



ROTTERDAM GEZELLIGHEID NEIGHBOURHOOD

The heart of BOTU

Thesis Final Booklet



POLITECNICO
MILANO 1863

ARCHITETTURA URBANISTICA INGEGNERIA DELLE COSTRUZIONI
ARCHITETTURA E DISEGNO URBANO - ARCHITECTURE AND URBAN DESIGN - MI
MASTER DEGREE FINAL THESIS

RELATORE: LEONI FRANCESCO
CORRELATORE: BRESCIANI GIANLUCA

GUO YUWEI
MATRICOLA: 896630

ACKNOWLEDGMENTS

I would like to thank my thesis advisors, Francesco Leoni and Gianluca Bresciani, for guiding me through the whole process, prompting me and questioning my initially unfocused direction.

I would like to thank my competition partners who have kindly cooperated with me and helped out in my surveys and previous analysis, which are essential in my thesis.

Lastly, I would also like to thank my family and professors for constant support and understanding throughout this pandemic period.

Abstract

The thesis responds to the competition EUROPAN 15. The challenge for the design location Visserijplein at the heart of the Bospolder and Tussendijken (BoTu) districts in the east of Rotterdam is to design a multifunctional building block in the heart of a multicultural, vulnerable neighbourhood, incorporating the local market and providing space for new forms of living, meeting, learning, making, playing and working – by the analogy of new concepts like the Library of the Future. The aim is to give the area a socioeconomic boost. A combination of housing, public and cultural programmes, space for local businesses and a place where young people can grow their talents is desired at this central location.

The project prefers to focus on the aspect of the challenge: the need to design a process and programme to help this vulnerable district of Rotterdam take a step forward in socioeconomic terms.

The word 'Gezelligheid' which used in the title is a Dutch word which can be translated as 'conviviality', 'cosiness', 'fun'. It is often used to describe a social and relaxed situation. It can also indicate belonging, time spent with loved ones, catching up with an old friend or just the general togetherness that gives people a warm feeling. A common trait to all descriptions of Gezelligheid is a general and abstract sensation of individual well-being that one typically shares with others. All descriptions involve a positive atmosphere, flow or vibe that colours the individual personal experience in a favourable way and in one way or another corresponds to social contexts. Being a vague, abstract notion, the word is considered by some to be an example of untranslatability, and one of their hardest words to translate to English. Some consider the word to encompass the heart of Dutch culture.

The design concept and solution are aiming to solve the real local-problems in a resilience way and try to make the place more humble and harmonious for the BOTU area. Applying the Rotterdam resilience strategy, the neighbourhoods have interconnected networks of pathways and relationships. They are not segregated into neat categories of use, type, or pathway, which would make them vulnerable to failure. They have diversity and redundancy of activities, types, objectives, and populations. There are many different kinds of people doing many different kinds of things. The project also respects the traditional lifestyle and building-typology of Rotterdam. Like, it is designed for BOTU community, the complex touches upon the primal notions of gathering, creating a venue for passive and active recreation while ensuring a home for nature in the rapidly growing community.

Keywords: Gezelligheid, Resilience, Rotterdam, BOTU neighbourhood, socioeconomic, pop-up market.

CONTENT

Abstract

Introduction

European 15 competition

History of Rotterdam

Competition Assignment x Site BOTU

Project site analysis

Urban analysis

Researches of different issues

BOTU perception

SWOT Analysis

Design development

Concept Narration

Design Strategies

Architectural proposal

Case studies

Design portfolio

Functional Diagram

Technological drawings

characterize with Renders and photos

Resources

CHAPTER 1

Introduction



EUROPAN 15 PRODUCTIVE CITIES 2

VILLE PRODUCTIVES /2: RESOURCES, MOBILITY AND SPATIAL EQUITY.

EUROPAN 15 session enlarges the topic from European 14 –“**PRODUCTIVE CITIES**”, which is a complex and crucial one in the contemporary mutation of European cities. This session, European would like to particularly focus on the issue of the ecological transition related to a vision of the productive city for the future.

The ecological productive transition needs to consider synergies between ecosystems, between biotopes and artefacts, between functions and uses, between citizens (etc..) rather than only considering a dualist approach. Creating synergies between these elements is another way of thinking and making the city in order to anticipate and to make the urban authorities more aware of their responsibilities towards the environment and life.

3 CATEGORIES & 3 SCALES



RESOURCES - How to minimize consumption and resource contamination (water, air, soil, energy...)? How to share resources? How to imagine social and technical innovations on this subject?



MOBILITY - How to integrate mobility and accessibility into productive territories?



EQUITY - How can spatial equity contribute to social equity? How to connect social and spatial elements? How to create a productive balance between territories, between urban and rural, between the rich and the poor?

These three categories –Resources, Mobility and Spatial Equity– can be declined on 3 scales: territorial, middle and micro scales.

XL

THE TERRITORIAL SCALE –XL– corresponds to the larger scale, even beyond the city in some cases (inter-cities or rural) from the mutation of uses and practices. For European, this means developing, after the competition, strategic studies on larger scales that allow the city to have a guide for urban development.

L

THE MIDDLE SCALE –L– is the one of the district or a strategic urban fragment. This type of sites leads to the development of the rewarded ideas into urban projects, in which the teams can also develop a smaller part.

S

THE MICRO-SCALE is the smaller scale, on which projects can develop and resonate on a larger scale. It is also the scale of fastest production, smallest interventions, sometimes even temporary.

EUROPAN 15 X ROTTERDAM

CHALLENGE FOR EUROPAN 15

Therefore, the challenge for European 15 is to propose a diversity of sites which reconsiders the connection based on synergies between city and productive spaces within 3x2 different issues : **IMPLANTING, CREATING PROXIMITIES, CHANGING METABOLISM.**

CHALLENGE FOR ROTTERDAM

The challenges Rotterdam now faces are unlike earlier challenges. This is due to major social changes such as the energy transition, the growth of the city and digitization. Their impact on the physical living environment varies per challenge and is sometimes predictable, but as often is not.

To Rotterdam, its participation in European 15 also presents an opportunity to field-test the Concept Omgevingsvisie (Concept Environmental Strategy Rotterdam). **The pursuit of a densified city (a) with resilient residential environments requires reciprocal considerations between the need for productivity (b), health (c), inclusiveness (d), and a sustainable, circular living environment (e).** Taking productivity as a starting point, the European 15 challenges will therefore also address the other cornerstones of the Concept Omgevingsvisie.



An aerial photograph showing a vast landscape. In the foreground, there's a dense urban area with a grid of streets and buildings. A prominent canal or river winds through the city. Beyond the city, the terrain transitions into a flat, open landscape with patches of green and brown, likely agricultural fields or reclaimed land. The horizon is visible under a blue sky with scattered white clouds.

INTRODUCTION OF CITY **ROTTERDAM**

By Dutch standards, the municipality of Rotterdam is big in terms of both population (644,000) and surface area (320 km²). It is the second-biggest city in the Netherlands after Amsterdam. Rotterdam's territory consists of some very different areas. Roughly speaking, there are four distinct types:

CORE URBAN AREA

The Rotterdam core area is a large, contiguously built-up zone that includes various districts located on the two opposite banks of the Nieuwe Maas: from Overschie to Beverwaard and from Pendrecht to Nesseland. The majority of the population lives in this part of the city. This area comprises distinctly different districts that have retained some individuality.

PORT AREA

The Port of Rotterdam covers a total area of 126 km² including 78 km² of land and 48 km² of water. The port's total length is 42 km. It is a logistics and industrial complex that employs 175,000 people. The Port of Rotterdam aspires to be Europe's most important port and industrial complex by 2030.

SEPARATE RESIDENTIAL AREAS

Rotterdam includes five residential areas that have retained their individuality by being separate from the rest of the city. Hoogvliet is a large residential area that, due to its peripheral location, is more than just a Rotterdam city district. The authentic, smaller areas Rozenburg, Heijplaat, Pernis and Hoek van Holland are also located in the territory of the City of Rotterdam. Areas such as these often face different challenges than the rest of the city. They are located close to the port and far from the city centre and depend on the facilities of surrounding, neighbouring municipalities. Residents here have strong ties with their own area.

SCENIC AREAS

Less well known are the scenic areas within the municipal boundaries. One third of Rotterdam consists of water, for example, which amounts to more than just the water in the port. There are some polders on the outskirts of the city and Rotterdam even includes a coastal strip with dunes. The city is located on the borders of the open polder landscape and the delta, with its large estuaries and polders.

HISTORY IN A NUTSHELL

CITY IN THE DELTA

A major logistic and economic centre, Rotterdam is Europe's largest port, and had previously been the largest port of the world for a long time. Rotterdam is known for its Erasmus University, its riverside setting, lively cultural life, maritime heritage and modern architecture. Built mostly behind dikes, large parts of the Rotterdam are below sea level.

Rotterdam would not be the same without its rivers. The city was built on the dam between the Rotte and the Nieuwe Maas. Thanks to the Nieuwe Waterweg – the stretch of water that connects Rotterdam to the North Sea – Rotterdam developed into an international seaport. For years, the Nieuwe Maas was a highway for inland shipping, a place where work was getting done. The city developed on two banks, its harbours separated by the river in between. When the port activity began to move west, this literally made room for transformation and densification in the middle of the city. As attractive residential locations sprouted along the Maas banks, the city centre began to span the river. During this period, waterfront development resulted in vibrant spots along the water and the river showed its recreational potential. The Rhine, Meuse and Scheldt give waterway access into the heart of Western Europe, including the highly industrialized Ruhr. The extensive distribution system including rail, roads, and waterways have earned Rotterdam the nicknames "Gateway to Europe" and "Gateway to the World".

THE BOMBING

Rotterdam Blitz

More than 75 years ago, the city centre of Rotterdam was erased by a bombardment during the Second World War. The German bombing of Rotterdam, also known as the Rotterdam Blitz, was the aerial bombardment of Rotterdam by the Luftwaffe on 14 May 1940, during the German invasion of the Netherlands in World War II. The objective was to support the German troops fighting in the city, break Dutch resistance and force the Dutch army to surrender. Almost the entire historic city centre was destroyed, and nearly 900 people were killed, as well as making 85,000 more homeless.

A post-war reconstruction plan was carried out according to then-modern principles with regard to the separation of functions: a spatial layout in quarters separated by boulevards with plenty of space for traffic. Cornelius van Traa, the director of the Port Authority, drafted a completely new reconstruction plan – the 'Basisplan voor de Herbouw van de Binnenstad,' – which was adopted in 1946. Van Traa's plan was a much more radical rebuild, doing away with the old



layout and replacing them with a collection of principles rather than such a rigid structural design. The 'Basisplan' placed a high emphasis on broad open spaces and promoted the river's special integration with the city through two significant elements; the Maas Boulevard, which re-imagined the newly moved dike as an 80m wide tree-lined street; and the "Window to the River," a visual corridor running from the harbour to the centre of the city. Both were meant to show the workings of the harbour to the city's people.

Because reconstruction work began so rapidly after the bombing, by 1950 the city had again retained its reputation as the fastest loading and unloading harbour in the world.



Map of Rotterdam showing the situation in 1940 and the post-war rebuilding plans. The yellow line marks the area that was destroyed by the bombardment of Rotterdam on 14 May 1940. Gemeentewerken Rotterdam, afd. kartografie, 1955; Documents collection JHM



*Maashaven, 1908
Source: Collectie Gemeentearchief Rotterdam*

Around the same time, the city centre of Rotterdam had shifted north-west as a result of temporary shopping centres set up on the edge of the devastated city, and new shopping centre projects like the Lijnbaan were expressing the radical new concepts of the 'Basisplan,' through low, wide-open streets set beside tall slab-like buildings. Rotterdam's urban form was more American than other Dutch cities, based on US plans, with a large collection of high-rise elements and the Maas boulevard and 'Window to the River' functioning primarily as conduits for motor vehicles.

Today, modern post-war reconstruction buildings, such as the Groothandelsgebouw designed by architects Van Tijen and Maaskant, are listed monuments. Rotterdam's new cultural heritage accomvns, but they have also been able to retain their special exteriors.

MODERN CITY

More than 75 years ago, the city centre of Rotterdam was erased by a bombardment during the Second World War. A post-war reconstruction plan was carried out according to then-modern principles with regard to the separation of functions: a spatial layout in quarters separated by boulevards with plenty of space for traffic. Today, modern post-war reconstruction buildings, such as the Groothandelsgebouw designed by architects Van Tijen and Maaskant, are listed monuments. Rotterdam's new cultural heritage accommodates a town centre that reflects the individuality of the city. The post-war reconstruction buildings have shown themselves quite easily transformable. Many have been given new functions, but they have also been able to retain their special exteriors.

EXPERIMENT, MAKE ROOM, INSPIRE

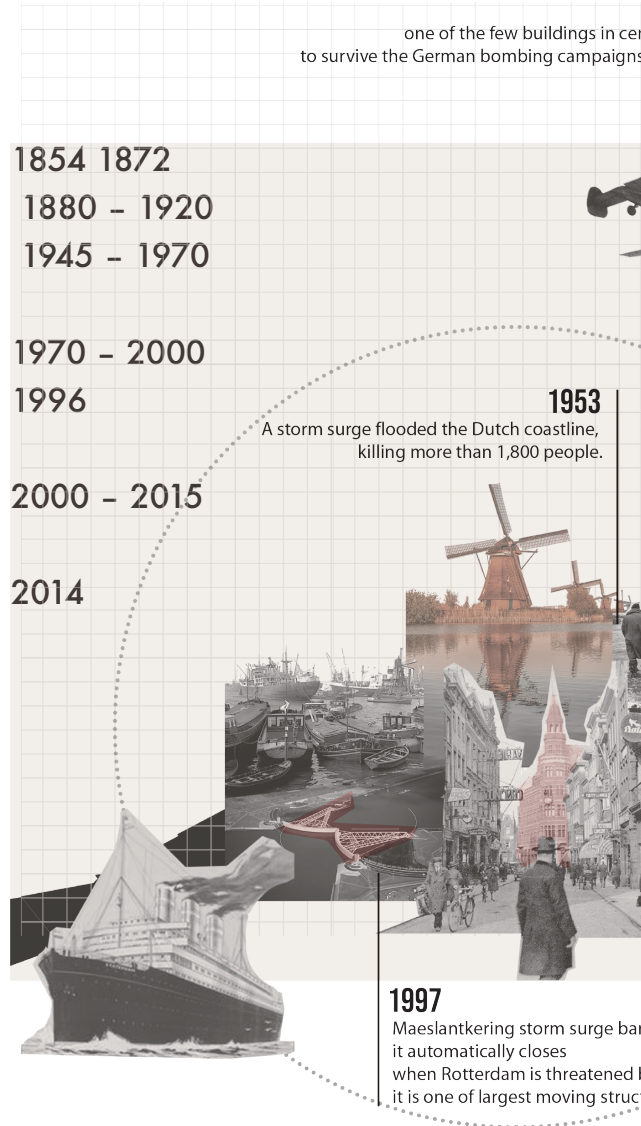
Looking back, one might say that Rotterdam is a relatively young city that, more than other European cities, has been characterized by a desire for innovation. Generally speaking this has worked out all right, although infrastructural interventions and the post-war reconstruction after the Second World War have resulted in an 'expanded' city and, in some districts, to a high concentration of identical, small dwellings. Rotterdam wants to build on the valuable icons from previous construction periods – such as its canals, city streets, lanes, boulevards and parks – and on the innovative mindset that characterizes Rotterdam. Experimenting and making room are in the city's DNA. By noticing and seizing opportunities, the inventive and enterprising people of Rotterdam have been very important to the growth and prosperity of the city. The grain elevators of the Nieuwe Maas silo, the Lijnbaan, the Van Nelle factory, the Maeslantkering, the water squares, the Erasmus Bridge, the kluswoningen (DIY renovations) and the Markthal are embodiments of audacious, unprecedented thinking that took place here and thus raised the city to the next level.



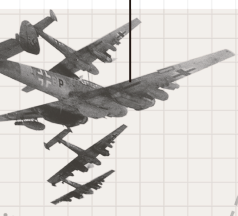


Important developments in Rotterdam

- Completion of Rose's Water Project
- Completion of the Nieuwe Waterweg (New Waterway) Population growth from 160,000 to 500,000
- Post-war reconstruction, expansion of the port, construction of the underground railway Suburbanization, restructuring, urban renewal
- Completion of the Erasmusbrug, start development of the Kop van Zuid
- Rotterdam Cultural Capital (2001), densification of the city centre, introduction of the notion 'city lounge', Stadsvisie 2030 (Urban Vision 2030), start of the development of the Maasvlakte 2
- Completion of several iconic buildings, including De Rotterdam, the Markthal, Rotterdam Central Station



1898
Witte Huis
Central Rotterdam
after World War II



THE ROTTERDAM TOWER



errier
by floods.
atures on Earth

1960
Euromast is an observation tower
Originally 101 m in height
it was the tallest building in Rotterdam

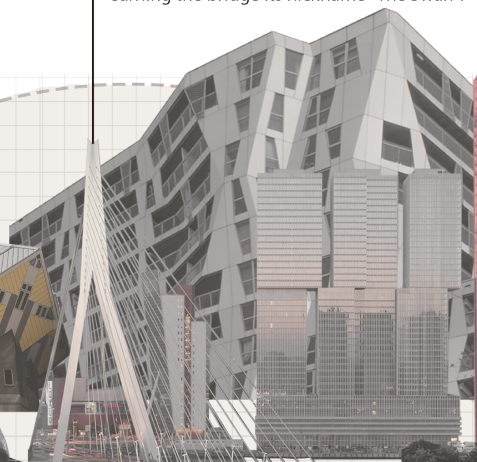


1977
Cube house
designed by architect Piet Blom
and based on the
concept of
"living as an urban roof"



1968
The Rotterdam **Metro**
The first line ran from Centraal Station to Zuidplein,
crossing the river Nieuwe Maas in a tunnel.

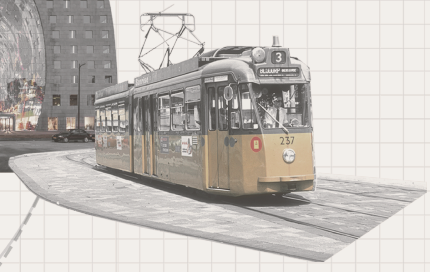
1960
Erasmusbrug bridge
designed by Ben van Berkel.
The cable-stayed bridge
earning the bridge its nickname "The Swan".



1953
Zadkine monument
A cry of horror against the inhuman brutality
of this act of tyranny



2014
The Markthal is a residential and office building
with a market hall underneath
it was designed by architectural firm MVRDV.



Trends and Transitions

NETWORK SOCIETY

Society is becoming more diverse. Individualization continues, but at the same time the need for connection grows. New, spontaneous social and economic networks of like-minded people that work together towards a common goal are emerging.

AGEING The proportional rise in the ageing population entails considerable spatial challenges and leads to different quality requirements in the living environment. This includes suitable housing and an accessible public space, but also neighbourhood facilities.

DIGITAL TRANSITION

The increase in digital possibilities creates new business models and has a major impact on people's daily lives, the labour market and education. More and more, the people of Rotterdam provide information and use applications linked to it, such as mobility services. What is also important is that many jobs move from the port to the city as digitization allows remote access in many cases. The new work places are also more accessible by, for example, public transport.

CIRCULARITY

Circular thinking and doing are on the rise. The underlying philosophy is that waste no longer exists and that cycles must be closed. As a result, fewer and fewer new resources are added to production chains. The development of the 3D printer accelerates this development.

MOVING TO THE CITY

People and businesses are moving to attractive cities and regions throughout the world. Rotterdam has put itself on the map in recent years. In 2018 the city grew by more than 5,500 people. Rotterdam is popular with students and knowledge workers, but the competition with other major cities is strong.

MOBILITY TRANSITION

The way people move around the city is changing. They walk and cycle more and increasingly use public transport. As mobility services improve, car ownership becomes less necessary. Both the exchange of goods and urban distribution are changing under the influence of technological developments. Spacious boulevards from the reconstruction period that were originally intended primarily for cars are now increasingly being used by cyclists.



and pedestrians as well as for greenery.

CLIMATE CHANGE

Rotterdam is being confronted with the consequences of climate change. This requires a different mentality in water management. From green roofs to adapted sewer systems. For the temporary collection of rainwater during heavy showers, Rotterdam introduced the water square: visible water collection in an attractive outdoor space.



ENERGY TRANSITION

Rotterdam is switching from fossil energy to sustainable energy. This has major consequences for both the city and the port, especially because the industrial complex in the port is currently largely powered by fossil fuels. But it also offers all kinds of opportunities.

URBAN STRATEGY

Rotterdam aspires to develop an integrated approach to the trends and transitions the city faces and the needs of its people. Although there is currently no integrated vision for Rotterdam (yet), strategic documents from the social, economic and physical domains that appeared in recent years have been developed in conjunction with each other.

RESILIENT CITY

In policy, a recurring starting point is that Rotterdam wants to be a resilient city: a city that is able to respond to external dynamics and use growth opportunities to improve.

A resilient city continuously adapts to developments and not only recovers quickly after an incident, crisis or setback but also grows stronger in the process. The resilience of the economy and the people is essential to a delta and port city like Rotterdam.

DENSIFICATION OF THE EXISTING CITY

More than a decade ago, Rotterdam published an important decision in its **Stadsvisie 2030** (Urban Vision 2030): 'To meet housing needs, Rotterdam will only build in existing urban areas.' This meant, among other things, that the number of people living in the city centre of Rotterdam had to double from 28,000 in 2007 to 56,000 in 2030. The decision to densify the existing city centre

ten years ago has visibly resulted in a livelier centre and a more attractive city.

PUBLIC SPACE AND WATER

Another important intention voiced in the **Stadsvisie 2030** was: 'Rotterdam will use the public space and the water challenge to accelerate the intended developments in the physical living environment.' Rotterdam's strategy for climate adaptation is now world-famous. And the attractive design of the public space has made Rotterdam safer, cleaner, greener and more sociable.

NEW CHALLENGES

In 2016 the **Kaart van de stad** (Map of the City), complementary to the Urban Vision 2030, introduced new challenges, such as creating the spatial conditions for The Next Economy, monitoring the growth of the city, raising the quality of the city streets and making

the Delta landscape more lively, attractive and natural. These new challenges are also included in the Concept Omgevingsvisie Rotterdam (Concept Environmental Strategy Rotterdam), not public yet. In addition, several subjects have become urgent in recent years, such as:



THE ENERGY TRANSITION

This issue has been on the agenda for some time, but the sense of urgency has increased considerably. The subject topped the agenda of the Voortgangsrapportage 2017 Havenvisie 2030 (Progress Report 2017 Port Vision 2030). An ambitious commitment to the energy transition can energize other policy objectives, such as the restructuring

of residential areas, the renewal of the economy and an increase in employment opportunities.

THE INTERACTION BETWEEN GROWTH AND ACCESSIBILITY

By 2040, Rotterdam plans to have realized 50,000 new dwellings (Woonvisie, Housing Vision). The focus is on differentiated living environments and on high-quality, adaptable dwellings

of different sizes and prices. The growth of the city is also an important starting point for the Stedelijk Verkeersplan Rotterdam 2030 (Urban Traffic Plan Rotterdam 2030). It describes how Rotterdam is working towards a better balance between motorists, cyclists, pedestrians and public transport users in a densifying city. The focus on a coherent development of public transport and urbanization near public transport is a regional challenge as well. The Meerjarenprogramma Infrastructuur, Ruimte en Transport (MIRT, Long-range Programme Infrastructure, Space and Transport), which investigates the accessibility of Rotterdam and The Hague, has laid the foundation for agreements at the regional level.

INCLUSIVENESS

The exploratory report Ruimte voor een Stad in Balans (Room for a City in Balance) mapped knowledge about participation

and encounter in the Rotterdam neighbourhoods and identified prospects for action in the physical domain that can contribute to participating and encounter.

DIGITIZATION

Digitization is an inevitable development. In recent years, the municipality's active commitment to digitization has increasingly been used as an opportunity to achieve urban ambitions. Consider how digital mobility services and traffic information systems are increasingly conditions for an accessible and attractively densified city – with fewer cars in the public space – and how crucial digitization is to the energy transition, for example to the development of smart grids that cleverly match the supply and demand of electricity. Digitization goes hand in hand with the modernization of the municipal organization. In addition to better and more efficient services, this also involves enabling self-organization in the city, allowing the people of Rotterdam to work towards the better functioning of their city.

Productive Rotterdam

WORKING-CLASS CITY

Rotterdam has a reputation of being a working-class city. However, the ratio of the proportions of lower, middle and highly educated people in the city is changing drastically and now more in line with that of other large Dutch cities. The percentage of highly educated people in Rotterdam is rising rapidly, even faster than the Dutch average, and that of lower educated people is therefore decreasing. In 2013 approximately 38 per cent of the working population held a HBO (professional) or WO (academic) Master's degree. In addition to manual labourers, Rotterdam houses more and more brain

workers. The Cambridge Innovation Centre listed the number of highly educated people in and close to Rotterdam as one of the qualities that led it to select Rotterdam as the seat of its first European branch. Of students living in Rotterdam, 42 per cent follow an MBO (vocational) course, 32 per cent follow a HBO course and 26 per cent follow a WO course. Compared with the rest of Zuid-Holland and the Netherlands, the percentage of students enrolled in a scientific study programme has risen rapidly and is high, whereas the number of MBO students is decreasing. Rotterdam is thus following the same path as other major cities and perpetuating the trend that the city is (quickly) making up its educational arrears.

Besides the changing education level of the working population, the labour market shows another important trend. The number of employees on permanent contracts has been declining for years. There are growing numbers of self-employed and flex workers (temporary contracts). These groups are very different. Approximately 16 per cent of

the working population in Rotterdam is self-employed. About 12

per cent of the self-employed have no personnel, a total of 32,500 people in Rotterdam. In general (83 per cent), self-employed people indicate that they are not self-employed performers. Some 17 per cent are looking for permanent employment. Approximately 22 per cent of the active working population in Rotterdam has a flexible employment contract; this amounts to 59,600 people. In the 2007 to 2011 period, the circulation of flex workers into permanent employment was lower in Rotterdam than in the rest of the Netherlands. In Rotterdam,

a larger percentage of people were out of work compared to the other large cities and the rest of the Netherlands. About half the flex workers have been looking for permanent employment.

The changes in the working population and labour market come with a different use of

the city and therefore change demand. The supply of jobs as well as the supply of housing and facilities will have to be adapted to the changing urban population. Opportunities lie in bringing together education, research and business activities as is being done in the so-called Innovation Dock (RDM Heijplaat). Providing space for successful companies to grow is also an important factor in facilitating companies that bring jobs for highly and lower educated people.

LIVE-WORK CITY

The image of Rotterdam is that of a working city. For a long time, outsiders did not associate the city with attractive living. Rotterdam was an 'escalator city': a city in which you stepped on the foot of the escalator and, in the family-forming stage, stepped off again to move to one of the surrounding regional municipalities. But times are changing,

and changing fast. Increasing numbers of people are moving to Rotterdam, investments are visible across the city and the price-quality ratio of housing is particularly favourable and this makes Rotterdam an increasingly popular place to live. Various housing projects face numbers of interested parties that exceed the number of dwellings to be realized many times over. In short, Rotterdam is on the way up.

This is confirmed by the growing satisfaction among people who live in Rotterdam. The city's perceived family-friendliness has increased by 14 per cent in just four years. In the same period, the number of positive opinions on the city's greenery rose by 10 per cent. Almost three quarters of the people who live in Rotterdam are proud of their city, a 10 per cent increase in two years, and only 12 per cent would rather live elsewhere. No less than 86 per cent of people are happy with their current housing situation.

This increased popularity and rising enjoyment of residence means that the city will continue to grow in the coming years. The population is expected to increase by another 50,000 people by 2030. Rotterdam will then house about 694,000 people. It is striking that more and more highly educated people are living in the city, although there are not enough jobs for them. These are people that work elsewhere and deliberately choose Rotterdam as their place of residence.

The changing composition of the population (more highly educated people, more brain workers and more people without a permanent employment contract) also brings new challenges to the city. A much larger and more varied group of people is looking for a private sector rental property. Especially in the € 700 to €1,000 per month segment, there is a latent need. Demand is increasing in the middle and upper market segments and

in the owner-occupier and rental sectors. Due to the variety in the group of middle and higher incomes and highly educated people, there is a need for different forms of housing. These include student housing, large studios, child-friendly apartments, dwellings for the

elderly that facilitate health care and single-family dwellings.

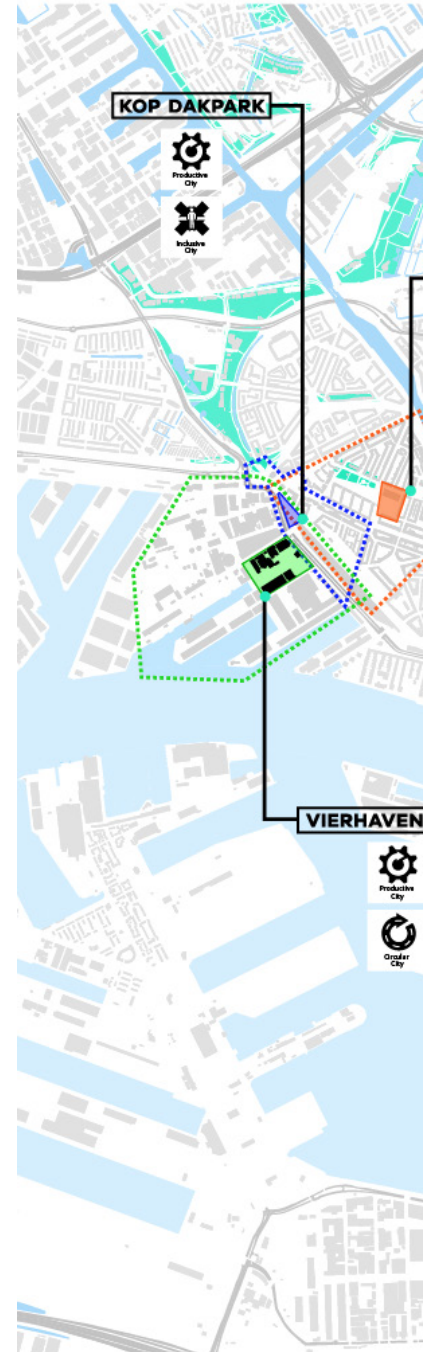
THE NEXT ECONOMY

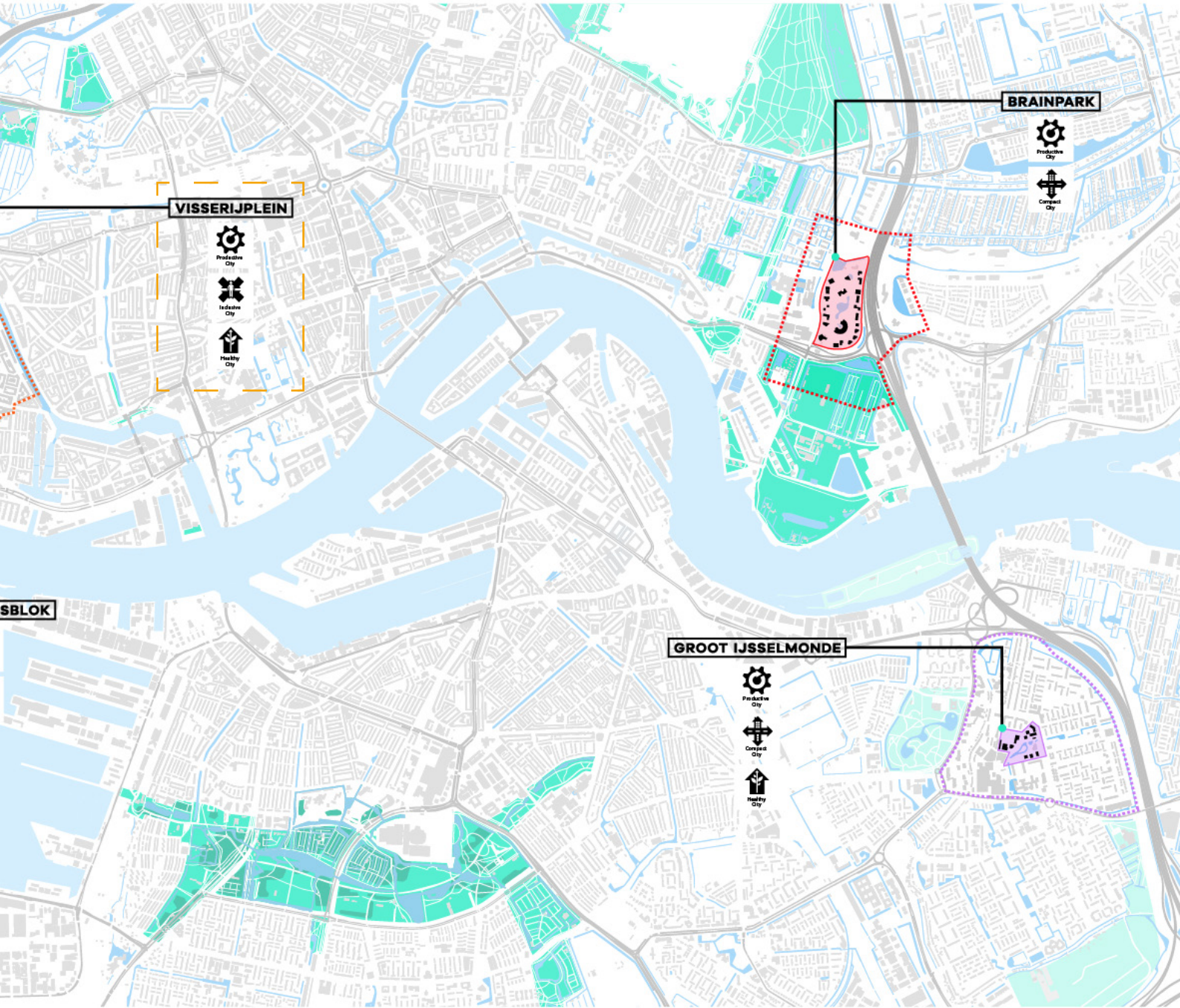
The Next Economy implies a renewal of economic sectors that are already anchored in the Rotterdam region. In many respects, the removal of borders is an important characteristic. Boundaries are blurred between living, working and recreation; people can work anywhere and at any time. Crossovers between economic sectors and economic clusters defy classic sector divisions. Internationally operating companies and local companies stand side by side and mutually influence one another, creating local buzz and global pipelines. The difference between the production sector and the service sector becomes less apparent; navigation technology specialist TomTom not only provides a product, but also sells services for the proper use of that product. Alternative forms of public and private investment, sharing and collaboration, such as cooperatives and collectives, also arise.

These developments lead to the removal of spatial borders as well. Residential areas

will also become work areas and work areas will also become residential areas. The

Next Economy creates a paradox: digitization makes many activities more footloose, independent of a specific place, but at the same time places where people can meet each other in person become more important. There is a high demand for spaces in which encounter takes place in a comfortable, spontaneous and relaxed way, for so-called interaction environments.





VISSERIJPLEIN



Productive City



Innovative City



Healthy City

BRAINPARK



Productive City



Compact City

SBLOK

GROOT IJSELMONDE



Productive City



Compact City



Healthy City

INTRODUCTION OF **BOTU 2028**

“A coalition of parties has emerged in BoTu commitment to the area. The municipality believes in the power of BoTu and they have the ambition to make BoTu the first resilient neighbourhood of Rotterdam.”

The **CITY OF ROTTERDAM** seeks opportunities in the combination of accommodating its growth and creating a more inclusive and healthy city. To lift the socioeconomic status of vulnerable neighbourhoods, like Bospolder and Tussendijken, it focuses on improving the perspective of vulnerable residents in the area. To this end, *it aims to remove barriers so that everyone can participate more easily in social and societal processes, with equal opportunities in education, work, culture and sports.* Upgrading and diversifying the housing stock, and improving educational infrastructures are important basic strategies. In addition, strategic urban interventions – new developments on a relatively small scale and a more attractive public space – are used to embed mixed programmes and facilities in the heart of these neighbourhoods, empowering residents of all ages on multiple levels and building a just and equitable city.

The neighbourhoods of **BOSPOLDER AND TUSSENDIJKEN** have a common interest in an area of approximately one square kilometre.

Together they count around 7,000 households with more than 14,000 residents. Both neighbourhoods have a high one population density and there is a lot of diversity among residents. About 80 percent of the population is "new Dutchman" and nearly 70 percent have a non-Western background. In addition, the composition of the population is relatively young. There are more 0 to 14-year-olds than the Rotterdam average, while the percentage elderly (65+) is lower.

Many households in BoTu have serious debts and the average unemployment rate is high. Almost three-quarter of households fall into the "low" category income¹. On the list of 20 poorest postcode areas of the Netherlands, Tussendijken and Bospolder are the 2nd and 5th place. Although more and more highly educated people come to live on the edges of the neighborhood, the residential neighbourhoods remain very vulnerable on the inside. More than 60 percent of the housing stock consists of social rental housing in the lowest segment. These homes are often outdated and struggling with overdue maintenance.

FOCUS ON SUSTAINABILITY AND RESILIENCE
(SOCIAL AND CLIMATE)

- Co-creation
- Climate adaptation
- Energy transition
- Environmental pollution
- Housing in development
- Potential new housing

ATTRACTING PRIVILEGED FAMILIES

- Green ring
- Transformation to housing
- Possible other learning environments
- Privileged families in the city
- Greening
- Housing
- Primary / secondary school

REDEVELOPMENT M4H INTO AN INNOVATIVE
MAKERS DISTRICT AND HOUSING LOCATION

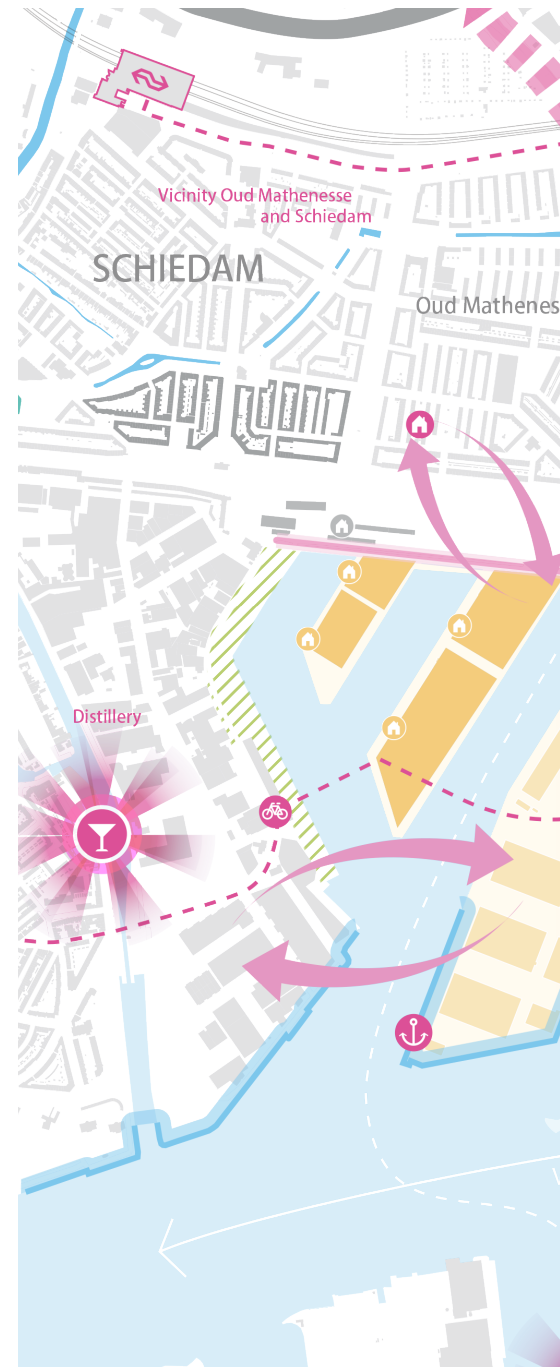
- Port activities
- Innovative companies

IMPROVING CONNECTIONS
(PROGRAMME AND INFRASTRUCTURE)

- Programmatic link
- Urban street / facilities strip
- Focus on housing
(transformation of urban street)
- Focus on health care
(transformation of urban street)
- Focus on retail
(transformation of urban street)
- Connections
- Slow traffic connection
- Third city bridge
- Optional cruise terminal
- Water bus stop

DEVELOPMENT WATER-RELATED DISTRICTS
(DELFSHAVEN, LLOYDKWARTIER,
COOLHAVENEILAND)

- Waterfront development
(City in Delta, Living along the River)
- Urban density





VISSERIJPLEIN

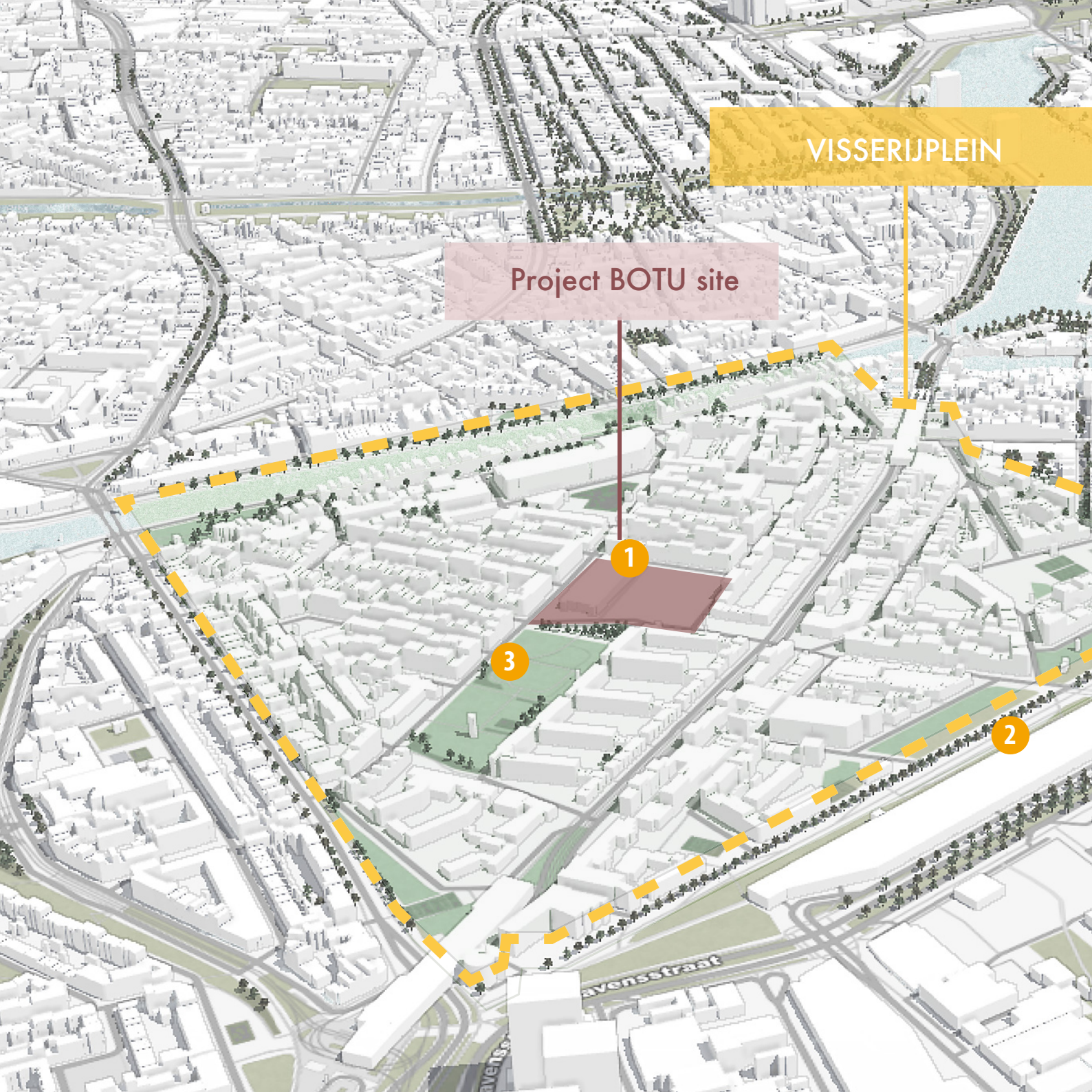
Project BOTU site

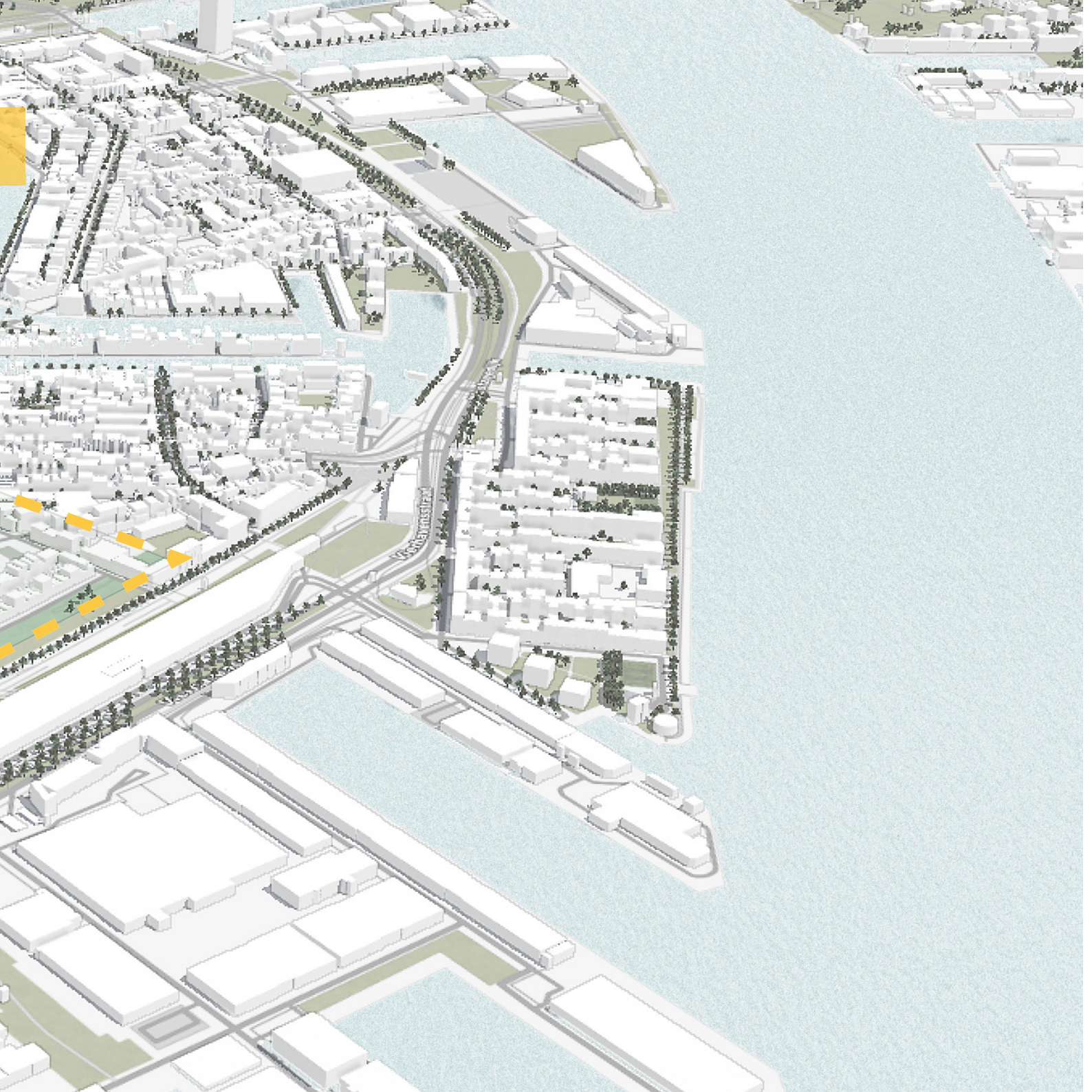
1

3

2

Venensstraat





COMMON SPACES IN VISSERIJPLEIN AREA

1



Twice a week the square is the setting of a 2 busy market. On the other days of the week, it is a large underused open space.

2



The 'Dakpark' on the border of neighbourhood Bospolder (on the right), one of the largest rooftop parks in Europe, which is a visible improvement on the quality of living and creates a meeting place for various groups of people.

3



A group of residents from the neighbourhood united in the Park Council in 1943. The council meets every last Monday of the month and discusses which action points are needed to make the park even better and more lively.

Site informations

Project Site: 2.2 ha

Scale: S

Owner(s) of the Site: mix of public and private ownership

Site Family: implanting productive milieus

Location: Rotterdam, **Bospolder Tussendijken, VISSERIJPLEIN**

Population 644,000 inhabitants (Rotterdam)

Strategic Site: 61.5 ha



VISSERIJPLEIN x PRODUCTIVE CITY

Rotterdam strives for socioeconomic mixed neighbourhoods with possibilities for people to advance their living circumstances in the neighbourhood. Social resilience of citizens is a priority, to be sufficiently self-reliant and prepared for future developments. Citizens are invited and challenged to grow personally and to develop skills that suit the new economy. To this end, the accessibility of learning environments in the broad sense is crucial for the empowerment of vulnerable citizens and the future career opportunities of children. Improving the resilience of residents in vulnerable urban neighbourhoods, like Bospolder Tussendijken (BoTu), requires a local network of places with a mix of functions to meet, learn, make, play and work. Transforming natural meeting places, like the Visserijplein in the heart of BoTu, into such a multifunctional 'hub' ensures that these new interaction milieus are deeply rooted in the daily life of residents.



VISSERIJPLEIN x INCLUSIVE CITY

The design of the public space plays a crucial role in creating encounters between different population groups. That is why Rotterdam commits to high-quality places for encounter, living, sports and culture. Proximity of facilities at walking distance with safe walking routes enables every resident to participate. The Visserijplein has a lot of potential for the neighbourhood and its residents by adding construction and tackling the outside space. Situated in the heart of the neighbourhood, this place should contribute to facilitating and emancipating the residents. The stimulation of encounters, offering space to diverse target groups, housing various functions of the neighbourhood and providing a space for entrepreneurs is central in the search for a new combination of programmes in this location.



VISSERIJPLEIN x HEALTHY CITY

Going outside and getting enough exercise is essential to good health. The proximity of greenery, sports and health care in the immediate surroundings is important and should invite residents to exercise (more). The Dakpark is a good example of this, but the intention is to create a bigger and more diverse supply of high-quality play and sports locations in BoTu. Among other things, to accommodate the changing sports needs of the youth: think of urban sports – BMX, freerunning, skating and skateboarding – where the city itself becomes a playground. At the Visserijplein, a logical connection can be made between this challenge and the demand for space for new gymnasium facilities of the nearby schools.

Competition Assignment

The challenge is to design a **MULTIFUNCTIONAL BUILDING BLOCK** in the heart of a multicultural, vulnerable neighbourhood, incorporating (part of) the local market and providing space to new forms of living, meeting, learning, making, playing and working – by analogy of new concepts like the Library of the Future. The aim is to give the area a socioeconomic boost. A combination of housing, public and cultural programmes, space for local businesses and a place where young people can grow their talents is desired at this central location.



The design teams are asked to conceptualize and redesign the Visserijplein public space and the mixed-use community centre Pier 80. Conditions are:

- A new **multifunctional live-work complex** is introduced in which the synergy between the diverse programmes is maximized.
- The redevelopment of the public space around this new multifunctional complex is an actual part of this brief.
- The public square primarily has the role of a meeting place for the diverse groups that live in BoTu and the size of the square is justified by the chosen architectural solution.
- The current functions, meaning the Pier 80 programme and the local market, are preserved but the format is free.
- An innovative sports and exercise concept is introduced, focused on living, encounter, play and exercise inside as well as outside and suitable for schools and diverse after-school activities.
- Innovative types of entrepreneurship and accessible learn and workplaces are introduced (for example, like in the Bouwkeet and similar maker spaces).
- BoTu is designated as an experimental neighbourhood for the energy transition. The Visserijplein should reflect this and involve the local community in this transformation to a **sustainable environment** (for example, by making it tangible with prototypes).

- New innovative housing typologies are introduced.
- A continuous dynamic is guaranteed, given the temporal aspect of certain types of use, among which the market and the schools.



THE PROJECT SITE DESCRIPTION

The project site is located in the heart of **BOTU**.

The site is bordered on three sides by archetypal serially produced housing blocks (partly after the Second World War) and on one side by Park 1943. Twice a week the square is the setting of a busy market. On the other days of the week, it is a large underused open space.

Pier 80, a multifunctional community centre, is located on one end of the square. It includes a library, sports facilities, and (co-)work and meeting spaces.

The current programme of Pier 80 already attracts many residents, but should be more progressive. It can be a place that connects population groups and gives the neighbourhood a socioeconomic boost with a suitable programme. Especially youths who grow up in BoTu, often in poverty, are confronted with disadvantages in various fields.

A renewed multifunctional neighbourhood centre could be an important and safe starting point for them.

ROTTERDAM RESILIENCE STRATEGY

SEVEN QUALITIES OF RESILIENCE



REFLECTIVE

using past experience to inform future decisions



RESOURCEFUL

recognizing alternative ways to use resources



ROBUST

well – conceived, constructed, and managed systems



REDUNDANT

spare capacity purposely created to accommodate disruption



FLEXIBLE

willingness and ability to adopt alternative strategies in response to changing circumstances



INCLUSIVE

prioritize broad consultation to create a sense of shared ownership in decision making



INTEGRATED

bring together a range of distinct systems and institutions





BOSPOLDER TUSSENDIJKEN/PARK 1943



The implementation Plan for the development of Park 1943 area seeks to act as a catalyst for strengthening the resilience of Bospolder/Tussendijken. Opportunity mapping and stakeholder analysis carried out for the area will enable the development to mobilize ideas of residents, boost health and encourage exercise, to better use open space and to create a water asset. Connection with development possibilities are given for Great Visserijplein and surrounding residential buildings such as green roofs and better use of the gardens.

RESILIENCE VALUE

- Embeds resilience thinking in the development of Bospolder/-Tussendijken
- Supports knowledge sharing and networking
- Supports holistic approaches to redevelopment targeted at improving the lives of the residents and users.

LENS	
SCALE	
OWNER	Delfshaven Cooperative
PARTNERS	Municipality, District Committees, Havensteder, Citizens
FINANCE (POSSIBLE)	Municipality
STATUS	New
RESULT	Short-term / Medium-term



6 CHALLENGES IN BOTU

UPGRADING LIVING CONDITIONS

In the past decade, Rotterdam has committed itself to developing a strong economy and becoming an attractive place to live. The approach on the north bank was mainly based on better utilizing and expanding on existing qualities. However, there are also a few neighbourhoods on the north bank that are at a disadvantage on a social, physical and economical level. In these ‘vulnerable’ neighbourhoods like Bospolder and Tussendijken, the focus is on restructuring and reorganizing the existing housing stock, so that growth within these neighbourhoods results in an inclusive living environment. Investing in the existing housing stock to improve on quality of life for the current residents and to widen the variation within the existing stock is a requirement for these kinds of neighbourhoods.



Housing complex Le Medi in BoTu, inspired by architecture of countries around the Mediterranean Sea, design by Geurst & Schulze, Korteknie en Stuhlmacher

A diversified housing stock means a better balance between the underprivileged and the privileged, increasing the social and economic resilience of the area. The locations that become available for development are to contribute to the part of the housing supply that is currently insufficient, or to create some leeway to be able to deal with other parts of the neighbourhood that are not scheduled yet. Bospolder and Tussendijken have been thoroughly renewed and are places where people of Rotterdam of various lifestyles live side by side. An example is the housing complex Le Medi (founded in 2008): a unique design that symbolizes integration of residents and lifestyles.

SOCIOECONOMIC CHALLENGES

Nevertheless, because it is dealing with serious issues, BoTu is not associated with attractive living. The neighbourhoods deal with great challenges in the realm of safety, working and living. The socioeconomic problems in BoTu are complex: prolonged dependence on social security, health concerns, financial problems, loneliness among the elderly and disturbances by street youths. A large part of the population has no access to the labour market. The ratio of the amount of jobs and the population is 13 to 100. This is one third of the city's. This ratio can be seen in the income data. Almost three quarters of the households are in the 'low-income' category. Aside from the Schiedamseweg, the shopping strip on the south side of Tussendijken with a few successful entrepreneurs and a lot of one-man shops, the local employment rate in the

neighbourhood is low.





There is also little variation in housing supply. Of over 3,000 houses, about 75 per cent is social housing. About 70 per cent of the residences are tenement buildings or apartment buildings without elevators in the low-rent sector. The current residents have, contrary

to some other areas in the city, a strong connection to the neighbourhood. There are, however, few possibilities for various target groups to find a suitable residence or advance their living circumstances. This is why many residents, when their income improves, move to a better house outside of the neighbourhood. In short, the neighbourhoods score well below the Rotterdam average. The situation has improved in the past years but the neighbourhood still scores half the Rotterdam average in the social index (general experience of quality of life), safety index as well as the physical index (satisfaction in living environment). The neighbourhoods therefore unabatedly demand attention.



Objectives BoTu (social index)





CAPACITIES

-  Less complex debt problems
-  Less low literacy
-  More healthy residents
-  Improved accessibility of health care

PARTICIPATE

-  More people at work
-  Increased participation of youth in society
-  Less lonely people
-  Improving the socio-economic status of youth

LIVING ENVIRONMENT

-  Diversification of housing types
-  More sustainable houses
-  Improved accessibility of public space
-  More water-adaptive outdoor space

RELATIONS

-  Strengthening social structures



3. INCREASE COOPERATION AND SOCIAL RELATIONS IN THE NEIGHBOURHOOD

-  Important social services
-  Other social property
-  Community centre
-  Centre for Youth and Families (CJG)
-  Question guide
-  Opportunity for social services
-  General practitioner
-  Church
-  Mosque

4. ENERGY TRANSITION AS SOCIO-ECONOMIC IMPULS

-  Greening and improving outdoor space
-  Energy transition
-  Climate adaptation
-  Focus: compact shopping area
-  Decrease in retail facilities
-  Current heat network

BUILDING BLOCKS







-  Existing building blocks
-  Recently built (after 2005)

Other

-  Ideas
-  Location with energy
-  Better connection

Challenges/opportunities

1. RESILIENT SCHOOLS AND SQUARES

-  School
-  New school location or upgrade
-  School shuffle
-  Improving the quality of education
-  Existing gymnasium
-  Possible location for new gymnasium building

2. INTEGRAL APPROACH OF AREAS

-  Cooperative area development
-  Renovation projects
-  Renovation
-  Market

MAAS- AND SCHIEZONE

-  Programme Riverbanks
-  Recreational route
-  Ferry connection possible

NEW BUILDING PLANS

-  Study- / search area
-  Planning
-  Recently built
-  Housing

Socioeconomic ambitions for neighbourhoods Bospolder and Tussendijken

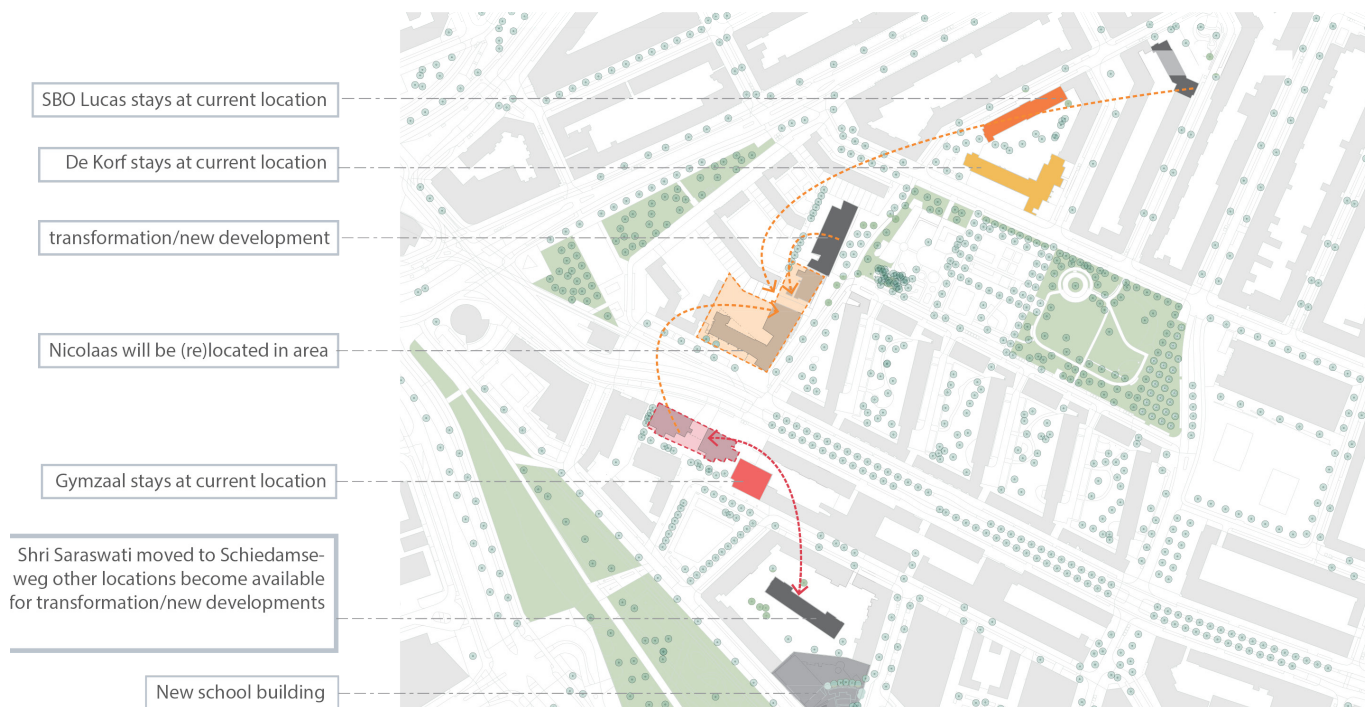
Source: Gemeentearchief



URBAN NEIGHBOURHOODS OF DIVERSITY

There is an enormous diversity and dynamic among the residents, entrepreneurs and organizations in BoTu. That is the strength of the neighbourhoods and also what makes them unique. BoTu has a high population density of over 14,000 residents and is viewed as a people's neighbourhood with a relaxed and friendly atmosphere where its multicultural character is not up for discussion. About 80 per cent of the population consists of so-called 'new' Dutch people and almost 70 per cent is of a non-western background. BoTu is a society of various communities that contain strong networks. BoTu has relatively a lot of senior housing but is also home to many children: about a fifth of the population is younger than 15.

The neighbourhood also has a lot of spatial potential: special places with culturally and historically valuable buildings, strong edges and a lot of developments in the vicinity that can give the neighbourhood a positive boost. The neighbourhood has a lot of stone and is densely populated, but Park 1943 and the recently constructed Dakpark make a welcome green addition. BoTu basically has it all: it is positioned close to the city centre, it has good connections by car with the Ring Rotterdam and excellent public transport connections with the rest of the city, it contains a great amount of schools and facilities and the Makers District in development (Merwe-Vierhavens) and historical Delfshaven around the corner.



IMPROVING EDUCATIONAL INFRASTRUCTURES

Rotterdam strives for schools that offer good-quality education, focused on language development and tailored support. The way schools are housed is an important contributing

factor. The municipality has therefore drawn up the Integraal Huisvestingsplan 2015-2019 (Comprehensive Housing Strategy 2015-2019) in coordination with the various school boards. In the framework of this housing strategy, an inventory has been taken of the various schools in the city. It focused on the spatial needs of the various schools (overcapacity or a shortage of space) as well as the quality of the school buildings themselves. The Nicolaasschool in Tussendijken is one of the schools that are being dealt with in the scope of this strategy. The goal is to turn the four different locations that are spread out over the neighbourhood into a single school cluster at Park 1943 that will meet the current quality standards.



URBAN NEIGHBOURHOODS OF DIVERSITY

Development towards the new economy, which is increasingly focused on 'white-collar labourers', threatens to increase the disadvantages of the residents in neighbourhoods like Bospolder and Tussendijken. The large percentage of social housing in these kinds of neighbourhoods house citizens of Rotterdam of which many are unemployed, have a low income and little education and whose lifestyle can be labelled as unhealthy.

To prevent this, Rotterdam focuses on an inclusive city where the prospects of these vulnerable groups are improved upon. An inclusive city enables everyone to participate. To this end, it aims to remove barriers so that everyone can participate more easily in social and societal processes, with equal opportunities

in education, work, culture and sports. This means that the spatial developments in these neighbourhoods are used to create this inclusive and healthy city. A good example is the 'Dakpark' – bordering on the neighbourhood of Bospolder, initiated and still managed and programmed by local residents – which is a visible improvement on the quality of living and creates a meeting place for various groups of people.

FACILITIES AS A BASIS FOR AN INCLUSIVE NEIGHBOURHOOD

BoTu has a great range of shopping facilities (among which the well-known Schiedamseweg and the market twice a week on the Visserijplein), schools and social facilities and proximity to urban facilities. An important positive aspect of the neighbourhood is that the urban subway system runs underground through the neighbourhood (under the Schiedamseweg), providing a good connection with the city and the greater area. This proximity and with it the accessibility of facilities is an important core asset in the pursuit of an inclusive neighbourhood. However, there is an actual problem concerning the quality and diversity in the supply of facilities. A specific occasion for this is the improvement of sports facilities for schools and after-school activities. Schools are the anchor point in BoTu. In Tussendijken there are a lot of primary schools spread throughout the neighbourhood. To better facilitate these schools, and with them the students, the schools need to be clustered.

Facilities like outside playing spaces and gymnasiums can subsequently be shared. Plus a number of existing gymnasiums in the area, also used for after-school activities, no longer meet the current standards. Creating new gymnasiums that do is not possible in the current locations due to the limited size of the locations combined with the increased space demand. An innovative design at a new location offers a chance to strengthen the heart of BoTu.

Creative and social entrepreneurs create a new dynamic. This also offers strong starting points for the emancipation of local residents. The challenge is to make sure these new forms of working and entrepreneurship contribute structurally to the prospects of the current residents. In various locations in BoTu and outside, entrepreneur skills are cultivated in a cooperative setting. One example is the Bouwkeet, a makerspace in BoTu. Every local resident, mostly children but adults too, can (learn to) make something here. They can develop new skills and that results in new creative entrepreneurs but also in encounters with locals.

CHARACTERISTICS



Typical architecture in the neighbourhood with small shops on the ground floor



Typical architecture in the neighbourhood



Informal architecture bordering the Visserijplein



Activities at community centre Pier 80



Activities at community centre Pier 80



Multiple activities in Park 1943, next to the Visserijplein



The Visserijplein on market days



The Visserijplein on regular days



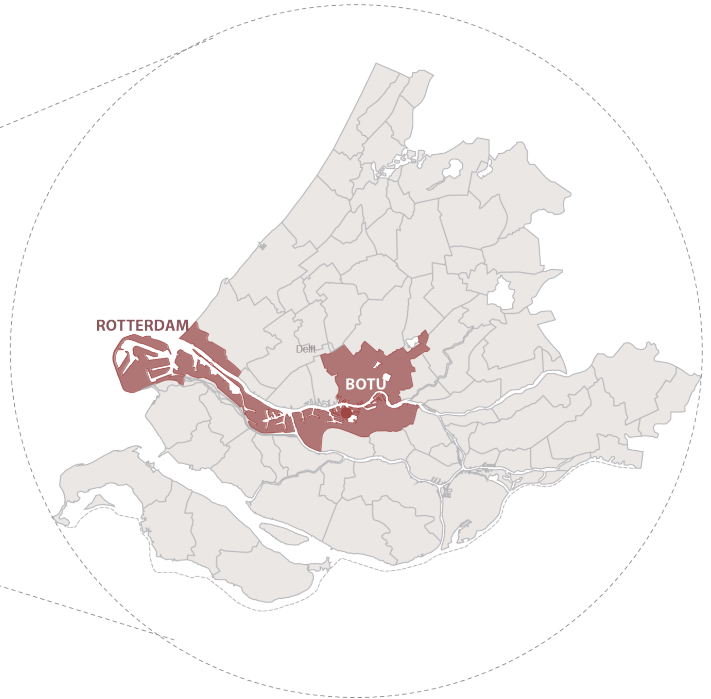
Community centre Pier 80 next to the Visserijplein



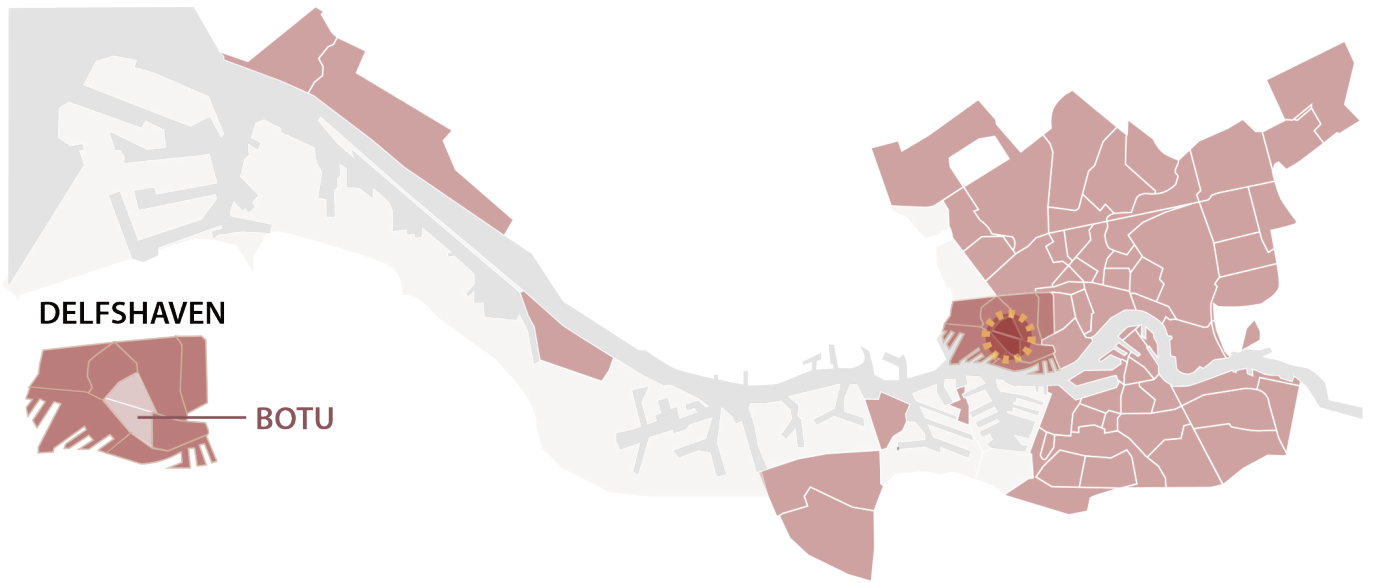
URBAN DISTRICT ANALYSIS



PROVINCE IN THE NETHERLANDS LOCATION OF SOUTH HOLLAND



MUNICIPALITIES IN SOUTH HOLLAND LOCATION OF ROTTERDAM & BOTU

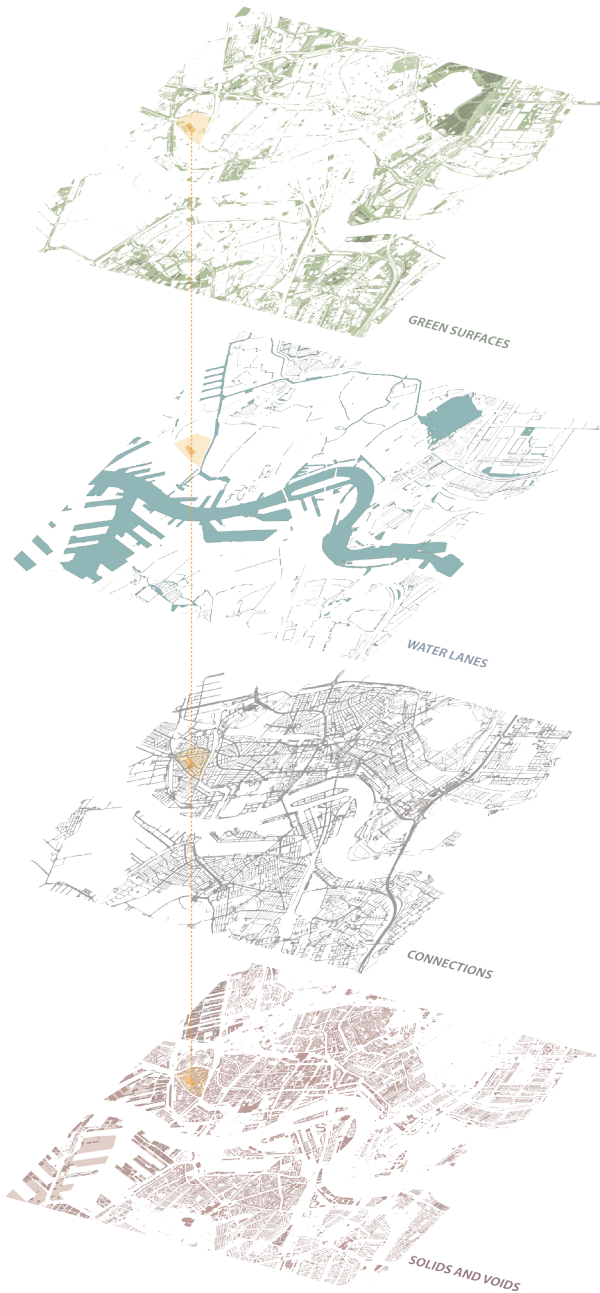


DELFSHAVEN

BOTU

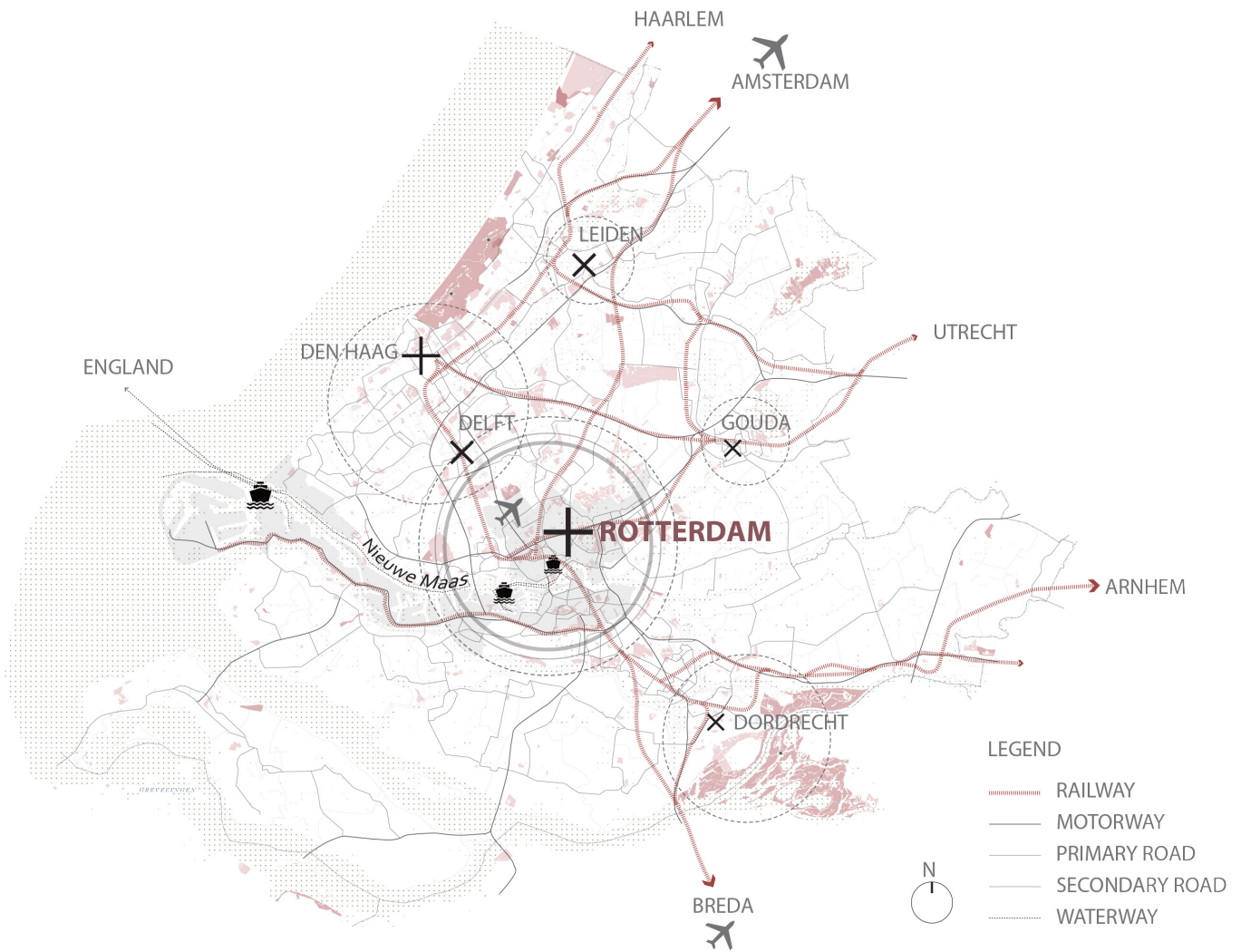
SUB DISTRICTS IN ROTTERDAM LOCATION OF PROJECT AREA BOTU

GEOGRAPHIC LAYERS OF THE CITY



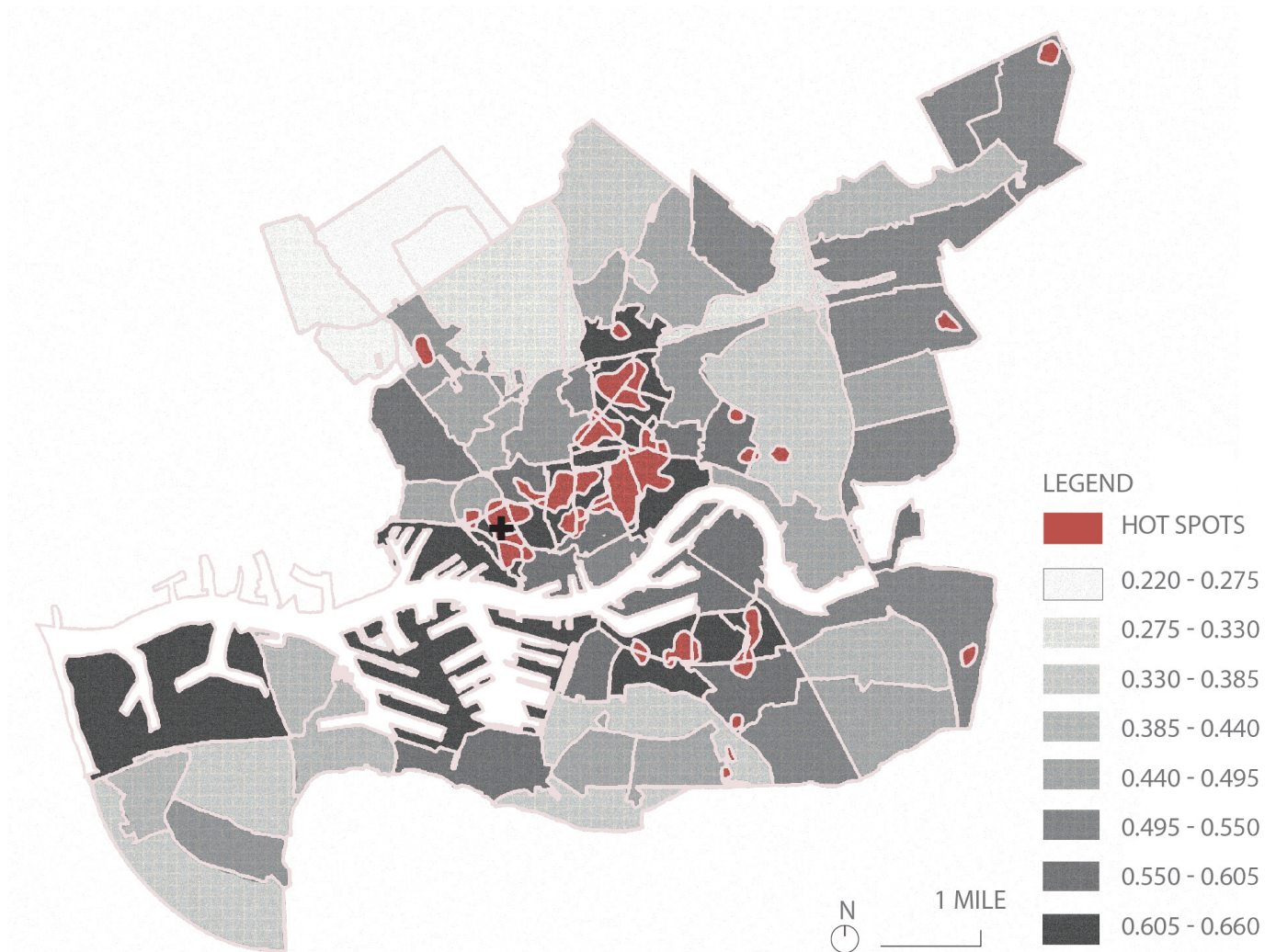
Rotterdam does not have a centre like other cities, but is rather a decentral configuration of central locations (hearths') in the form of urban quarters, ensembles or significant public buildings. Various social networks share certain communal hearths. They develop an interesting stratification due to their alternating general or exclusive character.

Rotterdam has a high flood risk, but is very well protected against flooding by the Great Maeslant Barrier, protective dikes and use of controlled flooding, including the Benthemplein water square which acts as a reservoir during heavy storms or floods.



TRANSPORT CONNECTION & INFRASTRUCTURE

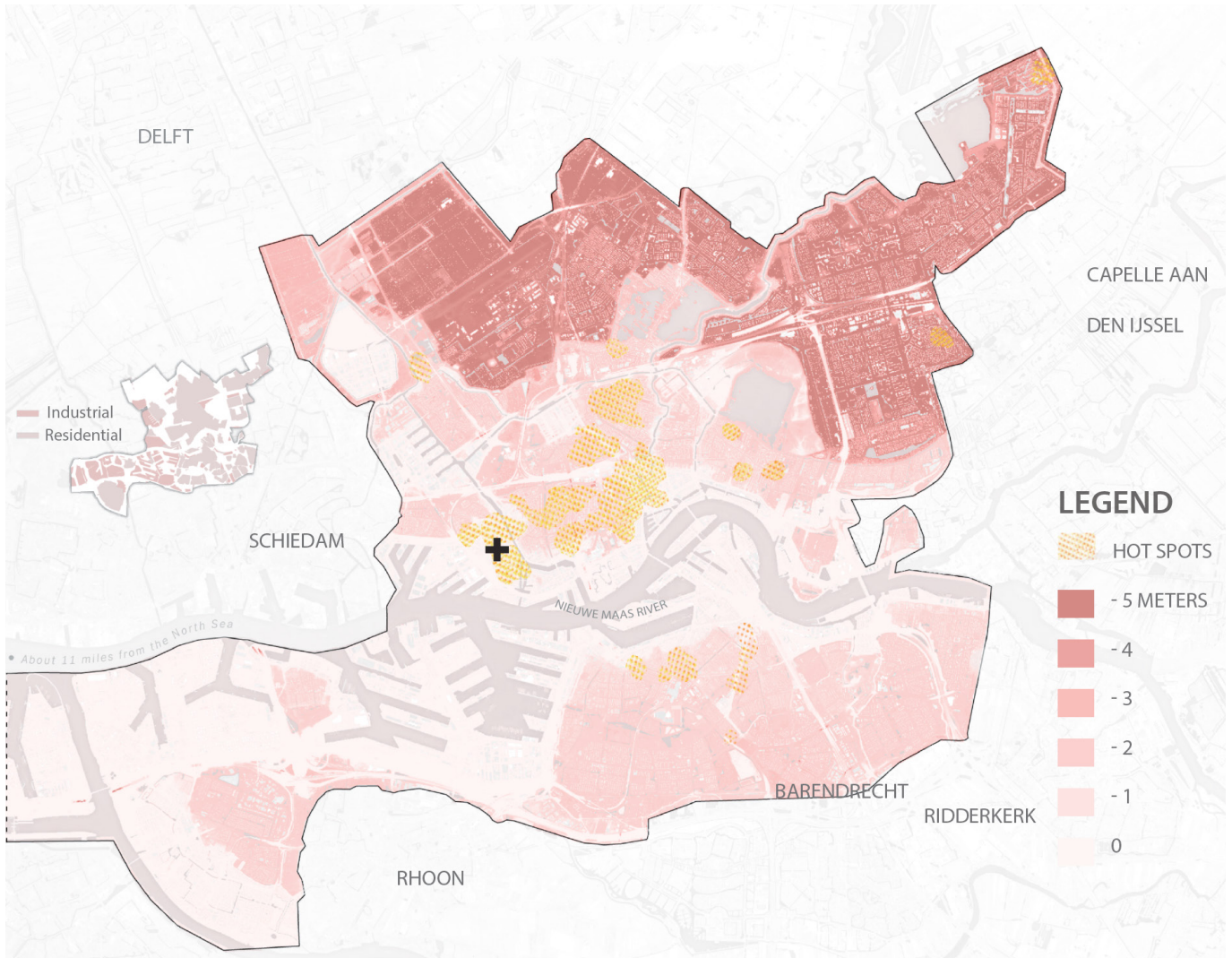
FLOODING ISSUE



MAP OF IMPERVIOUSNESS PER POSTAL CODE ZONE VERSUS HOT SPOT LOCATIONS

This map shows an overlay of the flooding hot spots (based on all record data from 2012-2016) and the map of imperviousness. It is striking to see that the biggest and most hotspots are located in the zones that have the highest class of imperviousness, which are the sub districts of Rotterdam Centrum, Noord and Delfshaven. Also a couple of hot spots are situated in the highest impervious areas of sub districts.

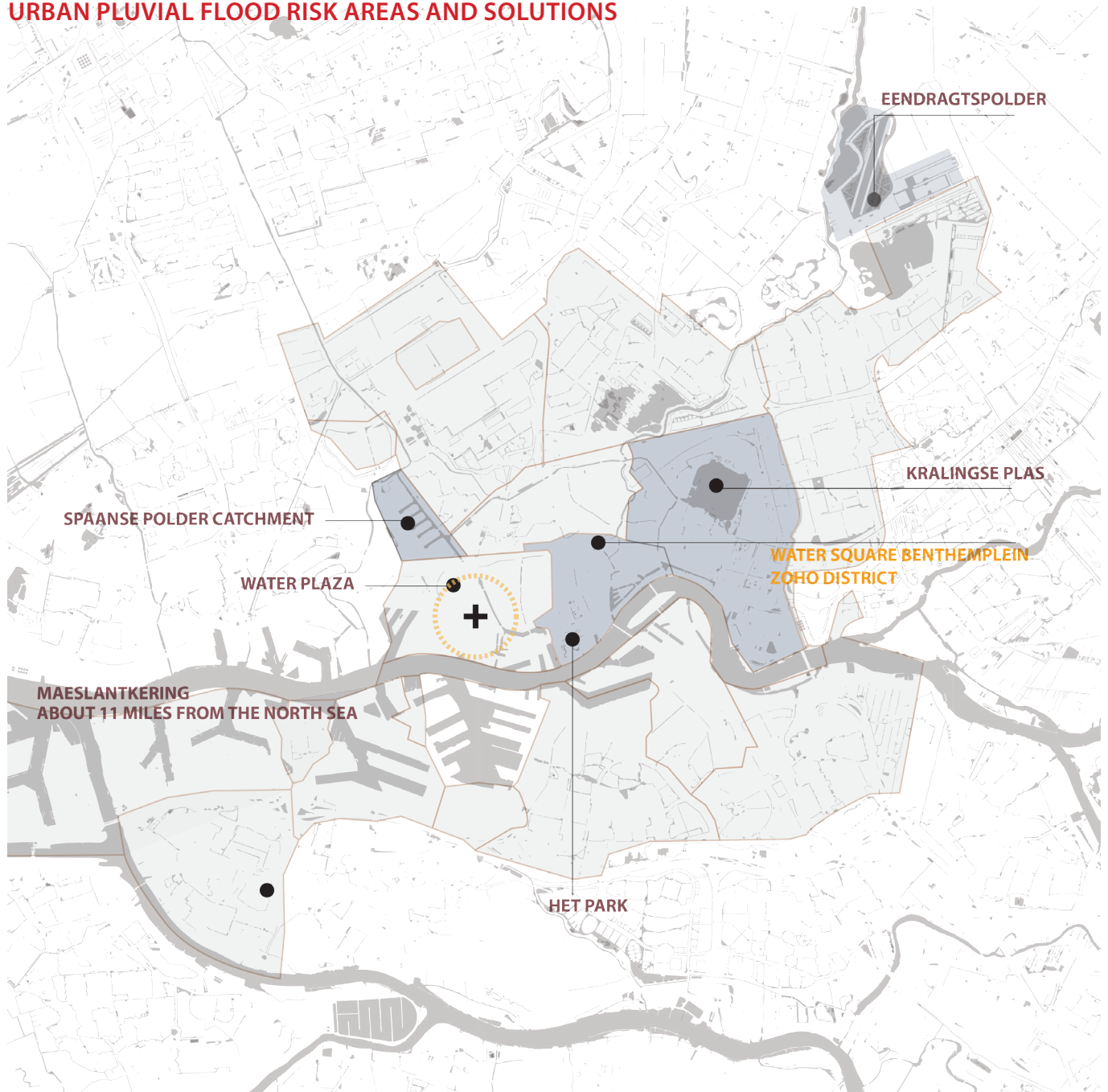
From this it can be concluded that degree of imperviousness does affect the amount of flooding incidents, as the biggest and most flooding incident hot spots are enclosed by the highest impervious zones. Our area is in the hotspot district.



AREA OF ROTTERDAM BELOW SEA LEVEL

90 PERCENT OF THE CITY OF ROTTERDAM LIES BELOW SEA LEVEL, LEAVING MANY RESIDENTIAL AREAS VULNERABLE TO A RISING OCEAN. OUR PROJECT AREA IS ALSO IN THE LOW LYING AREAS THAT CAN BE MORE FLOOD PRONE

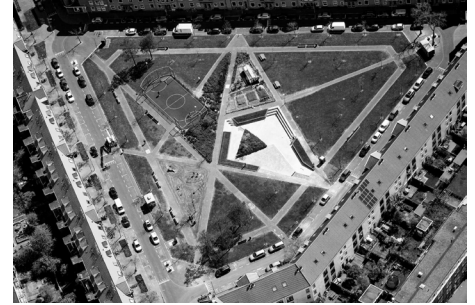
URBAN PLUVIAL FLOOD RISK AREAS AND SOLUTIONS





EENDRAGTSPOLDER

ROWING TEAMS PRACTICE AT THE EENDRAGTSPOLDER, A SITE INTENDED TO BE BOTH A PUBLIC AMENITY AND A RESERVOIR FOR FLOODWATER.



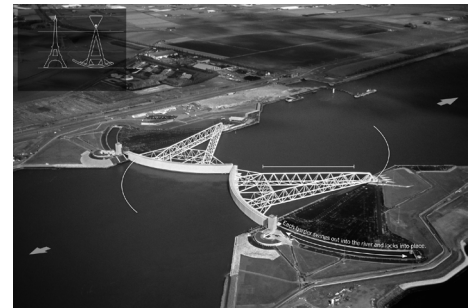
WATER PLAZA

A WATER PLAZA IN THE SPANGEN NEIGHBORHOOD OF ROTTERDAM WAS CREATED TO CAPTURE FLOODWATER.



KRALINGSE PLAZA

THE KRALINGSE PLAS IS A 100 HA LAKE ADJACENT TO THE GREEN AREA



HET PARK

UNDER THE MUSEUMPARK AN UNDERGROUND STORAGE FACILITY HAS BEEN BUILT BY ROTTERDAM CITY, TO REDUCE FLOODING RISK IN THE DISTRICT DURING HEAVY RAINFALL

MAESLANTKERING

THE MAESLANTKERING, AN IMMENSE SEA GATE CONCEIVED DECADES AGO TO PROTECT THE PORT OF ROTTERDAM.

Rotterdam Climate Change Adaptation Plan

Rotterdam Water City 2030



*The adaptive climate masterplan for the ZoHo district, Rotterdam.
Source: De Urbanisten*

THE CLIMATE PROOF ZOHO PROJECT BY THE DE URBANISTER GROUP AIMS TO DEMONSTRATE THE EFFECTIVENESS OF THE ROTTERDAM CLIMATE CHANGE ADAPTATION PLAN AT THE NEIGHBORHOOD LEVEL, TRANSFORMING THE ZOHO DISTRICT OF ROTTERDAM INTO AN URBAN LABORATORY WHERE CLIMATE ADAPTATION MEASURES ARE COMBINED WITH TRANSFORMATION ACTION OF URBAN DEVELOPMENT AND LOCAL INITIATIVES (FIG. 06). AN INNOVATIVE APPROACH WITH PARTICIPATORY DECISION-MAKING PROCESSES. THE PROJECT INVOLVES THE CREATION OF A NETWORK OF PERMEABLE PUBLIC SPACES AND GREEN AREAS THAT CAN TEMPORARILY STORE WATER DESTINED FOR UNDERGROUND INFILTRATION AND LOCAL STORAGE. THE NEIGHBORHOOD THUS BECOMES THE PLACE FOR THE DESIGN EXPERIMENTATION OF SOLUTIONS, MANY OF WHICH HAVE ALREADY BEEN CARRIED OUT, SUCH AS THE AFOREMENTIONED BENTHEMPLAIN WATERSQUARE, GREEN ROOFS ON PARKING ROOFS (THE "KATSHOEK" GARAGE), BOULEVARD WITH HIGH WATER ABSORPTION (KATSHOEK RAIN(A)WAY GARDEN) AND RAINGARDENS (ZOHO RAINGARDEN),

MORPHOLOGY ISSUE

FUNCTIONAL MAP OF BLOCKS IN ROTTERDAM





There are over 300,000 homes in Rotterdam. Of these, the Housing Corporation for Social Housing owns 40% of dwellings and 5,000 new units are expected in the next year.

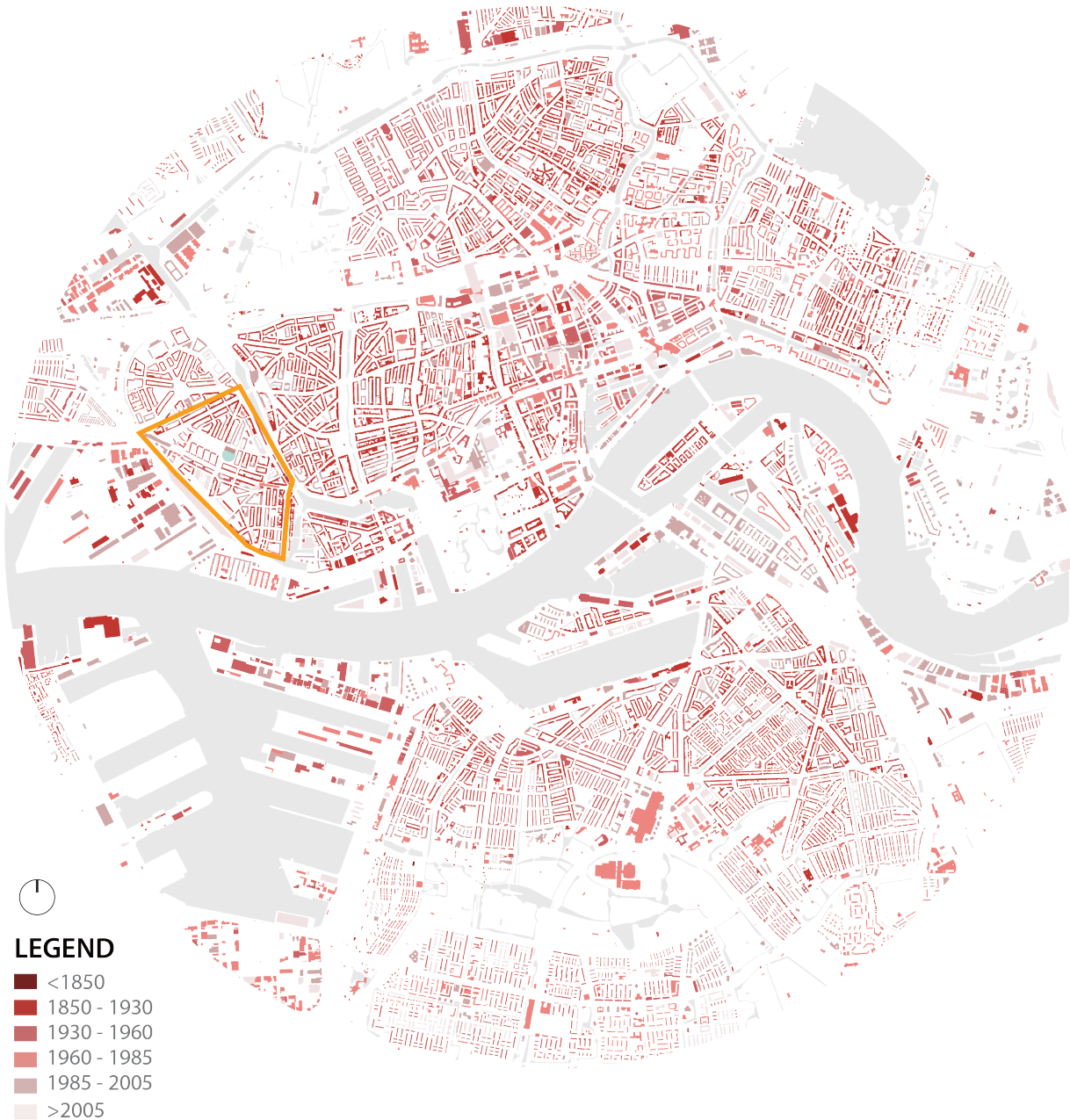
Growth markets for private housing include both single-person and family housing in city- locations, as well as non-regulated rental housing, where there is a shortage of supply.

House prices rose by 3-4% in 2014 and 2015, and residential rents increased by 5% in 2015.

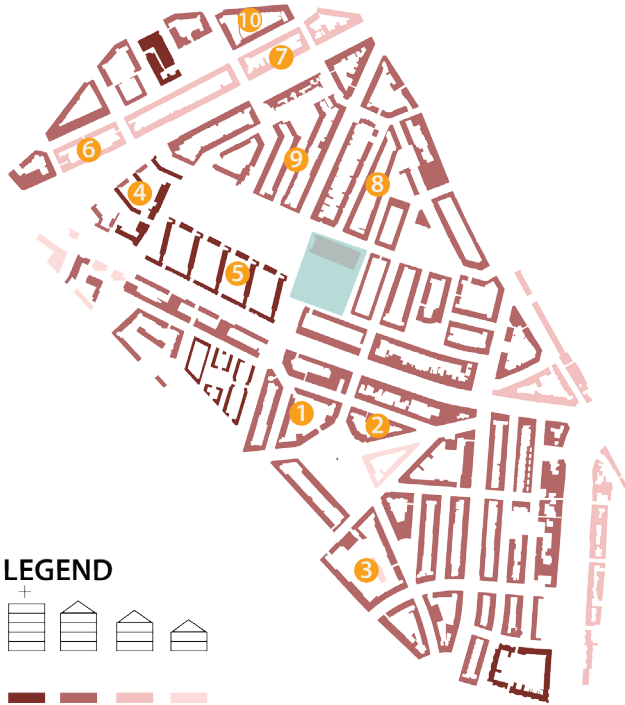
New build apartments attract a price premium of 60% in the best locations, however, compared to other cities in the Netherlands housing prices are relatively low in Rotterdam, which has stimulated demand for housing while suppressing land values.

There are over 55,000 students in Rotterdam – 8% of the total student population in the Netherlands. As a result, there is a rising demand for student housing but a shortage in supply. Landlords can expect prime yields of 5-6% on student accommodation.

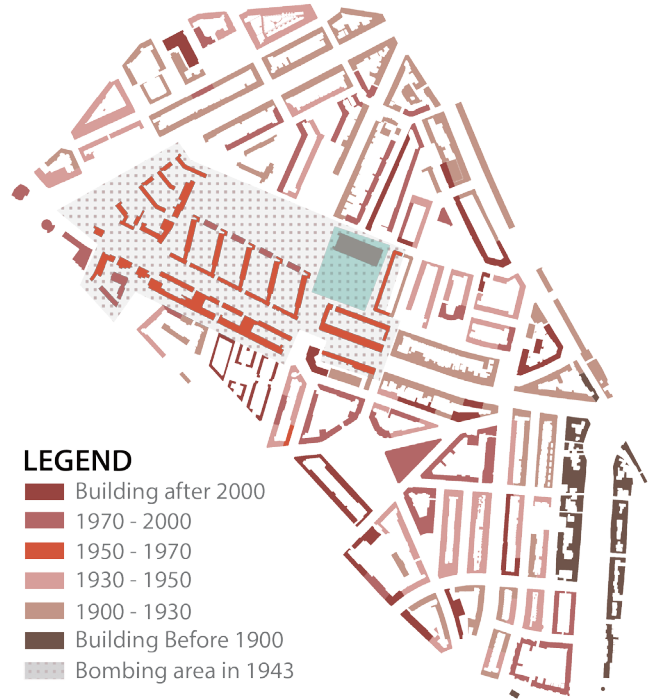
HISTORICAL MAP OF BUILDINGS IN ROTTERDAM



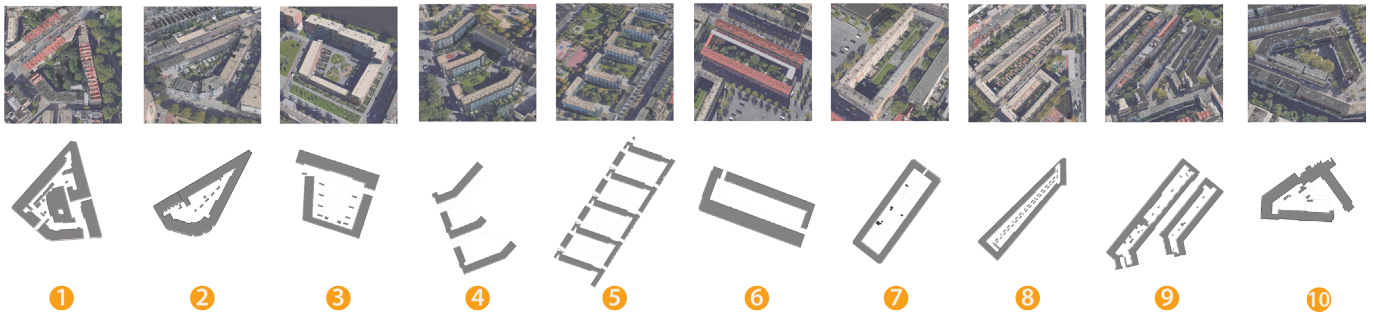
HEIGHT MAP OF BOTU



HISTORICAL MAP OF BOTU



ARCHITECTURAL TYPOLOGY STUDIES



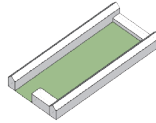
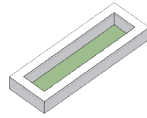
TYOLOGY OF BUILDING IN BOTU NEIGHBOURHOODS



MAIN TYPOLOGY STUDIES

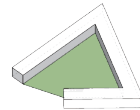
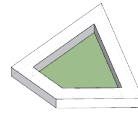
TYPE 1

LONG RECTANGULAR COURTYARD



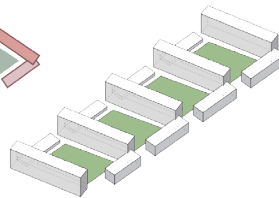
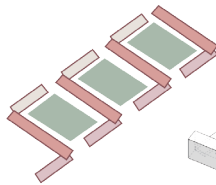
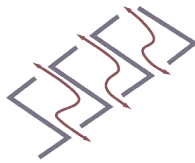
TYPE 2

CENTER SURROUND COURTYARD



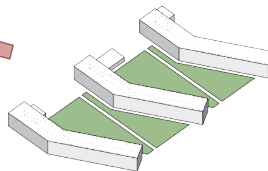
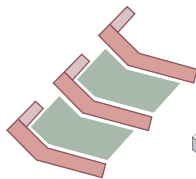
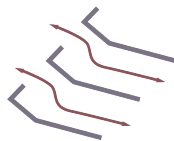
TYPE 3

WEAK CONNECTION COURTYARD



TYPE 4

SEMI-OPEN COURTYARD



BUILDING TYPOLOGY ISSUE

CASE STUDY

Case nearby the botu area

Project: Spangen Quarter Housing

Realisation: 1919

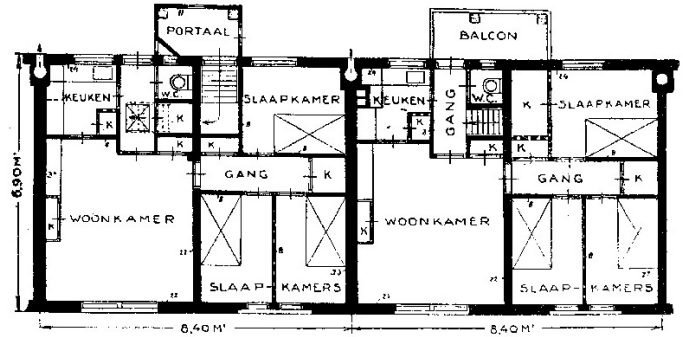
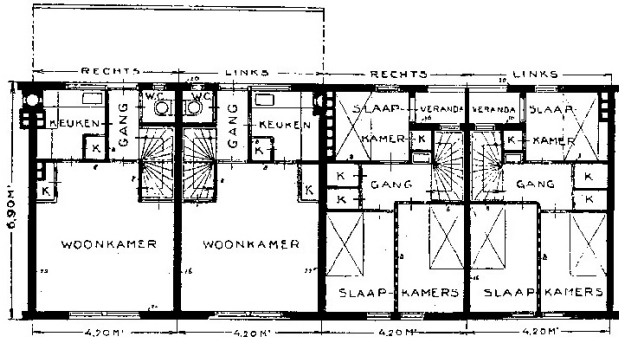
Architect: Michiel Brinkman

Spangen Quarter is the first housing project where the concept of Streets on the sky is carried out. The access to housing is made through a one kilometre length and 2-3 meter width gallery. The gallery is located in the interior courtyard of the building, so it is considered as a private space and there is no visual connection with the neighbourhood. It is the first time in a built project where it appears a transition space between the public street and the flats.

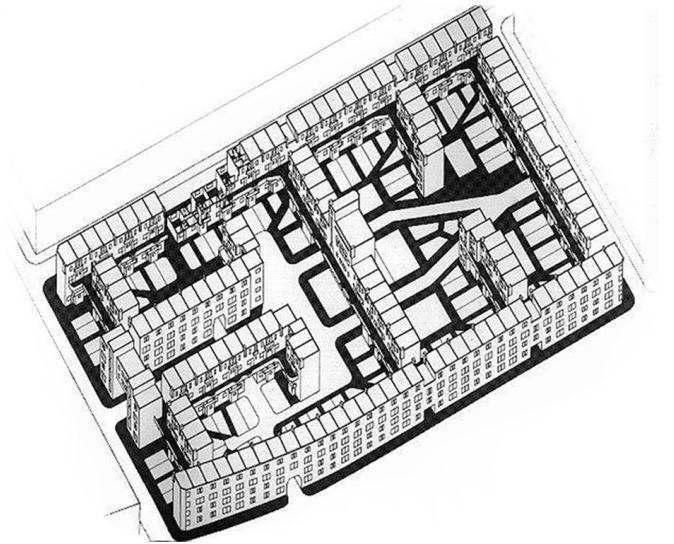
In 1919 Michiel Brinkman designed a complex of 273 dwellings in the Spangen district. Commissioned by the Municipal Housing Authority, it exploits the possibilities of the perimeter block to the full. One large block of 147 by 85 metres enfolds a courtyard containing a few smaller blocks and a central taller building comprising the central heating plant, baths and cycle shelter. A public street running through the large block forks at the facilities building. A new feature for those days was the use of an access gallery, a raised walkway along the block's inner edge. This permitted a high housing density without having to resort to complicated space-consuming stair towers. Almost all dwellings are entered from the inner courtyard. Units on the

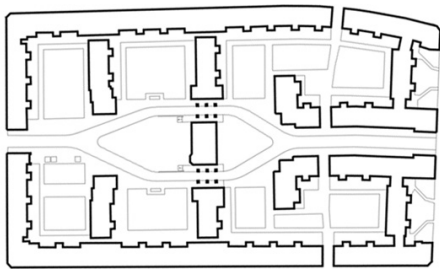
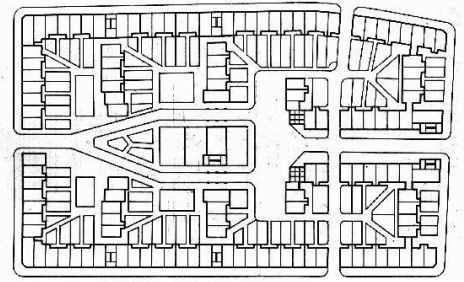
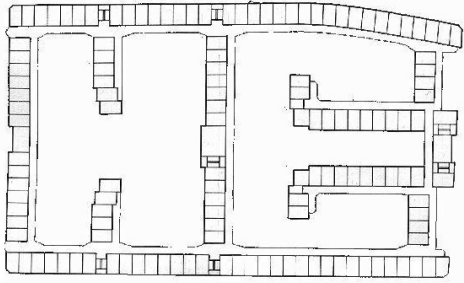


ground and first floors are accessed at ground level and have their own garden. Above these are two maisonettes reached from the access gallery. All units consist of a living room, kitchen, toilet and three bedrooms, plus central heating (a first for Dutch social housing) and a rubbish chute. The courtyard is entered through four striking



gateways, one on each side. Ten staircases and two goods lifts for tradesmen's handcarts lead to the access gallery which, with its ample width of 2.2-3.3 metres, functions as a raised street, a children's play area and a balcony for neighbourly contact and door-to-door services. Plant boxes, tiled artwork and peep-holes for children enliven this concrete gallery, which also has balconies for drying clothes between its columns. There is a stark contrast between the taut, rhythmic street facades and the lively elevations facing onto the courtyard. Each dwelling has its own outdoor area. Initial criticism of the plan was crushed thanks to the intervention of Auguste Plate, director of the Municipal Housing Authority, and various socialist aldermen. This criticism was levelled especially at its 'un-Dutch' character, the emphasis on collectivity and its costly amenities. There were fears, too, that the combination of flat roofs and access galleries would lead to 'dangers





of a moral nature'. This use of an access gallery in housing was to be of enormous influence on Dutch architecture. It has served as a continuing inspiration to new generations of architects, as evidenced by the Bergpolderflat, Hengelose Es in Hengelo, Buikslotermeer in Amsterdam and Bleyenhoek in Dordrecht. In 1984, the De Jonge architectural practice began work on renovating this internationally renowned housing complex in close collaboration with the Netherlands Department for Conservation. Pairs of maisonette dwellings were combined into one larger four- or five-room apartment so that families with children could live here once more. The access gallery was carefully restored and partly replaced, while the former baths became a crèche cum clubhouse. The inner courtyard is as traffic-free as ever. In 2012 the complex was completely restored.

Project: "mediterranean" housing block

Realisation: 2008

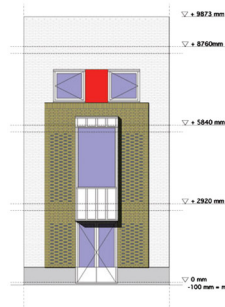
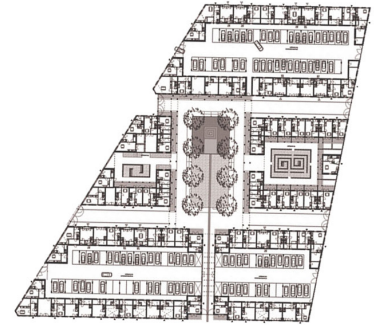
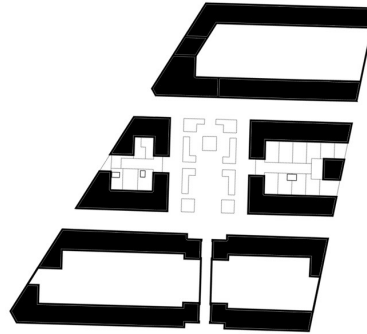
Architect: Geurst& Schulze Korteknie Stuhlmacher

Le Medi is a colourful enclave attracting a variety of different inhabitants, young families in particular. Its inclusive character is exceptional for its location, as the neighbourhood is dominated by immigrants. The project therefore contributes to the social and cultural development of the area.

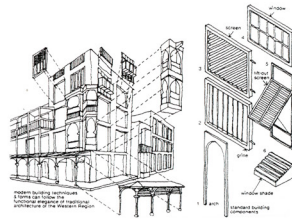
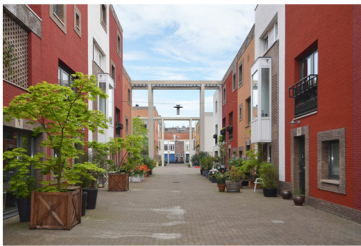
Within the ambitious revitalisation of Rotterdam Bospolder, a building block inspired by the architecture from the countries around the Mediterranean Sea was initiated. Years of discussions and various preliminary schemes have resulted in a dense, colourful building block with several carefully defined semi-public spaces, and simple back-to-back dwellings with a covered parking garage on the ground floor and a formal square in the centre. The project hopes to offer a suitable place for people of various cultural backgrounds to live in. For that reason the scheme consists of a number of basic houses that sell for a small price and can be extended in the future.

The plan of the house is inspired by some





essential characteristics of Mediterranean domestic architecture: symmetry of the plan, direct relationship between inside and outside at ground level, equally sized rooms, additional window elements and light filtered by perforated screens in the façade.



The design of the façade is a response to the colourful elevations of the dwelling designed by Geurst&Schulze and consists of a simple plastered surface framing a symmetrical piece of filigree masonry and a bay window.

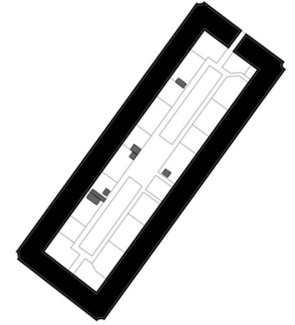
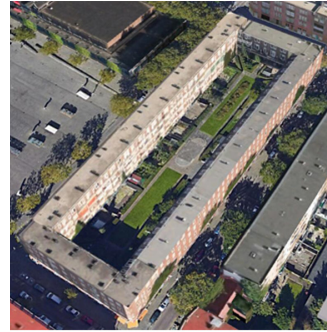
Within the very narrow margins of the project, we attempted to rethink stereotypical solutions for conventional Dutch standard bay-width of 5.4 m and develop a floorplan without the typical, small, Dutch entrance hall or the conventional division of space into a wide bay and a narrow bay. Therefore, a central feature of the house is the spacious entrance accessed directly from the exterior and spanning the entire width of the house. It can be used as a reception room, a workspace, a kitchen, an office or a living room.



Project: Housing Tusschendijken

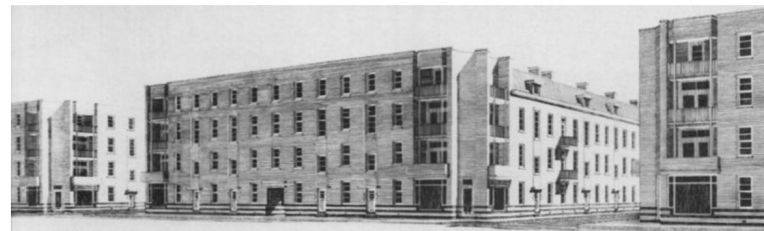
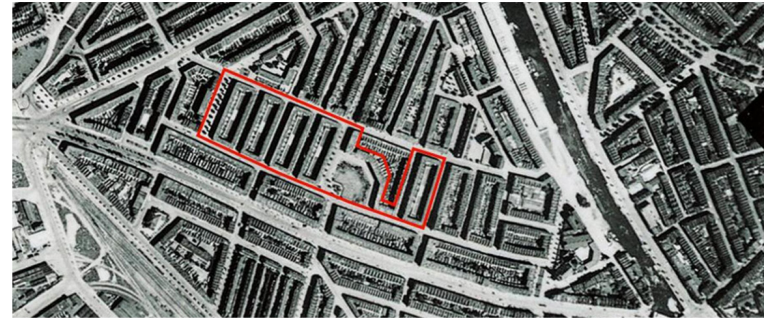
Construction year: 1920-1923

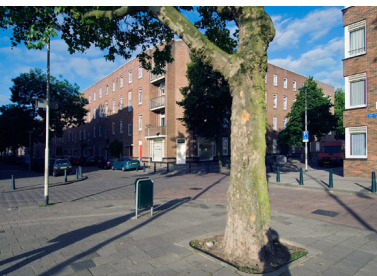
Architect: J.J.P. Oud, Joh. van Bokkum (extension)



In between dikes, there is a remnant of originally eight residential blocks designed by J.J.P. Oud in the service of the municipality on the corner of Duylstraat / Rosenermanstraat. For the construction of a total of 1005 municipal dwellings: "The municipality yesterday satisfied its hectares of hunger. The decisions to expropriate and purchase of approximately.

From 1920, the design of architect Oud was built. Block IX from Spangen was the prototype for the project. Oud used a standard type (the "normal type"), left the facades flat and accentuated the corners. The essence of his design was that the resident had the idea of living in a large city, but at the same time experienced the safety of the closed building block. The individual houses are subordinate to the street scene. Architecture critic J.P. Mieras wrote in 1923: Oud's street development is based on perspective. A building





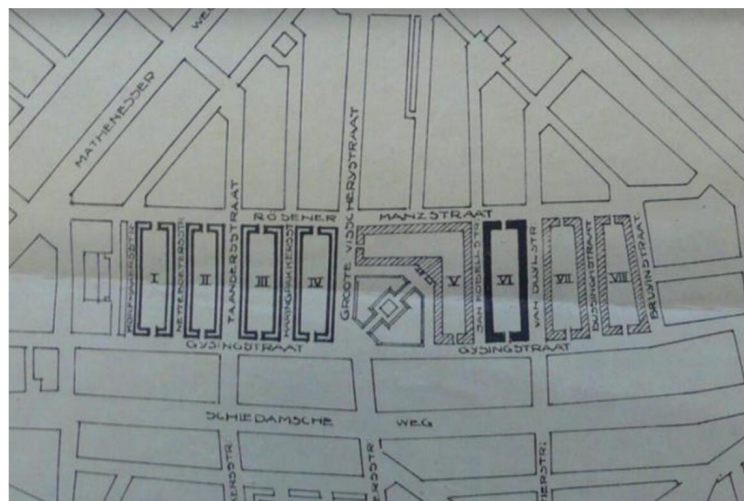
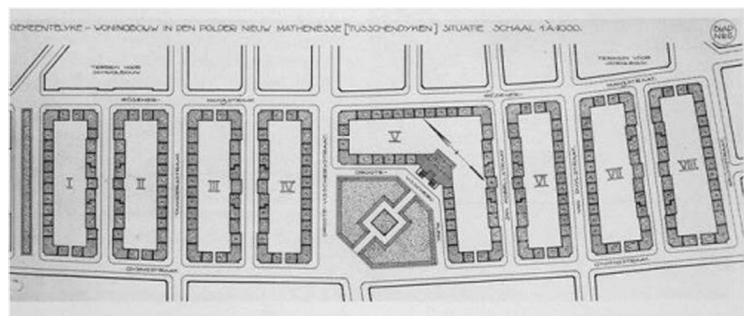
2007



1987



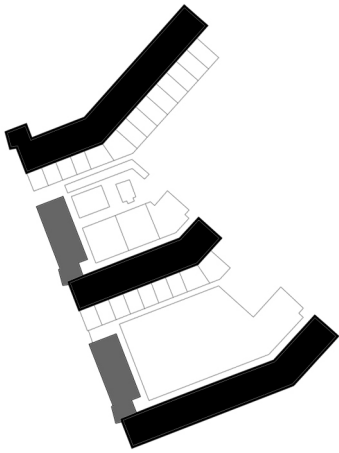
1987



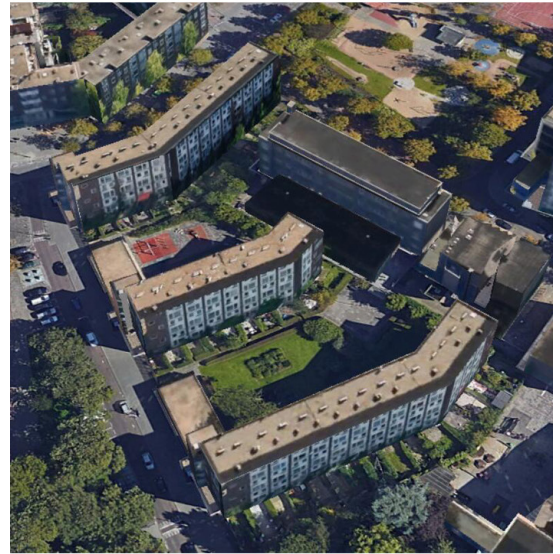
block is a unit of which the parts (the houses) do not have to speak. The block must speak, and the street is the speaking concatenation of the blocks. The communal inner areas were special, for which Oud designed sandboxes and sheds.

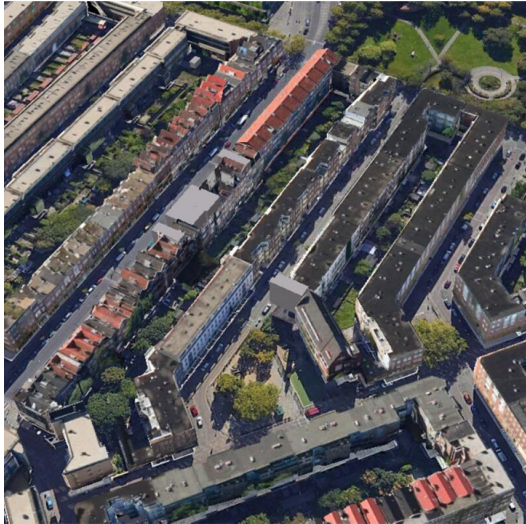
Half a block is all that survives today of the original eight housing blocks built here by Oud as City Architect. The rest of the block was added shortly after the war. Block IX of the Spangen housing (D019) served as a prototype for the project, though this time the inner courtyard gets a more lavish and successful treatment. The various blocks clearly show Oud advancing towards an anonymous, taut street elevation in which the individual dwelling is subordinated to the unity of the streetscape, a point driven home by the increasingly sculptural treatment of the corners

Project: Housing MATHENESSERWEG
Construction year: 1950-1953
Architect: Leo de Jonge
Jos de Jonge

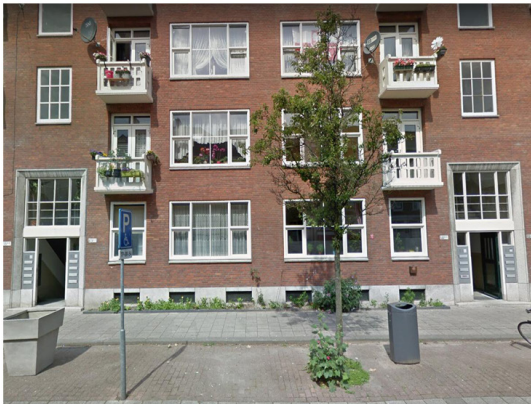
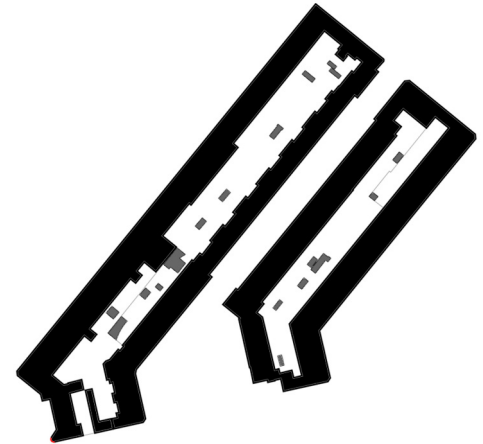


When the Allies undertook a bombing raid over Rotterdam on March 31, 1943, they mistakenly hit the area at the end of Schiedamseweg instead of their intended target, the German Kriegsmarine complex at Vierhaven. More than 2600 houses were destroyed. This reconstruction project (the 'forgotten bombardment') consists of housing with shops on Schiedamseweg and five east-west oriented eight-storey blocks of gallery-access flats with elegant concrete entrances zones.





Project: Housing BOTUGAT Construction
year: 1984-1987 Architect: Francine Houben
Henk Doll
Erick van Egeraat



The acronym 'Botugat' stands for building in gaps left in the Bospolder-Tussendijken area. Seven such gaps scattered across this urban

renewal district have been filled with a standardized dwelling type modified to suit each site. The blocks of maisonettes slip into the existing lot division partly by having internal galleries and balconies. With its brick basement rendered in pastel hues, this is the prototype of Mecanoo's well-groomed neo-modernist architecture and an object lesson in successful urban renewal: decent, affordable dwellings of a high architectural quality.

BOSPOLDER AND TUSSENDIJKEN

The Nieuw-Mathenesserpolder and the Bospolder were constructed in the fourteenth century, protected from the water by dikes, among which the Nieuw Mathenesserdijk

(this dike has disappeared under the neighbourhoods), hence the name 'Tussendijken': between dikes. The neighbourhoods of Bospolder and Tussendijken, often referred to as BoTu, were constructed from 1910 according to the expansion plans of A.C. Burgdoffer and P. Verhagen. Bospolder was known as a working-class neighbourhood and Tussendijken housed more municipal workers and small-business owners. The land in Bospolder was sold by the municipality in plots to private construction companies, causing a cluttered city image. There was a mixture of municipal and private construction in Tussendijken. Typical of construction in Tussendijken is the density with a minimum of private and public outside space. Construction in the strip between the Schiedamseweg and the Rösener Manzstraat was



Bospolder and Tussendijken, 1934

Source: Gemeentearchief



*Neighbourhoods Bospolder and Tussendijken, 1943, after
the forgotten bombardment
Source: Gemeentearchief*

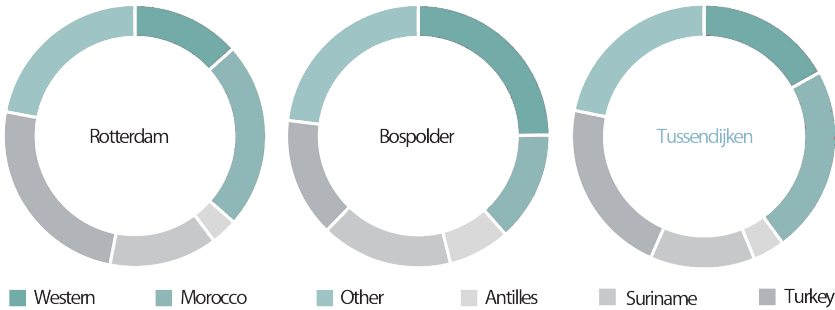
designed by architect J.J.P. Oud, commissioned by the municipality. This construction became famous for his attempt to develop new housing types in closed blocks with a communal courtyard. On 31 March 1943, the western part of the area

was bombed by American airplanes by mistake: the forgotten bombardment. The construction designed by Oud was for the most part destroyed. It took until the 1960s

for the ruined streets to be rebuilt. After the war, apartment buildings and shops were built here, and the Grote Visserijplein and Park 1943 were constructed. An urban renewal operation started in 1979 and was completed in the 1990s. The visible dichotomy in the structure of Tussendijken stems from the reconstruction of the western part and the heart of the neighbourhood in the 1950s. This part of the neighbourhood has a much broader layout and also contains more public space.

DATA RESEARCH

MIGRATION BACKGROUND



Residents without basic qualification

Tussendijken 31%

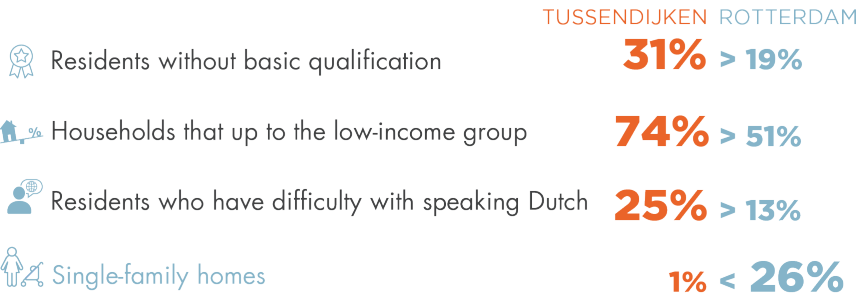
Rotterdam 19%

Percentage of households that up to the low-income group

Tussendijken 74%

Rotterdam 51%

RESIDENTS



Residents who have difficulty with speaking Dutch

Tussendijken 25%

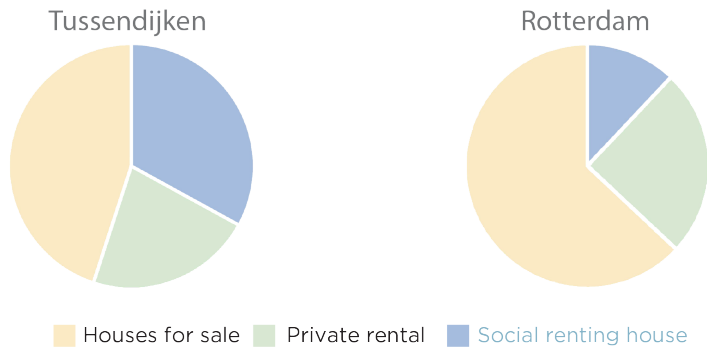
Rotterdam 13%

Living

Tussendijken= 12%houses for sale + 22%private rental + 63%social renting house

Rotterdam= 33%houses for sale + 22%private rental + 45%social renting house

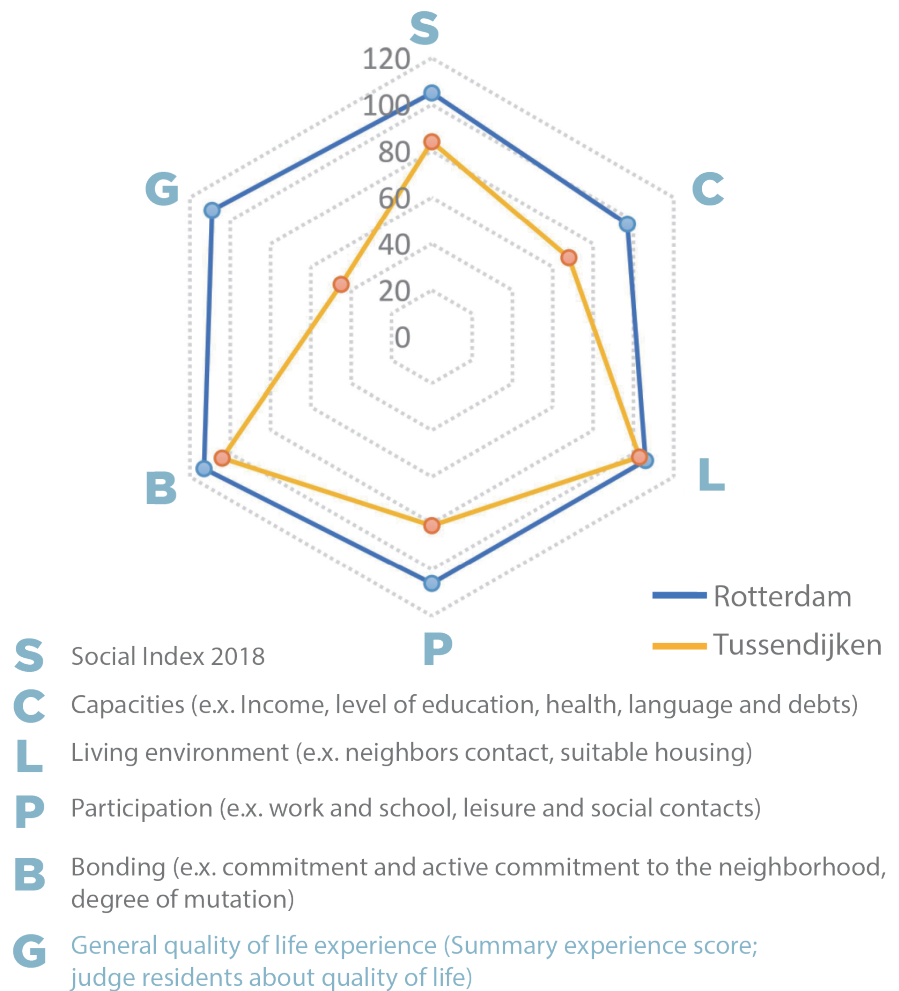
LIVING HOUSE

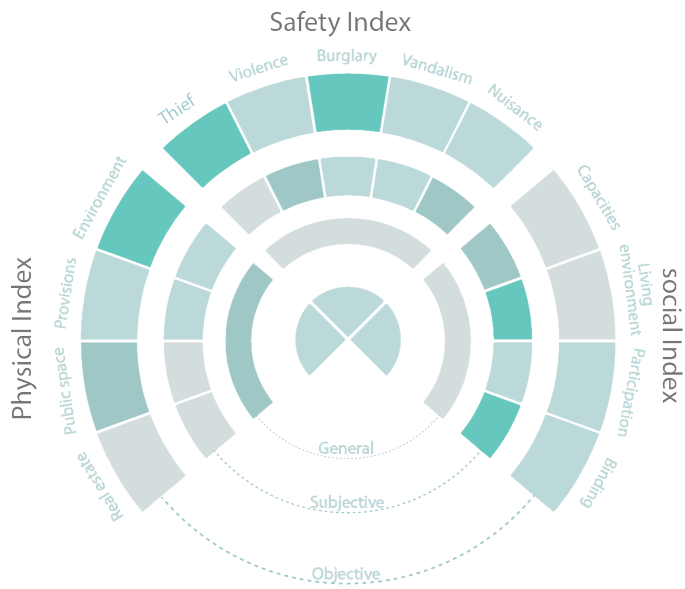


Tussendijken has 1% single-family homes Rotterdam has 26% single-family homes

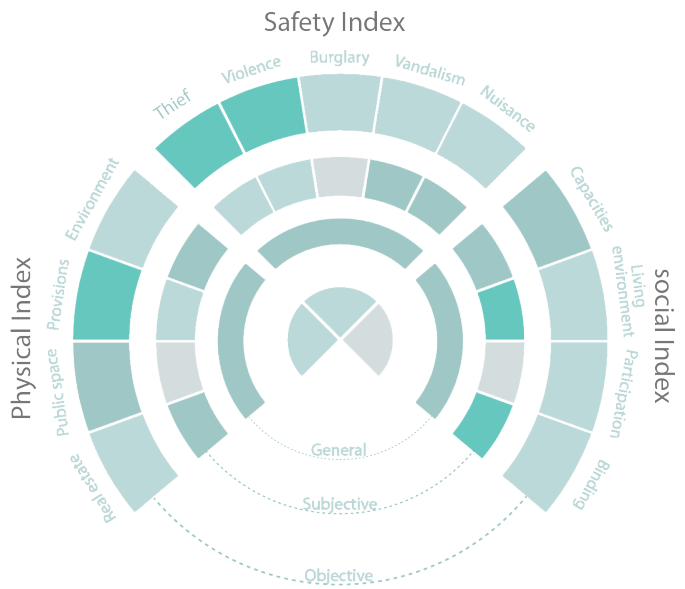
SOCIAL INDEX 2018

The social index is divided into four themes: **capacities, living environment, participation and bonding**. The "General quality of life" indicates how people use the assess the quality of their own lives. The differences with the Rotterdam average are in BoTu for almost all themes large, especially in Tussendijken.





Bospolder



Tussendijken



Rotterdam



Bospolder



Tussendijken

>130

Far above the average of Rotterdam

110 - 129

Above the average of Rotterdam

90 - 109

Around the average of Rotterdam

70 - 89

Below the average of Rotterdam

<69

Far below the average of Rotterdam



CORE 1: Neighbouring schools and squares

Schools and squares are the meeting places in the neighborhood. BoTu has eight primary schools, six of which are regular primary schools and two schools for special primary education. Together they offer space for around two thousand students and their parents. For many residents of BoTu the school is a safe haven. They don't leave them alone children with peace of mind behind, but also dare to share their own care needs with others. Therefore, it is precisely at the schools that the foundation can be laid for one resilient new generation.

With the Resilient Schools and Squares program become schools and the adjacent squares in BoTu social focal points in the neighborhood, where young and old alike feel safe and welcome. The schools offer homework support, create parental involvement and organize activities related to talent development, upbringing support, language, activation and debt services. School, parents and partners work in the neighborhood together to a positive pedagogical climate. The Learning Resilience trajectory developed at the Nicolaas school is a good example. Long-term efforts are being made on increasing the mental resilience and the well-being of both students and teachers.

A coalition of parties has emerged in BoTu commitment to the area. The municipality believes in the power of BoTu and they have the ambition to make BoTu the first resilient neighbourhood of Rotterdam.



CORE 2: The Hart van BoTu

The Hart van BoTu consists of the Visserijplein with Pier 80, Park 1943, the five Gijsing flats, the Self-directed house and two primary schools. There are busy market days, but furthermore, the grey, empty area of the Visserijplein characterizes the area. A combination of new construction and renovation must transform the Heart of BoTu into an attractive one area, with the market and Park 1943 as a central meeting place for young and old. The intended renovations of the Gijsingflats and the Professor Old complex not only offers starting points to make the flats more sustainable but also to address the social tasks within the Heart of BoTu. We are looking for a combination of investment flows so that we can not only strengthen the living environment, but also the socio-economic position, health and care self-reliance of residents.











There is room at various places in the Heart of BoTu for compaction, for example by new construction on its Visserijplein and possible transformation of the building 121 Taandersstraat (the Self-directed). The challenge is not to have the scarce space in the neighbourhood completely intended for homes, but also sufficient reserve space for social facilities to strengthen. Pier 80 as Huis van de Buurt is already a central location place in the neighbourhood where all kinds of smart links were made be with the meeting, youth, care, well-being and sport.

2 BOTU STRATEGY

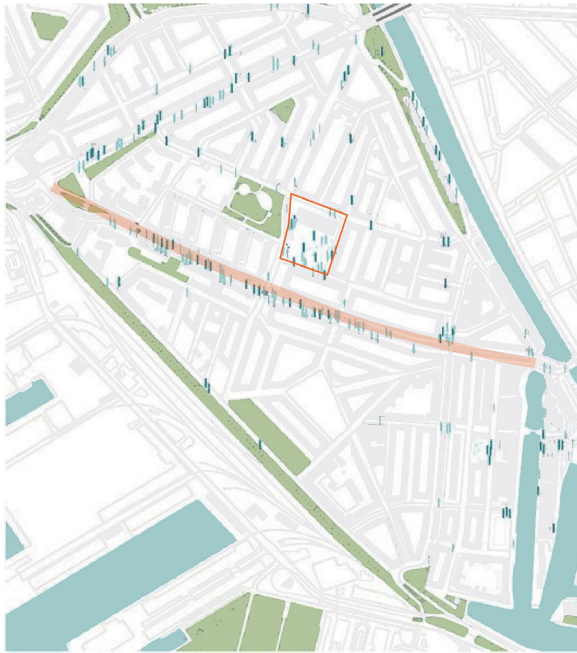
SOCIAL IMPACT BY DESIGN

RESILIENT SCHOOLS AND
SQUARES PROGRAM

Typology of public space in neighbourhoods Bospolder and Tussendijken

-  Main green structure; district park and/or main landscape structure
-  District square
-  Central, multifunctional neighbourhood square, with emphasis on either green or stony character
-  Collective garden on building block level
-  Local square with stony character
-  Local square, with primary green character
-  Tree structure, to be strengthened or supplemented
-  Tree structure, to be preserved
-  Stony urban street
-  Green neighbourhood avenue

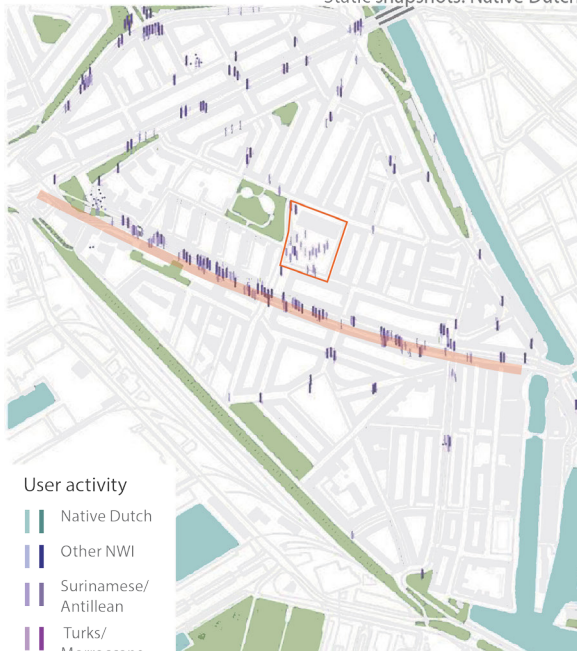




Static snapshots: Native Dutch



Static snapshots: Non-Western Immigrants



Static snapshots: Surinamese/ Antillean



Static snapshots: Turks/Morroccans



Those maps show how various ethnic groups use public space in BOTU.

As can be seen from the figure, the various ethnic groups mingle only along the integrated shopping streets. In all other local dwelling streets, the various ethnic groups do not mingle at all. Only Turks and Moroccans use the southern square and streets. The higher spatial segregation on the street network, the more the various ethnic groups separate themselves from the others. Adults and children are not using the same spaces. The adults stay along the integrated shopping streets, whereas children use the local playgrounds inside the various dwelling areas.

The public spaces at the two squares are used differently. Men stand on the edges and women are in the middle of these squares.

THE MOBILITY SYSTEM

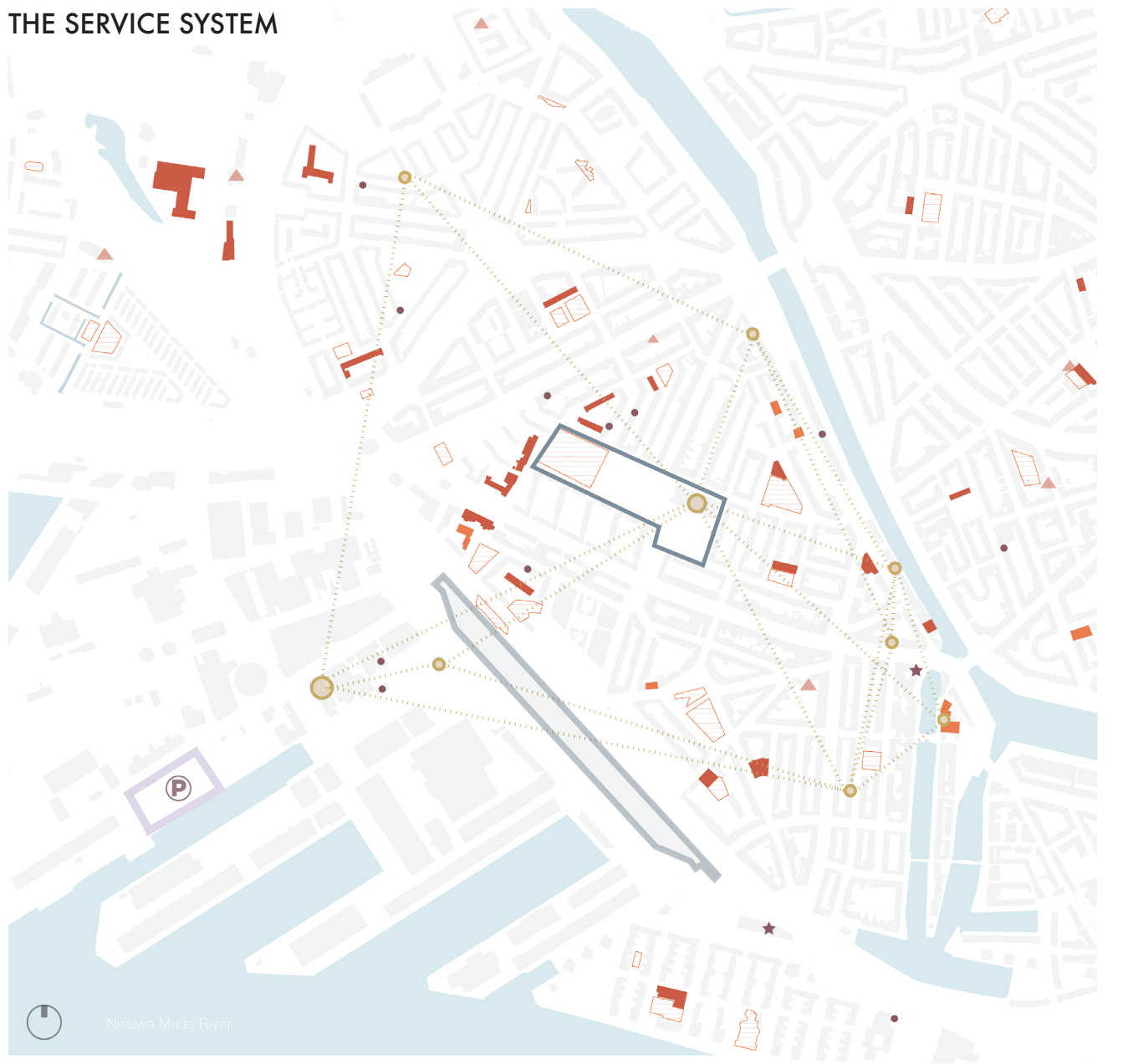


THE GREEN SYSTEM



- Parks
- Public green
- Private green
- Urban farm
- Riverbend
- Groves
- Sport equipment
- Tree-lined rows
- Site

THE SERVICE SYSTEM



- Religious
- Formal education schools
- Playgrounds
- Big commercial complex
- P Parking area
- Site
- Special education institutions
- Cultural equipments
- ★ Daycare center
- ▲ Daycare center

5000 15000 m

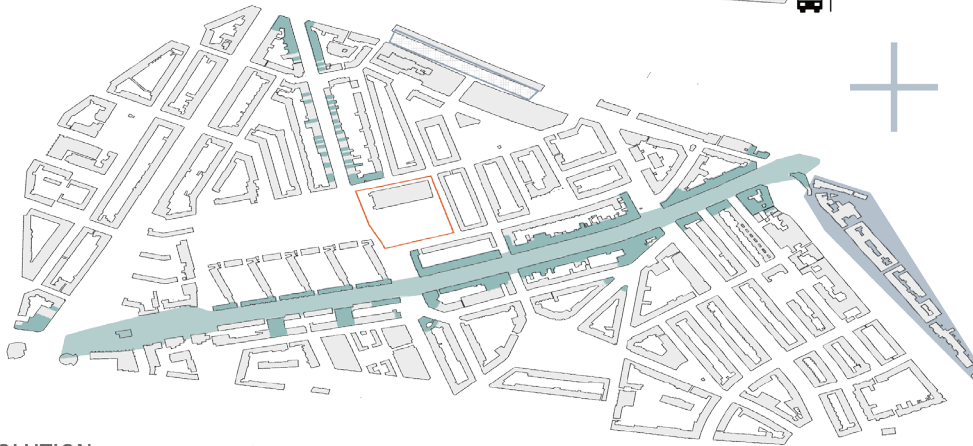
SITUATION



COMMERCIAL ISSUE

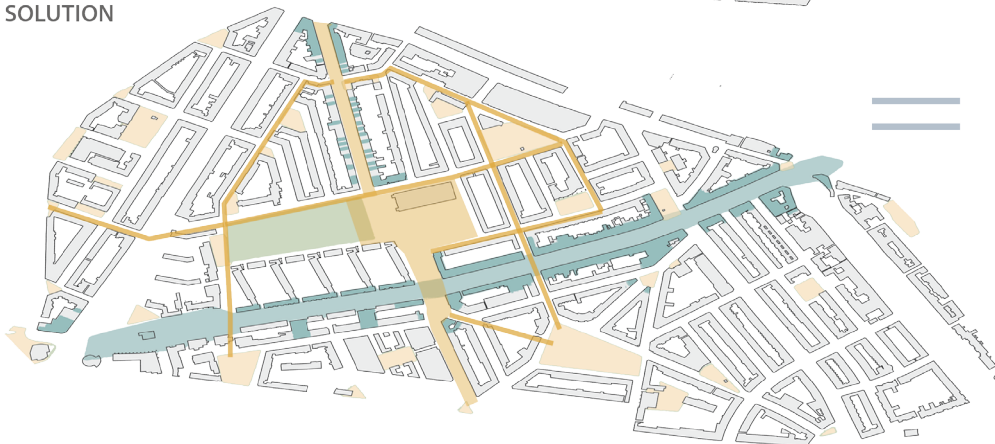
- Neighborhood square
- Library
- Bus stop
- Playground
- Project area

All the small-scale local commerce is concentrated along one main lively street, but disconnected from the neighborhood square



- Small scale local shops
- Main street
- Project area
- Historical center
- disreputable area

SOLUTION



New socialisation networks will appear when necessary activities happen closer to the social ones

- Social network strategy
- Developing Strategy area

TRADITIONAL POP-UP MARKET

The dynamic of a highly appreciated market combine with the large diversity of cultures can generate a genuine collective identity

VIEW & VISTA FROM EYE LEVEL IN MARKET SQUARE



SMALL-SCALE SHOPS ALONG THE STREET



Commercial activities always happened along the road which have different shops on the ground level of the residential blocks

Road Issue



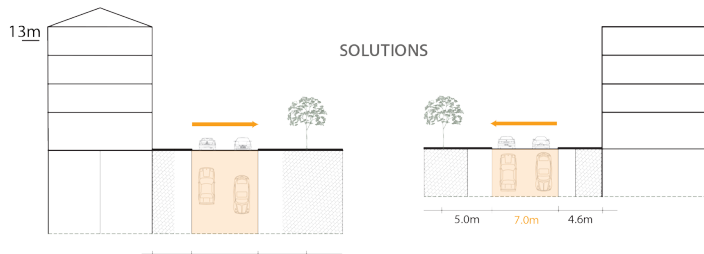
From the street view we can observe that the road is cut by the curbside and disconnected with the green park. Two public space are badly defined by the road with heavy traffic.



1. street view of project site

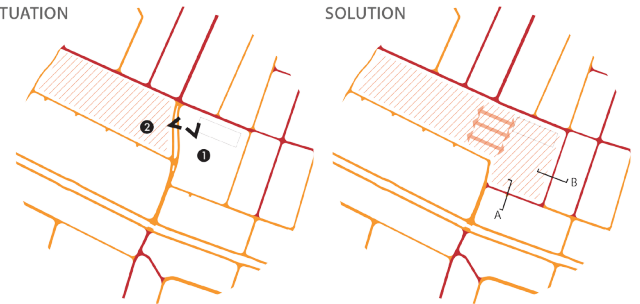


2. street view of park 1943



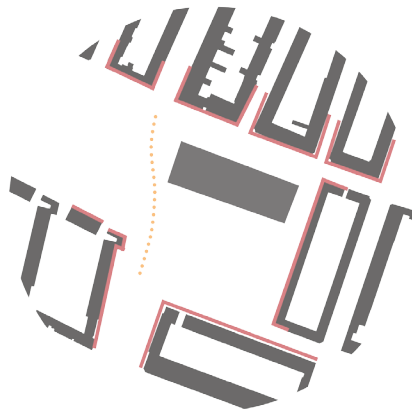
SITUATION

SOLUTION



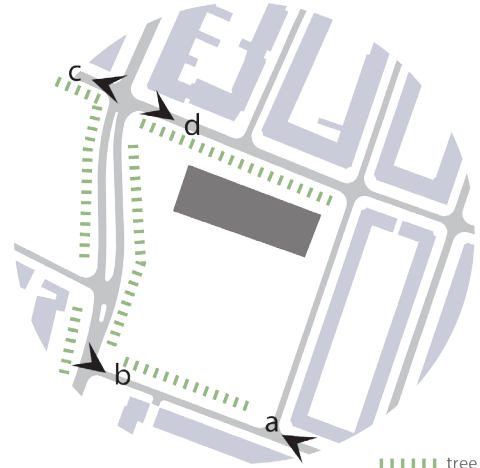
- Two-lane carway
- One-way carway
- ▨ Green park

Boundaries



- Fysical Boundary
- - - Road Boundary

Views & Vista from the street nodes



— tree lanes



a



b



c



d

Existing Activities & Users (Communities)



ACTIVITIES
IN PARK 1943

USERS
PORTRAYED



- S**
- Highly identity of neighbourhood and multiracial residents
 - High quality of green space nearby
 - Surrounded by shools and young crowd
 - Have pop-up market tradition
 - Nearby the main road and highly accessible by car

- O**
- Reduce apartheid and improve the social connection
 - Become an economic trigger
 - Drive regional economic growth and employment
 - Introduce a new lifestyle
 - Improve the educational environment

- W**
- Flooding area in rainy season due to the low permeability of pavement
 - Environments are filthy when the market happens
 - Lack of good conditions of facilities
 - Low-education and low-income communities

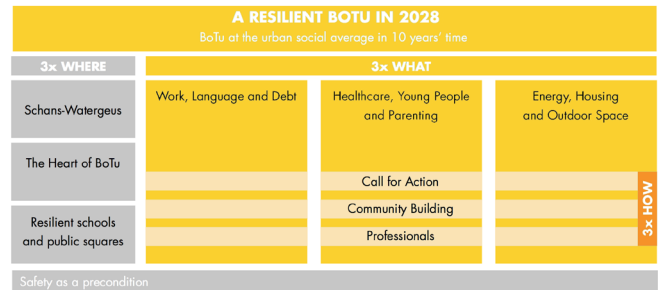
- T**
- Increased traffic and pedestrian bring noise and mess
 - Cluttered people pose safety problems
 - Lose its sense of identity

CHALLENGE FOR BOTU DESIGN GUIDELINE

The persistence of the challenges in BoTu requires an approach based on well-organized early collaboration between residents, municipality, housing corporation and private parties. Social Impact by Design is a phased process with the aim of producing innovative and integrated solutions and implementing them. Social Impact by Design is a phased process with the aim of producing innovative and integrated solutions and implementing them.

To make BoTu the first resilient neighborhood of Rotterdam, creative and integrated solutions are needed. In order to realize these solutions, a great deal of talent and thinking power is required in the coming years, combined with substantial investments. Investments from the municipality, from the housing corporation, from local entrepreneurs, but also from private companies that are not yet active in BoTu.

3 WHERE X 3 WHAT STRATEGY SOCIAL IMPACT BY DESIGN



In BoTu there is a gap between residents and facilities. To bridge this, we need a flexible, responsive government and resilient professionals. These are professionals who work close to the residents and the informal networks in the neighborhood. Resilient professionals know what is going on, work not only for but also with residents and are given the space to deliver customized work.

Social Impact by Design is all about new forms of cooperation between the market and society and government. Through a so-called Open Call, we invite creative entrepreneurs, citizens, private parties and other organizations to contribute (financially) to integrated and structural solutions that make BoTu resilient. We organize a controlled process with different phases for this. First we form teams. We then examine in successive phases whether ideas have sufficient capacity, can be financed and are feasible. We are looking for external investments through new partnerships (arrangements).

WHAT ? & WHY ?

FUN

GEZELLIGHEID

triangle full filled
with joy

WONDERFUL

COZY



WHAT IS GEZELLIGHEID?

The word derives from gezel which means 'companion' or 'friend'. During the Middle Ages a gezel was also the Dutch term for a 'journeyman', which in the Dutch guild system formed a group around a single master craftsman; hence the added meaning of 'belonging'.

A common trait to all descriptions of **GEZELLIGHEID** is a general and abstract sensation of individual well-being that one **TYPICALLY SHARES WITH OTHERS**. All descriptions involve a positive atmosphere, flow or vibe that colours the individual personal experience in a favorable way and in one way or another corresponds to social contexts.

Being a vague, abstract notion, the word is considered by some to be an example of untranslatability, and one of their hardest words to translate to English. Some consider the word to encompass **the heart of Dutch culture**.

a bustling street market is always gezellig. Gezellig shouldn't be expensive or pretentious. It should be accessible to all. it's a biscuit tin on the table and a mug of coffee. it's a spontaneous 'koek-en-zopie' stall selling warming refreshments for after your ice-skate. it's hot chocolate or pea soup and the sound of lively chatter.

WHY NEED GEZELLIGHEID?

"There has to be a social design. You have to get people connected, for there to be a sense of community, otherwise the common facilities will never be used, people will go straight to their room."

"The things that we really remember always have something to do with other people, so why not take that as a principle for the aim of our designs, so that we create more places and opportunities for people to be together and experience things they will remember."

"The large communal space is divided into smaller areas with 'soft' divisions of the spaces by plantation and paths, creating a sense of both the large scale of the total area as well as creating intimacy in the individual spaces."



gezelligheid neighbourhood

THE RESIDENTS



TRADITIONAL FAMILY



NEWLY RETIRED



YOUNG COUPLES



TRADITIONAL FAMILY



NEWLY RETIRED



YOUNG COUPLES



YOUNG FAMILY



SINGLES



LARGE FAMILY



ECO FAMILY



STUDENTS



INDIVIDUALISTS



STUDENTS



URBAN FARMERS



DINKIES



EXPATS



SELF-BUILDERS



ELDERLY AND HANDICAPPED

We are sharing more goods and services than ever before and many of us use the sharing economy in our day-to-day lives – from ordering a taxi to finding a room for the night. Subscription models like Spotify, Netflix and SnappCar have also had a massive impact on traditional models of ownership. Instead of owning things, we are now accustomed to subscribing to services that provide us with music, movies and transportation. Urban life as such is about sharing: we share our streets, restaurants, parks, waste handling and energy systems. But modernist planning, based on industrial production, urban development, infrastructural changes and car transport, has significantly challenged more communal modes of organisation. Beyond the practical and economic reasons, the rise of the sharing economy reflects our craving for human connection. People are brought together through these services, turning digital connections into real meetings and new ways of living together.

Architectural and Urban proposal / Process



Co-working office



residential & Airbnb



Restaurants



Workshops



Sport field



Library

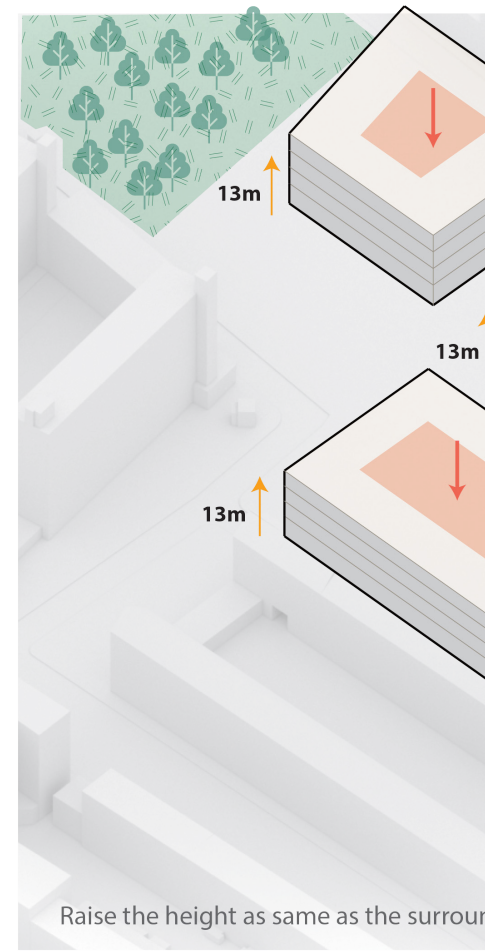
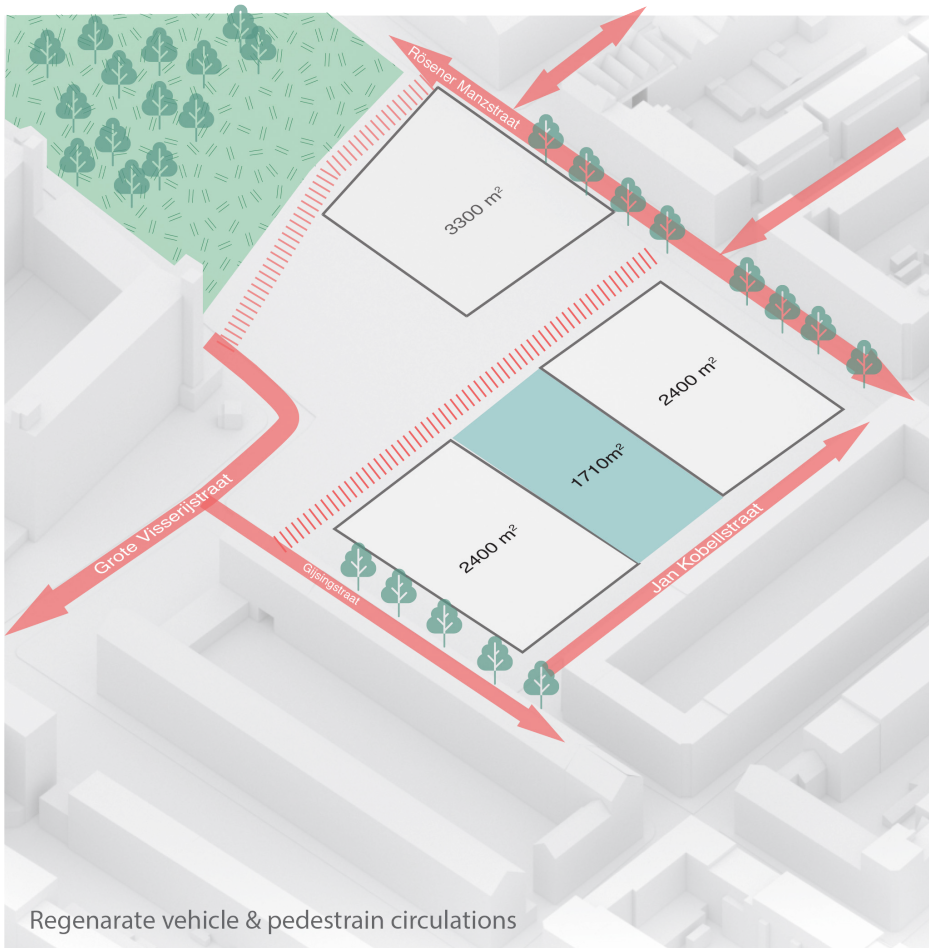


Pop-up markets



Conference & theater

DESIGN STRATEGIES



Two-way lane



One-way lane



New pedestrian roads



Basketball Playground



Semi public courtyard



Urban farm



Play grounds



Activity center



Permanent market



Administration



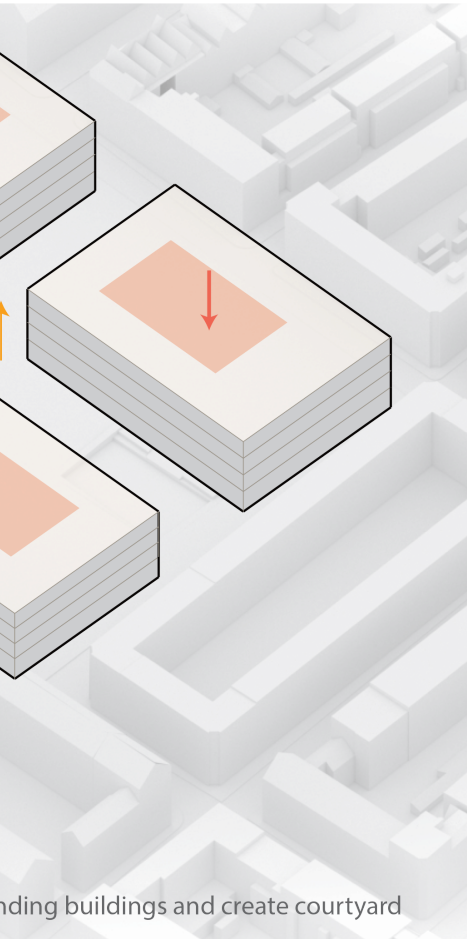
Park



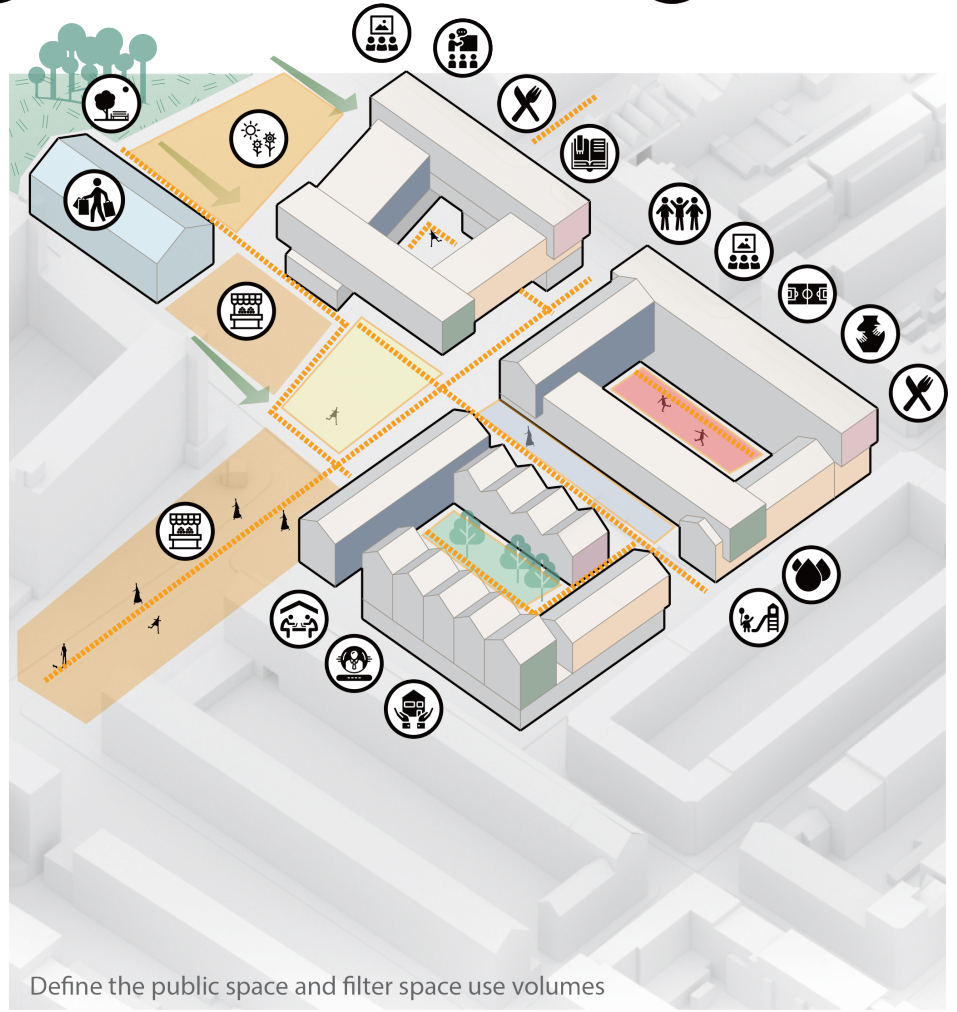
Water park



Exhibitions



Demolish buildings and create courtyard



Define the public space and filter space use volumes

Market area

Park 1943

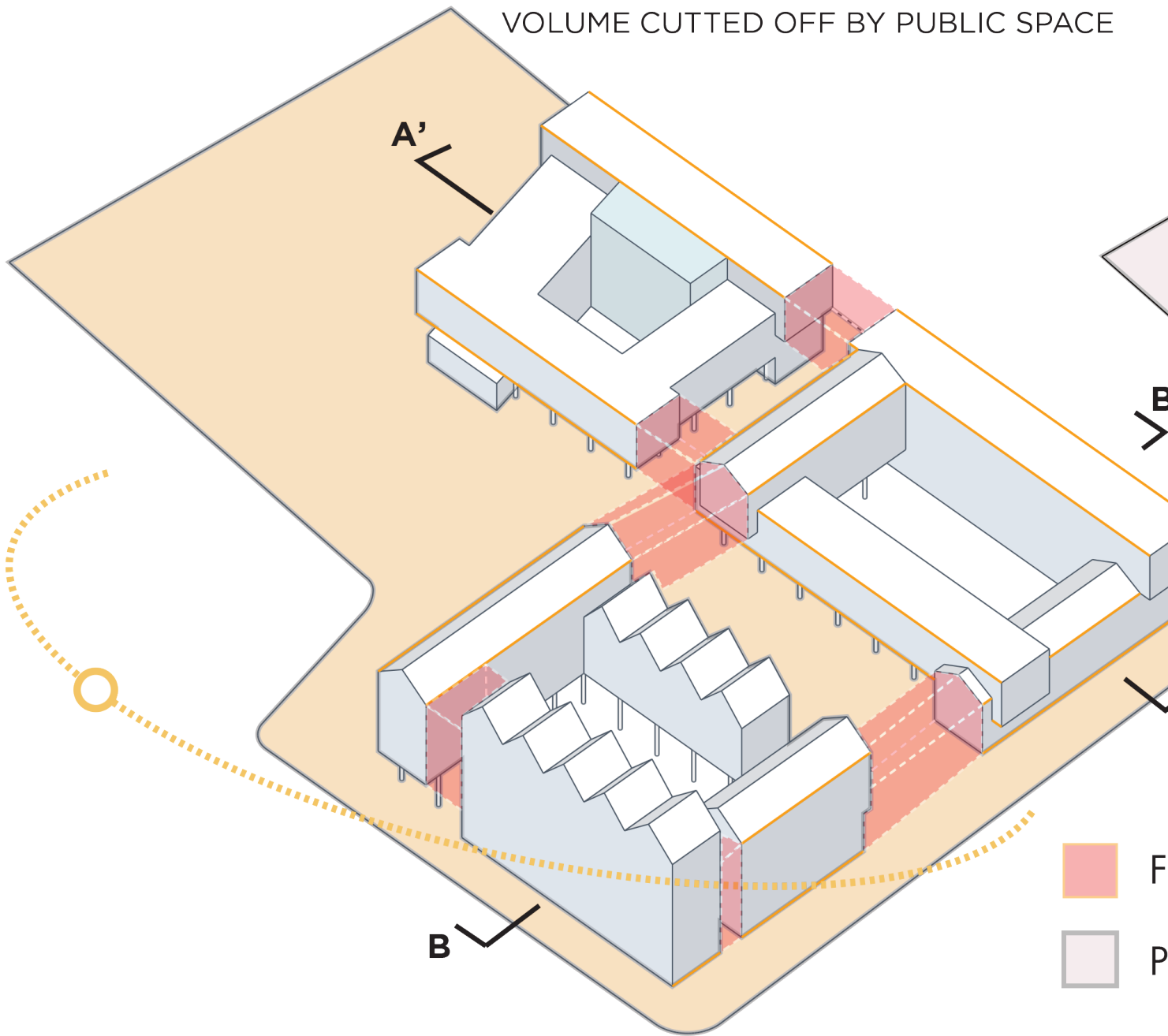
Center plaza

Water park + playground

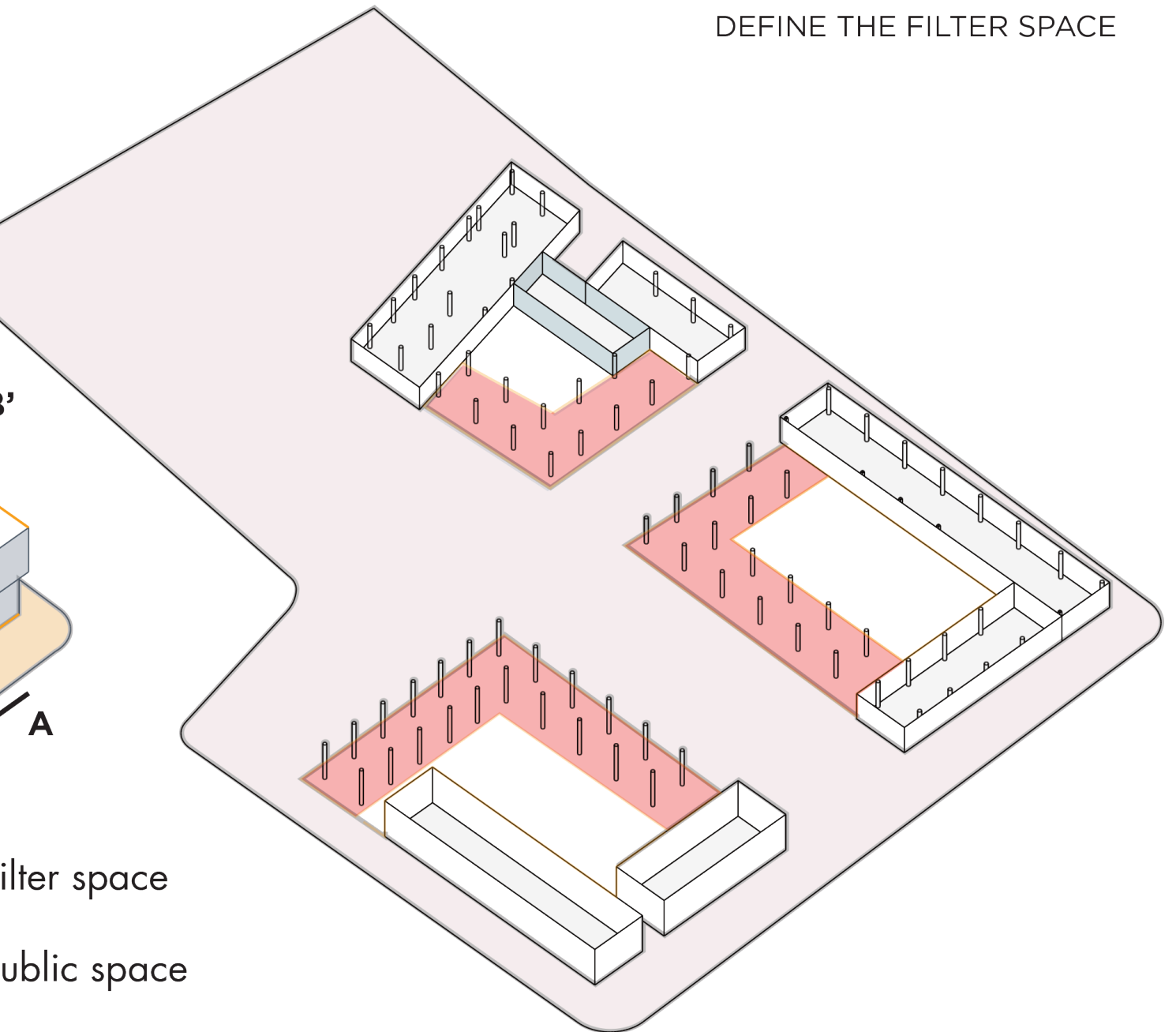
Urban farm

New pedestrian circulations

VOLUME CUTTED OFF BY PUBLIC SPACE



DEFINE THE FILTER SPACE



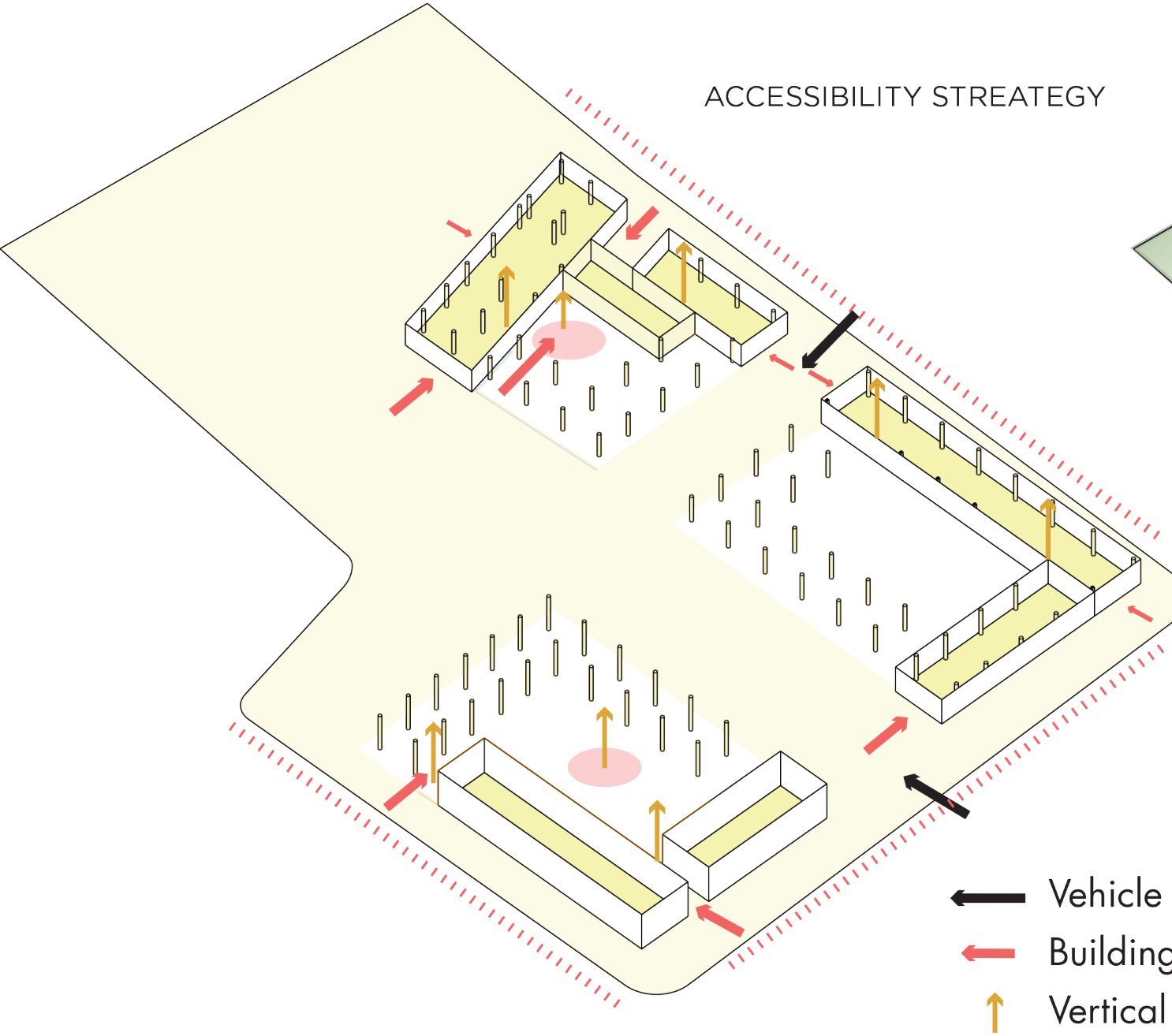
3'

A

filter space

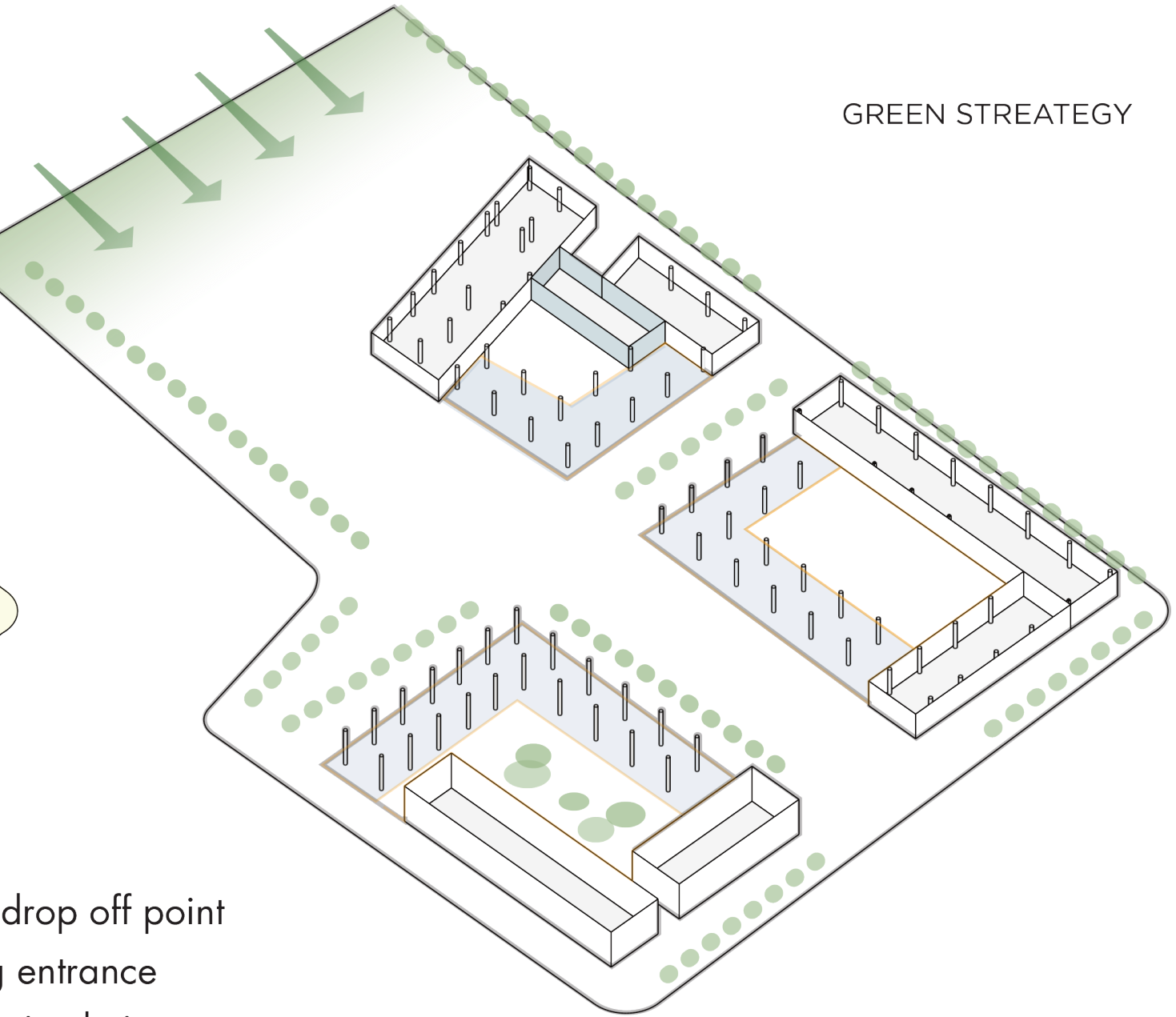
public space

ACCESSIBILITY STRATEGY



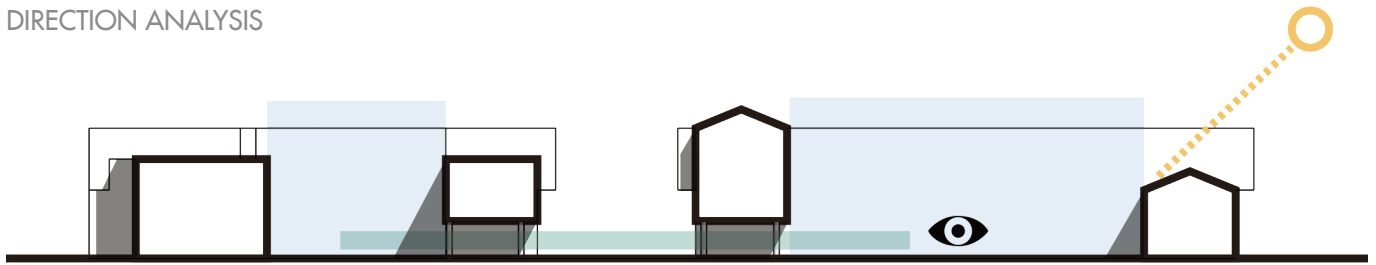
- ← Vehicle
- ← Building
- ↑ Vertical

GREEN STRATEGY

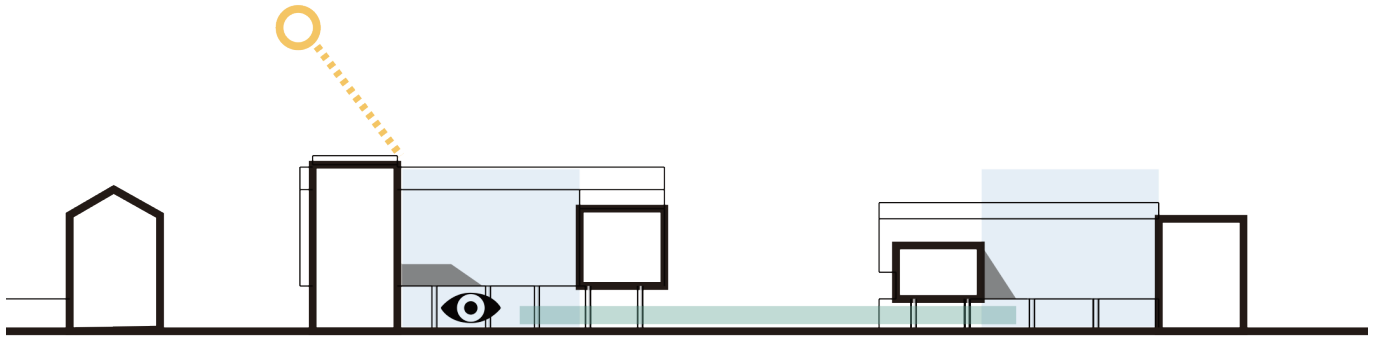


drop off point
entrance
circulation

DIRECTION ANALYSIS



SECTION AA'

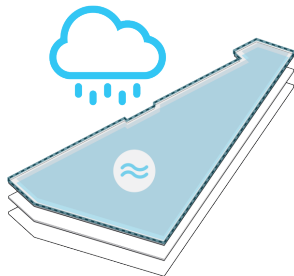
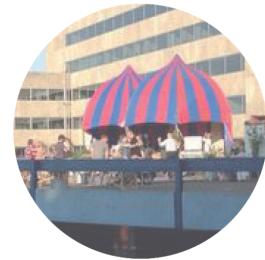


PUBLIC SPACE STRATEGY

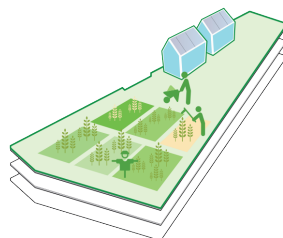
WATER STORAGE

GREENING + URBAN FARMING

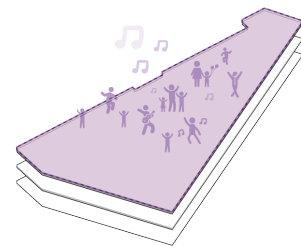
EVENT SPACE



+

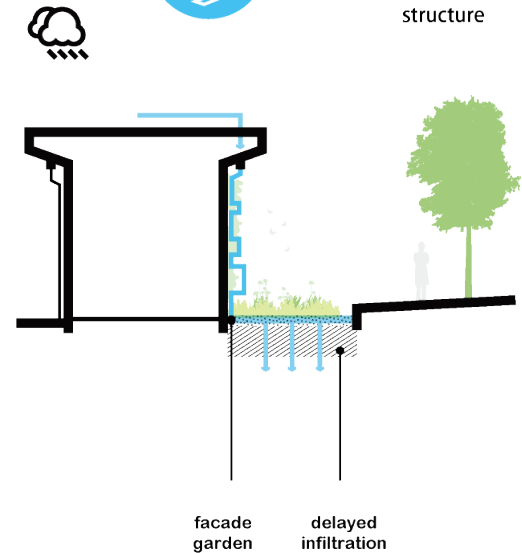
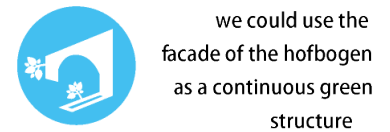
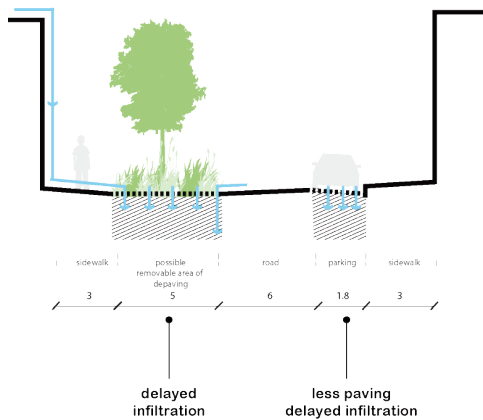
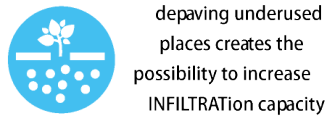
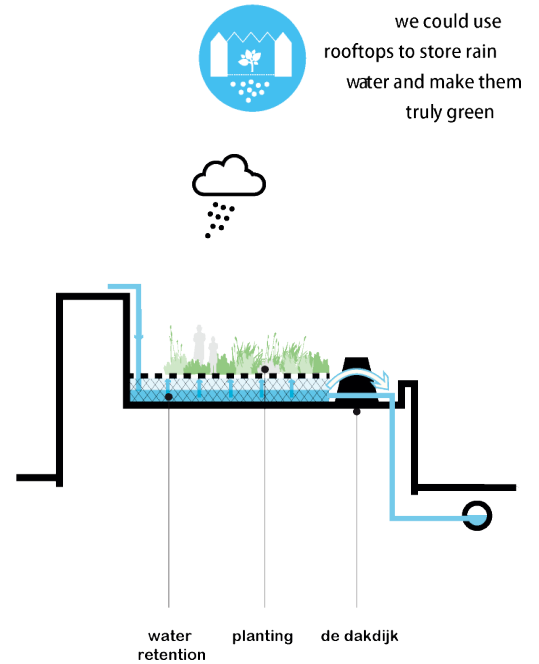
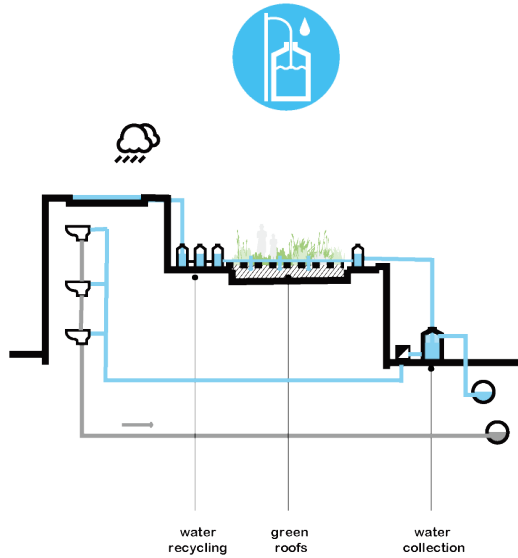


+



FLOODING ISSUE SOLUTIONS

IDEA STUDY



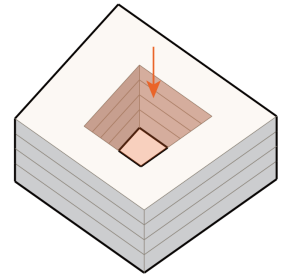
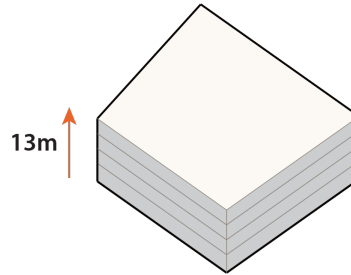
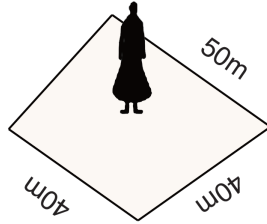
DESIGN PROCESS

BUILDING AREA

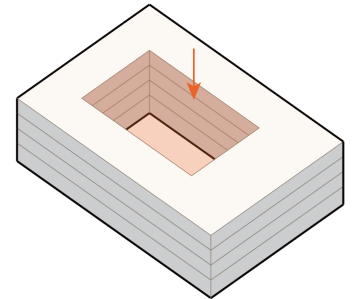
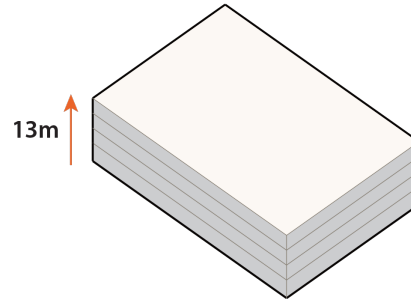
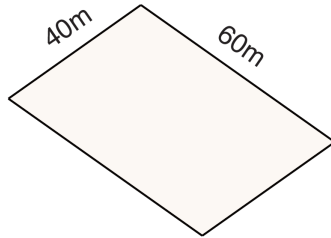
VOLUME

CUT

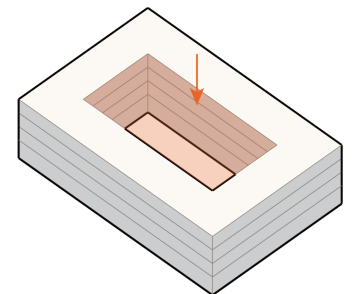
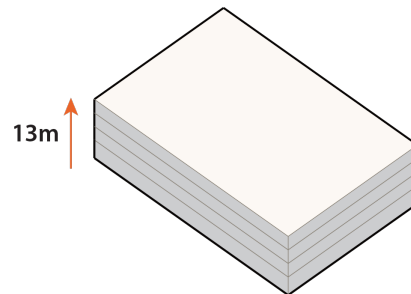
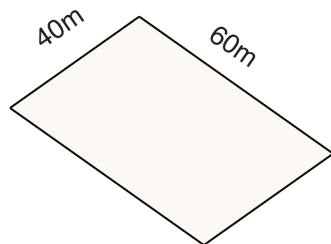
● BLOCK A



● BLOCK B



● BLOCK C

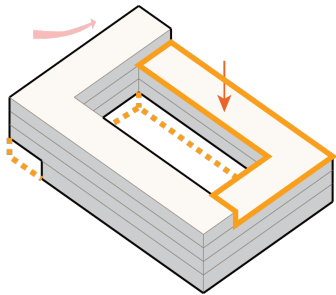
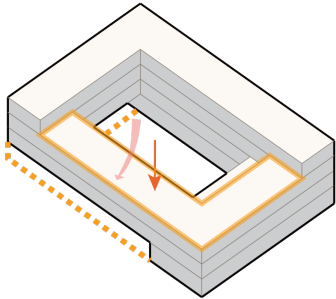
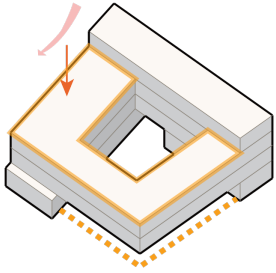


Separate the site area by
3 different blocks

Raise the volume as the same
height as surrounding buildings

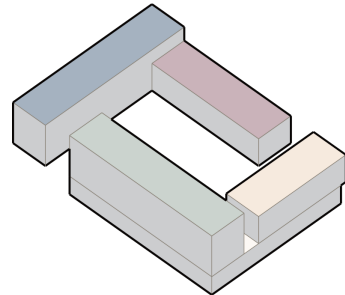
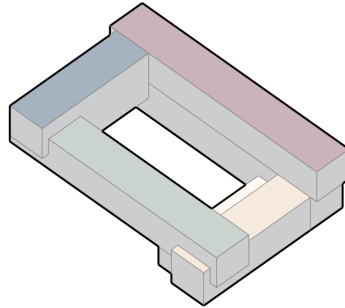
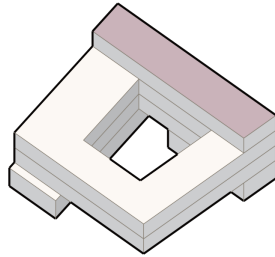
Choose the most representative
building type in the local area
created the courtyard

GRADIENT



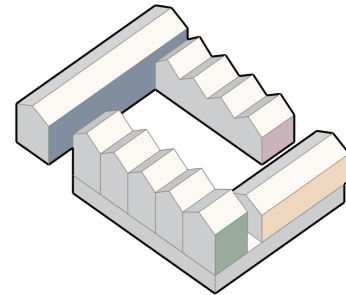
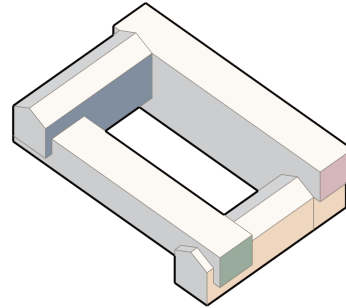
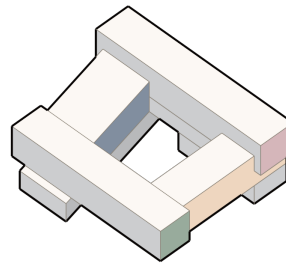
Let the part which facing to the plaza become lower and make the ground floor open

MIKADO



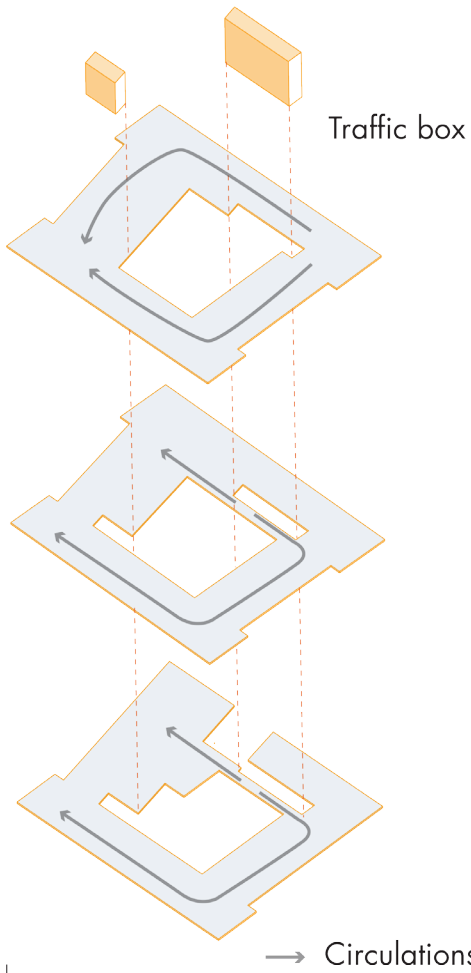
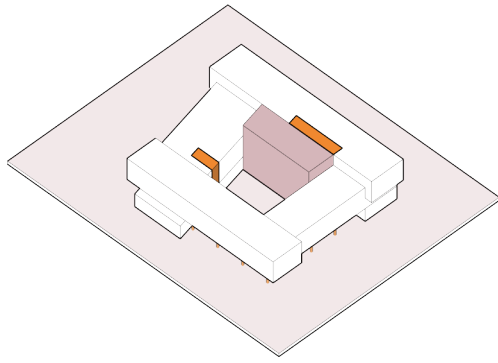
Put different functions into the bars

REFORM

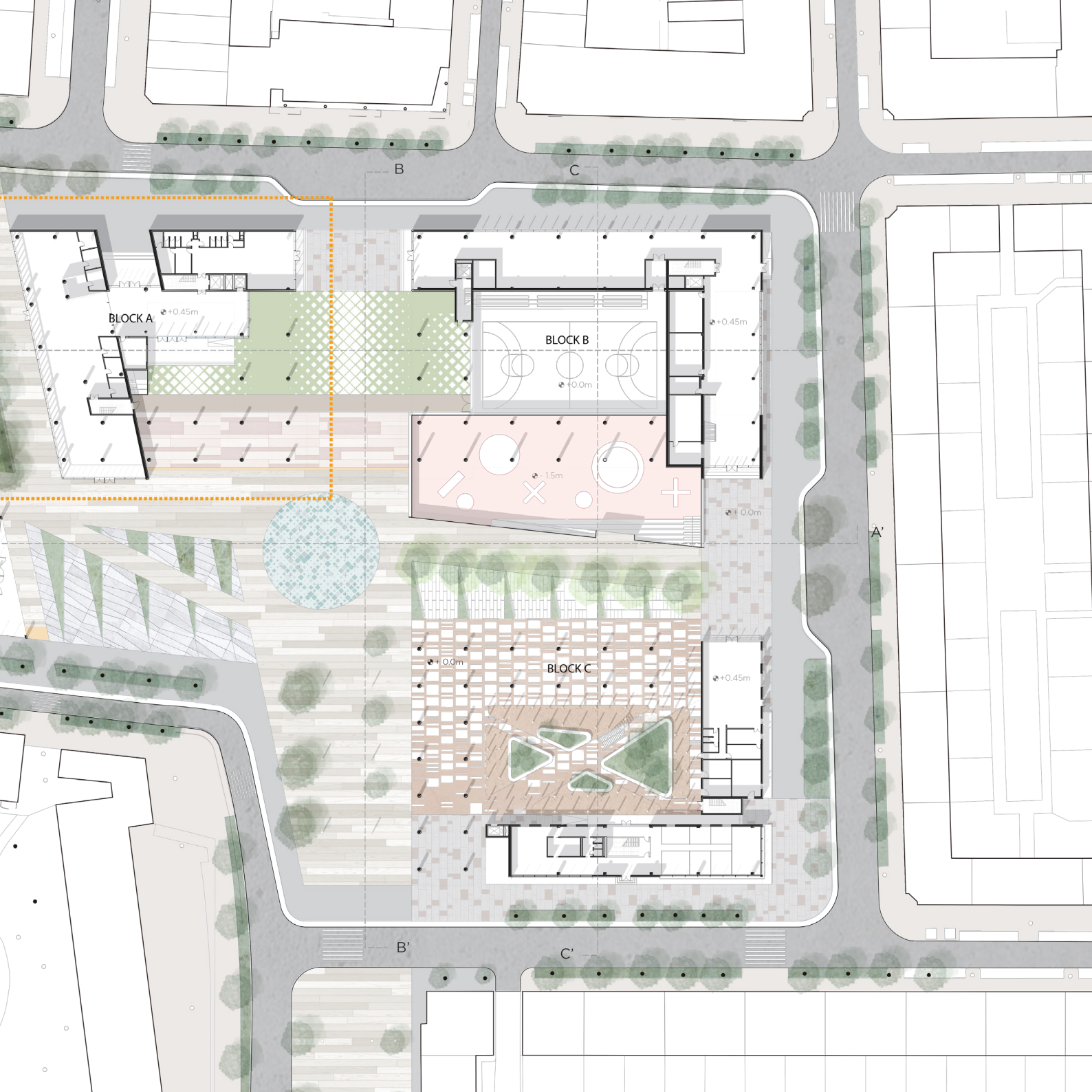


Use the local type of roof re-shape the bars

BLOCK A CULTURAL CENTER



GROUND FLOOR PLAN



BLOCK A

BLOCK B

BLOCK C

B

C

A'

B'

C'

+0.45m

+0.45m

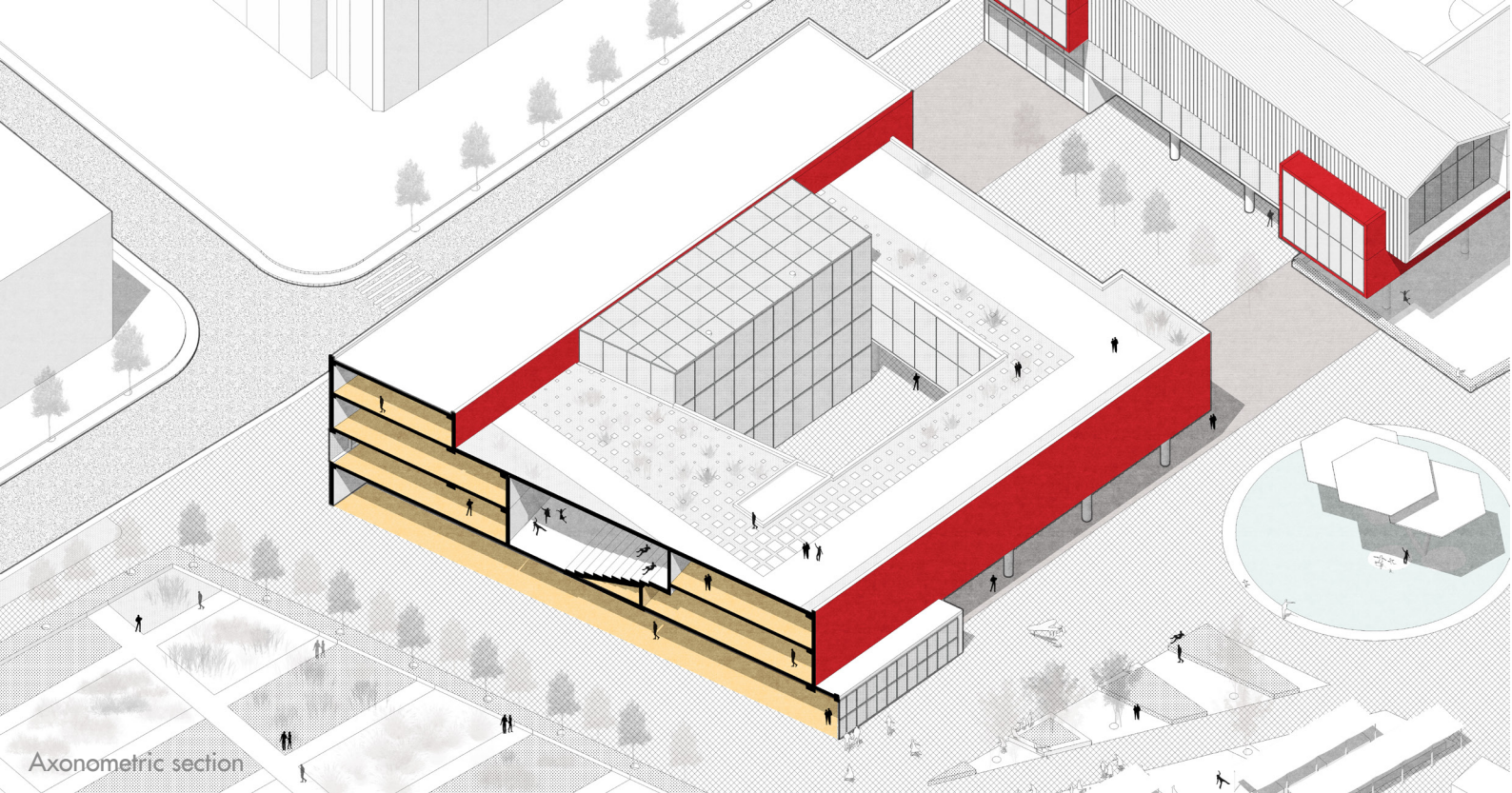
+0.0m

+0.0m

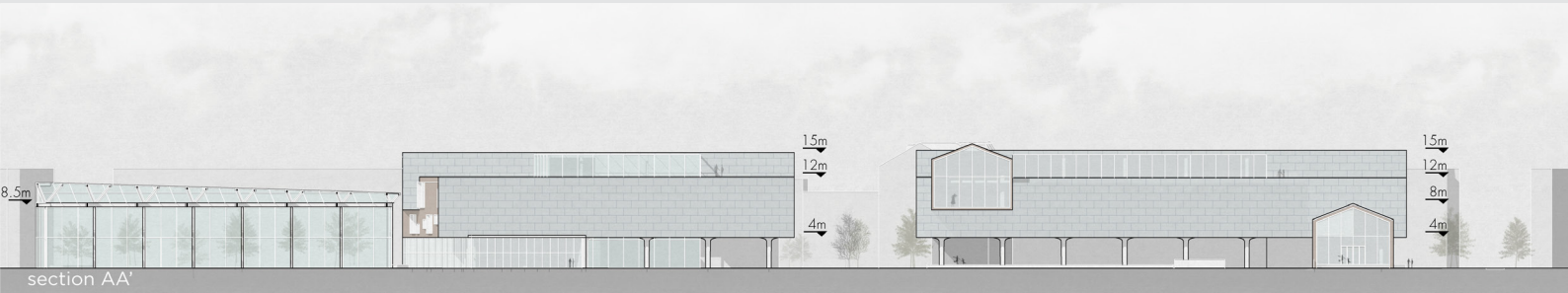
-1.5m

+0.0m

+0.45m



Axonometric section

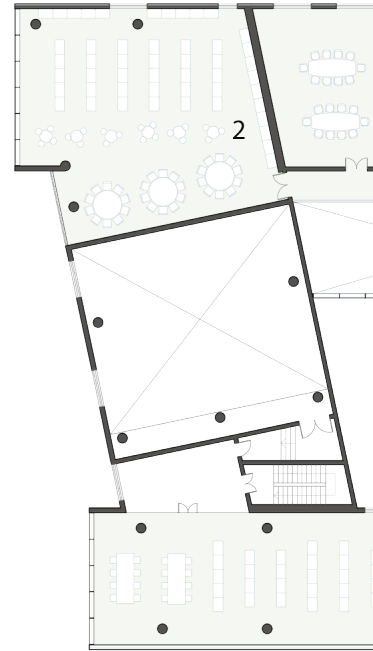




FIRST FLOOR

Exhibition gallery
Auditorium

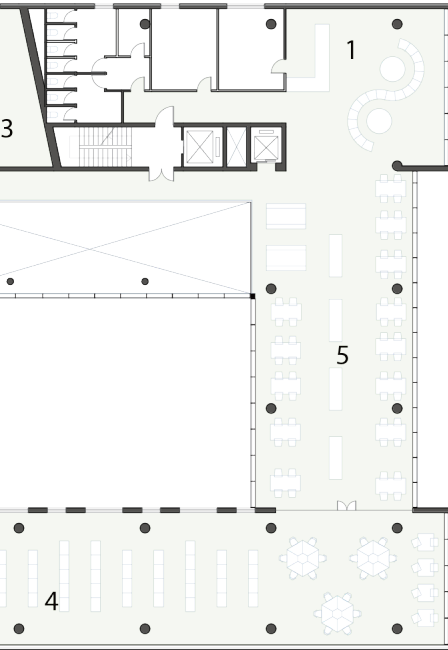
- 1. foyer
- 2. Auditorium
- 3. Gallery 1
- 4. Multi-functional gallery
- 5. MultiMedia Room
- 6. office & storage
- 7. Dressing & rehearsal room



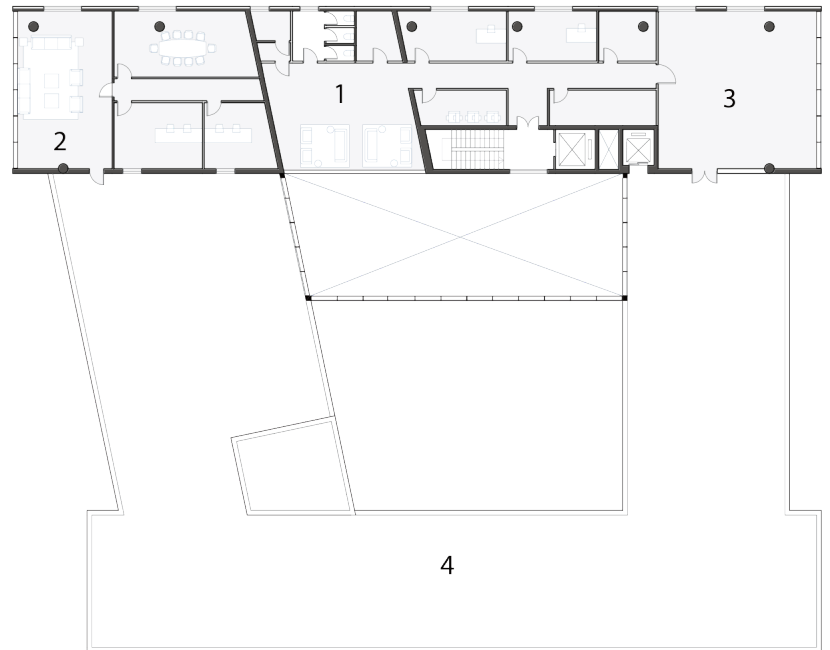
SECOND FLOOR

Library

- 1. Help
- 2. Child
- 3. Conf

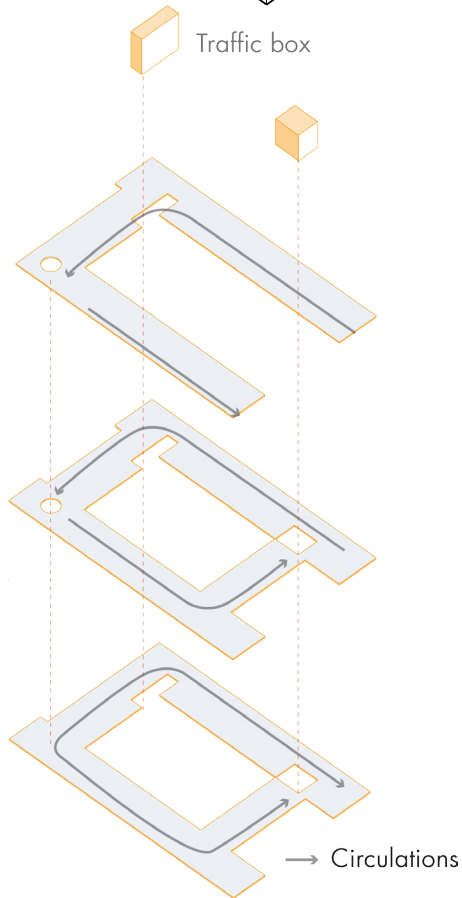
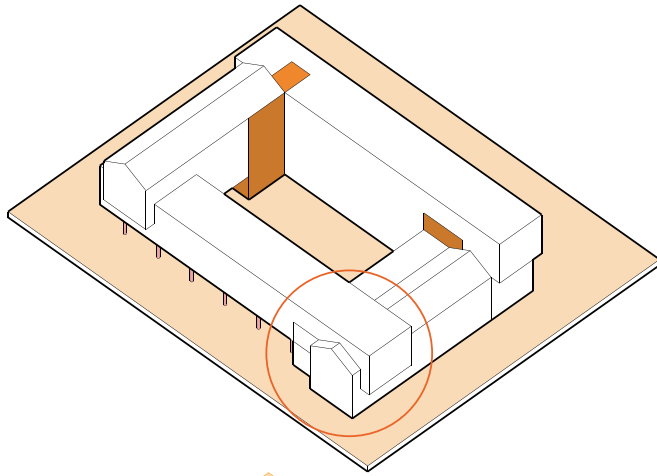


desk
 children's area
 conference hall
 4. Book stacks
 5. Study space



THIRD FLOOR
 Administration
 Roof garden
 1. Office area
 2. Living room
 3. VIP room
 4. Green terrace

BLOCK B ACTIVITY CENTER



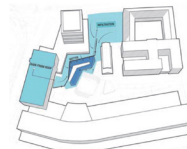
SINK PLAZA REFER

WATER SQUARE BENTHEMPEIN

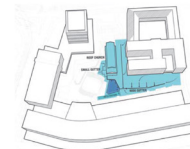
Two in one

The water square combines water storage with the improvement of the quality of urban public space. The water square can be understood as a twofold strategy. It makes money invested in water storage facilities visible and enjoyable. It also generates opportunities to create environmental quality and identity to central spaces in neighborhoods. Most of the time the water square will be dry and in use as a recreational space.

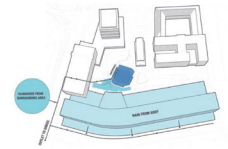
Water square reference



CATCHMENT AREA OF BASIN 1



CATCHMENT AREA OF BASIN 2



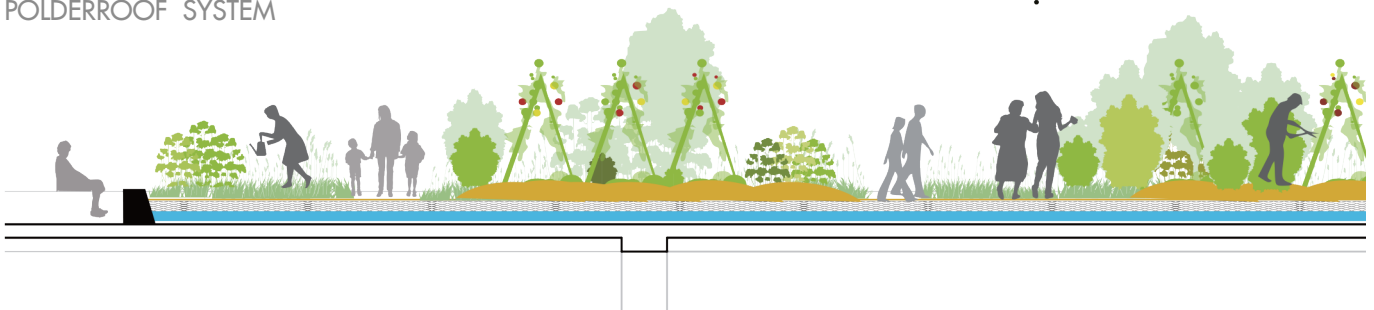
CATCHMENT AREA OF THE DEEP BASIN 3

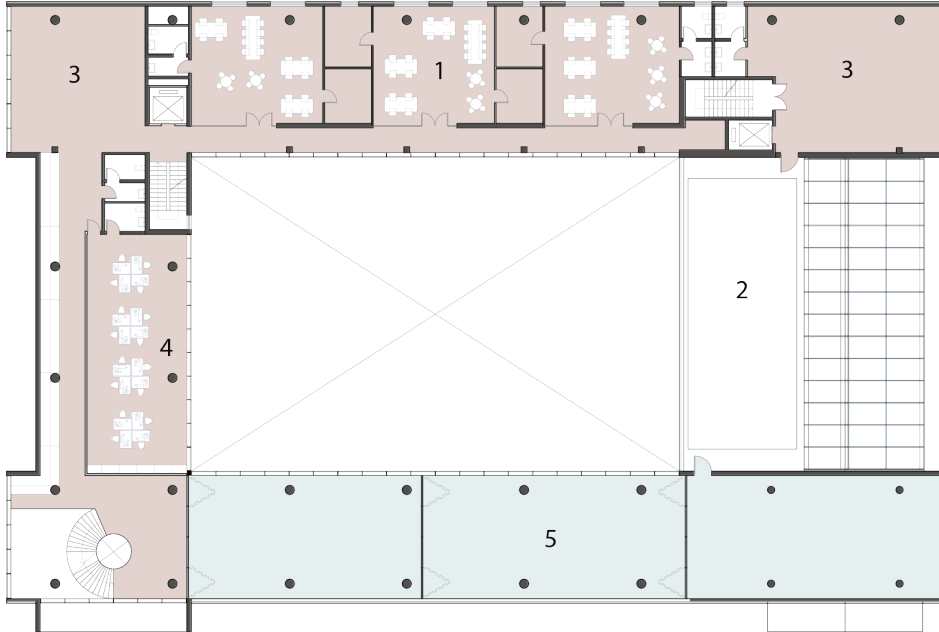




polderroof garden

POLDERROOF SYSTEM

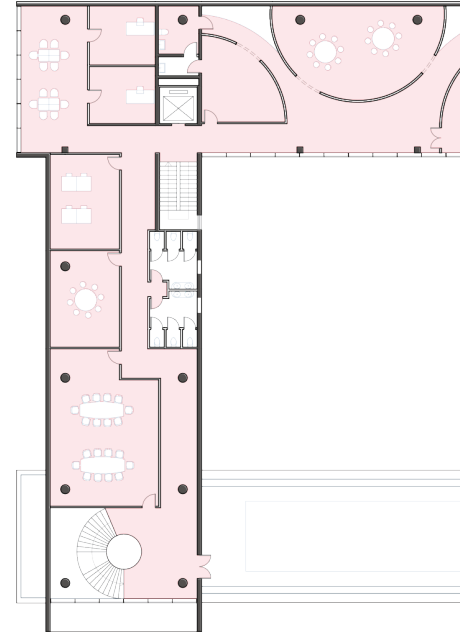




SECOND FLOOR

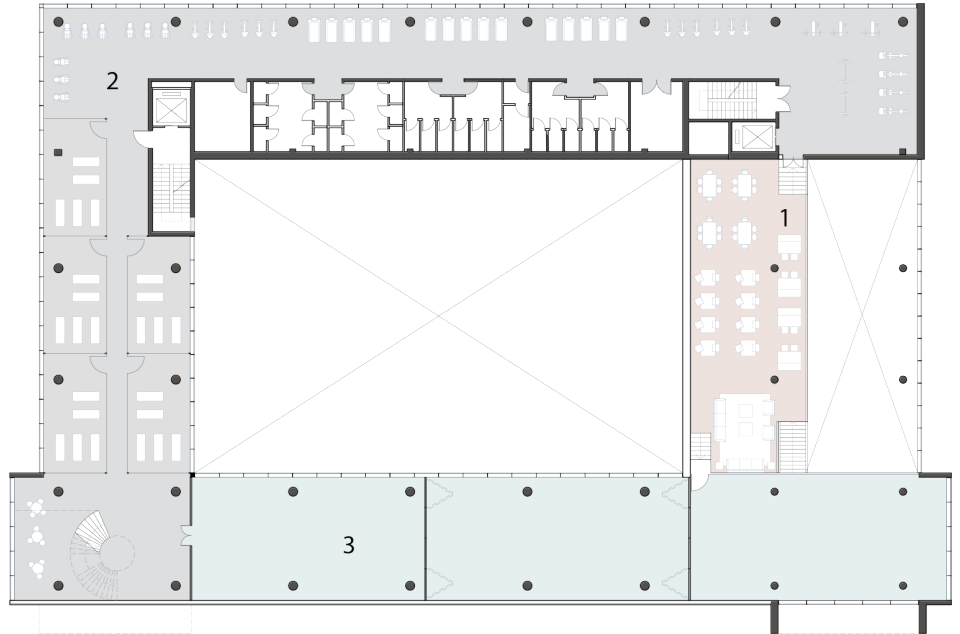
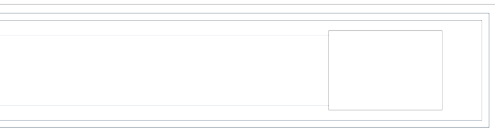
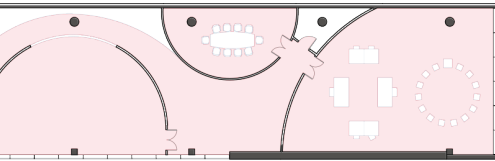
Workshop /
Youth Activity Gallery

- 1. Workshop classroom
- 2. Activity Terrace
- 3. Lounge
- 4. Computer room
- 5. Coworking & producing workshop



THIRD FLOOR

Children's Activity Gallery
Roof garden



FIRST FLOOR

Gym
Multifunctional Performing Gallery

1. Food terrace
2. Gym
3. Performing Classroom

Facades material case study



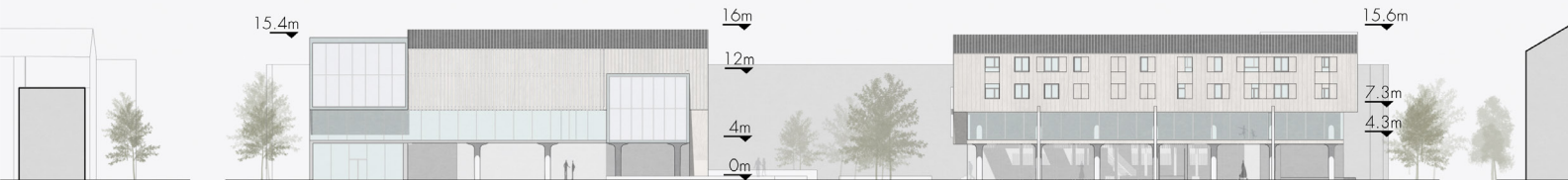
VISUAL ARTS BUILDING, UNIVERSITY OF IOWA Iowa City, United States of America 2016 Steven Holl

Natural ventilation is achieved via operable windows. A punched concrete frame structure provides thermal mass at the exterior while "bubble" slabs provide radiant cooling and heating. A Rheinzink skin in weathering blue-green is perforated for sun shade on the southwest and southeast.



INSTITUTE FOR CONTEMPORARY ART, VCU Richmond, United States of America 2018

The exterior matte translucent glass and pre-weathered titanium zinc skin share the same greenish-grey tonality, giving the building a shifting presence, from monolithic opaque to multifarious translucent, depending on the light.



section BB'

Shading and supporting system case study



Blind shadow system to protect privacy, Introduce this pliar system

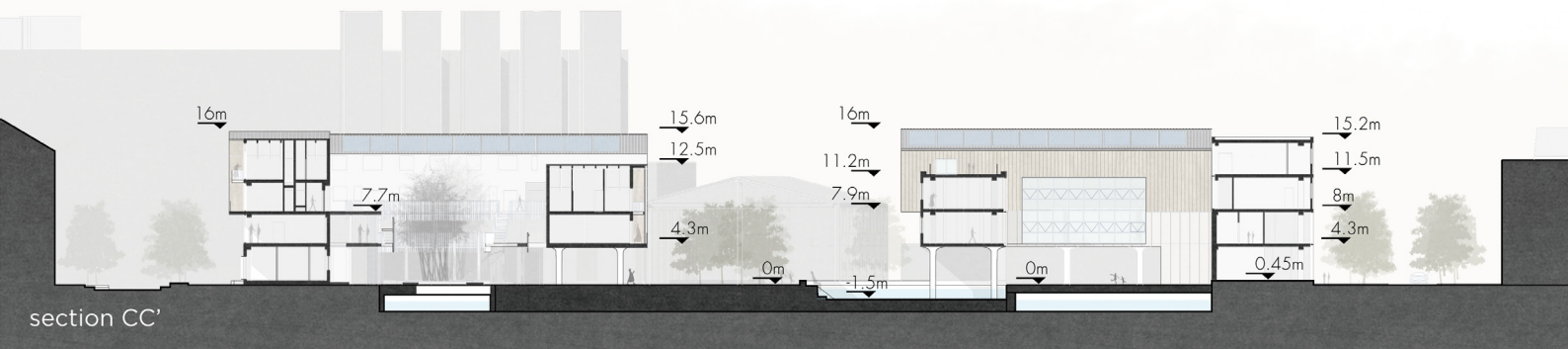
Résidence Simone Veil / Vincent Parreira Atelier
Architecture AAV, PPARIS, FRANCE

Shading and supporting system case study



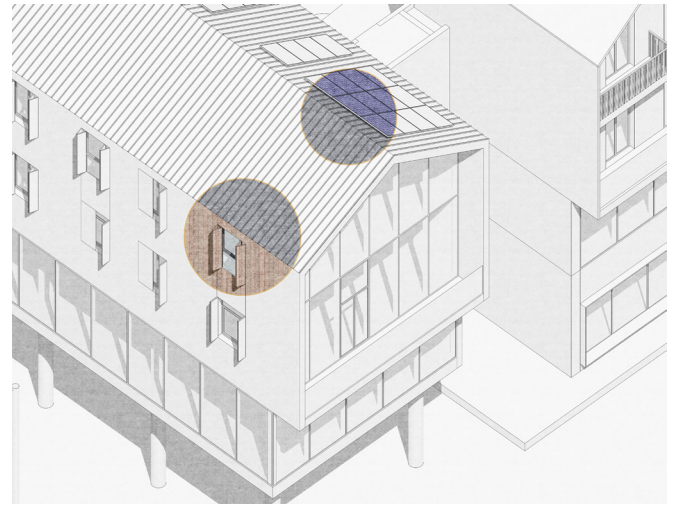
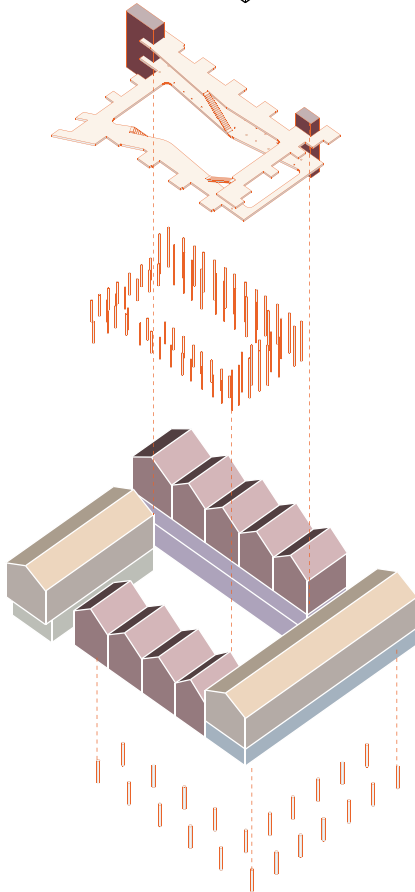
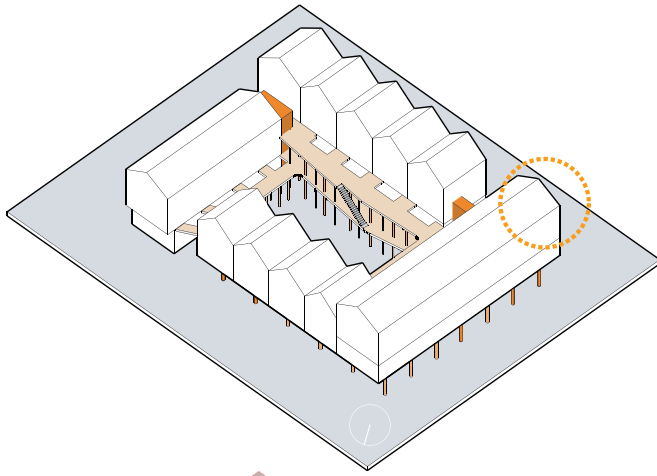
Form of a contemporary hall

Auneau Cultural Center Architecture Patrick
Mauger 2012, France



section CC'

BLOCK C LIVING HUB



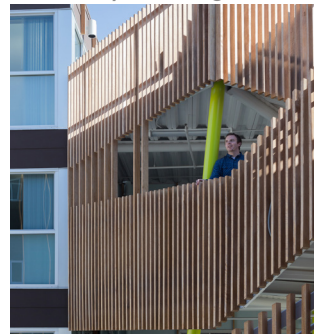
Case study

3 in 1 Housing / Street Monkey Architects



Metal cladding facades & wood ribs over steel for the facades.. It was built with passive house principles and solar panels, which make it extremely energy efficient and, as a result, it won a sustainability award from the municipality.

Broadway Housing / Kevin Daly Architects



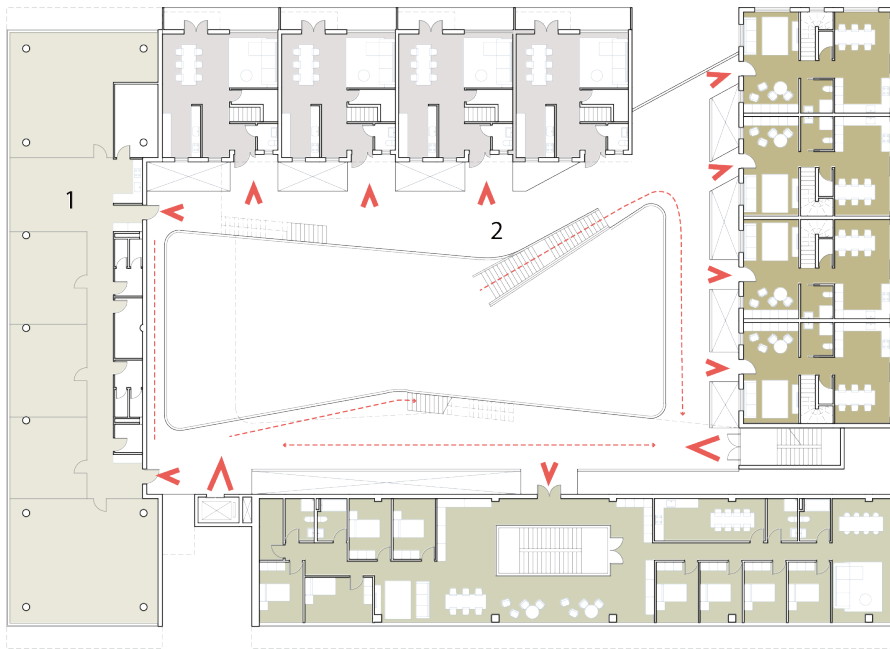
The latticed bridges envelope a central shared courtyard



Courtyard view



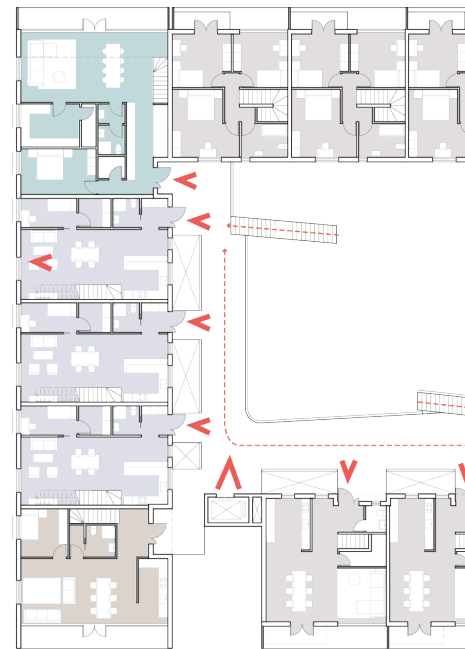
Facade Northeast of block C



FIRST FLOOR

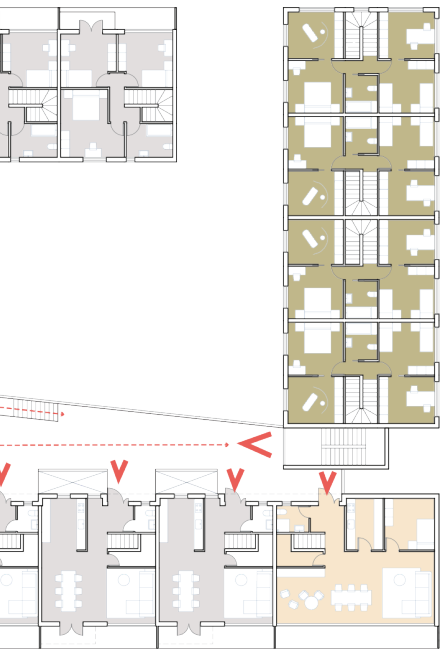
- 1. Community rooms
- 2. Latched bridges

■ co-working & co-living unit living level



SECOND FLOOR

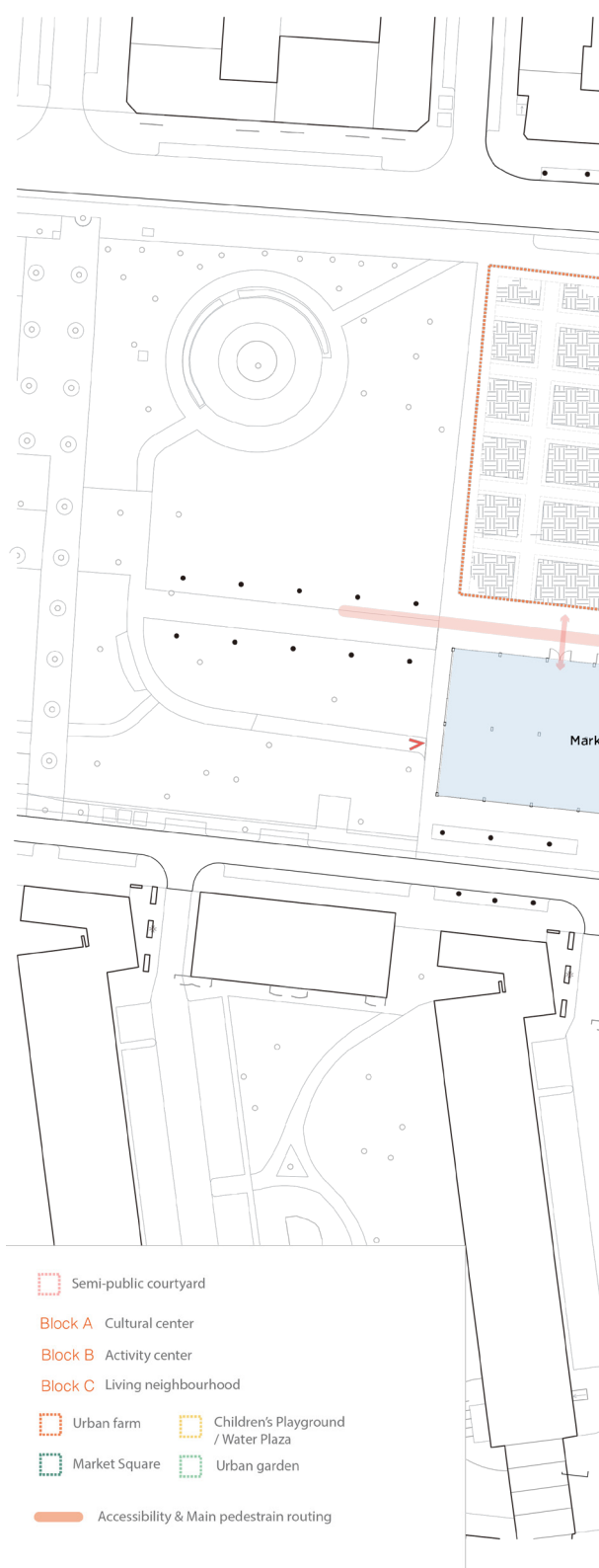
■ Duplex type 1
 ■ Duplex type 4



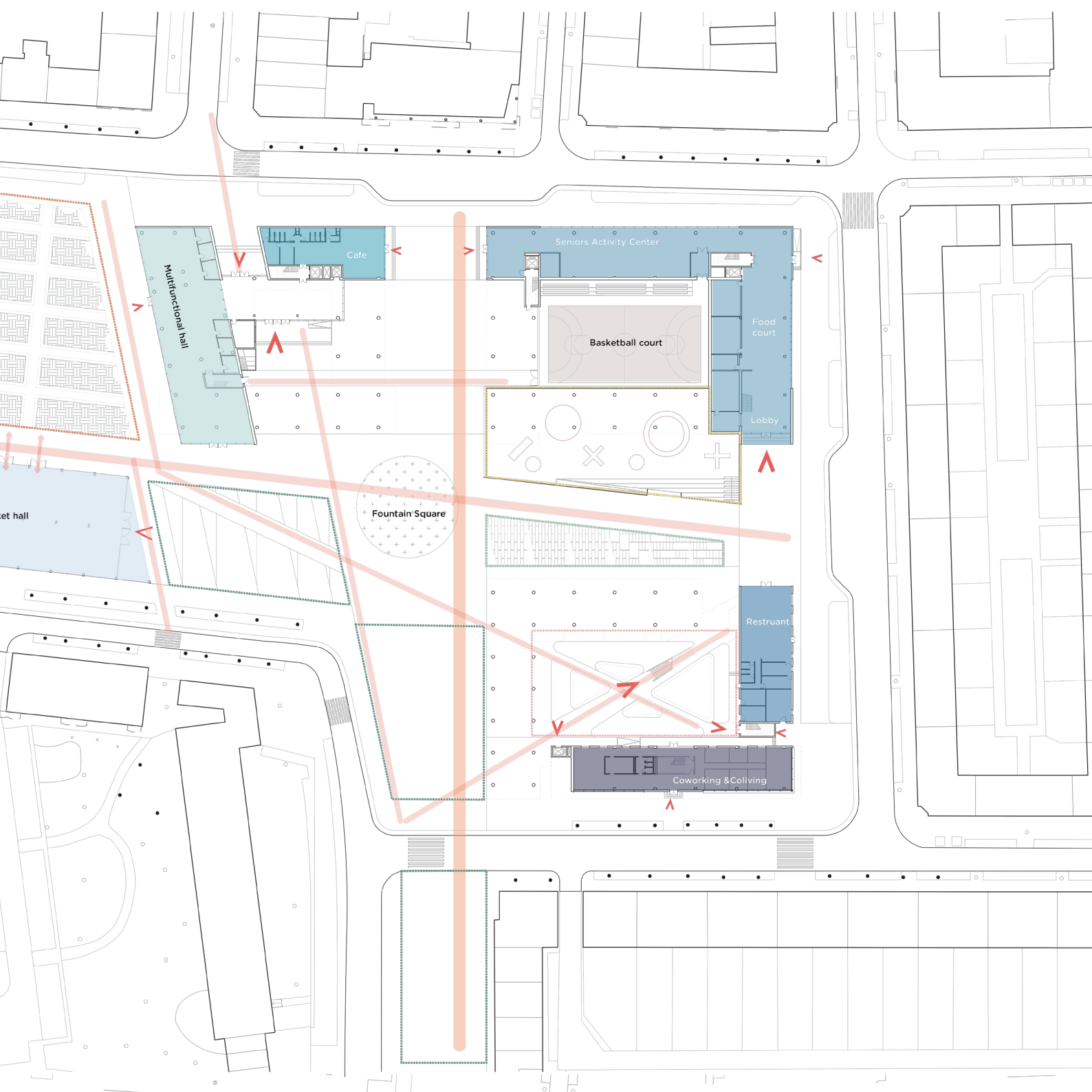
- Duplex type 2
- Duplex type 3
- Duplex type 5
- Duplex type 6



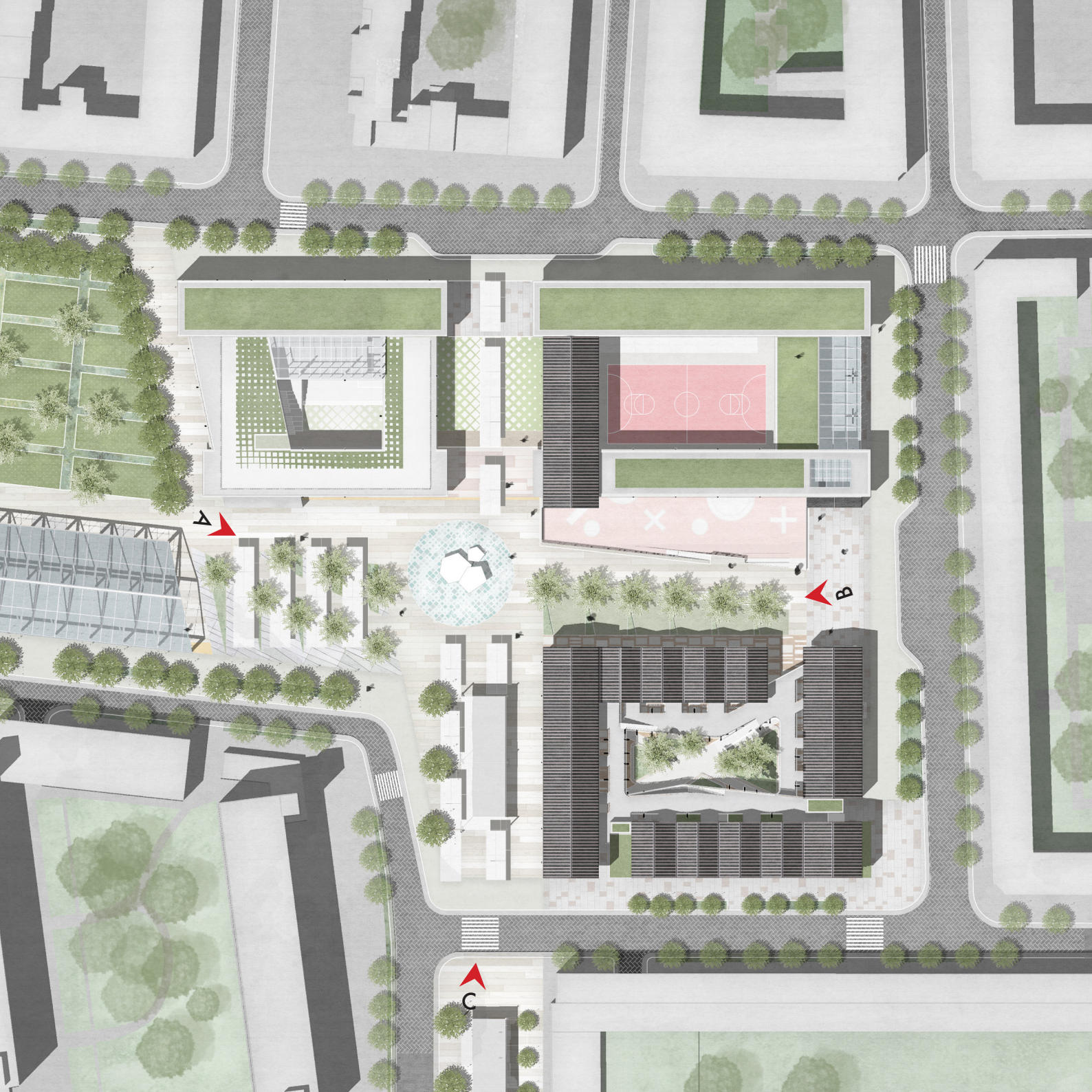
THIRD FLOOR



- Semi-public courtyard
- Block A Cultural center
- Block B Activity center
- Block C Living neighbourhood
- Urban farm
- Children's Playground / Water Plaza
- Market Square
- Urban garden
- Accessibility & Main pedestrian routing



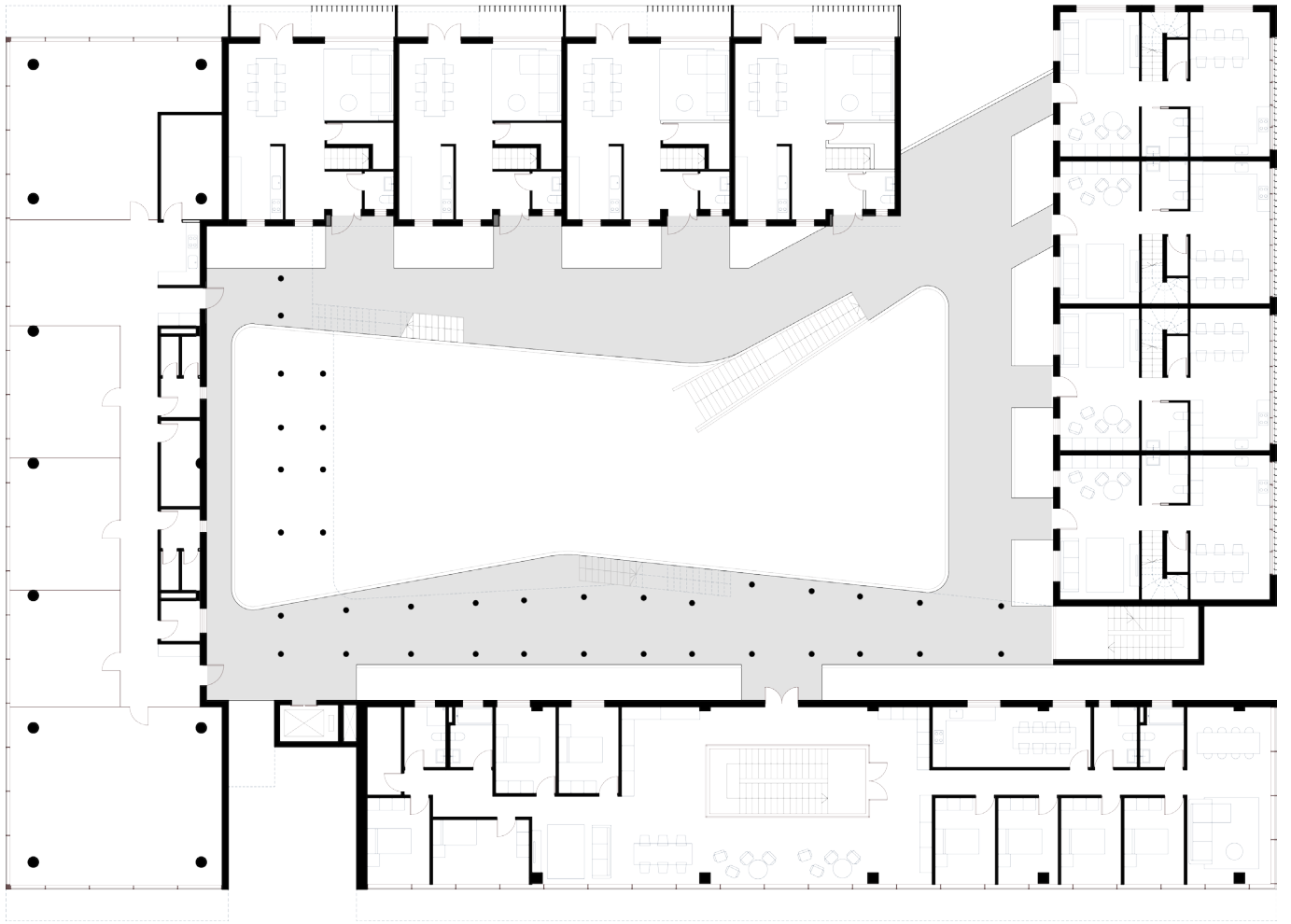




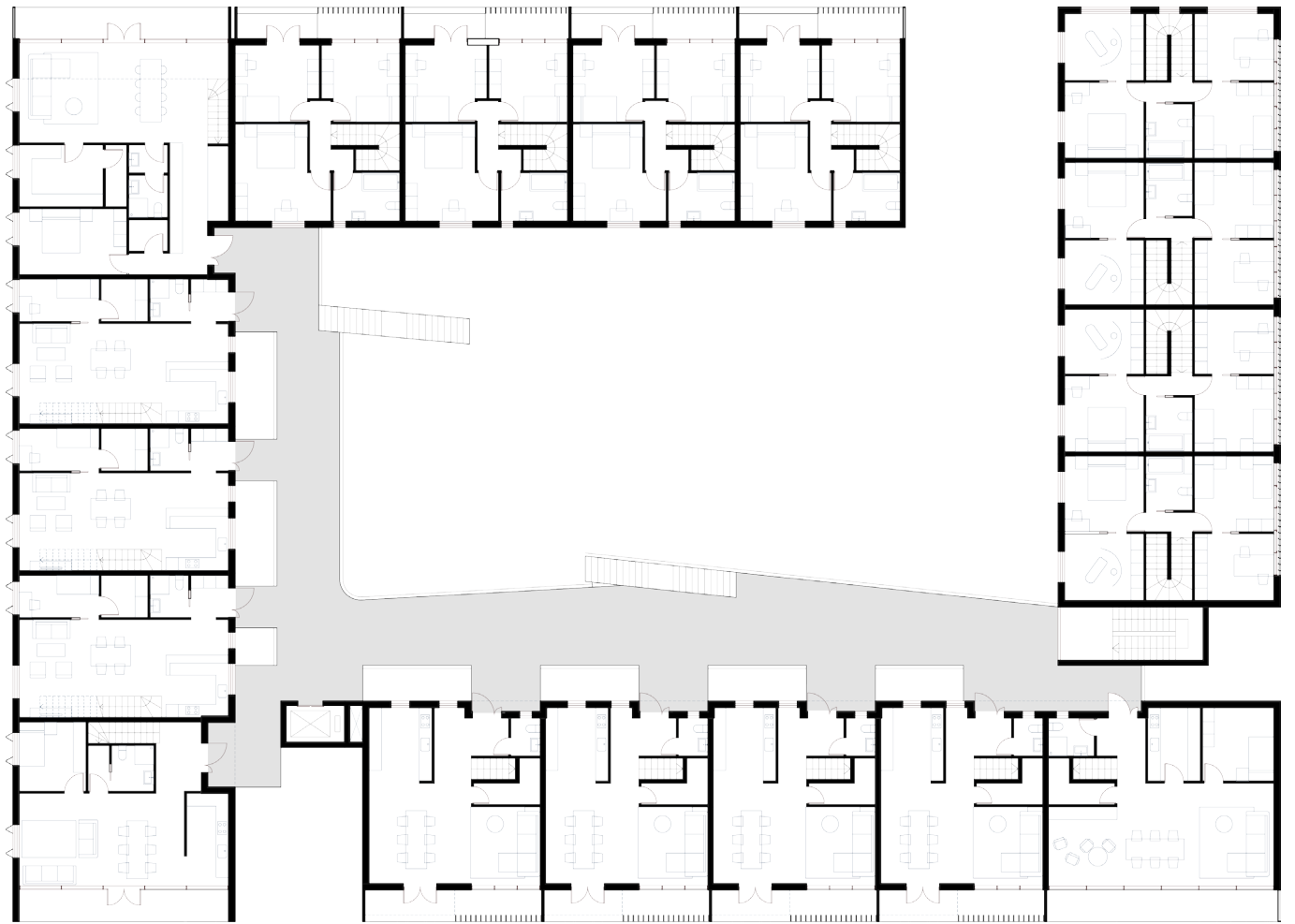
A

B

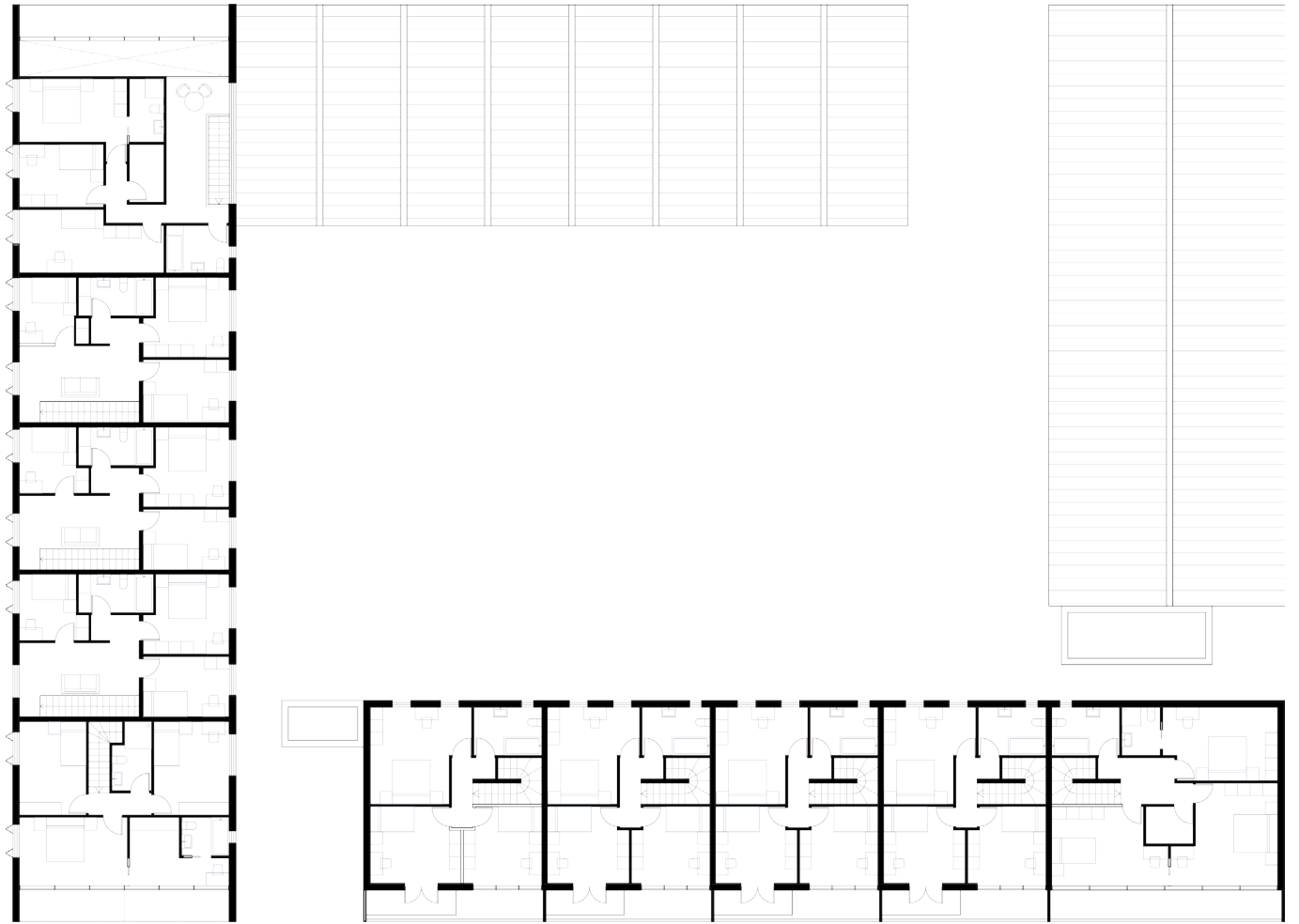
C



Block C plan 1:200 Frist floor



Block C plan 1:200 Second floor



Block C plan 1:200 Third floor



street view A



street view B



street view C

References and resources

www.airrotterdam.eu

www.e15rotterdam.nl

www.bospoldertussendijken.nl

<https://repository.tudelft.nl/islandora/search/?collection=research>

Research Professor Gert-Joost Peek and Kees Stam, October 2016, *Building the Innovation Economy* .

100resilientcities

<https://100resilientcities.org/wp-content/uploads/2017/06/strategy-resilient-rotterdam.pdf>

