

ConnectIN'Delft

Social, spatial and functional integration by transforming Schieoevers as entrance to Creative City Delft

P5 Report,
AR3U100
July 2013

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PREFACE

This final report describes my graduation project of the graduation studio Urban Regeneration. With this project I conclude my Urbanism master at the faculty of architecture.

The graduation project concerns Schieoever Delft, an industrial area in decline, and proposes an urban transformation of that area within the concept of the creative city in which interaction (spatially, socially and functionally) plays an important role.

I would like to thank my mentors Herman Rosenboom and Willem Hermans for their unconditional support and advice. They have been a great help in the graduation process.

Next to that I would like to thank my parents and friends who have given me the strength and support to continue.

Tom Kuipers

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PART 1

ASSIGNMENT



1.1. PROBLEM STATEMENT

GENERIC PROBLEM FIELDS

Transformation of industrial areas

From the last decades of the 20th century a lot of industrial areas have been in decline due to changing socio-economic circumstances (de Groot, 2010) and from the 1990s onwards many of them have been transformed into areas with new functions. (e.g. Binckhorst in The Hague, Oosterdokseiland in Amsterdam) Most of these industrial areas are located in parts of the city that are located near the city centre and/or near the main transport networks (rail, water, highway) and due to the renewed interest in the city as a place of living and their industrial identity, many of these areas have been transformed on a large scale and within a reasonable short amount of time.

The development of creative neighbourhoods added a new value to the urban transformation process of industrial area in decline. (Rutten, 2005) Many creative neighbourhoods (e.g. NDSM wharf, Amsterdam) have been gradually developed started by a specific building renovation project or event. Due to the recent and current economical situation, there might be a need for this shift in the transformation process with a focus on small strategic interferences.

Creative and knowledge cities

Since the end of the 1980s but especially in the first decade of the 21st century, the concept of creative cities and knowledge cities have been part of the urban transformation process and policy making process.

Many cities claim to be a knowledge or creative city, and compete with each other to attract the creative class and knowledge workers. However they often lack the specific conditions therefore and do not give a concrete interpretation to this concept (Rutten, 2005)

Interaction

Despite new technological possibilities in internet and telecommunications, face to face interaction and networking remains vital for cities (Landry, 2008). Therefore the 'place', where interaction can happen is of great importance for the knowledge city. Especially tacit knowledge can only be exchanged by face-to-face interaction (Helbrecht, 2004) The city therefore needs places for this interaction and possibilities.

To be able to interact requires well accessible places. However, with physical interaction come problems on different scales, like mobility and accessibility.

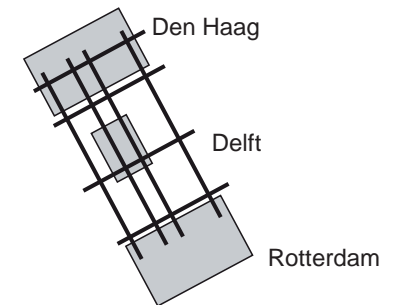
DESCRIPTION OF THE PROBLEM

Delft from knowledge city to creative city

Delft is centrally located in the Zuidvleugel region, between the cities of The Hague and Rotterdam, along the major transport networks (rail network, highway network and water network). It is a city with a lot of technological companies, facilities and is home to the technical university of Delft. The city claimed in its previous city marketing to be a knowledge city but now states four main focus themes: technology, history, creativity, innovation, (municipality of Delft) resulting in a shift from a pure knowledge city to a more creative related development.

Poor accessibility and connections within Delft-Zuid

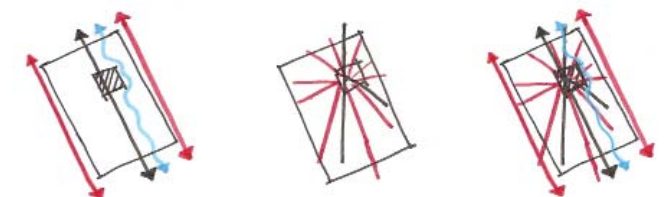
Due to its location within the network of the Zuidvleugel and the transport network accompanying it, Delft has good transport connections on a regional and national level. However when looking to the city level these regional and transport networks form barriers within the city fabric. Most connections in Delft are directed to the city center, but they neglect relations and connections between other districts in Delft Zuid. The working/educational districts of TU-wijk, Schieoevers and the new business district Technopolis on the one hand, and the living district Tanthof, Voorhof and Buitenhof on the other hand. Next to that the planned networks on the local level do not connect well to the regional public transport network.



1.1 Schematic representation of Transport networks in the Zuidvleugel



1.2 Delft and Schieoevers aerial photo

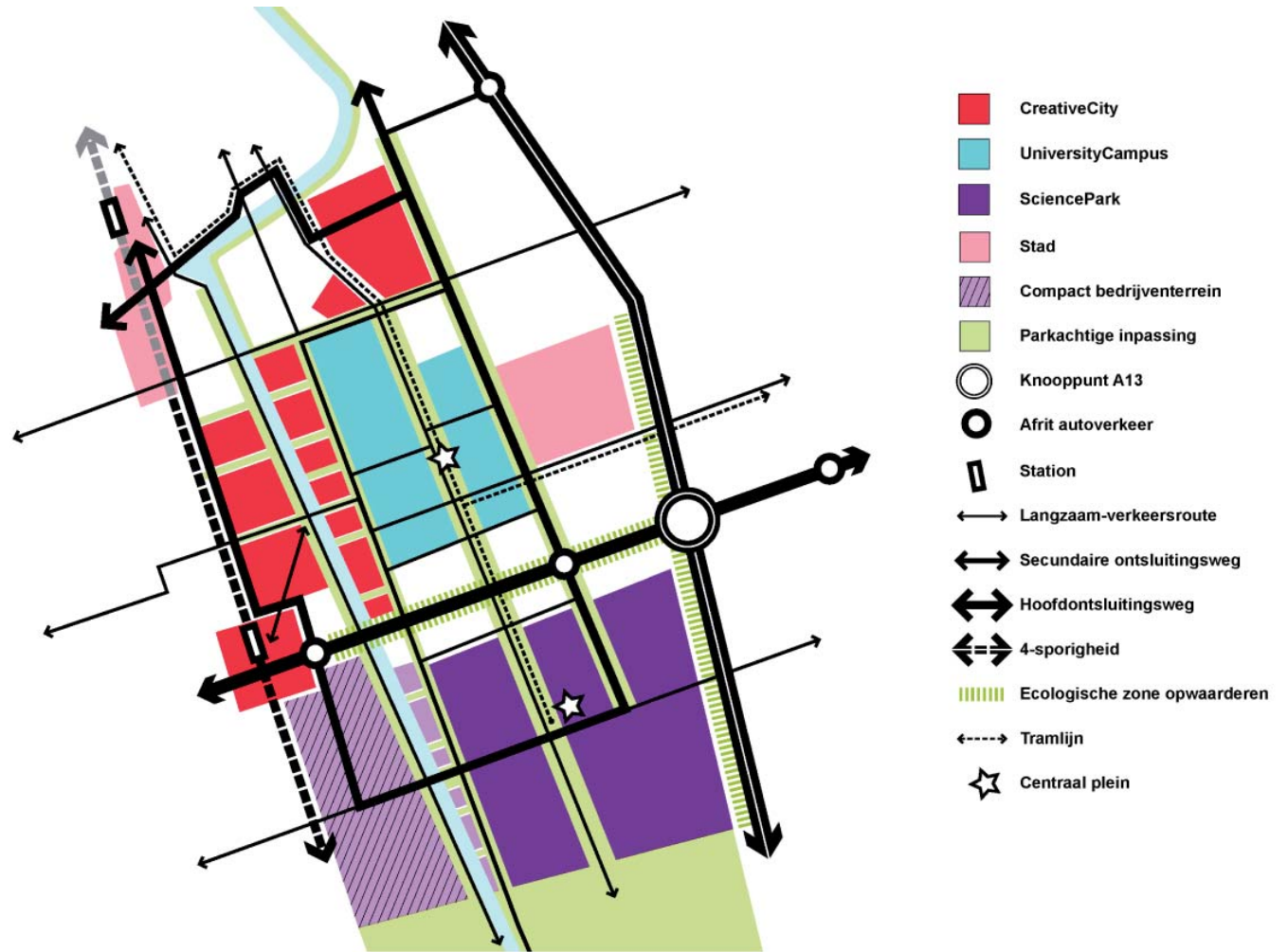


1.3 Rail, road and water networks on a regional, local and combined level

The in-between location of Schieoevers-Noord

Schieoevers-Noord is the most central, but isolated location within Delft-Zuid. It is located between two transport networks; the Schie canal and the railway and borders the university of Delft on the east side and the living neighbourhood Voorhof on the west side.

Currently Schieoevers-Noord is a large industrial area with a number of large factory halls. Because of its current functions, Schieoevers-Noord forms a barrier between the various city parts of Delft. However, due to its central location, both close to the center of Delft and the university it has the potential to be regenerated into a creative and innovative living/working environment that strengthens the connections within Delft-Zuid. This view has also been integrated in the new masterplan TICD (technological innovation campus delft) which is an integral masterplan for the development of the southeastern part of Delft.



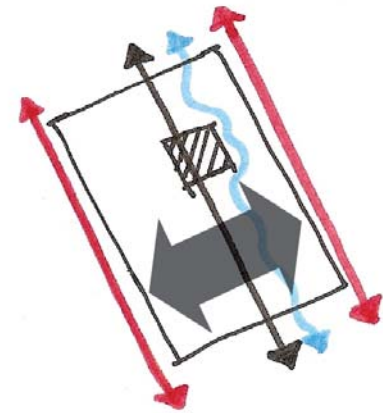
1.4 TICD vision (TICD)

1.2. AIMS OF THE PROJECT

The aim of the project is to transform Schieoevers into a well-accessible neighbourhood within the framework of the creative city. A neighbourhood where interaction in different forms and on different scales play an important role.

The transformation should improve the accessibility and spatial and social interaction between the various city parts of Delft-Zuid, improve the position of Delft as a creative city and be a place of interaction in itself where different companies, (educational) facilities and people etc. come together.

This aim can be divided into two parts. First of all a strategy for the development of Schieoevers-Noord, in such a way that it becomes part of the city of Delft. Secondly, in coherence with the current socio-economic situation, a small scale strategic project. A crucial intervention so to speak that will help this development take flight.



1.5 Aim of the project is to develop Schieoevers in a way that improves accessibility and interaction in different forms and on different scales.

1.3. RESEARCH QUESTION(S)

The main research question of this thesis is:

How can Schieoevers-Noord be transformed into a well-accessible neighbourhood within the framework of the creative city, where interaction on different levels and scales takes place?

To answer the main question it is essential to be able to understand and research the following sub questions concerning the theoretical topics of this thesis.

- What is a creative city and what are its key elements?
- What is the importance of interaction and how can interaction on different scales and levels be promoted.
- What are the spatial requirements to accommodate interaction.
- What is the specific role of accessibility and connectivity in the creative city?

Next to that a link must be made between these theoretical topics and the project location in Delft. Therefore it is important to question:

- What is the current position of Schieoevers and Delft in the Zuidvleugel within the framework of the creative city? And what can it be in the future?
- How can the accessibility of Delft-Zuid, within the context of the Zuidvleugel, be improved?
- Which strategic projects can help the development of Schieoevers-Noord in the given direction?

1.4. SOCIETAL AND SCIENTIFIC RELEVANCE

An inventory of projects in the Netherlands shows that many cities are confronted with industrial areas that are currently under transformation or have been under transformation recently. (e.g. Binckhorst in The Hague, Oosterdokseiland in Amsterdam) They were isolated, either socially, spatially or both and poorly connected to other city parts. These areas, most of the time located in the heart of cities, have the potential to be transformed into creative living/working environments and can play an important role in providing knowledge on new opportunities to develop, transform and build.

Mobility and accessibility issues, which are part of the interaction process, concern people's everyday lives. The main challenge is to get people out of their cars and stimulate public transport and slow transport (pedestrian/ bike) alternatives. Using public transport instead of the car helps to create a more sustainable environment. In the field of urbanism, transport networks have played and will play a major role. The spatial impact of transport networks in the city is long lasting and these networks are not easily adaptable. How do we as urban planners/ designers deal with this?

A well connected and accessible city helps to improve the social integration and the quality of life of its inhabitants. Although sometimes fragmentation and isolation are desired elements (mostly desired by their inhabitants, for example gated communities on a smaller scale) in most cases spatial fragmentation and isolation have a negative impact on social life and the role citizens play in the city. Improving the interaction between different parties leads to a more successful city.

The current economical situation requires a change in

approach to the urban project. Large masterplanned neighbourhoods are not working anymore and don't offer the solution in this changing context. The decreasing availability of money, the retrieving role of the government are two of the main factors that have an effect on the time frame, flexibility and approach to projects at hand.

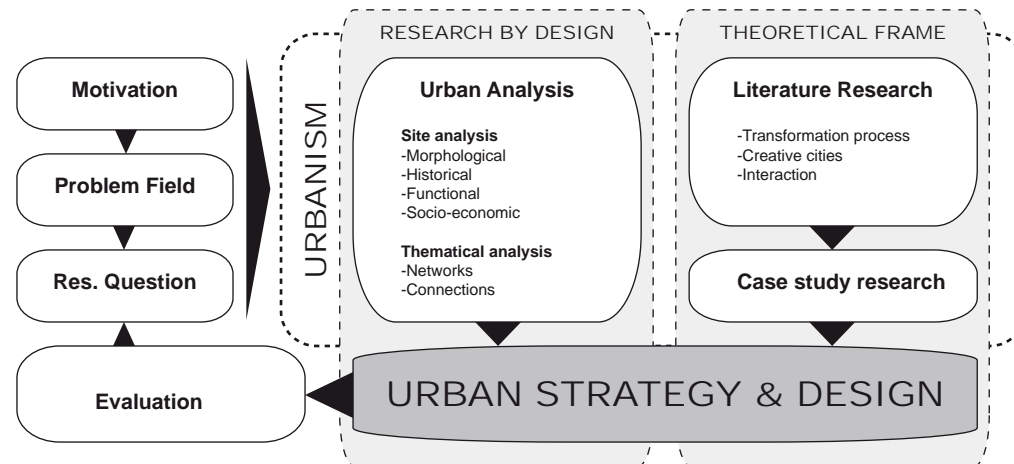
1.5. METHODOLOGY

Different methods can be used to investigate several aspects of the problem at hand, which are visualized in the scheme to the right. The scheme shows their interrelationship. Next to that there is a division between research by design and the theoretical frame(work), which leads to a comprehensive Urban design.

The literature research will provide information and recommendations without location context for the urban design. Next to that a case study will be made in which the theoretical ideas will be tested in existing situations.

One of the case studies that will be researched is Strijp S in Eindhoven. Eindhoven has been successfully developed into the 'brainport' of the Netherlands. A region with a high number of knowledge related industries. Which spatial physical factors have contributed to this development and what can be implemented in the case of Delft? Another case study will be made of the NDSM wharf in Amsterdam, focusing on the transformation process that the location underwent

Furthermore the urban analysis will set the context in which the design should be incorporated and a comparative analysis will be made about the different networks that Delft is related to and to understand what the position of Schieoevers and Delft is on other scales (Zuidvleugel/Randstad). This will also involve what the current plans for the development of the region and the city are.



1.5 Diagram of methods and their relationship.

PART 2

THEORETICAL FRAMEWORK



2.1. THE CREATIVE CITY IN A CREATIVE ECONOMY

Introduction

This chapter will try to give an answer to what a creative city is and consists of. Therefore it is necessary to introduce and understand a number of relating topics such as the concepts of creative and knowledge city and their relations with knowledge workers or creative class. In the current debate on creative economy there are many terms flying around. Therefore it is necessary to introduce and understand a number of relating topics such as the concepts of creative and knowledge city and their relations with knowledge workers or creative class.

The creative city

During the shift from the industry based economy to a knowledge based economy, many urbanists, sociologists and economists among others have been dealing with the consequences for the urban development. From the 1960's onwards many theories have been developed to address to this change of which the knowledge city and creative city are some of the most well-known. The two are closely related but differ in their exact definition.

The concept of creative city was developed at the end of the 1980's by Charles Landry and elaborated in his book *the creative city* (2000). In this concept Landry proposes a shift in the way cities are managed. Cities should embrace creativity as the thriving factor for urban planning and development. Later on the concept was further expanded by other authors. Especially Florida (2002, 2005), and Howkins (2001) who wrote on the social and economic aspects respectively have largely contributed to the body of knowledge. Hospers (2003, p143) already narrows the concept down to a

more spatial definition. He describes creative cities as "competitive urban areas that combine concentration, diversity, instability and a positive reputation".

The creative class

The creative city is based on the notion that human capital is nowadays the thriving force in economic development in the western world. (Bontje & Musterd, 2009) In his study, Florida (2002) introduces the term creative class and subdivides it into a super-creative core and creative professionals. The super-creative core consists of people that "fully engage in the creative process" (2002, p. 69), while the creative professionals are mentioned as the traditional well-educated knowledge workers. Florida (2005) includes not only artists, designers and writers, as part of the creative class, but also engineers, lawyers, doctors, managers etc. resulting in a very broad group of workers. Other researchers have challenged Florida in this broad concept of the creative class. (Hall, 2004; Glaeser, 2005)

Knowledge and creativity

In literature the terms knowledge and creative economy are sometimes used interchangeably, although they are not exactly the same. There are (small) differences between the terms of creative economy and the knowledge economy. The term knowledge economy is generally used to refer to the total of businesses, research institutes, governmental offices and educational facilities collaborating on innovation and technology. (Hospers, 2003) The creative economy specifically

adds the cultural and creative aspect to the equation. Artists and designers for example have an important role in innovation and creating ideas that can be further developed and produced. (Rutten 2005)

The knowledge city can be described as a city "purposefully designed to nurture knowledge" (Edvinsson, 2002; in Dvir and Pasher, 2004); a city "in which its citizenship undertakes a deliberate, systematic attempt to identify and develop its capital system, with a balanced and sustainable approach" (Carrillo, 2004). In a knowledge city the knowledge based economy is leading and innovation will be derived from the interaction between the different actors.

The knowledge and creative city in The Netherlands

As throughout the world, many cities in the Netherlands focus on attracting the creative class and use the term knowledge city or creative city for their marketing purposes. Eindhoven and Delft (Brainport Eindhoven, Delft creating history) are well-known examples of knowledge cities, but basically all big (university) cities in the Netherlands have policy documents on improving the conditions for the creative economy.

The Dutch National Policy Strategy for Infrastructure and spatial planning has the goal to make the Netherlands competitive, accessible, liveable and safe. It states to enhance the competitiveness of the Netherlands by strengthening its spatial and economic position. From this it can be deducted that both the spatial and economic policy are related towards the same goal.

2.2. SPATIAL CONDITIONS FOR THE CREATIVE CITY

Introduction

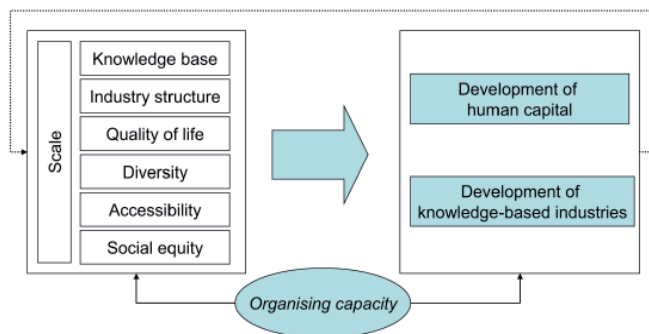
In recent years the concept of the creative city has been more and more adapted by local governments and policy makers worldwide to identify their cities with. (Bontje & Musterd, 2009) The book *The rise of the creative class* by Richard Florida (2002) gave the movement a boost and brought it under the attention of many urbanists and city governments. Attracting and beholding the creative class has become a major goal, since the amount of people that are part of the creative class in a city is strategic and valuable for economical growth and urban development. (Florida, 2005) However, not all cities are successful in their adaptation of the creative city concept and following that, the success of one city does not necessarily implicate a success elsewhere. The starting position of every city is different, because of their history which results in a specific economic, cultural and social structure (Rutten, 2005) According to several authors (Hospers, 2003; Romein & Trip, 2008; van Winden et al., 2007) there are certain spatial conditions that contribute to the success of a city as a creative city. This chapter will address these spatial conditions.

Spatial conditions for the creative city

During the last decades many attention has been given to the knowledge based creative economy and creative city concept, but the focus was mainly given to the policy making process. However, the spatial points of view, the spatial consequences of the policy or the spatial conditions for developing a creative city have not been researched extensively. Only a few authors have published on this topic. In order to be able to adapt

Key element	Characteristics	Production or consumption milieu
social climate	prevailing values and attitudes; social tolerance; openness towards diversity (e.g. gay and foreign-born population, subcultures)	both
representation	image; symbolic value of cultural heritage; 'story', humous soil or DNA of the city as a whole or specific intra-city areas	both
labour market and employment	diverse pool of talented workers; vocational training; 'thick' labour market	both
buzz; atmosphere	face-to-face networks; tacit knowledge; street life; possibilities for unplanned encounters in 'third spaces'	both
built environment; living and residential environment	diversity and size of buildings; vibrant street life; diverse, pedestrian-friendly public spaces; authentic neighbourhoods	both
amenities	cultural festivals; outdoor sporting facilities; parks; education facilities; specialist libraries; specialist shops; diversity of cafes and restaurants	consumption
clusters; incubators	affordable spaces; old industrial buildings; authenticity	production
policy; government and governance	creating conditions rather than detail planning; cooperation between local authorities, firms and interest groups	

2.1 key elements of the creative city (Romein & Trip, 2008; p7)



2.2 Cities in the knowledge economy (van Winden et al., 2007; p529)

policy from paper into reality this section will focus on the spatial requirements of the creative city.

From literature review of historical and theoretical studies on the concept of creative cities, Hospers (2003) concludes that knowledge, creativity and innovation cannot be planned from scratch. As mentioned before not every city can be a creative city. There has to be a certain urban condition that serves as base for creative city implementation. The authors that have written about the spatial conditions of the creative city concept differ in approach and strategy.

Romein & Trip (2008) mention eight key elements and their characteristics for the creative city, based on a division between production or consumption milieu or both. (illustration 2.1) They focus on a wide range of factors, physical, social, economic etc. The order of these key elements reflects the degree in which they supposedly can be influenced by local policy.

According to their research, social climate is thus influenced easiest by local policy, while government and governance are the hardest to influence. Some of these elements depend on long term planning, slow and specific processes and their scale can be more dependent on national policy and therefore be out of the scope of the urban planner/designer. The social climate and the labour market is an example of that. However, there are elements in which the urban planner/designer can make a positive impact on the creative city key elements, for example the built environment, living and residential environment.

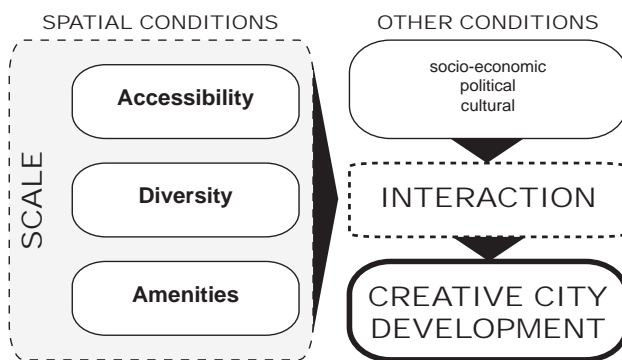
According to van Winden et al. (2007, p529) see illustration 2.2, there are 7 foundations that are “conducive to the city’s ability to acquire, create, disseminate and use knowledge effectively for greater economic and

social development”

In the scheme, scale is an overall factor influencing all other 6 elements. In general, larger cities are more successful in attracting businesses, educational facilities and creative workers, which are necessary to develop a creative city. (van Winden et al., 2007) The actual amount of skilled workforce, the creative class, is generally higher, due to its natural attraction on well educated people and to the existence of many facilities. Next to that the businesses and facilities that already exist give a certain base on which new businesses and facilities can collaborate with. However, smaller cities which are part of an extensive urban network can benefit from the surrounding network. (van Winden et al., 2007) The ‘borrowed-size’ of cities is therefore largely influenced by its accessibility. Since the size of a city cannot be influenced largely, the term scale can be seen as precondition

Although the scheme is based on the knowledge economy, it gives sufficient argumentation for the use in the creative city. Finally Hospers defines the creative city in terms of concentration, diversity and instability.

Based on the three above mentioned theories, key elements and foundations a set of summarized spatial conditions for the creative city can be made which can be influenced by urban planners or designers. Illustration 2.3 shows the interrelationship between the different spatial conditions (accessibility, diversity and amenities) with interaction which forms the necessary basis for the development of the creative city.



2.3 Scheme of spatial conditions related to interaction and the development of the creative city.

1 Accessibility

Accessibility is a key element within the creative economy. As mentioned before, the creative economy works within a global network. Due to the importance that 'place' still has, especially for the face to face contact (Helbrecht, 2004; Bontje & Musterd, 2009) it is essential to be able to travel on different scales with various modes of transport. Therefore an (international) airport, good links with the (international) high speed rail network and national road and rail network is required. (Berg et al., 2005, van Winden et al., 2007) Next to the transport options on a large scale, transport options on a local scale are just as important. Knowledge workers need to be able to go to their work and go around town; an effective local public transport system and efficient bike network are requirements for these shorter distances. Landry (2000) goes even further by stating that walkability is part of the creative city as well. A well integrated pedestrian network will support the focus of the city as a creative city and improve interactive environments.

2 Diversity

Diversity can be described in a wide range of topics within the theory of the creative city. Hospers (2003) mentions diversity as one of the crucial elements in his definition for the creative city. People from different cultural, social and educational backgrounds make an easy environment to fit into and to nurture creativity (van Winden et al., 2007) At another level the diversity includes the various spatial qualities of the creative environment. Smit (2008) describes the spatial quality conditions of several creative enterprises in practice. She concludes that the appearance of the building and the neighbourhood in a mixed area are most important

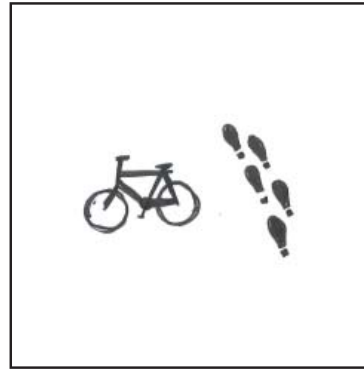
to creative businesses. A diverse and mixed urban environment where something is happening always, thus promotes interaction and exchange of creativity further.

3 Amenities

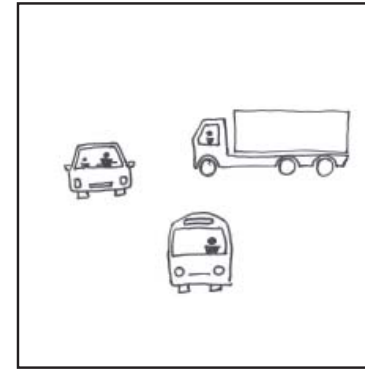
Amenities are the third important factor that contribute to the interaction needed for the creative city. A wide variety of amenities ranging from festivals, to restaurants and cafes, but also sporting facilities improve the possibilities for interaction between different groups of people. Romein and Trip (2008) conclude that more diverse amenities lead to a better base for the creative city, because it gives a more interesting living environment for creative workers.

Illustration 2.4 summarizes the three main spatial conditions for the development of creative cities with its subdivisions. In the next section the term interaction will be elaborated further.

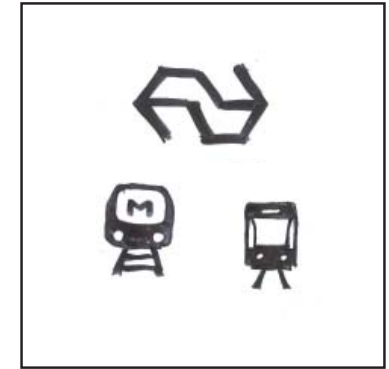
Accessibility



Slow Traffic Network

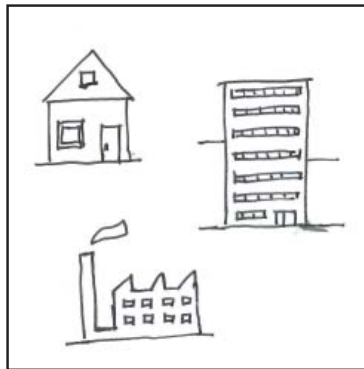


Road Network

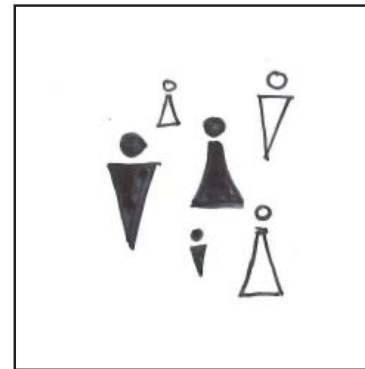


Rail Network

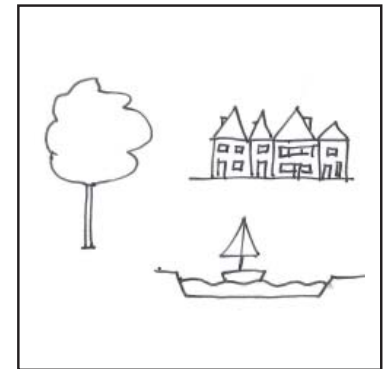
Diversity



Building Appearance

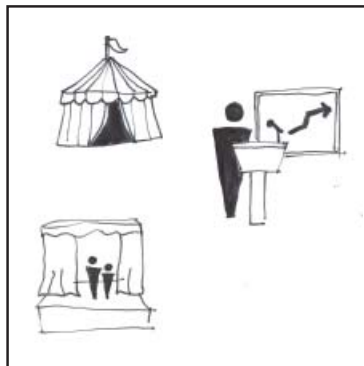


Diversity between People



Diverse Environment

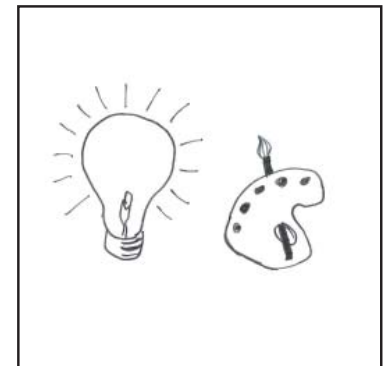
Amenities



Events



General Amenities



Amenities for Creative workers

2.3. INTERACTION AS KEY ELEMENT TO CREATIVE CITY DEVELOPMENT

Interaction is one of the key elements of the creative city concept. According to the Collins English Dictionary, interaction is: 'a mutual or reciprocal action or influence' or in more standard language: actions or processes that are mutually influencing each other.

The production of knowledge -and creativity- is regarded as a cumulative process, which profits from the interaction and cross-linking of different discursive participants, be it individuals, firms, networks, institutions or groups. (Storper, 1997, chapter 5; Scott, 2000, p. 31). Interaction works on different levels. We can define a (inter)national, a regional and a local level where interaction can take place. These will be included in the scheme which was presented in the previous section, will be elaborated in this section and result in a matrix of the spatial conditions for interaction related to the different levels.

Interaction on a (inter)national level

In the current global market, focusing on knowledge, innovation is the key to further development of the economy and welfare of a country, but there are factors that influence the success of innovation and therefore for improving the creative industry in the Netherlands.

According to Hospers (2003) The knowledge economy has lead to a great competitiveness between countries and cities for the favours of inhabitants, companies, institutions and visitors. It asks for 'creative cities', competitive urban areas that combine concentration, diversity, instability and a positive reputation.

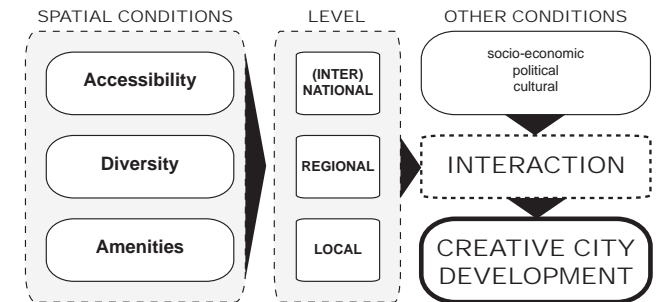
Interaction on a local level

From history it can be concluded that creative cities cannot be planned from scratch, there are always time-based and fortunate factors that influence the process. However, local governments can play a part in creating appropriate conditions in the underlying framework. International examples have shown that local government support is both important and effective in creating opportunities for the development (Hospers 2006)

Local creative city policy should not focus exclusively on either the people-oriented or the business-oriented policy perspective, but should combine both perspectives. It is not the exclusive domain of 'traditional' economic policy, but requires a more integrated local policy with ramifications into other fields, especially art and culture, leisure, housing, spatial development and urban (re) generation. (Romein, Trip 2008)

Physical interaction or face to face interaction is all about exchanging ideas and experiences. According to Landry (2000) face to face interaction is still vital for creative cities, despite improvements of ict possibilities.

In order to make (physical) interaction possible certain conditions are required. An (urban) space where interaction can take place is one of them. When combining these conditions it is clear that interaction best can take place in a well connected and accessible space. Interaction between businesses, educational facilities and government is another important condition for the creative development of the economy (van Winden et al.,2007) Urban creativity is stimulated by the presence of a certain amount of people. According to Hospers



2.4 Scheme of spatial conditions on different levels leading to interaction and the development of the creative city.

(2003) concentration of people and functions is required for sufficient human interaction and communication. He further states that it is not exactly about the number of people but the density. Clustering of creative enterprises will have a positive effect on the interaction and result in an increasing richness of ideas, knowledge and skills among workers. (Romein & Trip, 2010)

2.4. CONCLUSIONS AND RECOMMENDATIONS

From the literature study can be concluded that interaction in its different forms is the main contributing factor for the creative city. The creative city relates very much to the exchange of knowledge and creativity. This is only possible when interaction on different scales between various social groups, businesses etc. can take place.

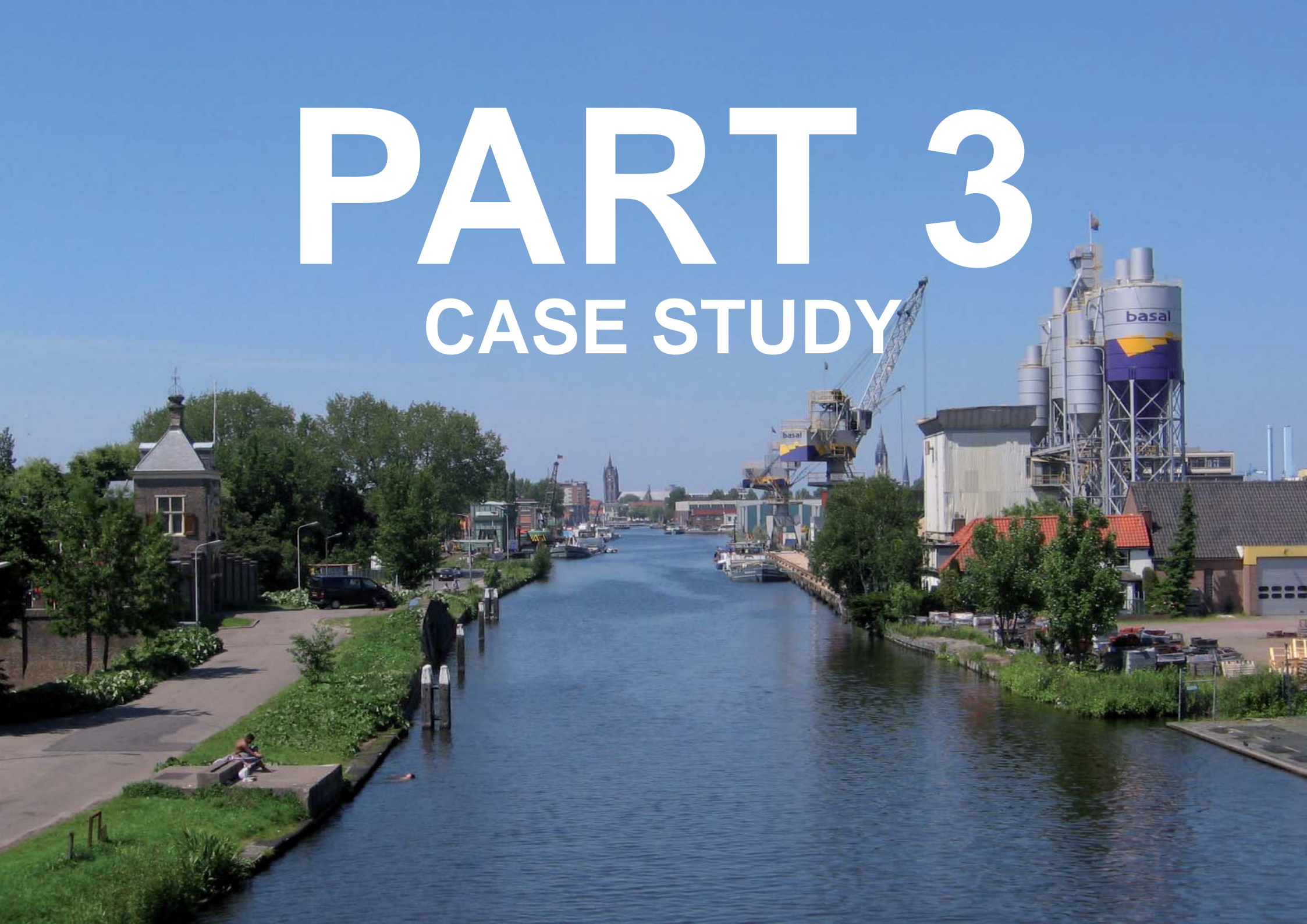
The shift from an industrial economy to a knowledge based economy focusing on creativity has led to changing spatial conditions. Cities have to deal with these changes. Attracting the creative class is the main goal, because of its value for economic growth and urban development.

From the different sources three spatial conditions have been deducted that contribute to the creative city and it's objective of interaction. Overall, the larger the city, or the urban network, the more successful a city can be as a creative city. The amount of creative workers is generally higher, which attracts creative businesses. Smaller cities can benefit from the 'borrowed' size if they are located in a network. Therefore accessibility is of importance. It makes it possible to travel to and get in contact with other people and environments. The second spatial condition is diversity. Creativity benefits largely from a society consisting of a diverse group of people. Therefore a wide variety in buildings both in size and appearance is necessary. This also goes for amenities, the facilities that provide places to meet and share, to interact. More amenities attract a bigger number of creative workers.

These conditions can be used in practice by policy makers, local governments and urban planners to improve their cities. Within all these spatial conditions, interaction plays an overarching role.

PART 3

CASE STUDY



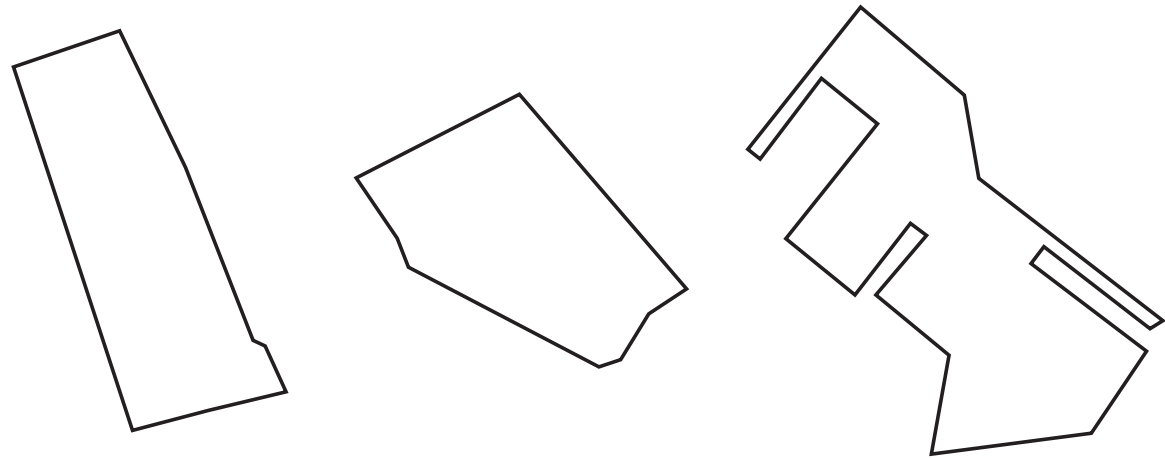
3.1. PLACES FOR INTERACTION IN CREATIVE AREAS

This chapter will focus on creative areas and the spatial conditions that are required for the development of a creative environment. It will be related to the three spatial conditions found in the literature study; accessibility, diversity and amenities.

The cases are located in The Netherlands and are chosen on the conditions that the areas are 1-comparable in size with Schieoevers-Noord, 2-considered a creative environment and 3-former industrial grounds under (successful) transformation.

The case study areas are:

- NDSM-werf in Amsterdam
- Strijp-S in Eindhoven



3.1 Size comparison of Schieoevers-Noord, Strijp-S and NDSM-werf

3.2. AMSTERDAM NDSM-WERF

Introduction

NDSM werf is a former shipyard in Amsterdam North that became abandoned after the bankruptcy of NDSM in 1984. It consists of four parts: North, East, West and Haven. The total area is 68ha of which around 30ha is water. In the coming 10-20 years it will be transformed into a part of the city focusing on living, working and culture. The area consists of four parts; West, East 1 and 2 and the Harbour.

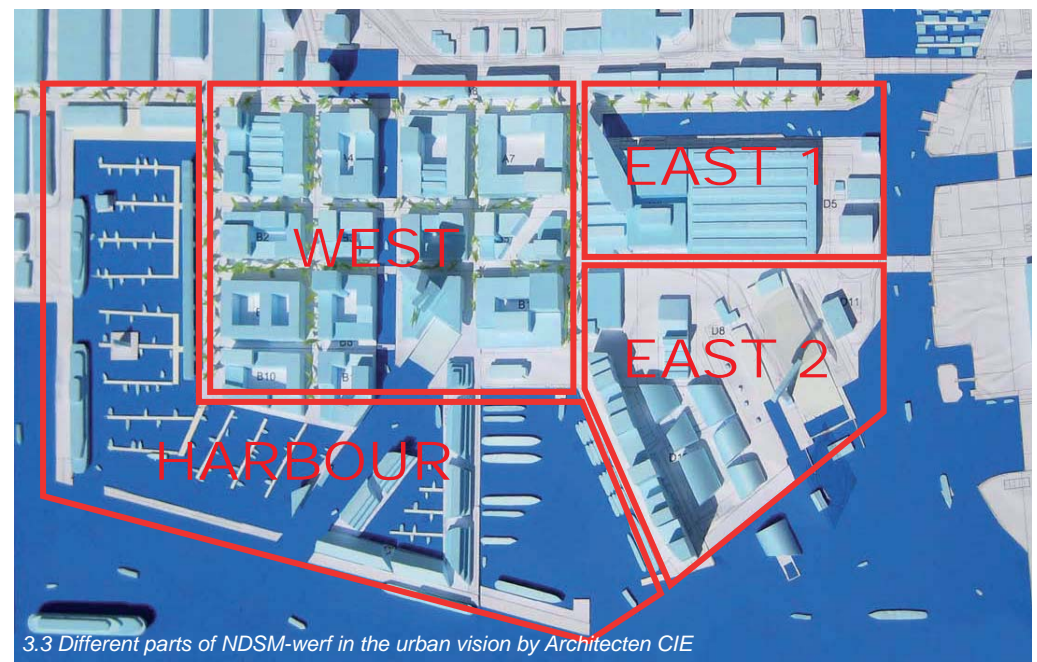
History of transformation

In the 90s of the previous century a group of artists, performers, skaters and architects called Kinetisch Noord, send plans for the temporary use and the redevelopment of the former shipyard in the Eastern part of the NDSM-werf. In June 2002 they presented the plan of action for the development of the NDSM-werf as largest incubator of the Netherlands. An interesting example of bottom-up urban planning.

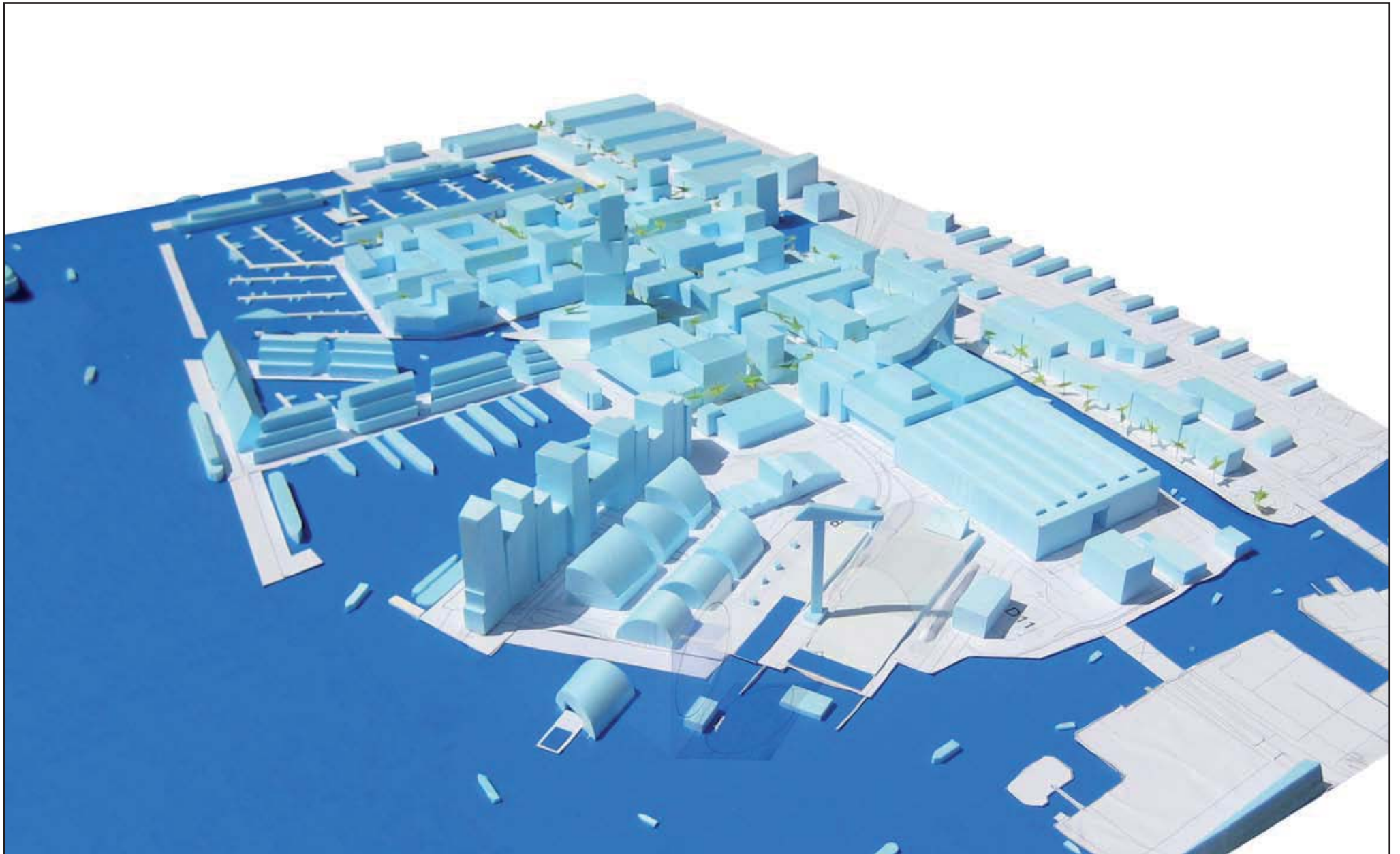
The first act in the transformation process consisted of the initiation of a creative environment and workplace for artists in the former shipyard (NDSM-Hall), along with festivals, exhibitions and other events. The success of this public initiative, related to the specific creative environment that had been created soon drew other actors to the area. Even big companies (HEMA, MTV e.g.) saw the potential of the area, because they wanted to be located in an area of creativity. The municipality had not been largely involved in the planning process of this area, but took control over further development in the second half of the 00s through a vision for the complete area. This has defined the area and slowly taken away the temporary character.



3.2 Aerial photo of NDSM-werf



3.3 Different parts of NDSM-werf in the urban vision by Architecten CIE



3.4 Spatial model (Architecten CIE)



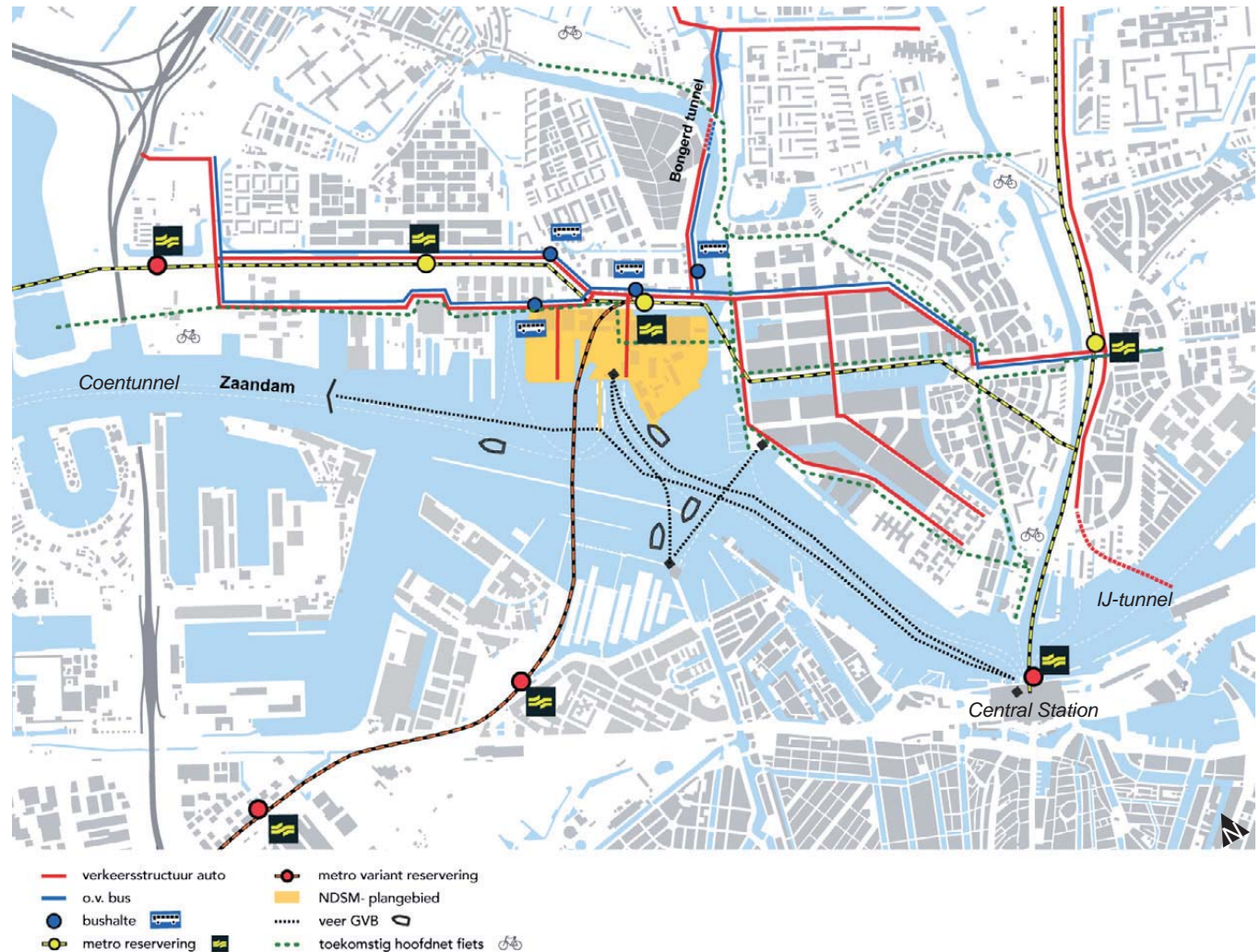
3.5 Impression Urban Framework (Architecten CIE)

Accessibility

The IJ divides Amsterdam in a Northern and Southern part. Due to the importance of the shipping connection and the width of the IJ, there aren't many physical connections between the two parts. The nearest physical connections from NDSM to the Southern part are the highway A10 (Coentunnel) in the West and the IJ-tunnel close to the centre of Amsterdam. However, these connections are meant for cars. The new Noord-Zuid metro line will connect Amsterdam-North with the central station and the rest of the network in the second half of this decade.

To improve the accessibility by public transport, ferries have been introduced in 2004 to connect NDSM-werf to the other side of the IJ and to the central station. In recent years the frequency has been improved to up to 4 times an hour so that a reliable service is given to cyclists and pedestrians. Without the ferry service NDSM-werf would only be accessible from the North-side. A new bridge for cyclists and pedestrians will improve the connection to the East.

A number of bus lines pass the NDSM-werf, but never access the area directly and do not connect with the ferry terminal, so that a change in public transport options is not possible. A future development of the metro network to the West of the city will improve the accessibility by fast public transport to the area, but these plans are not concrete yet.



3.6 Accessibility of NDSM-Werf (current situation and possible initiatives)

Diversity

As said in the previous section, the NDSM-werf consists of four parts. Each part has its own characteristic feeling in the urban plan of Architecten CIE. The spatial model and urban framework already show the diversity of the plan in terms of building volumes, heights and spaces. The NDSM-werf is home to several artistic disciplines and is a haven for artists and craftsmen, and for known and unknown, independent organizations that interact together and inspire each other, so new initiatives will and can arise.

The Eastern part is a creative cluster of around 84.000 m². It consists of a number of historical structures, the NDSM-hall in the North and two ramps under which studios and artist spaces are located in the South. These features from the past form the basis of the urban plan. A fairly open and rough character where temporary activities still can take place. The Western part is set up as a mixed-use urban area. The area consist of several large scale building blocks containing smaller elements in a grid structure. Offices (HEMA, VNU) have already been erected here in a period when the development of the area was just beginning. Adding to the diversity of people on the Wharf. The harbour area adds to the quality that water has in this plan.

The NDSM-werf is already a diverse area in terms of its working/creative population, building types (temporary, re-use, new) and amenities. With the addition of housing (which is not yet largely involved), the harbour implementation and the further development of creativity diversity will only grow.



Amenities

The NDSM-werf initially was famous for its cultural festivals and parties that took place around the wharf. These festivals and parties started the interest that exists nowadays for the area. Many people saw the potential of the old buildings and initiated plans to use the area.

The number of amenities has grown along with the number of people that work at the NDSM-werf. Since there are not many inhabitants in the area, amenities focus on the creative and office workers and on temporary events. For example there are several cafes and restaurants to go to during lunch break or at the end of the day.

In its current phase shopping is not well developed in the area, although artists in the Kunststad sell their products and HEMA uses its headquarter as shop as well. Future development however will see an increase in retail and living opportunities. The western part of the area will have a dense city feeling along with supporting amenities



3.3. EINDHOVEN STRIJP-S

Introduction

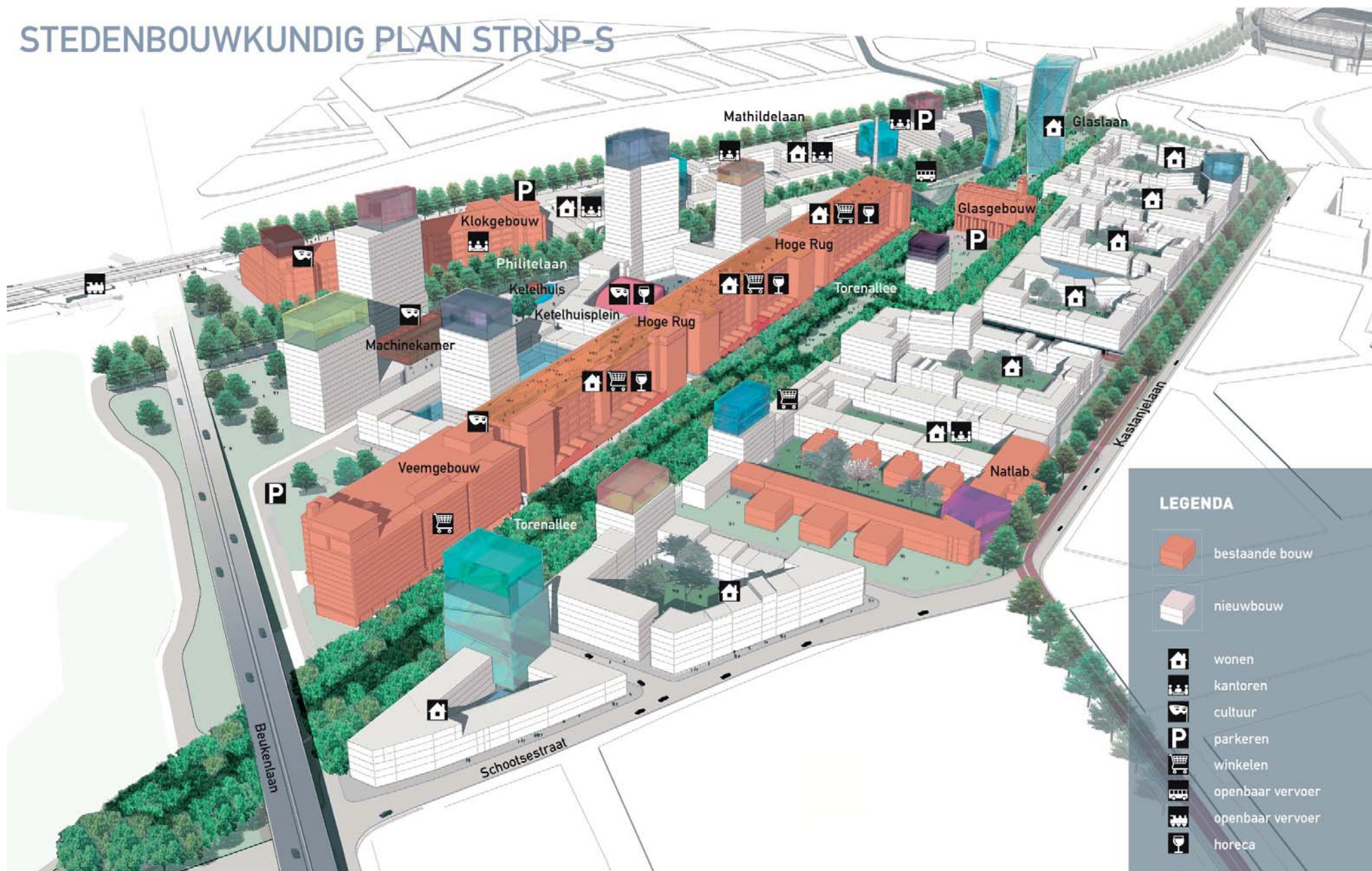
Strijp-S is an inner city transformation area in the city of Eindhoven. It is a former industrial area that will be transformed into a dense urban programme with a varied programme focusing on living, working culture and amenities. The region around Eindhoven is one of the main knowledge centres in the Netherlands, known as Brainport Eindhoven. The transformation of Strijp-S fits in the strategy of developing and strengthening the knowledge and creative economy.

History of transformation

The area of Strijp-S was a locked off area owned by Philips, which was only accessible for factory workers. Strijp-S is close to the city centre but due to this strict entrance policy never part of the city. At the end of the 1990s Philips decided to dispose of the area. A development company, Volker Wessels Stevin won the pitch for the area with the plan to transform it into a new creative centre for design, innovation and technology. The municipality of Eindhoven joins in and their public private partnership will be responsible for the development of Strijp-S. The actual transformation started in 2004 and the first goal was to open up the area to the public, to make it accessible again. With smaller and bigger events (design week e.g.) the area gets renewed attention and the transformation of some of the historical buildings like the Klokgebouw starts. In the period between 2004 and 2013 many amenities have become part of the area and in the last couple of years new buildings have been erected.



STEDENBOUWKUNDIG PLAN STRIJP-S



LEGENDA

-  bestaande bouw
-  nieuwbouw
-  wonen
-  kantoren
-  cultuur
-  parkeren
-  winkelen
-  openbaar vervoer
-  openbaar vervoer
-  horeca

3.15 Urban plan of Strijp-S

Accessibility

Strijp-S is located near the centre of Eindhoven and bordered by the railway line with a close connection to the small Beukenlaan station. From early on in the process a HOV connection (high speed bus system) goes through the area. It connects Strijp-S with both Eindhoven Airport to the West and the central station and city centre to the East. Thus creating a connection with the (inter)national and regional level.

Because of its location within the city, local connections with the surrounding neighbourhoods to the South and the West are sufficiently present.



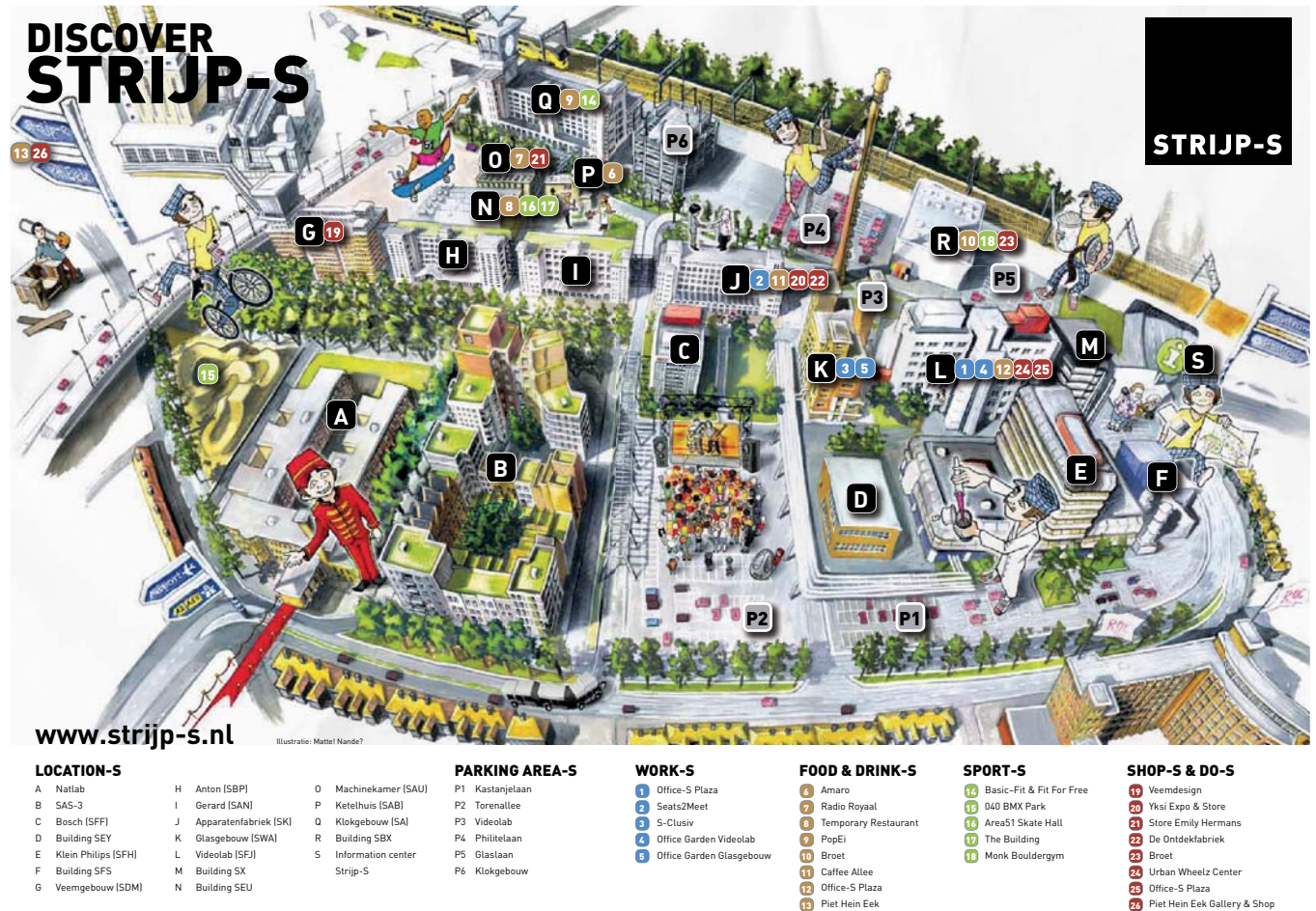
3.16 Accessibility by HOV

Diversity

Strijp-S has a large legacy of office buildings and industrial buildings that will be reused, Not only to create new kinds of offices but also to transform it into other uses, like living and retail. In addition new buildings and amenities are introduced to create a diverse neighbourhood. The number of inhabitants is still low, but will grow as the number of dwellings will rise.

Amenities

The amenities in Strijp-S are already quite developed. Its location close to the city centre and surrounded by living neighbourhoods make a large number of amenities possible. The amount of sporting facilities is interesting. The area has a number of fitness centres, a skate hall, a bmx course and climbing centre.



3.17 Urban plan of Strijp-S

3.4. CONCLUSIONS AND RECOMMENDATIONS

Both cases show an interesting transformation of former industrial areas into creative environments. Although their aim is quite similar, the cases of NDSM-werf and Strijp-S differ in a number of things.

First of all, the process in Amsterdam is public driven and started with a small initiative. A group of creative workers came up with a plan to use and revive the former shipyard. A pure bottom-up approach. The municipality became involved when the success of the initiative attracted other actors and even big companies. Now there is an urban vision made by Architecten CIE that enhances the transformation process in a more controlled manner.

In Strijp-S there was already from the beginning a strong collaboration between different stakeholders. Philips, the owner of the industrial facilities in the area sold the land to Volker Wessels and the municipality of Eindhoven who work together in the development of Strijp-S.

The gradual transformation of NDSM-werf and Strijp-S shows that, although being unfinished, spatial preconditions of accessibility, diversity and amenities form a significant basis for the development of these areas.

The ferry connection between NDSM-werf and the other side of the IJ has made the area more popular and accessible for bicycles and pedestrians. A direct connection with Amsterdam Central station now exists. The HOV-lijn connecting Strijp-S with the airport and the central station and centre of Eindhoven will improve the accessibility on both an (inter)national and regional level, while the embedding of the plan with the surrounding neighbourhoods by making attractive urban spaces and

connecting routes improves the accessibility on a local level.

Diversity in both cases is based on the use and transformation of existing buildings combined with added new buildings. The number of inhabitants is still low, this will be one of the following steps in the transformation process. The amenities have been the thriving factor of both locations, showing the importance of events, and out-of-the-ordinary programme for both creative workers and other inhabitants.

PART 4

DELFT & SCHIEOEEVERS



4.1. DELFT: THE REGION

Location in the region

The location of the project is in the city of Delft, a city of almost 100.000 inhabitants between The Hague and Rotterdam. Delft is located within the Zuidvleugel (Southwing) of the Randstad, which is sometimes referred to as a network city.

In a network, every city tries to position itself with it's unique character or strengths. This also applies for the Randstad and its Southwing. The Hague, due to its' international peace court and UN related offices among others, is called 'international city of peace and justice'. Rotterdam is known for it's world harbour and the logistics that come with it.

Within this network Delft in the past positioned itself as city of knowledge. While this is still an important point for the municipality, the focus has changed to 'creating history'. Addressing both future innovations, the creative character of technology and the relation with the past. (Municipality Delft)

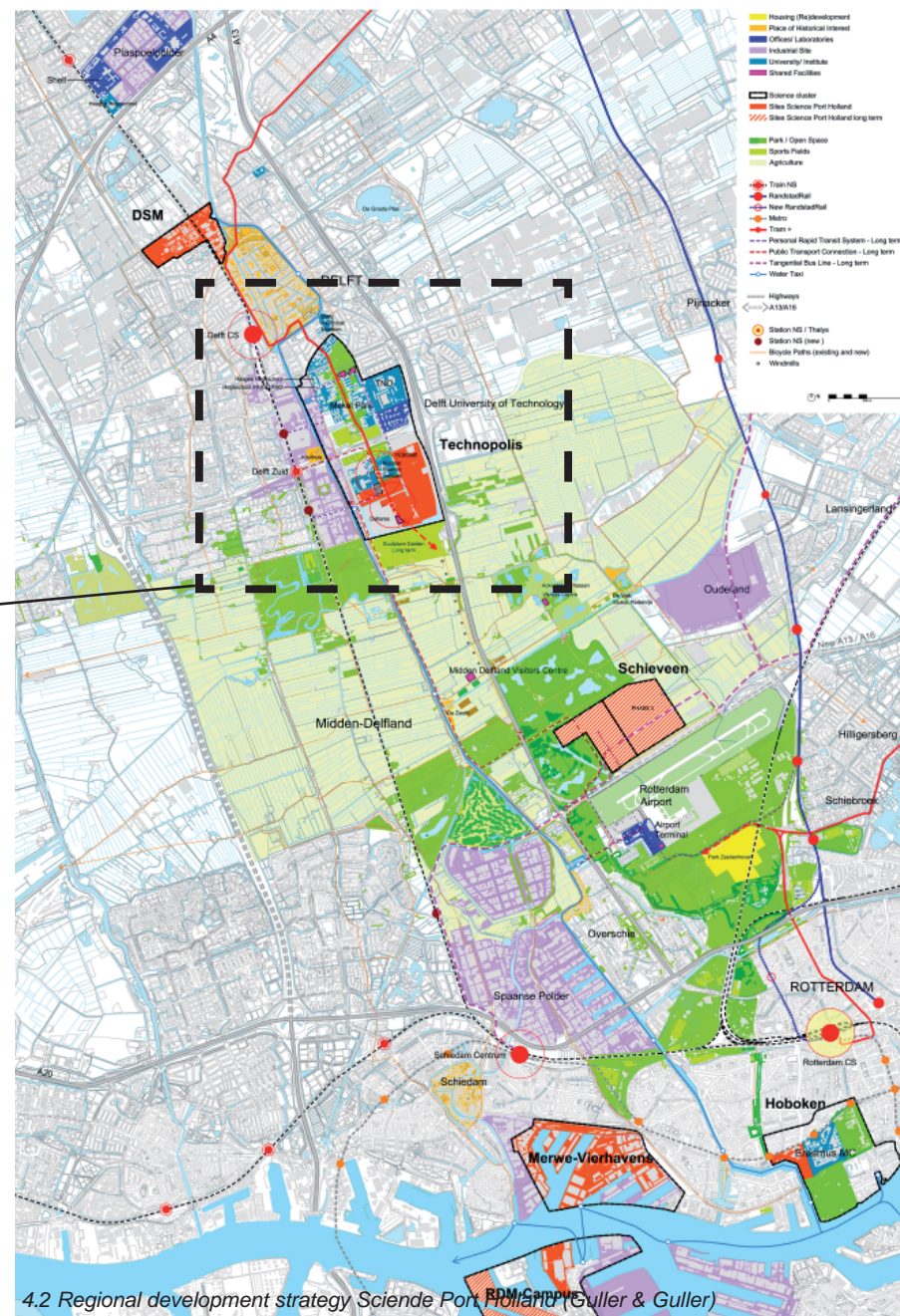
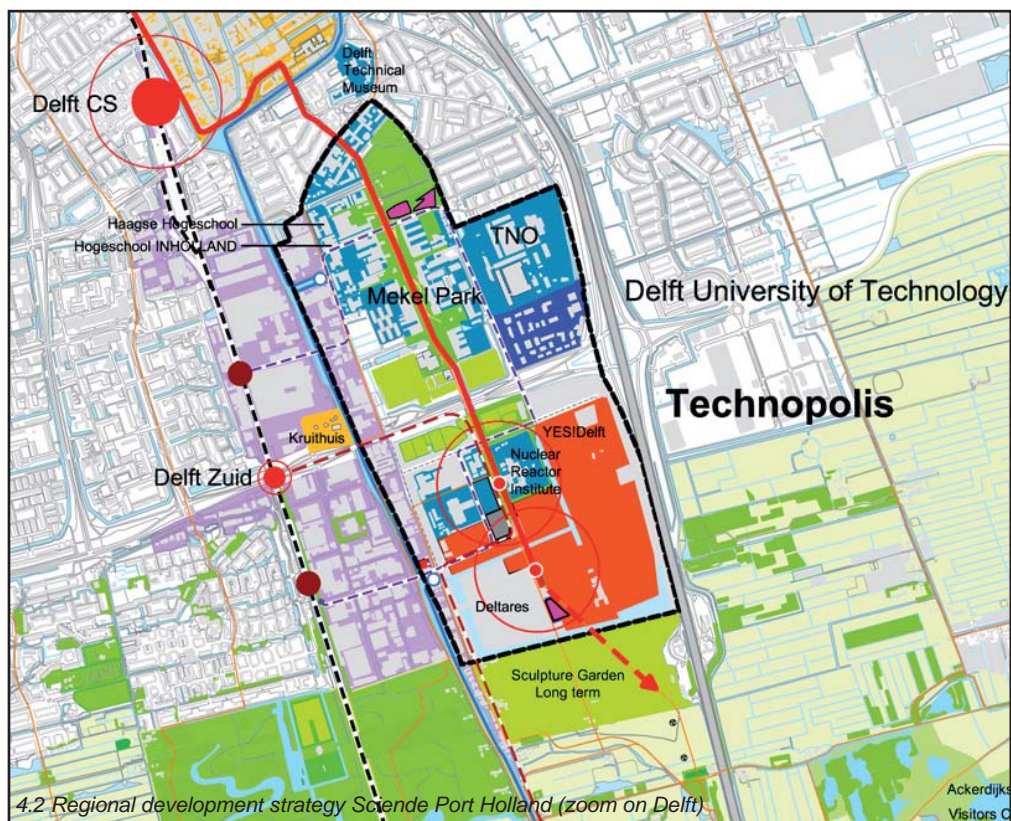
The city of Delft has lots of businesses and services in the technological sector, for example TNO and Deltares. One of the three technical universities of the Netherlands, TU Delft, is located within the city. Various organisations/platforms are involved in making regional plans related to knowledge and creativity of which Science port Holland and TICD are most noticeable.



4.1 Delft in the Southwing of the Randstad

Science Port Holland

Is a partnership between the municipalities of Delft and Rotterdam with the TU Delft. They focus on the development of knowledge in mainly the clean tech and medical tech sectors. The platform proposes a strong integration of plans around the cities of Delft and Rotterdam.

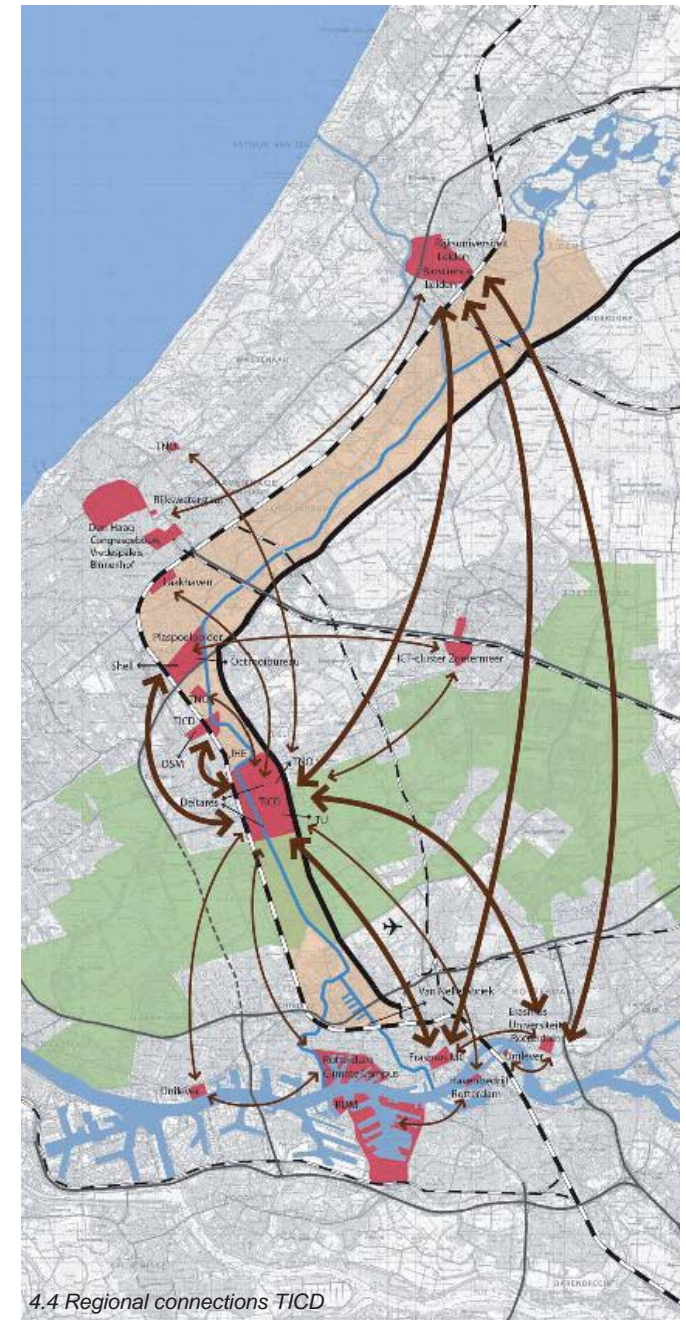


TICD

The Technological Innovation Campus Delft (TICD) is a partnership of the TU Delft and the municipality of Delft to transform the southeastern part of Delft into an (inter) national campus with educational and research facilities and businesses. It is a masterplan for the Southeastern neighbourhoods in Delft but with impact on a regional level due to Southwing collaboration.



4.3 TICD vision

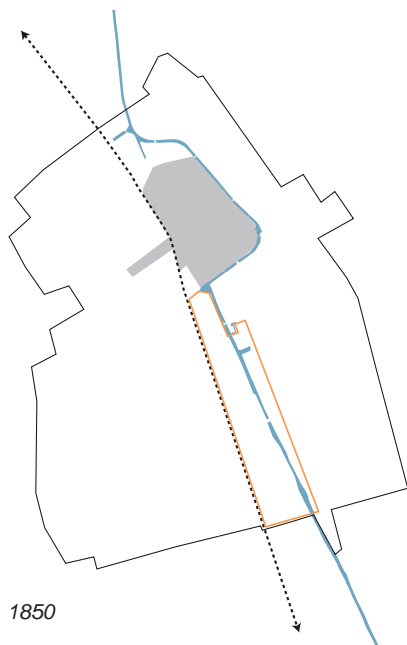


4.4 Regional connections TICD

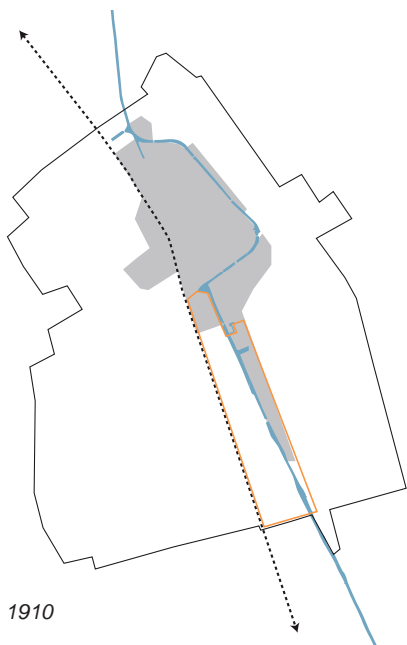
4.2. DELFT: THE CITY & SCHIEOEVERS



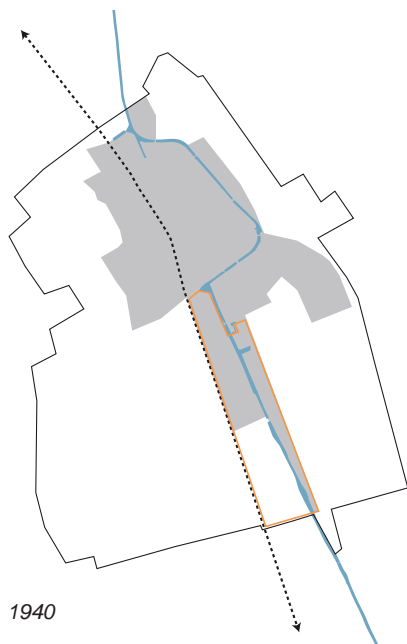
4.5 Schieoevers in Delft



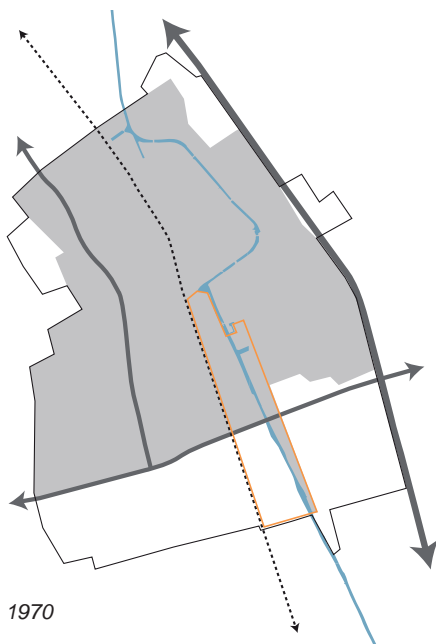
1850



1910



1940



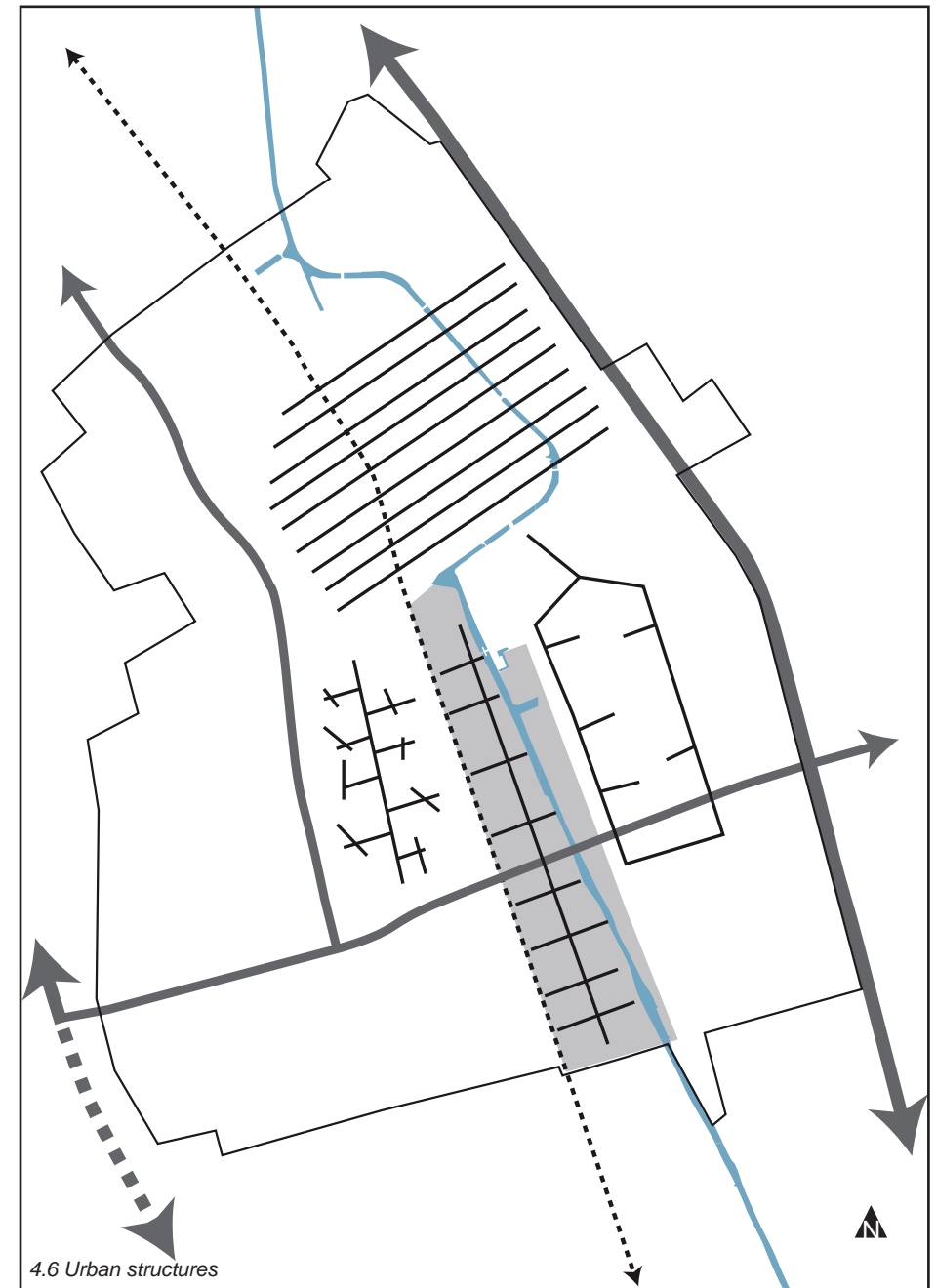
1970



2010

Urban structure

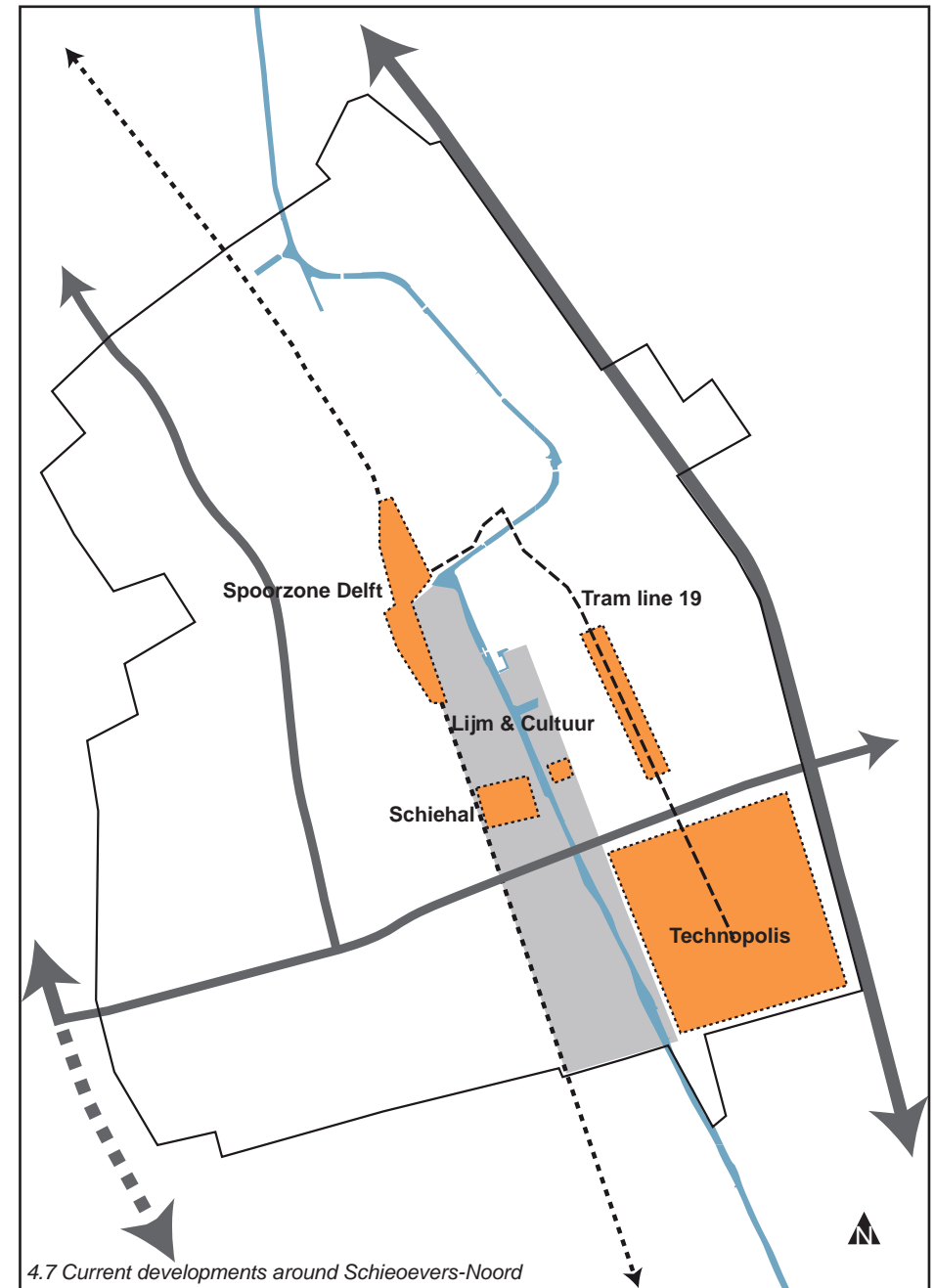
During history the city of Delft has always been defined by a (more or less) East-West related structure as can be seen in the city centre. Infrastructure related to the connection of Delft with Rotterdam and the Hague has caused a change of direction in newer areas of the city, like the university campus, Schieoevers and Voorhof. Routes are North-South oriented and enclosed within the main road, water and rail network.



Current developments in Delft around Schieoevers-Noord.

Currently there are several projects going on in the city of Delft that are related to the transformation of Schieoevers-Noord and contributing to the accessibility, diversity and amenities of the city

- Spoorzone Delft: Transformation of the railway area in the centre of Delft. Tunnel for the railline, combined with an underground station and urban development above.
- Tram line 19: A public transport connection from the centre of Delft to TU Delft and Technopolis
- Schiehal: Large industrial hall under transformation
- Lijm&Cultuur: Terrain for events
- Technopolis: Expansion area for knowledge related businesses.



Schieoevers-Noord

Schieoevers is an industrial district in the southern central part of Delft. It is named after the Schie canal which runs through the area.

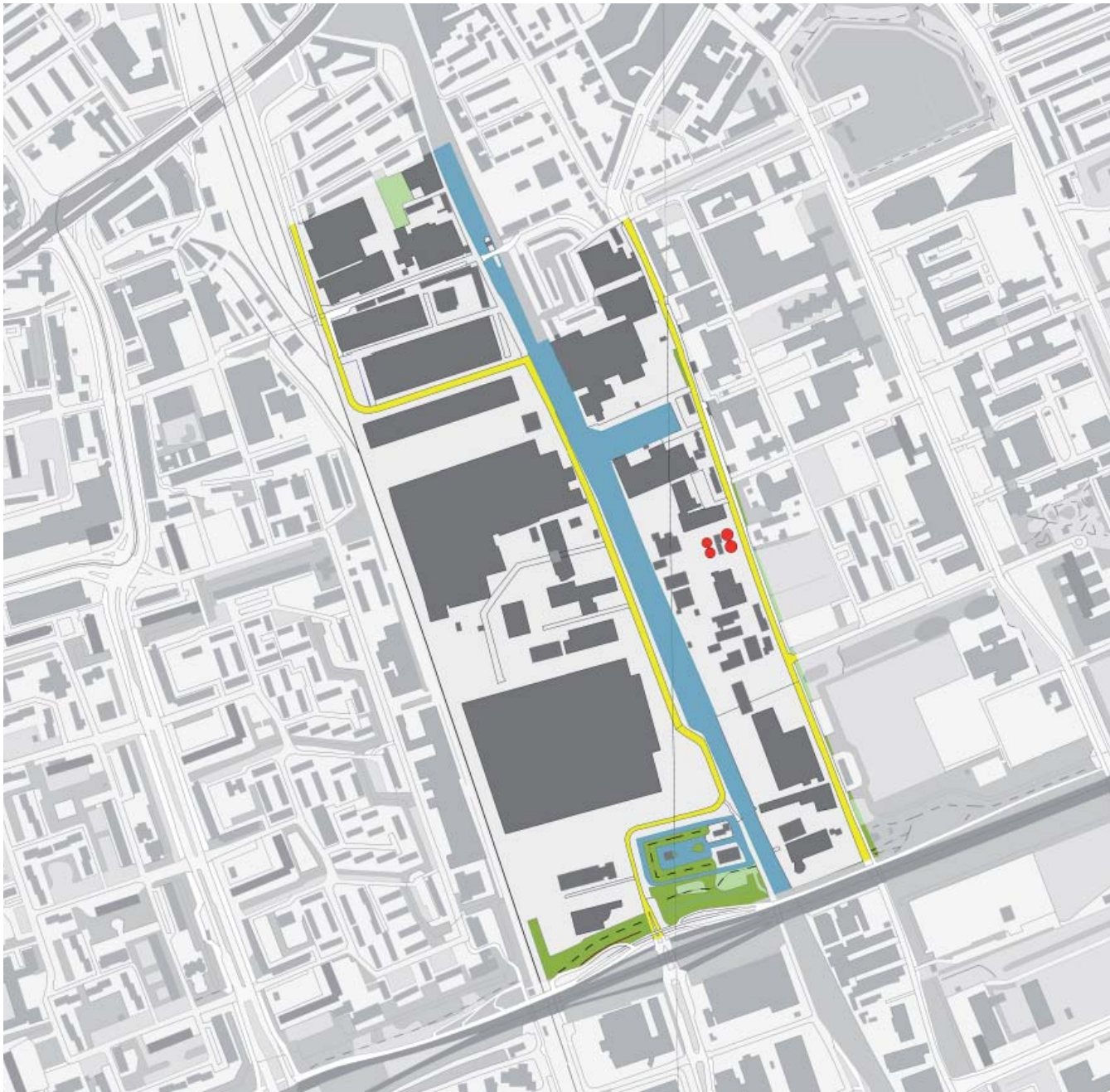
The area can be further divided in Schieoevers-Noord and Schieoevers-Zuid. Although both are industrial areas, the Southern part is still busy with activity, while the Northern part is becoming more and more deprived.

The focus of the graduation project will be on Schieoevers Noord, but this so called intervention area also includes the piece of industrial area within the Voorhof neighbourhood along the other side of the railway track.

At the end of the process a masterplan of Schieoevers-Noord will be made. In this masterplan an urban design will be made for a specific, strategic part.



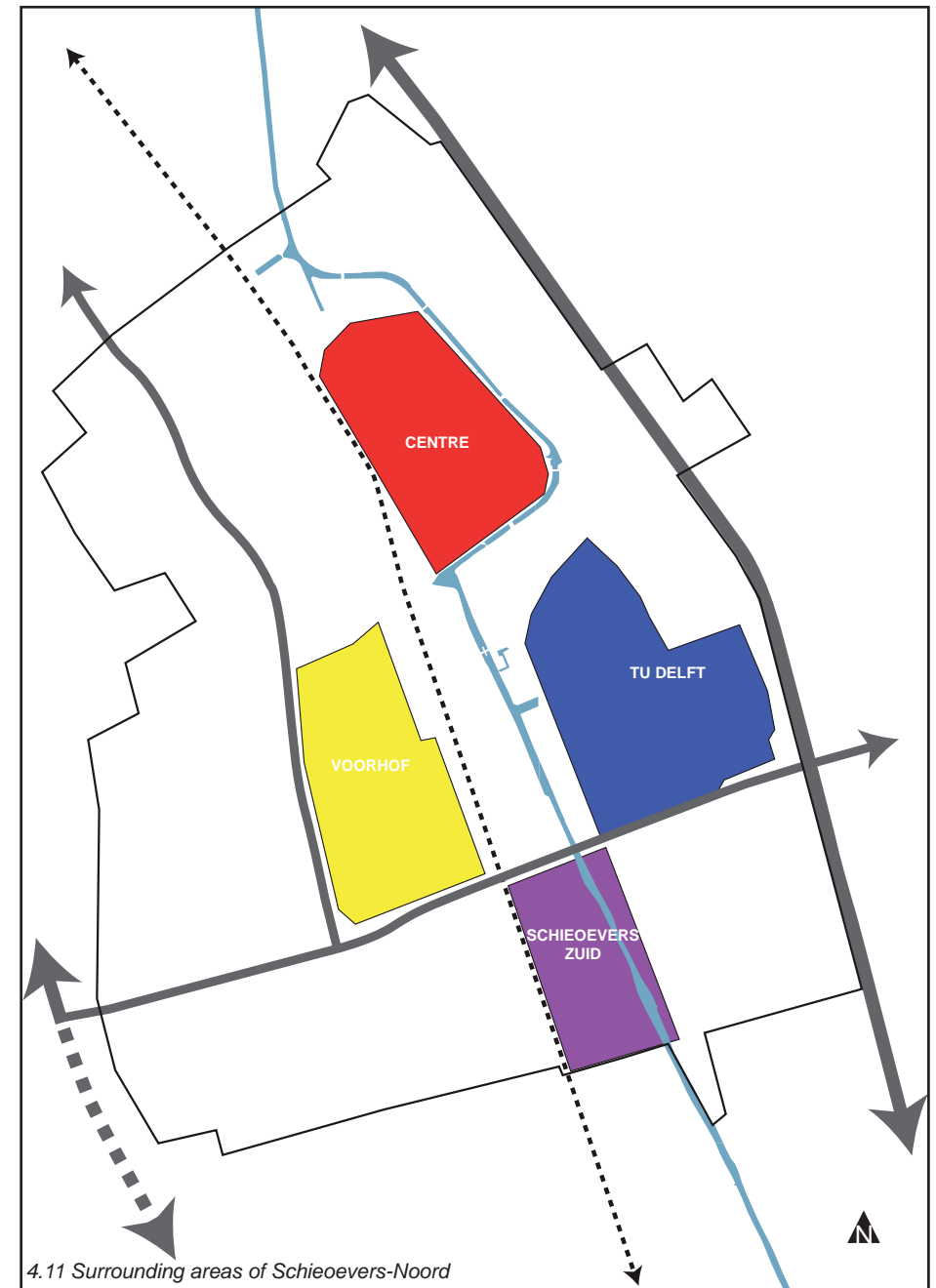
4.9 Different neighbourhoods in Delft surrounding the intervention area



4.10 Characterization of Schieoevers-Noord

Surroundings of Schieoevers-Noord

Schieoevers-Noord is located in an area amidst several types of Neighbourhoods. The post war city extension Voorhof to the West, one of the most dense neighbourhoods of the Netherlands, the TU-wijk (University campus) to the East, the innercity to the North and the industrial site of Schieoevers-Zuid to the South. They all have very different spatial characteristics, programme and building styles. Schieoevers-Noord, due to its location in between networks has not a clear physical or socio-economic relation to any of the areas. However such relations are desired from the development point of view.



4.11 Surrounding areas of Schieoevers-Noord



4.12 Voorhof



4.13 Schieoevers-Zuid

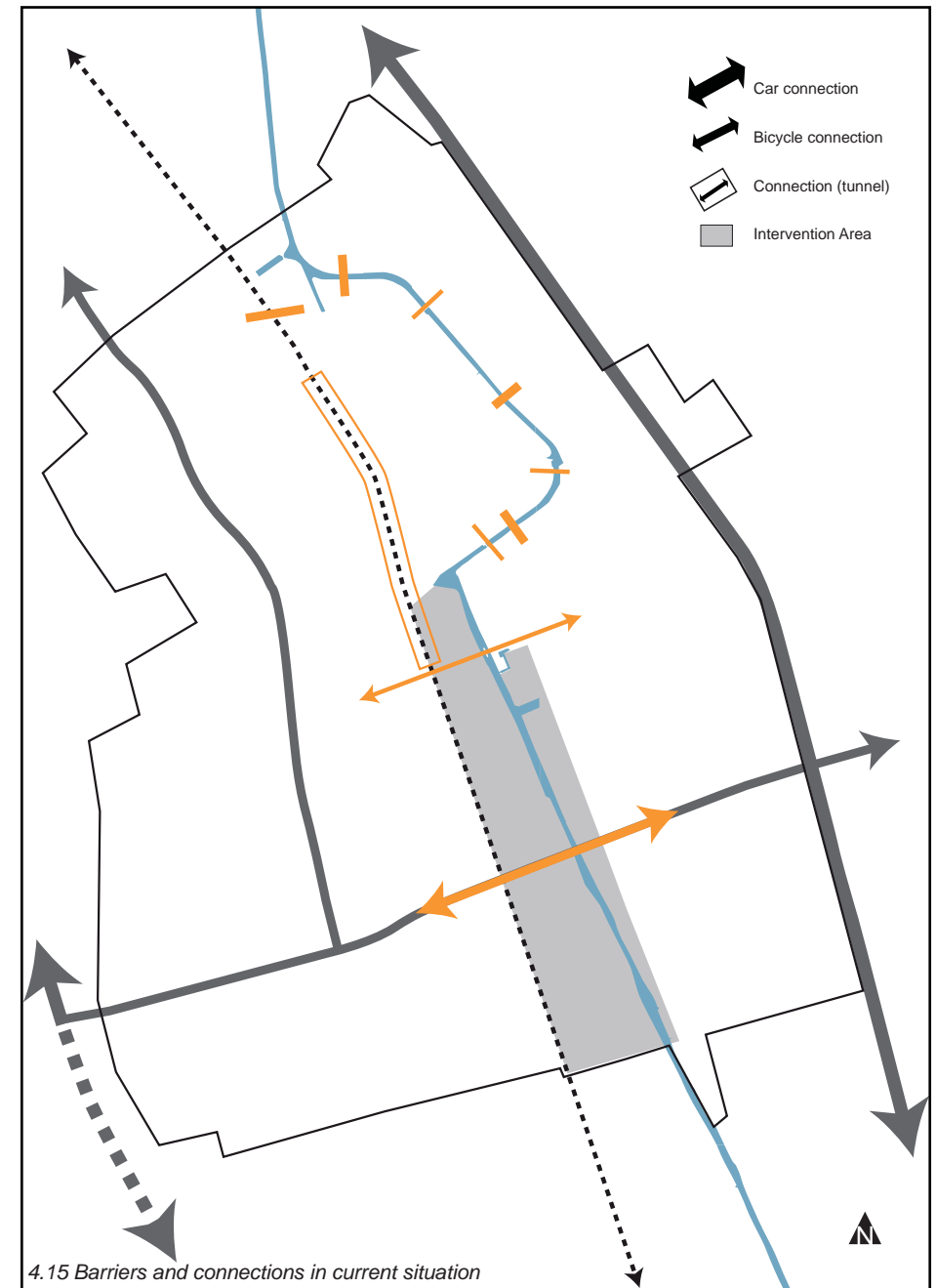


4.14 TU-wijk

4.3. ACCESSIBILITY

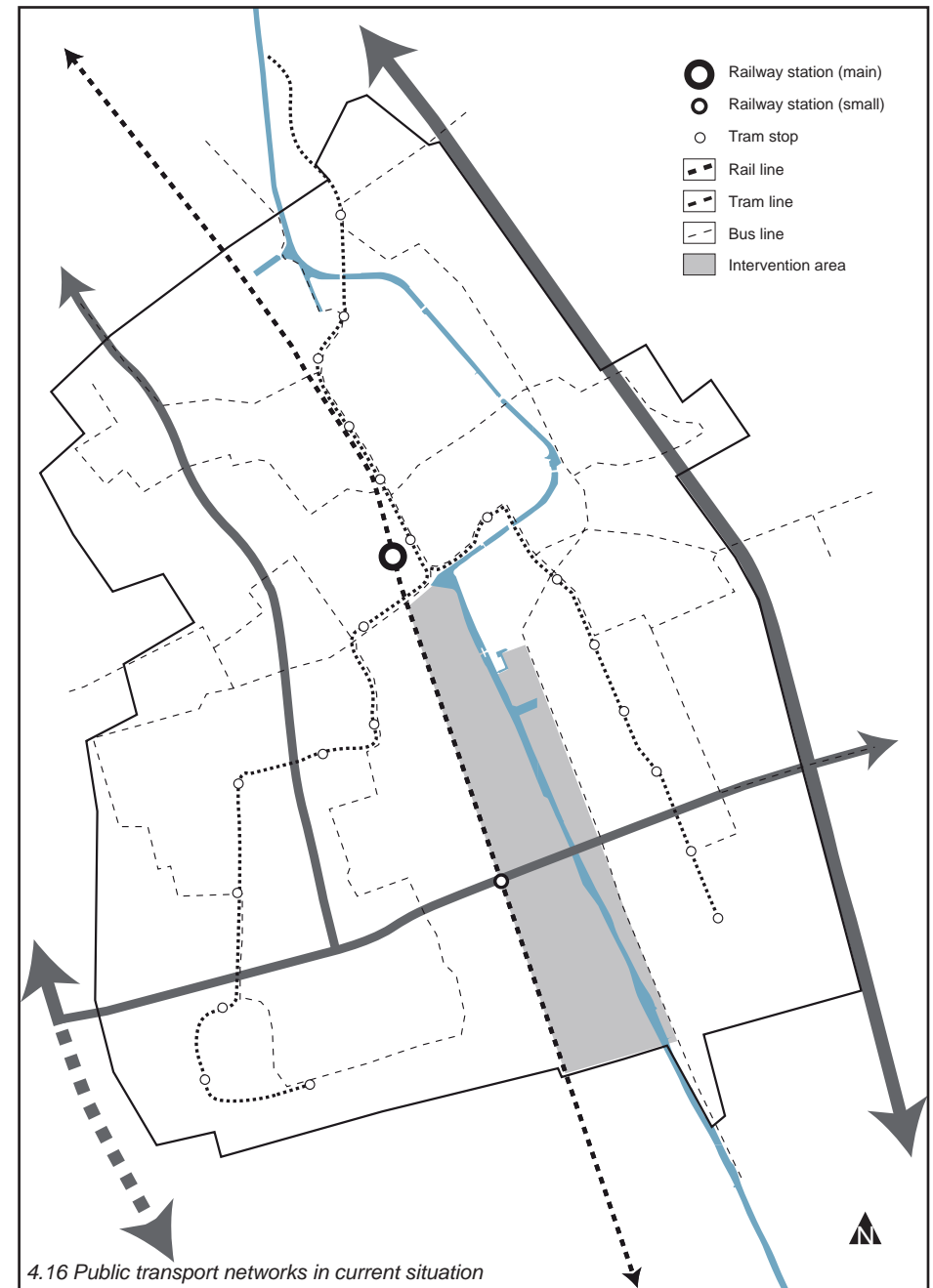
Barriers and connections

The Schie canal and the railway track form barriers between the East and West of Delft. Especially in the southern part very few possibilities exist to cross. With the development of the Spoorzone Delft, the situation in the northern and central part of Delft is largely solved, but problems related to the physical and social connection in Delft Zuid are still there.



Current Public Transport network

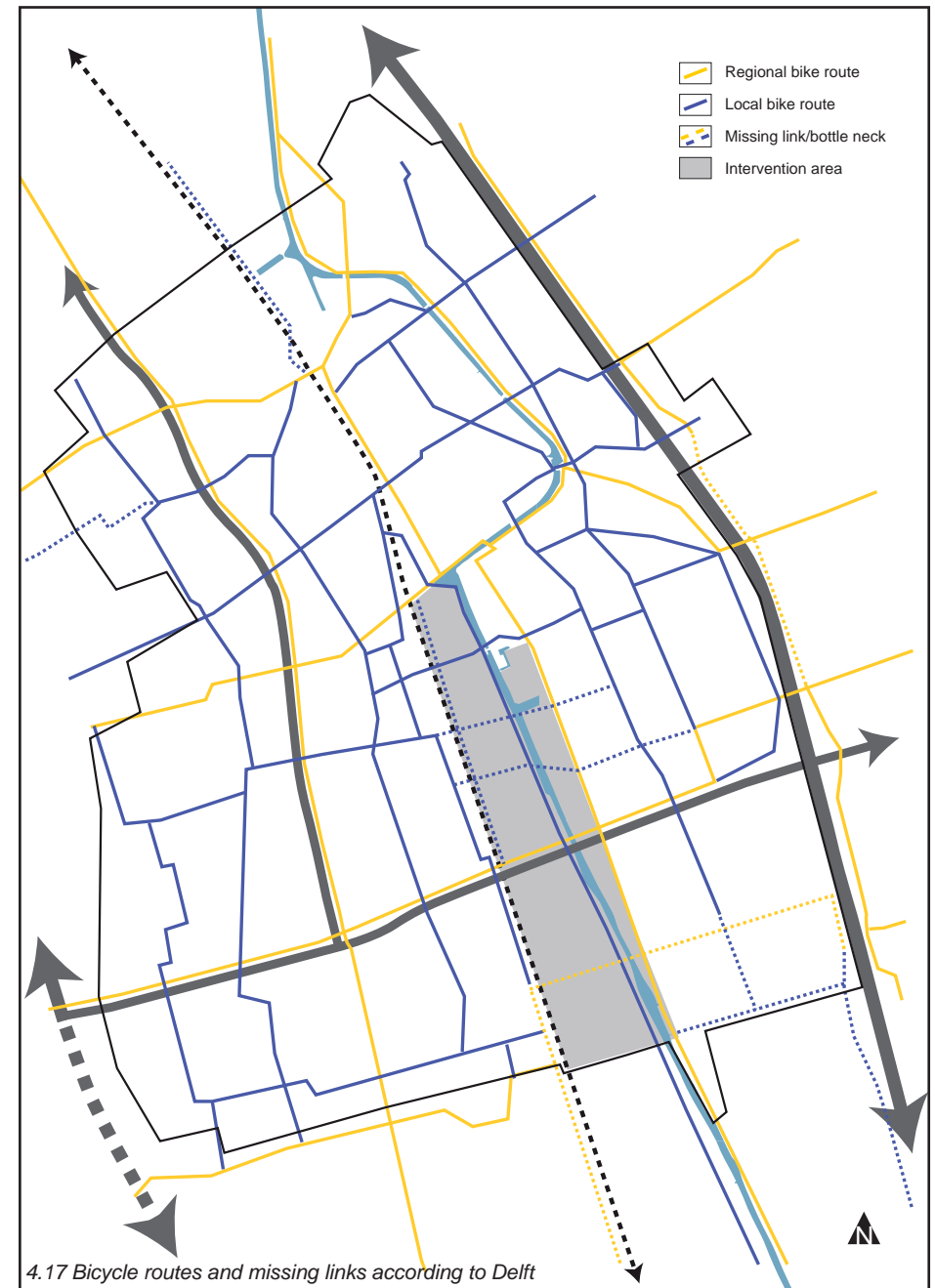
In Delft, as in many other cities in the Netherlands, the public transport is organised with the central station as focal point. In the illustration to the right it is clear that there are hardly any East-West connections, that train station Delft-Zuid is isolated from the rest of the public transport network and that the intervention area lacks (local) public transport connections.



Bicycle Network

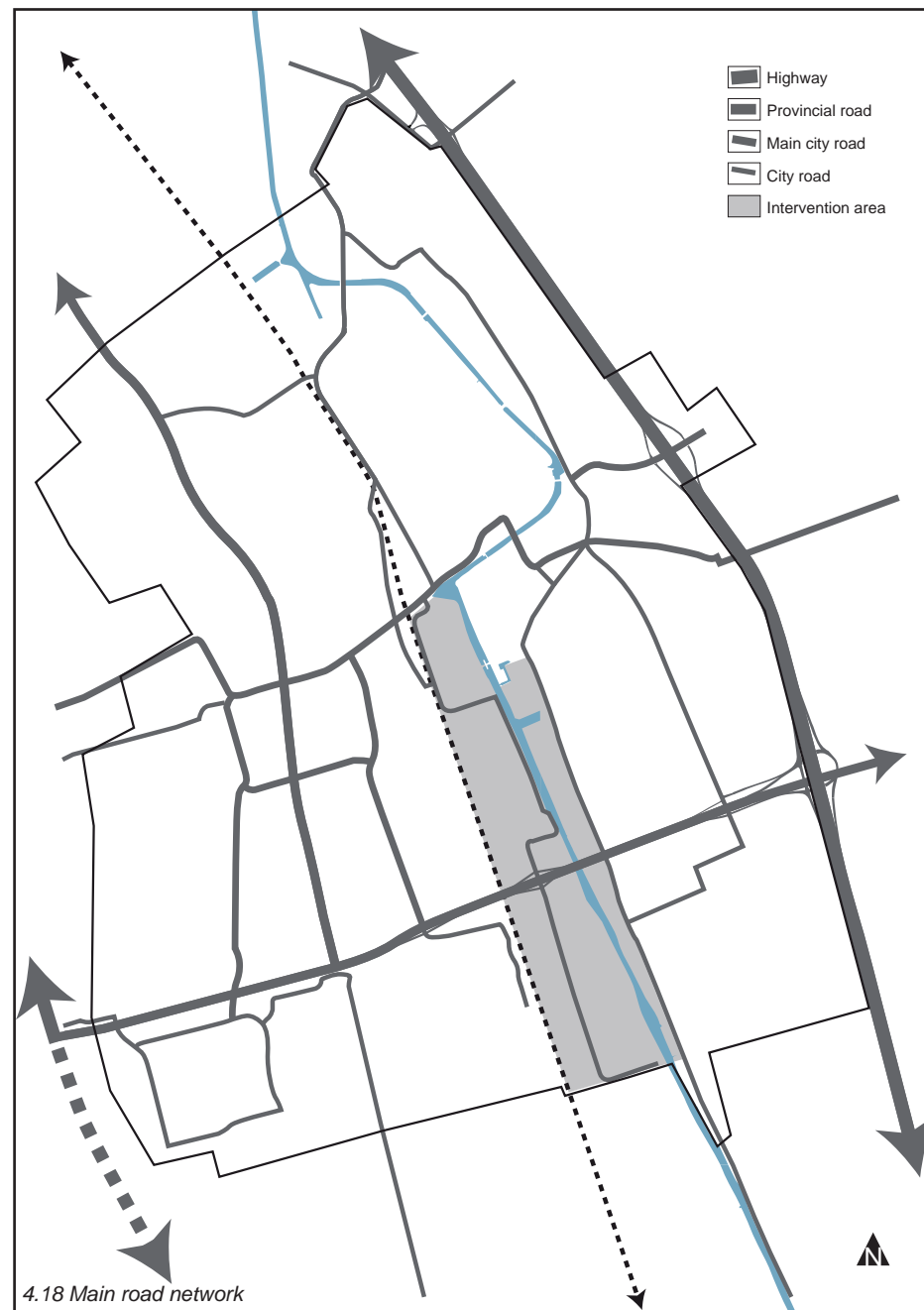
Since Delft is a small (and university) city, the bike plays a huge role in the cities transport structure. The map below shows the regional and local bike networks.

The municipality of Delft is continually improving and expanding the bicycle network. Some of the missing links are located within the Schieoevers area. Also other east-west connections in Delft-Zuid need to be created. (municipality Delft)



Road structure

The road structure on a regional/national level is dominated by the highway A13, the provincial road and the Kruithuisweg. These roads are also used as city thoroughfares and thus are part of the city road network. The main routes in Delft-Zuid are North South oriented.



PART 5

STRATEGY & DESIGN



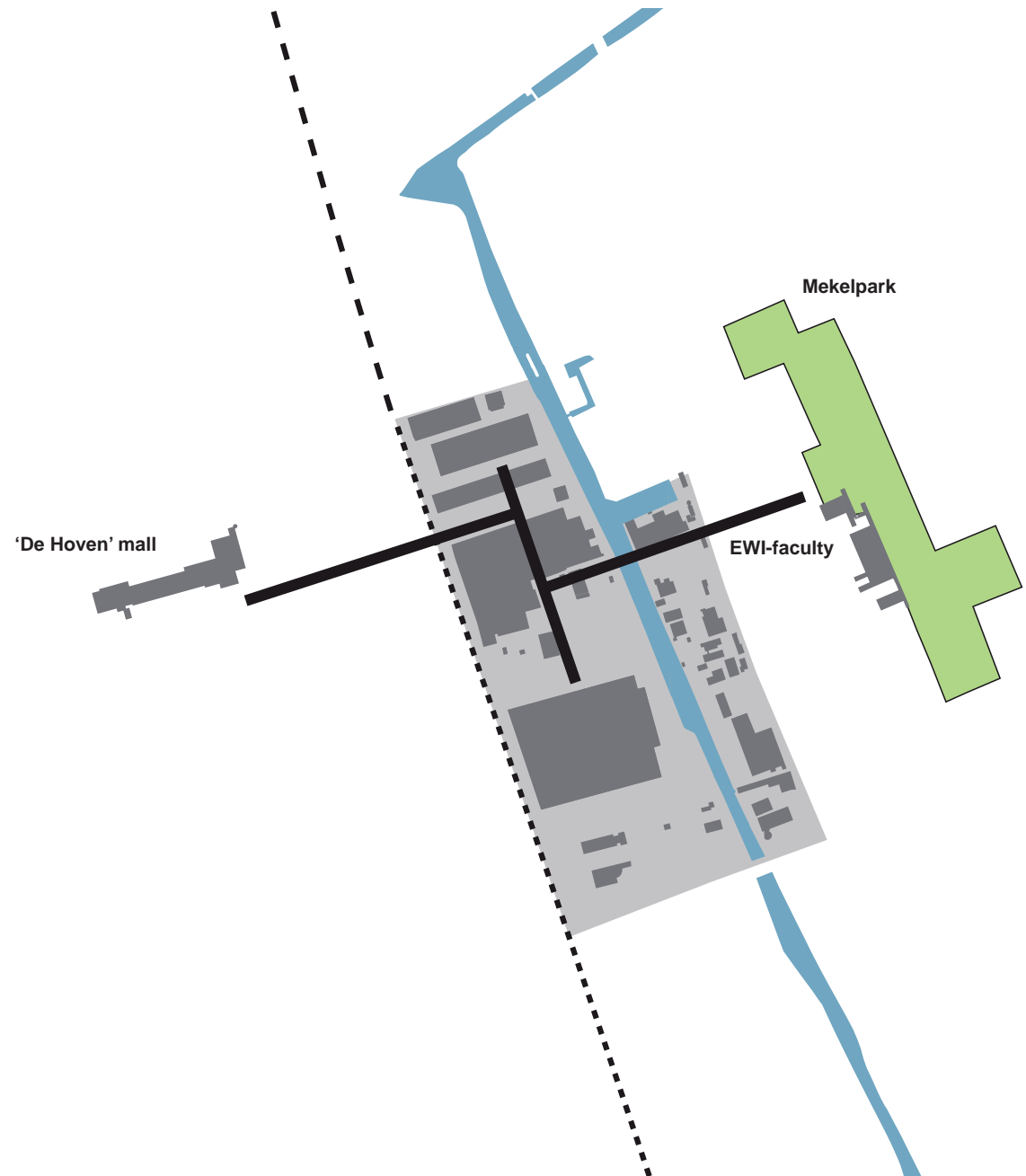
5.1. A STRATEGY FOR TRANSFORMATION

The urban proposal will consist of two parts.

First of all a strategy for the transformation and development of Schieoevers-Noord into a creative neighbourhood. This strategy is based on the results of the theoretical framework and the analysis of the city of Delft. In order to facilitate interaction, improvements to the accessibility of the area and the diversity and amenities in the area will be most beneficial.

- A new connection with Voorhof and TU-wijk
- An improved (public) transport network
- A more diverse neighbourhood with improved amenities

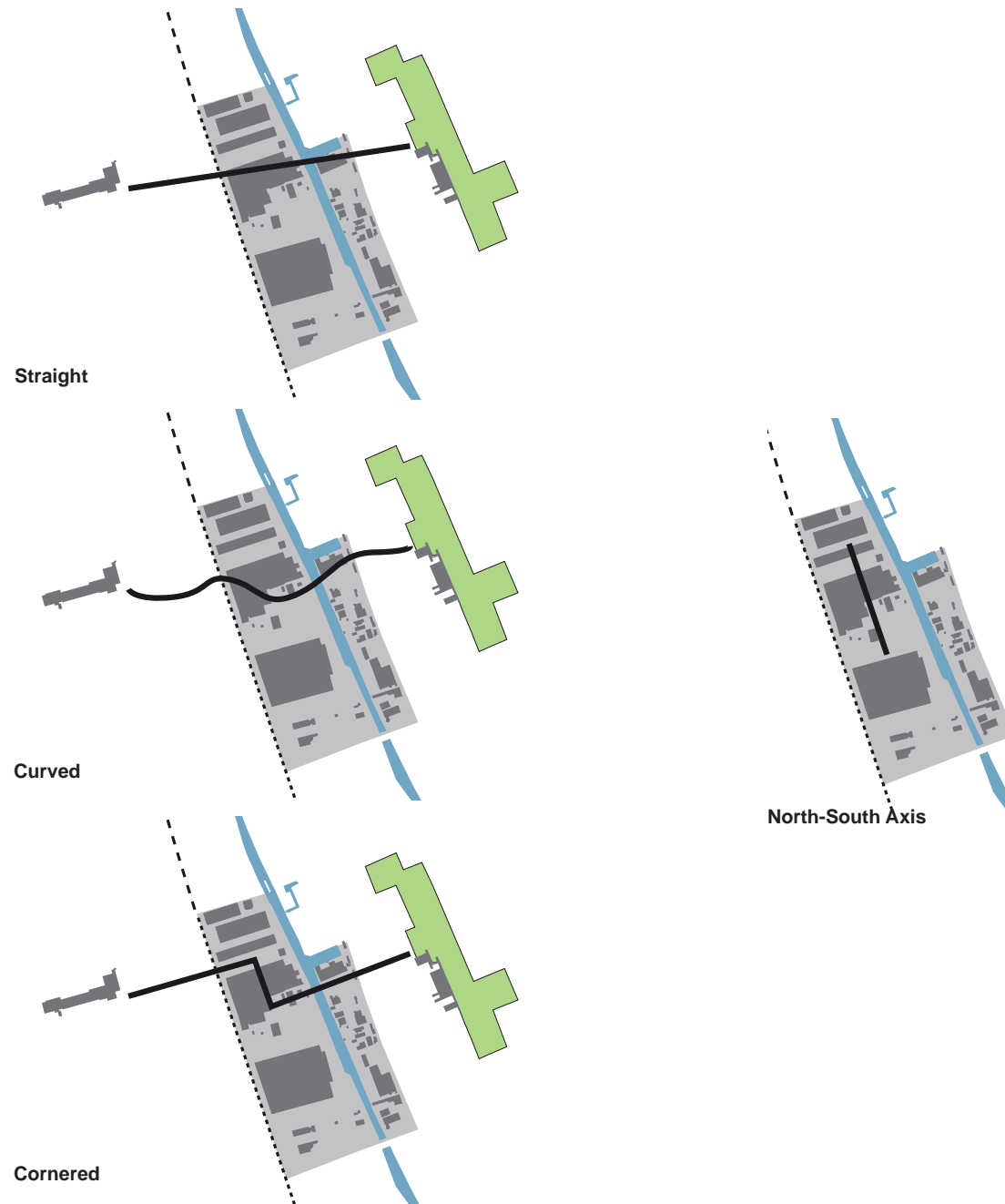
Secondly an elaboration of the just mentioned strategic connection through Schieoevers-Noord into an urban plan, since this is the crucial element that will boost this transformation.



5.2. STRATEGY; ACCESSIBILITY

A connecting element

The main strategic intervention for the project deals with the issue of how Schieoevers-Noord can be physically connected with both Voorhof and TU-wijk.

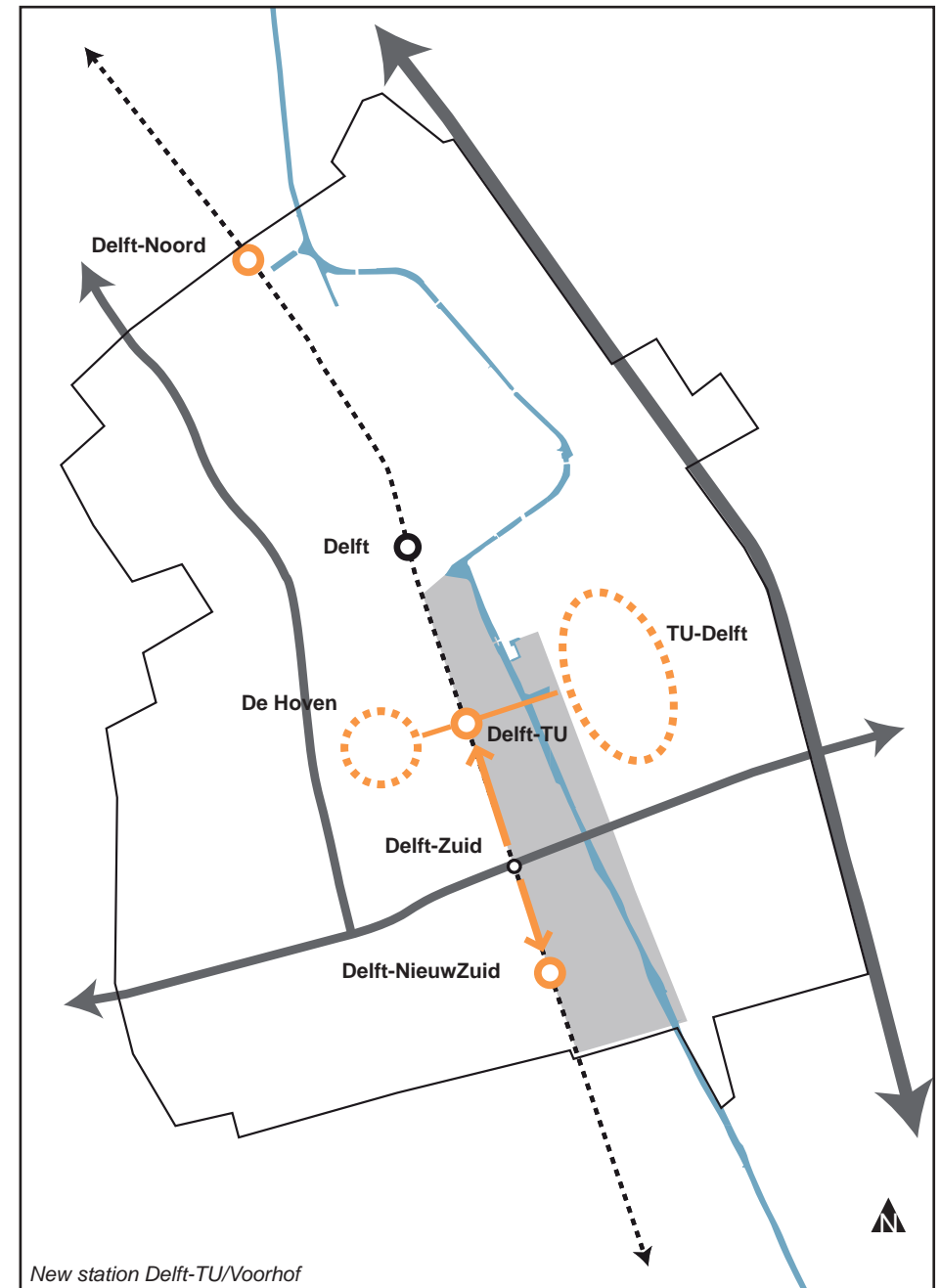


Improved (public) transport possibilities

In order to facilitate interaction, the transformation of Schieoevers-Noord must include an improved (public) transportation network. The location is hardly accessible and connected with the surrounding neighbourhoods. A new TU-station acts as entrance to Schieoevers-Noord, the university campus and Voorhof.

In the plans already made for the schieoevers area a future development of the rail network to a metro like system is being discussed. This new system allows an extra station to be build between the stations of Delft and Delft-Zuid. There are also to move the station of Delft-Zuid further South, to improve the accessibility of the southern most neighbourhoods of Delft. It will serve as a direct stop for the neighbourhood Voorhof, one of the most dense areas of the Netherlands. Next to that the TU-Delft would have access to a close station. Finally, the station has a great effect on the proposed developments in Schieoevers itself. The new station will be located in a part of the railwayline that is already being rebuild corresponding the spoorzone project. There are several conditions for the new station related to the spatial requirements of the railway line.

The road structure will be changed as well. Currently the main road of Schieoevers-Noord goes along the canal, restricting opportunities for slow traffic to use this route between the city centre and the regional park Midden-Delfland. In the new situation the main access road will be combined with the railway line.

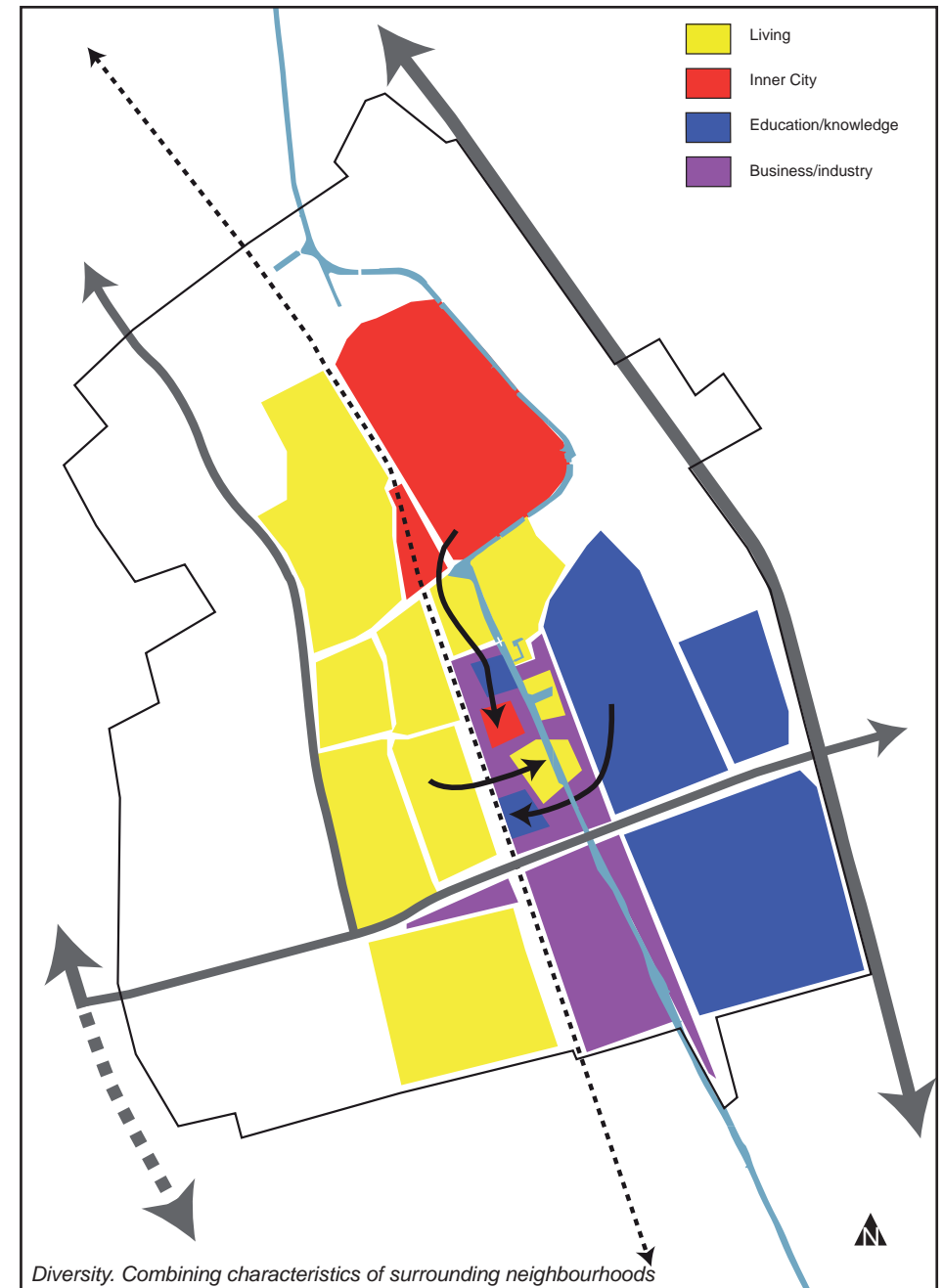




5.3. STRATEGY; DIVERSITY

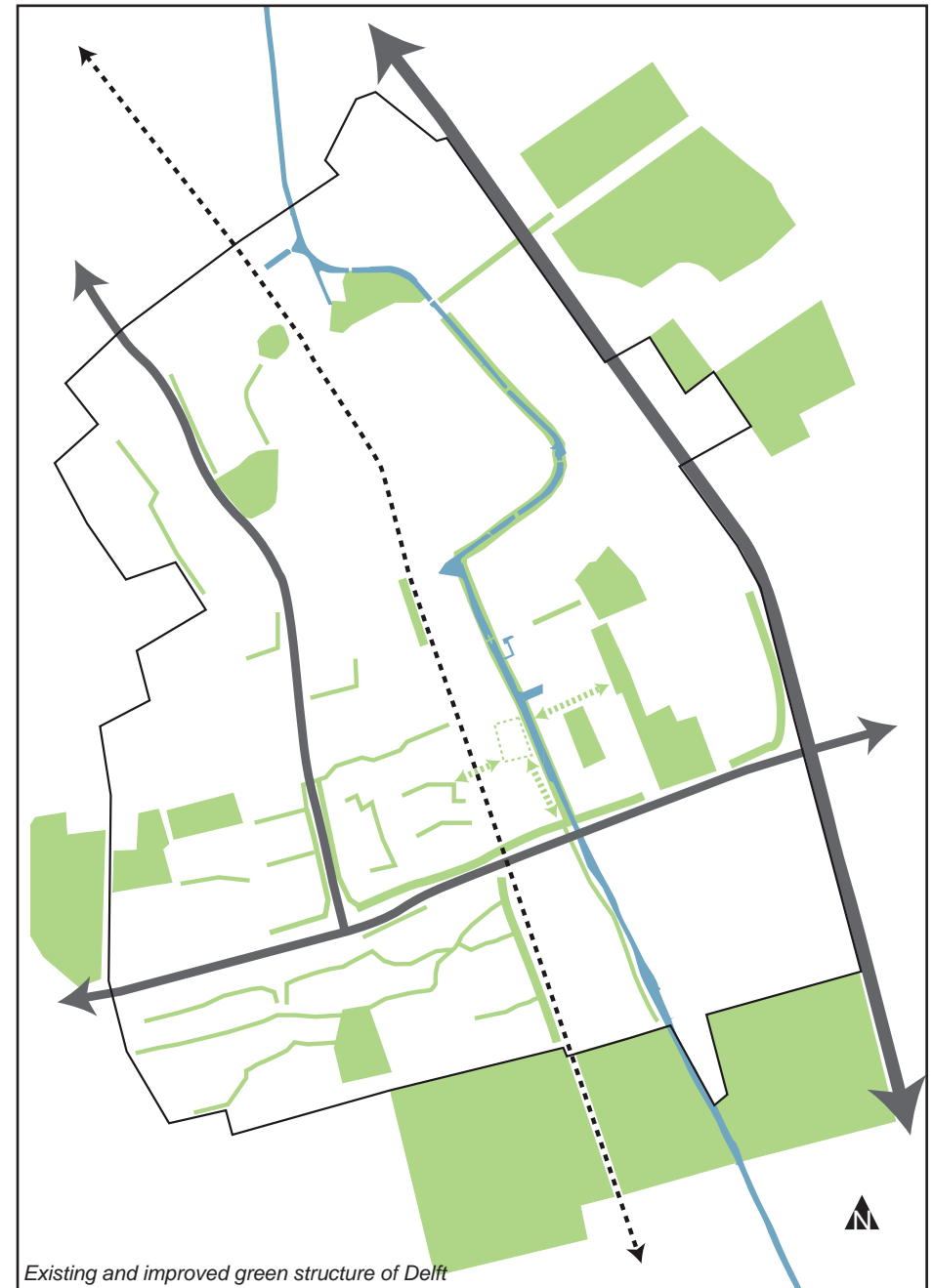
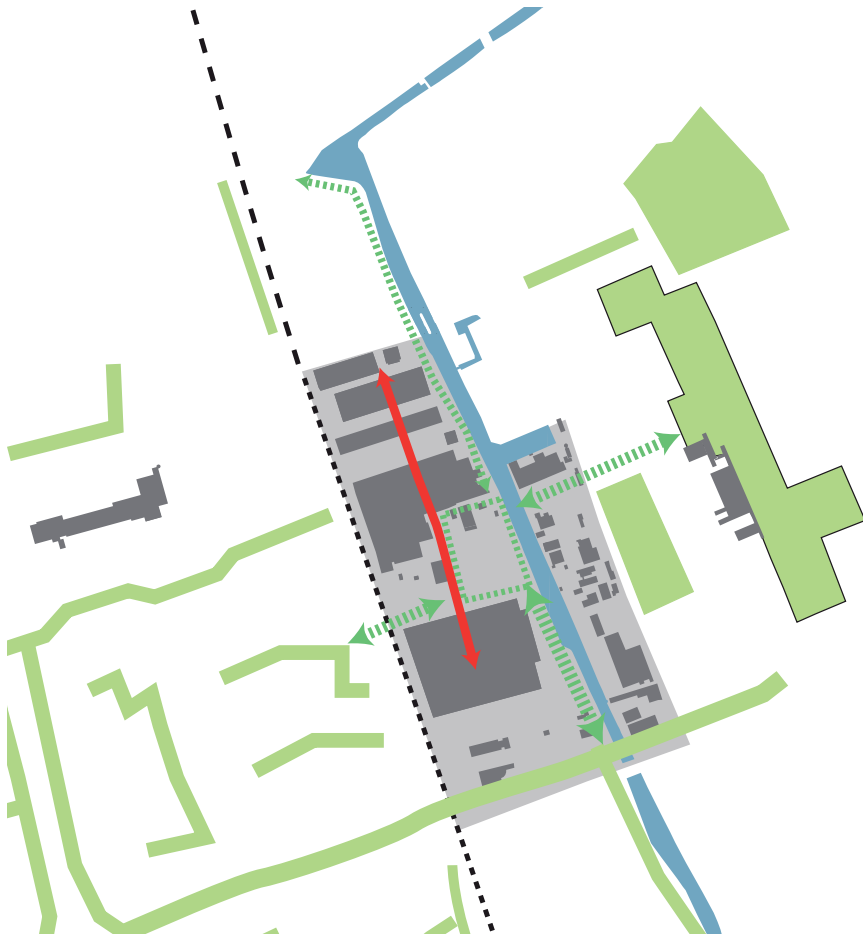
Diversity of functions

Schieoovers-Noord should become a more diverse area where living, learning, working etc. are combined. Currently the area is monofunctional. Aspects of the surrounding areas should therefore be incorporated in the plan.



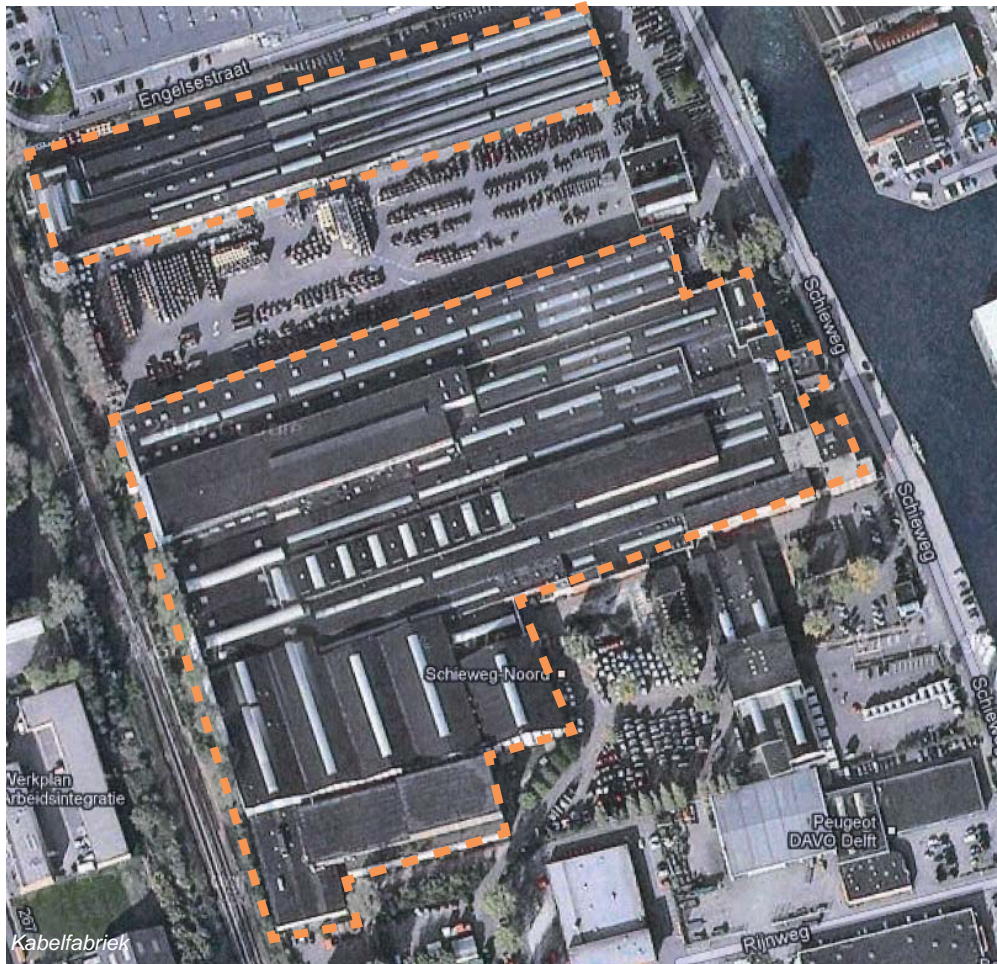
Diverse environment

Next to the lack of different functions, the area is currently a barrier in the green structure of the city. The recreational route along the Schie from the city centre to the park Midden-Delftland, South of the City has to be improved by incorporating it into the green structure of Delft. An additional green East-West corridor will connect schieoeverers with the Mekelpark. The focus in the centre of the area will be on urban development.



Building appearance

In order to create diversity in building appearance, the existing buildings in the area will partly stay intact, be re-used or be transformed. New buildings will be added as well. A special building in this area is the Kabelfabriek. Although it is still being used, there is an opportunity for transformation of parts of the building.



Diversity in buildings

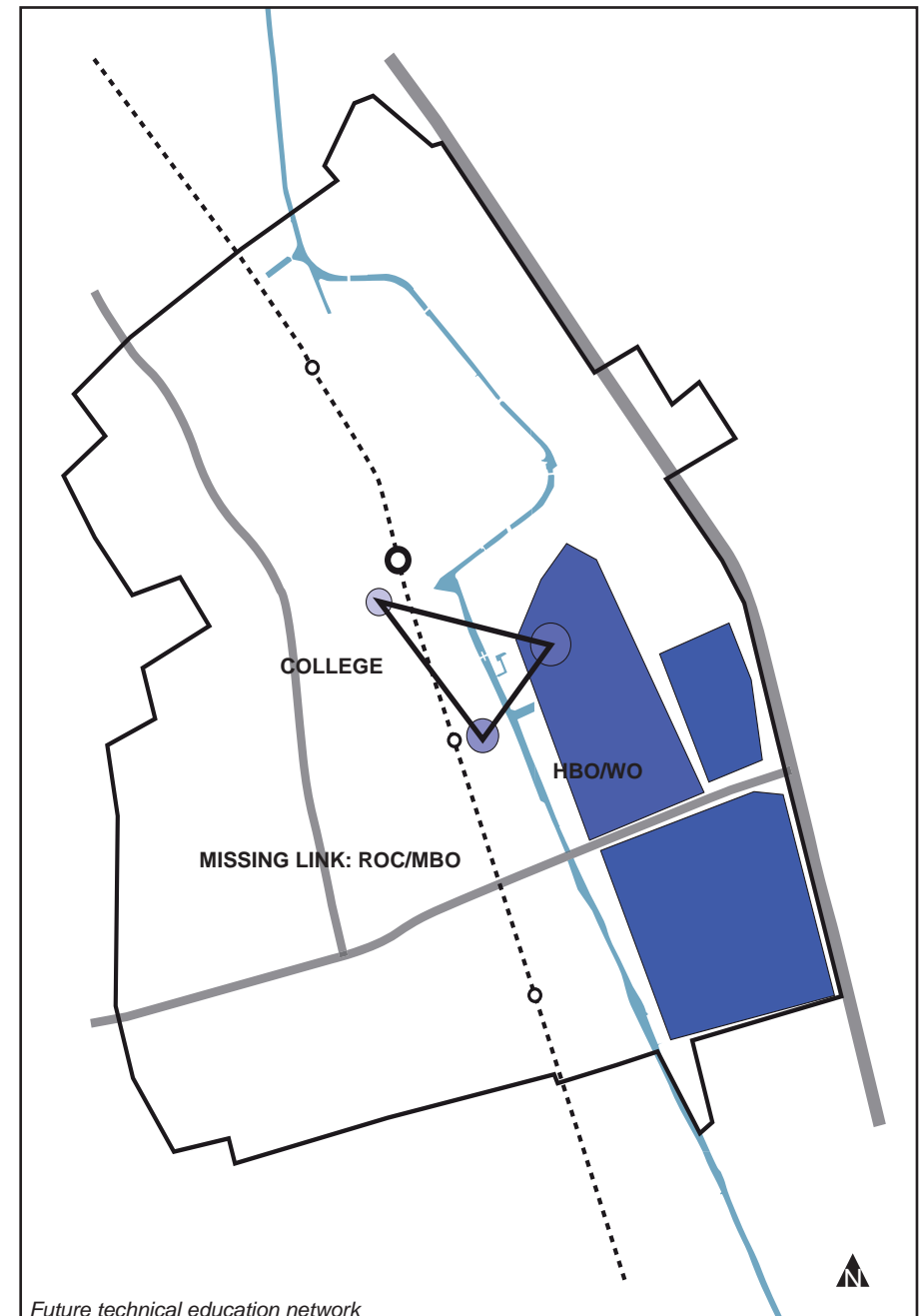
5.4. STRATEGY; AMENITIES

(Technical) education network

The city of Delft should expose its role in technological creation and innovation more. The transformed area of Schieoevers-Noord should act as a showcase to emphasize this role.

Currently, the knowledge city of Delft focuses mainly on the higher education, HBO and WO. There is often no interaction between the different levels of education. To improve the relation between the city and the knowledge sector it is essential to let all levels of education participate. Therefore the regional MBO sector could fill the gap that exists between the local college education and the national oriented higher education.

The result is that ideas that come up on the more theoretical levels of WO can be build or developed in practice by people at MBO-level. By clustering diverse levels of education the interaction will be improved. Schieoevers-Noord is the perfect spot for this triangular collaboration.



Future technical education network

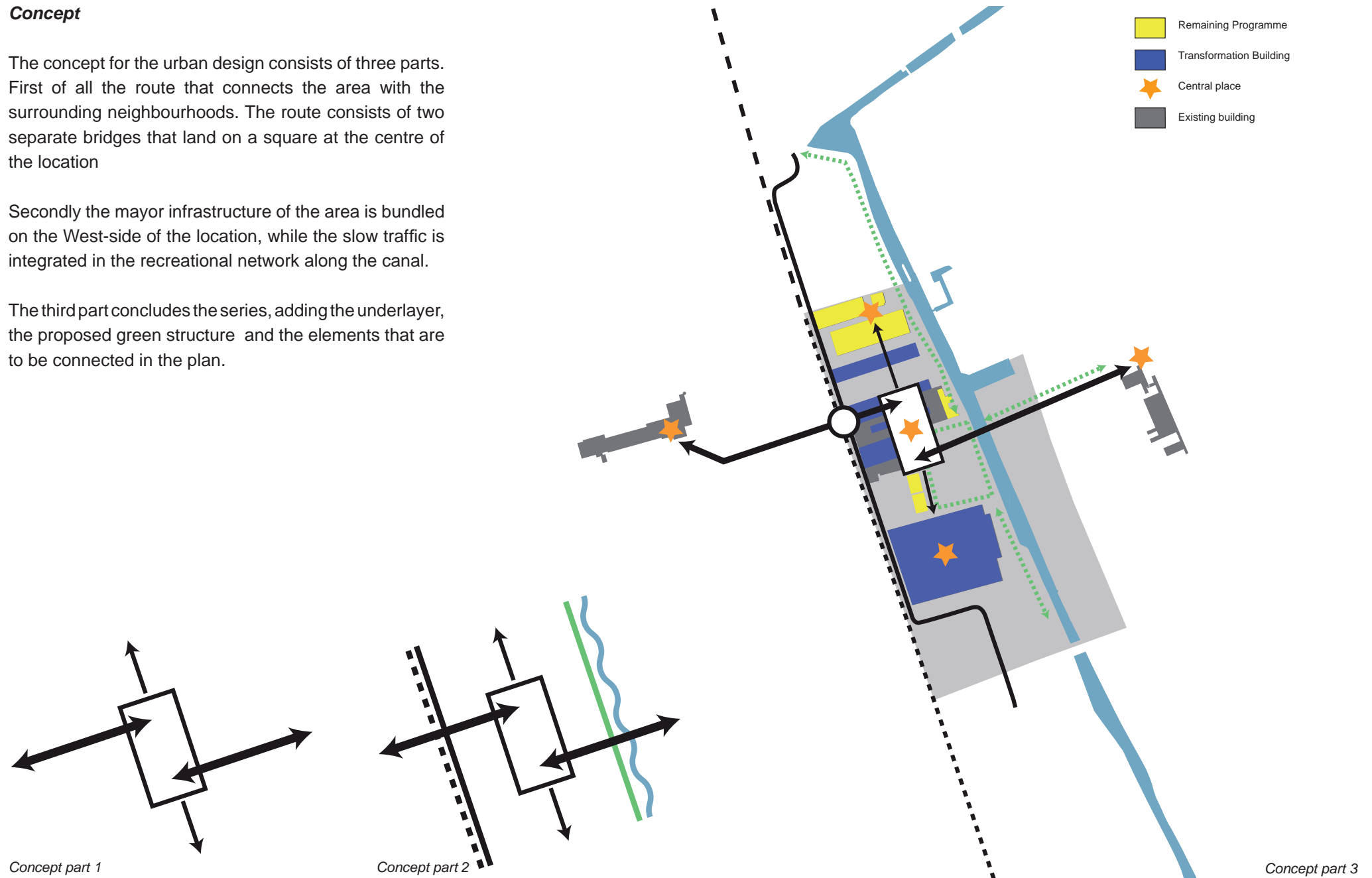
5.5. THE URBAN DESIGN

Concept

The concept for the urban design consists of three parts. First of all the route that connects the area with the surrounding neighbourhoods. The route consists of two separate bridges that land on a square at the centre of the location

Secondly the mayor infrastructure of the area is bundled on the West-side of the location, while the slow traffic is integrated in the recreational network along the canal.

The third part concludes the series, adding the underlayer, the proposed green structure and the elements that are to be connected in the plan.



The plan

The plan for Schieoevers-Noord consists of a new East-West connection in the form of a bridge between Voorhof and TU-wijk. This is one of the main goals for the transformation of the area. However, during the process of researching and designing it became clear that the area should also be a place in itself, a place where people can interact and not only be part of a crossing. Therefore a new North-South axis is introduced that together with the shape of the East-West connection forms a centre for the area. It results in a sequence of two square on an elevated level. The squares are defined by a combination of transformed buildings and new ones. The green areas in the Southern part are meant for recreational use and temporary events.



Urban plan of Schieoevers-Noord

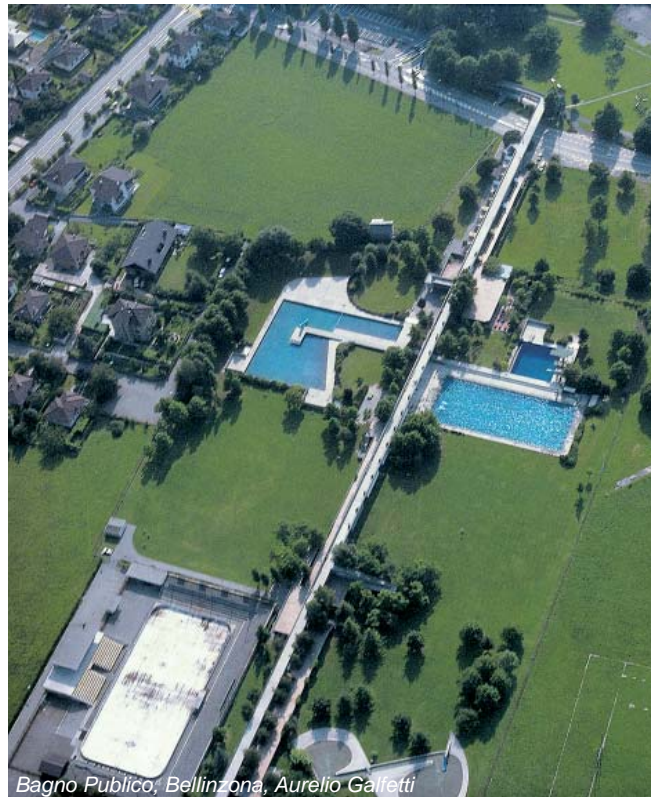
Bridge

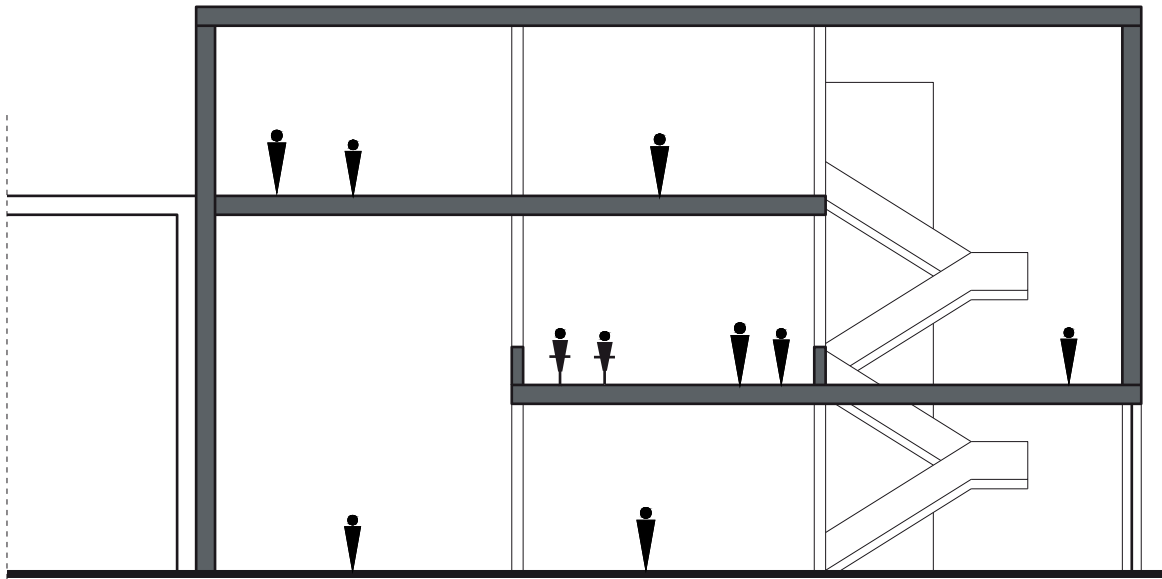
There are plenty examples of bridges that have only the basic function of crossing traffic axes or spatial elements. However, not many combine this evident quality of the bridge with another function. As concluded in the theoretical framework interaction is one of the key elements for creative city development. Therefore the crucial strategic element in this city should be able to improve the interaction and be more than just a connecting element in the city. It should be a 'place' in itself. The examples of Bagno Pubbico, Promenade Plantee and Luchtsingel all show this double function of being more than just a connection and inspire the design and function of the connection in Schieoevers-Noord.

There are three different sections related to the bridge. First are the section related to the railway crossing. Section AA' shows the western bridge going through the building. The bridge is +5m because of the necessary height for the trains passing under. Within the building possibilities exist to get off the route, via stairs and elevators.

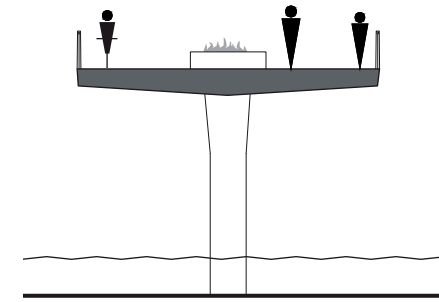
Section FF' shows the bridge before entering the station area. Here the bridge is gaining height.

In section DD' the crossing of the railway line is visible. Four railway tracks are combined with the main access road of Schieoevers-Noord.

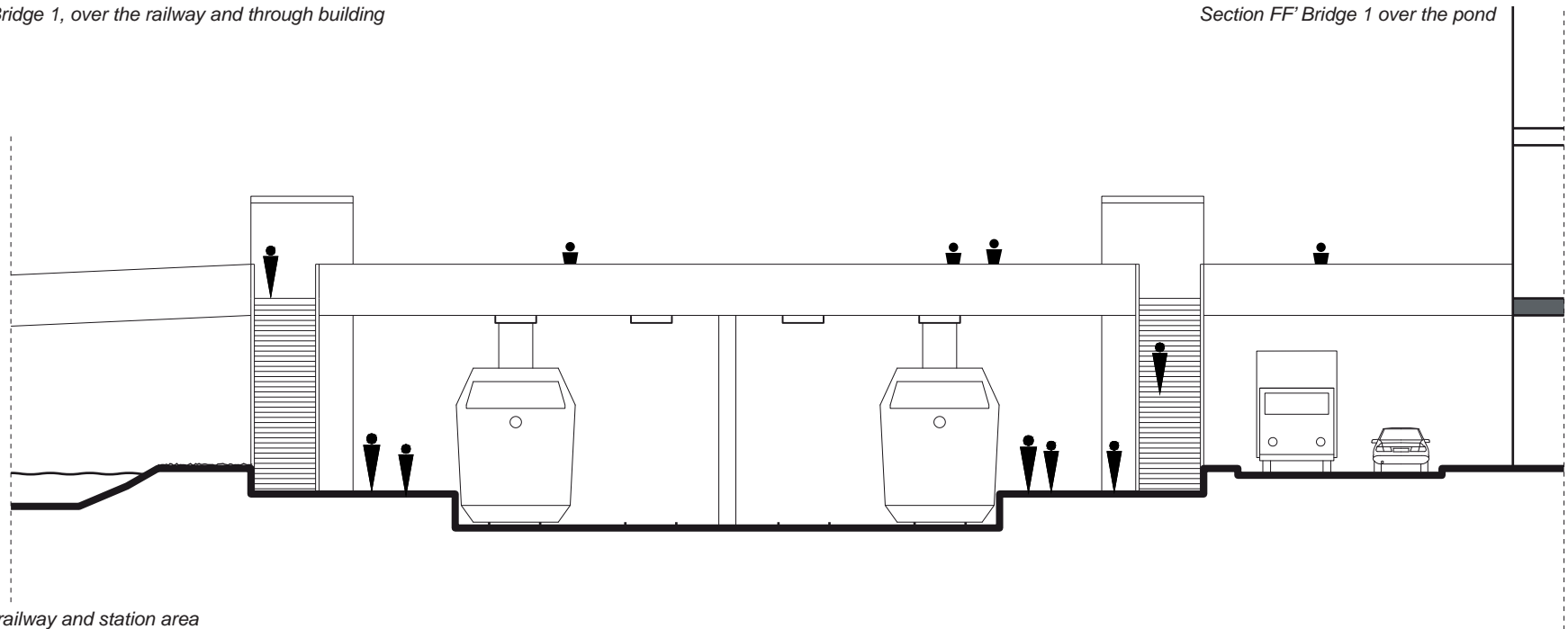




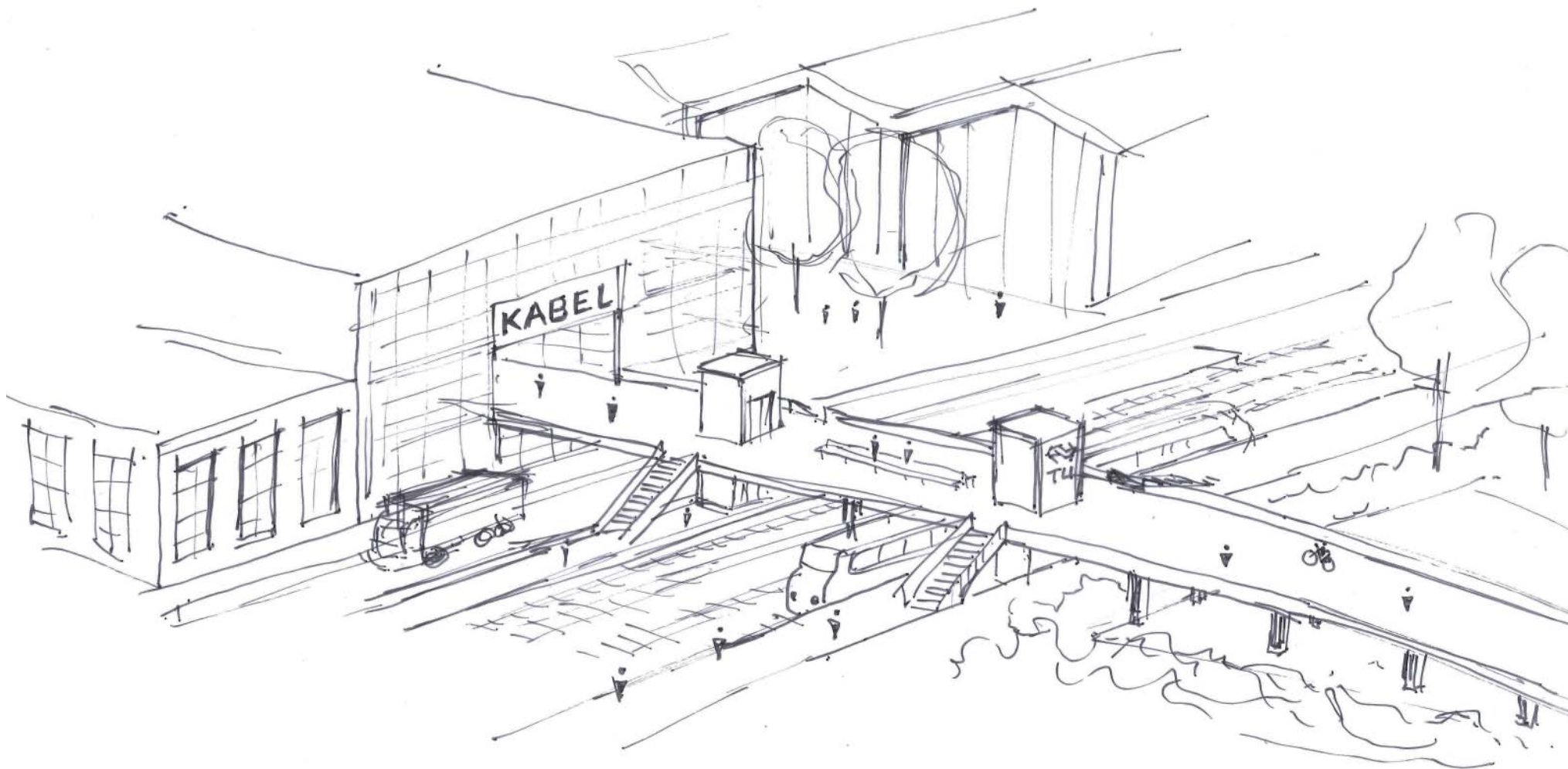
Section AA' Bridge 1, over the railway and through building



Section FF' Bridge 1 over the pond

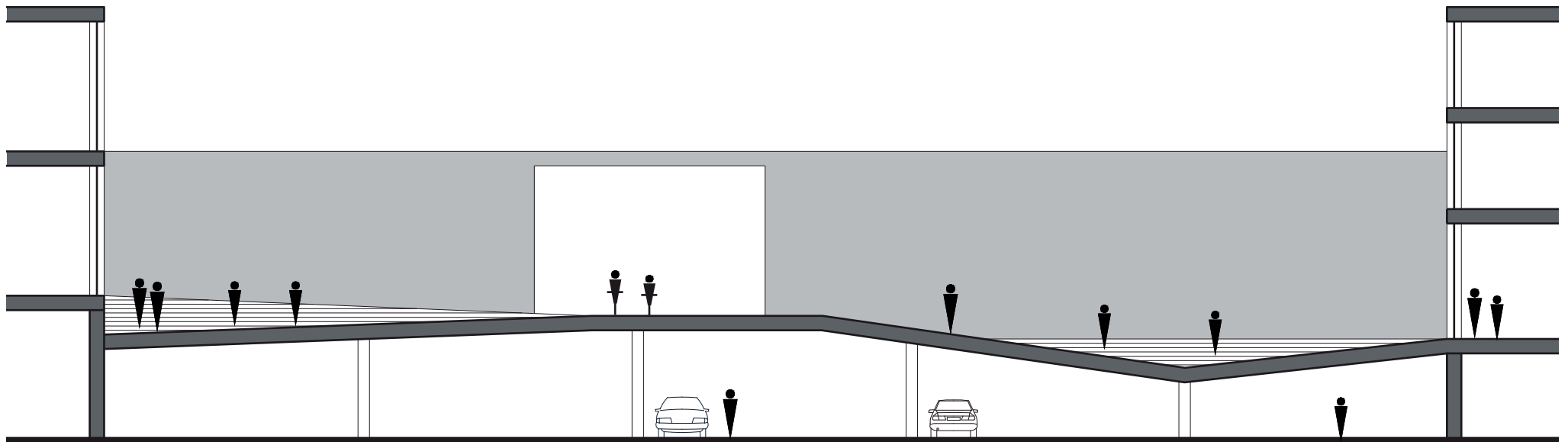


Section DD' railway and station area



Sketch of the area around the station

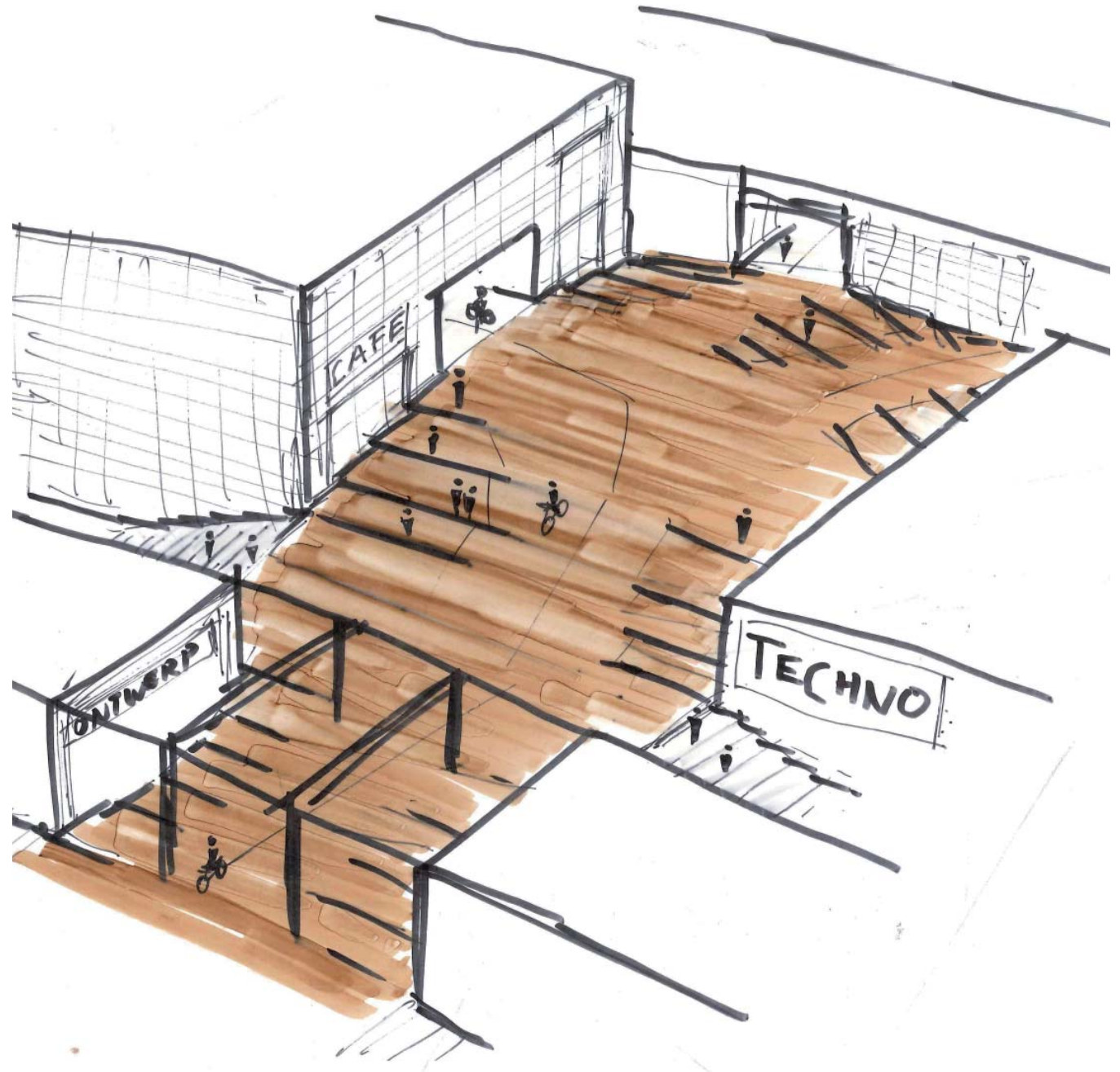
Section CC' is located in the heart of the area. It is not a bridge but a terraced landscape connecting both bridges. It forms the center of Schieoevers-Noord and is surrounded by a mixed programme. Underneath the terrace landscape there is space for additional programme, for example parking.



Section CC' Terraced centre of Schieoevers-Noord between both bridges



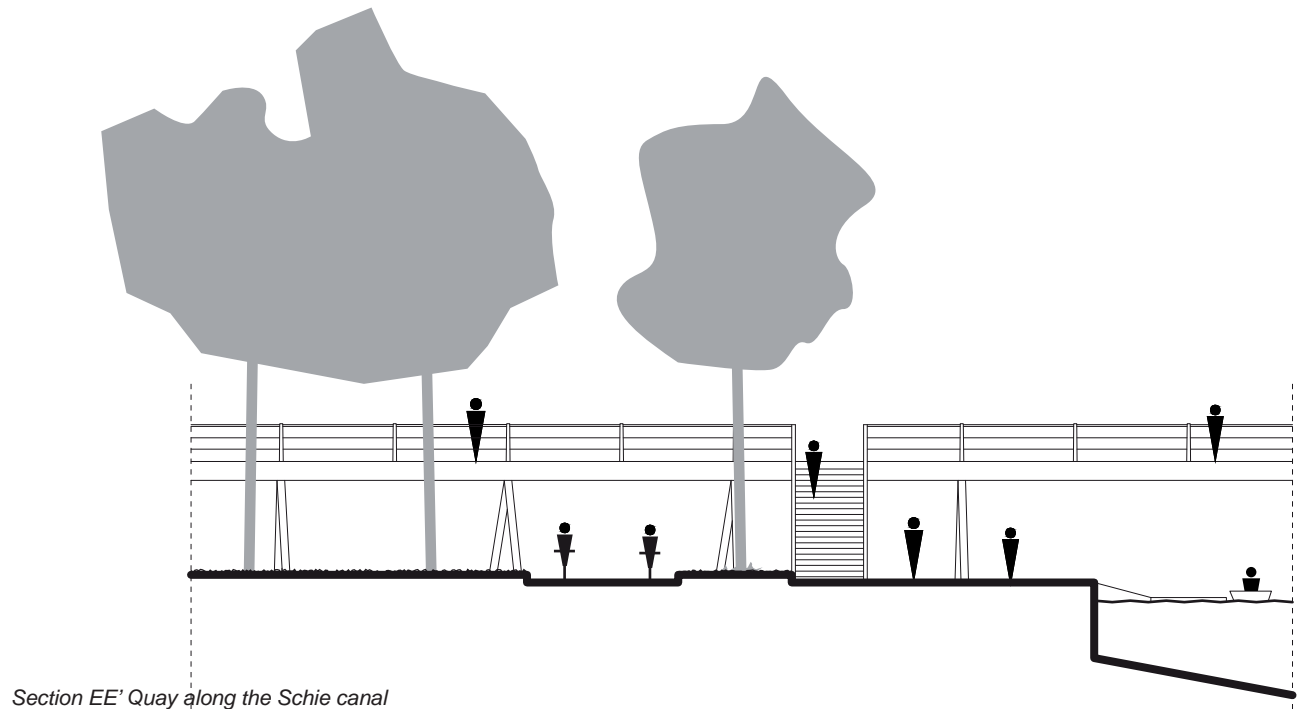
Yokohama Cruise Terminal, by Foreign Office Architects



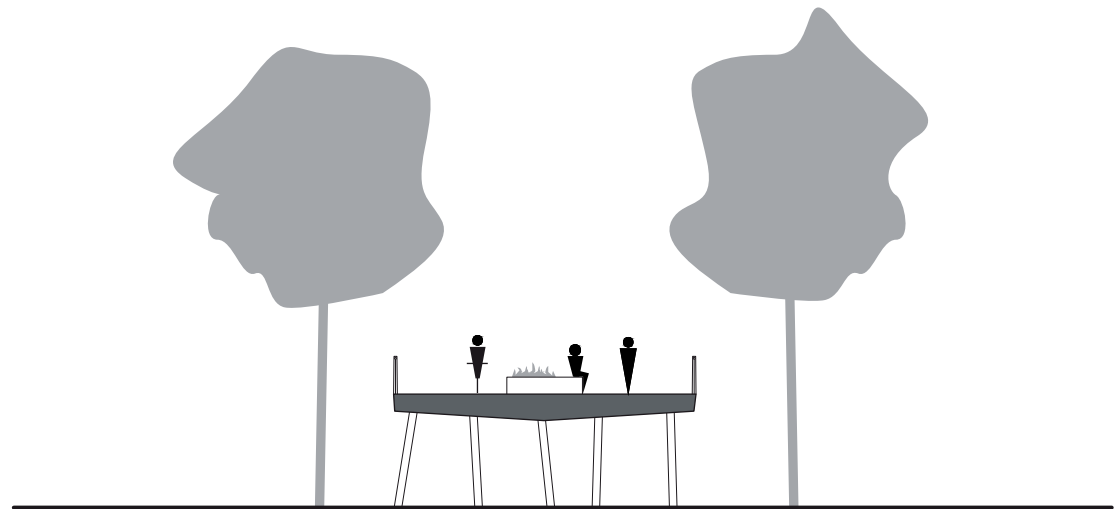
Terraced platform as the center of Schieoevers-Noord

Section BB' and EE' show the eastern bridge, crossing the canal. The bridge is 3 meters high so that small boats and people walking on the quay can pass easily. In the event of bigger ships, the bridge still has to go up.

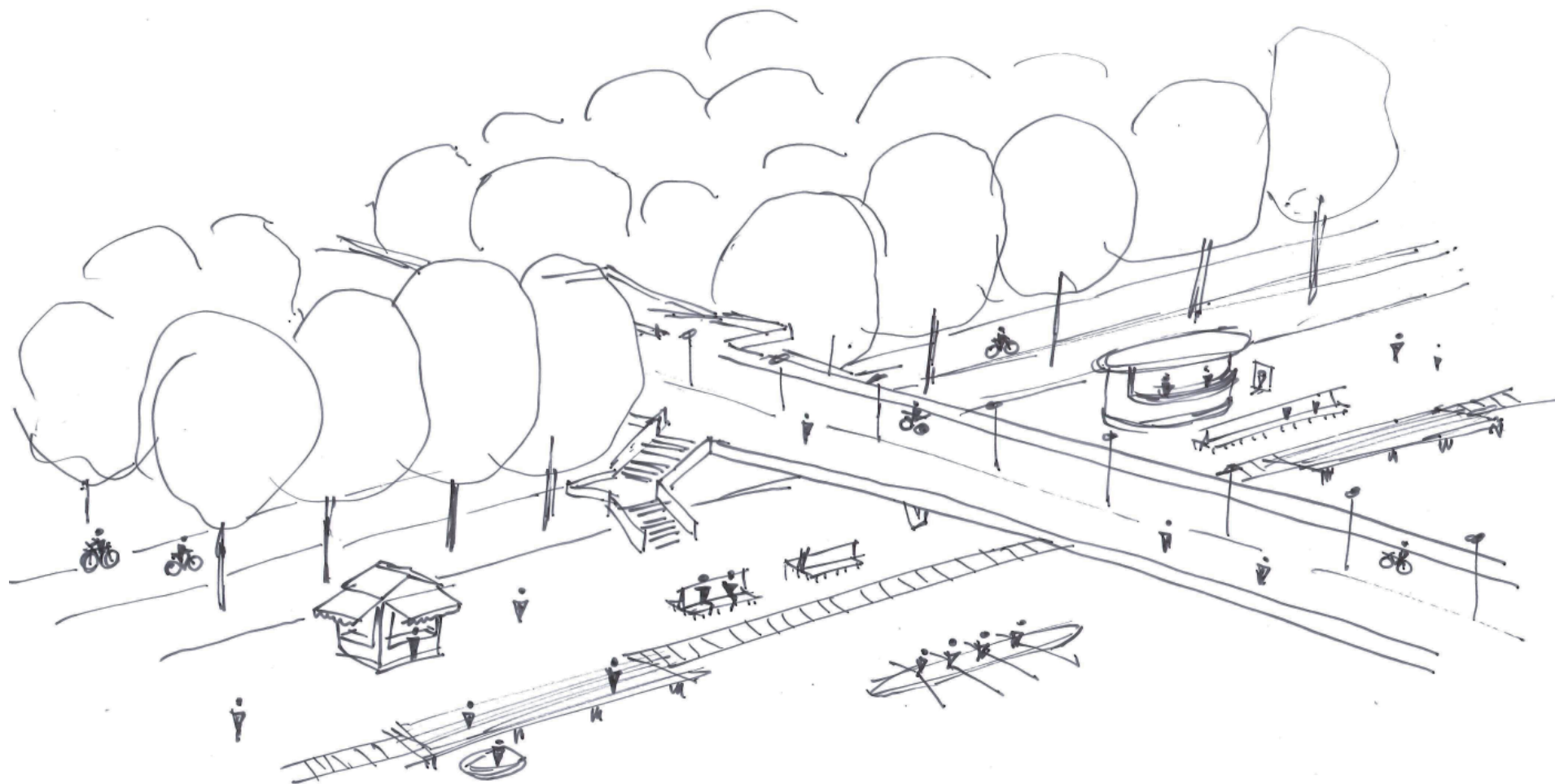
The area surrounding the canal is part of the recreational network of the city of Delft, resulting in a more open and green environment.



Section EE' Quay along the Schie canal



Section BB' Bridge 2, through landscape over the canal



Sketch of the area around the Schie canal

PART 6

CONCLUSION



6.1. CONCLUSIONS

The project Connect'in Delft discusses the topic of interaction as basis for the creative city development in Delft and especially in the project location Schieoevers Noord.

The main research question is: *How can Schieoevers-Noord be transformed into a well-accessible neighbourhood within the framework of the creative city, where interaction on different levels and scales takes place?*

The theoretical framework revealed that the essential element for the creative city is interaction. Since the term interaction can be used very widely and to narrow down the research to a more spatial points of view 3 spatial conditions have been extracted as the key factors for interaction. These are accessibility, diversity and amenities.

Accessibility makes it possible to travel to and get in contact with other people and environments. The second spatial condition is diversity. Creativity benefits largely from a society consisting of a diverse group of people. Therefore a wide variety in buildings both in size and appearance is necessary. This also goes for amenities, the facilities that provide places to meet and share, to interact. More amenities attract a bigger number of creative workers. The case study research of NDSM-werf en Strijp-S strengthened the importance of these spatial conditions

The strategy and design for the project has therefore also focused on accessibility, diversity and amenities. The new East-West connection for slow traffic between Voorhof, Schieoevers-Noord and TU-Delft is the main

strategic component of this project. Two new bridges tackle the barriers of the railway line and the Schie canal. By adding a new railway station at the intersection point of the new crossing, the new connection will be even more effective. The new station will be a direct link between Schieoevers and the national rail network, which connects even further to the international level. But also in North-South direction road and slow traffic improvements have been made. A clear distinction between these two will benefit the latter. Combined with the recreational network along the Schie, the slow traffic network now connects the city centre with the landscape South of the city.

The areas of Schieoevers-Noord, Voorhof and TU-Wijk are rather monofunctional. Diversity is created by adding new kinds of programme to the area. But also in it's appearance diversity is created. The new central square will have an urban feeling while on the canal side a more green and recreational feeling is achieved. Furthermore buildings that are already exist will either stay as they are or be transformed and new buildings will be added.

The added programme will be focusing on basic amenities, amenities for creative workers and (temporary) events. The urban design with an urban character around the terraced square but also a recreational character

By improving the accessibility, diversity and amenities of the area, Schieoevers-Noord will form an interesting overlap between Voorhof and TU-wijk. A place where interaction can take place on the squares, the recreational grounds, the restaurants, cafes and business areas.

6.2. REFLECTION

This graduation project has focused on the city of Delft. Although the location-specific characteristics have great influence to the results of the design, the theoretical framework can be considered location independent. Therefore it would be interesting to continue the research with the results of the theoretical framework in another cities that are related to the creative city development.

The project has found a solution for the area of Schieoevers-Noord, but as was shown in the analysis, the railway and the Schie canal continue further South. In this part of the city they form a similar barrier to the urban structure of Delft-Zuid. An extension of the connection study could lead to an overall improvement of the accessibility and connectivity of the network in Delft-Zuid

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