



mappings by author on based on the obtained GIS data (see bibliography and sources)

\+
PHYSICAL OPERATIONS

Transform



Permeate



Navigate



Re-direct



Adapt



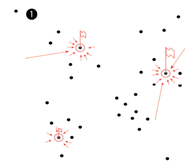
For this structural plan relevant information was drawn from the mappings of cultural and historical heritage structures, significant historical and geographic features, local intangible and physical characteristics of the places or even unique topographic elements. The green system of parks was superimposed in order to get understanding of the current relationship of the site specificities and the ecological structures. Last but not least, the transport infrastructure networks were greatly relied on because of their properties of continuity and permanence which makes them reliable landscape carriers for establishing relationships between the system of site-specific features.



LEGEND

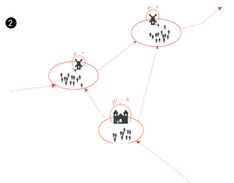
- Stooterplas, twiske/ recreational area
- ribbon houses, Zuideinde
- Stelling van Amsterda, fort structures
- allotment gardens
- attractions park
- Zaanse Schans, cultural site
- Camping areas
- Amsterdam and Haarlem
- agriculture land
- grassland
- water network as socio-cultural carrier
- windmills
- historical villas and estates
- lighthouses
- towers/ watching towers
- organic shop + monument structure
- social activation of Spaarndammerdijk
- monument network - windmills, towers, attractions
- revival of the missing segment of Haarlemmertrekvaart
- socio-cultural activation along Haarlemmertrekvaart
- monument network - villas and estates; forts

APPLIED STRATEGIES:



STRATEGIC "FLAGSHIP" APPROACH

This strategy is characterized by the development of a project that is to promote the regional park and generate wider interest into the area. The Netherlands as a country is on the forefront of innovation and investment in technological masterpieces which are often leading at world level. Such example is the lock that is currently under construction on the same, North Sea canal, and is to be the biggest water lock in the world up to date. Competing with one more technological giant as costituent of the regiona park would bring a lot of attention and visitors. Only, this time in function of creating more ecologically conscious environment.



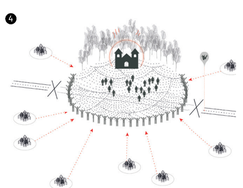
ENHANCING LANDSCAPE STRUCTURES THROUGH USE.

The Metropolitan area is abundant in monuments, heritage structures, cultural landmarks and other landscape features that in one way or another tell a story of the place. While some have retained their original function, others have been re-adapted to contemporary use, or on the contrary, have been closed, grown over by vegetation and left to decay The regional park structure needs these to be able to exploit to the fullest the benefits of the concept. By integrating strategic objects into the framework, new programmes would be added to the landscape, making it more appealing and valuable.



RECYCLING OF HISTORICAL LEGACY.

Similar to the previously described strategy, the historical monuments and protected historical buildings do have the potential to not only benefit for themselves but also enhance the surrounding landscape. Via strategies for recovering unused historical buildings such as adaptation to contemporary uses, creative industry hubs, start ups etc, these buildings will gain additional value, will receive the necessary care and maintenance and increase the circulation of people and events. On the structural map, historical monument structures are indicated, which are perceived as potential socio-cultural stirrers that would add multi-functional and enriched character to the areas of interest.



PARTICIPATION OF LOCALS AS A PROTECTION MECHANISM.

Intangible but maybe one of the most relevant strategies within the regional park body of knowledge is the act of participation. The local people who are to benefit from the park are in the same time probably one of the most powerful stakeholders that can have crucial agency into the development prospects of the Regional park. Therefore, the proposition of collaboration, informing and education of the locals about what is it that they share with their landscape can bring massive change into the perception and influence the higher governance levels. Educating is not necessarely meant as in the conventional sense of the word. It is rather stimulation of actions that would generate respect and interest into the local qualities, through pilot projects, workshops etc.

STAKEHOLDER INVOLVEMENT



▲ public actors
● private actors
■ civic actors

▲ NATIONAL LEVEL
*The Rijkswaterstaat

*Rijksvastgoed bedrijf
(Central Government Real Estate Agency)
* Cultural Heritage Agency of the Netherlands
PROVINCIAL LEVEL
*Noord Holland province

REGIONAL LEVEL
*Regio IJmond
*Amsterdam Metropolitan Area
*Hollandse Noorderkwartier
*Hoogheemraadschap van Rijnland
*Amstel Gooi en Vecht

MUNICIPAL LEVEL
*Municipalities within the reach of
the proposed structure

+

■ *Land-owners
*Art foundations

● *NGO's
*Creative organizations
*Independant theaters
*Educational organizations
*Tourist organizations

INSIGHTS ON STAKEHOLDERS' AGENCY:

The potential actors involved in the development of this operational structure are many and this diversity stems from the different character and background of the landscape features represented on the structural map.

Power versus interest.
Even though some of the interventions tackling major landscape features like the barge canal between Amsterdam and Haarlem or the North Sea canal do have to deal with institution operation on national level a conflict of interest is not to expected since the activation of landmarks requires intervening on a much smaller scale and often does not interfer with processes of national interest. In that sense the power leans more on the side of the groups which in the same time share interest and would benefit from engagind with meaningful landscape object. However, it has to be noted that horizontal collaboration between municipalities is very important in this process because as governmental bodies with obligations on the local scale they can contribute with financing and enhancing relic, monuments or other site-specific related projects if presented by civic and private parties with convincing planning agendas and profit return strategies.

STRUCTURAL MAP OF PROPOSED STRATEGIES



APPLIED OPERATIONS:

A  B  C 

STRUCTURAL MAP OF PROPOSED STRATEGIES.

A *1. In the demarkated area on the map above, the North Sea canal is targeted as one of the vital axials of the regional park development. As such it is an axis rich of heritage structures but also the canal itself is an important historical feature which did create a sharp transformation of the area and marked two phases, before and after the North Sea canal. A flagship project could mark a third phase of transformation of this area which would bring benefits un-seen with the previous two transformations. In the chapter of design explorations this is demostrated through a design elaboration.*

Operations applied for this stage of the structural vision are transformation, adaptation and navigation. The first two are mostly involved with strategies related to the site-specific features themselves, and possibilties that lie within their performance, exposure, use, multi-functionality potentials and so on. However the operations of transformation and adaptation do also apply to bigger scale inter-municipal features, as it is the case with the barge canal that is an object of further elaboration in one of the following book sections.

Through these actions an attempt is made for neglected, forgotten or encroached objects to become again generators of the identity of the place by redefining their physical appearance, performance and physical traits in line with the objectives of the other operational structures and in the spirit of the contemporary societal needs and dynamics.

5.3 – **Relevant stakeholders**

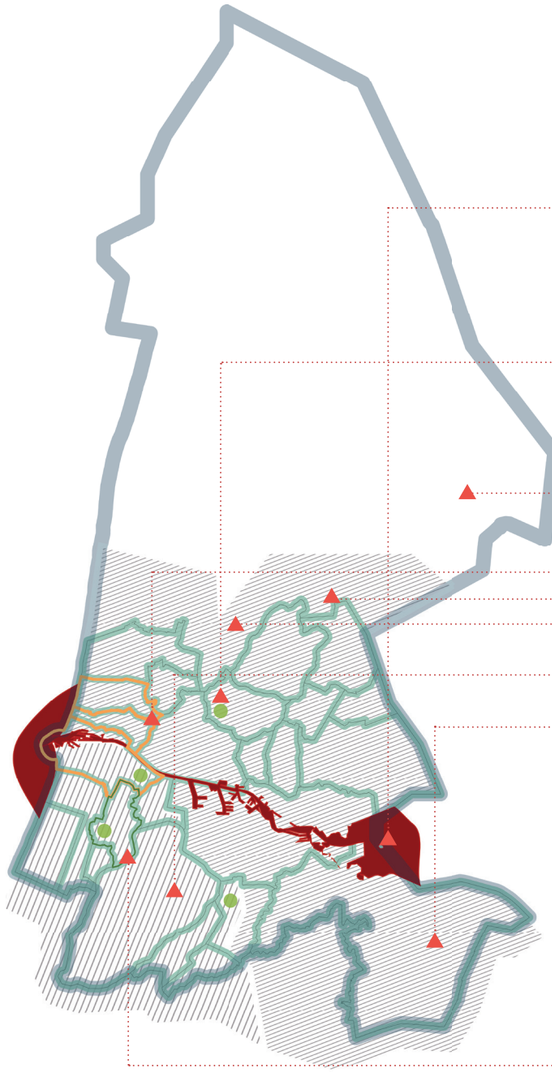
The map schematically shows the distribution of stakeholders in the area and the relationships among them.

The BINDING STRUCTURE requires engagement from stakeholders on the regional scale because it concerns elements of the landscape that are under the management of instituations like the waterbodies or regional cooperatives, like for instance the IJmon region and the Amsterdam Metropolitan Area. Because of the scale and complexity, this undetaking requires among other things financial and logistic support which the national institutions are only powerful to provide. (top-down approach)

On the other hand, the smaller, patch-scale interventions allow for greater flexibility and these are suitable to be tested and experimented with, and even recommended, with local stakeholders and initiatives. (bottom-up approach)

Even though the all the stakeholder named in the previous section have interes in some aspects of the project there is currently no stakeholders that is interested or has competence in each and every aspect of the project, at all scales. However good implementation is needed, coordinating body is needed to oversee all the aspects of the implementation of.

Informal institution made up of representatives of the relevant stakeholders, municiplaties, local region, etc. could be asembled.



▲ BINDING STRUCTURE



▲ NATIONAL LEVEL
- The **Rijkswaterstaat**
(governing body of protected sites and part of part of the Dutch Ministry of Infrastructure and the Environment)
Its role is the practical execution of the public works and water management, including the construction and maintenance of waterways and roads, and flood protection and prevention
- The **Staatsbosbeheer**
(governing body of protected sites)
Dutch government organization for Forestry and the management of nature reserves

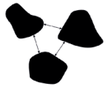
▲ PROVINCIAL LEVEL
- **Noord Holland province**

▲ REGIONAL LEVEL
- **Regio IJmond**
- **Amsterdam Metropolitan Area**
- **Hollandse Noorderkwartier**
Water board
- **Hoogheemraadschap van Rijnland**
Water board
- **Amstel Gooi en Vecht**
Water board

\+ ▲ ▲

! PROPOSAL:
1. INDEPENDENT REGIONAL PARK BODY
2. INTESIVE COLLABORATION BETWEEN MUNICIPALITIES AND JOINT MUNICIPAL COMISSIONS AND BRINGING ON THE AGENDA THE REGIONAL PARK DISCUSSION (transcending municipal borders)

● THE PATCHES



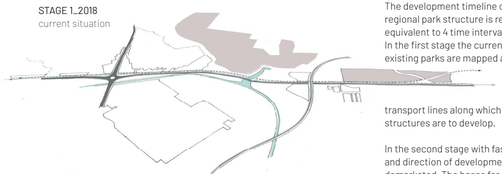
● MUNICIPAL LEVEL
- e.g. **Municipality of Haarlem**

\+

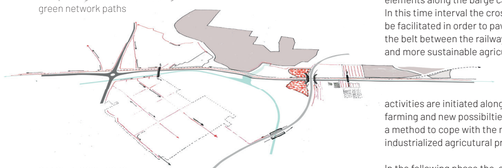
● CITY/NEIGHBOURHOOD LEVEL
- **Citizen associations**
- **NGO's**
- **Agricultural associations**
- **Urban farming initiatives**

5.4 – **Development timeline**

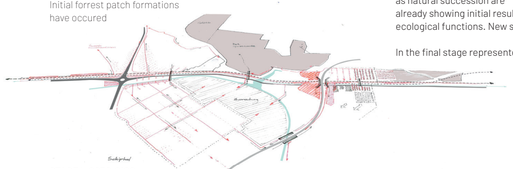
STAGE 1_2018
current situation



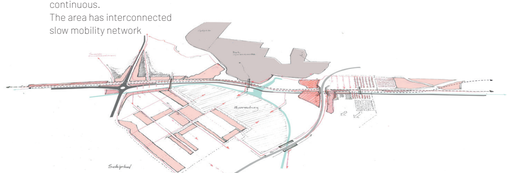
STAGE 2_2018 -2025
new passeges and initial tracing of green network paths



STAGE 3_2025-2030
Amsterdam and Haarlem have strong soft mobility link.
Initial forrest patch formations have occured



STAGE4_2030-2100
Green infrastructure is solid and continuous.
The area has interconnected slow mobility network



Haarlemmertrekvaart.
The development timeline of a significant element of the regional park structure is represented through 4 maps, equivalent to 4 time intervals.
In the first stage the current situation is represeted where the existing parks are mapped as well as the main water and

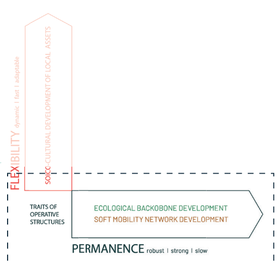
transport lines along which the Regional park operational structures are to develop.

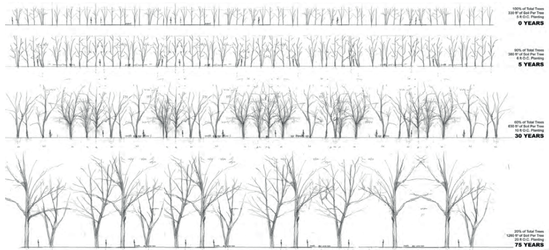
In the second stage with fast growing tree lanes the areas and direction of development of the ecological backbone are demarkated. The bases for a natural reserve at the north of the Haarlemmermeer polder are indicated and the initial greening elements along the barge canal are positioned.
In this time interval the crossing over the canal could be facilitated in order to pave the road for recreational activation of the belt between the railway and the N200 regional road. Alternative and more sustainable agricultural

activities are initiated along the canal in areas of current urban farming and new possibilties are tested for agro-forestry as a method to cope with the negative effects from the over-industrialized agricutural production.

In the following phase the existing green patches are already interconnected with the newly proposed tree lanes and wood-land corridor pstches and the stimulation of wetland genration as well as natural succession are
already showing initial results in the areas asigned for these ecological functions. New slow mobility connections are added.

In the final stage represented here the young wood-land patches have matures and have created solid basis for further development of the ecological system. The green network is strongly interconnected and represents a reliable operational base for the further development and inclusion of socio-cultural processes.





source: https://scenariojournal.com/article/the-performative-ground/



THE FOREST GARDEN: A SEVEN LEVEL BENEFICIAL GUILD
source: https://tendcrewoods.com/

alley-cropping –
farming systems in temperate regions are dominated by crop monocultures and large reliance on external inputs such as artificial fertilizers and concentrate animal feeds, which result in pressure on ecological processes. Integration of well-designed agroforestry configurations is considered as a promising avenue to maintain farm productivity, while simultaneously strengthening ecologicalfunctioning of agroecosystems.

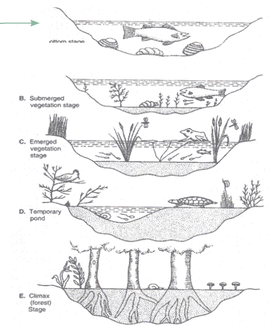
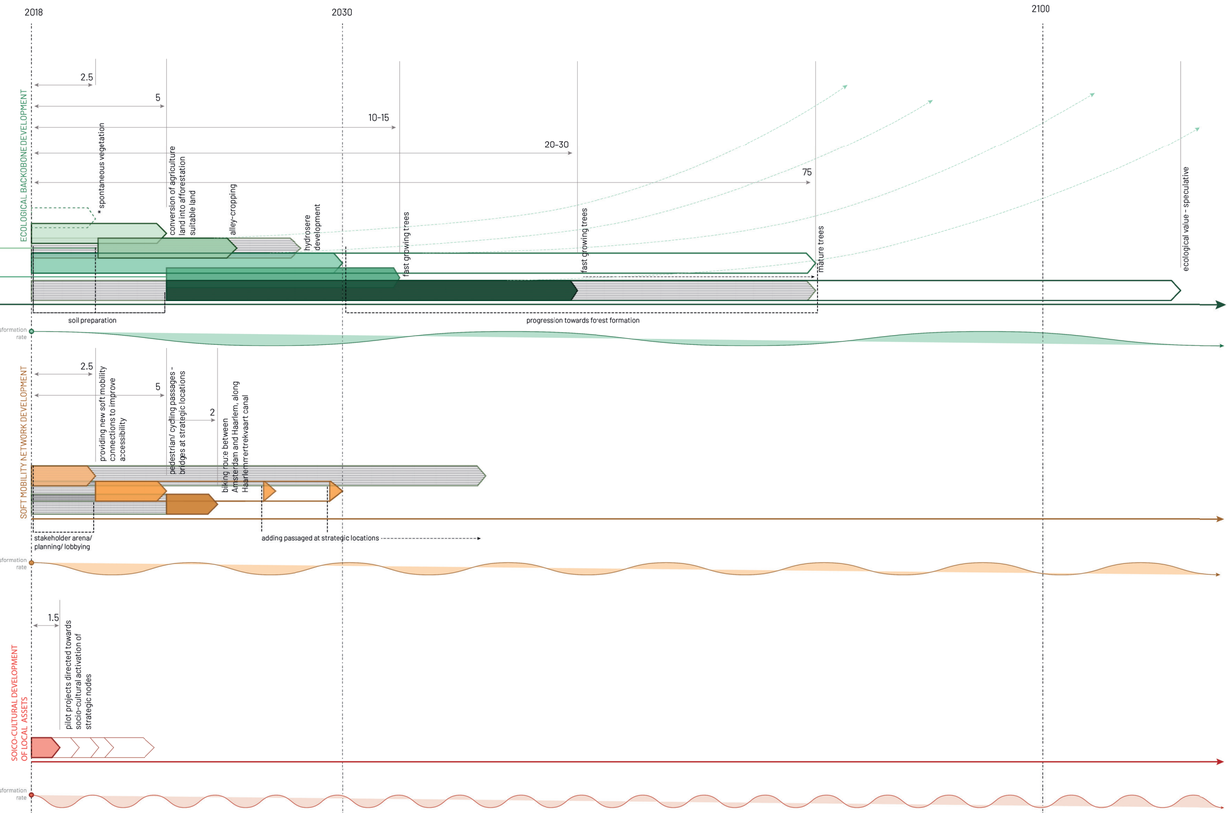


Fig. 7.2. Community succession in an open pond.

http://www.biologydiscussion.com/plants/7-successional-stages-of-hydrosere-with-diagram/6814



5.5 – **Design explorations**

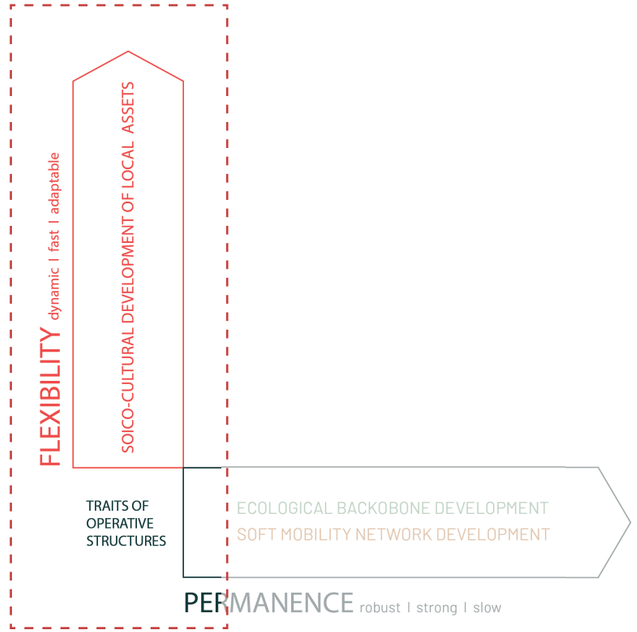
What follows is an overview of the research-by-design process on the scale of the patch.

In this section design test will be done with the principles established within the reseach-by-design framework, to test their applicability.

The design exploration are done within designated areas of the territory and will demonstrate how the notions of the regional park concept can be substantiated on the scale of the patch.

The aim is to work with the assets of the smaller territorial units and through the main operations, established earlier in the book, to observe to what extent the accessibility, the ecological properties and the exploitation of the site-specific characteristics can be bettered.

Finally, the proposed design interventions are positioned within the scale of the regional backbone structure and reflected on so as to see how the small scale design explorations impact the overall robustness of the proposed structure.



5.5.1 – **Research-by-design. The patch scale**

AIM

LOCAL DESIGN EXPLORATIONS

base: local qualities,
historical artifacts,
increase daccessibility

PATCH

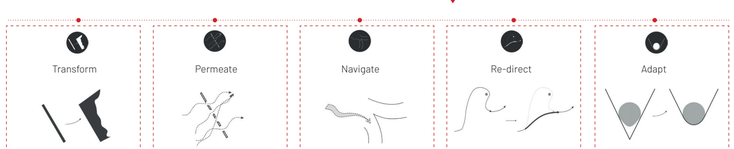
SPATIAL OPERATIONS

How?

*Theoretical base
*Precedent analyses
*Outcome of analyses

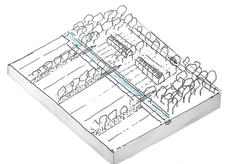
Leading regional park notions:

- **STRONG ECOLOGICAL NETWORK**
- **ACCESSIBILITY**
- RECREATIVE USE
- **ADDED VALUE TO SITE-SPECIFIC FEATURES**
- NEW AGRICULTURE TYPOLOGIES
- MAKING USE OF WATER ELEMENTS

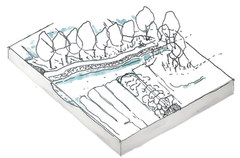


Step 1

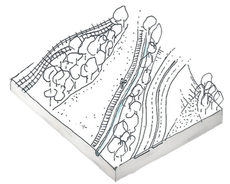
the patches:
ground level/
topographic



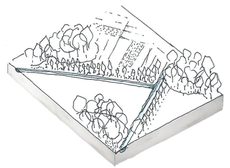
*Soften the edge between urbanized areas and open space



*Undertake subtle adjustments of topographic features to enable certain accessibility and better exploit landscape qualities



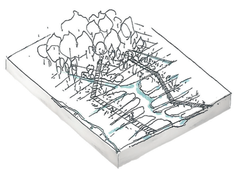
*Create natural buffers between highway/ railway lines and cycling/ walking routes



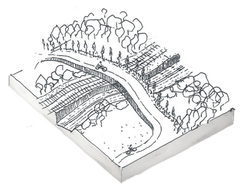
*Make use of existing green patches and corridors to strengthen the ecological network;
*Add tall vegetation along water ditches for underground water purification from toxins before entering the bigger water system

Step 2

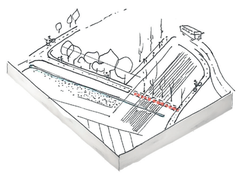
the patches:
enhance connectivity
and repair accessibility
links



*Intensify ecological gradient to add function and value to open space areas



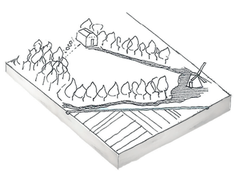
*Provide crossing of majot infrastructure lines to enable connectivity and coher- ence of the ecological, mobility and living systems flows



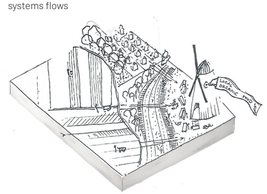
*Repair connectivity gaps into the slow mobility networks

Step 3

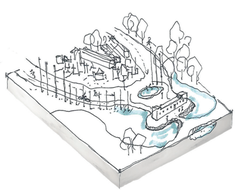
the patches:
local identity
development
(enhance
multi-functionality)



*Enhance the experiential value of the regional green corridor with a continuous system of attractive open spaces



*Activate social/cultural nodes to increase the quality and attractiveness of strategic areas using geographic features for qualitative upgrading



*Direct the movement towards heritage structures to accentuate their value and exploit there newly assigned functions

5.5.2 – **Local test cases**



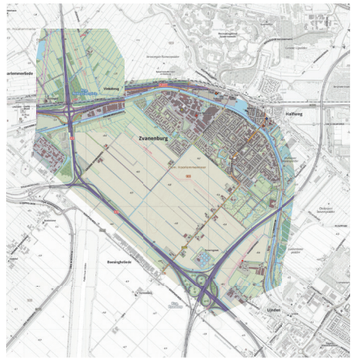
Exploration 1 & 2



Exploration 3

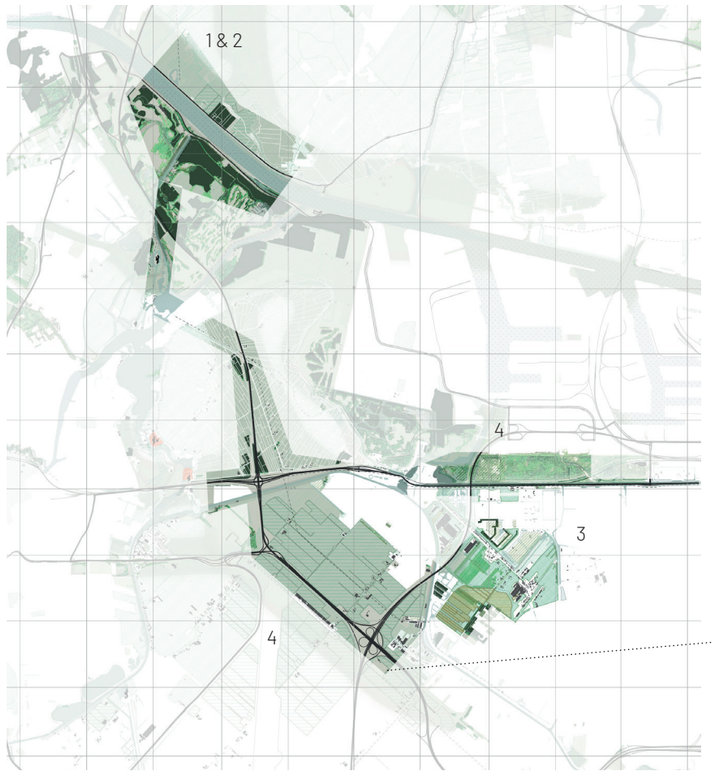


Exploration 4 & 5

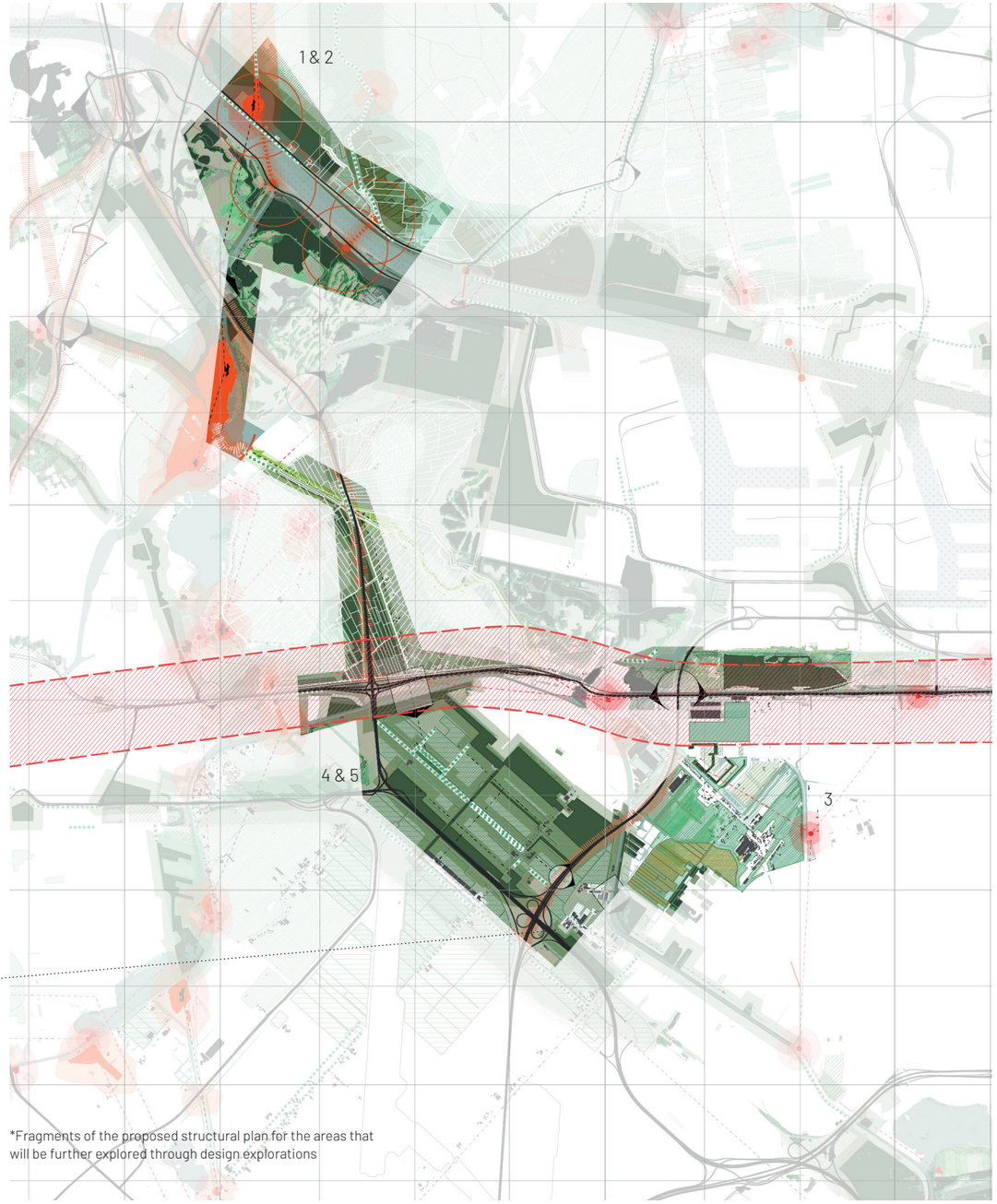


Which cases to look at?
The aim is to test the adopted design principles into particular location of the territory, which have been recognized as potential stirrers of ecological and socio-cultural functions and deprived of good accessibility, visibility and experiential value.

Note:
Explorations 1, 2, 3 and 4 are presented in th is on the following pages.
Exploration 5 is elaborated through the timeline development maps in the Regional strategy chapter



*Current situation of the potential fragments of the envisioned regional structure and each of the concerned patches



*Fragments of the proposed structural plan for the areas that will be further explored through design explorations





source: https://hart.amsterdam/nl/page/11127/haarlemmertrekvaart

Haarlemmertrekvaart.

Historic waterway connection between Amsterdam and Haarlem

What is along Haarlemmertrekvaart?
Relics and monumental structures with potential for development

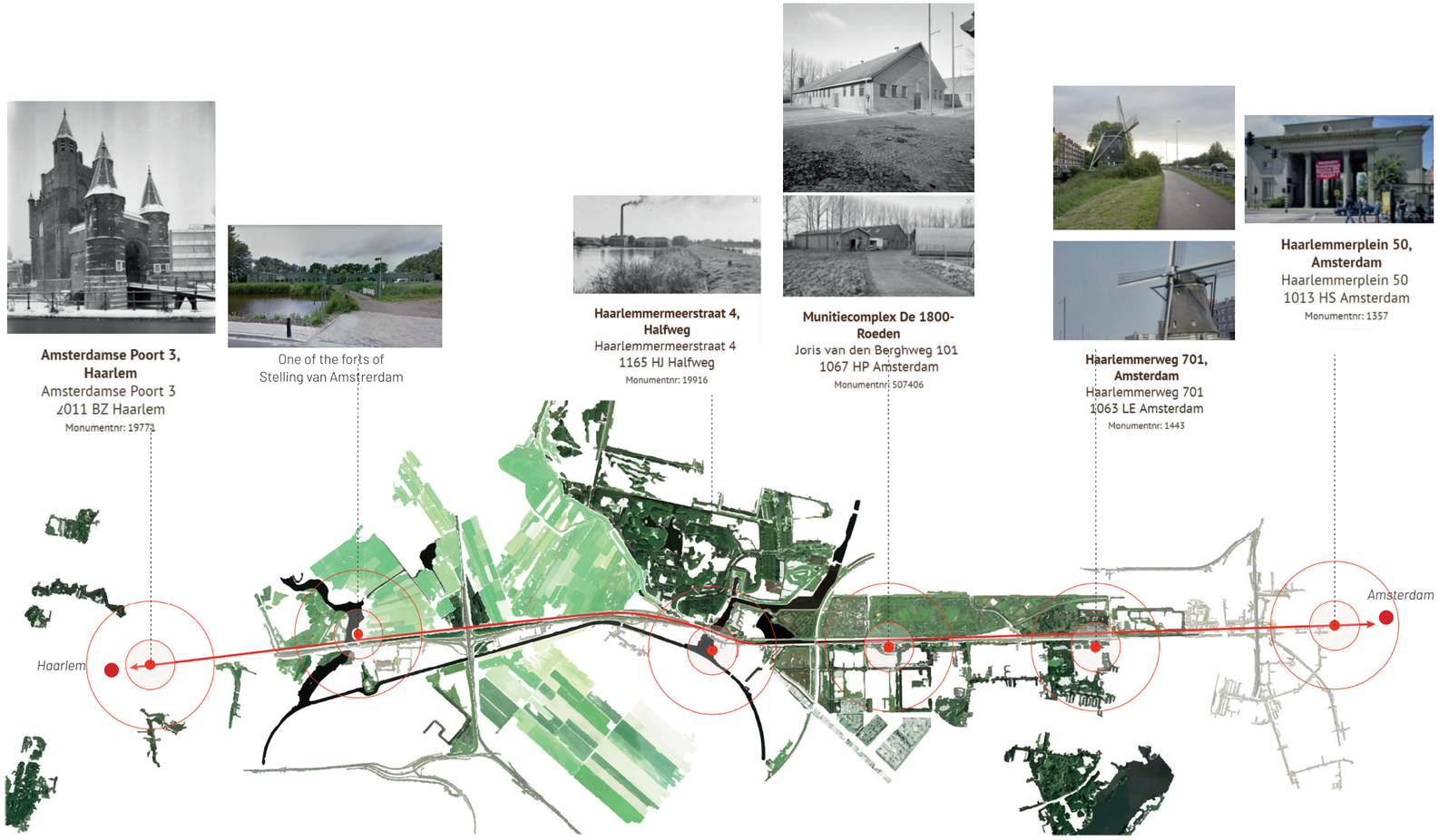


Image source: https://onh.nl/results/?_sf_s=Noordzeekanaal&sf_paged=4

Haarlemmertrekvaart

The canal between Amsterdam and Haarlem is located in the province of North Holland, the Netherlands. It was dug in 1631, making it the oldest tow-canal in Holland. Travel on such canals was historically done by barges (or trekschuit in Dutch) which were towed by animals (and sometimes by man-power) on a path along the canal's edge (towpath). Therefore, the name barge canal.

I take it as a case study on which I will explore the applicability of the design principles. The canal is a valuable fragment in the proposed regional strategy because of its potential to become a carrying green structure for the ecological, social and cultural processes.

Relative distance between agriculture/ pasture land and monuments alon the Haarlemmertrekvaart

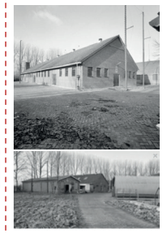
source: https://onh.nl/results/?_sf_s=Noordzeekanaal&sf_paged=4



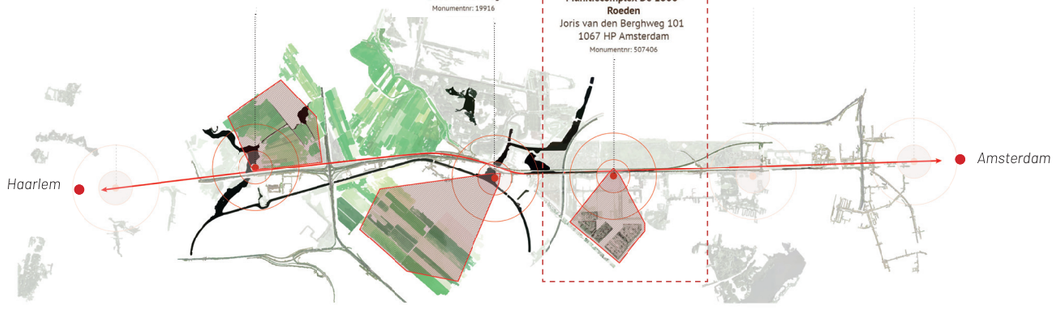
One of the forts of Stelling van Amstrerdam



Haarlemmermeerstraat 4, Halfweg
Haarlemmermeerstraat 4
1165 HJ Halfweg
Monumentnr: 19916



Munitiecomplex De 1800-Roeden
Joris van den Berghweg 101
1067 HP Amsterdam
Monumentnr: 507406



Area of intensive farming and agricultural activity as well as urban farming allotment- gardens

AGRICULTURE/
INDUSTRIALFARMING





URBAN FARMING/
ALLOTMENT GARDENS







Intensity of higher quality green patches (high vegetation and good ecoservice/ social functions)

high
low

high
low

Distribution of park patches across the canal stretch

Inaccessible Haarlemmertrekvaart.
Impressions from the current condition of what was once the barge canal





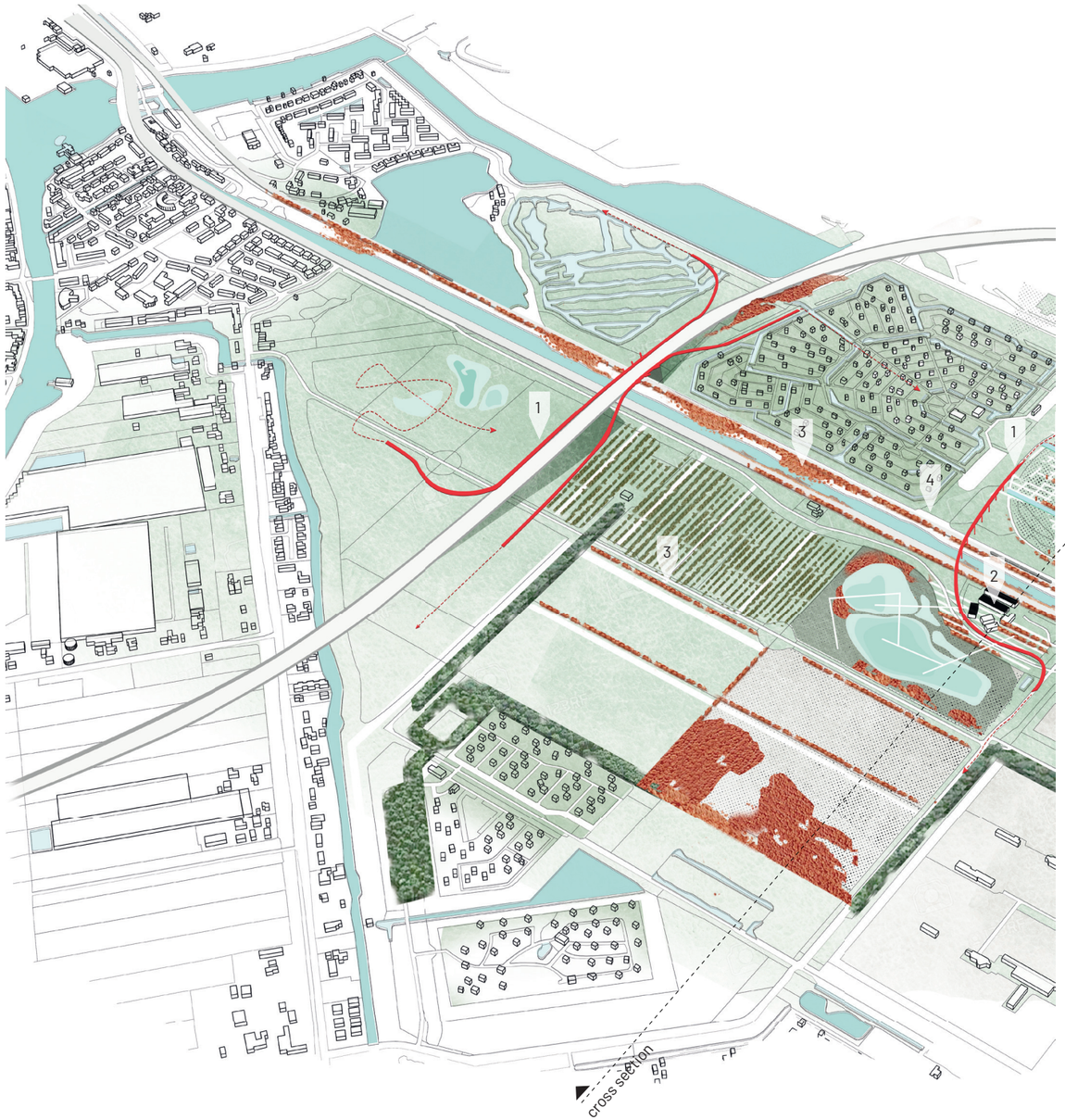
Source: Google Street View

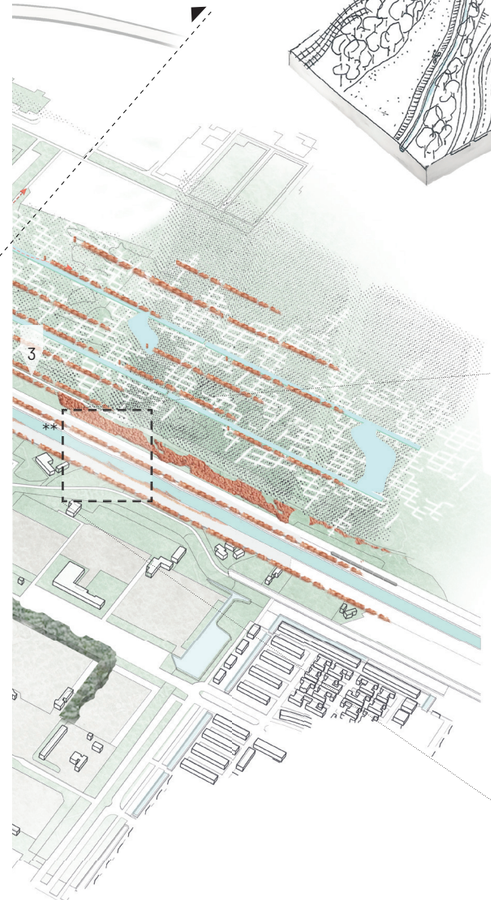




Source: Google Street View

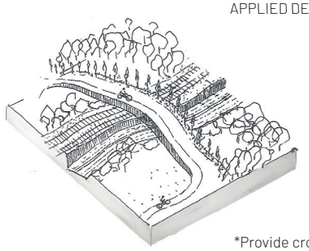
Reviving of the Haarlemmertrekvaart.
How can the canal become a building block for the robust regional structure?





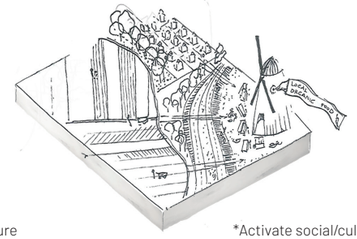
APPLIED DESIGN PRINCIPLES:

1



*Provide crossing of majot infrastructure lines to enable connectivity and coherence of the ecological, mobility and living systems flows

2

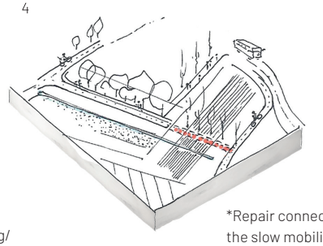


*Activate social/cultural nodes to increase the quality and attractiveness of strategic areas using geographic features for qualitative upgrading

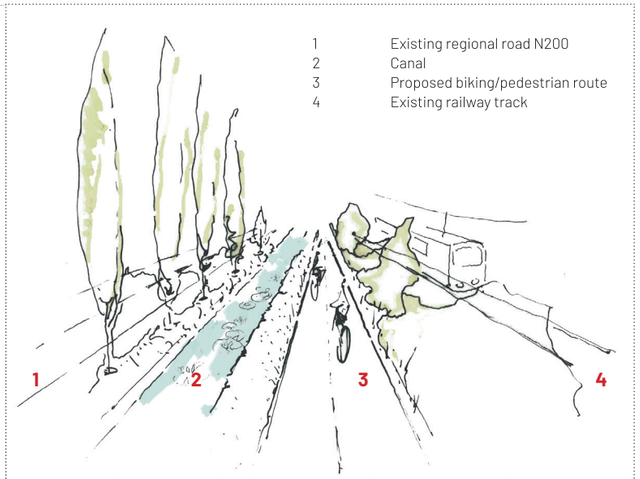
3

*Create natural buffers between highway/ railway lines and cycling/ walking routes

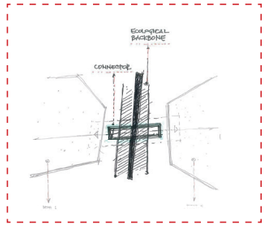
4



*Repair connectivity gaps into the slow mobility networks

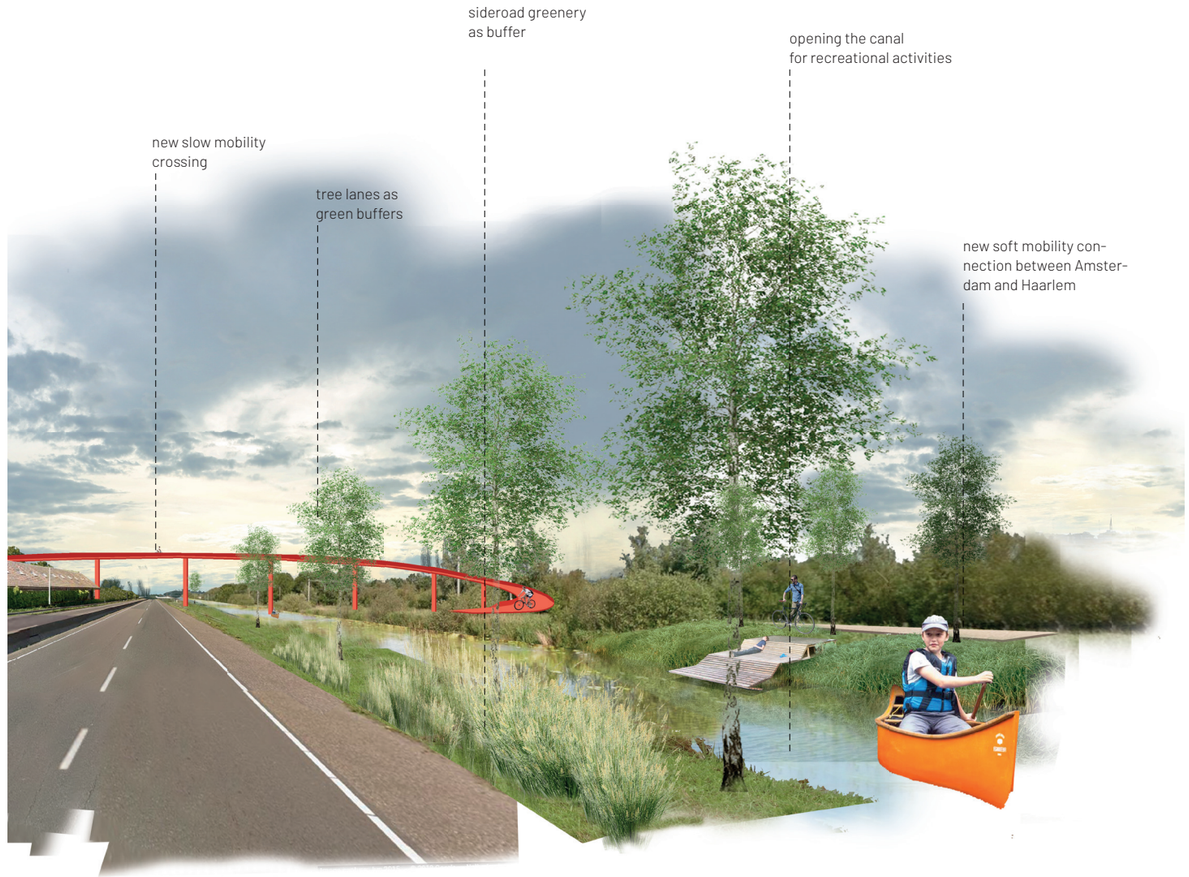


**Haarlemmertrekvaart



robust regional structure

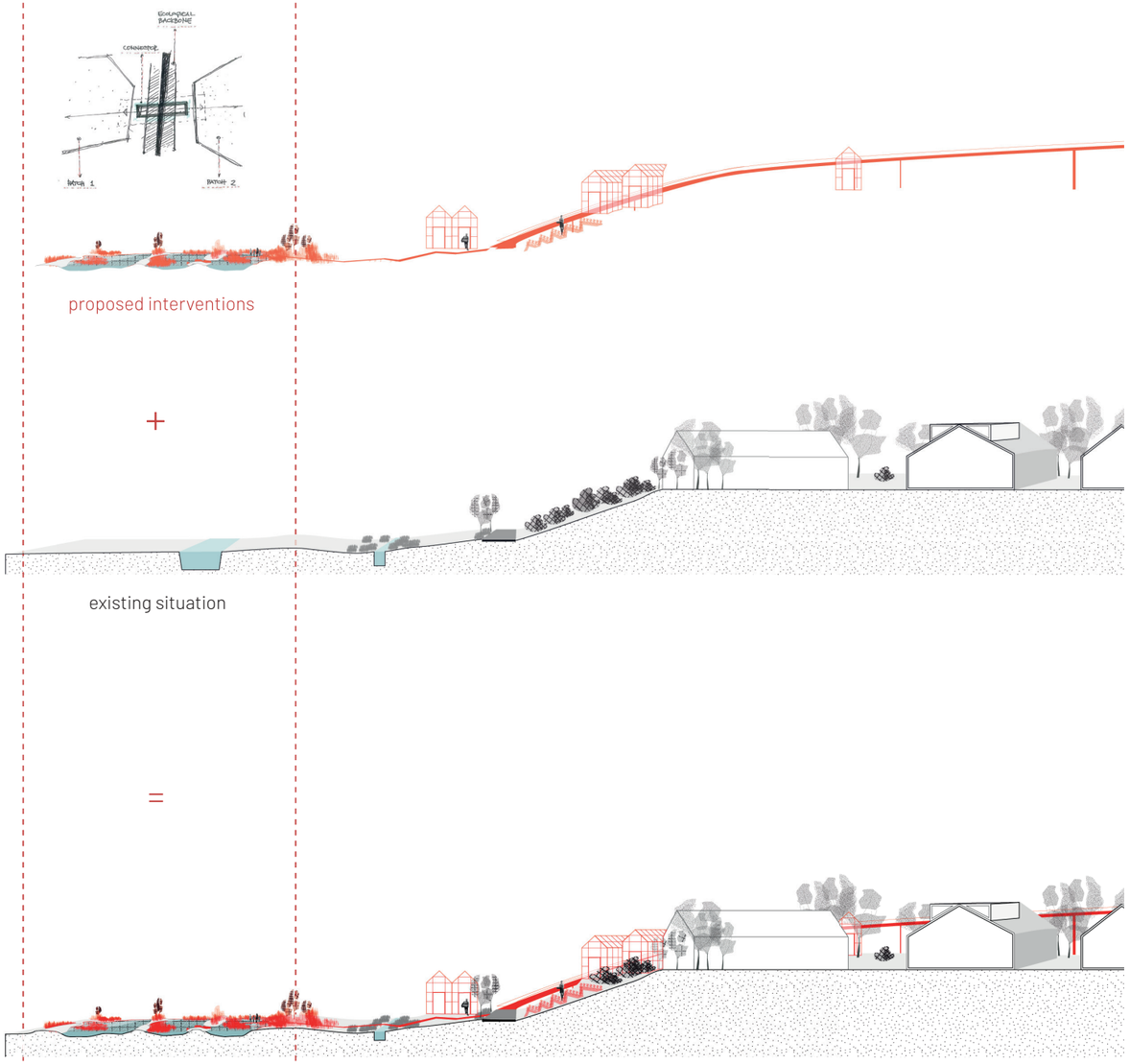




*Section of the Haarlemmerweg (N200). Proposed adaptation for additional use of the zone between the Haarlemmertrekvaart and the railway track parallel to it. The design suggests an elevated crossing for pedestrian, cyclists and users of the former Ammunition Complex, nowadays a hub for creatives

Reviving of Haarlemmertrekvaart.
How can the canal become a building block for the robust regional structure?

*cross section



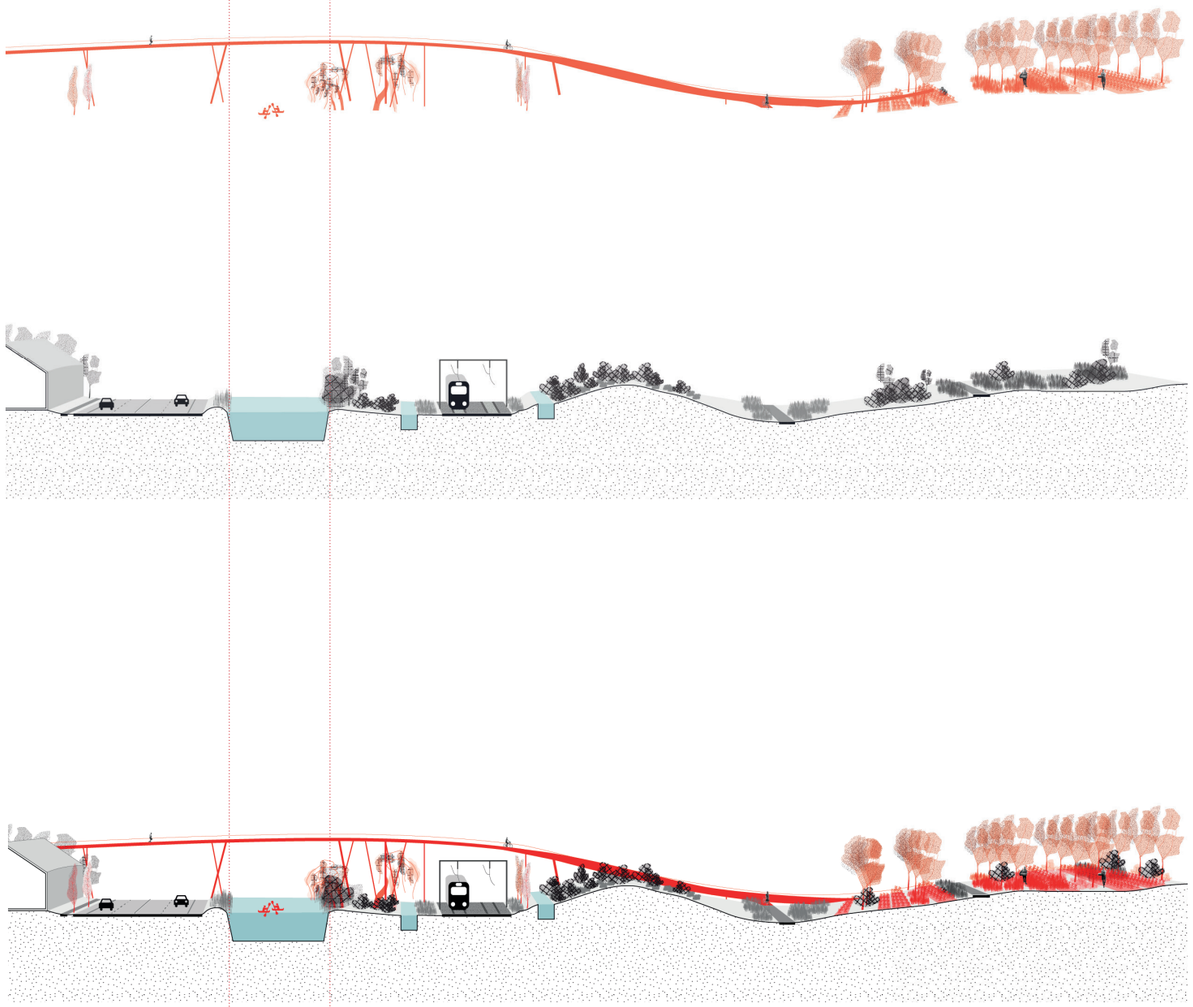
proposed interventions

+

existing situation

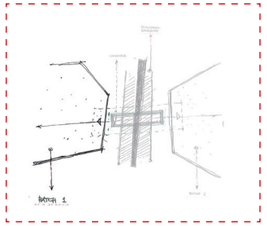
=

upgraded situation



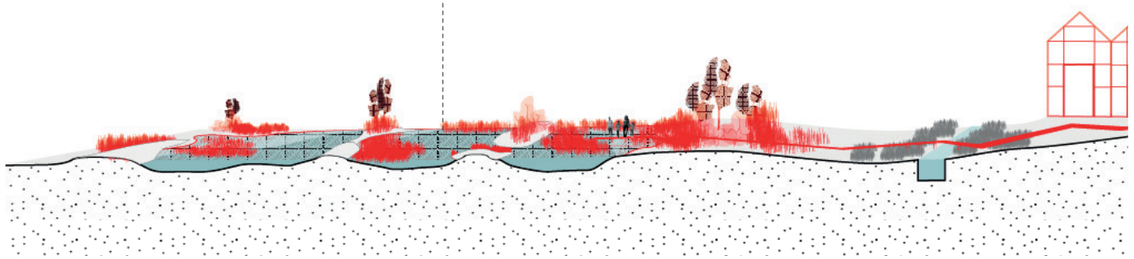
Design explorations through application of the adopted principles.
First set of possible variants.

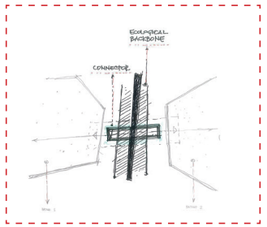
Demonstration through sections



flexible patch 1

wetland generations/
educational activities/
school field trips



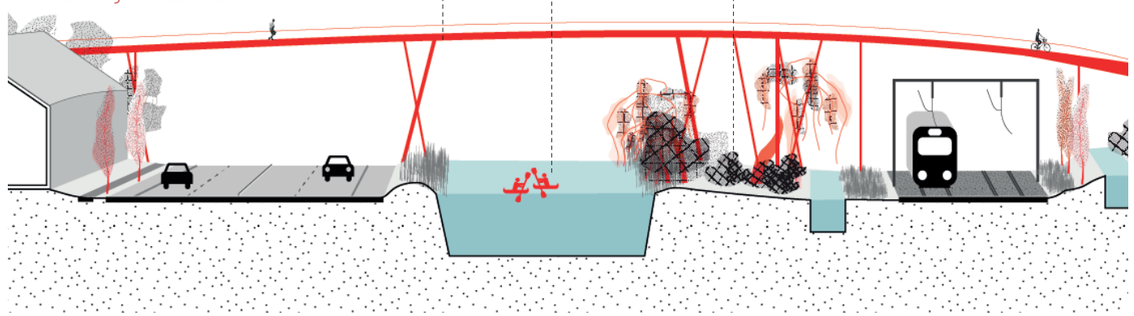


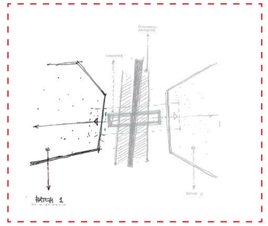
robust regional corridor

pedestrian/cycling
bridge

canoeing

green corridor
between Amsterdam
and Haarlem

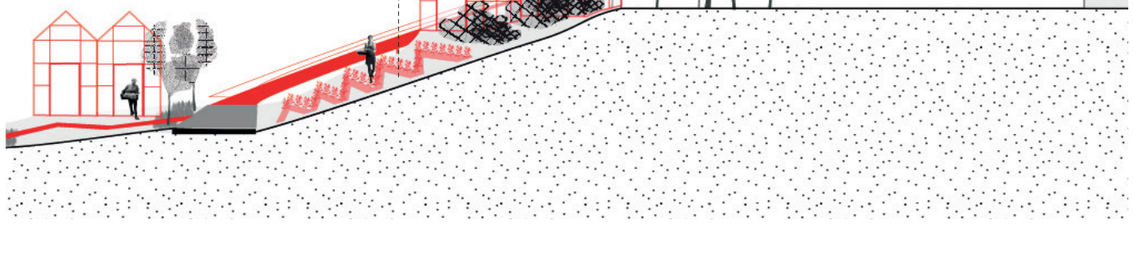


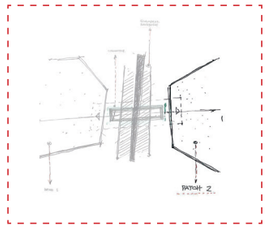


flexible patch 1

urban agriculture/
metropolitan agriculture
methods

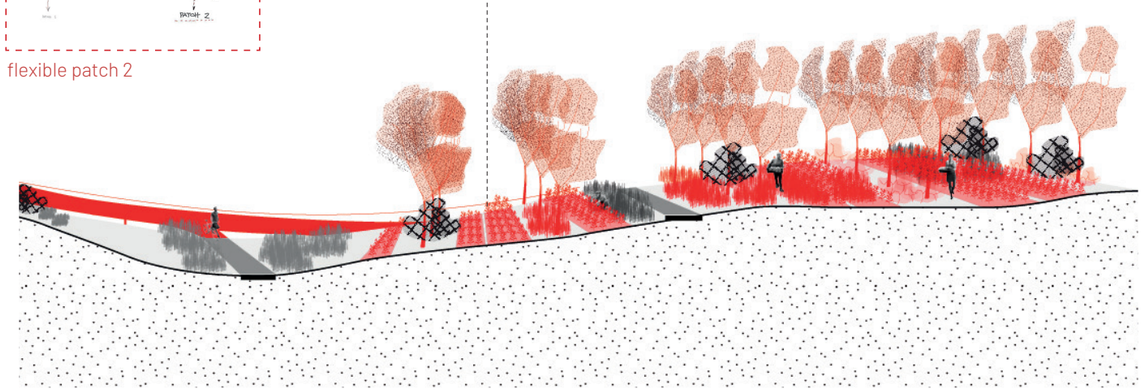
green house
farming





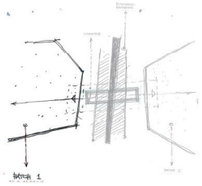
flexible patch 2

agroforestry/
metropolitan agriculture
methods



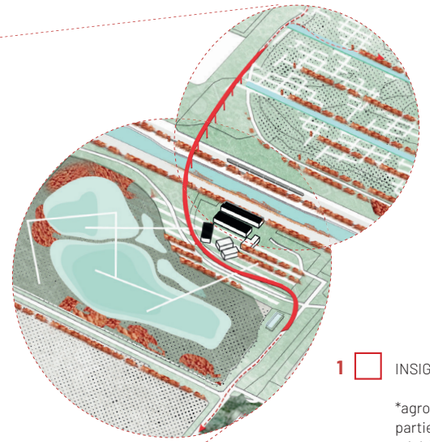
Design explorations through application of the adopted principles.
Second set of possible variants.

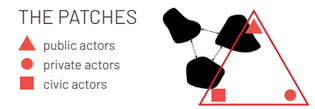
Demonstration through detail



flexible patch 1

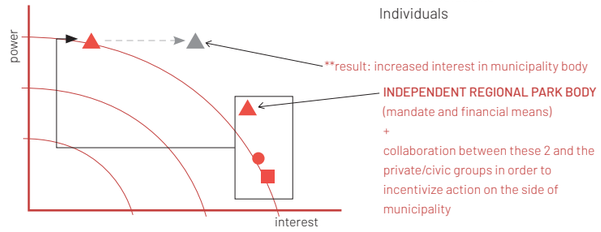
flexible patch 2





MUNICIPAL LEVEL
Municipality of Amsterdam

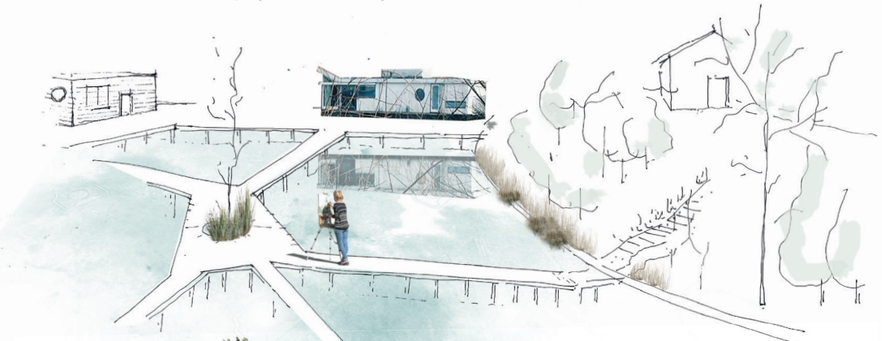
CITY/NEIGHBOURHOOD LEVEL
Art foundation
Creatives
Artis associations
Individuals



1 INSIGHT ON STAKEHOLDERS' AGENCY:

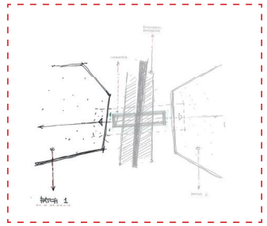
*agro-forestry - Initiating a development strategy of this sort requires the participation of the concerned parties, namely, the people who own the land as well as the farmers who maintain it. At first the farmers might be reluctant to experimenting with new ways of agriculture out of concert for the feasibility of the production process and the possible financial loses but with support from local or regional agricultural research agencies which do conduct actual research on new more sustainable methods of agriculture and mutual collaboration this kind of experiments can be made possible.
*art residency - the protected monument which is located on this site already hosts a number of creative and innovative small enterprises which if collaborating with local art foundations and art-promoters can add one more valuable program to the running creative hub.

1
*Art residence complex with temporary stay
NEIGHBOURHOOD OF FLOATIONG HOUSES, ON WATER RETENTION AND STORAGE SITE



2
KROLLER MULLER OF THE NORTH
*Exhibition area/ opean air gallery for permanent and temporary exhibitions by artists who reside in the **ART RESIDENCE**





flexible patch 1





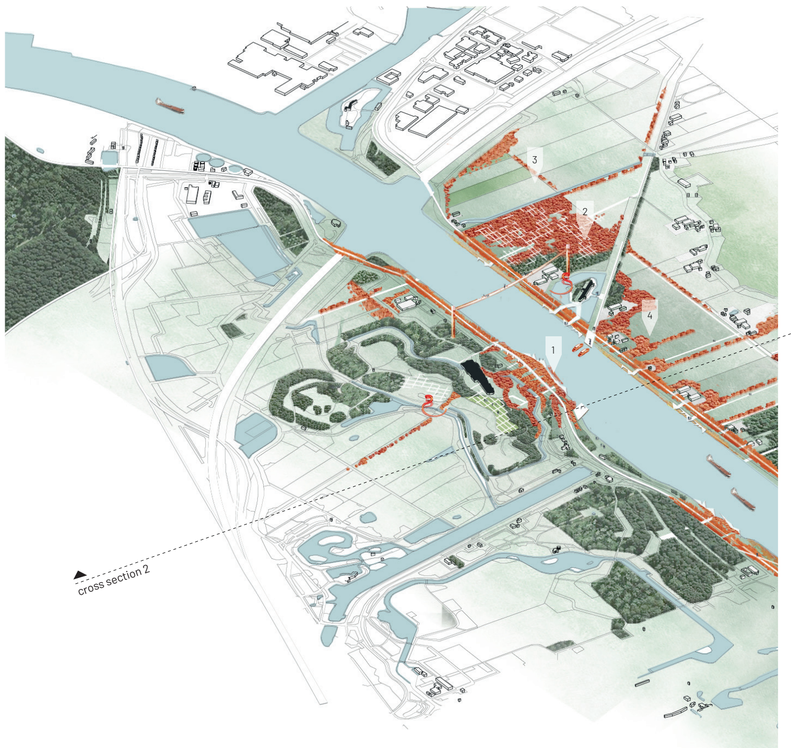
*Possible re-adaptation of use of the nationally protected monument, former **Ammunition complex** , De 1800 Roeden, by the Haarlemmerweg, near Amsterdam Nieuw-West

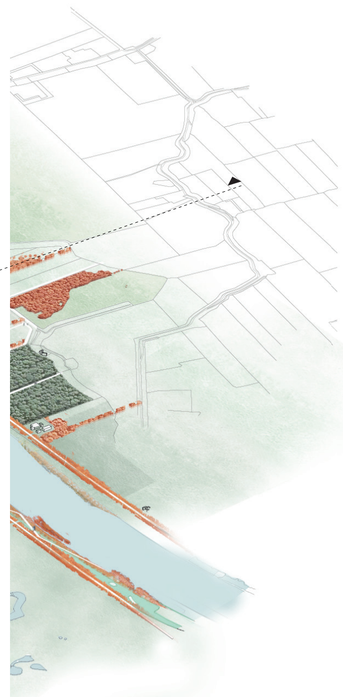


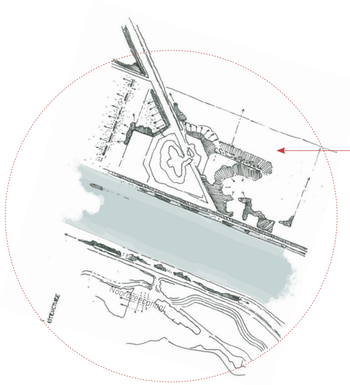
Photograph by author

North sea canal. *(Nordzeecanaal)*
A ship canal from Amsterdam to the North Sea at IJmuiden

Rediscovering mission for the North Sea canal. - *humans*

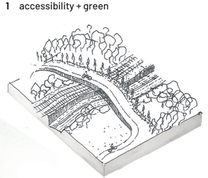






Applied design principles:

1 accessibility + green



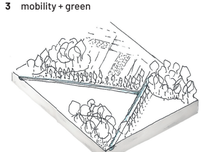
*Provide crossing of major infrastructure lines to enable connectivity and coherence of the ecological, mobility and living systems flows

2 site-specific potential + green



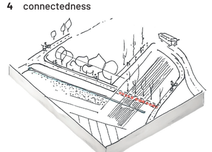
*Direct the movement towards heritage structures to accentuate their value and exploit there newly assigned functions

3 mobility + green



*Make use of existing green patches and corridors to strengthen the ecological network;
*Add tall vegetation along water ditches for underground water purification from toxins before entering the bigger water system

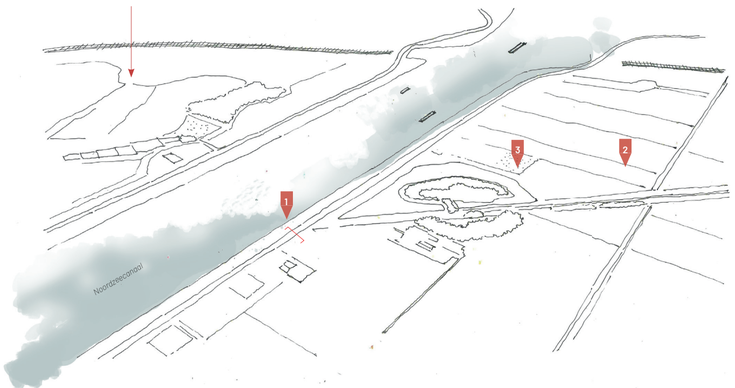
4 connectedness

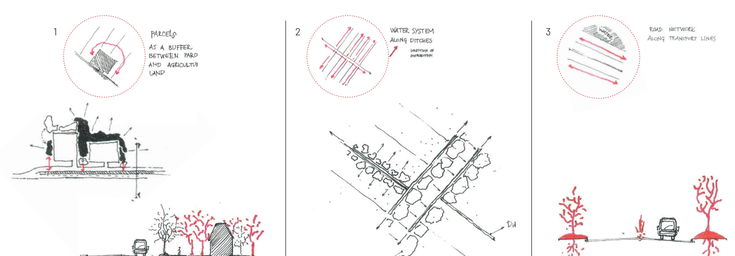


*Repair connectivity gaps into the slow mobility networks

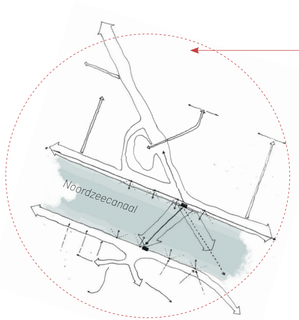
1 *Enhancement of the ecological structure.*

Green network development.
Current situation.

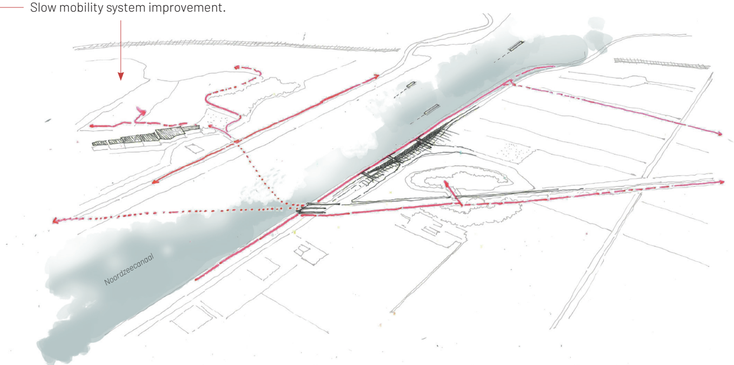




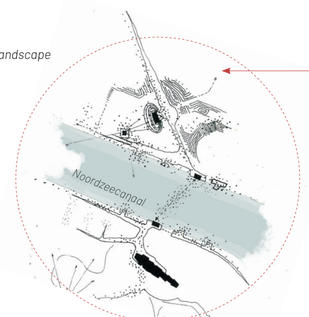
2 Enhancement of the soft mobility system.



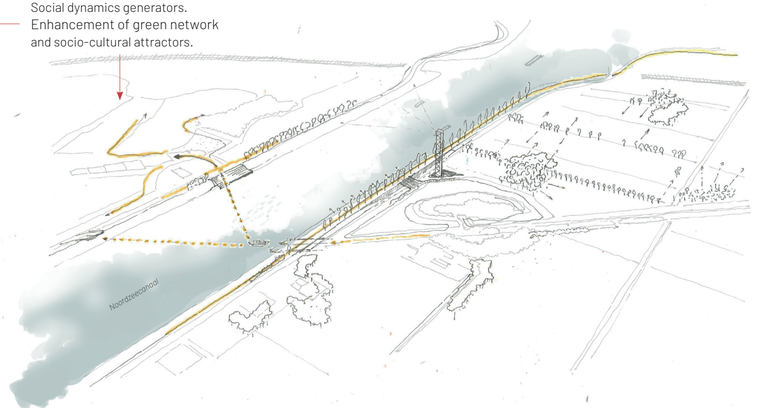
Slow mobility system improvement.



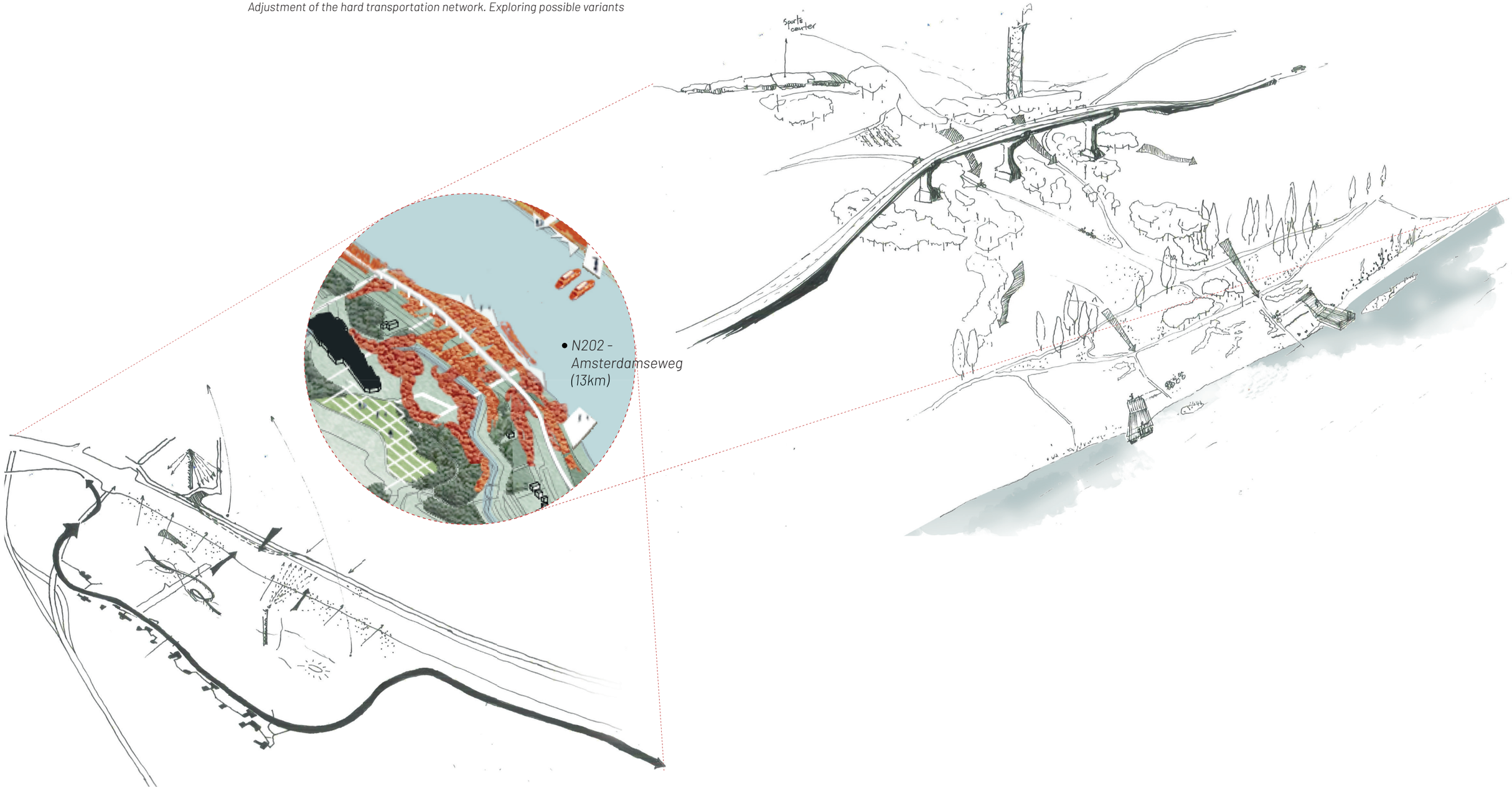
3 Enhancement of the local landscape assets.



Social dynamics generators.
Enhancement of green network
and socio-cultural attractors.



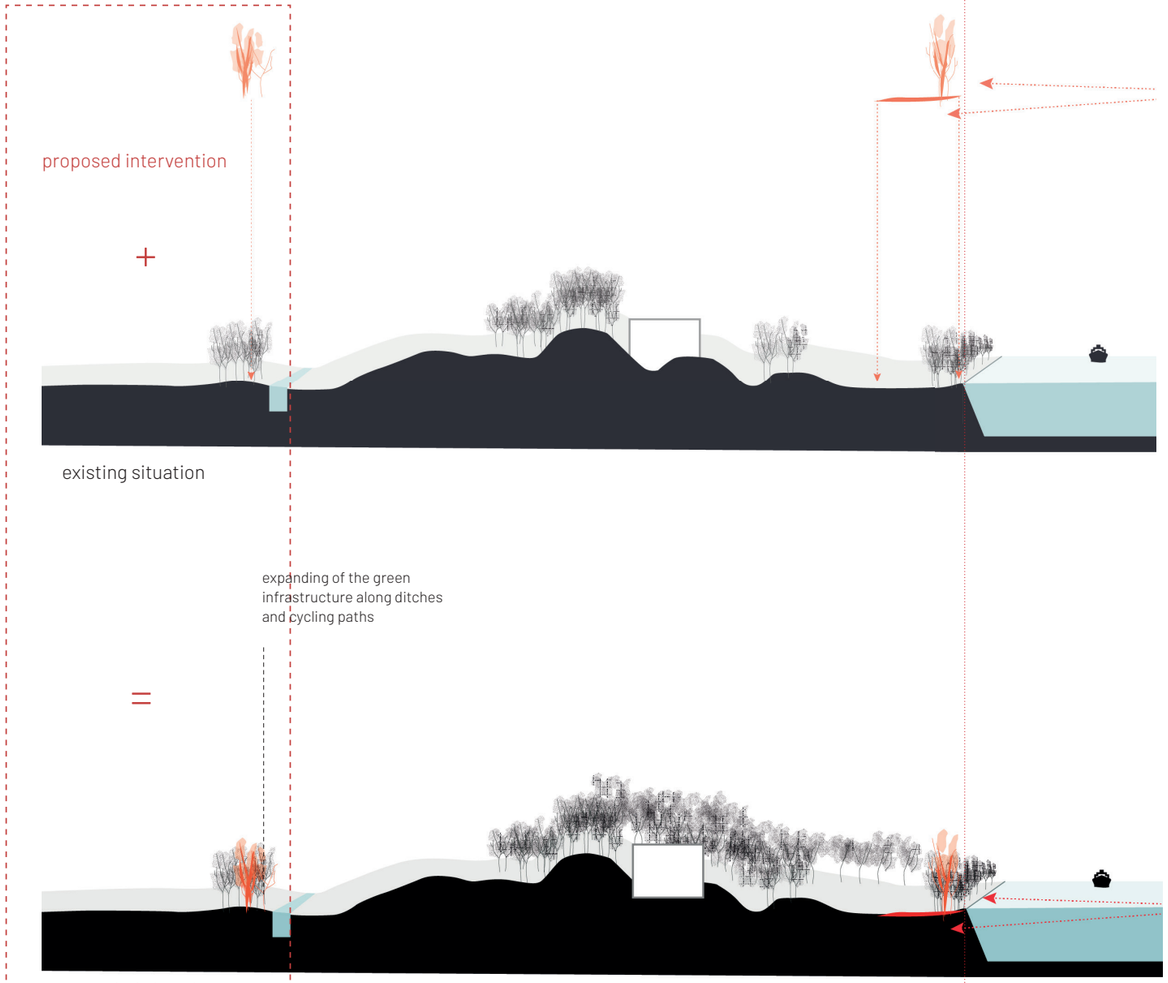
Design explorations through application of the adopted principles.
Adjustment of the hard transportation network. Exploring possible variants

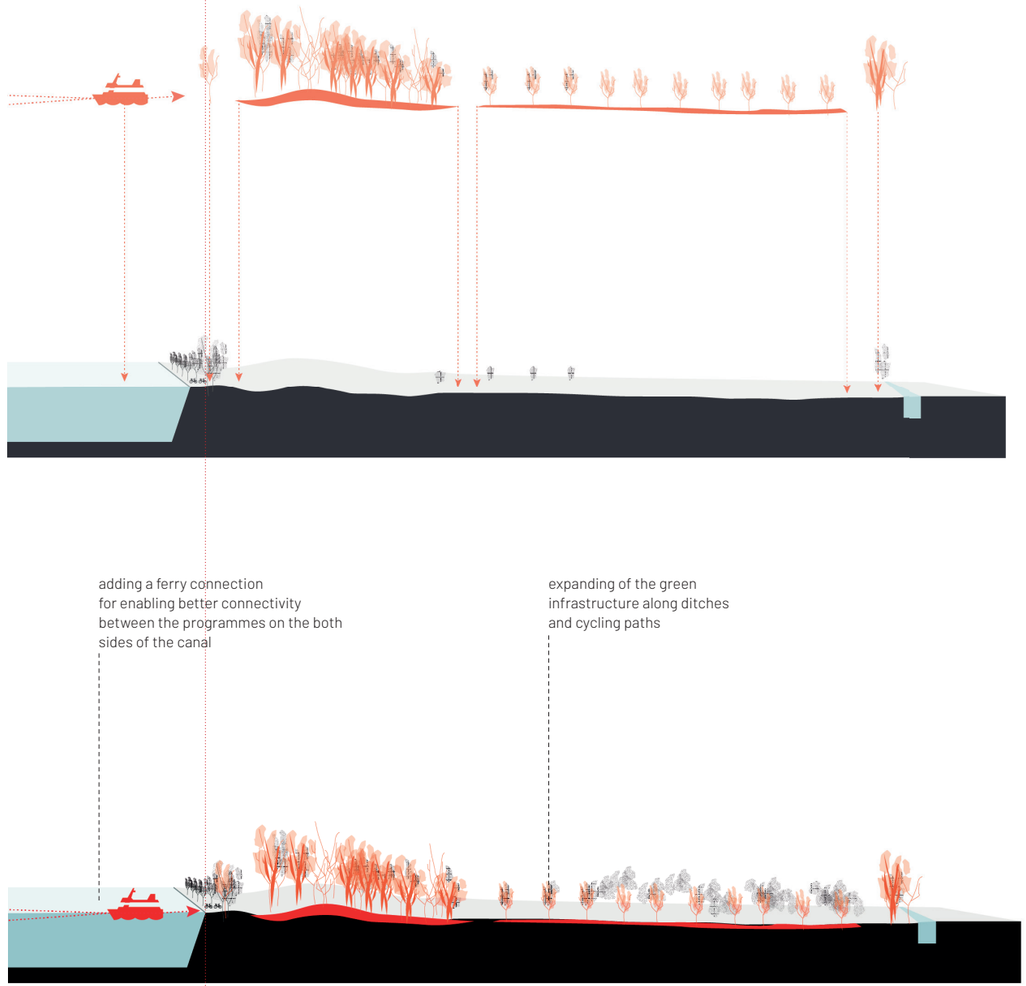


Design explorations through application of the adopted principles.
Second set of possible variants.

Demonstration through sections

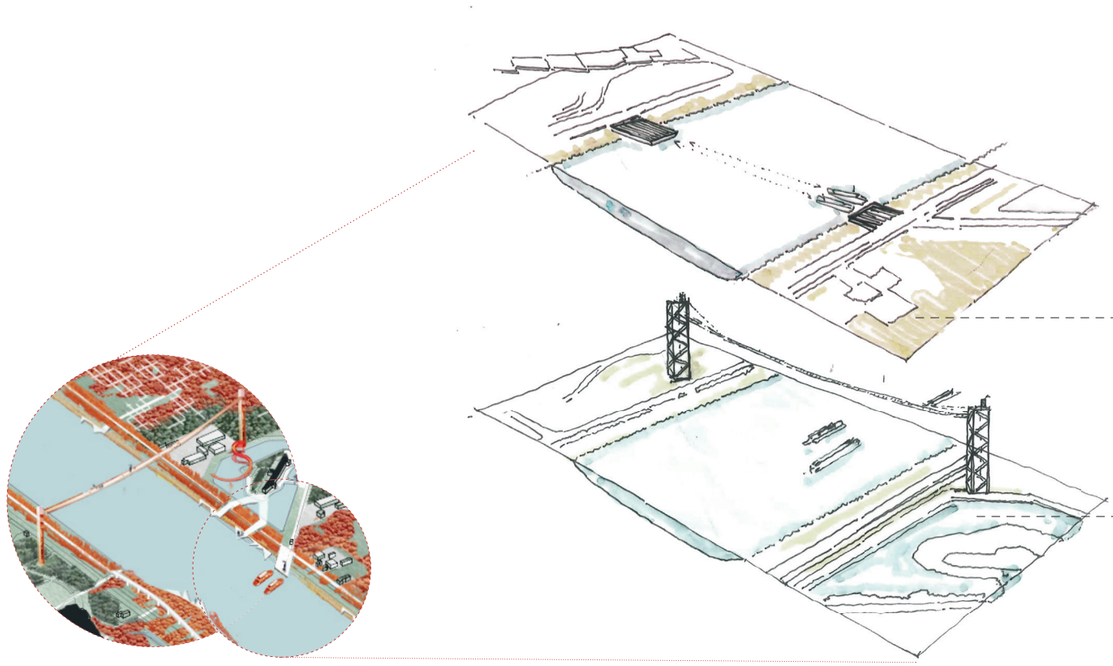
cross section 2





Design explorations through application of the adopted principles.
Third set of possible variants.

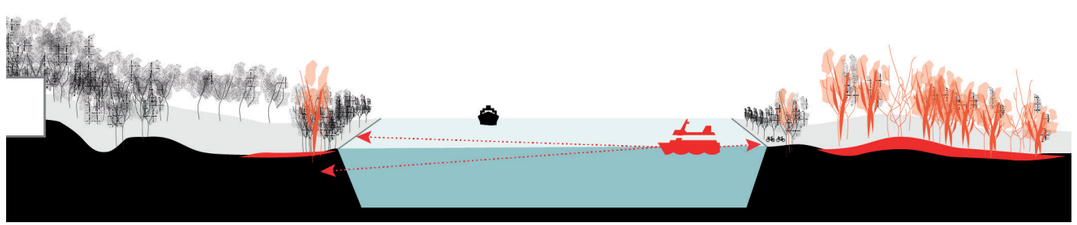
Adjustment of the hard transportation network. Demonstration through detail



1
*Proposal for new pedestrian tower bride crossing over the canal

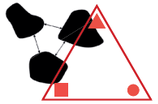
2
*Proposal for a new ferry connection to physically link the recreational area on the south and the proposed park structure on the north side of the North Sea canal

1

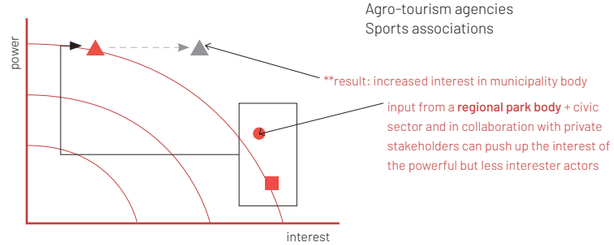


THE PATCHES

- public actors
- private actors
- civic actors



- NATIONAL LEVEL
  Rijkswaterstaat
- REGIONAL LEVEL
  Regio IJmond
- PRIVATE ACTORS
  Port of Amsterdam
- CITY/NEIGHBOURHOOD LEVEL
  Cycling associations
  Tourist associations
  Agro-tourism agencies
  Sports associations



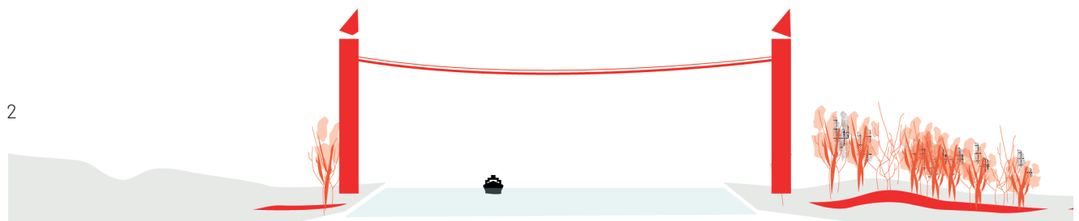
INSIGHT ON STAKEHOLDERS' AGENCY:

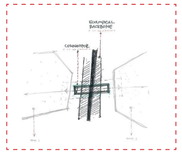
*Flagship project - the construction of a flagship project such as the pedestrian bridge over the North Sea canal could at first stir controversy and come across negative reception from the Rijkswaterstaat and the Port of Amsterdam, the dominant managers of this water body which interest in the canal is mostly economic one.

Lobbying into the direction of offering one more prestigious features to the canal aside of the world biggest lock which is currently under construction at the mouth of the North Sea canal, but this time for the benefit of the park users and the healthy environment of the region, could change the course and interest of the involved parties. This could motivate higher government instances to consider financing of a project of this sort.

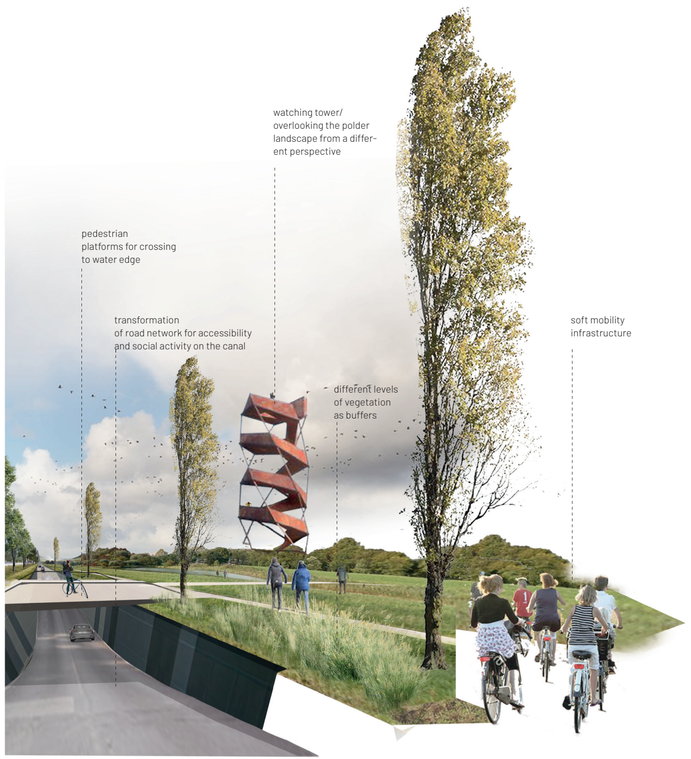
However, the voice should come from the actual users of this space, such as the cycling associations, recreational organizations, the local tourist and cultural organizations and the concerned non-governmental organizations in order to spark the discussion and express their high interest into a project of the sort.

2





robust regional corridor



*Possible transformation along the coast of the North Sea canal

PART 6

Discussion and conclusion

his final section discusses the work pursued in this thesis and gives an outlook on the research process and its products. It does so by reflecting on the initial objectives that inspired the research, so as to evaluate to what extent they have been provided responses for, what the limitations were along the process, what lessons they have generated, how the design was used to explore possibilities and what steps can be taken ahead and developed further.

The study was pursued to simulate the potential operative capacity and relevance of the Regional park concept notions in the context of the Amsterdam Metropolitan Area (AMA) via a research by design approach. The aim was to test how successful the implementation of these notions would be in terms of improving the overall quality of life, with a particular attention on the spatial quality of the urban-rural landscape and its valuable socio-cultural and ecological structures, the accessibility to the countryside and these structures of value, the multifunctionality traits of the area and the overall attractivity for housing and businesses purposes as well as for an array of consumers.

The main guiding question posed at the beginning of the research was how could the system of open spaces be utilized into an integrative structuring device that would embrace the hidden qualities of a fragmented landscape? As well as, how to translate that system into a cohesive regional backbone that will be flexible enough to allow for further socio-economic and spatial development of the region? These main guiding premises were broken into step-to-step questions, that informed each of the successive stages of the research and design process and therefore assisted in shaping the results of the general guiding questions. This method of work showed to be convenient and pragmatic since it consolidated the overall research structure and gave firm focus on the project's objectives.

Summary of the results

In the introductory chapter of the thesis, fragmentation was put forward as one of the most challenging spatial manifestations of the extensive metropolitan growth. As such, spatial fragmentation is indeed often recognized as a problem due to the implications that it has on the ecological corridors and the eco-systems, the overall slow mobility system and the social and cultural processes inherent to a territory, among other things. Similarly, these manifestations were identified in the Amsterdam Metropolitan Area. However, what the thesis attempted to demonstrate is that fragmentation does represent a problem but if utilized in a strategic way it can also become a potential to work with. From here, the reasoning was that while the phenomenon of fragmentation does physically separate spaces and systems it also creates numerous possibilities for spatial variations and gradients in the territory in order to accomplish the desired level of exposure, accessibility and exploitation of assets within each of the patches affected by it. The section of research by design explores precisely these variations and gradients.

Furthermore, fragmentation of the territory was observed to be manifesting as an encroachment of the afore mentioned patches. Since the process of gradual fragmentation throughout the years, naturally, comprised of expansion of urbanization in the realm of the open space landscape, it consequently required extension and additions to the transport infrastructure and other infrastructure networks. This process continued to affect the rising percentage of built surfaces at the expense of open spaces. What is more, this gradually shifted the attention towards economic growth that only perpetuated the demand for development in the periphery, and away from the open space as an in-between category of the metropolitan region and the qualities it holds. Therefore, within the understanding of the territory the research went on to acknowledge the contents and qualities which are disguised under the label of 'commuting areas'. While looking closely into the territory, its topographic features, natural assets, historical remains, cultural and ecosystem flows, It was revealed that each patch holds a unique capacity to spark ecological, social and cultural dynamics which could be distributed and materialized throughout the region via a cohesive structural backbone, an element that the region is currently missing.

The concept of Regional park was chosen as a theoretical body of knowledge to substantiate the necessary design of a cohesive regional structure. For that matter, a process of literature review, comprised of theoretical notions in support of the regional park concept and a study of reference projects, was conducted. These, coupled with the territory explorations and analyses gave an insight into a range of general regional strategies and design principles which were then tested in different sequences of the metropolitan area. This tool-kit, obtained along the process, was not per se consisted of prescribed methods on how to devise the end goal but rather how to devise design notions as indicators via which one can generate multitude of possible design actions for one specific place. That acknowledgement showed the importance of the devised principles as methods for transcending the applicability from only the explored area to other contexts too.

From here, the design results themselves do not represent blueprints of how a certain area should be designed and look like but rather exhibit possibilities on how the area could enhance the development of a metropolitan park. This aspect intends to demonstrate the purpose of the regional park as a robust and flexible structure that leaves space for accommodating various programs and processes at different times, while shifting, bending and allowing for the socio-economic trends of a place or a region to occur.

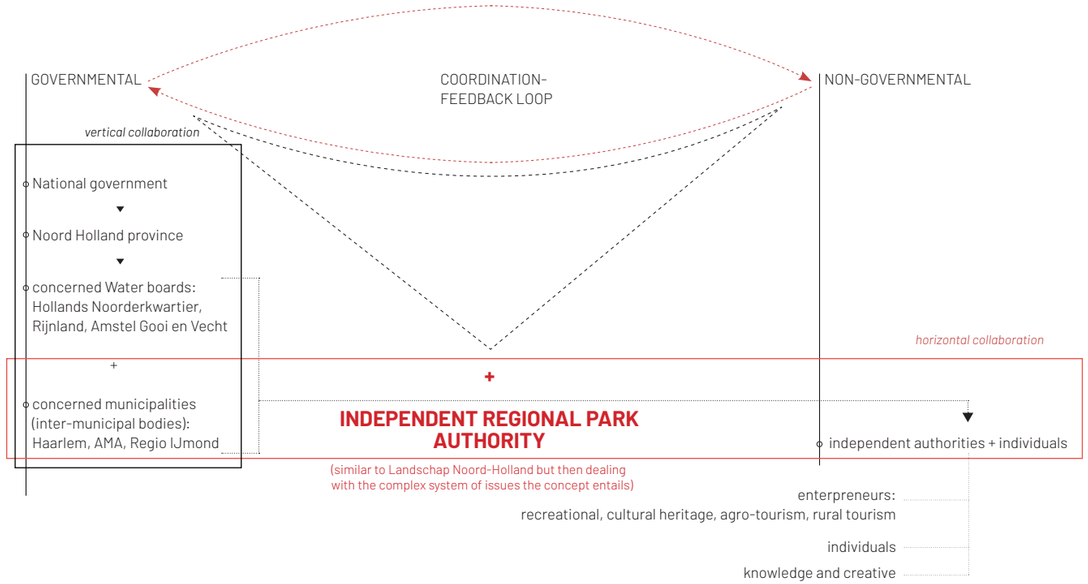
Lessons learned

It is important to note that the inter-scalar approach to the design explorations, from the regional strategies to the site-specific design tests, was not primarily related to demonstrating the design concepts themselves but to understand of what nature would these interventions be, what systems they will engage with, what kind of stakeholder involvement and institutional support will they require, and from there understand the temporal aspect that is related to each of these. Namely, if for instance a design intervention was to propose afforestation of an area to create an ecological link between two existing forest patches, and this area is currently occupied by agricultural land-use, then the relationships between parties involved as well as the process of preparation and transformation of the ground for the proposed land occupation become increasingly complex. That is simply because when multiple sides are involved, the probability for conflicts to arise is higher and project take longer.

While on the one hand this and similar examples characterize the process as complicated they in the same time emphasize the importance and necessity of compatibility and correspondence between the concerned systems and reflect the incremental nature of their transformation towards a coherent landscape (infra) structure. In this manner, the local, patch scale interventions that concern more focused, less diverse range of stakeholders and less intense structural ground layer transformations could be a good start from three aspects. Firstly, they would require less time to be implemented, secondly, as more temporary they could become quick explorative tools in terms of quality of performance and finally, they could become stirrers of discussion and attention among the stakeholders that would have the biggest benefit out of them.

The last aspect is especially important because in a situation where the institutional bodies prioritize other agendas over the safeguarding of open spaces, the individuals are in position to gain power and influence the course of decision making of municipal/provincial authorities. To refer to one of the advantages of the regional park concept, that is the protection and safeguarding of open spaces through development of awareness and identification with the local socio-cultural values of a place. When people acknowledge the value and meaning of their surrounding they could easily become firm defenders of that surrounding's well-being.

Consequently, two collaboration schemes can be worked out in order to ensure sufficient participation of from all parties and feasible distribution of responsibilities in case of implementation:



Contribution to the field
From the conducted research prior to the design stage it was concluded that strategies for regional-park development are not yet well established as tools. The thesis re-opens the question of substantiation of the concept and speculates on its possible implementation based on the design exploration outcomes. In that sense I believe it is playing an incremental role into propagating the importance of the regional park concept while in the same time taking a step further into strengthening the strategic and design notions towards better applicability. This influence and relevance would be even stronger if coupled with real time cooperation initiatives.

Limitations
The limitations that were encountered and made a holistic approach difficult to apply was the exclusion of stakeholders in the design process due to time constraints.
Other key aspects that are crucial for a future implementation of the structure plan and design interventions and were not possible to treat due to the scope and character of the research are the aspects of financing and governance.

Finally, the last sub-question of the research objective could only partially be speculated upon due the absence of real planning process. Ideally, the regional park strategy could be imagined as a complementary to the conventional planning mechanisms as it ponders much better into the cultural landscape, its images and the questions of identity as well as the experiential and aesthetic values of the open space landscape. The conventional planning processes and policy approaches don't have those attributes.

What follows
Further engagement with the inherent systems-
The three main systems that the project engages with, the ecological, mobility and socio-cultural system have physical requirements and spatial implications on the landscape.
Due to the limited time, it was not possible to thoroughly look at the response of each of these systems on the proposed strategies as well as the mutual system response and this is an aspect that could further be explored. Their inherent dynamics of change, their sensitivity to external factors, and their transformation capacity are properties that have to be explored over a longer period of time.
Additionally, getting to know the territory better exponentially increases the design and strategy possibilities.

Extent of applicability-
Regarding the wider applicability of the principles, further test and explorations should be conducted in areas of similar urgencies and growing metropolitan pressure. So far, the success of the implemented notions of the regional park concept in the contexts elaborated in the fourth chapter do guarantee quite high level of performance of these notions. Big portion of that success should be prescribed on the local collaboration involvement schemes, which highly depends on the context specific motivation, logistics and mobilization which will, of course, vary between different context and will influence thequality of the implementation. However, it is a good an incentive to justify the feasibility and give it a go.

Further urbanization trends-
Since the Amsterdam Metropolian Area is under unrbanization pressure, and the recent liberalization and decentralization of spatial policy in the Netherlands could generate more urban dispersion (Nabielek et al., 2013), scenarios could be worked out on how and where these could take place in addition to a prospective regional park structure. Since the historical genesis of the area marks north-south direction of development planning due to the constellation of water bodies prior to the Noordzee canal and the suitability of soils to construction, the west-east orientation of development is not sufficiently explored. It would be interesting to see to what extent a regional park structure could create posibilities for attractive location for controlled urban growth and with a higher level of connectedness with the prospective robust regional structure.

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2. Province Noord-Holland (for GIS data)
https://maps.noord-holland.nl/GeoWeb51HTML5/index.html?viewer=areaal

https://noord-holland-extern.tercera-ro.nl/MapViewer/

Nature projects
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Historical map 1794
https://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~24817~960025:Seven-United-Provinces-?showTipAdvancedSearch=false&showShareIIIFLink=true&showTip=false&helpUrl=https%3A%2F%2Fdoc.lunaimaging.com%2Fdisplay%2FV73D%2FLUNA%2BViewer%23LUNAViewer-LUNAViewer&title=Search+Results%3A+List_

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https://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~253768~5519209:Holland—The-Netherlands-?showTipAdvancedSearch=false&showShareIIIFLink=true&showTip=false&helpUrl=https%3A%2F%2Fdoc.lunaimaging.com%2Fdisplay%2FV73D%2FLUNA%2BViewer%23LUNAViewer-LUNAViewer&title=Search+Results%3A+List_

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