

KATTENBURG, AMSTERDAM

RESEARCH REPORT



TUTORS

Pierijn van der Putt
Theo Kupers

STUDIO

Dennis Boon
Niels Buring
Maarten de Roij
Byoungwoo Kim
Shea McGibbon
Azita Saein
Tchoman Said
Daniël Sukel
Jonne van de Meulengraaf
Claudia Vermeulen
Kirsten van Zeijl

KATTENBURG, AMSTERDAM

RESEARCH REPORT

CONTENT

INTRODUCTION	7	Residents	107
		The arch of triumph	111
01 KATTENBURG	11	06 ARCHITECTURE BUILDINGS	113
Introduction	11	Introduction	113
Introduction	13	Architecture - Buildings	115
Photo Essay	15	Materialization	117
Piet Heinkade	16	Floor plans	118
Old city centre	17	Structure	120
		Sections	122
02 HISTORICAL CONTEXT	47	Sections	124
Introduction	47	Façades	127
History of Amsterdam	48	Dwelling units	130
Timeline of Kattenburg	50		
History of Kattenburg	52	07 ARCHITECTURE OPEN SPACE	133
Development of Kattenburg	54	Introduction	133
Historical pictures	56	Public-Private	134
Transformation of Kattenburg	59	Green space use	135
Layers of history	60	Hard/soft soil	136
Ideology of urban design	62	Water	137
The vision of the architects	65		
The 70's: Critics and a new ideology	67	08 SITE CHARACTERISTICS	139
		Introduction	139
03 INFRASTRUCTURE	69	Introduction	139
Introduction	69	Building orientation / shading	140
Road network Amsterdam	70	Building orientation	141
Road network Centre	71	Wind direction / climate	142
Road network neighbourhood	72	Noise pollution	143
Road Impressions	73	Soil quality	144
Public Transport Amsterdam	74	Construction Period	145
Public Transport Centre	75	Building height	146
Pedestrian cyclist bridges	76		
Entrance & traffic	77	09 FUTURE	149
Kattenburgerstraat	78	Introduction	149
		Amsterdam	150
04 USE & FUNCTION	81	Plan Amsterdam	152
Introduction	81	The four major thrusts of Amsterdam	154
Functions in Amsterdam	82	Oostelijke Eilanden	158
Functions	84	Oostelijke Eilandenboulevard	160
Dwellings	85	Dijkgracht	162
Entrances	86	Oostenburg	164
Building Ground floor use	88	Future scenarios by the inhabitants	165
Parking	90	Future scenario for the former Marineterrein	166
Recreation	92		
Waste management	93	10 DENSITY STRATEGIES	173
		Introduction	173
05 SOCIO-ECONOMICS	95	Cites and Dwelling Densities	174
Age groups	96	Dwelling Density in Amsterdam	176
Ethnic groups	97	Why must we increase the Density of the city?	180
Student housing	98	How to intensify: Typological comparisons	182
Employed population	99	Model studies	208
Income	100	Model studies	212
Ownership	102	Model studies	214
Length of residence	103	Conclusions	216
Housing value	104	Challenges of densification	218
AirBNB Value	105		

Design considerations	220
Privacy	226
Outdoor space + Public Realm	227
Environmental Sustainability	228
Role of Local Authorities	229
Service Charges	230

11 TRANSFORMATION 233

Introduction	233
Why transform instead of replace?	234
Topping-up	236
Adding-on	238
Back-to-back	240
Infill	242
Remodel	244
Extension	246

APPENDIX 249

Content	249
01 Street profile comparison	250
Kattenburg	251
Van der pekstraat	252
IJburglaan	253
Jan van der neuthof	254
Lampenistenstraat	255
Groesbeekdreef & Nellesteinpad	256
Lindenstraat & Boomstraat	257
Rooseveltlaan	258
Oudezijds Achterburgwal	259



INTRODUCTION



INTRODUCTION

The aim of this report is to collate a comprehensive analysis of the Kattenburg island housing estate in Amsterdam. Consisting of thirteen chapters the scope of this research will cover a wide spectrum of topics to enable the reader, and more importantly the graduation candidates, to gain a true appreciation of the existing conditions on site.

INTRODUCTION



Kattenburg island viewed from the air

This research report is being undertaken as part of the 2015-2016 Graduation Studio of the Chair of Dwelling at the Technical University of Delft, the Netherlands. Specifically this research forms part of the ongoing research into contemporary urban lifestyles in Dutch cities, which is investigated at both the scale of the city and that of the dwelling.

The specialisation with housing in the Netherlands reflects the ongoing shifts in living in this country. With population distributions becoming evermore clustered around urban centres due to shifting economic, social and technological patterns the reuse of inner-city sites to accommodate increased densities of inhabitation is a topic of great importance to the professions of the built-environment. This will require an understanding of inner-city urban environments and a reappraisal of existing approaches to design in order to develop design attitudes which provide increased density and enhance the quality of life for those dwelling in the city centre.

For this graduation studio the site of Kattenburg island in Amsterdam has been chosen. With a rich history of dwelling in this area, along with bold visions for the renewal of the Marineterrein (Navy terrain) the site has a lot of potential for future development.

The housing estate on the island will be the main area of intervention for the graduation candidates. The central themes of the studio will be the adaptive-reuse of the existing municipal housing and the increased density of dwellings required for new residents. These two opposed aims offer the candidates a complex challenge, and as such will draw upon the depth of the following research to first comprehend the site conditions and then formulate an appropriate design approach.

The structure of the research will begin with an historical appreciation of Amsterdam and the site, progressing to an analysis of the existing conditions on site, and finally an appreciation of how to increase density and transform the area.



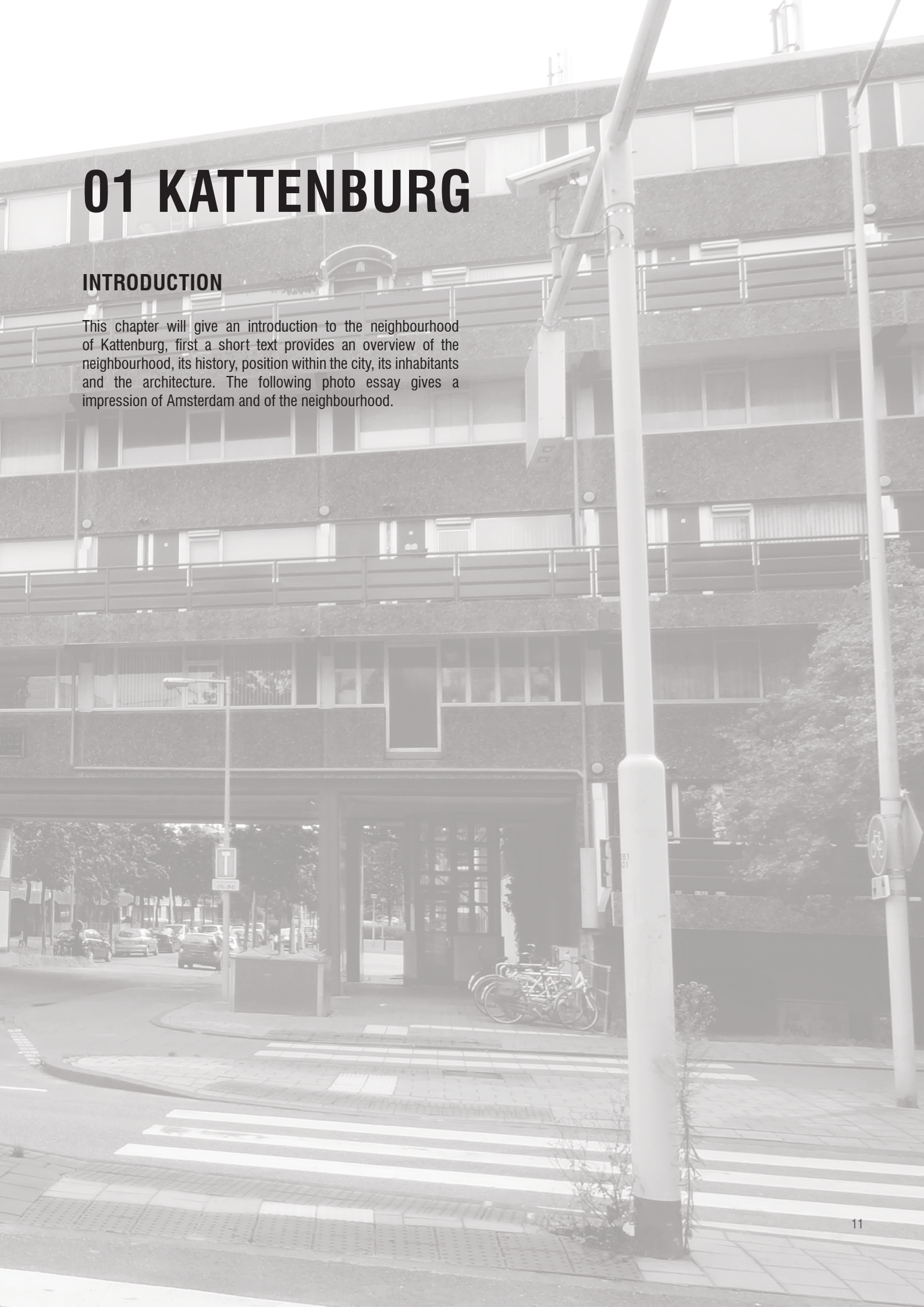
OLIFANTSWERF
CENTRUM



01 KATTENBURG

INTRODUCTION

This chapter will give an introduction to the neighbourhood of Kattenburg, first a short text provides an overview of the neighbourhood, its history, position within the city, its inhabitants and the architecture. The following photo essay gives a impression of Amsterdam and of the neighbourhood.





Location of Kattenburg in the city of Amsterdam



Regional location of kattenburg

INTRODUCTION

Kattenburg is a small neighbourhood in the Dutch city of Amsterdam with a rich history which goes back to the roots of the city. The neighbourhood as it is today has been realised during the sanitation of the area in the 1960's. In contrast to its former character of a dense inner city neighbourhood it now provides a green area within the city with multiple storey buildings. The location of Kattenburg, just behind the old Marineterrein and the National Maritime Museum, gives it good connections to the city centre.

Kattenburg is located just to the east of the Amsterdam city centre. The site has a long, narrow rectangular form with a south-west to north-east orientation. The neighbourhood is bounded on four sides. At the west the site is bound by the Kattenburgerstraat. An arterial road which connects the city centre with the recently reconstructed Piet heinkade and the Java and KNSM islands. At the northern side of Kattenburg lies a relatively broad water and across the water a series of railroad tracks and the Piet Heinkade. At the east a small waterway with a couple of bridges forms the line between Kattenburg and Wittenburg and at the south side stands a block with student housing.

After a turbulent history, starting in the early 17th century, the buildings which are now on the site are built after the sanitation of the area. The decision to sanitise Kattenburg was made in the 1960's by the municipality, the old neighbourhood was demolished and new housing was erected. These buildings make up the Kattenburg of today. Now Kattenburg is the most western of the eastern islands, with Wittenburg and Oostenburg to the east. The design of the buildings was made by Rotterdam based ABBT architects (Dick Apon, Toon ter Braak, Johan van den Berg and Willem Bastiaan Tromp). The office was formed in 1955 and had already worked on a couple of projects before they started to get involved in housing in the sixties and seventies.

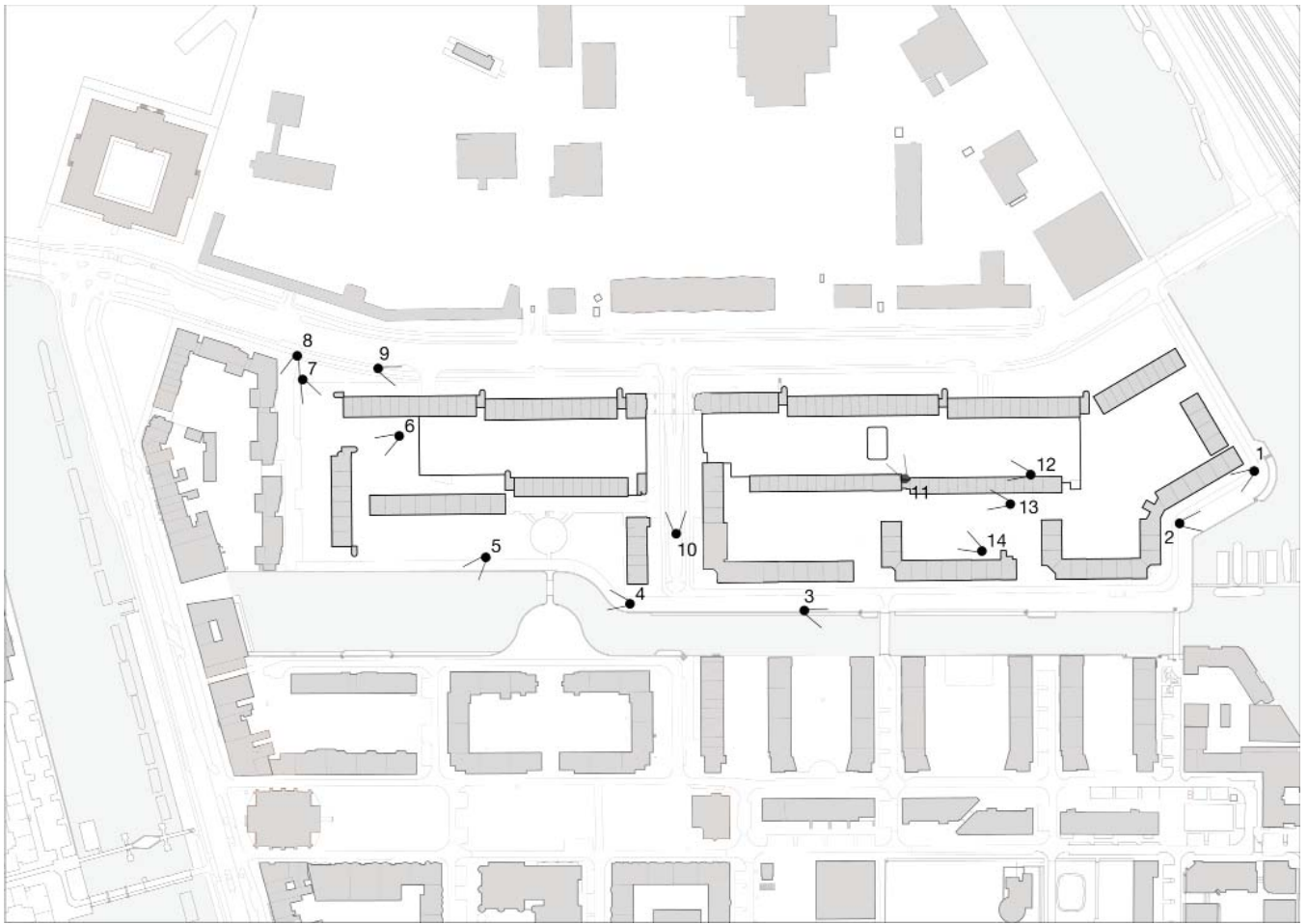
Kattenburg lies close to and is well connected to the city and the regional infrastructure. As mentioned the Kattenburgerstraat

runs along the length of the neighbourhood and connects it to both the city centre and the neighbourhoods to the north. Three bridges connect Kattenburg with Wittenburg and the eastern part of Amsterdam. Because of its proximity to the city centre some of the best spots such as the Vondelpark en the Jordaan are at only fifteen minutes cycling distance. Also by public transport the neighbourhood is well connected to the network. Furthermore the central station of Amsterdam is near by which gives Kattenburg a good connection to the rest of the Randstad area and the rest of the Netherlands. The entire area is well accessible by foot and bike, cars can be parked underneath the deck in a parking, with an bike path running along the water from the south past the marina to the bridge leading to the Piet Heinkade.

Kattenburg is a neighbourhood which with a predominant living use. It houses 636 Dwellings, one daycare centre and a neighbourhood community centre on the 6 acre site. And at the northern point of Kattenburg lies a small marina. A large part of the Kattenburg residents is formed by young people, elderly people and families with young children there is a student housing complex at the Bijltjespad south on Kattenburg,. Mostly through the elderly people the people still feel a connection to the old, pre sanitation, neighbourhood. The general income and level of education are the same on Amsterdam average and the housing stock consists predominantly of social housing single and double storey apartments.

The neighbourhood was designed in the 1960's brutalist inner city utopia. Long gallery slabs of 5 to 7 storeys high are placed around open green spaces, on the ground floor and on top of the parking deck. The apartments are accessed either through a ground floor condition front door or by the galleries. The galleries are accessed through characteristic plastered white towers while the slabs and galleries are clad with rough concrete panels. The green spaces on the ground floor are freely accessible but the deck is only available to the residents and forms a collective area.

PHOTO ESSAY



Locations and the directions in which the photos were taken

The following photo essay gives a visual introduction to Amsterdam and Kattenburg. The first two pages show the old city centre of Amsterdam and the recently reconstructed Piet Heinkade along the IJ. The following series of photos shows an impression of Kattenburg and the direct surroundings. Both the location and the direction in which the photos were taken are shown on the map on top of this page.

PIET HEINKADE



OLD CITY CENTRE





01













06







HOFGARAGE

09



10











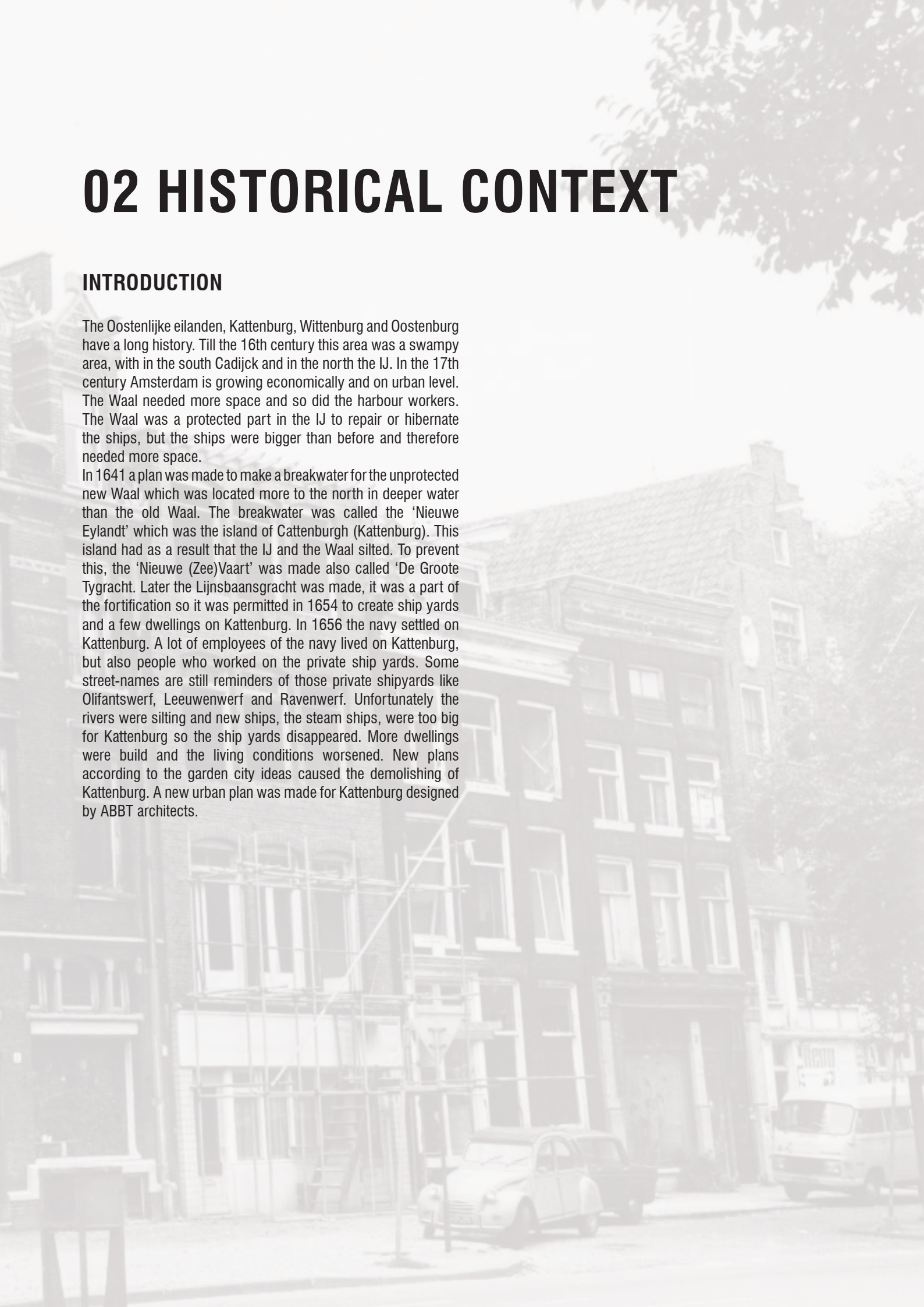


02 HISTORICAL CONTEXT

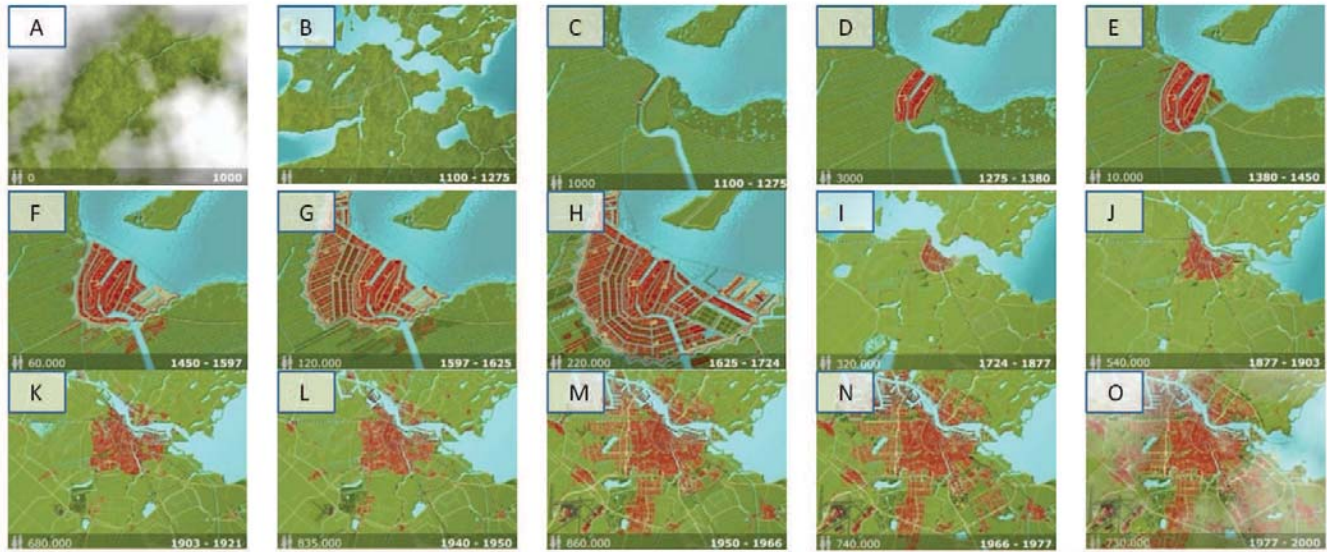
INTRODUCTION

The Oostenlijke eilanden, Kattenburg, Wittenburg and Oostenburg have a long history. Till the 16th century this area was a swampy area, with in the south Cadijck and in the north the IJ. In the 17th century Amsterdam is growing economically and on urban level. The Waal needed more space and so did the harbour workers. The Waal was a protected part in the IJ to repair or hibernate the ships, but the ships were bigger than before and therefore needed more space.

In 1641 a plan was made to make a breakwater for the unprotected new Waal which was located more to the north in deeper water than the old Waal. The breakwater was called the 'Nieuwe Eylandt' which was the island of Cattenburgh (Kattenburg). This island had as a result that the IJ and the Waal silted. To prevent this, the 'Nieuwe (Zee)Vaart' was made also called 'De Groote Tygracht'. Later the Lijnsbaansgracht was made, it was a part of the fortification so it was permitted in 1654 to create ship yards and a few dwellings on Kattenburg. In 1656 the navy settled on Kattenburg. A lot of employees of the navy lived on Kattenburg, but also people who worked on the private ship yards. Some street-names are still reminders of those private shipyards like Olifantswerf, Leeuwenwerf and Ravenwerf. Unfortunately the rivers were silting and new ships, the steam ships, were too big for Kattenburg so the ship yards disappeared. More dwellings were build and the living conditions worsened. New plans according to the garden city ideas caused the demolishing of Kattenburg. A new urban plan was made for Kattenburg designed by ABBT architects.



HISTORY OF AMSTERDAM



Grow of Amsterdam

- B By building the dikes and dams the floods could be controlled and the area became safe for establishment.
- C-H Time of shipping and trade. More space was needed to accommodate wealthy merchants.
- J Time of shipping had ended in 1795. New residential areas were needed.
- K-O Further residential development of the city

Resourceful beginnings

When the last millennium was still quite young, a handful of adventurers came floating down the river Amstel in hollowed-out logs. Out of the marshlands and swamps surrounding the Amstel River, a structure of dams and dikes was forged - the first of which is marked by the Dam square at the heart of the city today. These canny "Aemstelledammers" began exacting toll money from the passing beer and herring traders of the roaring Eastern Sea Trade of the Baltics. They quickly became expert boat builders and brewers; attracting more interest in the emerging town. In 1300 the town got its first charter.

Trade

The right to free passage proved to be crucial for the economic development of Amsterdam. Free passage meant that traders could operate cheaply. In particular, beer and herring proved popular commodities. For example, in 1323 Amsterdam owned the exclusive right to import beer from Hamburg. Also, the herring trade grew rapidly after the invention of herring curing - a technique that involved removing the fish's intestines directly after they were caught in order to keep them fresh longer. This allowed fishermen to catch more fish and thus make more profit.

Golden Age

By the end of the 15th century, the city developed rapidly. After the Spaniards conquered Antwerp, many wealthy Jews fled to Amsterdam. The money they brought with them was used to organise trips to India, which proved a huge commercial success. Then in 1602, the Dutch East India Company was founded. The

city of Amsterdam had a major share in the organisation, which was to become the first multinational company in the world. The result was a period of unprecedented prosperity, causing the 17th century to become known as the Golden Age. During this period, the city underwent two massive urban expansions, and for the first time both functionality and beauty were taken into consideration. The art scene was also flourishing at this time. In the first half of the 17th century, the number of artists grew enormously and there was an explosion of art and art dealers in Amsterdam.

Industrialisation

At the end of the 17th century, the Amsterdam economy came to a standstill, resulting in a period of decline and increasing poverty. But with the construction of the North Sea Canal (1876), Amsterdam finally had a direct connection to the sea. From that moment on steamships became part of everyday life in Amsterdam's port. It was a turning point for the city. Thanks to trade with the Dutch East Indies (Indonesia), Amsterdam acquired an important position in the world spice trade. The diamond trade with South Africa also began to evolve at this point. That new period of prosperity is reflected in the construction of monumental, architectural masterpieces. In 1889, Amsterdam's Central Station was completed. A few years later, the Concertgebouw, Theatre Carré and Hotel Americain followed.

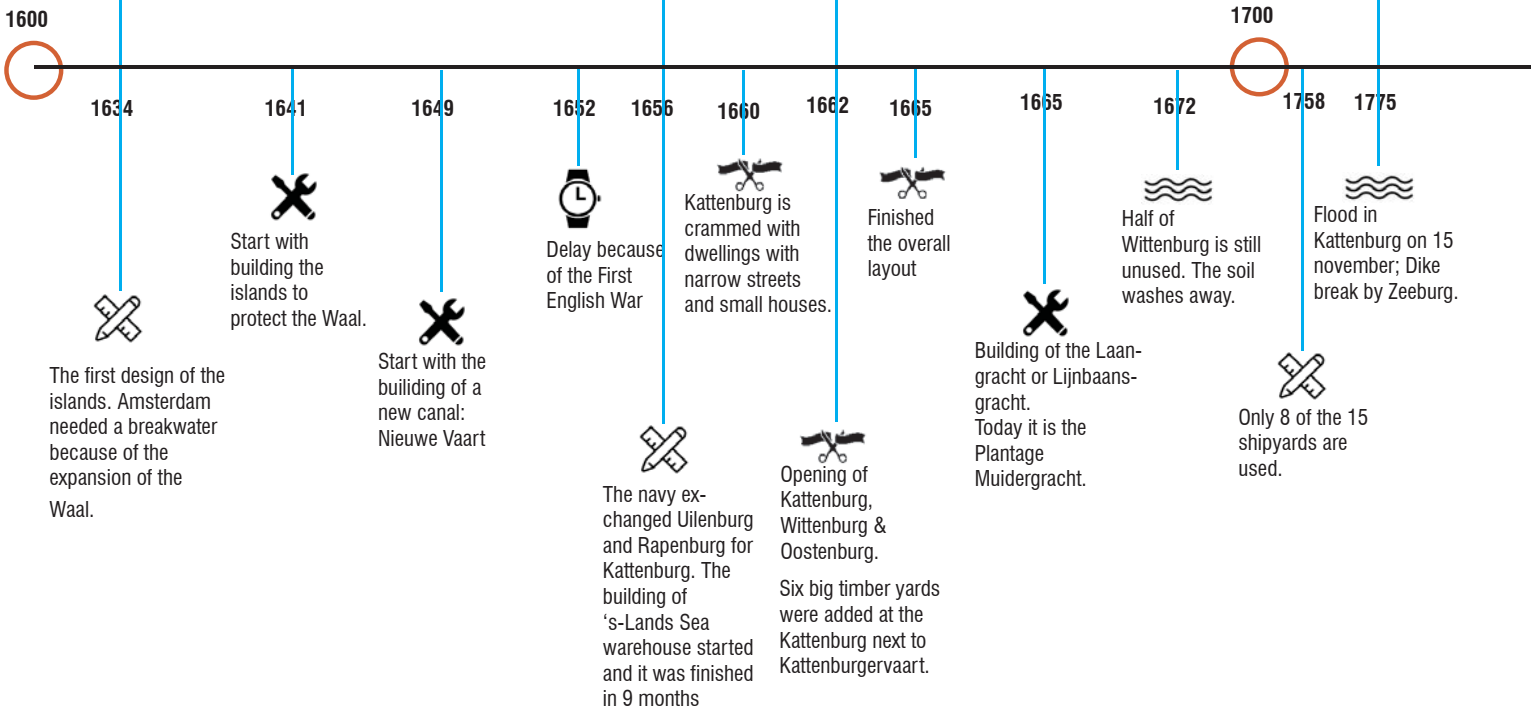
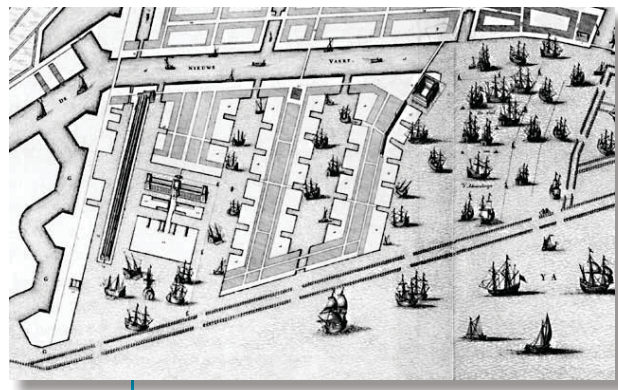
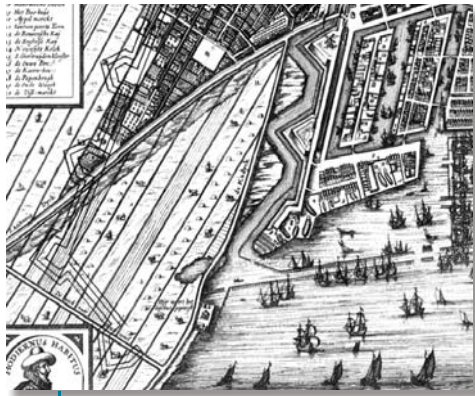
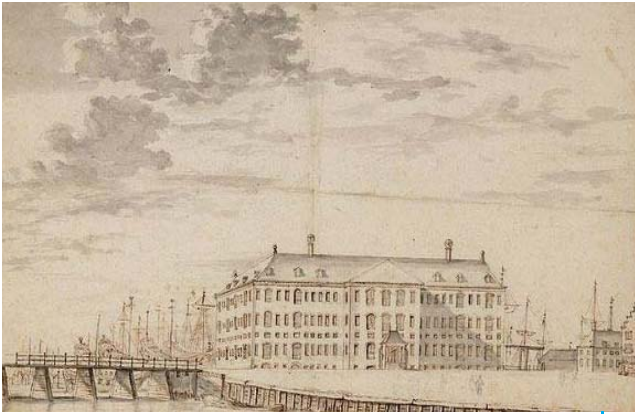
Reference

Amsterdam Historic Museum
<https://www.iamsterdam.com/en/visiting/about-amsterdam/history-and-society?tg=d6fa19f7-2822-4be2-b928-b8c977d77318>

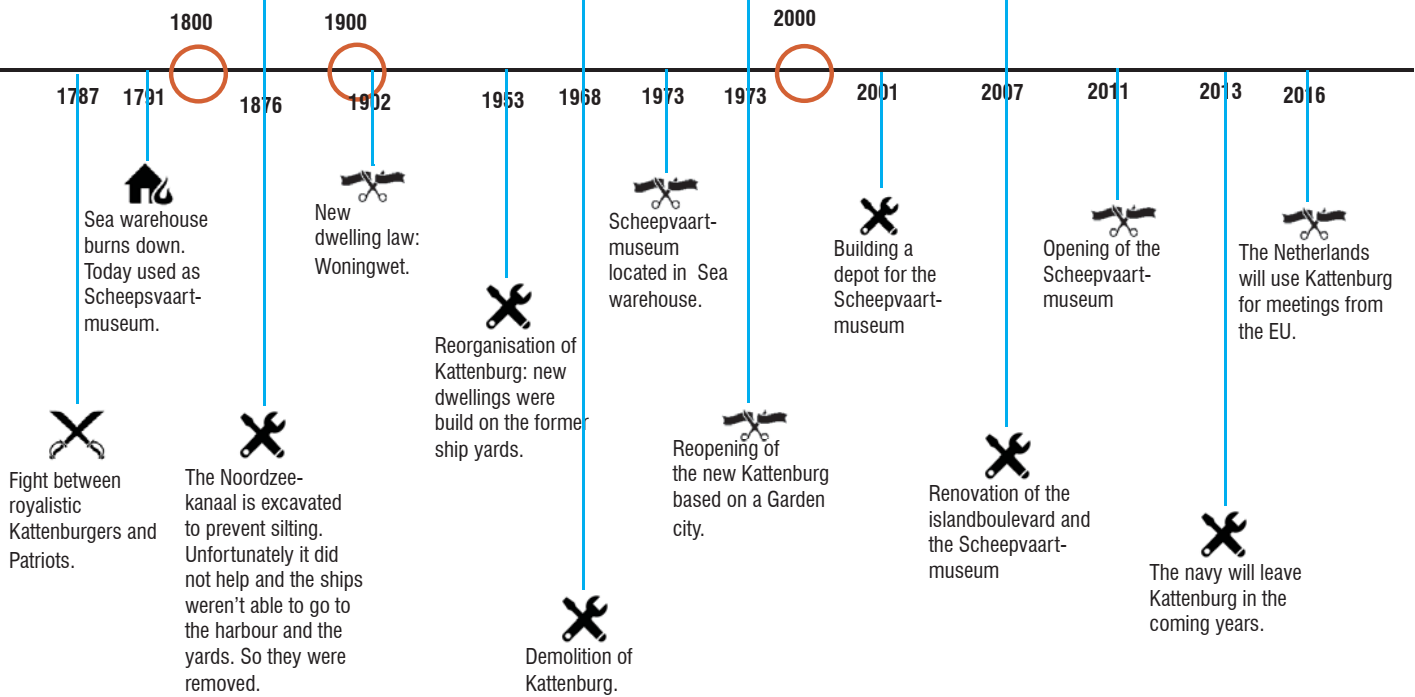
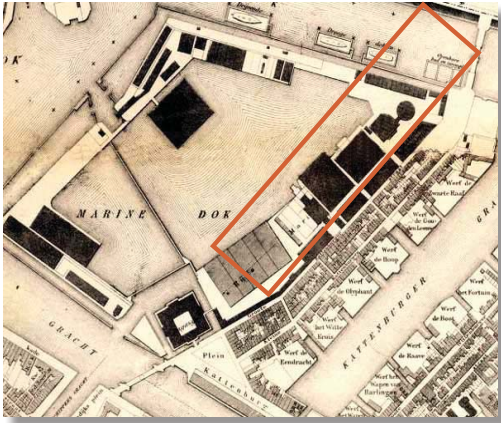


This picture is from 1950 - 1955 when Kattenburg was demolished (Beeldbank Amsterdam)

TIMELINE OF KATTENBURG



References
 Amsterdam's zeehaven in beweging: Kattenburg, Wittenburg, Oostenburg by Theo Bakker



HISTORY OF KATTENBURG

The Old Waal, a harbour for ships, needed an improvement. The ships were getting bigger and the Waal was getting shallower. After the widening of the Waal, the government received complaints in 1634 about turbulent water in the new part of the Waal which was exposed to open water. They needed a wavebreaker to shelter the ships. They decided to make a big dam with a stronghold. This idea is fundamental for the later Kattenburg. The building started in 1641. During the building they decided to make a second island. This plan is visible in the drawing top left. You can still see the nod in the wall of the Kattenburgerstraat.

The islands were important for Amsterdam because of the shipyards on the islands. Later the city was expanded in the east to protect the new islands. The Funen was built (also known as Keerweer) and a new canal in 1665; the Baangracht (or Lijnbaansgracht). Today a part is still canal and it is called the Plantage Muidergracht. There used to be an other canal in the Conradstraat. In 1649 the digging of a river, the Nieuwe Vaart, started. This was intended as a solution for becoming shallower of the IJ and the poor water quality in Amsterdam. This new canal runs from the Waal to the Buiten-IJ by the Funen. This canal separates the islands from Amsterdam. Till today the islands are only accessible by bridges.

As a result of the attack on Willem II in 1650 the making of the fortification on Kattenburg accelerated. Later the First English war in 1652 stopped the building process. The islands were finished in 1662 and in 1664 the slopes of the islands were paved. In 1665 the islands were largely arranged, except Wittenburg.

Name

The Vroedschap (borough of Amsterdam) wanted to name Oostenburg 's-Graveneiland. The name is never used, because the inhabitants made their own names and it is not clear where they came from. Kattenburg is the most western island of the three. An explanation of the name is that there was a 'kat', this is the Dutch word for fortification. This is still visible in the nod in the Kattenburgerstraat. Furthermore the west side of Amsterdam is called eiland, in English 'island'. In the East they called the islands 'burg' and not 'eiland'. There are a few more suggestions of the origin of the name Kattenburg:

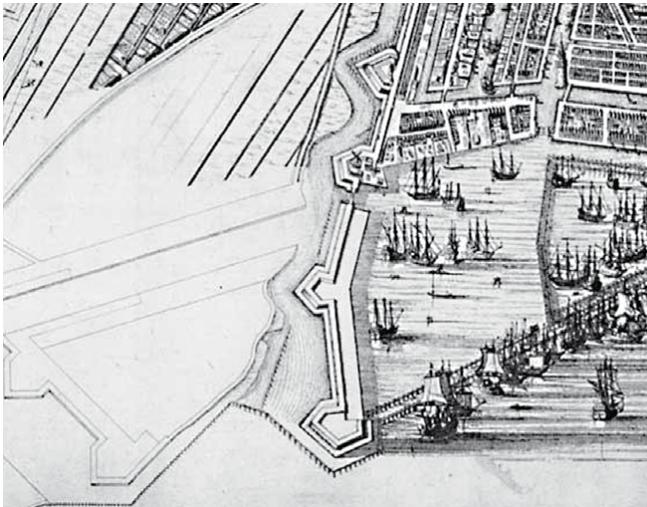
2. There was a big house on the Kattenburgisland which has the name 'De Cat'.
3. The people of Kattenburg were rigid. The out-standers received a 'kat' when they said something about their island.
4. It is also possible that the first family had a last name Kat or Kattenburg. This is a Jewish name.
5. The last explanation of the name Kattenburg is that the name was Rattenburg. There were a lot of ships who moored to the island and they brought rats with them. Later the name turned into Kattenburg instead of Rattenburg.

Kattenburg as a ship yard island

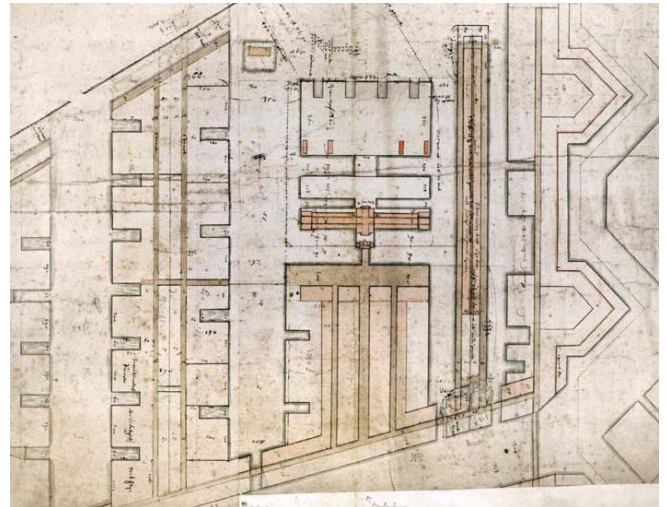
Speed up or slow down the expanding of the city depends on the fights or wars. The Netherlands needed a good navy, that is why a part of Kattenburg was given to the navy. Oostenburg was given to the VOC to cluster all the yards which were spread all over Amsterdam. In the south of Oostenburg were 28 areas for dwellings for the staff of the VOC. Lijnbaanseiland was from the Navy and the VOC. This island was at some time meant as a fourth island but this never happened because the Navy and VOC used that area. Wittenburg was meant to be an island for private yards and dwellings. But there was a bad economy, because of the short periods of peace. In the middle of the 18th century Oostenburg was still lowbrow. The ground of Oostenburg soiled even away in 1672. In 1758 there were 15 shipyards on Wittenburg available, but only eight were in use.

References

Amsterdam's zeehaven in beweging: Kattenburg, Wittenburg, Oostenburg by Theo Bakker



Drawing of the second island. On basis of this drawing they started with the building of the islands. Also the waal is visible, the place where the ships are.



Drawing of Wittenburg and Oostenburg in 1660. From the right to the left the stronghold of Jaap Hannes and Zeeburg with the sponce and canal.



Ship launched into the water from the Marineterrein



The Marineterrein in use with the 's-Lands Sea warehouse.

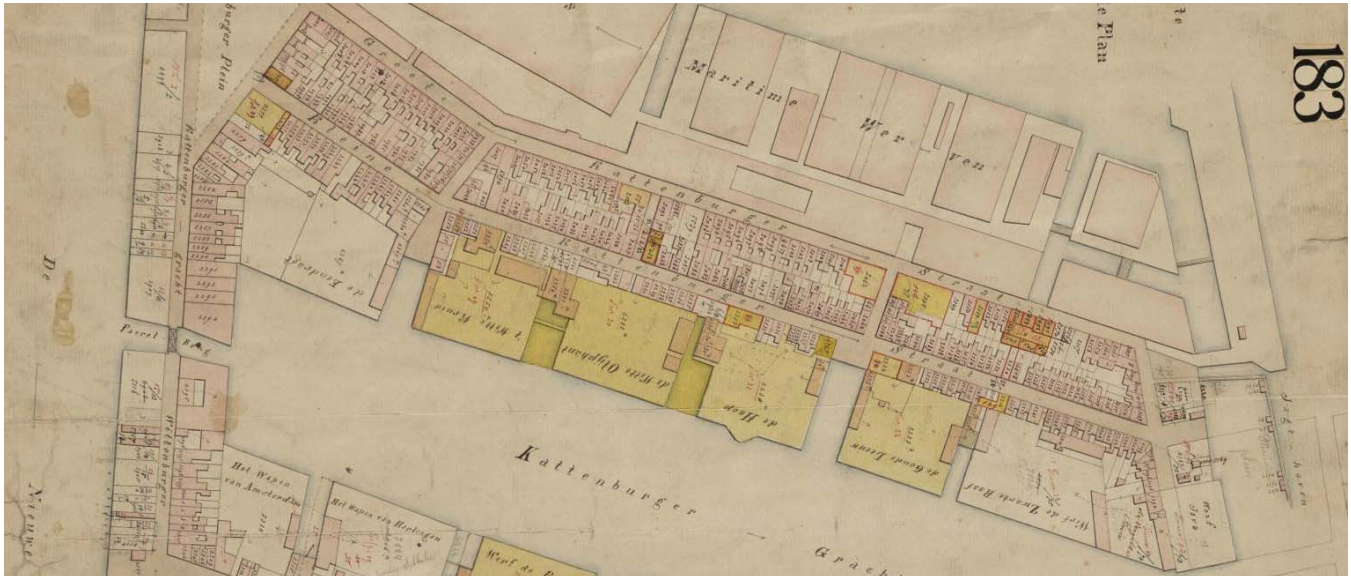


The Nieuwe Vaart which was 300 foot wide. Later the river was made smaller.



A. 's-Lands Sea warehouse, B the navy yard, C private yards D Wittenburg. Ryssenhoofd is the area with the mill. Today it is the Kadijksplein.

DEVELOPMENT OF KATTENBURG



Map Kattenburg in 1850

Kattenburg is the oldest island, because it was part of the expansion of the defence work. There were plans for Kattenburg in 1634, but the work started in 1641. At the same time the Waalseiland was built. In 1655 the first three private yards in the Northwest were made (C of the figure on the bottom right). Today it is the Marinierskade. Next to the yards row houses were built. On that moment the navy claims whole Kattenburg. Eventually a part of the island became for the navy. In 1656 the building of the 's-Lands Sea warehouse was built. The yard was used for the first time in 1658 and that last till 1915. A fire burned the Sea warehouse down in 1791. The rebuilding of the warehouse took more time than in 1656. It was also more expensive. Today the National Maritime Museum (Dutch: Scheepvaartmuseum) is in it.

In 1660 more dwellings were built on Kattenburg and in 1662 six big timber yards were added at the Kattenbrug next to Kattenburgervaart. The bridge to Kattenburg over the Nieuwe Vaart was used to close down the residential area on Kattenburg. This bridge played an important role in history. There was namely a fight on the bridge with the patriots and the people of Kattenburg who supported Willem van Oranje in 1787. Eventually the patriots won.

A few years later the Nieuwe Vaart was used less so they made it smaller. The western part was still used by the ship-building industry. In the east were two water mills built who were connected with the Nieuwdiep. The mills pumped dirty water from the Amsterdam canals into another canal; the Lozingskanaal. The mills were built to make Amsterdam a cleaner city, because the water in the canals were used as sewer, so the whole city had a terrible smell. Eventually the mills were moved but they were insufficient, later a steam pumping station came in Zeeburg which replaced the mills.

References

Amsterdam's zeehaven in beweging: Kattenburg, Wittenburg, Oostenburg by Theo Bakker
Map is from beeldbank.amsterdam.nl

Historical maps

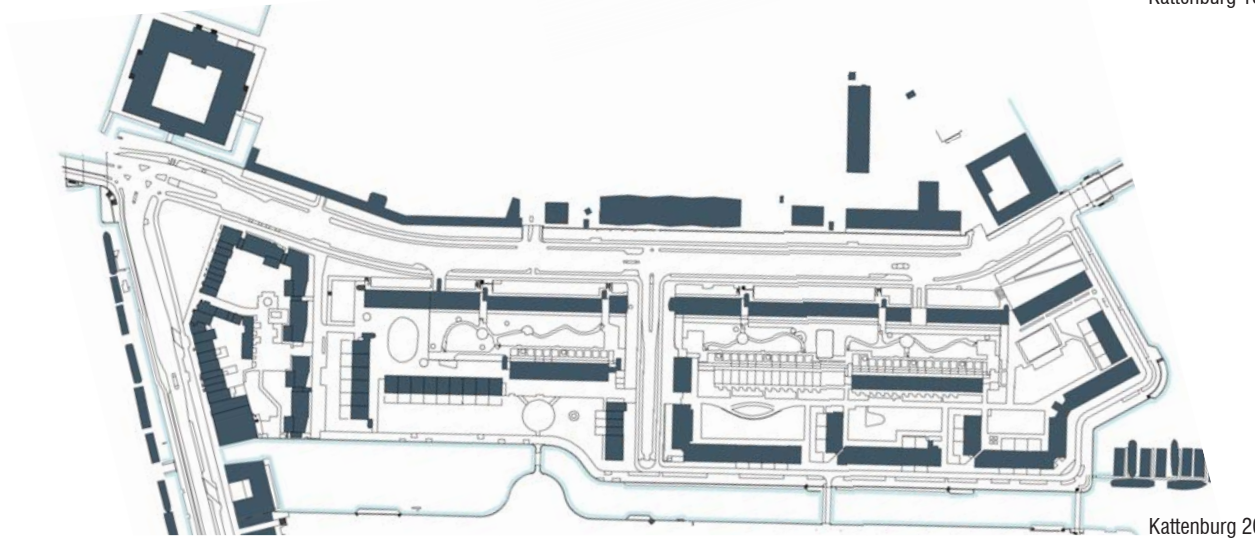
Kattenburg is radically changed since 1952. In 1850 the ship yards of the navy and the private ship yards were still used. In 1892 the ship yards were no longer used and filled with new dwellings. The 1901 'woningwet' (Housing Act) changed a lot. Dwellings were improved and in the case of Kattenburg demolished. A new vision was made about living. A new urban plan was made for Kattenburg according to the ideas of the garden city.



Kattenburg 1850

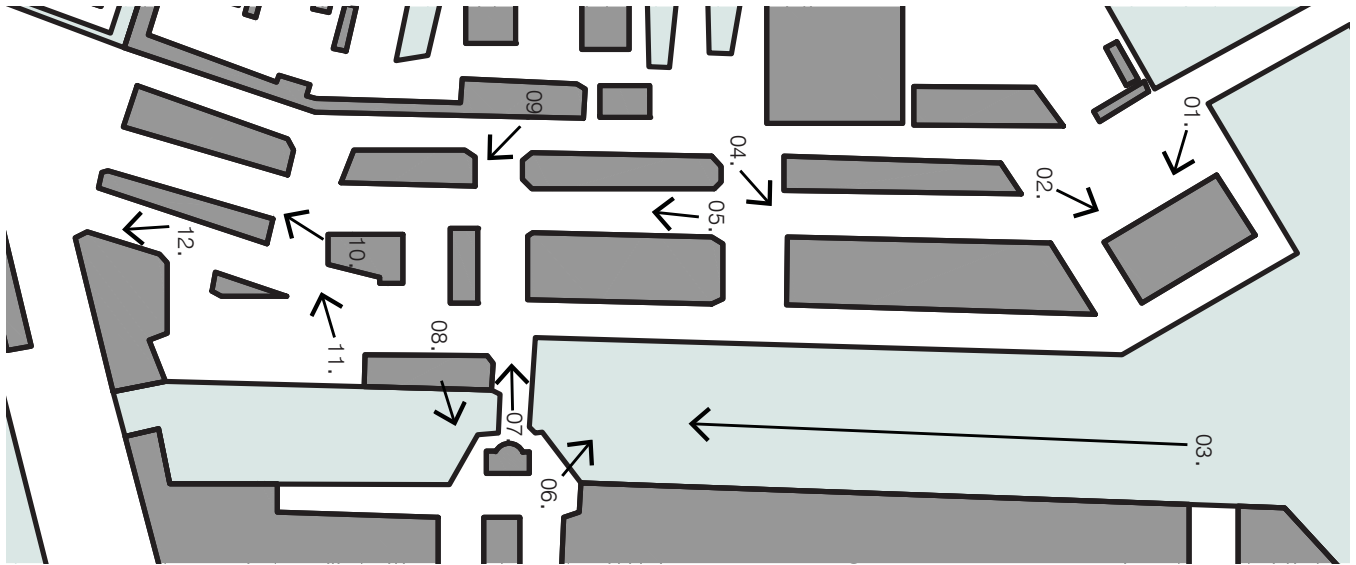


Kattenburg 1892

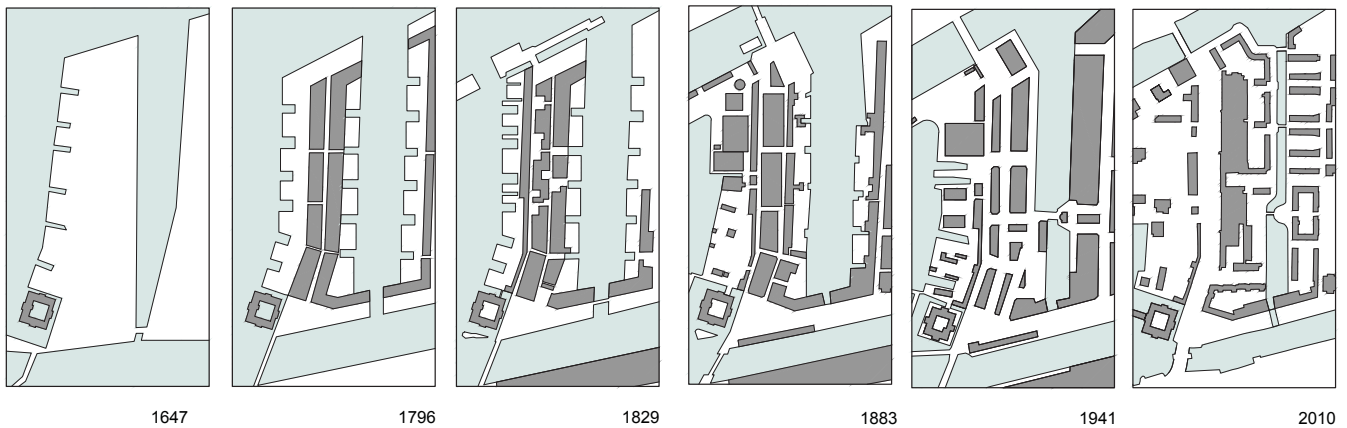


Kattenburg 2015

HISTORICAL PICTURES



References
Beeldbank Amsterdam



1647
Admiralty locates on the island and begins to construct a shipyard for the navy.

1796
Shipyard is operational, with housing on-site accommodating those who work in the yards, who are known locally as “hatchets”.

1829
Harbor walls are constructed to shelter boats at port.

1883
Land reclamation to enlarge facilities in port. Areas to north of island are also reclaimed and a bridge to Dijksgrecht is created

1941
Original urban fabric remains, but is overcrowded and unsanitary.
Northern bridge crossing is moved to present location.
Kattenburgervaart harbour is partially filled in, with a crossing to the neighbouring Wittenburg neighbourhood.

2010
Former Admiralty harbour is raised and developed into facilities for the Marine Forces.
Total demolition and reconstruction of the area according to modernist principles removed all traces of the original urban fabric, intensive tree planting and land reclamation in Kattenburgervaart.

Wider street profile between Kattenburg estate and the former Admiralty site increases road traffic.



References
Beeldbank Amsterdam

TRANSFORMATION OF KATTENBURG

The dwellings of Kattenburg were very narrow, although the new dwellings over the ship yards were bigger, but still too narrow for the amount of people who were living there. In one building lived more than one family. A new law came in 1901; the Woningwet (Housing Act). This law was for better living conditions and better dwellings for the people. In the end of the 19th century and the beginning of the 20th century reports were made about the dwellings of Kattenburg. These reports were very negative about the dwellings, especially about the basement dwellings. Despite these reports, it took a long time before the living conditions were improved.

The first change was in 1952. The road along Kattenburg, Wittenburg and Oostenburg which connects the island was asphalted. This was the first step for the neighbourhood improvement. In 1953 the Reconstruction of the Eastern Islands (Wederopbouwplan Oostelijke Eilanden) was presented. The plan was that Kattenburg stayed a dwelling area, Wittenburg will have dwellings and industry and Oostenburg will be completely an industrial area. Kattenburg was destined to be a connection between the Eastern Harbour area (Oostelijk Havengebied) and the city centre. The Grote Kattenburgerstraat had to be widened and a lot of dwellings have to be demolished. The bridge over the Nieuwe Vaart was replaced for a bigger one. The first step was to buy the residents of Kattenburg out so that it was possible to demolish the building. This was a time-consuming and expensive period for the municipality.

In 1971 the whole of Kattenburg was empty and there was a definitive decision made for a new urban plan. In 1973 the start with building 620 dwellings began, this was a design of ABBT Architects. The first dwellings were finished in 1975, 100 years after the first mention of the health commission (Gezondheidscommissie) about the wretched living conditions. The Kattenburgerstraat never became a good connection between the city centre and the Piet Heinkade. Also the sanitation of Kattenburg and many protests have caused that the sanitation for other neighbourhoods was more phased. We can see this on Wittenburg. Here the elongated structure is kept and there is a more varied architecture.

Kattenburg was the first area where this massive restructuring was done. The conclusion is that it was not very successful and that the urban planners changed their strategies, for other areas like Wittenburg.



Demolishing of Kattenburg



Kattenburg is completely empty and ready for a new urban plan. This picture is made in 29 juni 1972.

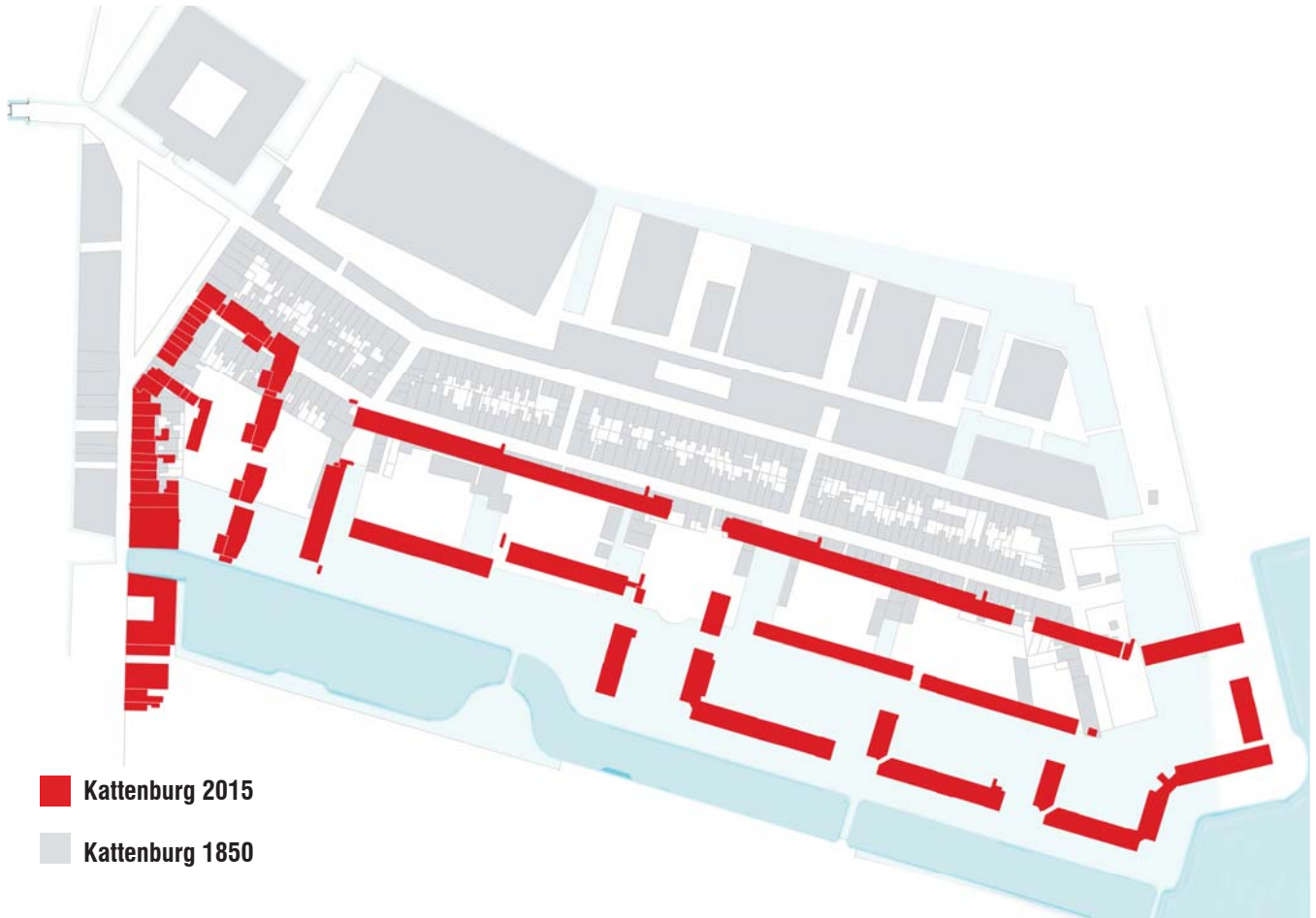


The first new buildings of Kattenburg designed by ABBT architects.

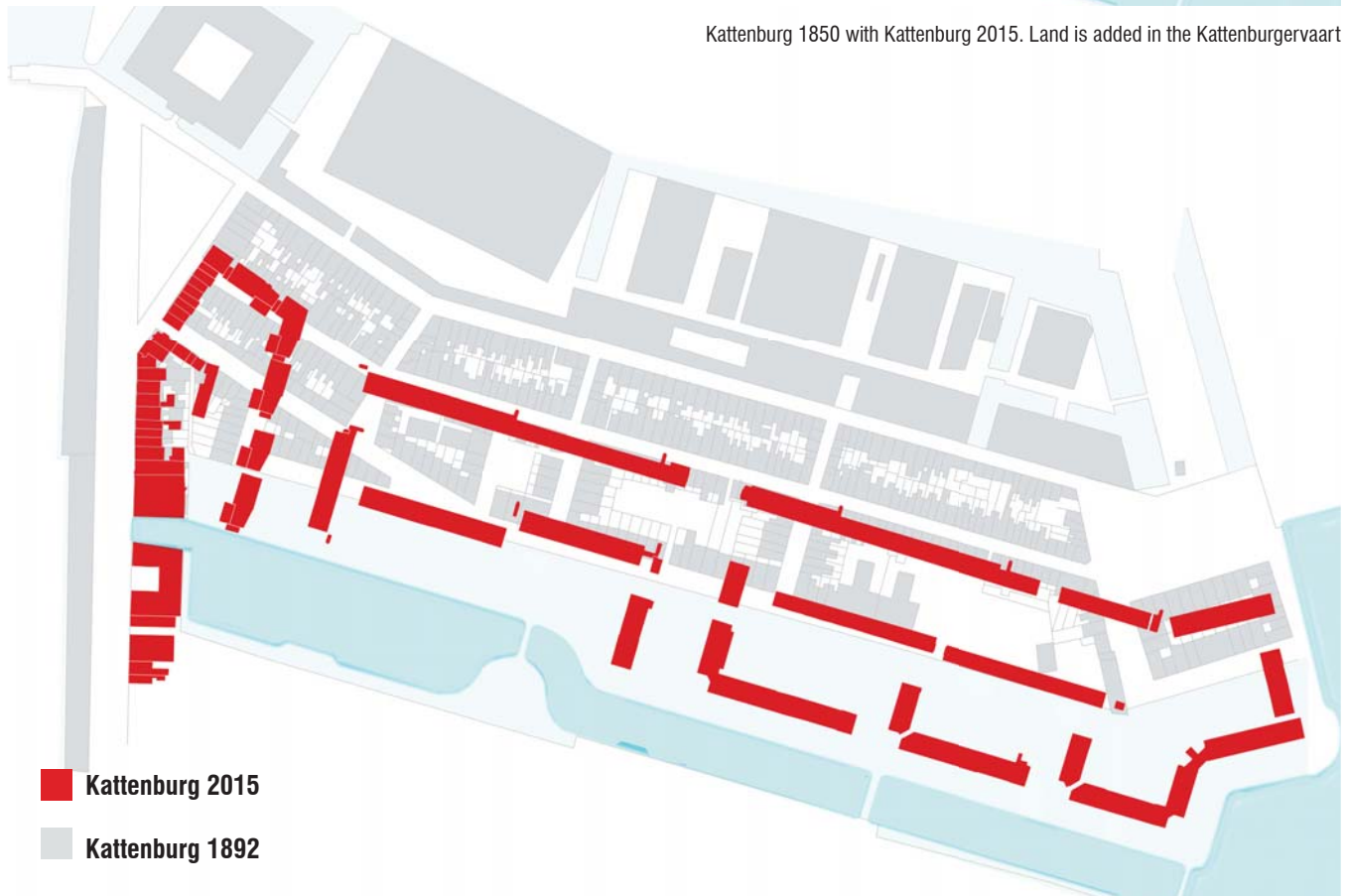
References

Kattenburg Herleeft, Arjan van Helvoort, TU Eindhoven

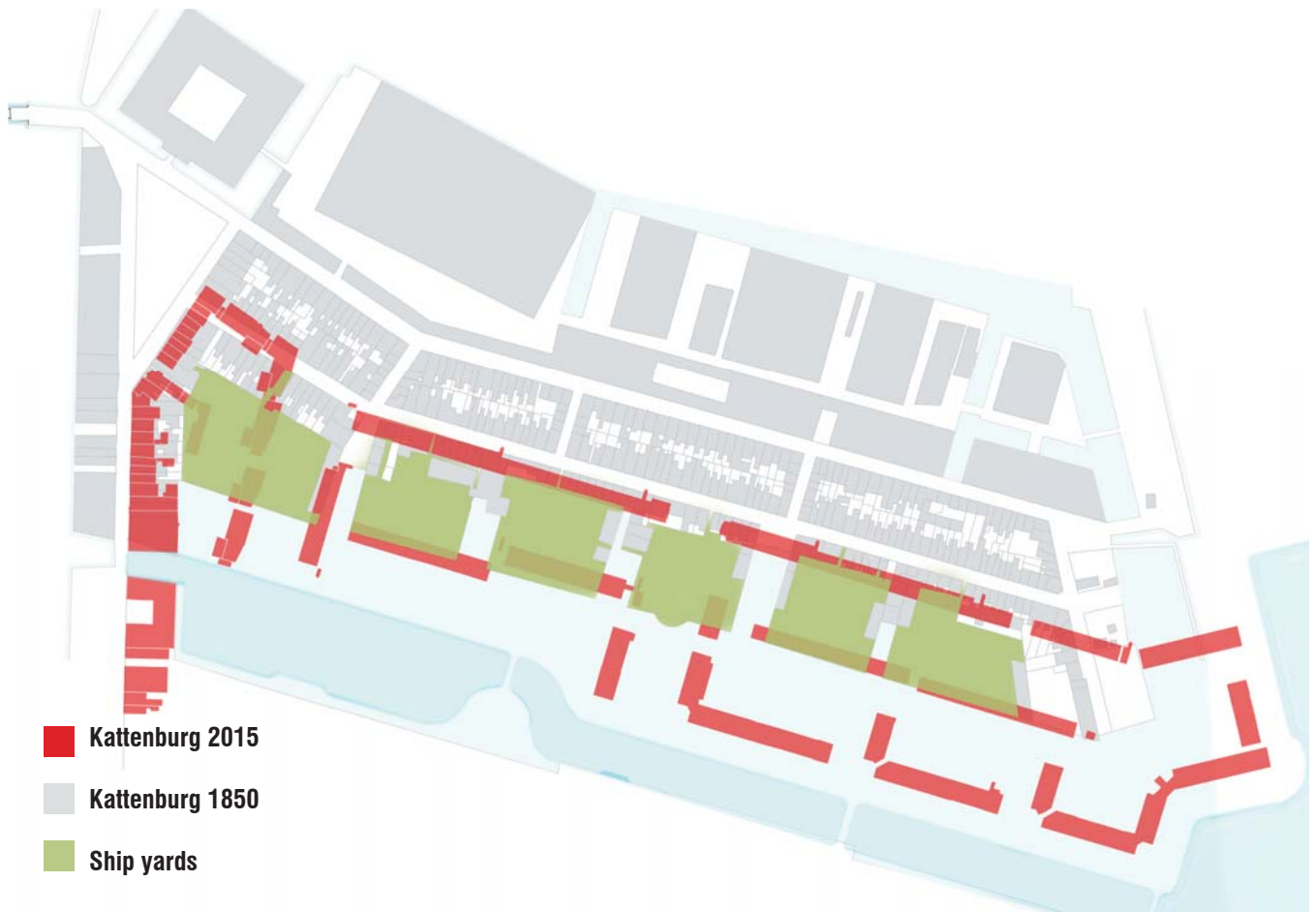
LAYERS OF HISTORY



Kattenburg 1850 with Kattenburg 2015. Land is added in the Kattenburgervaart



Kattenburg 1892 with Kattenburg 2015



Kattenburg 1850 with kattenburg 2015
 the green areas are the formal ship yards, today they are the green areas between the buildings

We can see that the Kattenburgerstraat is widened. In 1850 there were dwellings where today the Kattenburgerstraat is. The Kattenburgerstraat was meant to be a connection between the city centre and the Piet Heinkade. New land is added in the Kattenburgervaart, because it is no longer used for big ships. The new building blocks are partly over the original building blocks and partly on the new land. The former ship yards are now the green spaces between buildings, they have even the same names as the former ship yards.

The reconstruction period (Wederopbouw) was a centrally planned operation. The government decided which cities could grow and how. Many in this planning practice stems from ideas about urbanism and society that were expressed before the war in modernist circles, particularly within the CIAM (Congrès International d'Architecture Moderne). CIAM was an organization founded in 1928 and disbanded in 1959, responsible for a series of events and congresses arranged across Europe by the most prominent architects of the time, with the objective of spreading the principles of the Modern Movement focusing in all the main domains of architecture (such as landscape, urbanism, industrial design, and many others) One of the main ideas that arise from the CIAM was the idea of the functional city. In the CIAM were planned cities propagated, whereby functions such as living, working and recreation are separated.

Cornelis van Eesteren translated the modernist ideals in the draft for the General Extension of Amsterdam (Algemeen Uitbreidingsplan or AUP), which was followed throughout the Netherlands. It is an example of modernist ideals in the post-war urban planning practice.

The post-war ideal of good living was based on the principle of light, air and space, which lays both in the Garden city principle as in the modern functionalistic architecture. The traditional closed block was replaced by housing slabs in big green areas, occasionally interspersed with skyscrapers.

Segregation of duties took place in the designs: the functions of a city (living, labour and recreation) were separated and connected to a large network of infrastructure wherein the traffic types were also divided. The neighbourhood vision (wijkgedachte) is an organizing principle that allows the large-scale expansion to be classified clearly. Each district had its own facilities such as shops, schools and churches. The districts were divided into neighbourhoods with amenities within walking distance.

Demography, economy and mobility was of major influence in the urban design. It was passed on by planners to include square meters, population growth, the number of stores by neighbourhood groups and commuting distances.

The housing shortage after World War II was glaring. Therefore houses were built quickly and cheaply as possible. The use of prefabricated building systems was boosted by the government. Both in urban as in architecture a strong uniform expression was formed.



Western Garden Cities Amsterdam, www.beeldbank.amsterdam.nl/beeldbank/



Example of Brutalism architecture, Barbican Estate, London.

For a reform of CIAM, the group Team 10 was active from 1953 onwards, and two different movements emerged from it: the New Brutalism of the English members (Alison and Peter Smithson) and the Structuralism of the Dutch members (Aldo van Eyck and Jacob B. Bakema).

There were a lot of movements that claimed to be structuralist. In architecture, the different directions have created different images. Two main directions can be described, which sometimes occur in combination.

On the one hand, there is the Aesthetics of Number which was formulated by Aldo van Eyck in 1959. This concept can be compared to cellular tissue. The most influential prototype of this direction is the orphanage in Amsterdam by Aldo van Eyck, completed in 1960. The Aesthetics of Number can also be described as Spatial Configurations in Architecture or Mat-Building (Alison Smithson).

On the other hand, there is the Architecture of Lively Variety (Structure and Coincidence) which was formulated for user participation in housing by John Habraken in 1961. Also, in the 1960s, many well-known utopian projects were based on the principle of Structure and Coincidence.

The most influential prototype of this direction is the Yamanashi Culture Chamber in Kofu by Kenzo Tange, completed in 1967. In some cases the fundamental qualities of Brutalism are expressed by placing the heating, cooling, plumbing and electrical systems in ductwork on the interior walls of the building.

The brutalist architecture style is closely linked to structuralism, but it rejects the light, insubstantial quality of the International style in favour of weightier, monolithic masonry forms. While the International style explored the diaphanous aesthetic of glass and steel. Brutalism examines the beauty and power of concrete. Walls are often constructed of load-bearing concrete but texture plays an important part in these surfaces and exaggerates the sense of mass. The surface of the concrete is often left with the patterns of the wooden mould, expressing the appeal of less highly machined finishes. Walls are sometimes faced with brick. In some cases the fundamental qualities of Brutalism are expressed by placing the heating, cooling, plumbing and electrical systems in ductwork on the interior walls of the building.

THE VISION OF THE ARCHITECTS

As mentioned in the previous paragraph, at the time of the redesign of Kattenburg in the 60's, Amsterdam had a general ideology about architecture of new housing areas.

The current housing buildings on Kattenburg are designed by ABBT architects, which stands for the architects Dick Apon, Toon ter Braak, Willem Bastiaan (Wim) Tromp en Johan van den Berg. They got to know each other just after World War II at the Academy of Fine Arts and Technical Sciences in Rotterdam. Upon completion of the education and after completed various activities, the four of them decided in the early fifties to collaborate. Their office was located in Rotterdam. In 1955 the cooperation was formalized in the form of a partnership. The first major orders included the construction of the RK Bethlehem Clinic (The Hague) and rebuilding of the Pier (Scheveningen) and the Jaarbeurshal (Utrecht). This was followed by the construction of the Dutch embassy in New Delhi in India. In the sixties and seventies of the 20th century the office was very active with housing. One of their later missions include the Ministry of Foreign Affairs in The Hague. These buildings were mostly in a Brutalistic architectural style. In 1988 the four founders stopped. The agency was continued for a short time, but already disbanded in 1990. Only Willem Bastiaan (Wim) Tromp is still alive, at the age of 98.

Because of the cancellation of the cooperation of ABBT and the death of the majority of shareholders, it is not possible to ask the architects for their vision on Kattenburg. However, an assumption can be based on the historical and socio-economic backgrounds of the housing assignment and the general ideology on architecture of that time. The combination of the (already described) reinterpreted principles of the garden city concept, Apon's point of view on functionalism and brutalism-look of the 60's fit well with the wish to build for the specific target group of employees of the Navy.

One of the founders, Dick Apon (1926-2002), is no stranger to the Dutch architecture. With H. A. Maaskant and D. Dyke's he worked hard to realize design from the Pier of Scheveningen. Dutch Architecture Institute (NAI) wrote about him: "Apon belonged to the young architects, who were attracted to modern architecture, as opposed to the rigid implementation, using the widely lost human dimension and the strict segregation of the human encounter. This new architectural concept was propagated in the magazine Forum, to which Aldo van Eyck, Jaap Bakema and Herman Hertzberger participated. "

Apon being named as influential teacher in Eindhoven by famous Dutch architects Jo Coenen, Rudy Uytenhaak and Sjoerd Soeters. Last mentioned designed the urban plan for the nearby Java Island.

ABBT architects later on changed their architectural style from functionalistic, brutalistic to a more small scale, intimate style (which is typical for the 70's). An example of this is visible on the figure on the right.

References

<http://zoeken.hetnieuweinstituut.nl/nl/personen/detail/155570ab-e846-592e-9cdf-44b3de535be2>



Rebuilding of the Pier (Scheveningen) by ABBT.



Jaarbeurs (Utrecht) by ABBT.



Dwellings, shops and offices by ABBT (Apon, Van den Berg, Ter Braak, Tromp) Almere Haven. Photo: Verhoeven Archive of Nieuwe Instituut..



Pictures of Kattenburgs design by ABBT. Beeldbank,amsterdam.nl

THE 70'S: CRITICS AND A NEW IDEOLOGY

The massive surge in construction during post-war reconstruction and the spectacular future predictions of the 1950s, '60s and '70s regarding population numbers, cars and traffic movements led to the so-called 'explosion of the Netherlands'. In the light of prevailing views and the explosive growth at the time, the large-scale interventions that were carried out are very easy to comprehend. By the end of the 1960s, however, it was not only the vision of the future which had altered radically, but also the way in which people were engaged with social and civic issues. A radical change of direction was therefore called for at this juncture as well. The democratisation and socialisation that formed the Netherlands in the sixties, not only had a considerable impact on the design process, but also affected the eventual look of buildings and the city. The right angle was supplanted by the diagonal, architects turned an *masse* to the pitched roof, the brick industry had its heyday and floor plans became increasingly whimsical. Above all, there was a new and growing interest in the city. All this led to a typical 'architecture and planning of the Seventies'

Large-scale projects such as the Bijlmer could no longer be checked, but a halt was called to a number of processes which had been set in motion during the 1960s, and urban planning developments underwent a radical change. The human scale became the decisive factor for urban planning and architecture alike. This led, among other things, to the development of the 'woonerf' - a pedestrian-friendly home zone - as a counterbalance to the rationalist modern neighbourhood. (See the picture below.) Small-scale became the magic word and the relationship between individual and community gained new significance.

The demand for a greater variety of housing environments with consideration of the human dimension and the history of the site and for a place where casual meetings could happen caused architecture and urban planning to shift towards 'picturesque modernism'.

Architects were fascinated by the experiment and worked it out into new forms of medium-rise multi-family dwellings, environmental differentiation, solutions for the car issue, technical innovation, process-driven experiments, and attempts to achieve higher densities, particularly in the inner cities. Not only housing projects led to experiments. The results are also to be seen in other fields like innovations in the area of materials, technology or traffic management.

The façade or elevation - or indeed its absence - is crucial in the architecture and urban planning of encounter. During the 1970s there were countless attempts to stage the encounter, with a great deal of importance being attached to the design of the façade. The horizontal articulation in the façades of this period is especially noticeable. The attention paid to the 'space-divider' led to the articulation being explicitly designed. The interruption of façades was also believed to stimulate encounters. Recesses, patios, semi-private spaces, covered entrance zones, galleries, courtyards, pedestrian priority areas and alleyways were applied in housing and office architecture as well as in urban plans in order to encourage 'encounter' to happen.

The architect Jan Verhoeven wanted to take into account the individual character, personal input and optimum freedom in the projects. The segmentation of the ground floor and the alternation in the urban plan provide sufficient privacy, while the 'look-out towers' offer the possibility of observing each other and looking out across the whole project. The stark contrast between the sheltered patios to the rear and the public squares to the front also offers the residents the choice between the communal and the privacy of one's own domain. Famous Dutch architects of the 70's are Pi de Bruijn, Herman Hertzberger, Aldo van Eyck and John Habraken.

References

http://static.nai.nl/seventies/e/theme_arch_exp.html
www.trouw.nl/tr/nl/4324/Nieuws/article/detail/1756180/2004/06/19/Woonerven-en-zitkuilen.dhtml
The Cristical Seventies - Architecture and Urban Planning in the Netherlands 1968-1982 - Martien de Vletter



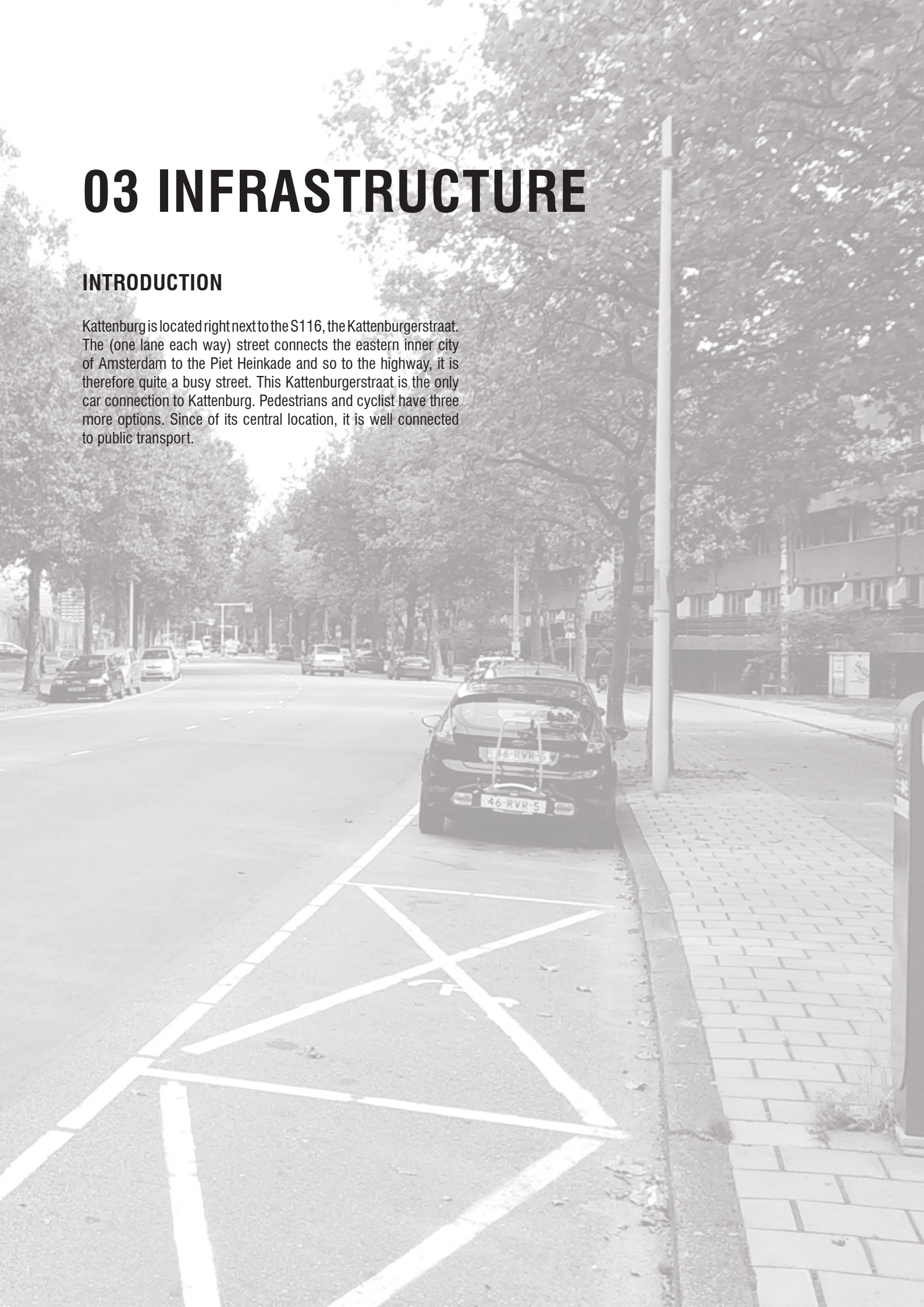
Typical Dutch example of a 'Woonerf'.



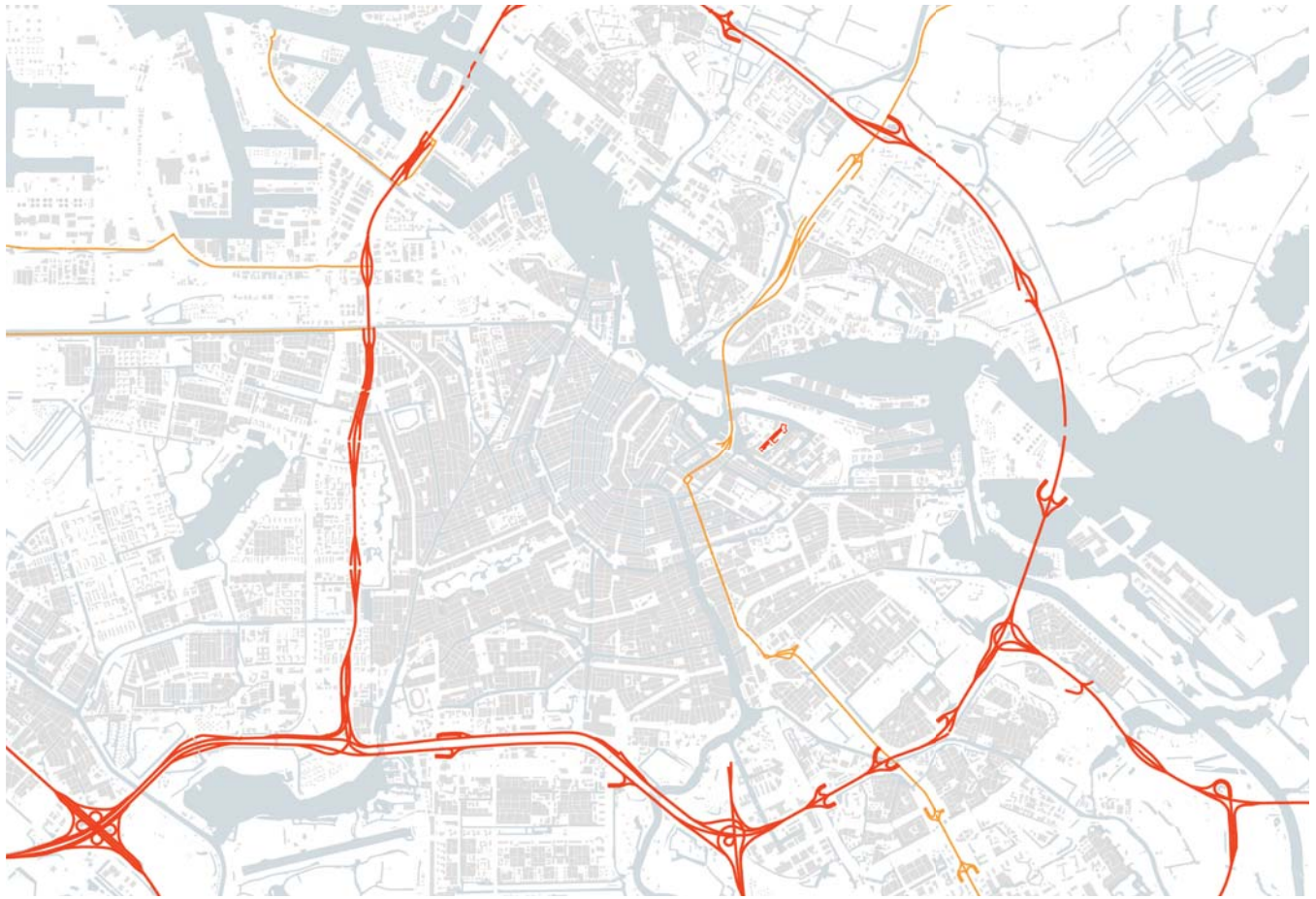
03 INFRASTRUCTURE

INTRODUCTION

Kattenburg is located right next to the S116, the Kattenburgerstraat. The (one lane each way) street connects the eastern inner city of Amsterdam to the Piet Heinkade and so to the highway, it is therefore quite a busy street. This Kattenburgerstraat is the only car connection to Kattenburg. Pedestrians and cyclist have three more options. Since of its central location, it is well connected to public transport.



ROAD NETWORK AMSTERDAM



Road network map of Amsterdam: highway and major traffic roads are highlighted

Kattenburg is located in the centre of Amsterdam. Although this central location, it is well connected to the highway. It can be reached via the S116 that runs right next to Kattenburg within 10 minutes by car.

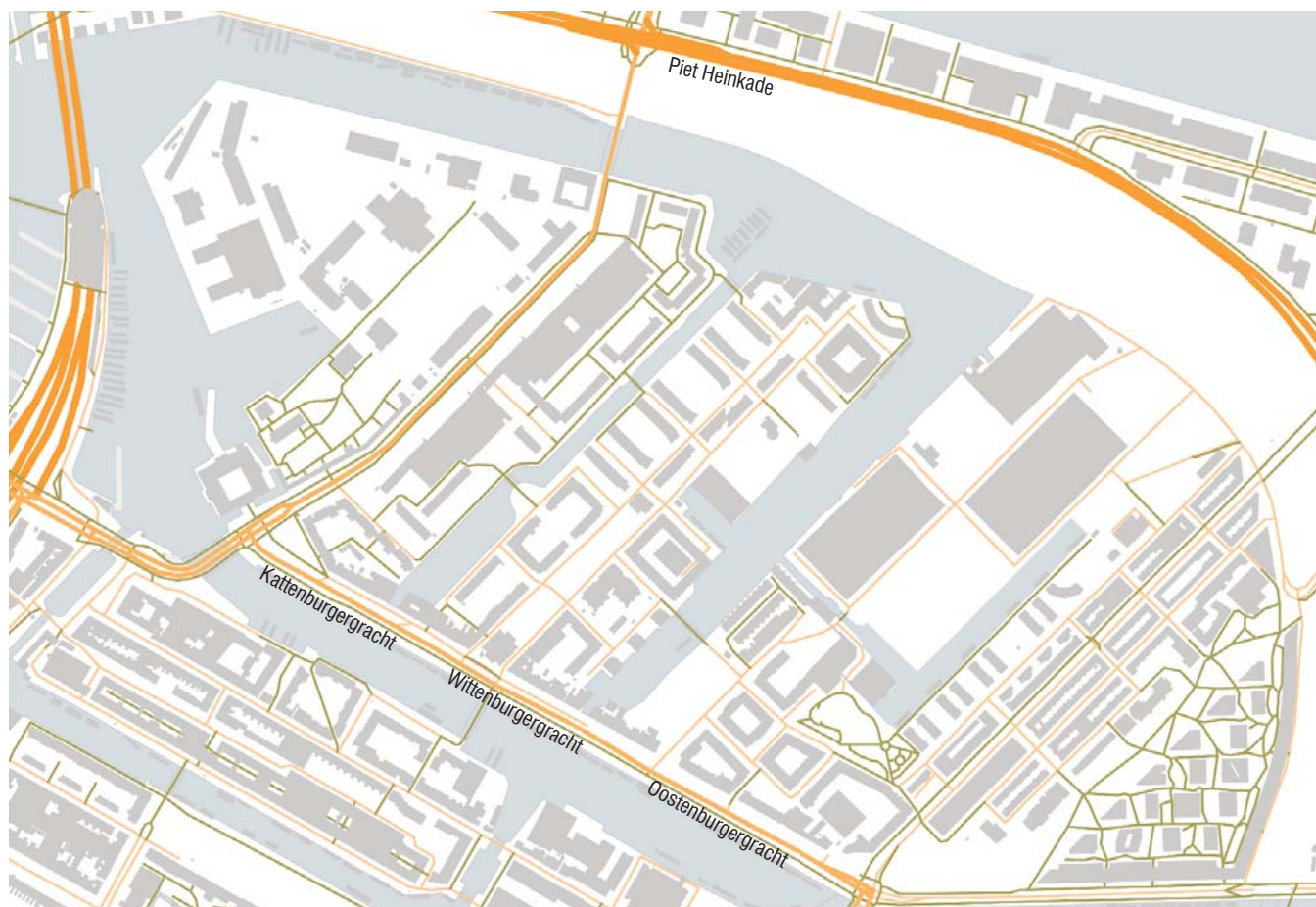
ROAD NETWORK CENTRE



Road network map of the east centre of Amsterdam: major traffic roads are highlighted

Kattenburg is faced with the Kattenburgerstraat (S116), which connects the Centre to the Piet Heinkade. This is a major through road, it has 1 lane each way.

ROAD NETWORK NEIGHBOURHOOD



Road and cyclist network map of the Oosterlijke Eilanden neighbourhood

The neighbourhood, Oosterlijke Eilanden consist of several islands. These are connected on the north and/or south side of the island to the Amsterdam road structure for cars.

Cyclists can bike from island to island via multiple bridges between the island.

ROAD IMPRESSIONS



Kattenburgergracht

Kattenburgergracht is the street located in the south of the island of Kattenburg. It continues into the Wittenburgergracht and later into the Oostenburgergracht. Together they connect all the islands. It is located the south side of the Oosterlijke Eilanden.



Piet Heinkade

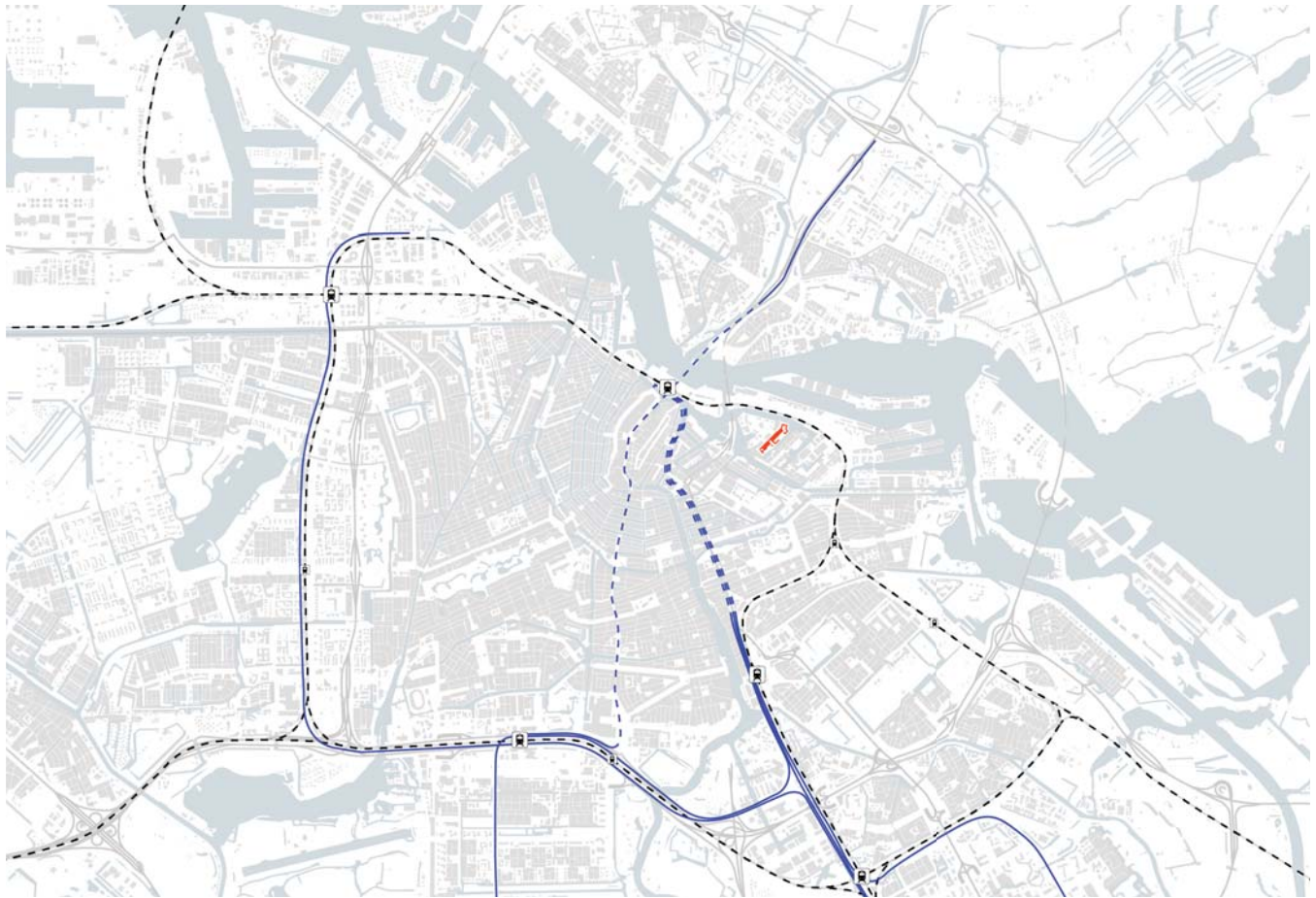
The Piet Heinkade is located north of the islands and is connected to the Kattenburg and Czaar Petersbuurt. It acts as a major road into the centre.



Kleine Wittenburgerstraat

The Kleine Wittenburgerstraat is one of the streets running north-south over the Wittenburg island. It connects Wittenburg to the Wittenburgergracht.

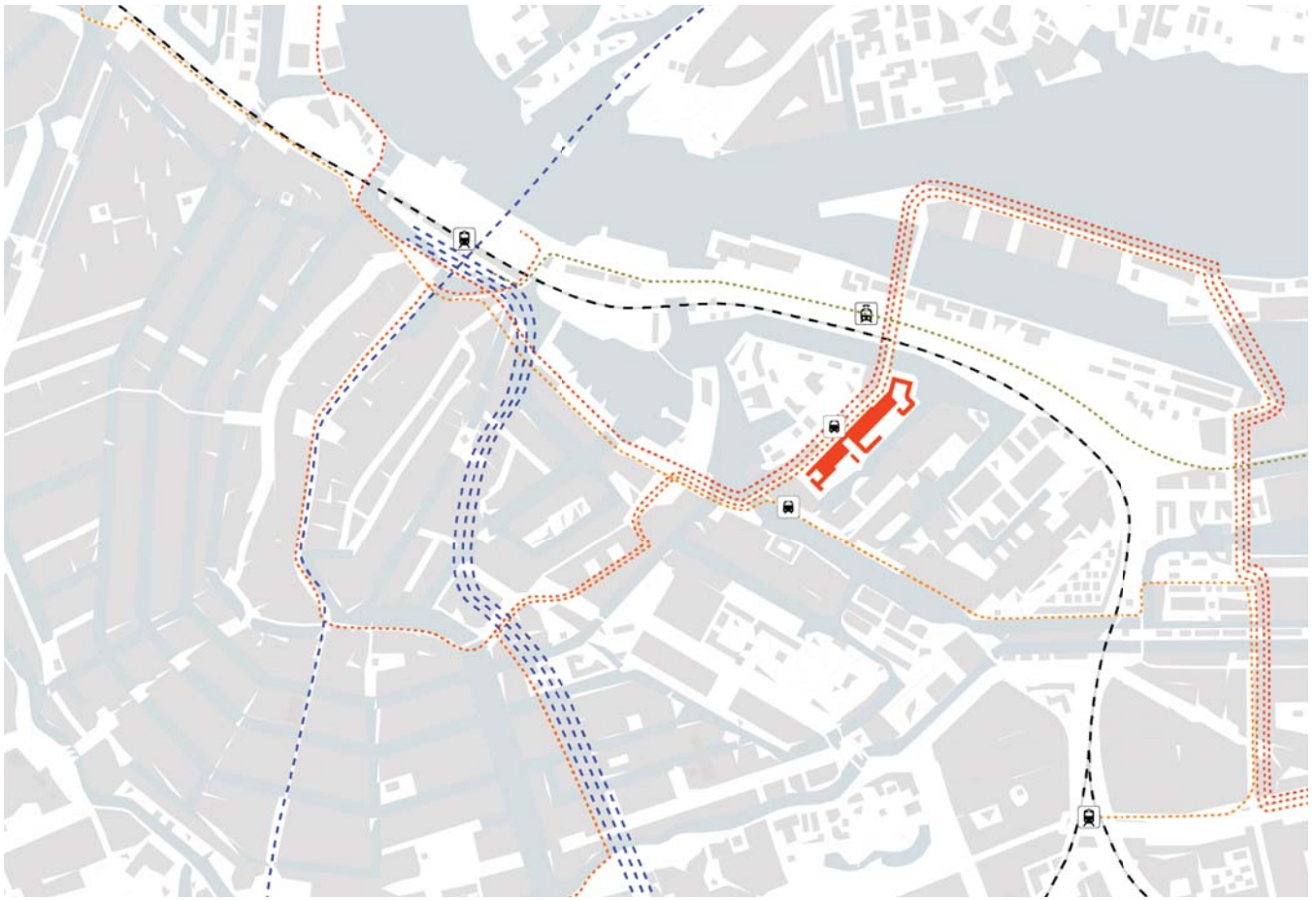
PUBLIC TRANSPORT AMSTERDAM



Amsterdam transportation map: train and metro are highlighted

Kattenburg is located close to the central transport hub of Amsterdam, linking it via train and metro to the rest of the city and the Netherlands.

PUBLIC TRANSPORT CENTRE



Amsterdam east centre transportation map: train, metro, tram and bus are highlighted

There are three bus lines (48, 359, 246) passing Kattenburg via the Kattenburgerstraat (S116). The bus station located in the middle of the Kattenburgerstraat connects Kattenburg, IJburg and Borneo island in the east, to Amsterdam Central station and Sloterdijk station in the west and Schiphol Airport in the south. A bus station located south of Kattenburg at Katterburgerplein connects Kattenburg to the Houthavens in the west and the Indische Buurt in the east.

The tram station 'Kattenburgerstraat' is located on the Piet Heinkade, just north of Kattenburg. This tram line (26) connects IJburg in the east to the Amsterdam Central Station in the west.

PEDESTRIAN CYCLIST BRIDGES



Kippebrug

The Kippebrug is the most southerly bridge from the 3 Pedestrian cyclist bridges. It links the Katterburgerkade to Wittenburgerkade. It is the oldest bridge(1923) and connects Kattenburg to the square left by the old bathhouse at the Wittenburg side. The bridge is designed by Piet Kramer in the style of the Amsterdamse School.



Witte Katbrug

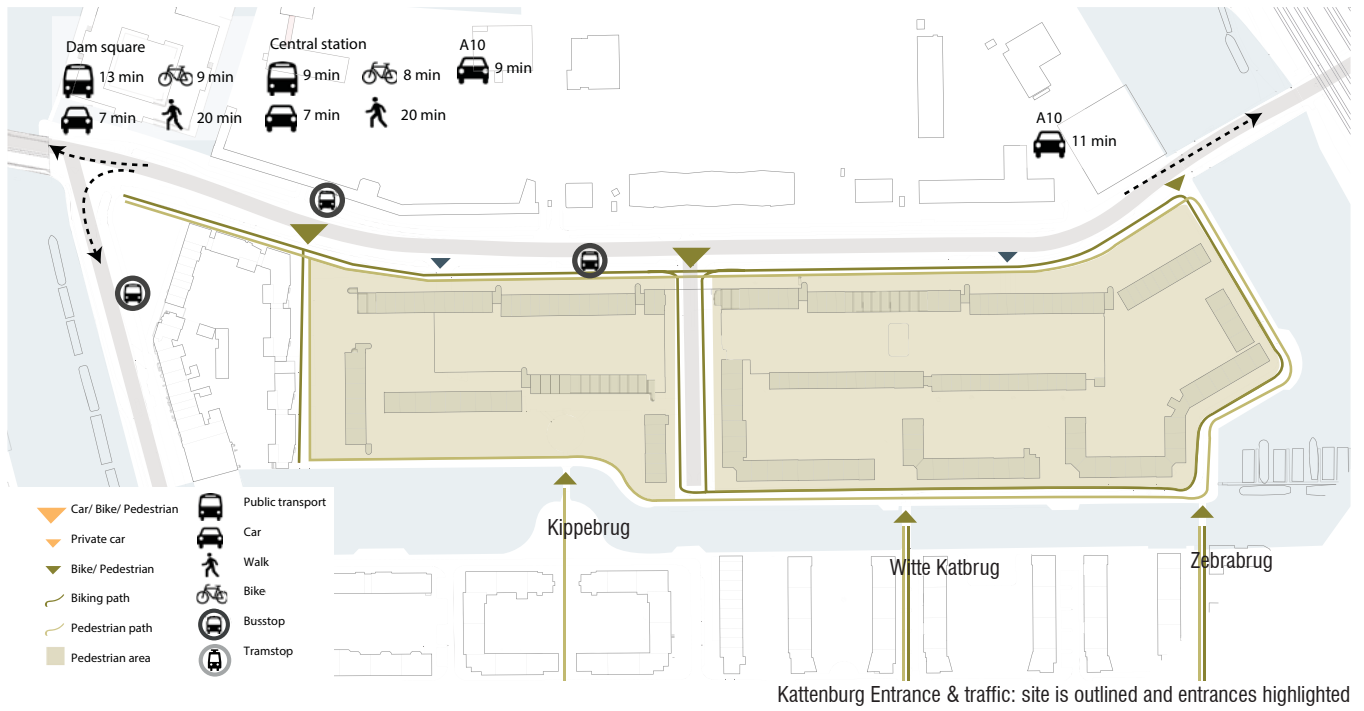
The Witte Katbrug is the middle bridge from the 3 Pedestrian cyclist bridges. It connects the Katterburgerkade to the Jacob Burggraafstraat on Wittenburg. The bridge was build(1987) after the sanitation of Kattenburg.



Zebrabrug

The Zebrabrug is the most northerly bridge from the 3 Pedestrian cyclist bridges. It connects the Katterburgerkade to the Derde Wittenburgerdwardsstraat on Wittenburg. This bridge is the newest(1997) of the 3.

ENTRANCE & TRAFFIC



As can be seen, the site is very close to the city centre of Amsterdam and is very well reachable via public transportation. The area can be entered via bridges all around. Cars can only enter from one street - Kattenburgstraat. There are no cars between buildings, which makes it very calm and quiet.

KATTENBURGERSTRAAT



South side of Kattenburgerstraat, looking south



South side of Kattenburgerstraat, looking north



Middle of Kattenburgerstraat, looking South



Middle side of Kattenburgerstraat, looking north



North side of Kattenburgerstraat, looking south

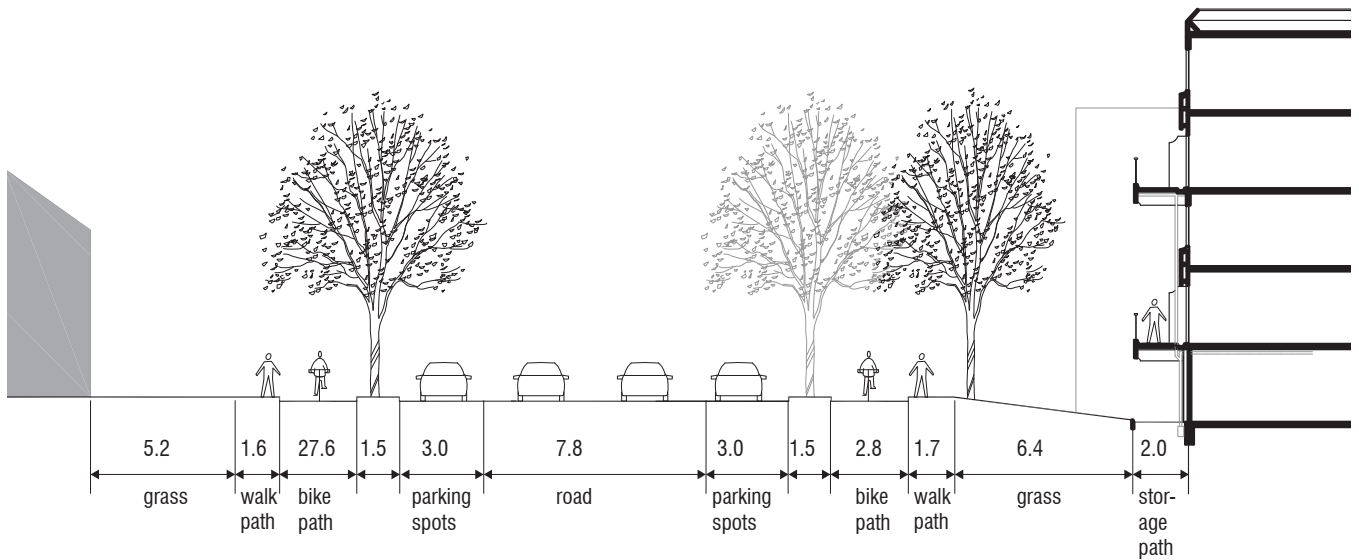


North side of Kattenburgerstraat, looking north

KATTENBURGERSTRAAT



Kattenburgerstraat: a wide street profile



Kattenburgerstraat: 40m wide street profile

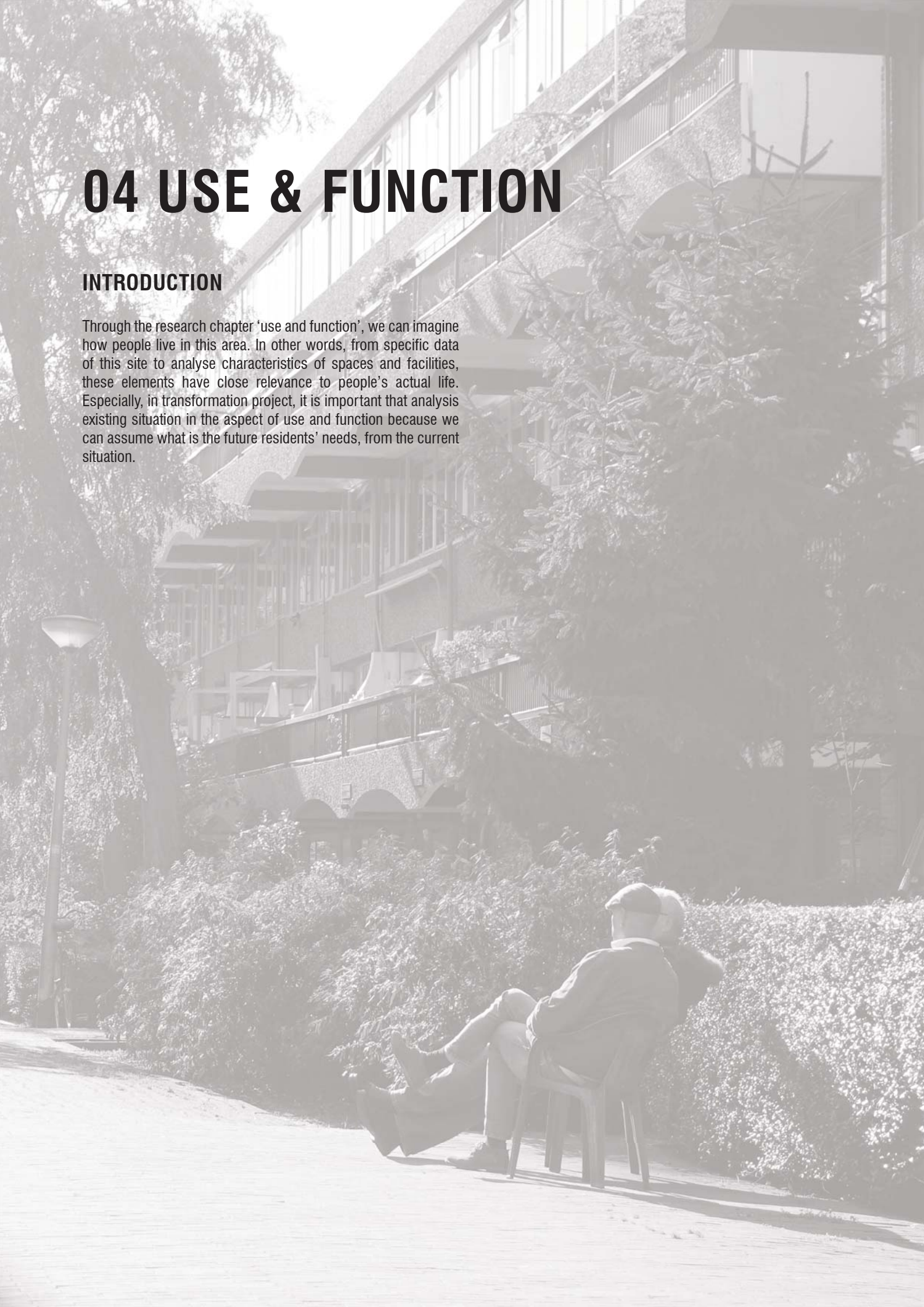
The Kattenburgerstraat has quite a wide street profile, 40 meters from the 70's buildings of Kattenburg to the wall of the marine area. The street has 2 lanes, one in each way. It also has biking paths on both sides. The road and bike path are separated by parking-spots.



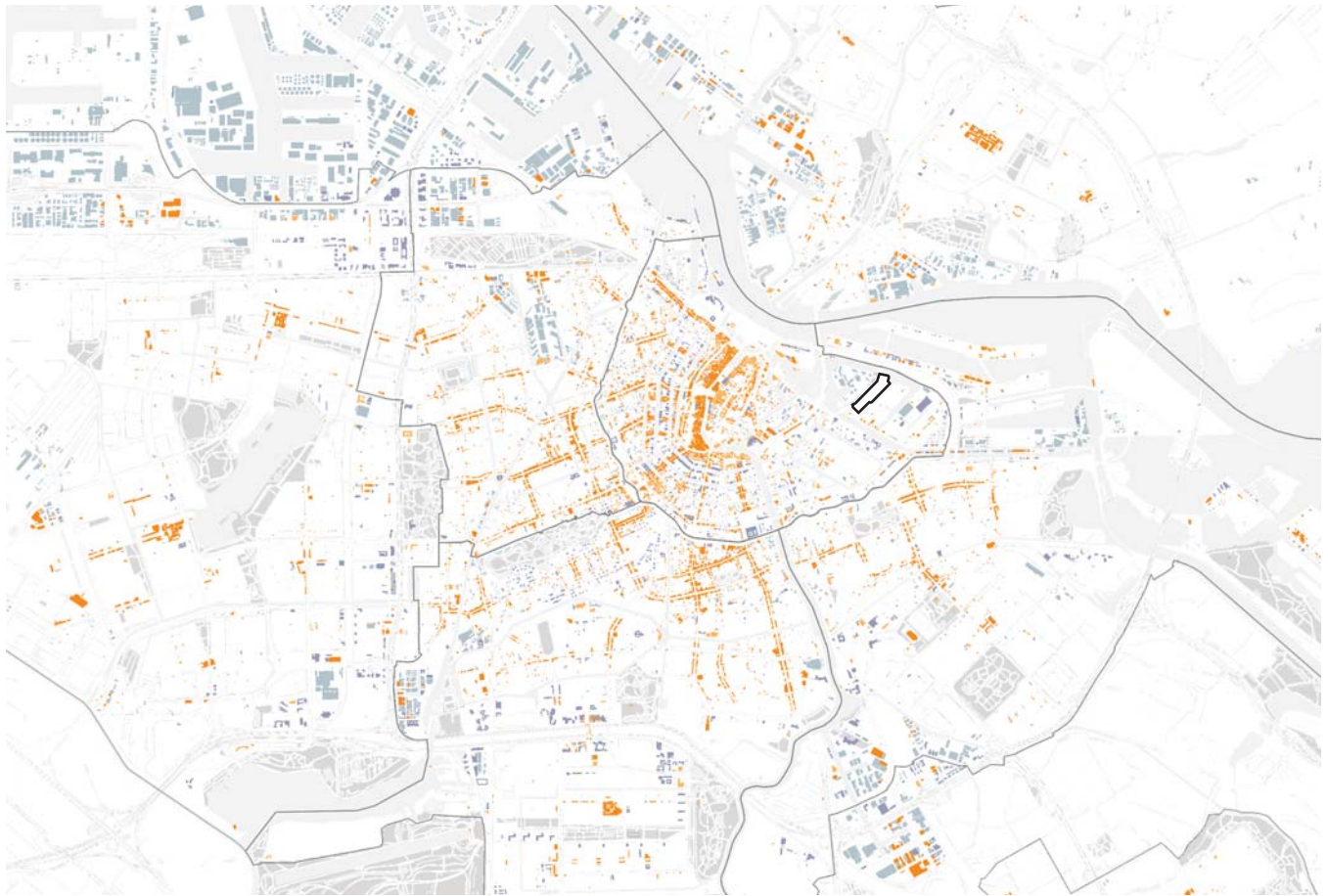
04 USE & FUNCTION

INTRODUCTION

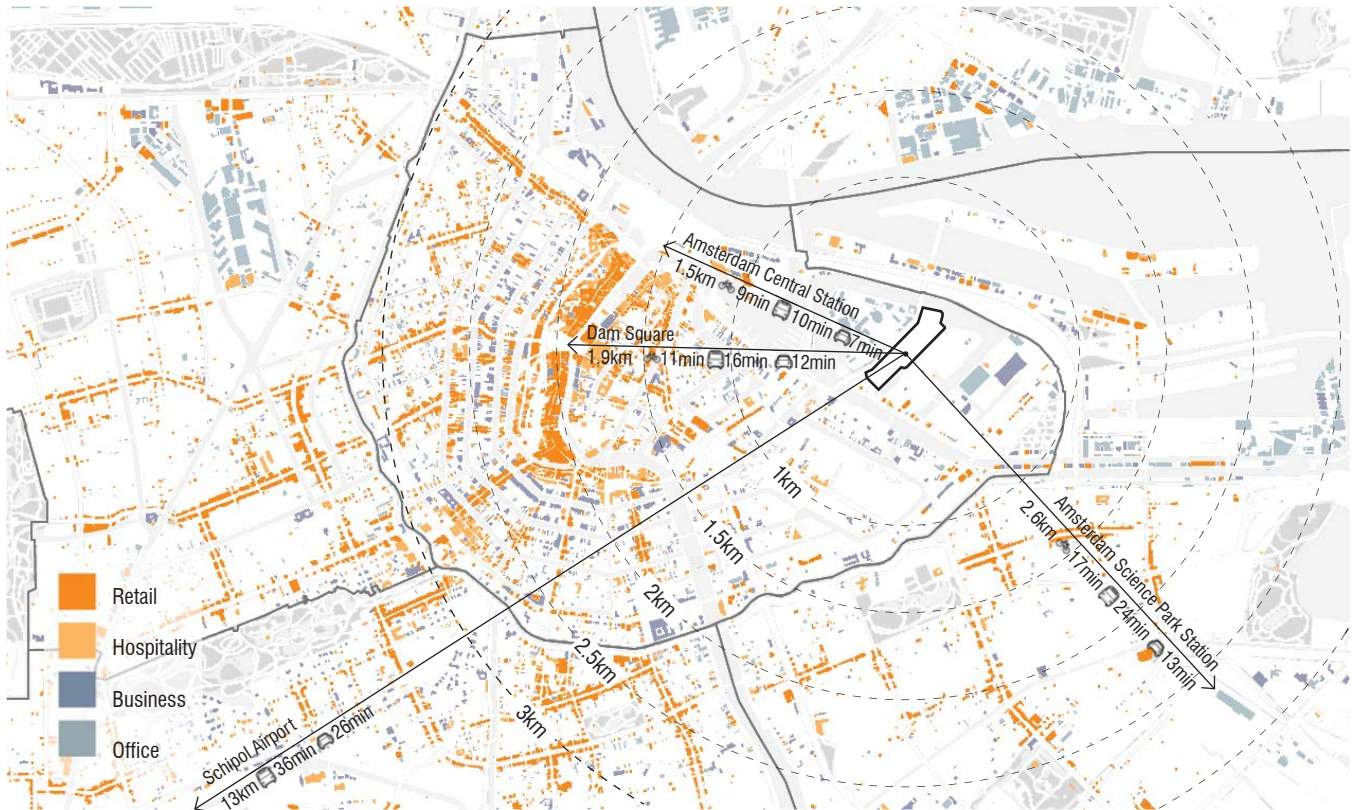
Through the research chapter 'use and function', we can imagine how people live in this area. In other words, from specific data of this site to analyse characteristics of spaces and facilities, these elements have close relevance to people's actual life. Especially, in transformation project, it is important that analysis existing situation in the aspect of use and function because we can assume what is the future residents' needs, from the current situation.



FUNCTIONS IN AMSTERDAM



Programme distribution in Amsterdam scale



Distance and time to reach some locations from the Kattenburg



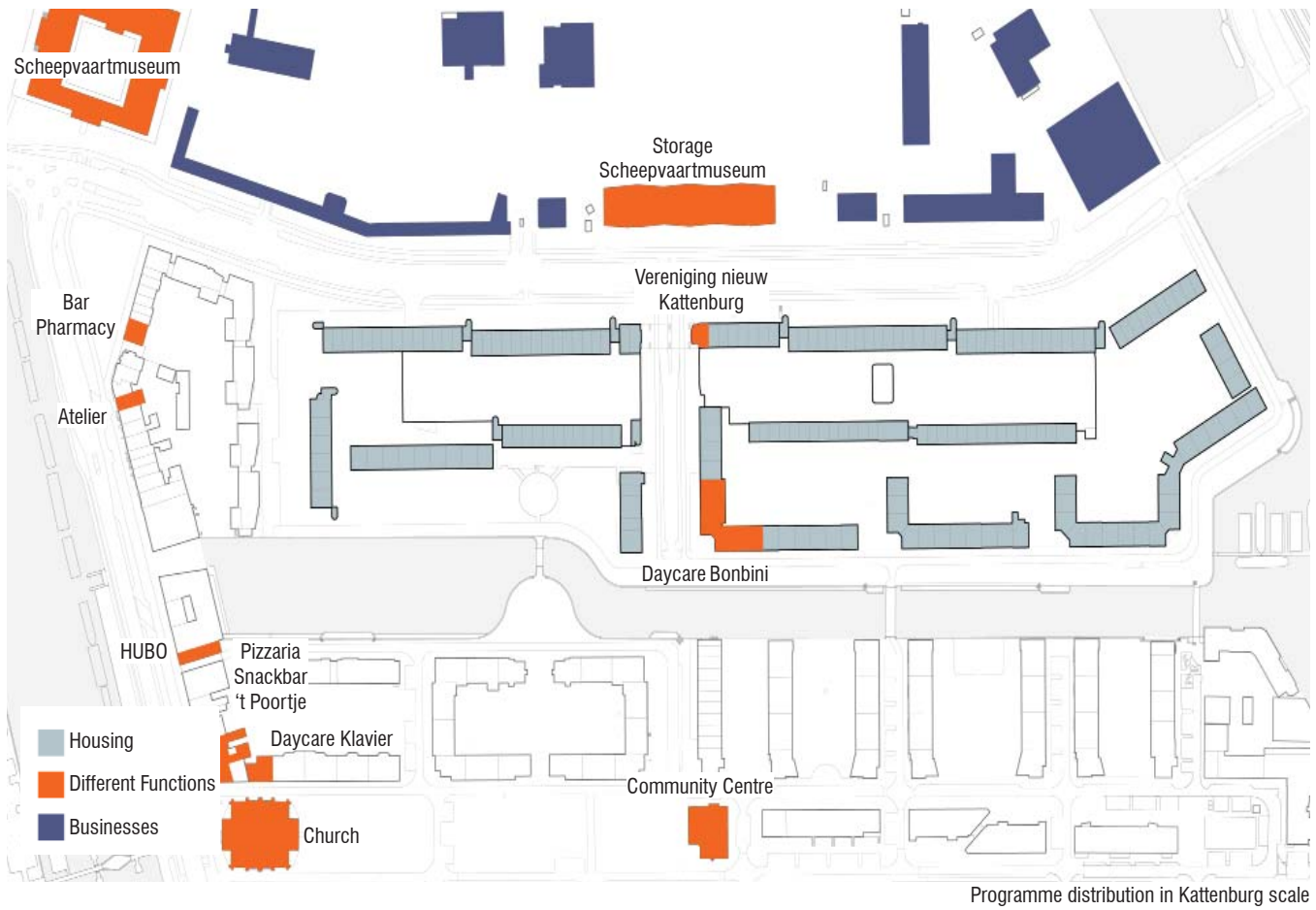
Programme distribution in Eastern Docklands Amsterdam scale

There are lots of functions in Amsterdam from cultural to commercial and residential programmes. As can be seen in the upper left picture, most of the urban amenities are concentrated in the central and western part of Amsterdam.

The facilities that are in Amsterdam city centre are not far from Kattenburg. As can be seen, the site is very close to the city centre of Amsterdam and is very well reachable via public transportation, bicycle and cars - within 20 minutes - from the centre.

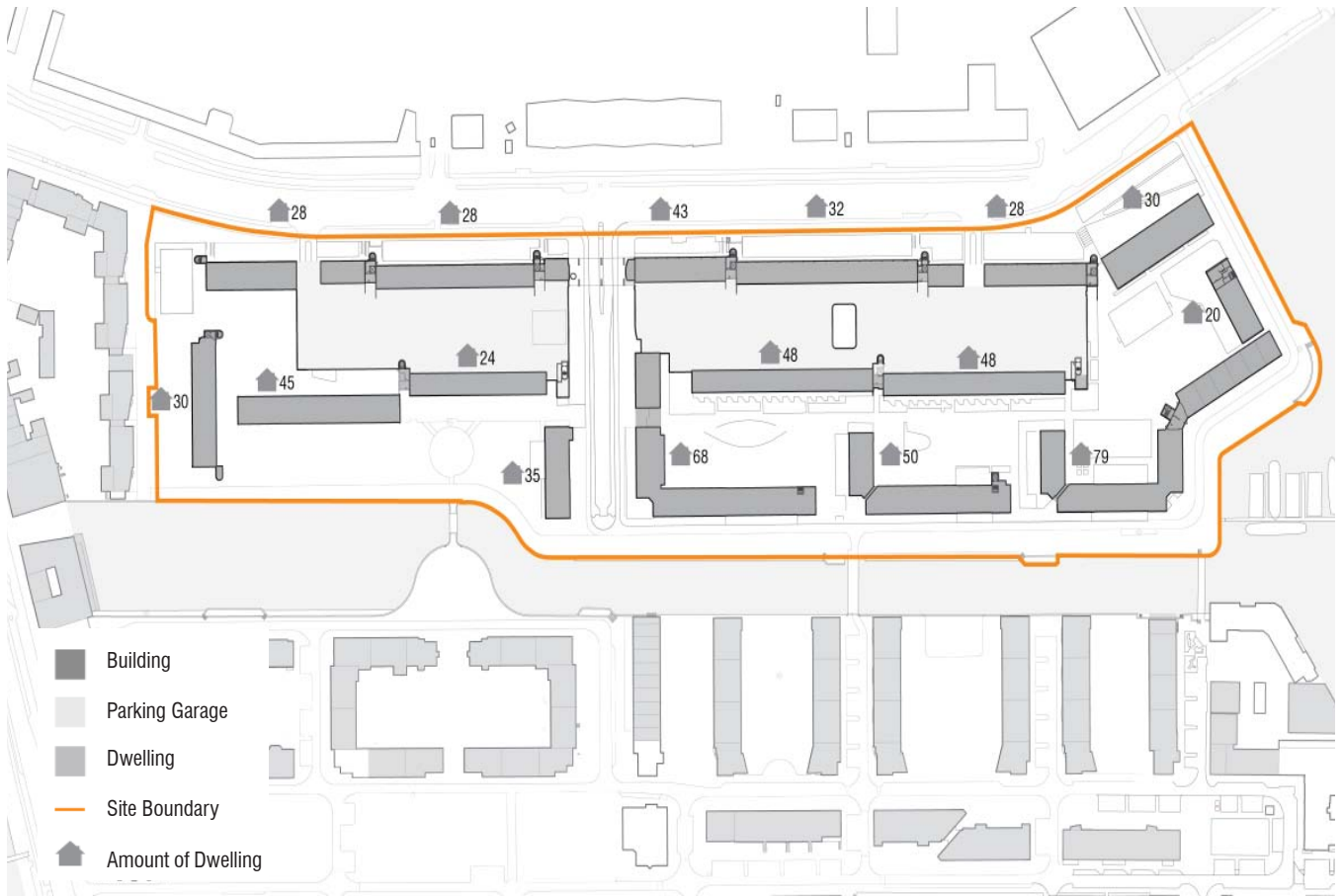
Compared to the rest of Amsterdam, there is not much programme located in the eastern part of the Amsterdam. The programme available are mostly for daily functions and are convenient for the residents. There are also some primary schools and cultural facilities, which could provide a possibility for student(single) housing, share housing and family housing type.

FUNCTIONS



There are not many daily needed facilities in and closely around Kattenburg. There are a few shop, restaurants, daycare centre and small neighbourhood community.

DWELLINGS



Site boundary and amount of dwelling in Kattenburg

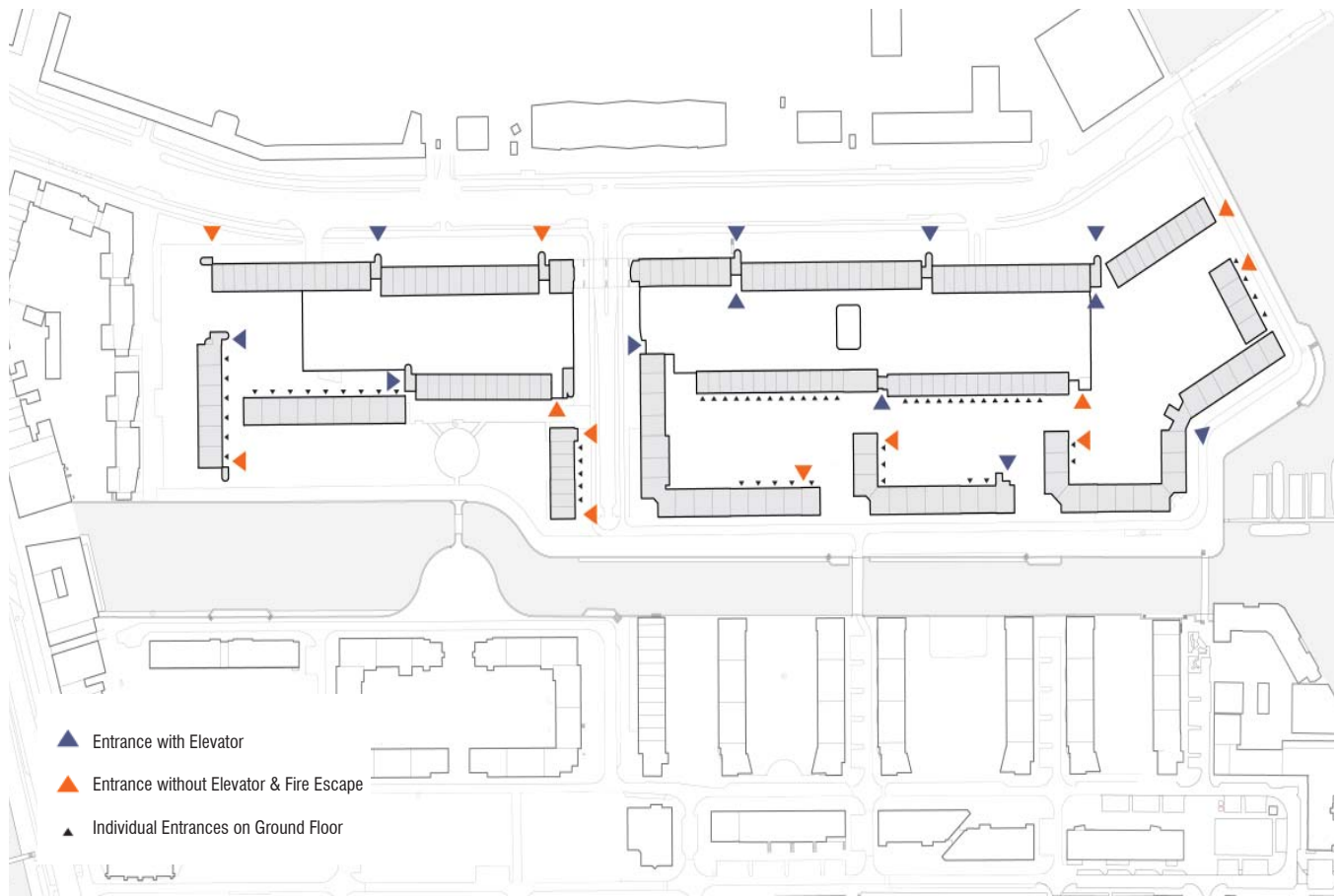
There are 636 dwellings in total on site(excluding the student complex). Kattenburg is a residential area, without almost any commercial function. The FSI of the site is about one so the floor space is the same as the area of the site.

Build surface: 12850 m²
 Floor surface: +/- 58.000 m²
 Parking garage: - m²
 Site : 60.000 m²

GSI: 0,215
 FSI: 0,96
 OSR: 0,79

74,14 m²
 open space per dwelling

ENTRANCES



Entrance distribution map in Kattenburg

The Kattenburg building block has multiple different ways to enter the buildings. Generally, there are four types of entrances, stairs and bridges and cores. This is a core with an elevator, a core without an elevator but including a fire escape and an individual entrance for private housings on the ground floor level. These entrances play a role as a barrier from the public and distribution function to the individual houses.



Stair and bridge type on the Kattenburgerstraat side



Central core as a distribution function



Private entrances on the ground floor level



Entrance as a barrier from the public

BUILDING GROUND FLOOR USE



There are four kinds of uses on ground floor level - housing, storage, circulation and community facilities. More than half of the ground-bound buildings only have storage and parking at the ground floor level. A smaller area of the ground floor is for housing and only a few for community facilities. Also, only a few buildings only have ground-bound dwellings. This kind of distribution of programmes is appealing as different façades on ground floor level, as can be seen in the images on the right page.



Facade of storage part



Facade of ground level housings

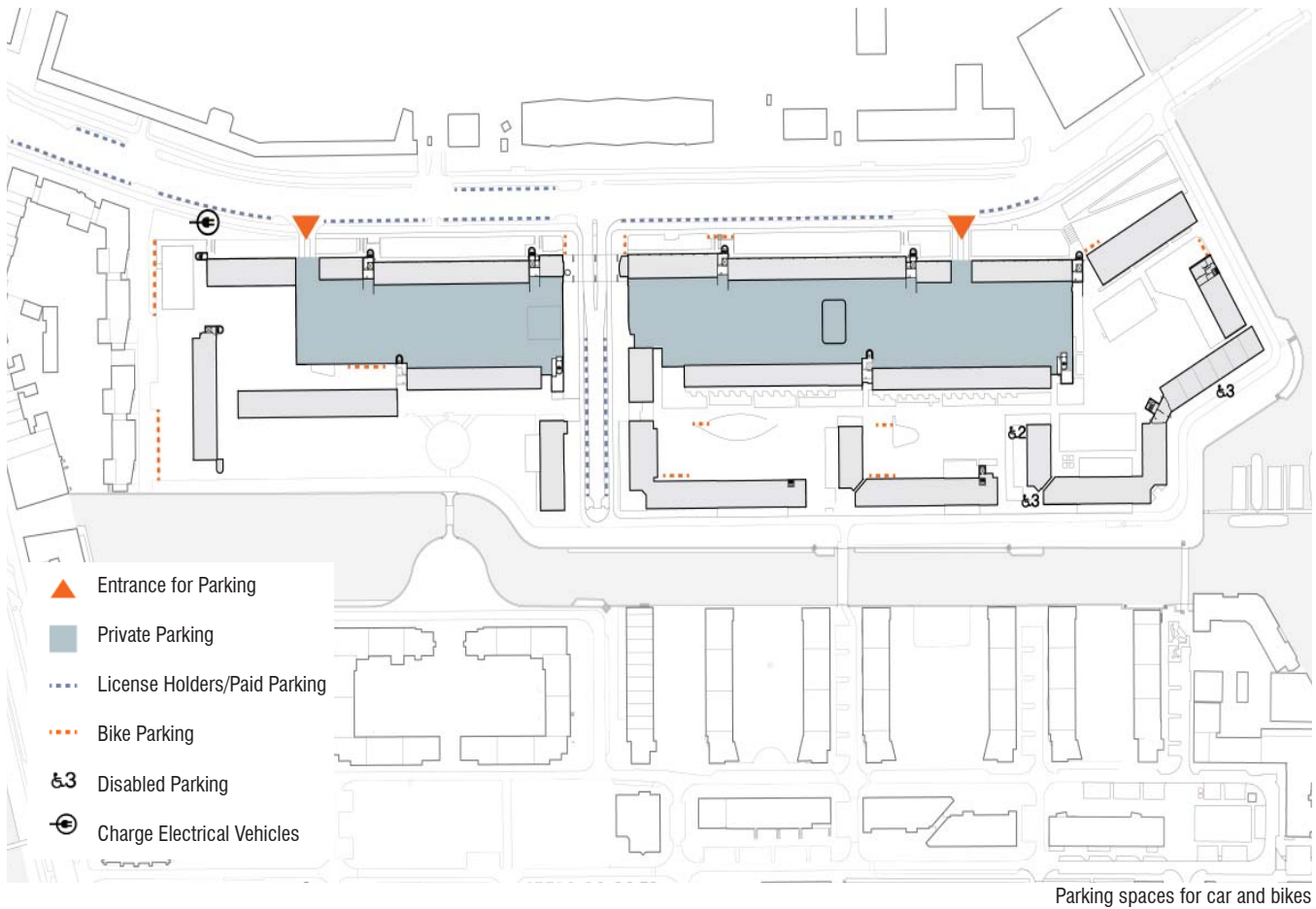


Facade of community facility - daycare centre



Facade of ground level housings which have small front garden

PARKING



There are a lot of parking facilities for cars and bikes on site. Because of that most car parking is under the decks, the ground floor can be empty for pedestrians and bikes. According to this system, parking space can be kept as private parking space for residents of Kattenburg. They enter through two gates the closed parking garage. Parking space for disabled is located inside of the neighbourhood. For the bikes, there is enough parking space all over the neighbourhood.



Closed entrance of parking space



Private parking space under the deck

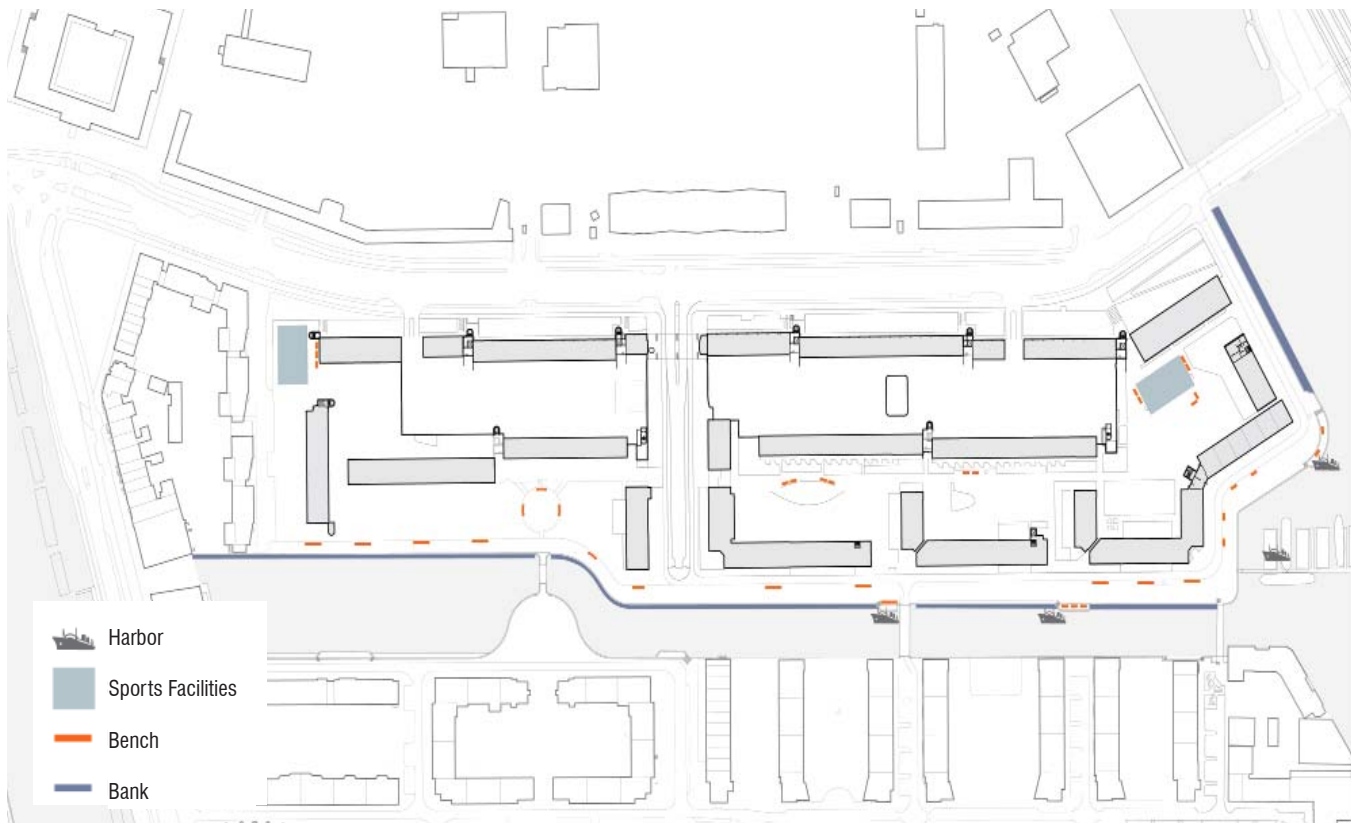


Parking space for disabled people



Bicycle parking space

RECREATION



Parking spaces for car and bikes



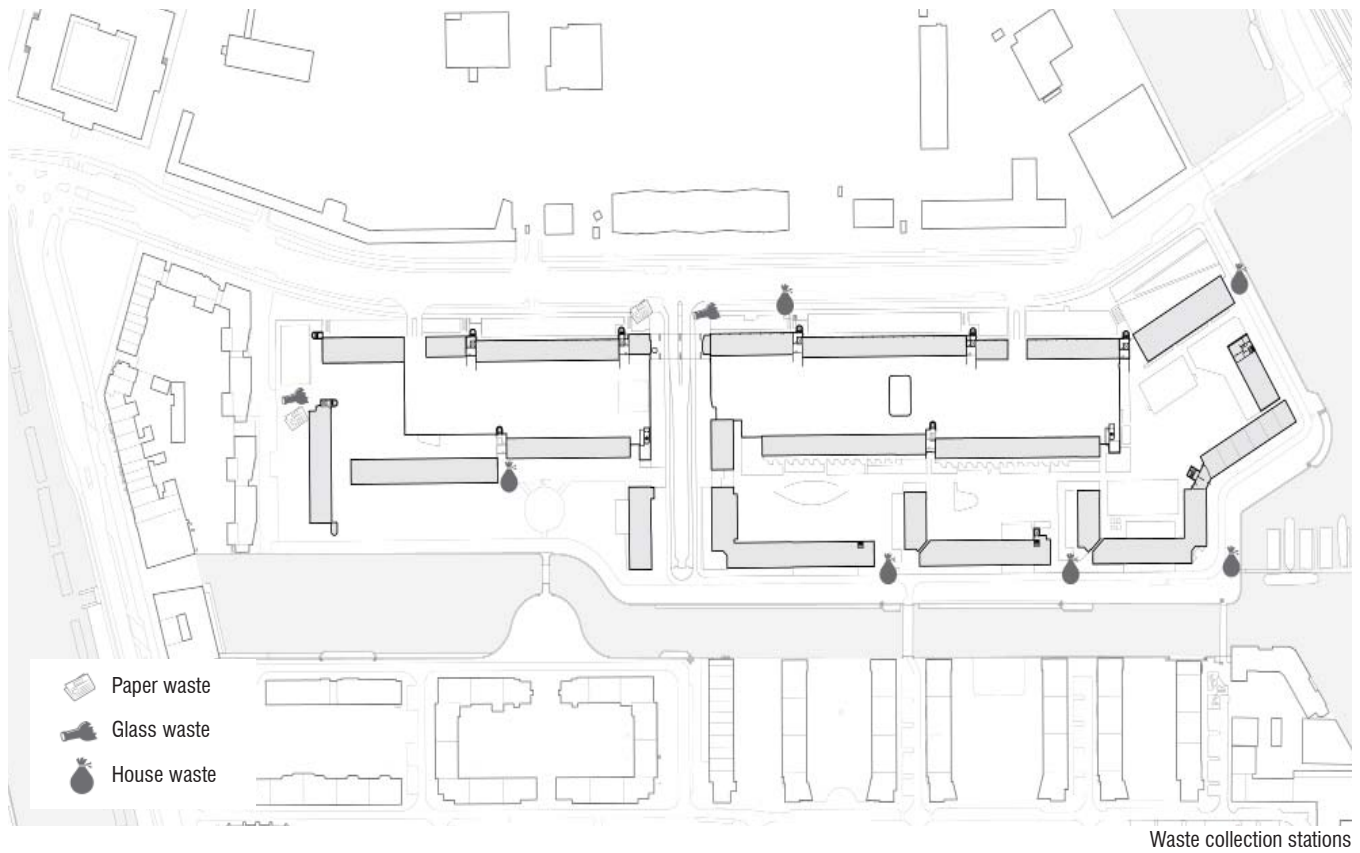
Benches



Sports facilities

In Kattenburg, recreation facilities are spread over the whole site for the convenience of residents' life. Especially the harbours create easy access toward water space, people can enjoy the waterside actively. The benches allow more interaction, people can meet, talk and enjoy other residents and landscape of this neighbourhood.

WASTE MANAGEMENT



Dumping-place

At the site, there are several dumping grounds along the outer streets. For recyclable waste, collection places are located along the Kattenburgerstraat and the bike path to the east, where bigger vehicle can access.

05 SOCIO-ECONOMICS

INTRODUCTION

In this chapter Kattenburg will be researched in the field of socio-economical aspects. What kind of households are living on Kattenburg, which age groups, which ethnic groups. Also the property values of Kattenburg will be researched in this chapter. Important to know on forehand is that the numbers found also include the student-housing complex on Kattenburg.

met geridderd.
Ma de oorlog heeft mijn va
op Wittenburg georganise
arm en kon het feest mi
was arm want er
hice bereikt hadden tydens
ging bij die zwart-handelaars
dat ze moesten betalen war
werd een mooi feest met en
De dansleraar draaide
van Victor Sylvestre. Er
De Oostelyke Eilanden

Gaap bleef

THE HUNGER WINTER

When my father was taken to Germany to work in the factories, my grandmother brought us bread sometimes. My mother was pregnant, but my grandma stayed to make sure that I ate it. Despite that, I snack pieces of bread to my mother. I was a lot older then than my real age.

After all the peelings soup - sometimes cat and even dog meat.
Finally peace came.
I had no idea what that was.
But Maim said: "now our suffering will soon end!"
Elly van Mourik

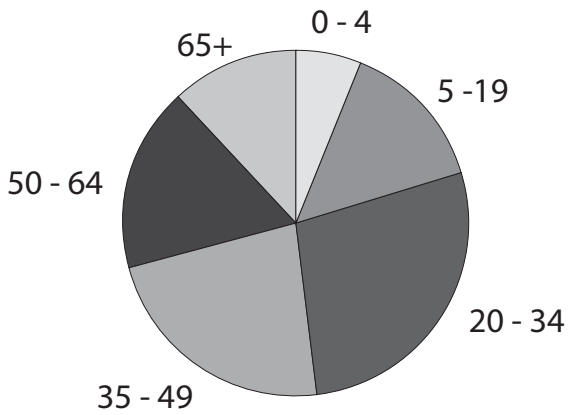
The Gateway to the past.

De hongerwinter
Toen mijn vader naar Duitsland
om te werken in de fabriek,
wel eens brood. Mijn moeder

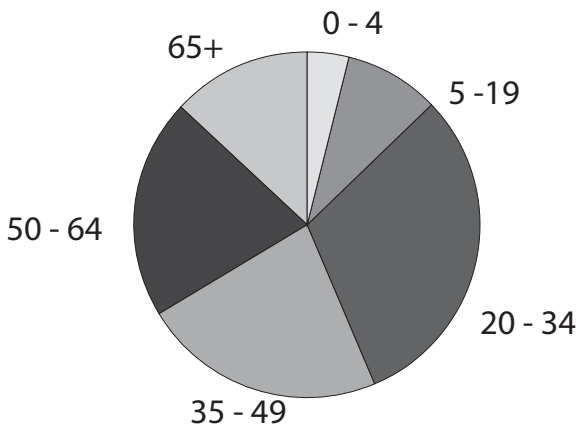
maar mijn oma bleef om te zorgen.
Toch gaf ik stiekem stukjes brood
Ik was toen een heel stuk ouder
was.

Na alle schillensoep - soms ka
hondenvlees, kwam eindelijk die
Ik wist bij God niet wat dat was
maar mijn zuster zei: "nu is het leed g
Elly van Mourik.

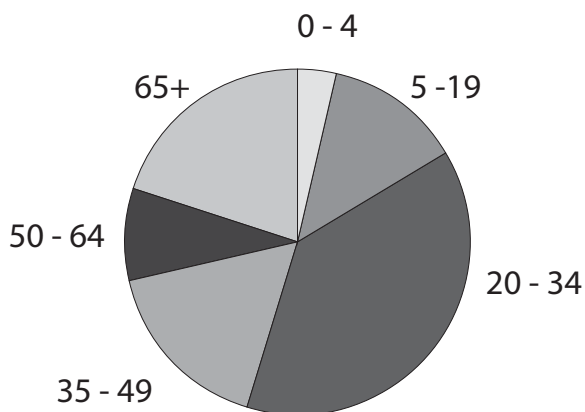
AGE GROUPS



Age of inhabitants of Amsterdam



Age of inhabitants of the Amsterdam city centre



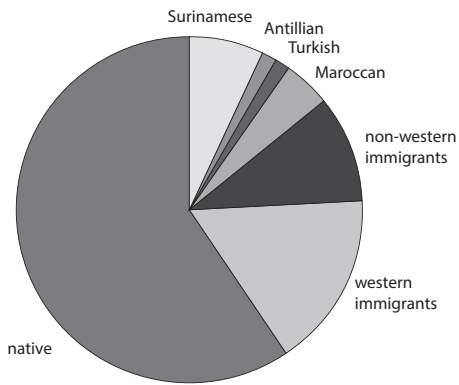
Age of inhabitants of Kattenburg

Kattenburg has a relatively high percentage young people. Also the percentage of elderly is higher than the average of Amsterdam. Of the eastern islands Kattenburg even has the highest number of elderly (visie oostenlijke eilanden).

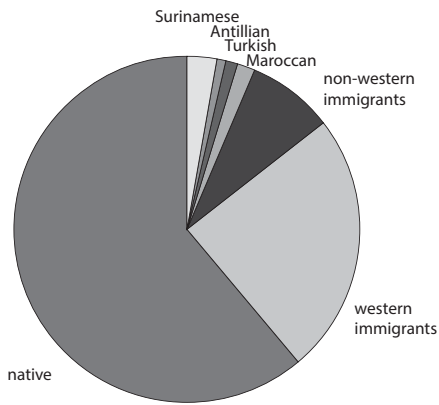
On the eastern islands the percentage of families with children is 20,6%. The percentage of Kattenburg will even be higher, because this is the island with the most families.

When looking at the prognoses two things are noticed. This area will stay an area with a lot of children, and secondly the number of elderly people will double in the next 15 years from 12 to about 20%. (this prognoses is for the whole of the eastern islands).

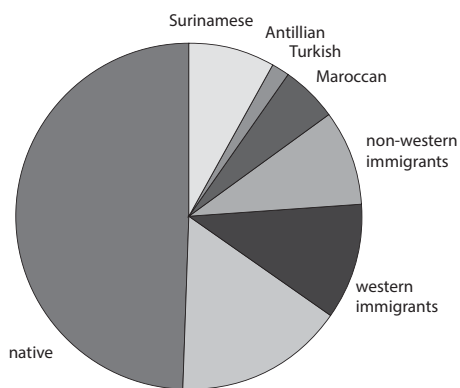
ETHNIC GROUPS



Origin of inhabitants of Amsterdam



Origin of inhabitants of the Amsterdam city center



Origin of inhabitants of Kattenburg

Kattenburg has more non western immigrants than the whole of Amsterdam. It is already closer to the numbers of the city centre of Amsterdam. It can be seen that in the city centre a lot of western immigrants live while on Kattenburg more non western immigrants live.

STUDENT HOUSING



Studenthousing in Amsterdam.

Most of the student housing in Amsterdam are located off this map in the west of Amsterdam near the universities.
Above is shown where studenthousing in and around the city centre is located. This map now might make it look like there are no students living at he canalbelt, there are students living in the houses, but there are no complexes especially for students.

EMPLOYED POPULATION



On Kattenburg, relatively less people work than in the surrounding area's. This can be explained when taking into account the large studenthousing complex at the southern point of Kattenburg. Students living here are not working. Also looking at the age groups living on Kattenburg this can be explained. As explained mostly families and elderly are living on Kattenburg. It could be an explanation that only one of the parents is working so the other can look after the kids. It is quite evident that there are little jobs on Kattenburg itself, which is explained in the Function and Use chapter.

On Kattenburg a lot of people volunteer. Of the 1701 people, 26 are doing voluntary work. This area has more volunteers than the average of Amsterdam. This might have to do with the fact that there are a lot of elderly and non working people on Kattenburg.

INCOME

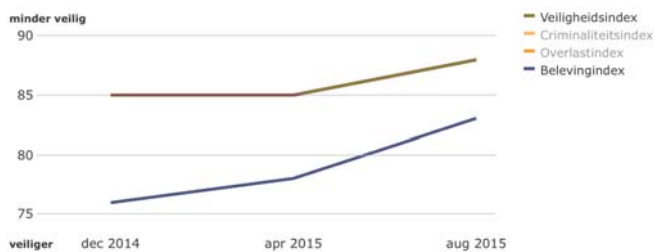


Average income in neighborhoods of Amsterdam

Eastern Islands of Amsterdam - Government benefits	
Social security	708 people
Unable to work	190 people
Unemployed	330 people
Total 13% of people	

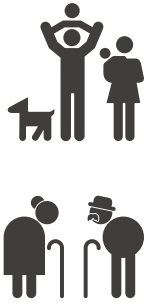
Government benefits Eastern islands

In percentage of Amsterdam there are living little less people that need government benefits on the Eastern islands. On the eastern islands, relatively more people are low educated then highly educated, the average income is the same as the average of Amsterdam. The percentage minimum households is 16%, which also is the same as the average of Amsterdam. Most of these minimum households are not living on Kattenburg but on the other islands. Residents value there neighbourhood with a 7.7 average on a scale of 1 to 10.



Safety index Eastern islands since 2014

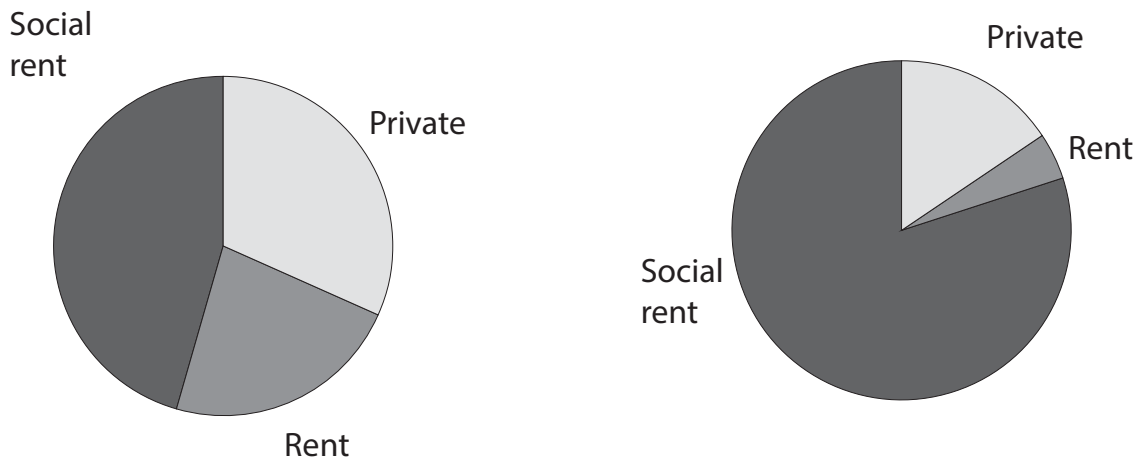
The objective safety index of the Eastern islands is 88, what is a little lower then the average of Amsterdam. So this area is relatively a little safer. The subjective safety index of the Eastern islands is 59, which means people feel very safe on the islands. The indexes are both rising though which means that safety becomes less. Also the subjective index is rising quicker than the objective index, which means that people start feeling less safe then they used to.



To conclude, now and in the future mostly the elderly and families will live on Kattenburg. Almost 50% of the residents are immigrants and most people living here have an income that is lower or average of Amsterdam, which is directly linked by the fact that a relatively high number of people living on the island are not working. Kattenburg itself doesn't offer a lot of jobs at the moment. In comparison to the rest of Amsterdam, the people are often lower educated. But at the moment younger people with higher incomes are moving there because of the location. These younger people also are often higher educated. For students there is one complex at the south-end of Kattenburg, one of only a few that are located in the city centre.

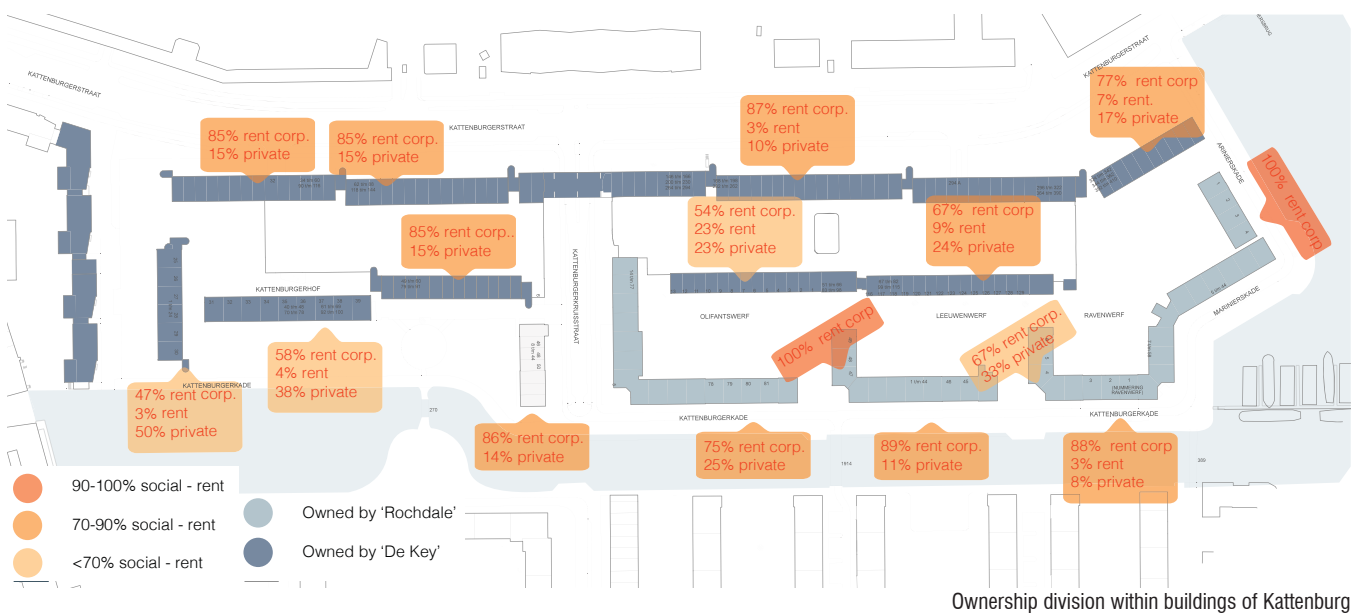
Residents value their area relatively high and feel safe in there area which is of great importance for a housing area.

OWNERSHIP



Ownership division in Amsterdam

Ownership division on kattenburg



Ownership division within buildings of Kattenburg

As can be seen there is relatively little private rent housing. Especially on Kattenburg the stock is largely social housing apartments, which are fit for people with children. The housing corporations that own the Kattenburg buildings, have a new policy. This policy is that they will sell 100% of free coming housing. This policy could change during this process, if conditions would change. This is because given the number of homes it is a long sales process. Especially also because a lot of Kattenburg residents are living there from the beginning and probably wont move out until they have to. The houses are easy sell-able though, as a lady said at a site visit: 'one was for sale since last week, and is already sold now'.

The decision of selling 100% has been made because 'de Key' this year has decided to focus on starters; students, graduates & young Amsterdammers ready for their first house. For them it is now interesting to sell and create new 60m2 social housing dwellings. (Gerry from 'De Key')

The buildings on Kattenburg since 2004 have an ownership association, which intensively works on making the buildings more sustainable. For example the lifts have been improved and everywhere in collective spaces LED lighting has been placed. Also solar-panels and green roofs are being researched.

References

Gerry van 't Wout - Gebiedsbeheerder Centrum Oost
Woonstichting De Key
Kaart der Kaarten - Gemeente Amsterdam

LENGTH OF RESIDENCE

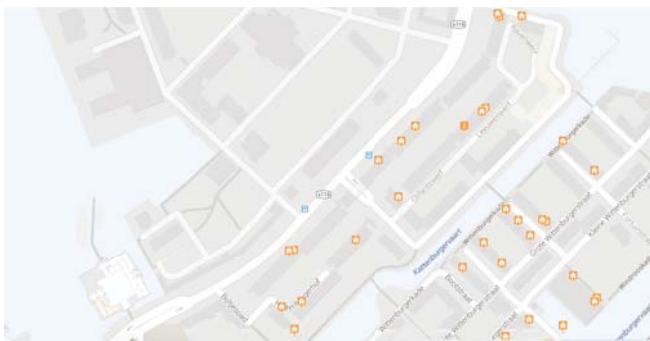


Ownership division on Kattenburg



Average Amsterdam: 8,5 years
Average Kattenburg: 17,5 years

Average length of residence in the whole of Amsterdam is 8,5 years. On Kattenburg this is around 18 years. This means that it a lot of the residents live in these buildings for a long time already. This could mean that they will not live there much longer. What can also be concluded is that the homes in these buildings are liveable in different stages of a persons live.

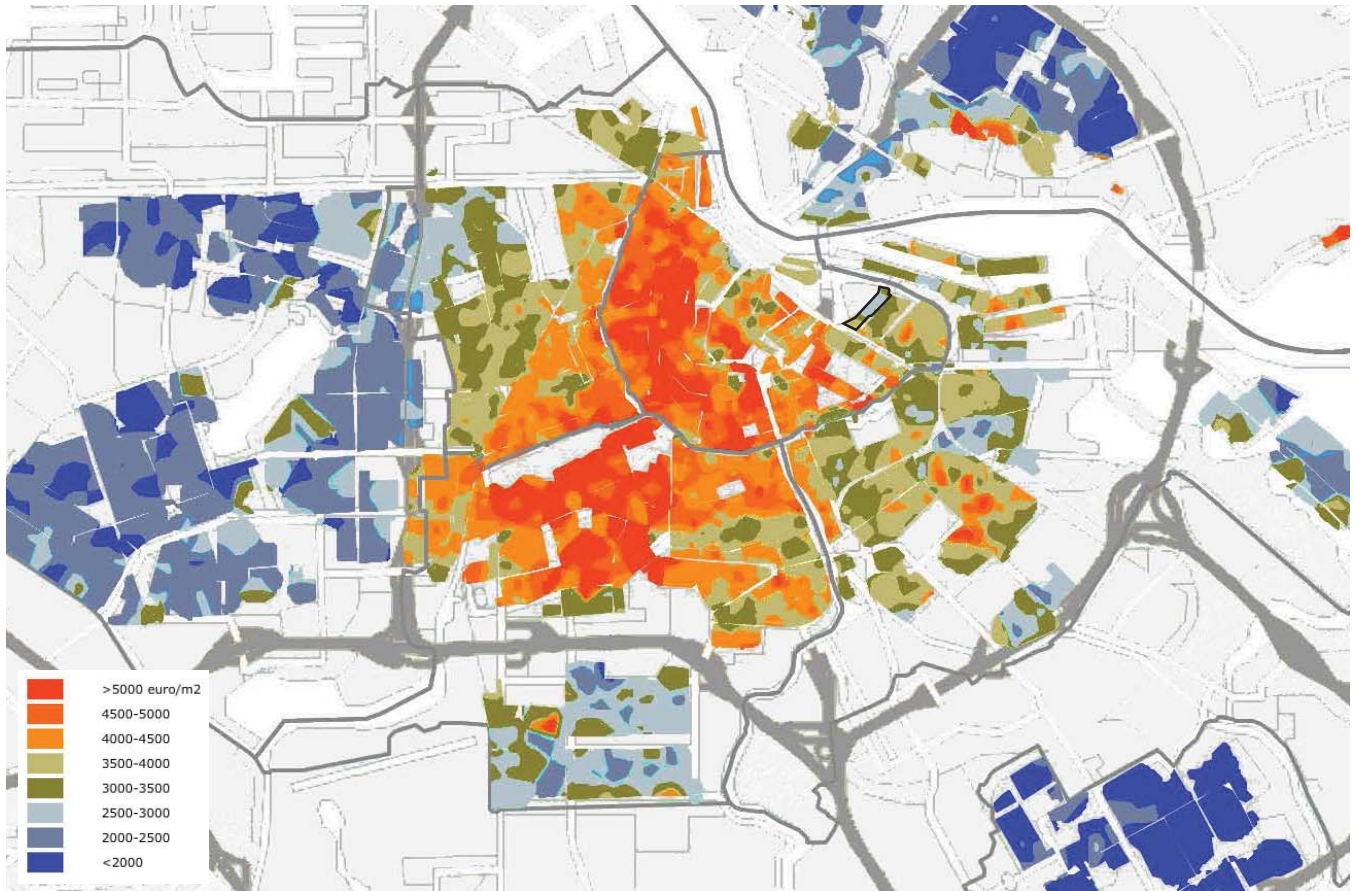


Houses that recently have been sold

It is interesting to see that there are a lot of old Kattenburgers still living there and now new people are starting to move in when the houses are sold. Although the houses were owned by housing corporations, there is no special set-up for selling the houses. They are being sold through Funda, for the price of 350.000 Euro for the 104m2 apartments, about 275.000 Euro for the 83 m2 apartments, and 160.000 Euro for the 40 m2 apartments. Small changes in price can be seen, probably because of location and state of the dwelling.

References
Gerry van 't Wout - Gebiedsbeheerder Centrum Oost
Woonstichting De Key
Length of residence: Kaart der Kaarten - Gemeente Amsterdam

HOUSING VALUE



Housing value Amsterdam - sellingprice per square metres



Housing value Kattenburg 2004



Housing value Kattenburg 2008

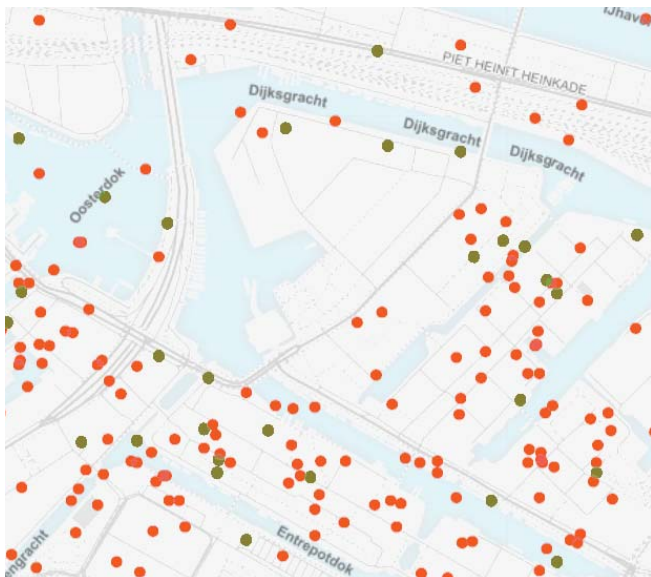
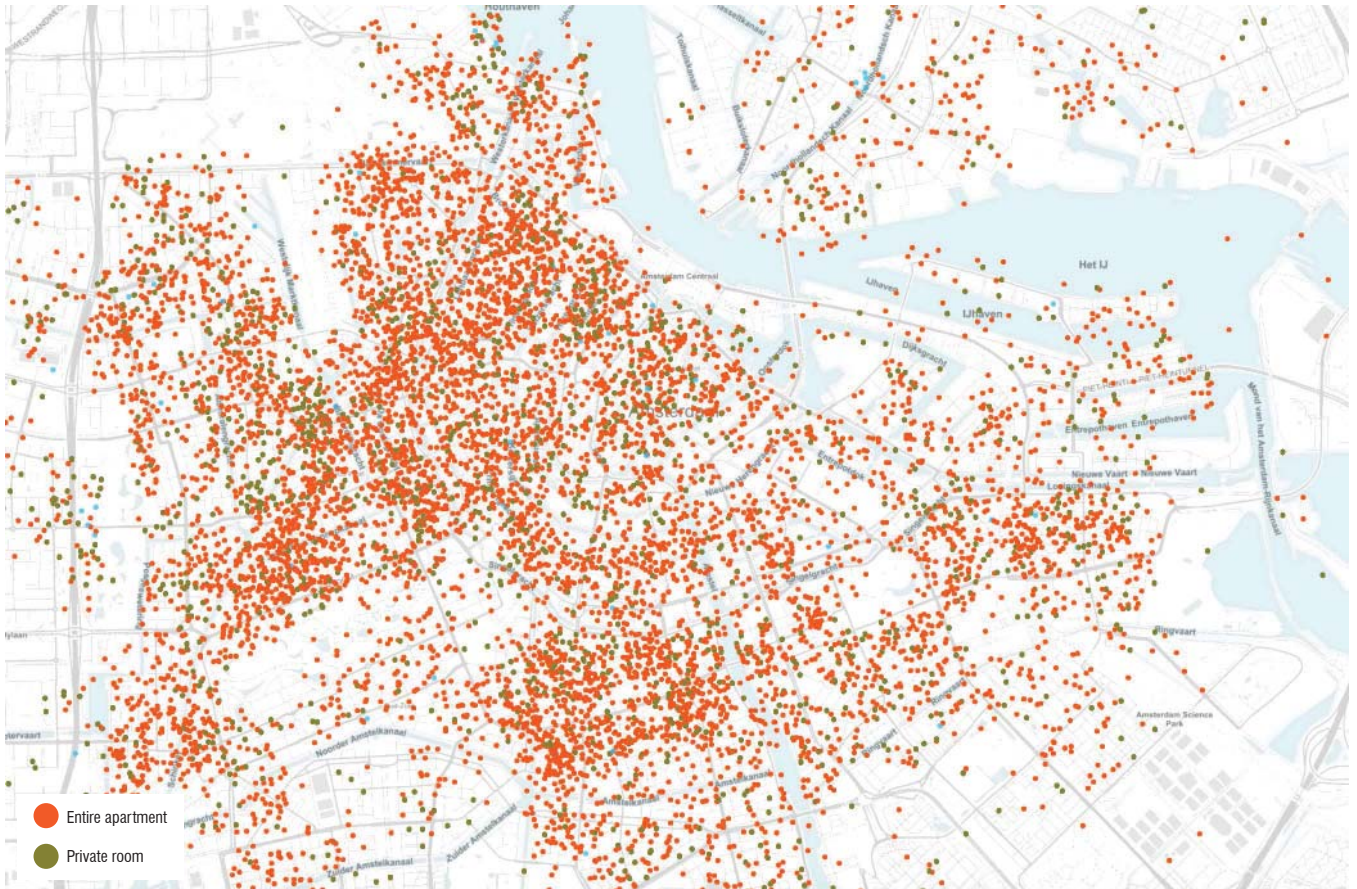


Housing value Kattenburg 2014

The housing value per square meter of Kattenburg is very low especially for its location. An explanation for this could be that this is a post war development area instead of historic housing of Amsterdam. With these prices and this location there is a special risk of gentrification. Especially when housing corporations are selling 100% of their stock at this location as mentioned before.

Within the population of Amsterdam 50.6% of the residents is international. Of various neighbourhoods is spoken when talking about expat housing, Mostly is mentioned that it would be nice to live in neighbourhoods such as the canalbelt, de Pijp and de Jordaan in order to have a 'real Dutch' experience, the prices are high here though as can be seen. When looking at lower prices Kattenburg stands out as one of few area's very close to the city centre (canalbelt).

AIRBNB VALUE



Air BNB locations Kattenburg

Not a lot of AirBnB locations are available on Kattenburg. For Amsterdam most of the airbnb locations are in the west and canalbelt.



The pricing for bnb locations on Kattenburg is between 50 and 100 euro's per night depending on if its a single room or an whole apartment.

The reviews of the AirBnB locations on Kattenburg were very positive. Mostly about the closeness to the city centre. There were reviews of tourists but also of people who stayed for a short time for working purposes.



To conclude, a lot of the Kattenburg housingstock is owned by social housing corporations, mostly 'De Key'. These corporations have a new regulation, which means that 100% of the apartments where renters move out, they will sell. This because the corporations in Amsterdam more want a shift in targetgroup for their social housing, and they think the Kattenburg housing does not meet their target anymore.

This means that ownership now is mixed within buildings, which makes it harder to do something about it. Also residents of the buildings wonder if their neighbourhood is in sale, so the homes are sold for a to low price, which attracts people they think don't belong there.



The housing prices and AirBnB prices are lower then in the city centre while this is very close. This is a good opportunity for people who actually want to live in the centre but cant afford that. With these prices and this location there is a special risk of gentrification.



Though this area is not included in hotel opportunities, there are some AirBnB apartments for rent already and the reviews of these locations are very positive especially about the location so close to the centre.

RESIDENTS

After closing down the Foundation 'Wijkcentrum Oostenlijke binnenstad' beginning in 2014, the eastern part of the city centre has a new neighbourhood organization.

The name is B01018, which comes from the postal code of the area. The organization has a modern website, which can be described as a digital city square.

The organization aims to encourage community participation and resident initiatives. Also on the website information can be found about development plans or other things that concern the area. Besides these recent information purposes also an archive has been made with historic information.

The board of the new foundation consists of members who are active in the Island Consultation and the Plantation Weesperbuurt Consultation. Both Neighbourhood Platforms are concerned with quality of life, housing, public space and plans and policies of the district. Neighbourhood Organization has a supporting role, brings people and groups in contact with each other, organizes meetings and courses and help in obtaining grants.

Kattenburg has its own residents association. This is not the same as the owners-association. In this residents association activities for residents are organised by the residents themselves. These activities take place in the association-spot above 'De poort'. The activities are being announced on Facebook and at the entrance of De Poort at Kattenburgerstraat 150, which is at the gate to the housing area.

Every Tuesday they play pills. Once a month on Wednesday there is bingo and sometimes they organise a jumble sale. Also the meetings of the previously mentioned ownership association takes place in this community spot. The association is open to all new members, old, young, buyers and renters.

Besides these two residential or community associations there is one organization more to mention. 'Buurtplatform Kattenburg / Marineterrein' aims for a more energy friendly island. A few residents have expressed a will for solar-panels on building roofs. This organization also has the aim of establishing a corporation 'Energy Kattenburg' in order to get certain actions taken. The borough Centrum supports this ambition and will step up and help for making the Eastern islands more sustainable.



Reference
<http://www.buurtorganisatie1018.nl/kattenburg-marineterrein-1/>
<http://020kattenburg.nl/?p=115#more-115>



Person in red jacket on balcony

KATTEBURGER STRAAT CENTRUM

Voor je gezondheid is het beter om te vegetarisch te eten. Dit is een artikel over de voordelen van vegetarisch eten. Het bespreekt hoe vegetarisch eten kan helpen bij het verminderen van het risico op hart- en vaatziekten, diabetes, obesitas en andere gezondheidsproblemen. Het geeft ook tips over hoe je een gezond vegetarisch dieet kunt opstellen.

Deze informatie is bedoeld om je te helpen bij het maken van goede keuzes voor je gezondheid. Het bevat tips over hoe je een gezond vegetarisch dieet kunt opstellen en hoe je ervoor kunt zorgen dat je alle essentiële voedingsstoffen krijgt. Het is belangrijk om te weten dat vegetarisch eten niet alleen goed is voor je gezondheid, maar ook voor het milieu.

De kaart toont de locatie van het centrum van Kattenburger Straat. Het is een gebied met veel winkels, restaurants en andere voorzieningen. Het is een goed idee om hier te komen voor je dagelijkse boodschappen en andere zaken. Het centrum is gemakkelijk te bereiken met de fiets of de auto. Het is ook een leuke plek om te wandelen en te genieten van de omgeving.

Person riding a blue bicycle with a bag on the back.

Person riding a bicycle with a child in a carrier on the back.

Person standing near a large display board.

de POORT
WONINGSTUURBOUW



witgevoerd
🚲 🚲



De Poort - An artwork for Kattenburger residents.
Part of 'Kunst bij de Key'

THE ARCH OF TRIUMPH

After the successful redevelopment of the Eastern Docklands at the end of the last century, and the imminent reopening of the renovated Maritime Museum, the Kattenburgerstraat was in need of a facelift as well. In collaboration with the borough and housing corporation De Key, the artist couple David Smithson (USA, 1956) and Kristina Leko (Croatia, 1966) developed an artwork for the street. This artwork were to put Kattenburg and the “islanders” in the spotlight. The artwork became an artwork for and by local residents and is now called the Kattenburger Arch of Triumph.

Triumphal arches were erected in Roman times in memory of a victorious campaign. The Kattenburger Arch of Triumph should be an homage to the turbulent history of Kattenburg. Because nobody could tell the story of this historic story better than the islanders, the artists asked the residents for their stories, thoughts or musings. 25 residents were enthusiastic and in a series of workshops put their history on paper. These handwritten stories formed the basis for the artwork. The texts were baked into ceramic tiles and put onto the six columns of the gate under the apartment complex at the Kattenburgerstraat, the predominant entrance gate of the neighbourhood. Because of the location of this artwork pedestrian-, cycle- and vehicular traffic travels through the turbulent history.

In the stories of the artwork all sorts of local hero's are spoken of: sailors, Catholics, communists, port workers, bus hijackers, the anti-smoking magician and the ladies of billiard club “Krijt Uw Puntje”. These characters are spoken about in stories of solidarity and friendship, about the sanitation in the sixties, the “Kattenburger huuractie”, the revealing of nuclear secrets and the “hongerwinter”. When the evening falls, the artwork is lit up and it is still very readable, and in addition the feeling of safety for residents is increased.

While designing the artwork the method of Kristina Leko seems to have been predominant. In a try to democratise her artworks, she often tries to include the ‘normal’ people in the process of making the artworks. This manner of ‘for and by residents’ fits Kattenburg very well. The island is characterised by citizen initiative. Which is highlighted by the fact that the residents’ organization is located right above this arch.

‘They won’t get me out of this neighbourhood.’ Rietje Werts is stubborn, since 1975 she lives on Kattenburg and she would not want it any other way. Still she officially is not a ‘Kattenburgse’, because Rietje was born halfway into World War II on Wittenburg. But as she says: ‘Wittenburg or Kattenburg, it is al the same’ (“Een pot nat” as she originally said). Rietje is one of the older generation inhabitants. A generation that, under the inspiring leadership of ‘Tante Marie Altelaar’, massively revolted when injustice was observed. Today this feeling of community can still be noted. Hence it is not strange that Rietje was asked to find residents who wanted to help with the texts for the artwork. Together with her partner in crime Elly van Mourik she made a plan. During the yearly party of the neighbourhood association ‘Nieuw Kattenburg / De Poort’ the ladies waited till people had some drinks and then asked for help.

The elderly couple Willem and Anneke Tuiteman were involved in the art project as well. Both were born in Amsterdam North but after living for almost 35 year on Kattenburg now, they are considered ‘islanders’. And Willem even made it chairman of the previously mentioned neighbourhood association. Before the artwork was placed on the columns there was already some art painted on the columns. This artwork had been ruined with graffiti and was in a very poor state. The neighbourhood entrance was a sad sight and therefore ‘De Key’ came up with the idea to move the, previously rejected design for the Kattenburgerstraat of Smithson and Leko, to the gate. This move, as said, had a very positive influence on the neighbourhood, especially in the evening.

In the weeks before the revealing of the arch, Rietje as well as Willem and Anneke, followed the progress of the artwork. According to Rietje the whole project was one big success and she appreciates it enormously that the artists took the time to come to the neighbourhood and even lived nearby for a while. Also Willem and Anneke are very happy with the end result.





06 ARCHITECTURE BUILDINGS

INTRODUCTION

This chapter focuses on the existing buildings on the site. The appearance of the buildings will be described and illustrated with photos, floor plans, sections, elevations and models.



ARCHITECTURE - BUILDINGS



Galleries provide access to the maisonettes

The buildings on Kattenburg are formed with repeated elements forming masses, which are grouped together into a unified whole. It is a typical example of the Brutalist style and it represents an utopian ideal for inner-city living environment, which is designed in the 60's. As described in the history chapter, The architecture of Kattenburg showed a new vision on residential living. The basis of the design consists out of long gallery flats that separate the neighbourhood from the busy Kattenburgerstraat. The buildings are all performed in raw concrete surfaces, which reveal a rough texture. The balconies give the buildings a unique profile and the stairways, which give access to the galleries, are in rounded white painted towers. The buildings are 5 or 6 storeys high, with basements on the ground floor. The façade of the basement is constructed out of brick.

Variation of housing typologies in Kattenburg is very small. The strips of buildings are either maisonettes or apartments with three or four rooms.



The balconies have a unique curved profile

Data

Year: 1973
Surface area: 60.000 m²
Function: housing



MATERIALIZATION



The balconies have a rough concrete surface



Glass façade

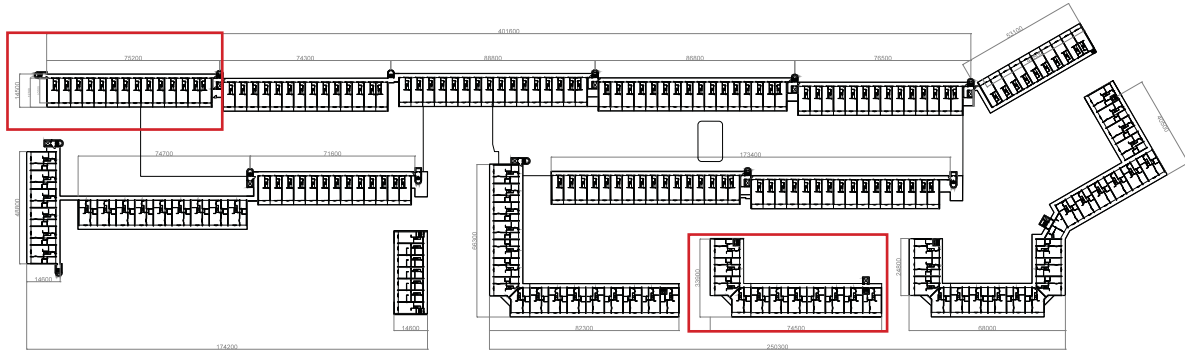


The staircases are in plastered towers

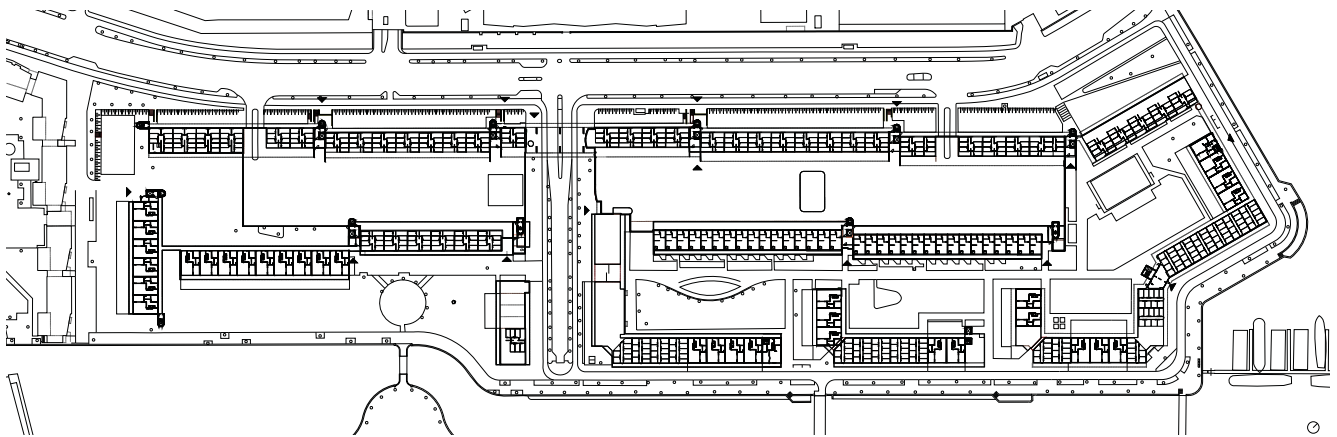


The basements have a brick façade

FLOOR PLANS

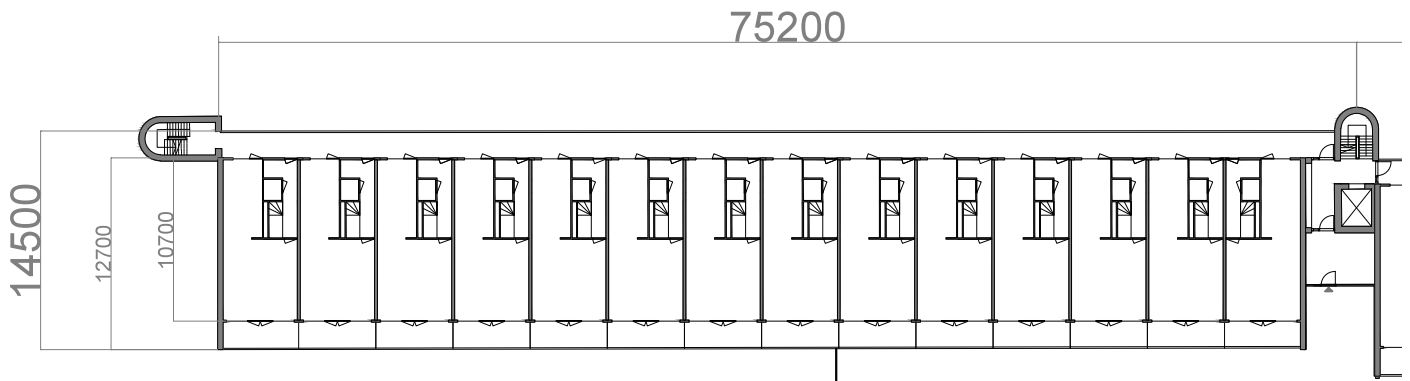


Typical floor plan - reduced scale

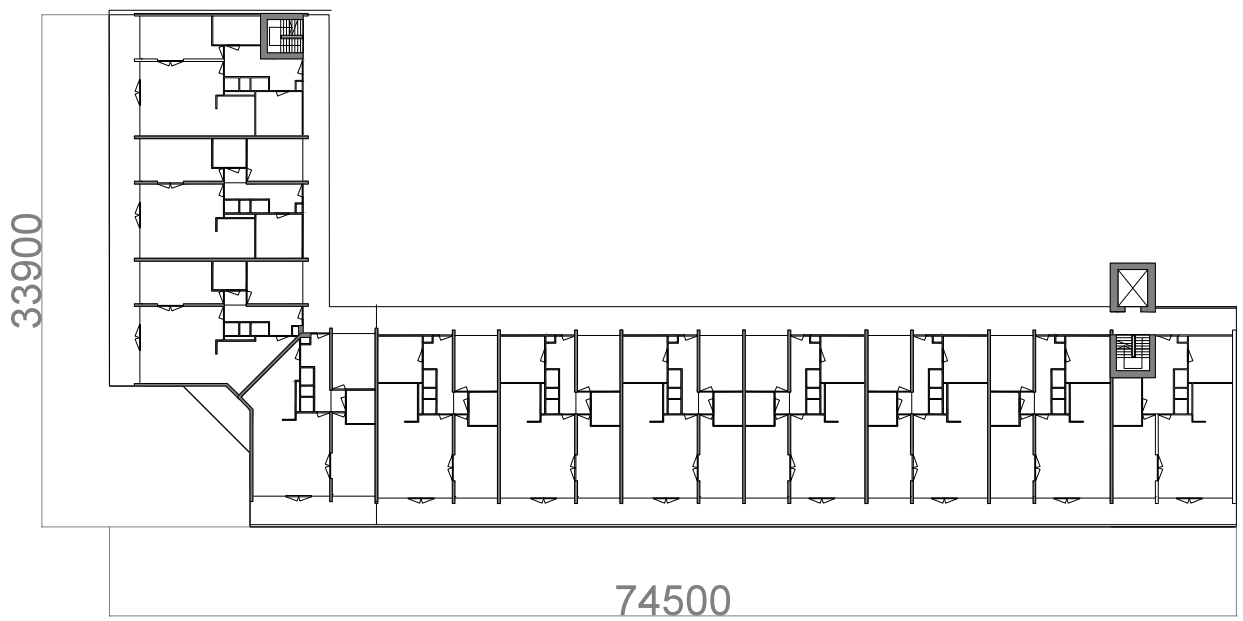


Ground floor - reduced scale

Note:
See appendix 02 Typical floor and 03 Ground floor for scaled drawings.

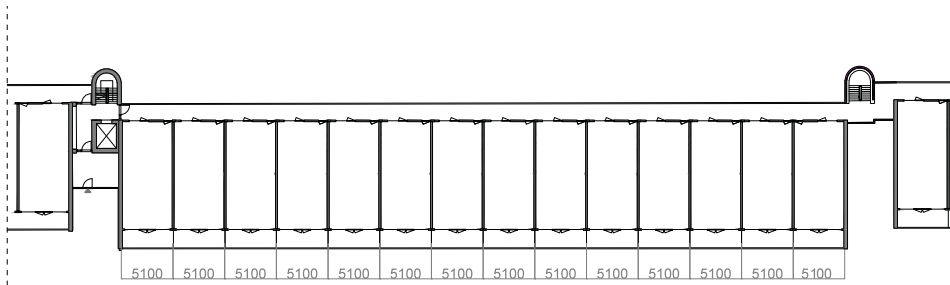
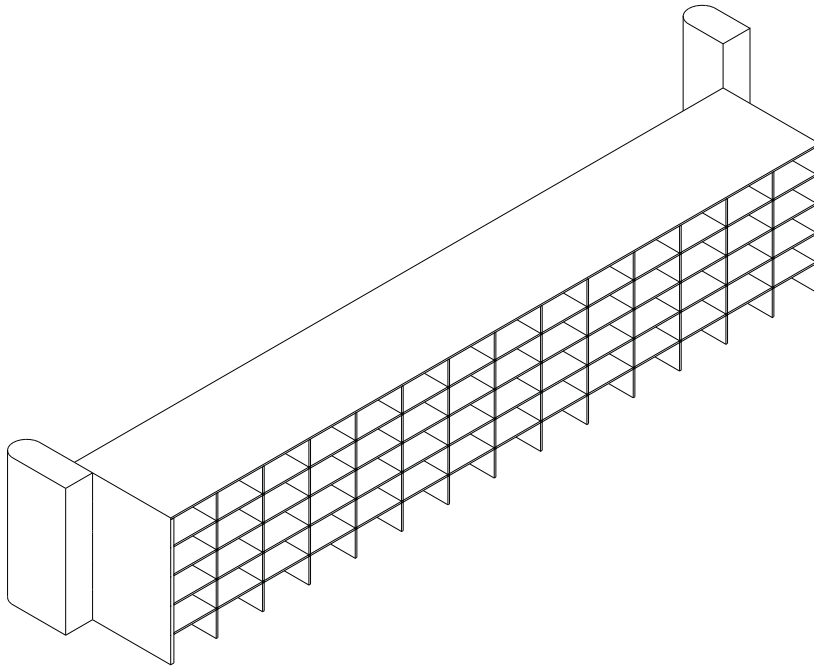


Typical floor plan 5100 mm bay - scale 1:1000



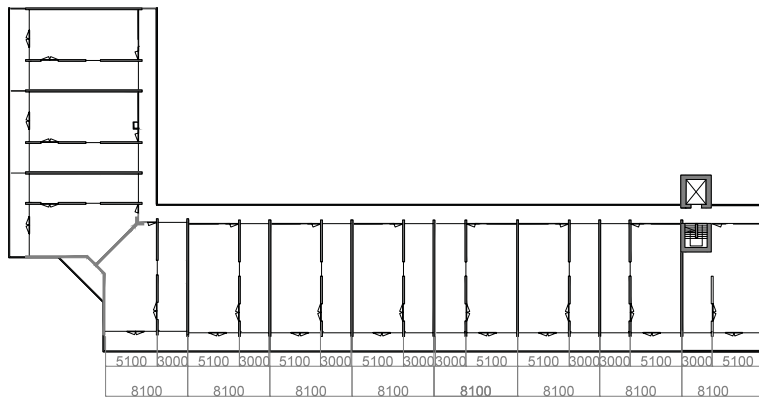
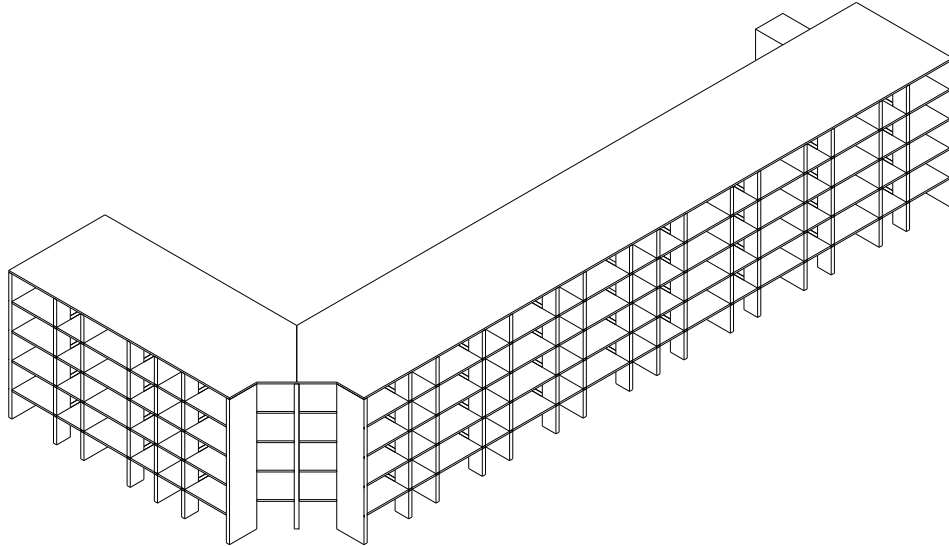
Typical floor plan 8100 mm bay - scale 1:1000

STRUCTURE



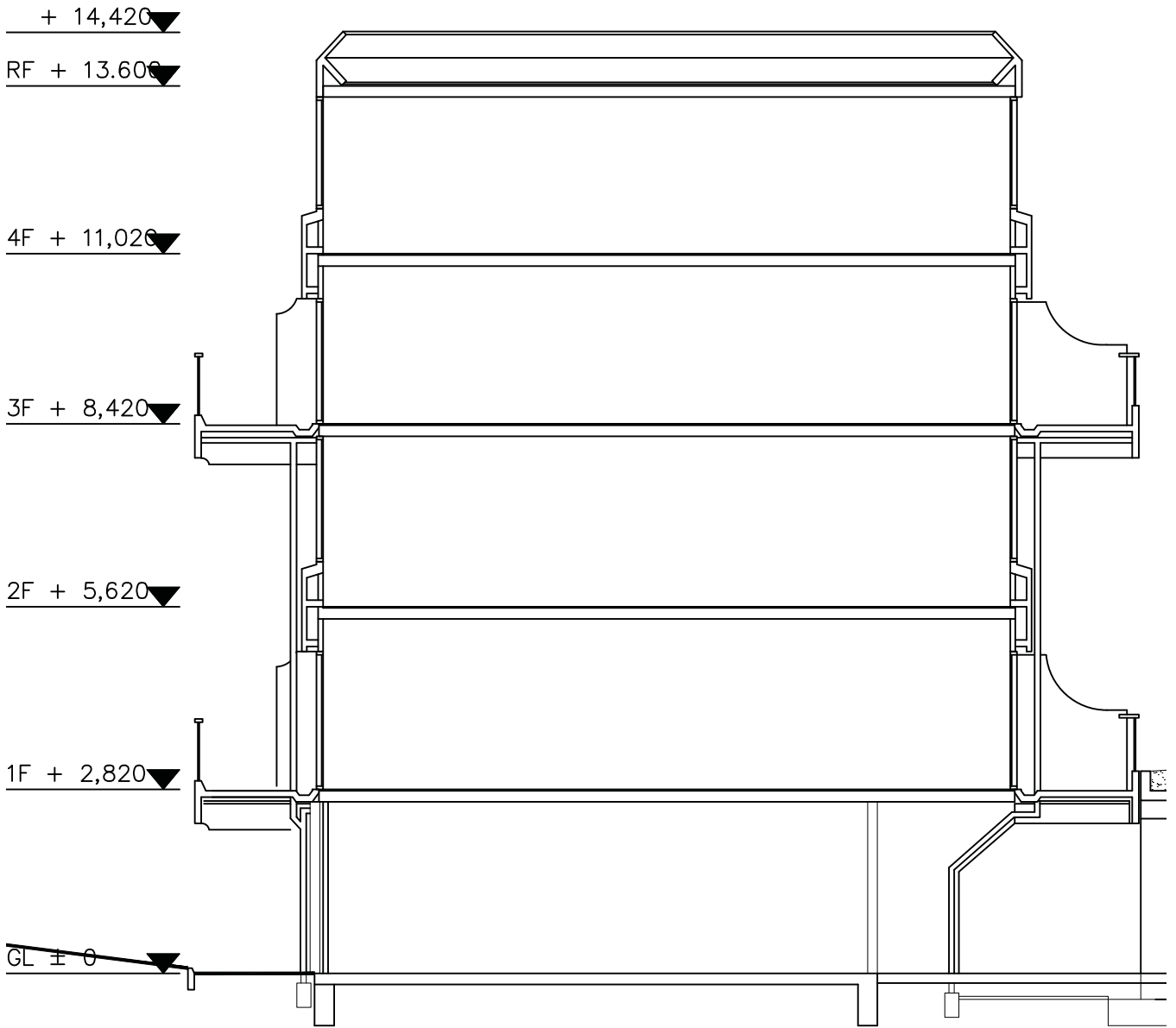
5100 5100 5100 5100 5100 5100 5100 5100 5100 5100 5100 5100 5100 5100

Typical structure 5100 mm center to center

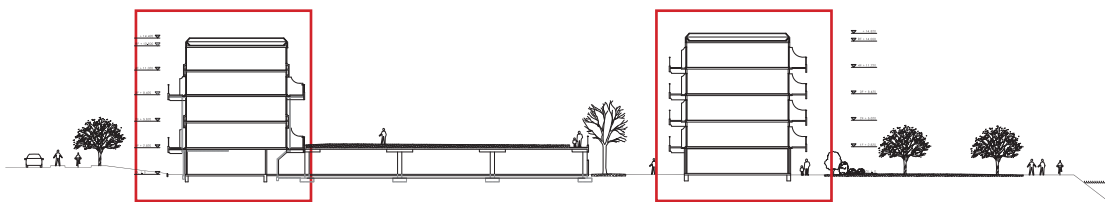
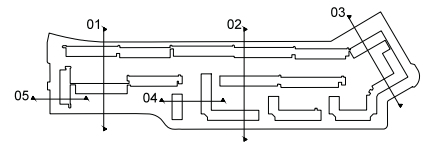


Typical structure 8100 mm center to center

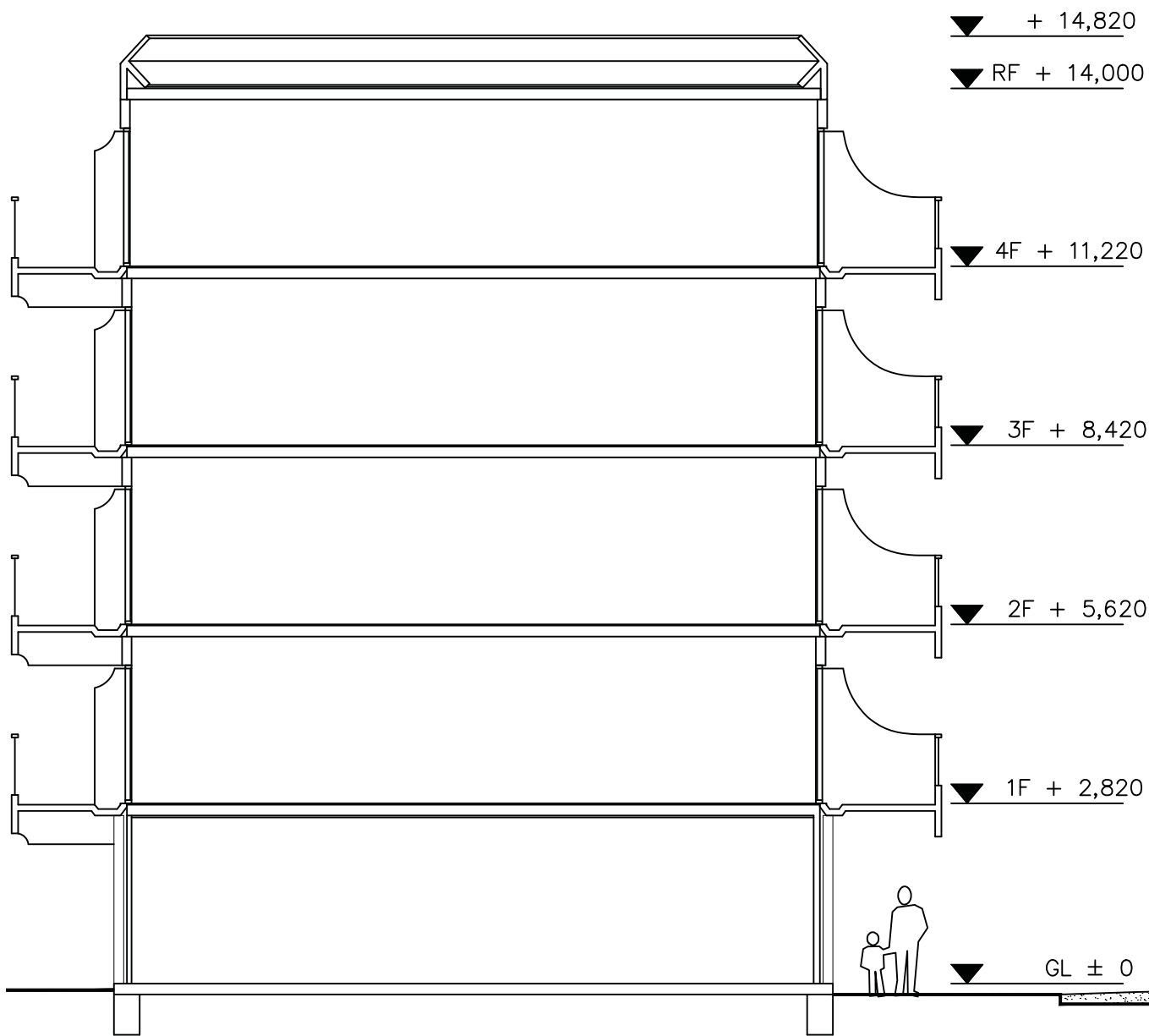
SECTIONS



Section typical building 5100 mm bay - scale 1:100

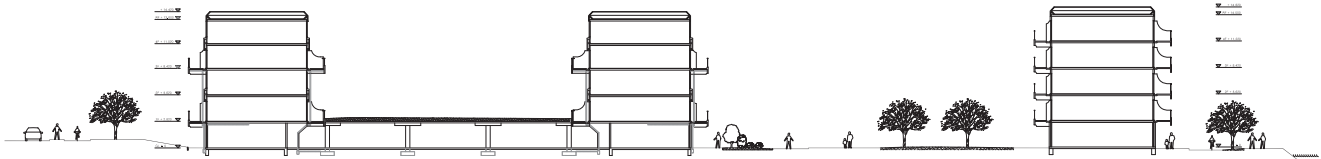
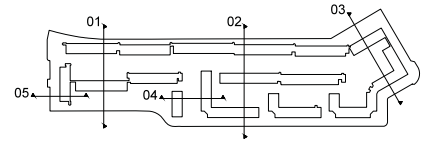


Section 01 - scale 1:800

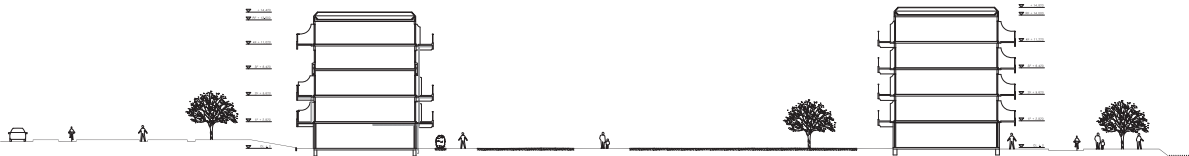


Section typical building 8100 mm bay - scale 1:100

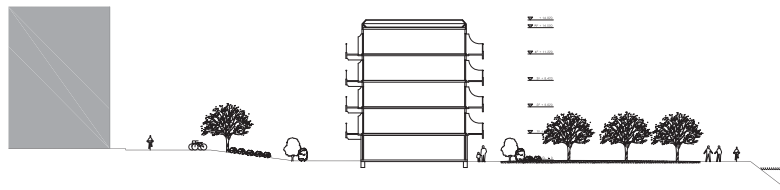
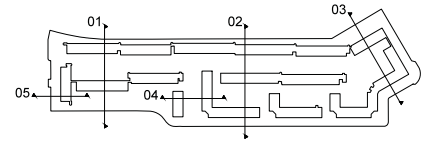
SECTIONS



Section 02 - scale 1:800



Section 03 - scale 1:800



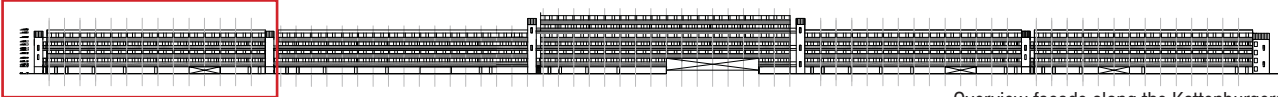
Section 04 - scale 1:800



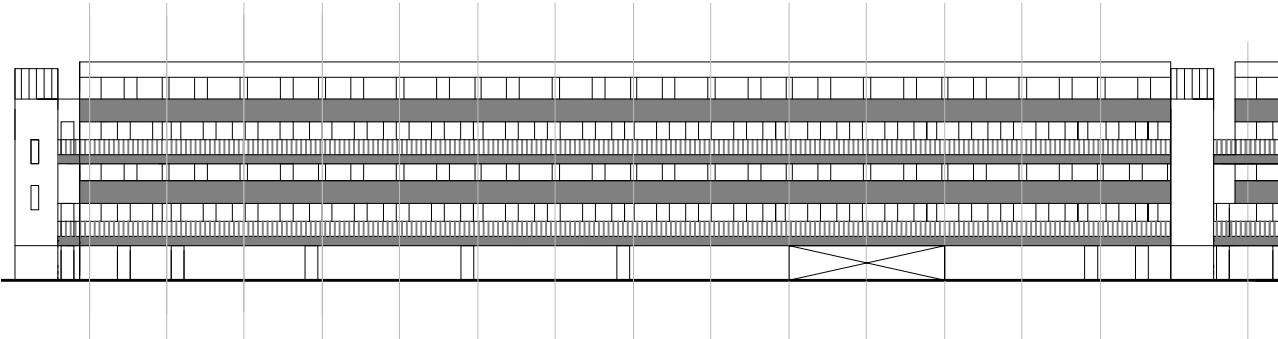
Section 05 - scale 1:800



FAÇADES



Overview facade along the Kattenburgerstraat

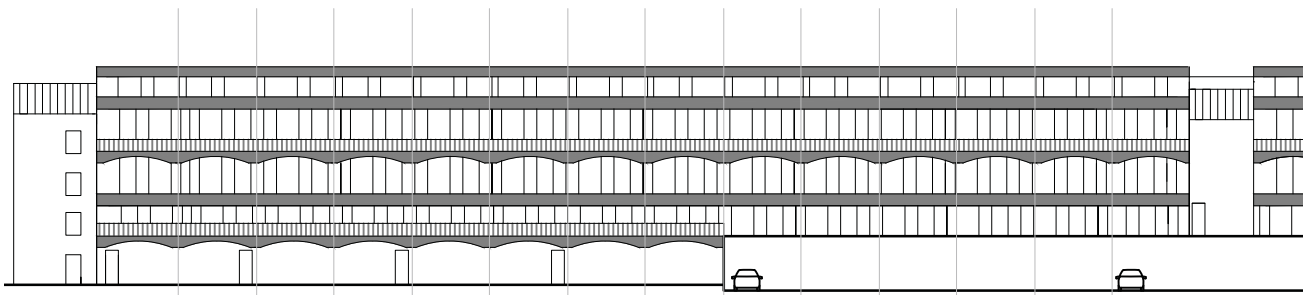


Typical façade - scale 1:500



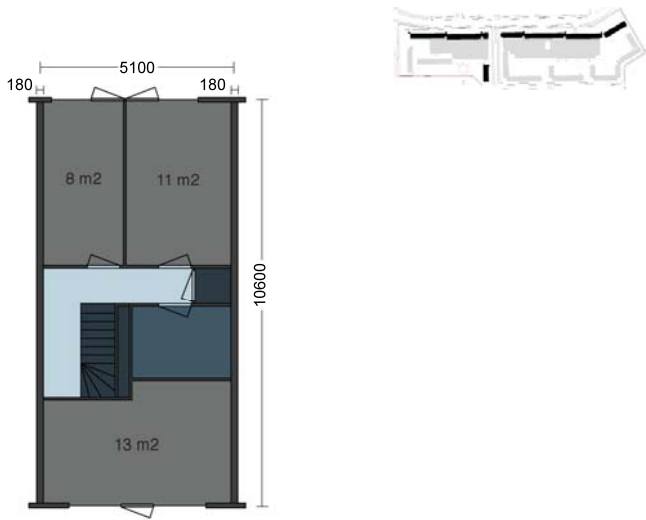


Overview facade along the decks



Typical facade - scale 1:500

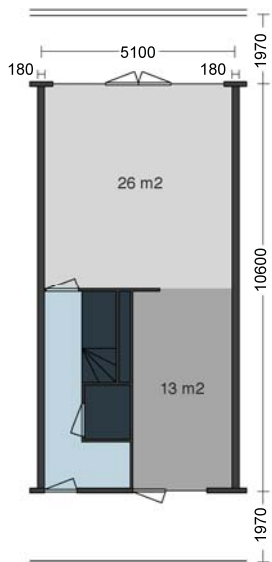
DWELLING UNITS



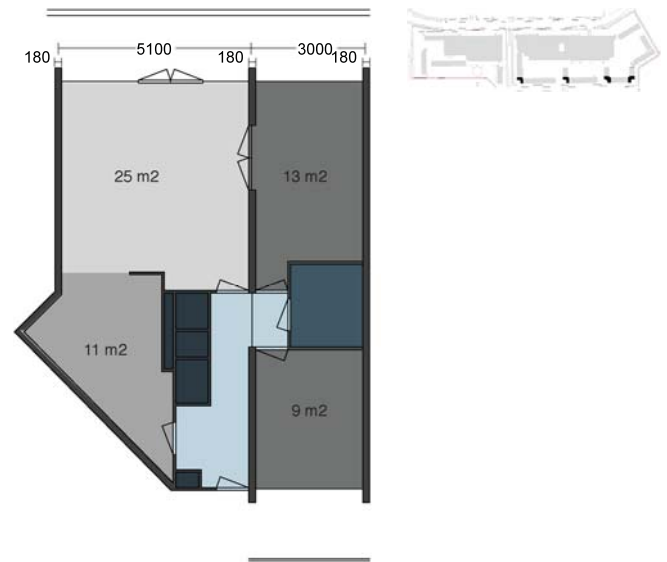
Two story apartment 104 m² - scale 1:200



Two bay apartment typical 86 m² - scale 1:200



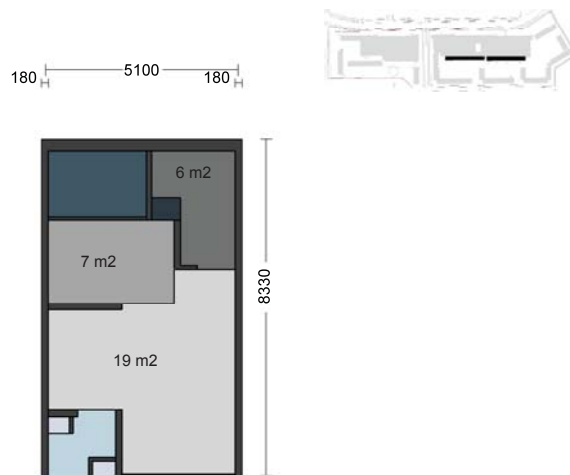
Two story apartment 104 m² - scale 1:200



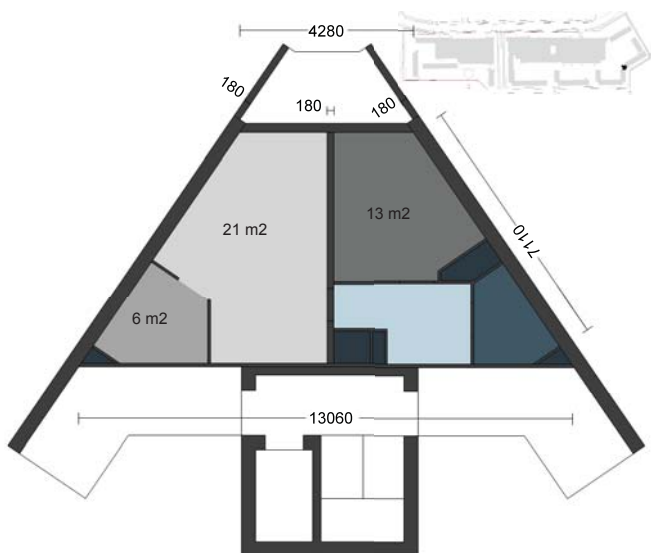
Two bay apartment exception 84 m² - scale 1:200



One story apartment 52 m² - scale 1:200



Studio 41 m² - scale 1:200



Corner apartment 51 m² - scale 1:200

- Living room
- Kitchen
- Sleeping room
- Hall
- Bathroom
- Facilities



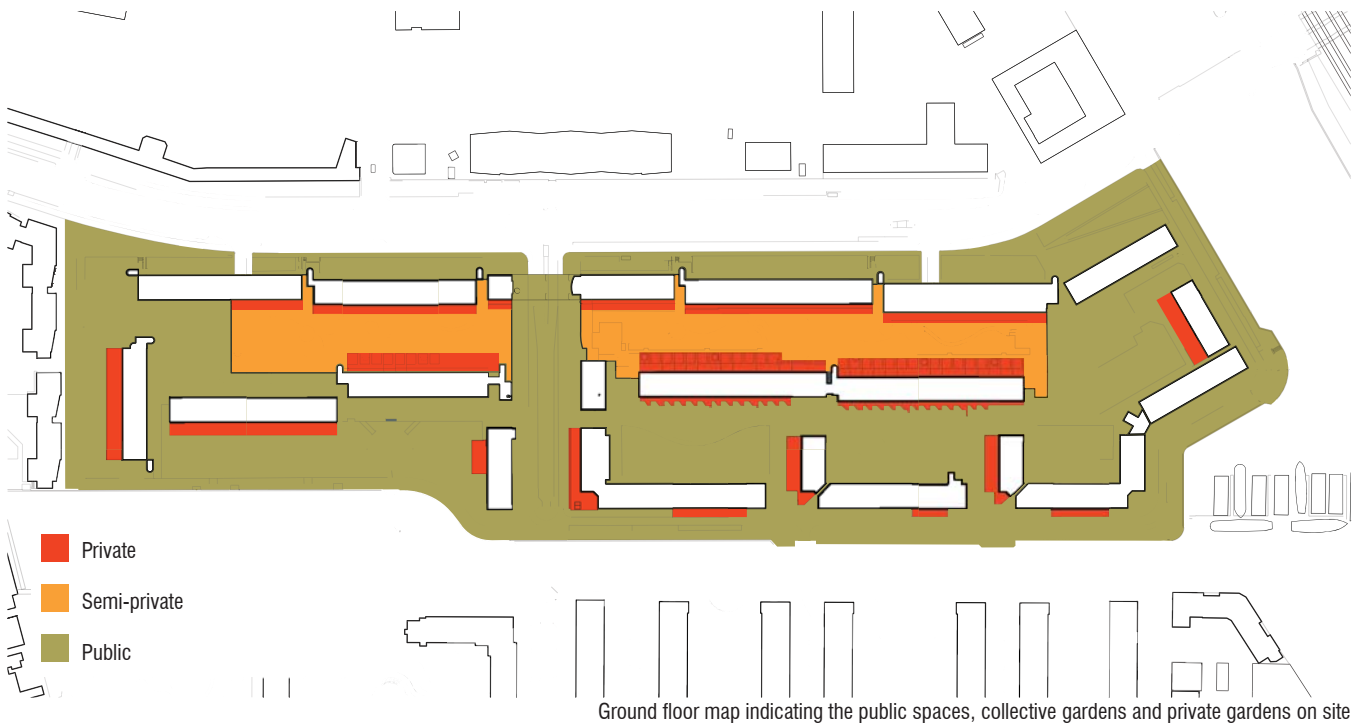
07 ARCHITECTURE OPEN SPACE

INTRODUCTION

The island of Kattenburg only has a built area of about 20%. The remaining 80% is open space. Park spaces, parking decks and the waterfront are some of these open spaces. What spaces do actually exist within the site? What do they look like and what are their qualities? This chapter will research the open space.



PUBLIC-PRIVATE



A great part of the open space of Kattenburg can be accessed by all public. On top of the parking garage, there is a more secluded green space that can only be accessed by the residents of the surrounding buildings.

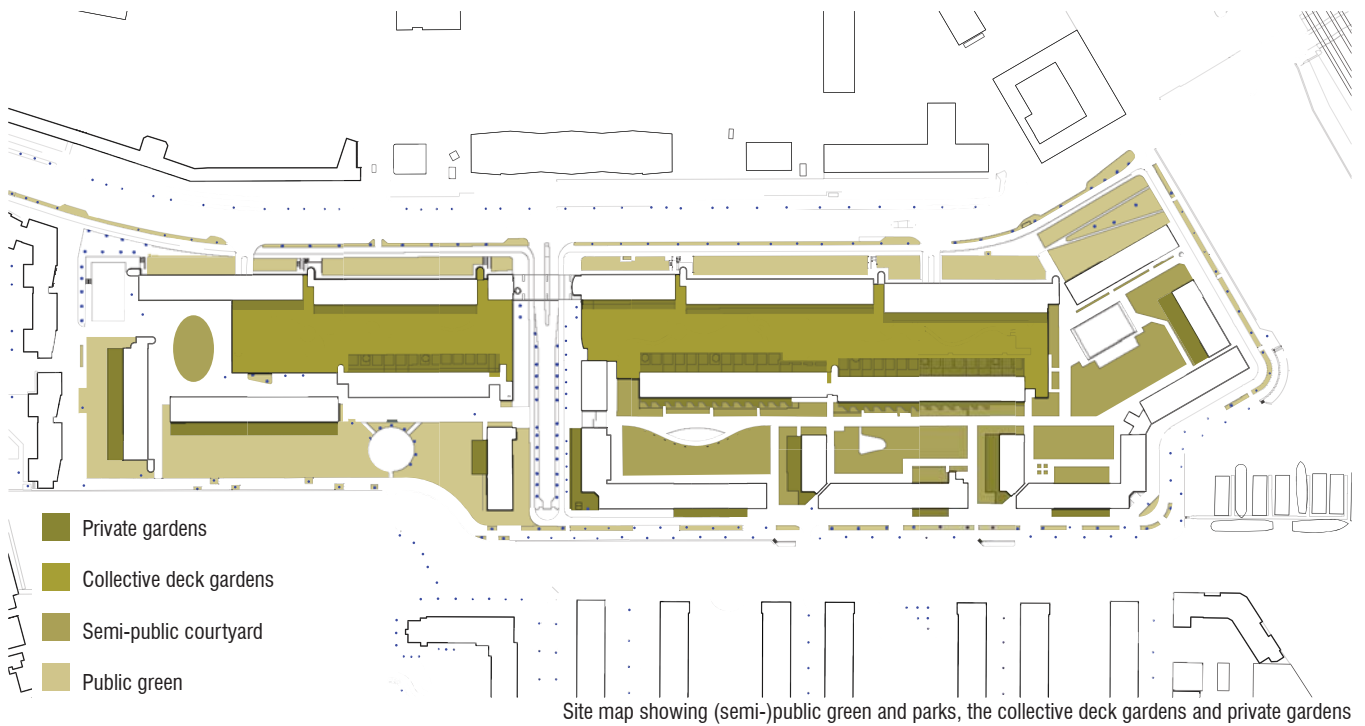


A public basketball court



The cyclist route with private gardens ending on the edge of it

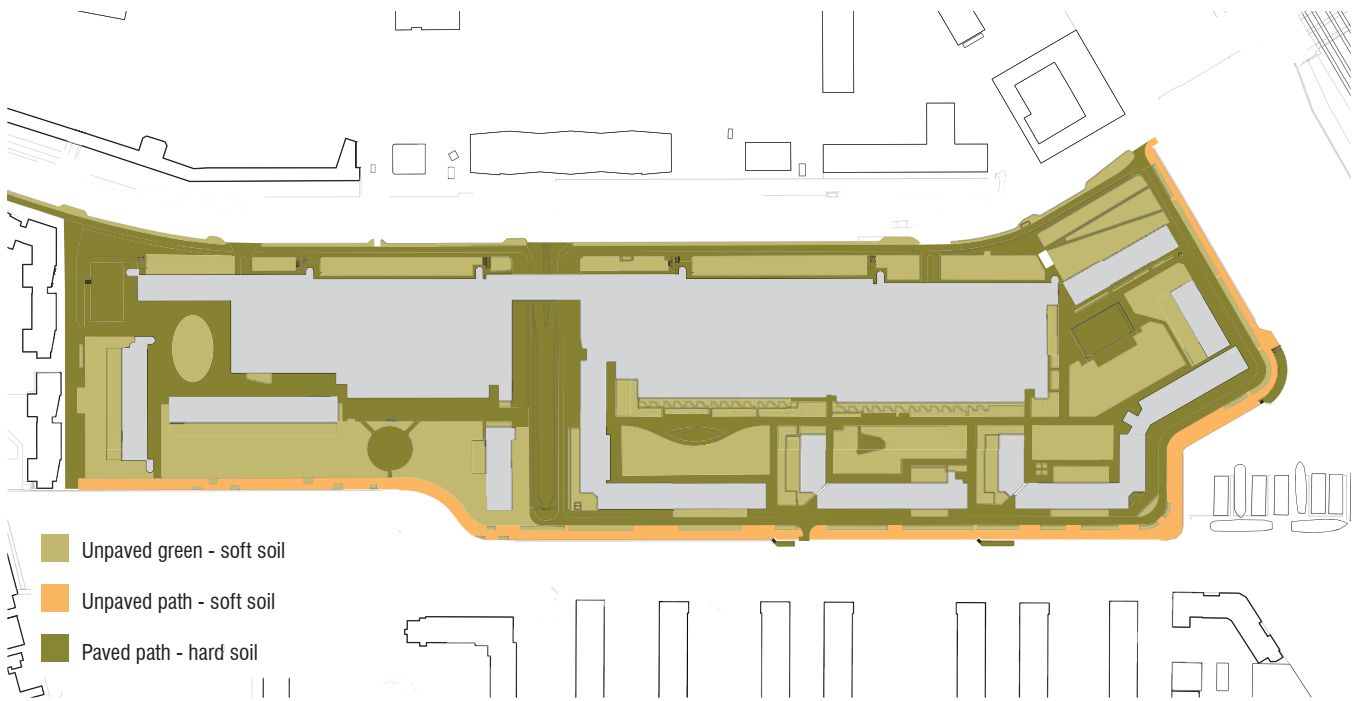
GREEN SPACE USE



The buildings are mostly placed within a green area that is accessible to anyone. The ground bound dwellings on the site all either have a small front garden or a back garden. On top of the parking decks there is a communal garden that can only be accessed by the residents of the buildings that surround it. The houses on deck level, either have their front door at the collective space with a front garden, or their front door at the gallery with a back garden at the deck.



HARD/SOFT SOIL



Of all the open space in Kattenburg, about 40% is paved, leaving about half of the site being soft soil. Along the complete length of the waterfront, there is also a unpaved footpath.

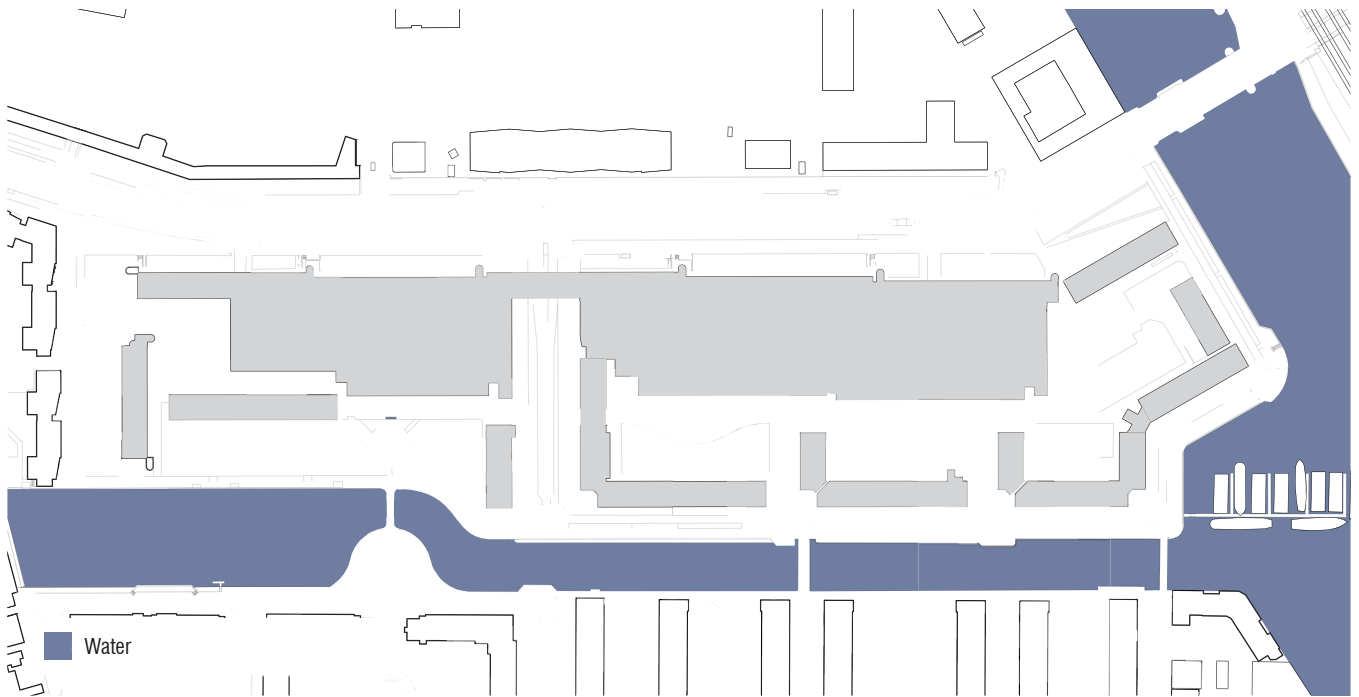


Sports field



Public garden within the building blocks

WATER



Being a part of the Oostelijke eilanden, Kattenburg is surrounded by water. Kattenburg is the Westernmost island of these. In the East, the site borders the Kattenburgervaart, separating it from Wittenburg. In the North the Dijkgracht is located, that separates it from the Piet Heinkade. The Kattenburgervaart can be divided into two parts. Firstly, the southern part is the widest of the two. This borders the Kattenburgerpark and can be seen as a nice waterfront park. The northern part is less wide, almost canal-like.



Bridge connecting Kattenburg to Wittenburg



Small marina in the north-western part of the site



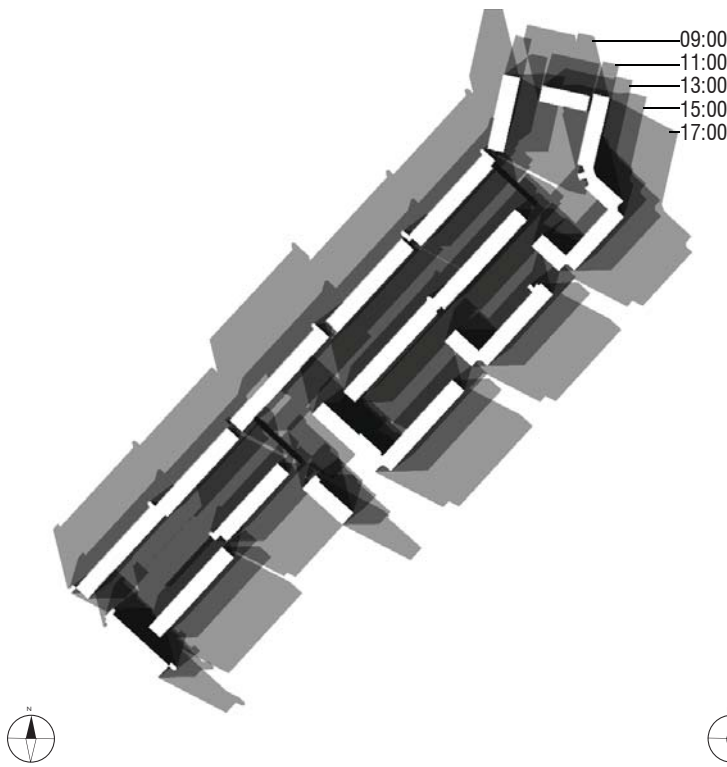
08 SITE CHARACTERISTICS

INTRODUCTION

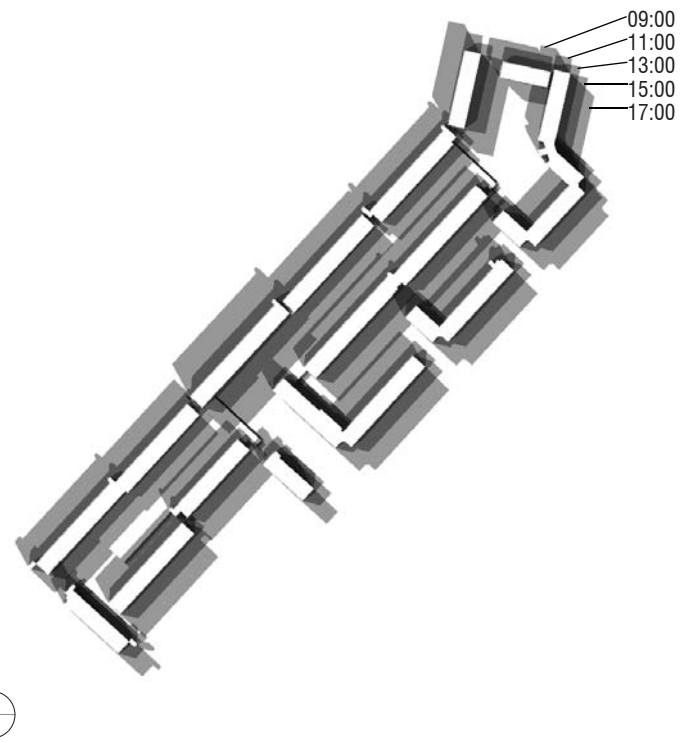
Apart from an analysis of the physical situation of Kattenburg, it is important to know the environmental aspects of the area. Wind directions, orientation, noise disturbance and soil quality are some of these aspects that could be decisive in the design process. Also other characteristics of the nearby area such as the buildings height are provided in this chapter.



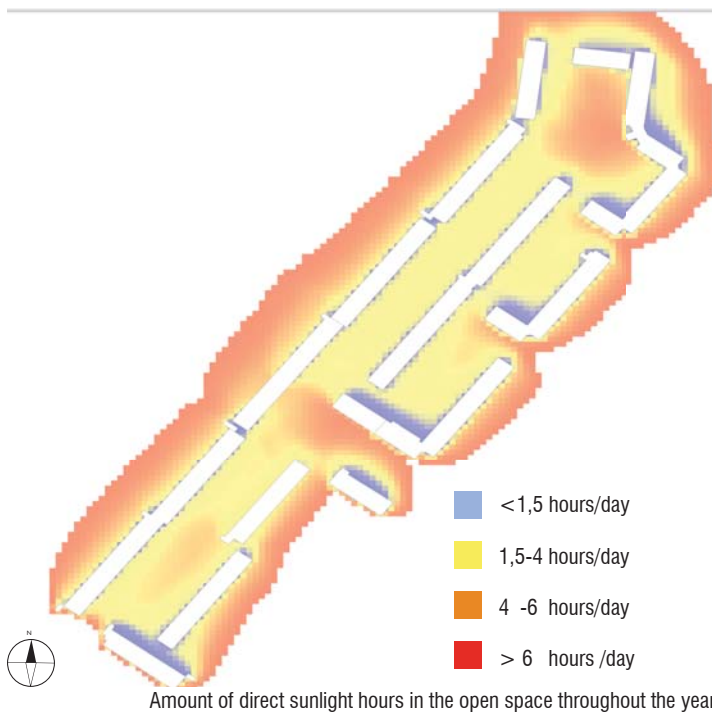
BUILDING ORIENTATION / SHADING



Shading 21st March/September



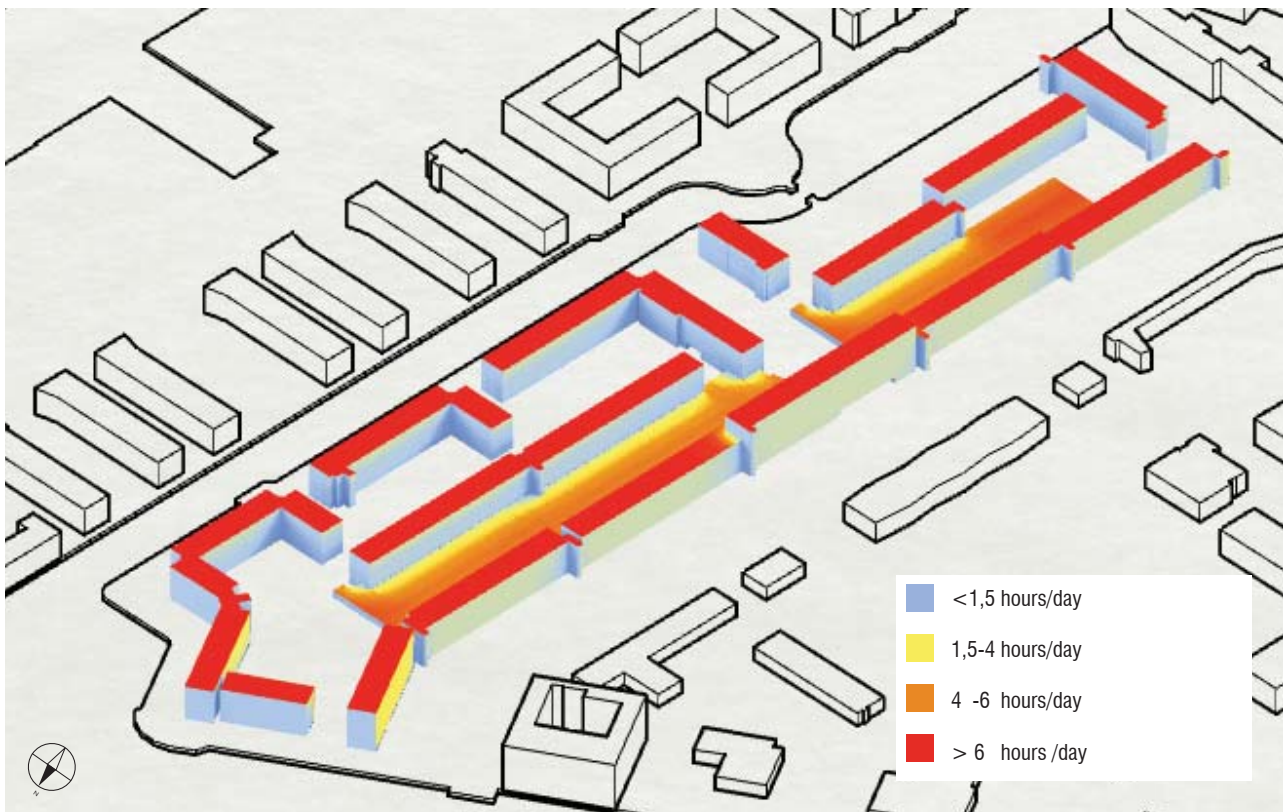
Shading 21st June



During the design of the existing situation in the 1960s, the orientation of the buildings was a main focus point. Because of the orientation of the buildings, south-west to north-east, these buildings receive sunlight on each facade at a certain moment of the day. In the morning and afternoon on the south-east facade, where the majority of the balconies are located, and in the evening on the gallery side. The most northern part of the neighbourhood, where buildings are partly turned northward, this is also the case. However, because of this precise orientation of these dwellings miss out on the afternoon sun from the south.

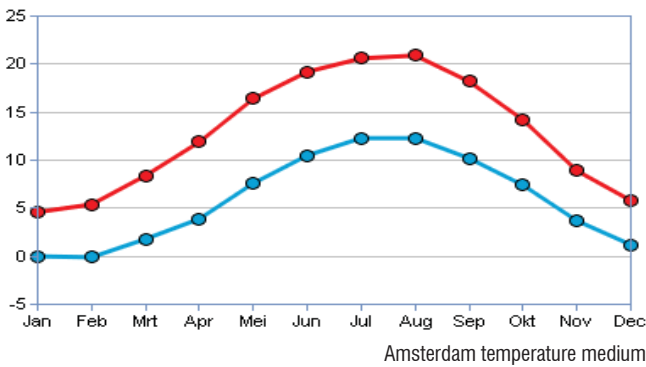
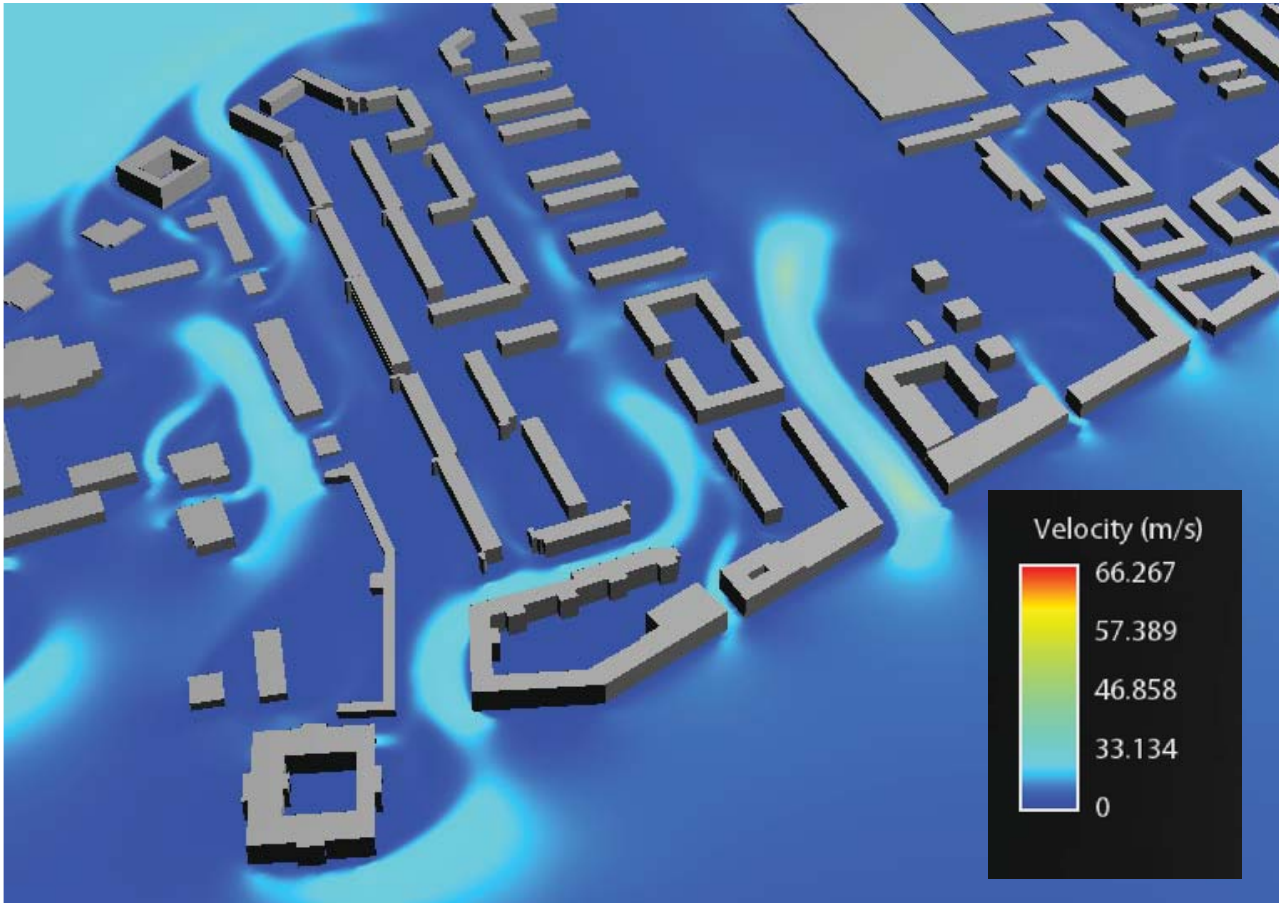
Furthermore, when looking into the amount of sunlight received in the open space, the courtyards of phase 2 might become problematic, as there are area's without sunlight throughout the day and year. The decks on top of the parking are however ideally located and receive large amounts of sunlight.

BUILDING ORIENTATION

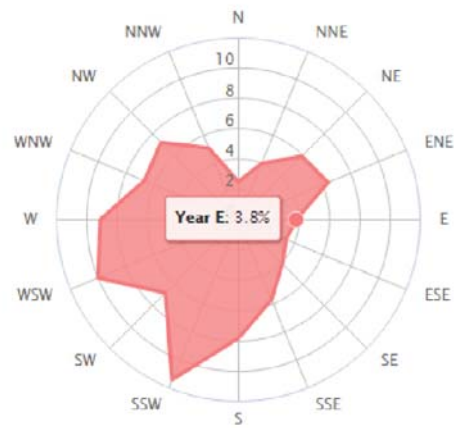
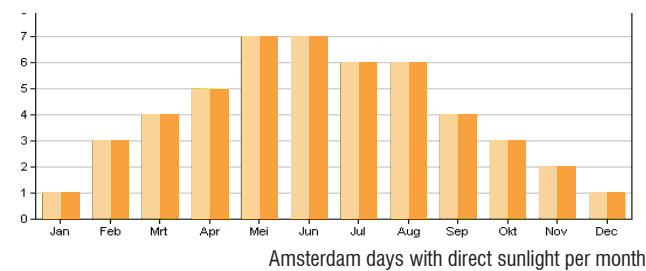
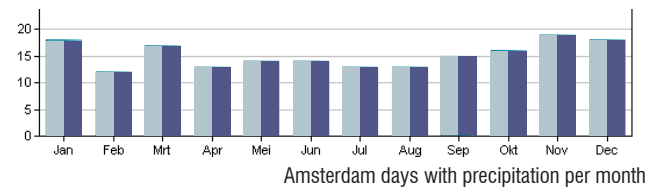


Average number of hours of daylight (weather not included)

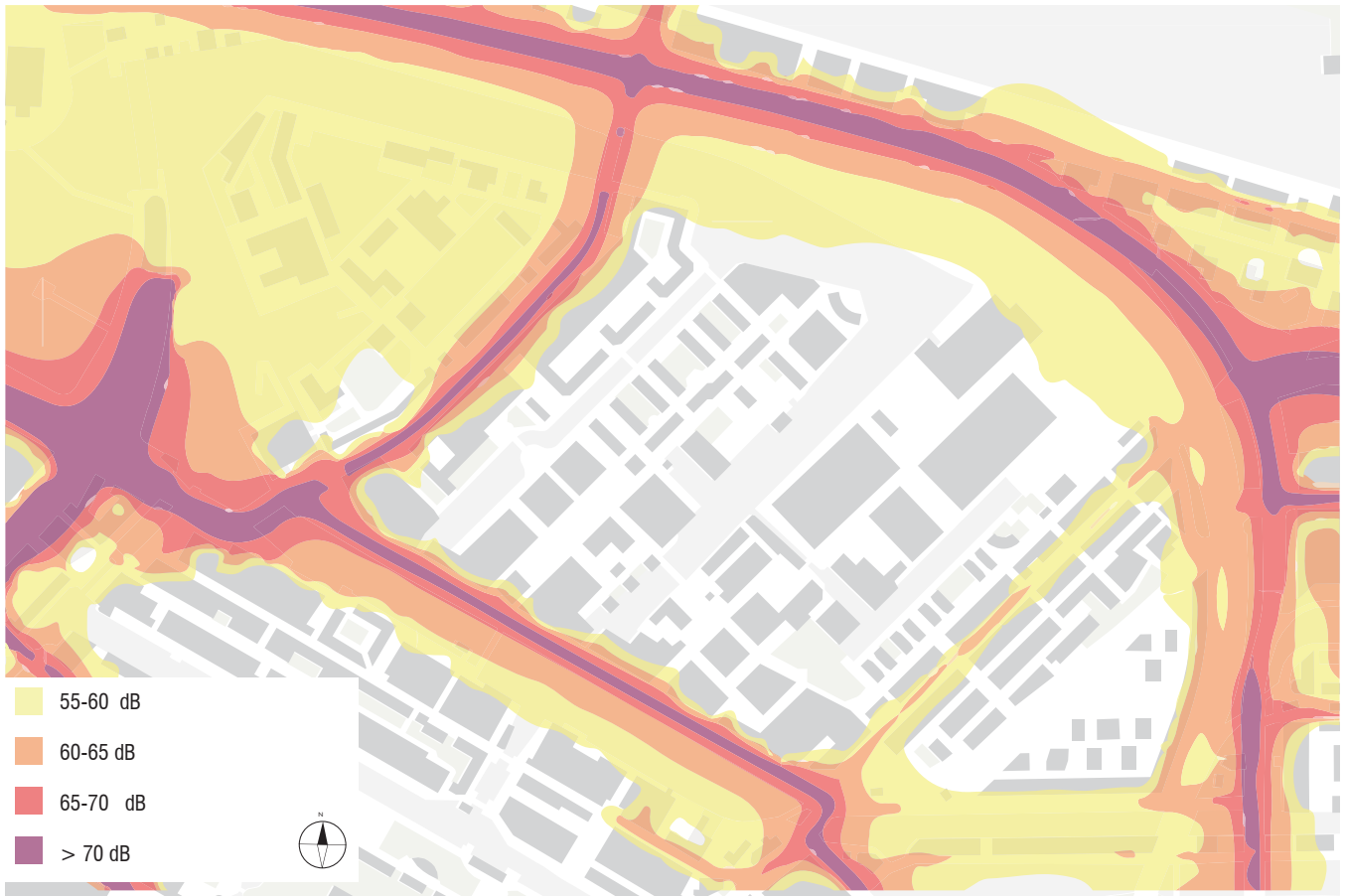
WIND DIRECTION / CLIMATE



The Amsterdam / Kattenburg Climate is due to it's location near the river IJ strongly influenced by water. Water has the property of thermal inertia. This ensures that in the vicinity this same effect occurs. The temperature in Amsterdam is exactly the average of the Netherlands.



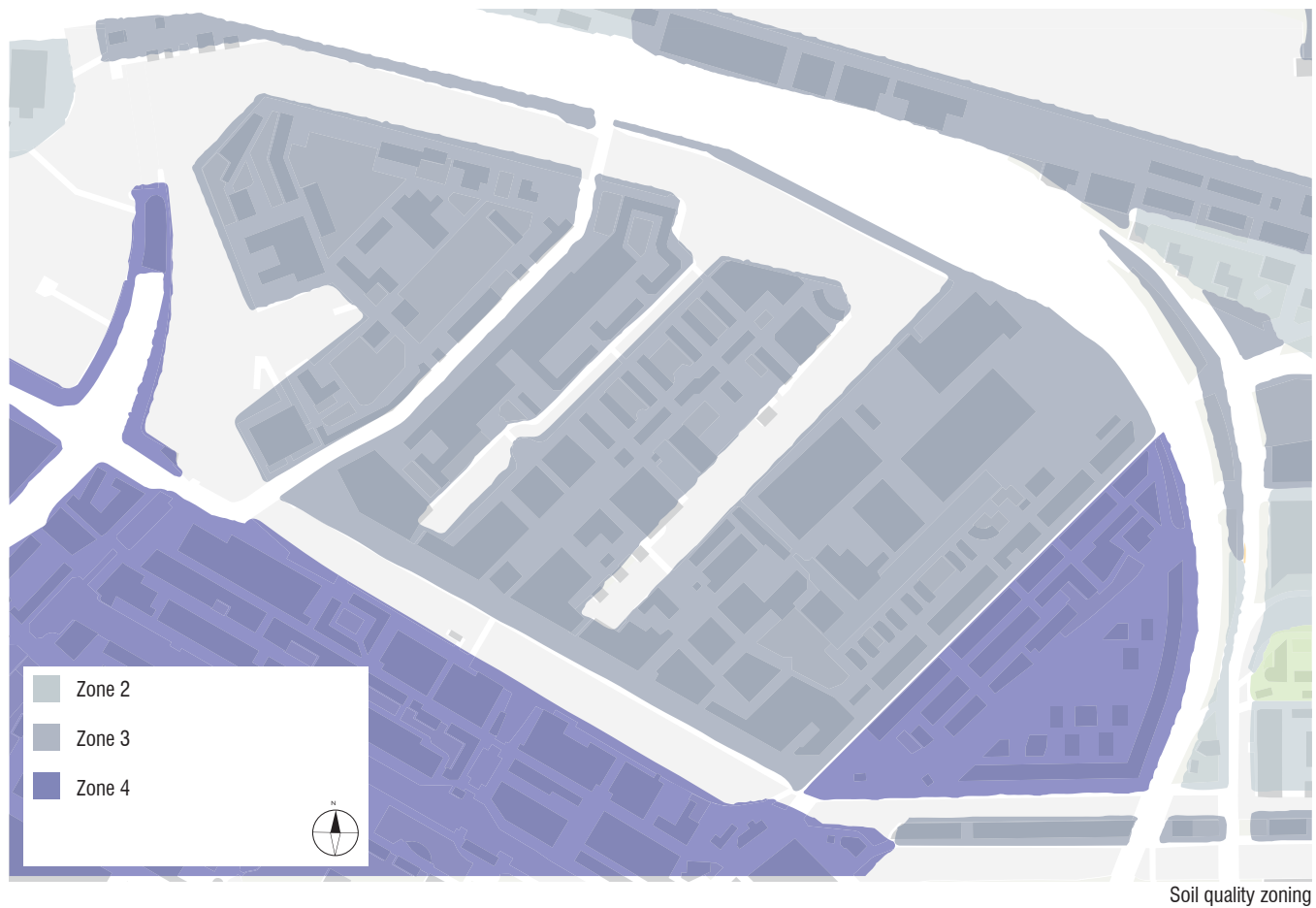
NOISE POLLUTION



Kattenburgerstraat going under the railroad

Kattenburg, as calm as it is, does suffer a certain degree of noise pollution. Along the Kattenburgerstraat the sound can get over 70 dB, which however is still similar to most of the other streets in Amsterdam. Furthermore the railroad causes some noise, although the distance to Kattenburg is large enough to diminish the sound most of the time.

SOIL QUALITY



Kattenburg, along with the other islands such as Wittenburg, Oostenburg and the Piet Heinkade are classified with a zone 3 soil condition. This means that the land is suitable for building and excavation and can be used to built both homes and industry without further action, but that the land may not be used without further actions in other areas

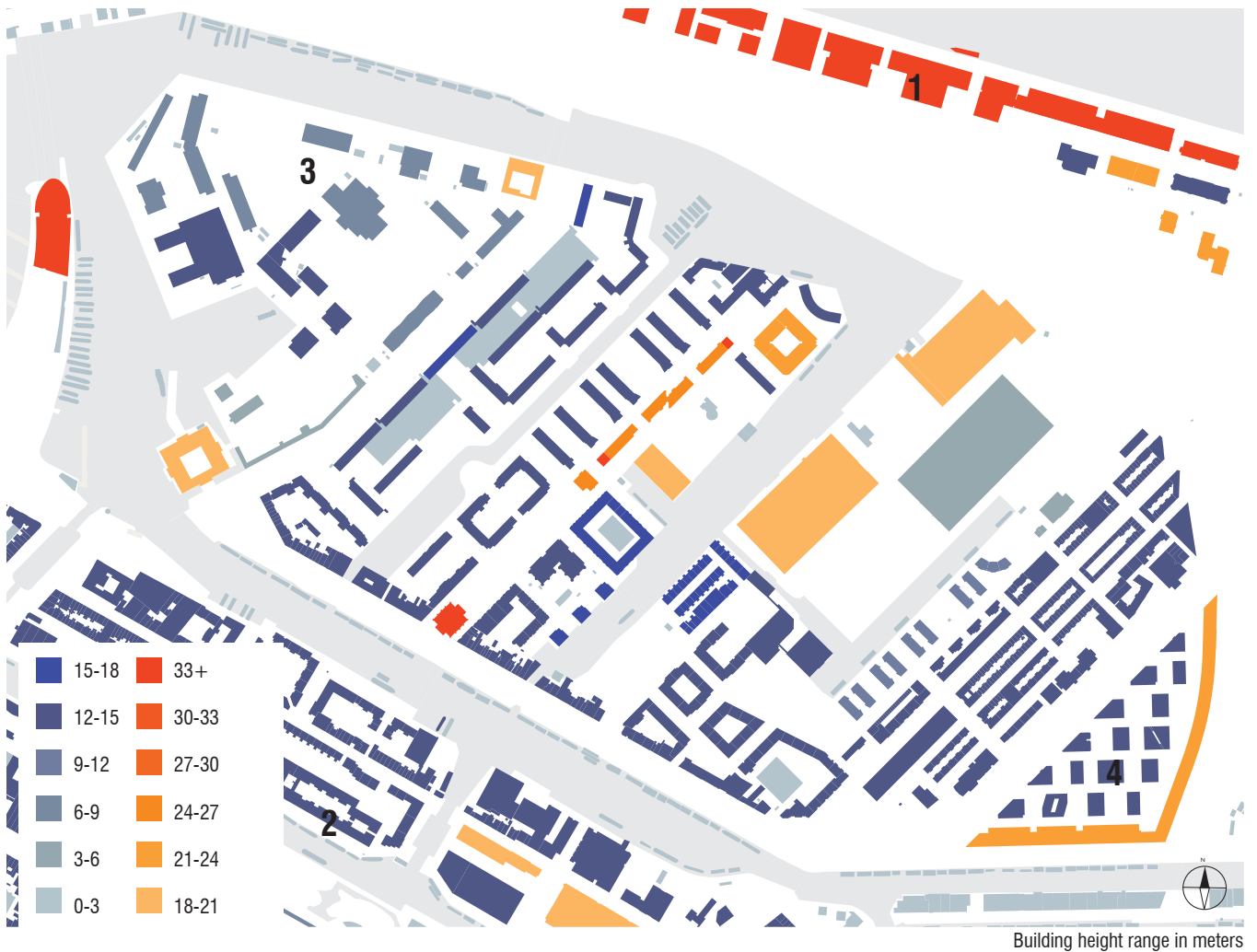
This map can be used to determine the potential reuse of vacant land or approved ground. The map does not show local differences which might be caused by small factories and other local pollution sources.

CONSTRUCTION PERIOD



The vicinity of Kattenburg has buildings which have been constructed in a variety of eras, from the 17th century till recent construction. Most of buildings were constructed in 19th century and post-war period. Kattenburg, the site of graduation studio, was constructed in the post war era.

BUILDING HEIGHT



Most of the surrounding areas, including Kattenburg itself, have a building height of no more than 15-18 meters. Exceptions are some of the buildings on the Marineterrein and the Scheepsvaartmuseum. On the north though, behind the Dijkgracht and slightly raised railway, there is the Piet Heinkade. The buildings there form an almost straight line and roughly have the same building height of 30 meters and more.

BUILDING HEIGHT



1 - The Piet Heinkade



2- Warehouses at the Entrepotdok



3 - The Marineterrein with NEMO and Amsterdam Central Station in the back



4 - The Funenpark



09 FUTURE

INTRODUCTION

This chapter focuses on the future plans of Amsterdam city and elaborates on the future plans of the Eastern Islands.



AMSTERDAM

Amsterdam is a cultural city, a canal city with old and new parts and a meeting place¹. Amsterdam distinguishes itself in the field of creativity, innovation and spirit of commerce. There are several reasons to come to Amsterdam. Amsterdam has a high quality of life, because it enjoys one of the lowest costs of living of the European capitals. There is a healthy work/life balance and the city centre gives you the feeling of a small village. The Netherlands has also one of the most competitive business locations in the EU, so there are a lot of job opportunities. The expat-centre for example is for expats working in partnership with the government, they are helping highly skilled migrants with official matters and formalities. Transportation is also good in Amsterdam, the cycle lanes protect cyclists and the public transportation is fast, reliable and efficient back-up when you do not use a bike. English is the business language in Amsterdam, there is no need to learn Dutch. The city also offers a variety of education facilities. Furthermore, Amsterdam has a large cultural and social life. Amsterdam has also one of the best Airports of Europe. Altogether, Amsterdam is a diverse city with an international community². All these aspects makes the city as a metropolitan city with increasing population (inter)nationally. Amsterdam is expecting an additional of 100,000 to 150,000 inhabitants between now and 2040.³

Other cities which are important competitors to Amsterdam are Berlin, Rome, Barcelona, Madrid, Zurich, Vienna, Stockholm and Petersburg⁴. These cities are on the same level as Amsterdam.

To elaborate from Amsterdam to Kattenburg we can find some characteristics as well. Kattenburg was filled in originally with Amsterdam building blocks, but they are demolished and replaced. We can still see the connection with the water and the community feeling of the Kattenburgers. Kattenburg is also a characteristic piece of land for Amsterdam. It is new land, built as a wave breaker to protect the river Waal and to provide space for ship yards which were very important during the Golden age.⁵

References

1. Choosing Amsterdam by C. Gehrels, O. van Munster, M. Pen, M. Prins and J. Thevenet=
2. Source: www.iamsterdam.com
3. Structure Plan Amsterdam 2040
4. Choosing Amsterdam by C. Gehrels, O. van Munster, M. Pen, M. Prins and J. Thevenet
5. Amsterdam's zeehaven in beweging: Kattenburg, Wittenburg, Oostenburg by Theo Bakker



PLAN AMSTERDAM



Structural Vision: Amsterdam 2040

The increasing population causes for changes in the city. In the Structural Vision of Amsterdam, the City Council outlines its ambitions and visionary scenario's for the period between 2010 and 2040. The spatial development of the Amsterdam Metropolitan Area is to a large extent determined by the phenomenon of growth and contraction and by the increasingly knowledge-driven economy that underpins it. Amsterdam boasts a diverse and relatively young population, which increases its magnetic pull even further. Scores of enterprises are establishing operations in Amsterdam because they are heavily dependent on the supply of highly educated professionals – the human capital. The quality of life in the city has thus become an important economic factor. All in all, Amsterdam holds the trump cards to remain economically robust with following themes:

1. Economically strong: focus on a diverse metropolitan economy
2. Attracting talent: focus on an adequate and attractive housing
3. Countering division
4. A good balance between accessibility and an attractive public space
5. A healthy city
6. Resource and energy transition of the city

Notes

PLAN Amsterdam is published by the Department of Physical Planning (Dienst Ruimtelijke Ordening, or DRO) and provides information about spatial developments in the city and across the region in eight thematic issues per year. The DRO is one of the City of Amsterdam's centralized services and ensures the cohesive spatial development of city and region. The DRO is a member of the City of Amsterdam's Development Alliance, a platform in which it collaborates intensively with the departments of Infrastructure, Traffic and Transport and of Economic Affairs, the Amsterdam Development Corporation, the Project Management Bureau and the Engineering Bureau.

Additional of 75,000 dwellings by 2040¹
+ 20% more on social housing
Total: 90,000 dwellings

The axiomatic ambition of the Structural Vision of Amsterdam is as the following:

“Amsterdam continues to develop further as the core city of an internationally competitive and sustainable European metropolis.”

This has its roots in the 'Development Scenario for the Amsterdam Metropolitan Area in 2040, in which the region's municipalities jointly stated the ambition to foster the growth of Amsterdam and environs into a metropolis.

During the Structural Vision's formulation, as many people and organizations as possible were encouraged to share their thoughts, using such means as the Internet campaign and the extended series of challenging public discussions. What does Amsterdam have to do in order to become economically strong and sustainable, and fully able to pull its weight in the metropolitan context? In short, to live up to the motto and ambition? The Structural Plan Amsterdam places the emphasis on six spatial tasks that are decisive for the Dutch capital's developmental direction thrust. The thrusts are robust developmental trends which can be observed in large sections of the city and even

Reference

1. PLANAmsterdam, Economically strong and sustainable Structural Vision: Amsterdam 2040, Published by the City of Amsterdam's Department of Physical Planning, 2011.

www.dro.amsterdam.nl

PLAN AMSTERDAM

Amsterdam continues to develop further as a Metropolitan city by improving its living environment while growing its industry

SIX SPATIAL TASKS

Two main ideas:

1. DENSIFICATION

High dense living and working environment within the A10 Ringroad:

- Housing + Working / Culture

Leave the big enterprises and facilities out of the A10 ring

2. TRANSFORMATION

Working environments to living and working environments.

Prime candidates:

1. Industrial sites along the IJ
2. Port-City project – the section of the port complex within the A10 ring

In order to get this, it is also necessary to invest in:

3. TRANSPORT

- Link between the regional public transport inside the city but also to outside of the city which are Schiphol, Almere, Zaandam and Amstelveen

- More P+R transfer points between car and public transport along the A10 ring

4. PUBLIC SPACE

- Streets with amenities

- More space for cyclists and pedestrians and less space for motorized traffic

5. GREEN SPACE & WATER

- Implementation of recreation uses

- Use the extra marinas on the IJ waterway for recreational cruising and the sailing possibilities for canals in and around the city

- Links between the recreational cycle network

6. CONVERTING TO SUSTAINABLE ENERGY

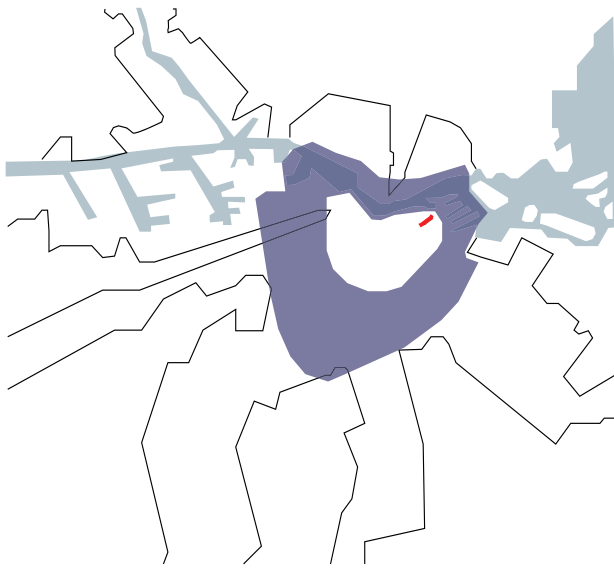
- Collect Solar Energy on rooftops
- Development of Heat Transfer System
- Implementation of wind Turbines in the region

THE FOUR MAJOR Thrusts:

1. ROLLING OUT OF THE CITY CENTRE
2. REDISCOVERY OF THE WATER FRONT
3. INTERWEAVING BETWEEN LANDSCAPE AND THE CITY
4. INTERNATIONALIZATION OF THE SOUTHERN FLANK



THE FOUR MAJOR THRUSTS OF AMSTERDAM



Rolling out the city centre

1 Rolling out the city centre

One of the spatial trends is that Amsterdam's metropolitan centre is being used more intensively and is expanding even further. Almost all the neighbourhoods within the A10 ring road now display city-centre traits. Living within the high dense living and working environment of the ring road is highly desirable, the parks in this area are attracting more visitors, and for creative and knowledge-based enterprises this area is the ideal business location. Amsterdam wants to make an active ring zone, which provides a connection between inside and outside the ring by accounting tram lines and cycle routes. This makes the area's outside the ring more attractive as well.



The rediscovery of the waterfront

2 The rediscovery of the waterfront

The water in and around the city is one of the qualities that distinguishes Amsterdam from most other metropolises. The awareness that this is a huge asset for the city will only grow stronger. The IJ waterway and the IJmeer expanse of water have a particularly high experiential value and offer many possibilities for recreation. The waterfronts and shorelines offer countless opportunities for living and working urban developments, especially in the obsolete port precincts and industrial zones.

West side of the city development area included the westergasfabriek is a good example whereby the development of the IJ waterfront and the rolling out of the city centre is combined together.

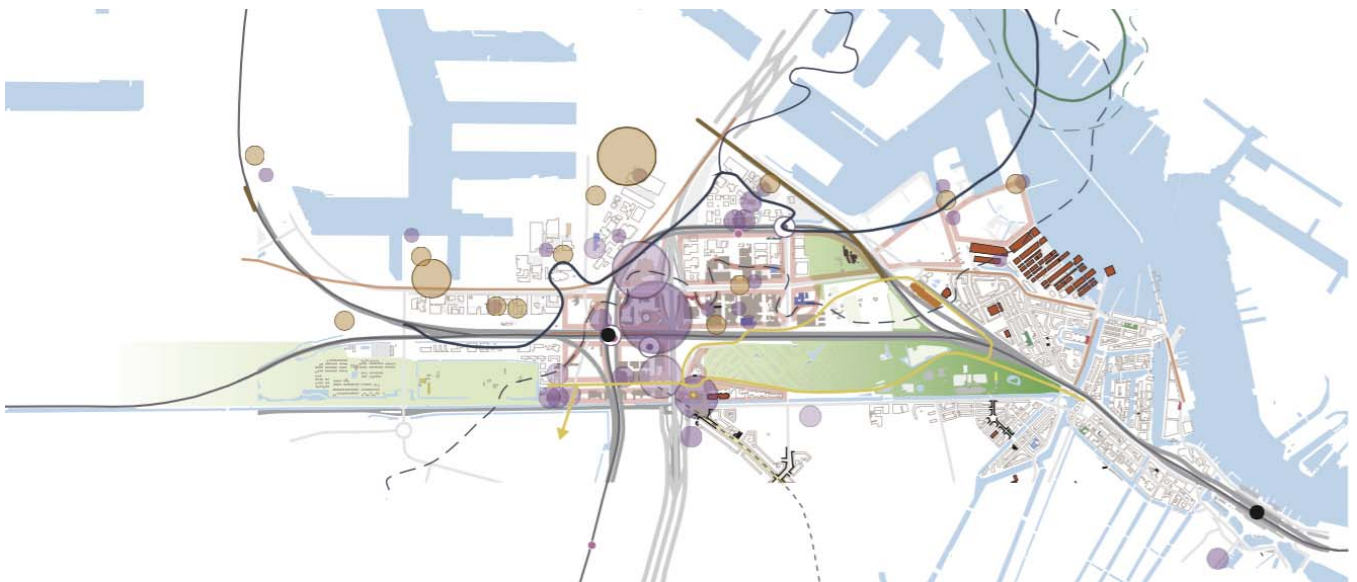
Reference

PLANAmsterdam, Economically strong and sustainable Structural Vision: Amsterdam 2040, Published by the City of Amsterdam's Department of Physical Planning, 2011.

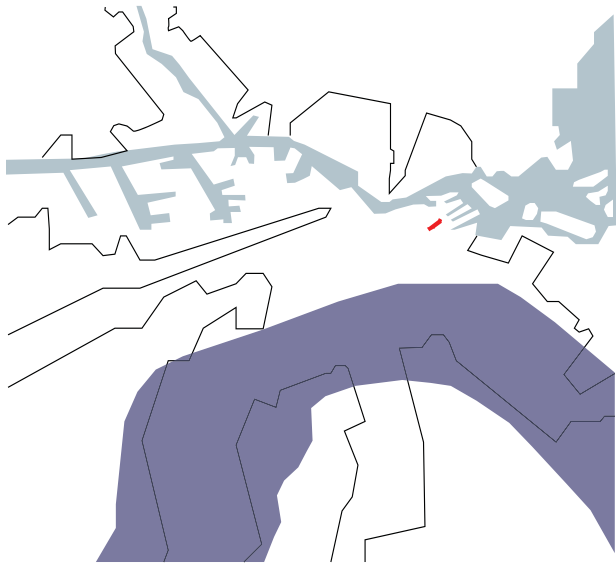
www.dro.amsterdam.nl



Living and working are combined in the Westerpark district, where the Municipal Water Company once stood.



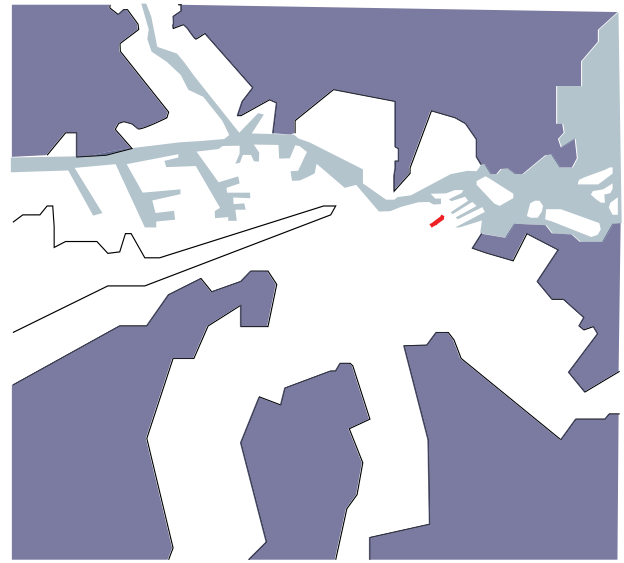
An Active ringzone to connect inner and outer city with residential, recreational and business functions.



Internationalization of the southern flank

3 Internationalization of the southern flank

Amsterdam's southern flank is a succession of massive projects like the expansion of Schiphol Airport, the development of the Zuidas and the intensification of the residential and business areas in Amsterdam-South-east. Station-Zuid, at the heart of Zuidas, will become one of the most important public transport hubs in the Netherlands. The main driver of these developments is the large bundle of infrastructure that links Amsterdam with the other municipalities in the Randstad conurbation, with the rest of the Netherlands, with Europe and, via Schiphol Airport, with the world. New initiatives such as the development of the corridor between Schiphol Airport and Zuidas and the further urbanization of Buitenveldert are being implemented at a swift pace.



Interweaving the metropolitan landscape and the city

4 Interweaving the metropolitan landscape and the city

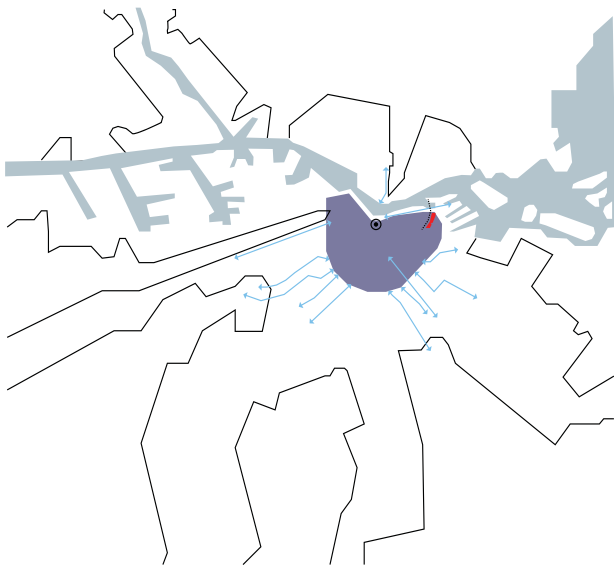
Amsterdam is surrounded by a highly diverse landscape, the so-called metropolitan landscape like the Amsterdamse Bos, Diemen en het Gein and Amstelscheg. This penetrates far into the city in the form of wedges of greenery, which increase the city's appeal and presents Amsterdam with the possibility of densifying within the existing urban footprint while remaining liveable. This means that the city is heavily dependent on its immediate surroundings. The ambition of the Structural Plan is to keep the green wedges green, densify their edges, improve their accessibility and make them more attractive for recreational use.

In addition, a large number of initiatives in the neighbourhoods will take place in outside the ring areas. Much of these investments have an experimental or temporary character.

Reference

PLANAmsterdam, Economically strong and sustainable Structural Vision: Amsterdam 2040, Published by the City of Amsterdam's Department of Physical Planning, 2011.

www.dro.amsterdam.nl



Kattenburg concerning the four major thrusts of Amsterdam



Future developments in the Oostelijke Eilanden

Kattenburg is a part of the Oostelijke Eilanden. Oostelijke Eilanden is on the edge of the eastern part of the city centre. Kattenburg is in the northern of the Oostelijke Eilanden, next to the IJ waterfront and inside the ring developments. According to Plan Amsterdam, the area inside the Ring continues developing by large public and private investments to the successful heart of the city. The municipality assumes more facilitating role to this dynamic market area. All realization of residential and commercial areas provide spaces with flexible plans. The qualities of the city centre will be connected to the outside of the city with lively streets.

OOSTELIJKE EILANDEN



Oostelijke Eilanden

Focusing on the eastern part of the city centre, the municipality wants to strengthen the (inter)national profile of the city by the development of culture and knowledge clusters between the Marineterrein and Weesperplein. The municipality will do this by transforming the area to an attractive metropolitan environment. The development of the Amstel and Roeterseiland Campus, the dynamics of real estate around the Weesperstraat and the redevelopment of the Marine Establishment require a comprehensive vision for the eastern city centre. Therefore, it is necessary to consider Kattenburg as a part of the eastern part in the city developments.



Future developments in the Oostelijke Eilanden

The future developments of the Oostelijke Eilanden are shown above. Next pages of this chapter elaborates on some of these developments.

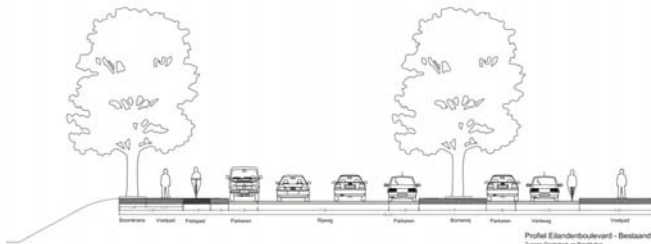
OOSTELIJKE EILANDENBOULEVARD



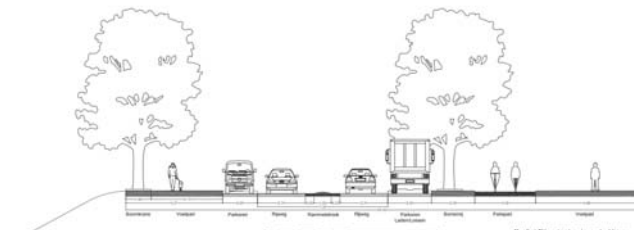
Existing Eilandenboulevard



Oostelijke eilanden boulevard plan



EXISTING



NEW

Oostelijke eilanden boulevard section profile

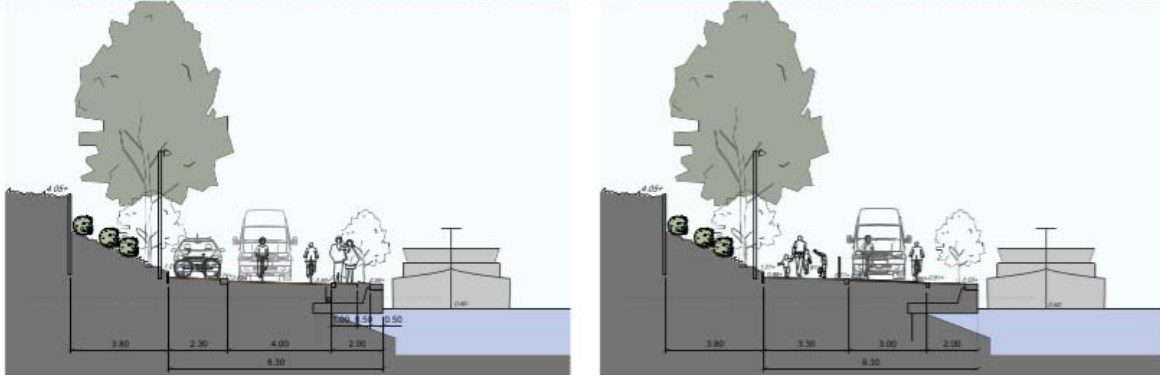
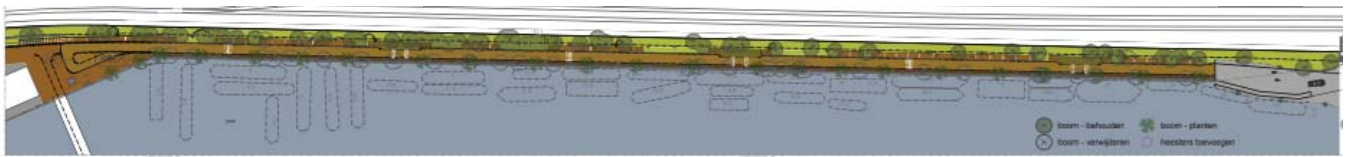
Oostelijke Eilanden Boulevard

- A complete re-design of the 800 meter boulevard from the buildings to the water, between the Scheepvaartmuseum and the bridge of the Gooyer mill
- More place for pedestrians and bikers
- Lifeblood for three Islands
- Attractive entrance for Oostenburg
- Included a square in front of the Oosterkerk and Kattenburgerplein



Impressions of new plan for the Eilanden Boulevard

DIJKSGRACHT



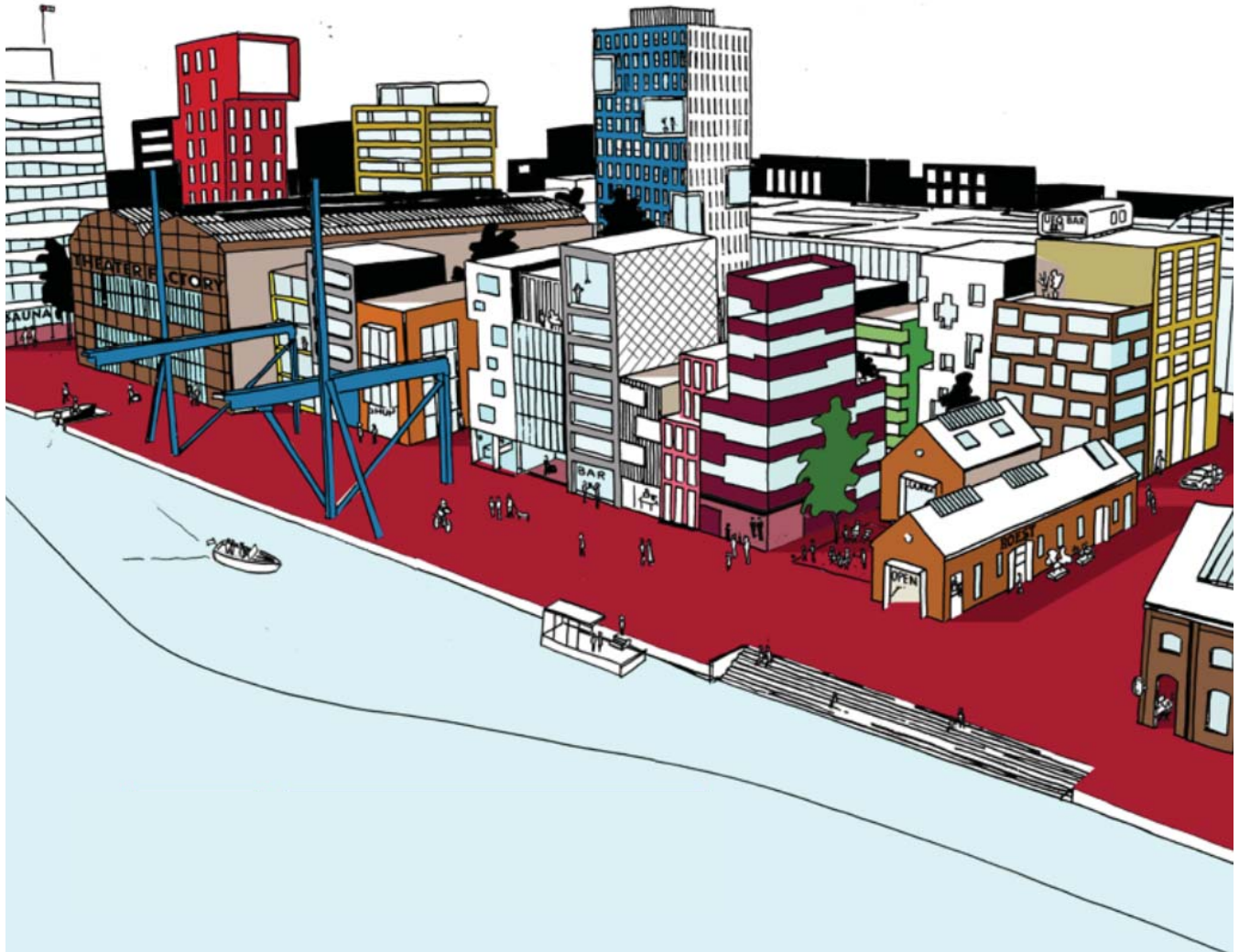
Dijksgracht section profile

- A bicycle/ pedestrian route along railway embankment
- Several catering and other functions on the Kop Dijksgracht
- A Bridge to the Marineterrein
- Removing car parking (only 8 for catering)



Impressions of new plan for the Dijksgracht

OOSTENBURG



Vision of Oostenburg

- A 11 ha. Island will develop to a mixed use environment: living, working and recreation.

Reference
www.amsterdam.nl

FUTURE SCENARIOS BY THE INHABITANTS FOR THE OOSTELIJKE EILANDEN



'Central Harbour area' by inhabitant Joost Adriaansz

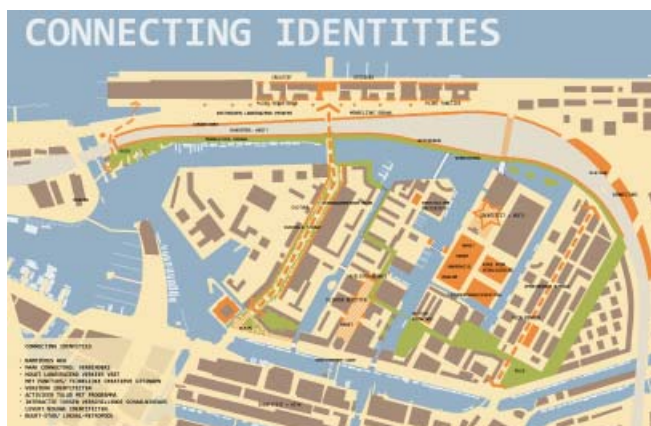
The main idea is to bring back the harbour feeling that now is missing with more water and better passages. The plan includes ports instead of courtyards, ramps and the separated island will be visible from the islands boulevard.

The water and harbour are also programmatically more important. The historical VOC which belongs to this area, and which is moved to the Lelystad, will be back. The Wood and Meubileringscollege would have a good place here as well. In this plan, a part of the Marineterrein will be loose and become an island as well. The other part will be a park and get involved with Kattenburg.



'Magic Route' by inhabitant Onno Warns

On the islands, there are only a few places to visit for the residents. The residence hold their picnics on the Java island and not on their own islands. The employees of the newspapers on Oostenburg go to the Czaar Peter Straat and not to Wittenburg because there is no connection. The magic route of cyclists and walkers on the islands is not focused on large-scale tourist flows, but on the residents and workers of the area. The islands are more interesting and more accessible through the 'foodies' among tourists. The bicycle/pedestrian route is from Nemo to the Funen. There are several mixed use places along the route. For example a neighbourhood in the heart Oosterkerk, a boat shed or a covered job market. Furthermore, there are a plenty of public spaces along the water.



'Connecting identities' by inhabitant Susanne Heering

The different (small) identities, which are in the area (of the knife sharpener in the Czaar Peter Street to the Music area on the IJ) are reinforced and better linked.

Kattenburgerstraat is an urban street with programs in the baseboards. Kattenburg remains a green residential island. The Piet Hein Kade is now empty and there are only traffic roads on it. The Dijkgracht remains rough. There will be a new drive into the corner and buildings (workshops and industrial) along the embankment. The island character is strengthened, especially in Oostenburg. There will be more stores on Wittenburg. Furthermore, the square will be better equipped with a function.

Reference

Scenario's for the Oostelijke eilanden by its inhabitants

<https://www.amsterdam.nl/gemeente/organisatie/ruimte-economie/ruimte-duurzaamheid/ruimte-duurzaamheid/anders-ontwikkelen/oostelijke/>

FUTURE SCENARIO FOR THE FORMER MARINETERREIN



Bird view picture of Marineterrein

The development of the Marineterrein is not in the traditional way. There is no set final image or function plan, as in traditional development. Only when enough character has been built, the site will be put 'on the market'.

The release of the Marineterrein is an unique opportunity. It is an area with a beautiful location and a rich history. The site will remain the property of the state. The next 10-15 years will be focused mainly on temporary solutions: for buildings that are vacant, a new user will be searched. Only after that buildings are being demolished and committed new construction.

Bureau Marineterrein Amsterdam is the organization that takes up the organic development. It is an independent organization acting on behalf of Government (Interior, Defence) and the city (Central City, central district) is shaping the future of the site.

Temporary tenants, (the pioneers, who deal with changing circumstances with initiative and want to work together) will shape themes and character. They are the neighbours and the neighbourhood who are the first to provide interweaving with the city. And it is the Royal Navy which for centuries has contributed to safety, innovation and entrepreneurial spirit, and thereby laid the basis for the character of this place.

The Marineterrein is within the busy Amsterdam a harbour of tranquillity. It is a protected enclave, where traditionally it had always a lot of activity. The municipality would like to preserve this atmosphere. In the future vision of Amsterdam, the Marineterrein will be a meeting place for Amsterdammers, who can enjoy the tranquillity there, the water and the view over the city. But it is also a place where researchers and entrepreneurs from around the world can work together in peace. The City of Amsterdam has plans to establish start-ups in the marineterrein that soon will be called Wharf. The redevelopment of the site by the National Real Estate Company and the City of Amsterdam is commissioned by the Ministry of Defence, which leave the area until 2018 in phases. After this space will be created for a variety of housing, work and leisure.

Reference

<http://marineterrein.nl/ontwikkeling-2/samenwerking/>
Strategie Nota Marineterrein, Gemeente Amsterdam, Rijksvastgoed- en Ontwikkelingsbedrijf & Ministerie van Defensie.

The gradual growth based on a well gradually growing consensus is the express wish of the municipality of Amsterdam and the State. This innovative approach is laid down in an administrative agreement and implemented by Bureau Marineterrein Amsterdam. The client of this office are central and local government together. The implementation is monitored by a steering committee in which both central government and municipality seat. The big advantage of gradual growth is that there are fewer risks, both financially and methodically. Small steps are simply easier to correct and cost less than big plans. Moreover, the probability of consistency and interaction is greater because the owner and users collaborate on the content and character of the site instead of that work is underway to implement an imposed master plan.

The intention of the management agreement and the underlying strategy is to grow in value. It involves economic value, but also to other social values such as sustainability, interdependence with the city and raising the profile of our international identity. Common grow of the value is important for both owner (the State), which can do economically and socially responsible from the ground, and for the city of Amsterdam, which thus can help determine in which direction this new part of the city will grow. From 2018 will be worked on the planning frameworks. Meanwhile, value and direction are created by the temporary infill. The final realization, including the building of homes, is expected to start in 2028, possibly earlier. In the period of guiding and temporary development, the State remains the owner of land and buildings. Then the property can be sold to the municipality or, if they do not want or can, to other parties.

Marineterrein Amsterdam will be developed based on three values:

- Renewal Curious about new cultures, fields, methods, attitudes. Not afraid of the unknown. Enterprising and resourceful. The desire to discover.
- Connection Actively combining knowledge, contacts and forces. Innovative combinations of technology, science and entrepreneurship. Aimed at mutual understanding and benefit. Co-operative and able to organize efficient.
- Focused and targeted on content. Lasting and serious. Unperturbed and undisturbed. Rest and attention. No nonsense.

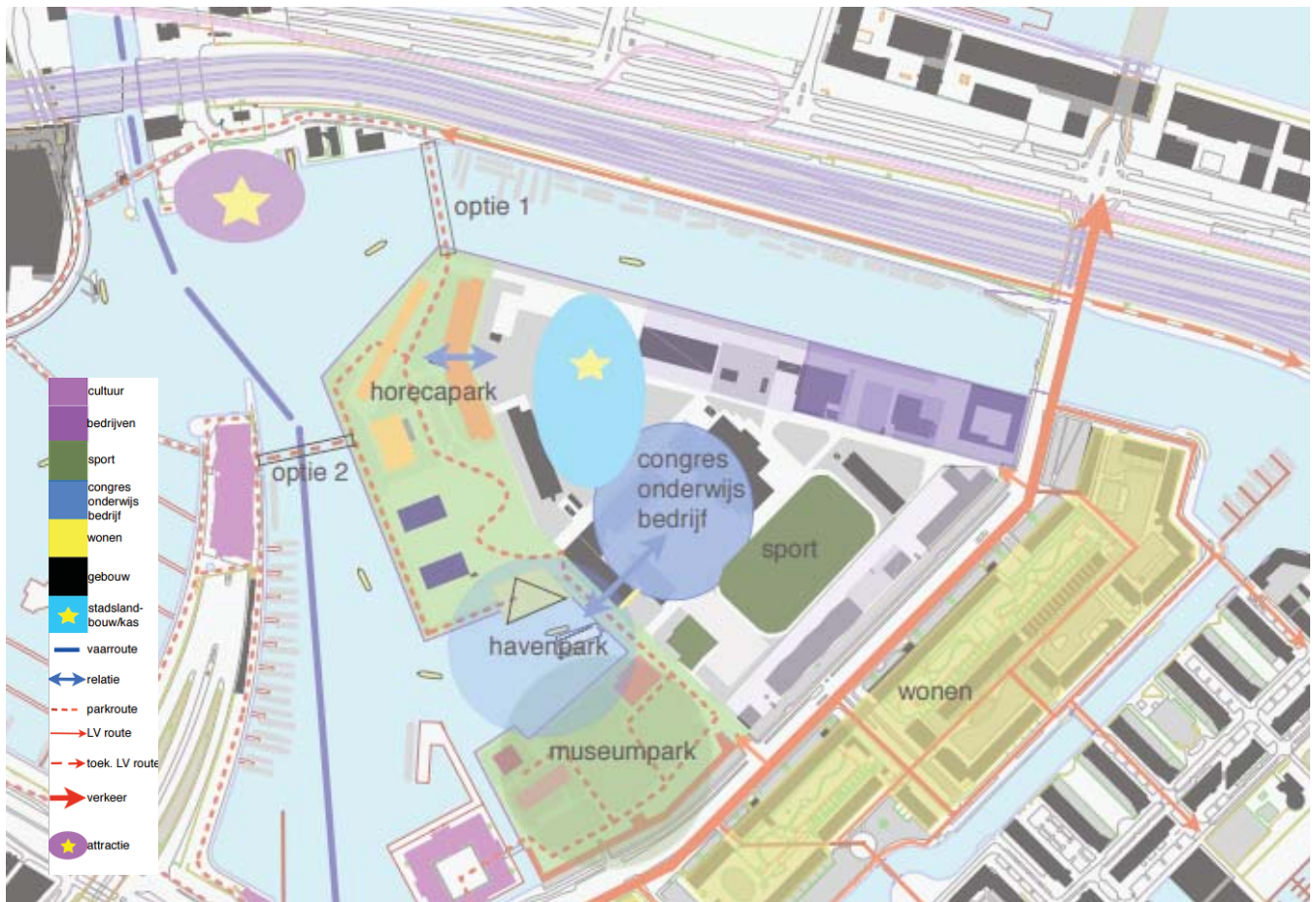
The area concept is called 'Compass for the Marineterrein'. The Marine Etablissement Amsterdam gets a new but familiar name: Marineterrein. Just like when the area was country's Dock, Marineterrein will soon be an environment where innovations arise that contribute to the development of the city.

To provide proper conditions it is necessary to develop the site into three areas.

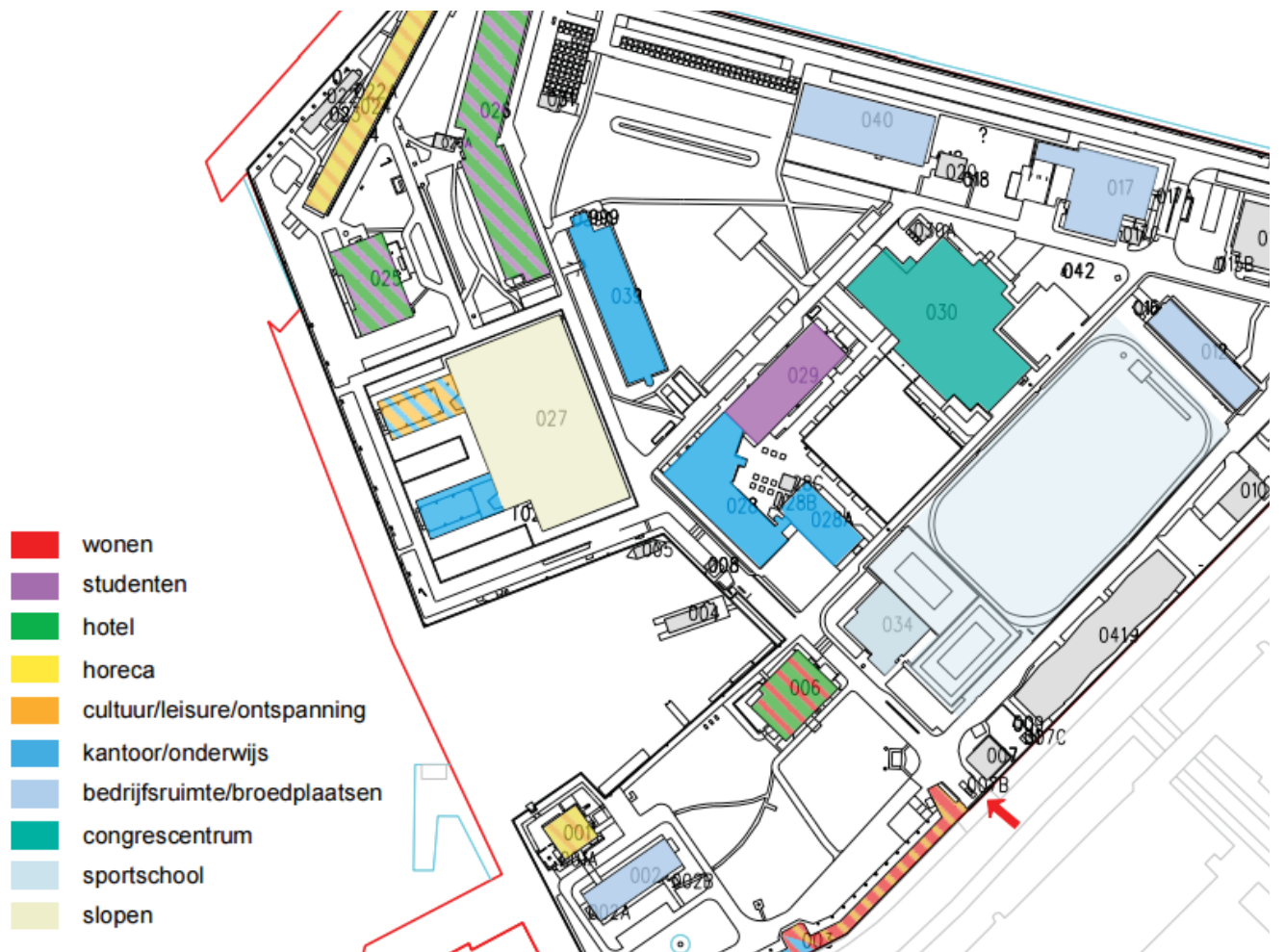
1: Maritime power. By unlocking the 400 year history of the area. The maritime strength can be kept alive for future generations. The recent history of the Navy and its commitment to the site will also get a place.

2: Waterpark. The gate of the area finally opens. This results in a surprising place on the waterfront in the city centre; an enclosed garden with stunning views over the heavily trafficked waters and on the historic city centre. The site is located in the inner city and should therefore make a contribution to this urban fabric. Both the water and the open space in the area are developing into an important meeting point.

3: Innovative workshop. Marine area will be again one of the innovative workshops in Amsterdam with an international appeal. Marineterrein with its rich history and unique location, can be the new icon of the city. The area does not need grandiose buildings, instead the connecting features to ensure settle in the area make the Marine Land the place to be.



Transition plan for Marine area



Possibilities for reuse of existing buildings



Transition plan for Marineterrein

Both figures on the left page are plans of the municipality of Amsterdam for the transition phase.

The figure 'Transition plan for Marine area' shows a conceptual sketch of the future of the Marineterrein with diverse function zones as business, sport, museums, food/drinks, recreation and dwelling. It also shows the possibility for new bridges to connect the site with other parts of the surrounding. The image is a bit contradicting with the textual part of the vision because Amsterdam wants a quiet, mixed-use working-living area with the focus on start-up businesses. However, the figure shows almost no dwelling and a lot of variety in public functions. The text in the booklet about the vision of the Marineterrein is also not sure about the exact new functions. Everything is still possible.

The figure 'Possibilities for reuse of existing buildings' is about the reuse of the existing buildings. Within the plan, it is visible how dwelling can have a place. This plan is also just an idea and uncertain.

027 complex is one of the first buildings that will be renovated for another destination. It stands on the military part of the site and dates back to early 60's. The technical school of the Royal Navy was located here. The plans for this defence building had not been withdrawn when a new future vision came to Marineterrein in image. It was designed by Bureau SLA from Amsterdam and the work is performed by Prince BV in 't Harde. New pipelines are being laid, there will be additional flight routes, a larger entrance and an extra lift. The building will have new large glass façades and is technically ready for the broadest any possible combination of users.





10 DENSITY STRATEGIES

INTRODUCTION

The ability to at least double the density of the existing situation is both a municipal desire and a fascination. In order to fully justify this it is necessary to critique the ambitions of density, along with the very basic question - why do we want to make the city more dense in the first place?

By first contextualising the dwelling density of Amsterdam compared to other cities around the world it will be possible to comprehend the density of living which occurs in the city. From there, areas in similar locations within Amsterdam will be analysed in terms of their dwelling density to understand the variety of dwelling conditions which exist within the city.

Typological comparisons will show through contrast radical visions of dwelling at density on site, whilst massing studies will show more pragmatic iterations of desired density on site.

CITES AND DWELLING DENSITIES

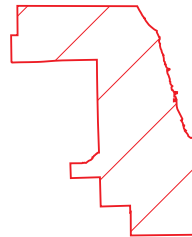
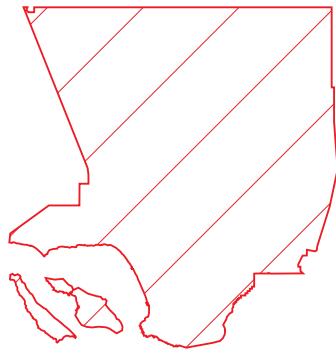
Garden city model
1 u/ha

Los Angeles
10 u/ha

Chicago
12 u/ha

Belfast
30-50 u/ha

Amsterdam
85 u/ha



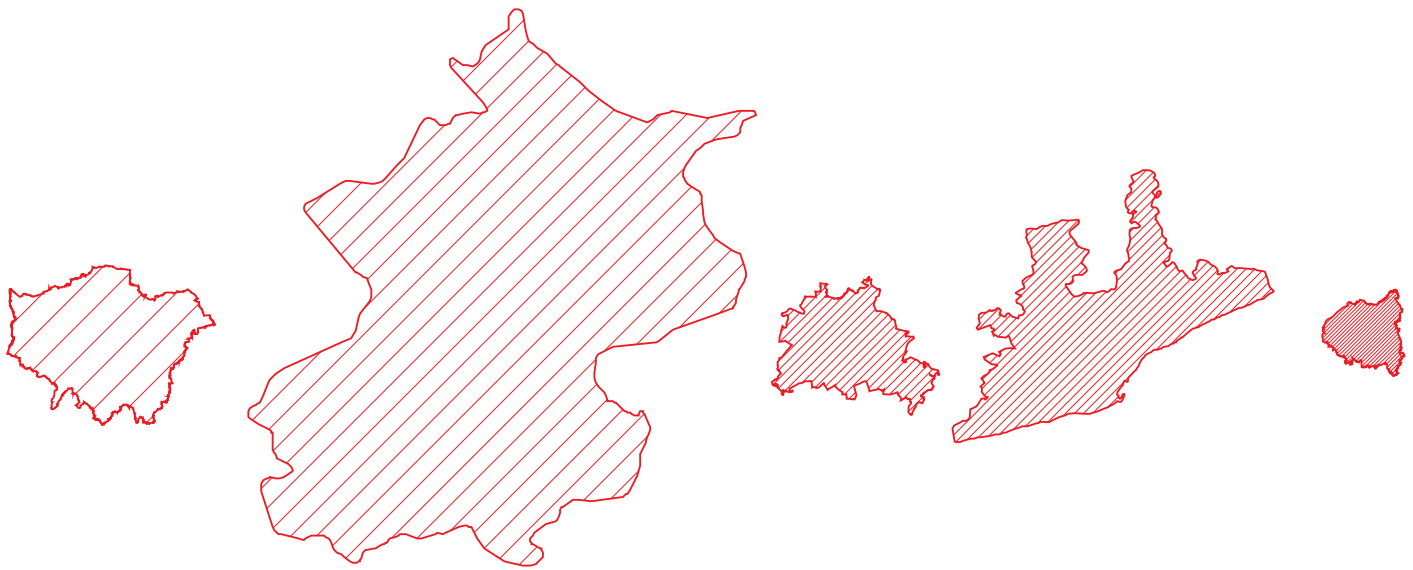
London
137 u/ha

Beijing
153 u/ha

Berlin
300 u/ha

Barcelona
300 u/ha

Paris
500 u/ha



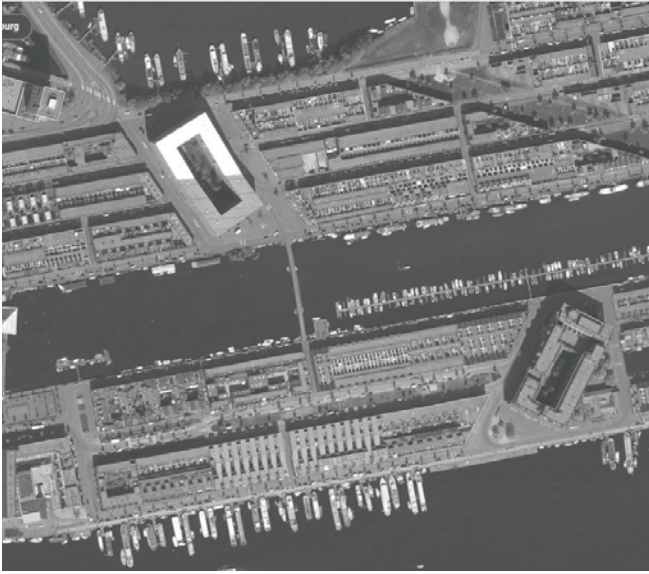
DWELLING DENSITY IN AMSTERDAM



Kattenburg
XXu/ha



Grachtengordel
60u/ha



Java
90u/ha



Berlage
125u/ha



Jordaan
145u/ha



Westerdokislands
300u/ha

WHY MUST WE INCREASE THE DENSITY OF THE CITY?

As was discussed in the previous chapter the municipality of Amsterdam wishes to create a more dense city, as they believe increased density is crucial in securing Amsterdam's position as an attractive location for businesses to locate and young professionals to live in.

The way in which we live today also makes one reconsider the nature of our urban environments. Historically cities were dense to the point that they became un-livable - one recalls Dickensian London and the Poverty maps of Charles Booth. Getting density wrong is something that has a colossal impact on the liveability of a city, overcrowding and less than minimum space standards create uncomfortable places and relations between neighbours, where conversation quickly turns to conflict and crime.

Such cases from the late nineteenth centuries led to the idea of the garden city. First penned by Ebenezer Howard as a more social form of urbanism its true strength lay in its functional zoning of the city, creating a centre of commerce, employment and industry, buffered by zones of open rural land within which clusters of low-density housing providing a healthy environment for its inhabitants. What this became is the familiar suburban condition, and the lifestyle it advocated became dominated by commuting and the automobile. Such sprawling urban conditions and such reliance upon a consumptive lifestyle is today, in our era of increasing resource scarcity quickly being both frowned upon and unattainable for many, especially younger generations. Today we no longer see such divisions between our personal and professional lives, they are interconnected and as a result

spatially so too must the spaces which accommodate both. Currently we now see a keen interest to reinvestigate the urban centre as a desirable location for dwelling.

Reopening the discussion of inner-city living is something that has happened already over a decade ago. Today the concern is the implications this has and how it can be realised. Intervening in the existing city is a much more complex exercise than developing greenfield sites on the edge of the city, and thus the rewards need to be far greater, economically and socially. Today's method of speculative building places this responsibility in the hands of corporate developers who act from largely financial motivations. Their understanding of density is linked to the amount of profit they can achieve, and thus naturally they wish to maximise density where ever possible. Municipalities, keen to funnel their investments into their cities quickly and at times recklessly permit densities and projects which many professionals and critics believe actually damage the inner city further.

It is thus time for a reappraisal of densifying the inner city. What, beyond financial, are our motivations for building dense urban environments. What do these areas afford us that typical or lower densities do not? And crucially how do they better the lives of those who live within such areas?

As we progress further into the twenty-first century the scale of our impact on this planet becomes ever more apparent. Our era of the anthropocene brings with it the manipulation of the planets surface to serve our needs.



HOW TO INTENSIFY: TYPOLOGICAL COMPARISONS

EXISTING SITUATION: KATTENBURG, AMSTERDAM

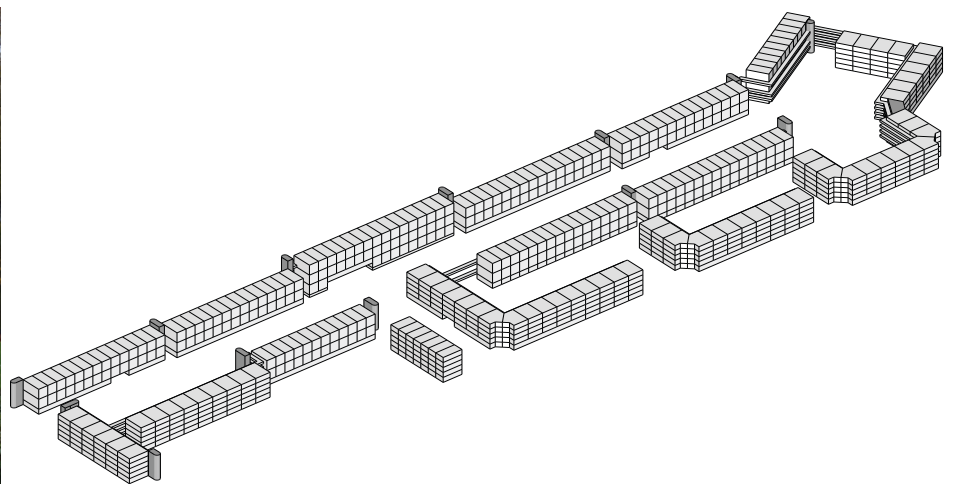
Location: Amsterdam.
Architect: -
Typology: Slab
Units: 636
Construction completed: 60's

Area: 60.000 m².
Footprint: 12.850 m².
Open area: 74,14 m² open space per dwelling
Floors space: 56.000 m².
Height: average 4 floors.

FSI: 0.93
GSI: 0.21
OSR: 0.79



Figure ground 1:5000



Massing

01: MARKTHAL, ROTTERDAM

Location: Rotterdam.
Architect: MVRDV
Typology: Superblock
Units: 228 (102 rental).
Construction completed: 2014

Area: 14.000 m².
Footprint: 8.100 m².
Open area: 5.900 m².
Floors space: 90.000 m².
Height: average 12 floors.

FSI: 6.43
GSI: 0.58
OSR: 0.07

On site

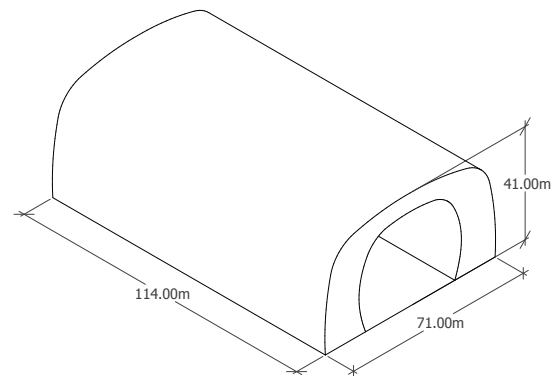
Typology: Superblock.
Units: 912
Construction completed: -

Area: 60.000 m².
Footprint: 36.400 m².
Open area: 23.600 m².
Floors space: 360.000 m².
Height: average 12 floors.

FSI: 6
GSI: 0. +1
OSR: 0.07



Figure ground 1:5000



Massing

02: PONTE TOWER, JOHANNESBURG

Location: Johannesburg.
Architect: Mannie Feldman,
Typology: High Rise.
Units: approx 650
Construction completed: 1975.

Area: 11.240 m².
Footprint: 4.090 m².
Open area: 7.150 m².
Floors space: 56.300 m².
Height: average 55 floors.

FSI: 5.01
GSI: 0.36
OSR: 0.13

On Site

Typology: High Rise.
Units: 3.900
Construction completed: -

Area: 60.000 m².
Footprint: 24.540 m².
Open area: 35.460 m².
Floors space: 337.800 m².
Height: average 55 floors.

FSI: 5.63
GSI: 0.41
OSR: 0.10

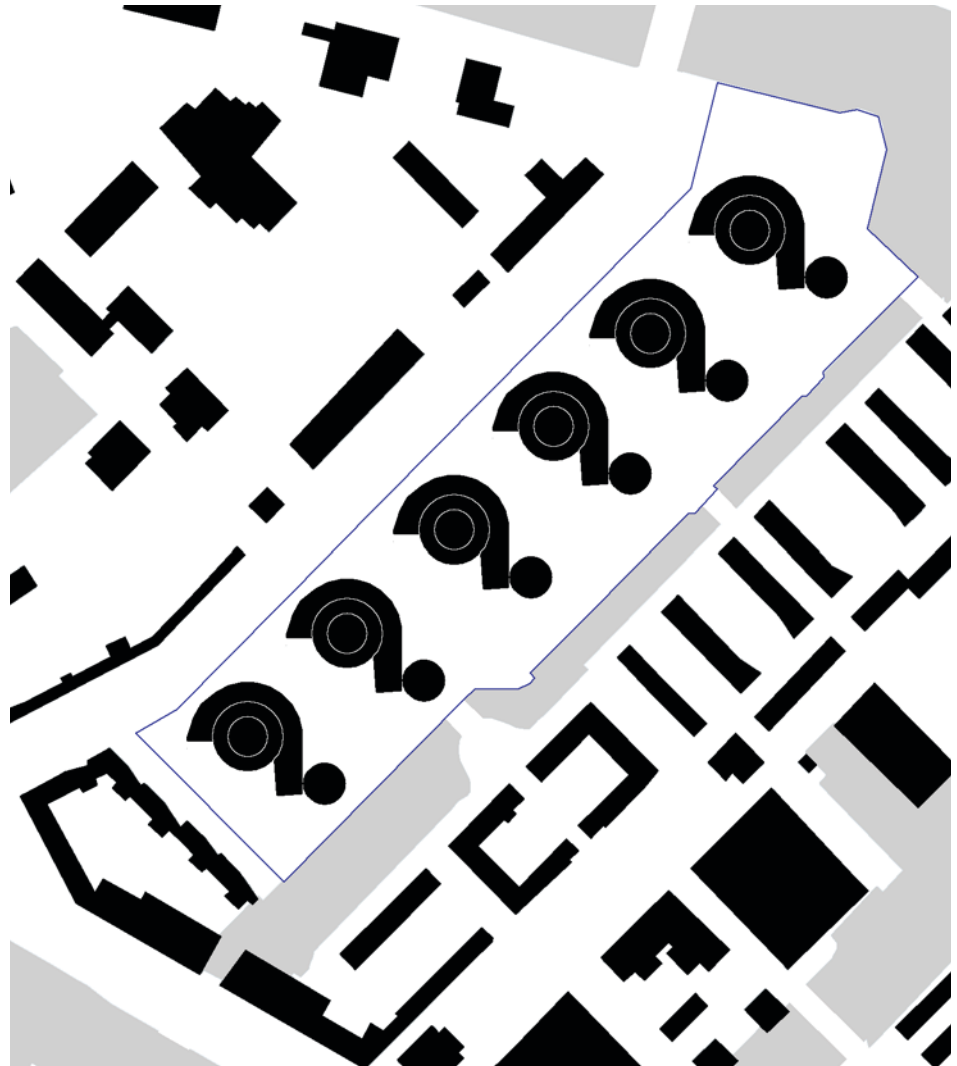
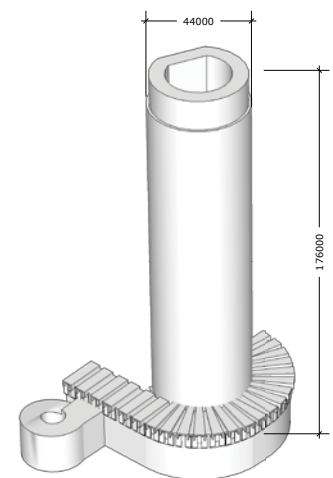


Figure ground 1:5000



03: NEW ORLEANS, ROTTERDAM

Location: Wilheminaapier Rotterdam
Architect: Alvaro Siza
Typology: Ground bound
Units: **234 (+mixed use ground floor)**
Construction completed: 2010

Area: 7.500 m2.
Footprint: 2.695 m2.
Open area: 4.805 m2.
Floor space: 53.975 m2.
Height: 4-53 floors, 160,5m.

FSI: 7.20
GSI: 0.36
OSR: 0.09

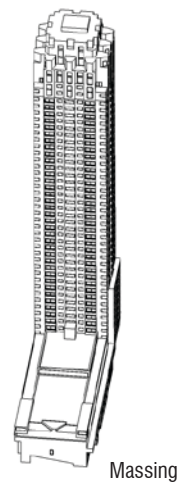
Typology: Ground bound
Units: 1638 (220m2 per unit) (7x New Orleans)
Construction completed: -

Area: 60.000 m2.
Footprint: 18.865 m2.
Open area: 41.135 m2.
Floor space: 377.835 m2.
Height: 4-53 floors, 160,5m.

FSI: 6.30
GSI: 0.31
OSR: 0.11



Figure ground 1:5000



04: RED APPLE, ROTTERDAM

Location: Rotterdam.
Architect: KCAP
Typology: Tower
Units: 231
Construction completed: 2009

Area: 3.300 m².
Footprint: 2.350 m².
Open area: 950 m².
Floors space: 35.000 m².
Height: average 20 floors. (40 max)

FSI: 10.60
GSI: 0.71
OSR: 0.03

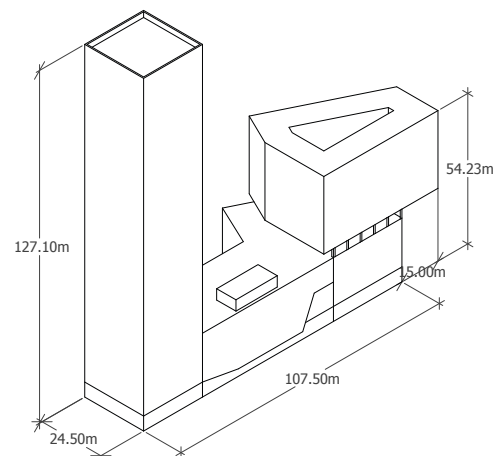
Typology: Superblock.
Units: 3696
Construction completed: -

Area: 60.000 m².
Footprint: 37.600 m².
Open area: 22.400 m².
Floors space: 560.000 m².
Height: average 20 floors. (40 max)

FSI: 9.33
GSI: 0.63
OSR: 0.04



Figure ground 1:5000



Massing

05: CELIOSIA, MADRID

Location: Madrid.
Architect: MVRDV.
Typology: Superblock.
Units: 146.
Construction completed: 2009.

Area: 5.850 m².
Footprint: 2.275 m².
Open area: 3.575 m².
Floors space: 21.550 m².
Height: 10 floors.

FSI: 3.68
GSI: 0.39
OSR: 0.17

Typology: Ground bound.
Units: 1314.
Construction completed: -

Area: 60.000 m².
Footprint: 20.475 m².
Open area: 39.525 m².
Floors space: 193.950 m².
Height: 10 floors.

FSI: 3.23
GSI: 0.34
OSR: 0.20

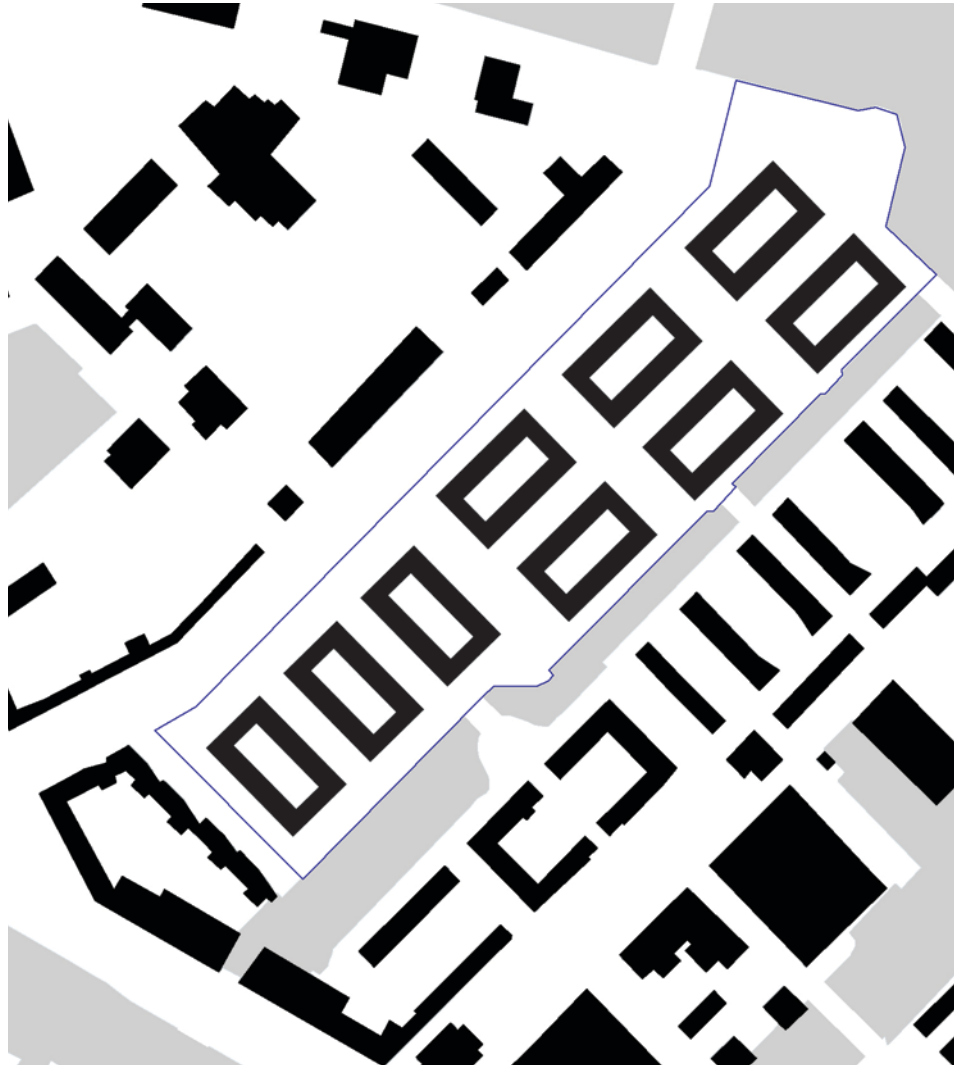
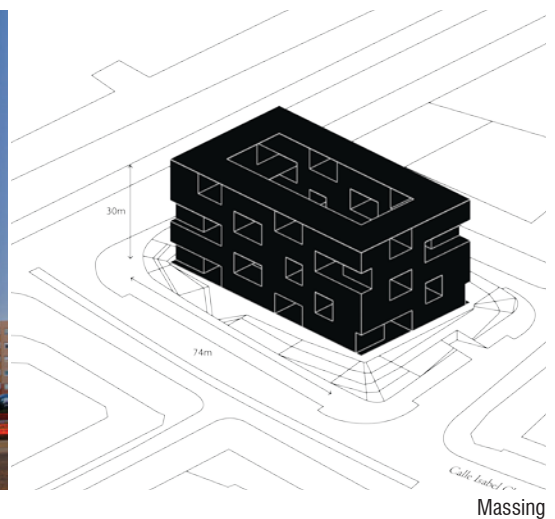


Figure ground 1:5000



06: THE WHALE, AMSTERDAM

Location: Amsterdam.
Architect: de Architekten Cie.
Typology: Superblock.
Units: 214 dwelling & 1100 m² business
Construction completed: 2000.

Area: 8.745 m².
Footprint: 5.230 m².
Open area: 3.515 m².
Floors space: 35.800 m².
Height: 11 floors.

FSI: 4.09
GSI: 0.60
OSR: 0.10

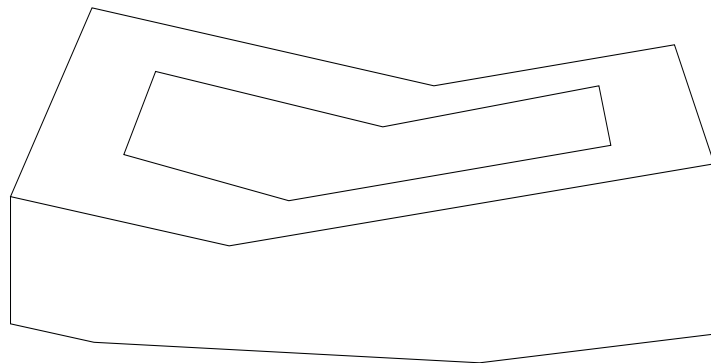
Typology: Superblock
Units: 1284 dwelling, 6600 m² business
Construction completed: -

Area: 60.000 m².
Footprint: 31.380 m².
Open area: 28.620 m².
Floors space: 214.800 m².
Height: 11 floors.

FSI: 3.58
GSI: 0.52
OSR: 0.13



Figure ground 1:5000



Massing

07: TIETGENCOLLEGIET, COPENHAGEN

Location: Copenhagen.
 Architect: Lundgaard & Tranberg
 Typology: Slab/Courtyard.
 Units: 360.
 Construction completed: 2006.

Area: 12.750 m².
 Footprint: 4.025 m².
 Open area: 8.725 m².
 Floors space: 26.500 m².
 Height: 7 floors.

FSI: 2.08
 GSI: 0.32
 OSR: 0.33

Location: Amsterdam.
 Architect: -
 Typology: Ground bound.
 Units: 93.
 Construction completed: -

Area: 60.000 m².
 Footprint: 16.100 m².
 Open area: 43.900 m².
 Floors space: 106.000 m².
 Height: 7 floors.

FSI: 1.77
 GSI: 0.27
 OSR: 0.41

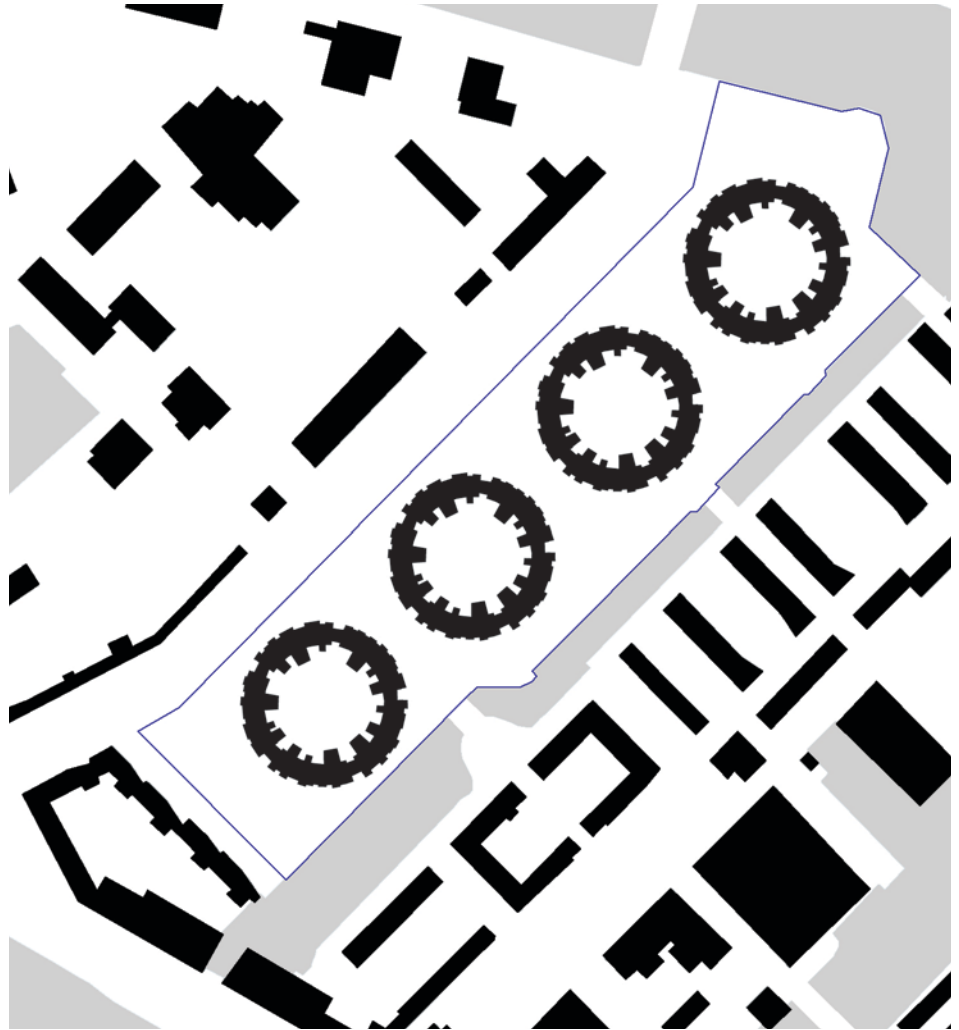
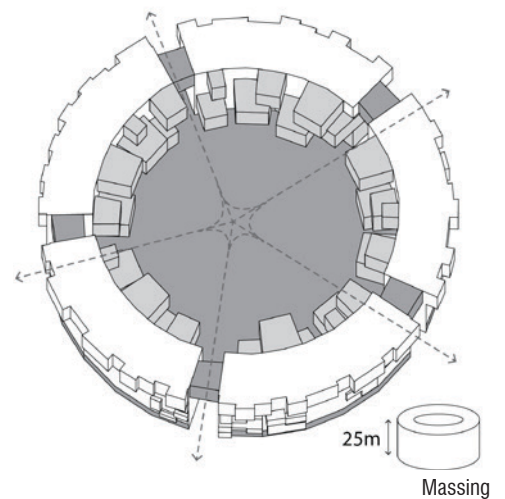


Figure ground 1:5000



08: 'SCHIP, ROTTERDAM

Location: Rotterdam,
Ringvaartplasbuurt
Architect: Mecanoo,
Typology: Slab
Units: 84
Construction completed: 1993

Area: 2762 m²
Footprint: 1721 m²
Open area: 1041 m²
Floors space: 9466 m².
Height: 6 floors

FSI: 3.43
GSI: 0.62
OSR: 0.11

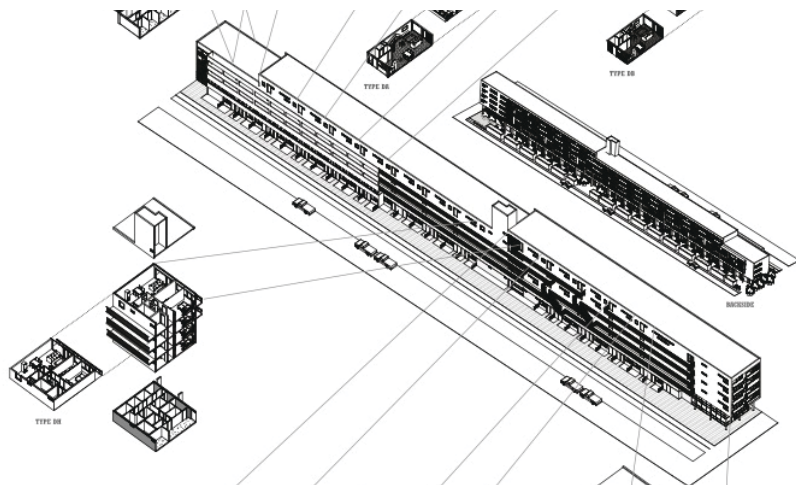
Typology: Slab
Units: 840
Construction completed: -

Area: 60.000 m²
Footprint: 17210 m²
Open area: 42790 m²
Floors space: 94660 m²
Height: 6 floors

FSI: 1.58
GSI: 0.29
OSR: 0.45



Figure ground 1:5000



Massing

09: RINGVAARTPLASBUURT, ROTTERDAM

Location: Rotterdam,
Ringvaartplasbuurt
Architect: Mecanoo, Chris de
Weijer, Erick van Egeraat, Francine
Houben
Typology: Slab and row houses
Units: 550
Construction completed: 1993
Area: 100.000 m²
Footprint: 23016 m²
Open area: 76984 m²
Floors space: 69468 m²
Height: average 3 floors

FSI: 0.69
GSI: 0.23
OSR: 1.11

Location: Amsterdam
Architect: -
Typology: Slab
Units: 84
Construction completed: -

Area: 60.000 m²
Footprint: 16000 m²
Open area: 44000 m²
Floors space: 51533 m²
Height: average 3 floors

FSI: 0.86
GSI: 0.27
OSR: 0.85



Figure ground 1:5000



Massing

10: SILODAM, AMSTERDAM

Location: Amsterdam
Architect: MVRDV
Typology: Slab
Units: 157
Construction completed: 2003

Area: 3000 m²
Footprint: 1960 m²
Open area: 1040 m²
Floors space: 25480 m²
Height: 10 floors

FSI: 8.49
GSI: 0.65
OSR: 0.04

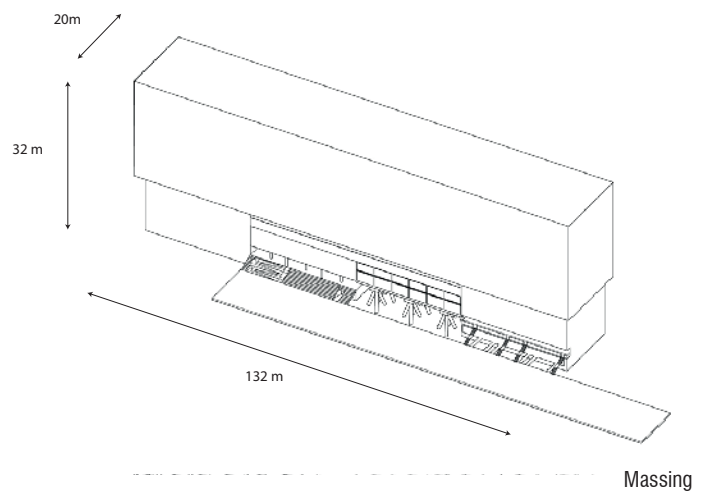
Typology: Slab
Units: 785
Construction completed: -

Area: 60000 m²
Footprint: 9800 m²
Open area: 50200 m²
Floors space: 127400 m²
Height: 10 floors

FSI: 2.12
GSI: 0.16
OSR: 0.39



Figure ground 1:5000



11: XISI AREA, BEIJING

Location: Beijing
Architect: -
Typology: Slums
Units: -
Construction completed: -

Area: 50000 m²
Footprint: 27000 m²
Open area: 23000m²
Floors space: 27000 m²
Height: 1 floors

FSI: 0.54
GSI: 0.54
OSR: 0.85

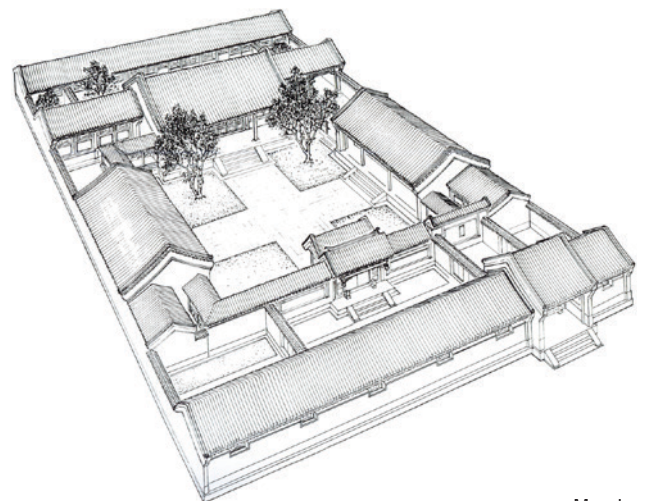
Location: Amsterdam
Architect: -
Typology: Slum
Units: -
Construction completed: -

Area: 60000 m²
Footprint: 27000 m²
Open area: 33000 m²
Floors space: 27000 m²
Height: 10 floors

FSI: 0.45
GSI: 0.45
OSR: 1.22



Figure ground 1:5000



Massing

12: PARK HILL, SHEFFIELD

Location: Sheffield
Architect: Jack Lynn and Ivor Smith
Typology: Slab
Units: 874
Construction completed:
1961/2007

Area: 86229 m²
Footprint: 11141m²
Open area: 75088 m²
Floors space: 104087m²
Height: 4-13 floors

FSI: 1.21
GSI: 0.13
OSR: 0.72

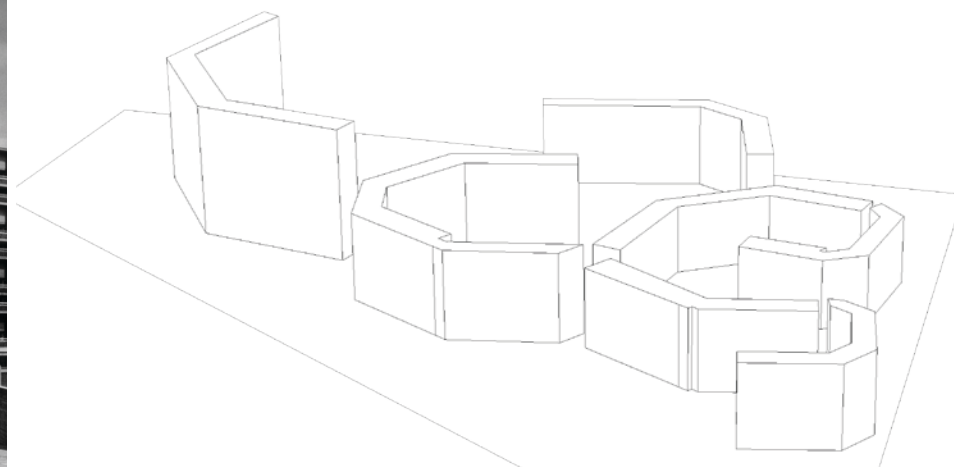
Typology: Slab
Units: = +- 500
Construction completed: -

Area: 60000 m²
Footprint: 6936 m²
Open area: 53064 m²
Floors space: 90074 m²
Height: 4-13 floors

FSI: 1.50
GSI: 0.12
OSR: 0.59



Figure ground 1:5000



Massing

13: KOWLOON WALLED CITY, HONG KONG

Location: Kowloon City Area, Hong Kong
Architect: Vernacular
Typology: Slum/Urban Block
Units: 6804
Construction: 1943-1994

Area: 26304 m²
Footprint: 26304 m²
Open area: 0 m²
Floor space: 315654 m²
Height: average 12 floors

FSI: 12
GSI: 1
OSR: -

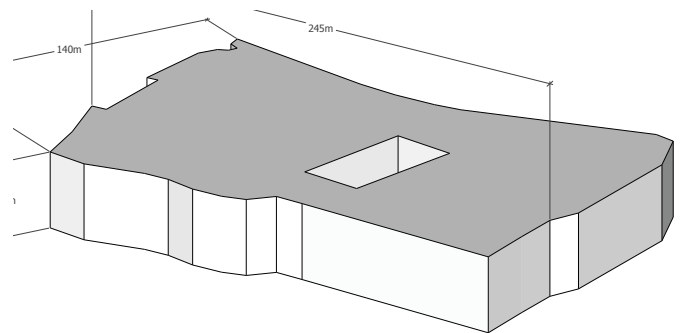
Typology: Slum/Urban Block
Units: 13608
Construction completed: -

Area: 60000 m²
Footprint: 52608 m²
Open area: 7392 m²
Floor space: 631308 m²
Height: average 12 floors

FSI: 10,52
GSI: 0,88
OSR: 0.01



Figure ground 1:5000



Massing

14: THE JOORDAN, AMSTERDAM

Location: Amsterdam Centre
Architect: Multiple
Typology: Ground bound block
Units: 11000
Construction completed: ~1650

Area: 280813 m²
Footprint: 129174 m²
Open area: 151639 m²
Floor space: 516696 m²
Height: average 4 floors

FSI: 1.84
GSI: 0.46
OSR: 0.29

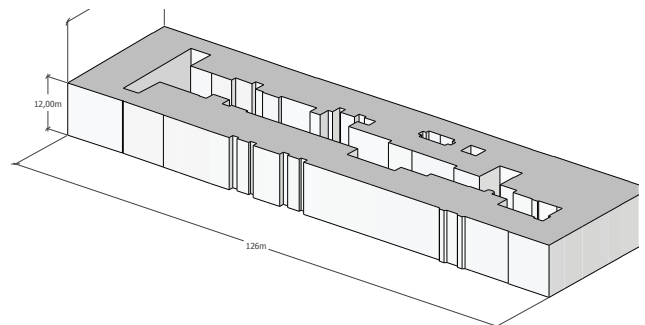
Typology: Ground bound block
Units: 2750
Construction completed: -

Area: 60000 m²
Footprint: 30140 m²
Open area: 29860 m²
Floor space: 120560 m²
Height: average 4 floors

FSI: 2.00
GSI: 0.50
OSR: 0.25



Figure ground 1:5000



Massing

15: DE LANDTONG, AMSTERDAM

Location: Rotterdam
Architect: Frits van Dongen
Typology: Urban block
Units: 625
Construction completed: 1998

Area: 44.705 m²
Footprint: 13.020 m²
Open area: 31.685 m²
Floor space: 105.500 m²
Height: average 7 floors

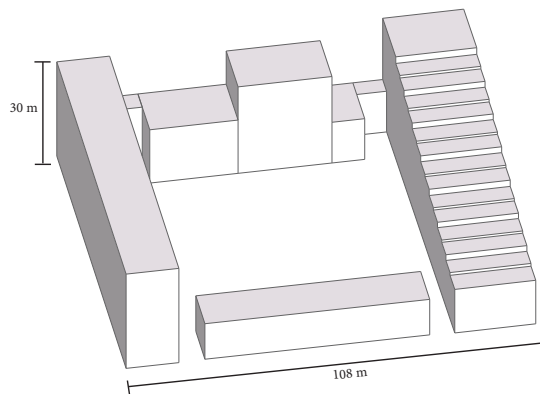
FSI: 1.79
GSI: 0.31
OSR: 0.39

Area: 60.000 m²
Footprint: 13.020 m²
Open area: 46.980 m²
Floor space: 105.500 m²
Height: average 7 floors

FSI: 0.71
GSI: 0.29
OSR: 1.00



Figure ground 1:5000



Massing

16: GRACHTENGORDEL, AMSTERDAM

Location: Amsterdam.
Architect: various
Typology: Ground bound urban block
Units: 4641
Construction completed: various
Area: 640.000m².
Footprint: 243.200m².
Open area: 396.200m².
Floors space: 1.216.000m².
Height: average floors. 5

FSI: 1.90
GSI: 0.38
OSR: 0.33

Units: 436
Construction completed: -

Area: 60.000m².
Footprint: 22.800m².
Open area: 37.200m².
Floors space: 114.000m².
Height: average floors. 5

FSI: 1.90
GSI: 0.38
OSR: 0.33

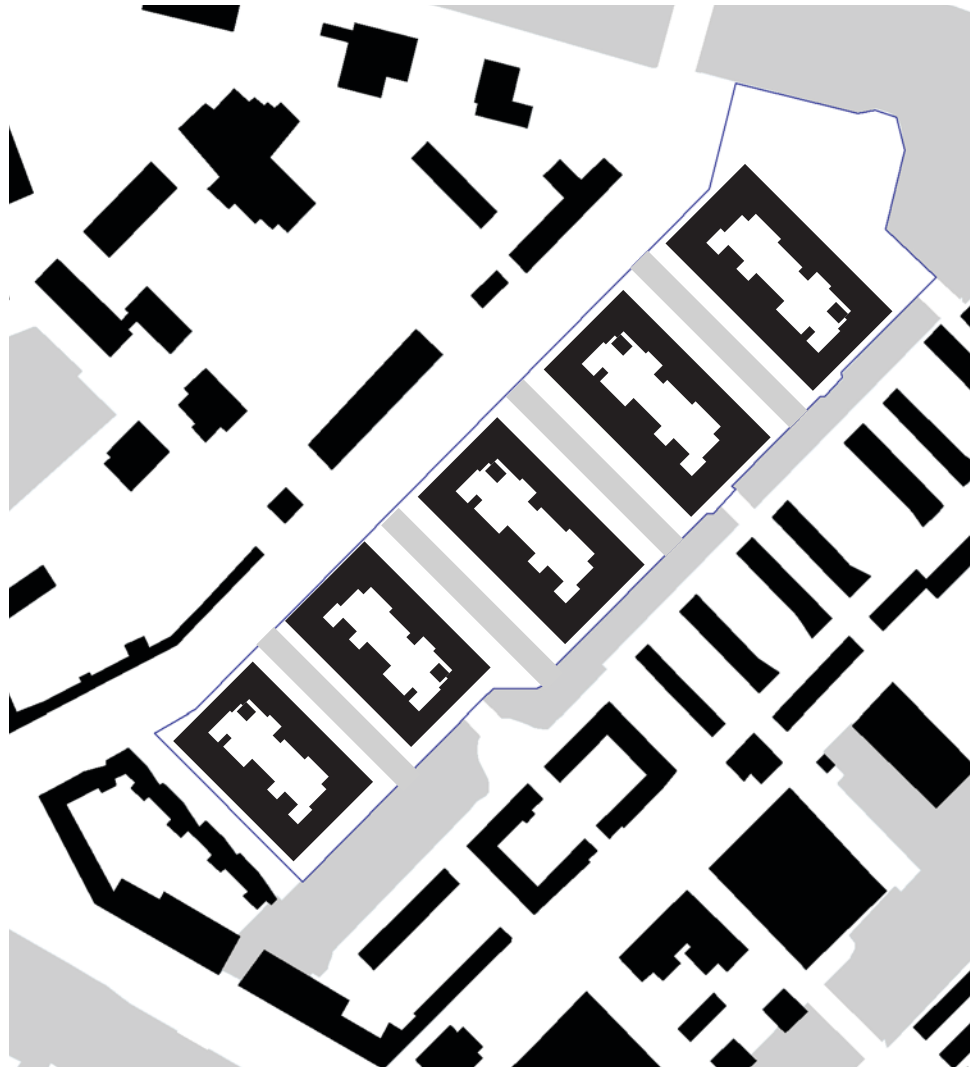
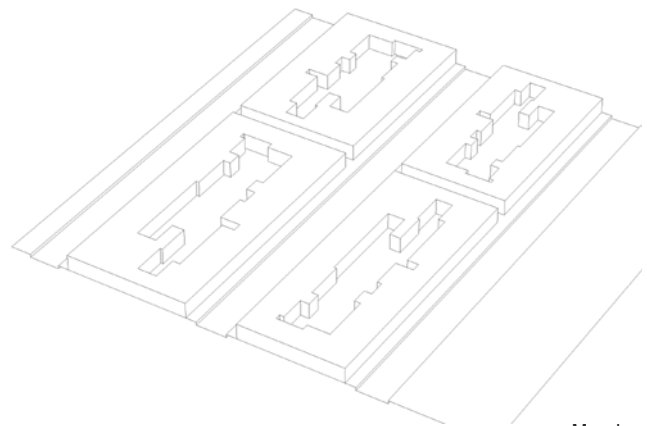


Figure ground 1:5000



Massing

17: BARCELONA BLOCK

Location: Carrer de Consul Cent.
Architect: Ildefons Cerdà
Typology: Perimeter building with Central Courtyard.
Units: -
Construction: 1859-

Area: 22280m²
Footprint: 14094 m²
Open area: 8186 m²
Floors space: 56,376 m²
Height: 4 stories

FSI: 2.53
GSI: 0.63
OSR: 0.15

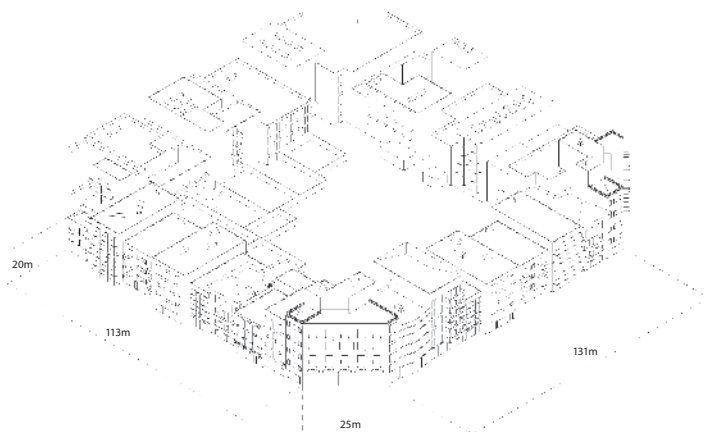
Typology: Perimeter building with Central Courtyard.
Units: 1,088 units
Construction: 1859-

Area: 60 000m²
Footprint: 28 188 m²
Open area: 31 812 m²
Floors space: 56,376 m²
Height: 4 stories

FSI: 1.8
GSI: 0.44
OSR: 0.56



Figure ground 1:5000



Massing

18: BERLIN BLOCK

Location: Berlin
Architect: Varies.
Typology: Conglomerated
Courtyard micro-blocks.
Units: 400-560 per block
Construction completed: -

Area: 12000m²
Footprint: 8808 m²
Open area: 3192 m²
Floors space: 44040-61656 m²
Height: 5-7 stories

FSI: 3.67 - 5.14
GSI: 0.73
OSR: 0.07 - 0.05

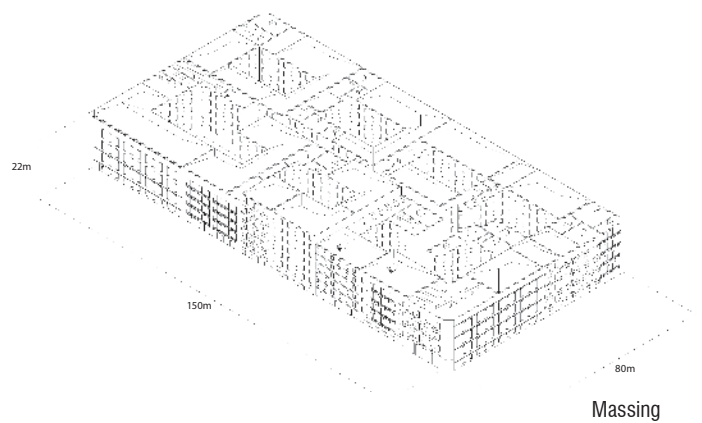
Typology: Conglomerated
Courtyard micro-blocks.
Units: 1,088

Area: 60 000m²
Footprint: 17 616 m²
Open area: 42 384 m²
Floors space: 44040-61656 m² per
block
Height: 5-7 stories

FSI: 1.9
GSI: 0.38
OSR: 0.62



Figure ground 1:5000



19: LE MEDI, ROTTERDAM

Location: Rotterdam.
Architect: Korteknie Stuhlmacher
Typology: Ground bound.
Units: 93.
Construction completed: 2008.

Area: 16.470 m².
Footprint: 7.082 m².
Open area: 9388 m².
Floors space: 21.246 m².
Height: average 3 floors.

FSI: 1.29
GSI: 0.43
OSR: 0.44

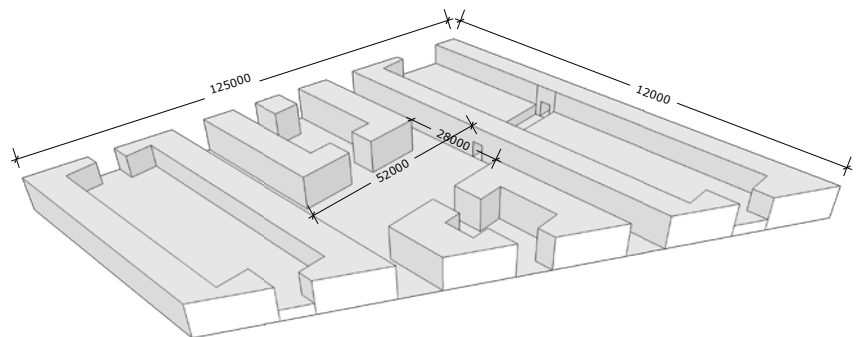
Units: Approx 326.
Construction completed: -

Area: 60.000 m².
Footprint: 19.200 m².
Open area: 40.800 m².
Floors space: 57.600 m².
Height: average 3 floors.

FSI: 0.96
GSI: 0.32
OSR: 0.71



Figure ground 1:5000



Massing

20: BORENO SPORENBURG, AMSTERDAM

Location: Amsterdam.
Architect: West8
Typology: Ground bound. row houses
Units: 2500.
Construction completed: 1996

Area: 250.000 m².
Footprint: 123.200m².
Open area: 126.800m².
Floors space: 369.600m².
Height: average floors. 3

FSI: 1.48
GSI: 0.49
OSR: 0.34

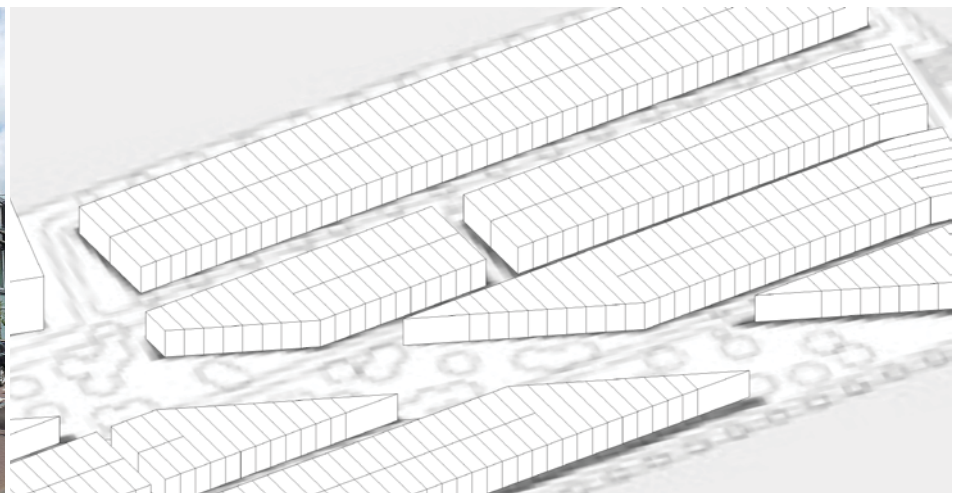
Typology: Ground bound.
Units: 600.
Construction completed: -

Area: 60.000m².
Footprint: 29.600m².
Open area: 30.400m².
Floors space: 88.800 m².
Height: average floors. 3

FSI: 1.48
GSI: 0.49
OSR: 0.34



Figure ground 1:5000



Massing

21: PARC CHASSE, BREDA

Location: Breda
 Architect: multiple
 Typology: Urban villa
 Units: 1665.
 Construction completed: 2007

Area: 198.864 m².
 Footprint: 63.636m².
 Open area: 126.800m².
 Floors space: 135.228m².
 Height: -

FSI: 0.84
 GSI: 0.32
 OSR: 0.81

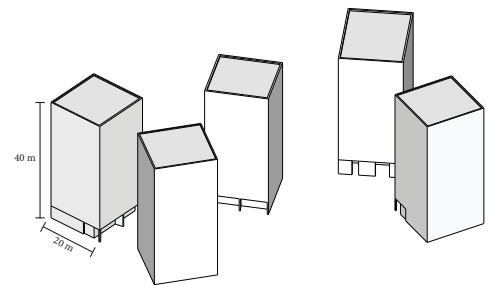
Typology: Urban villa
 Units:-.
 Construction completed: -

Area: 60.000 m².
 Footprint: 14.267m².
 Open area: 45.732m².
 Floors space: 41.778m².
 Height: -

FSI: 2.79
 GSI: 0.24
 OSR: 1.09



Figure ground 1:5000



Massing

22: FUNENPARK, AMSTERDAM

Location: Amsterdam
Architect: Dick van Gameren
Typology: Ground bound
Units: 247 (without wall)
Construction completed: 2009

Area: 29.000 m²
Footprint: 8.500 m²
Open area: 20.500 m²
Floors space: 51.000 m²
Height: average of 6 floors

FSI: 1.76
GSI: 0.29
OSR: 0.40

Typology: Ground bound
Units: 544
Construction completed: -

Area: 60.000 m²
Footprint: 18.700 m²
Open area: 41.300 m²
Floors space: 112.200 m²
Height: average of 6 floors

FSI: 1.87
GSI: 0.31
OSR: 0.37

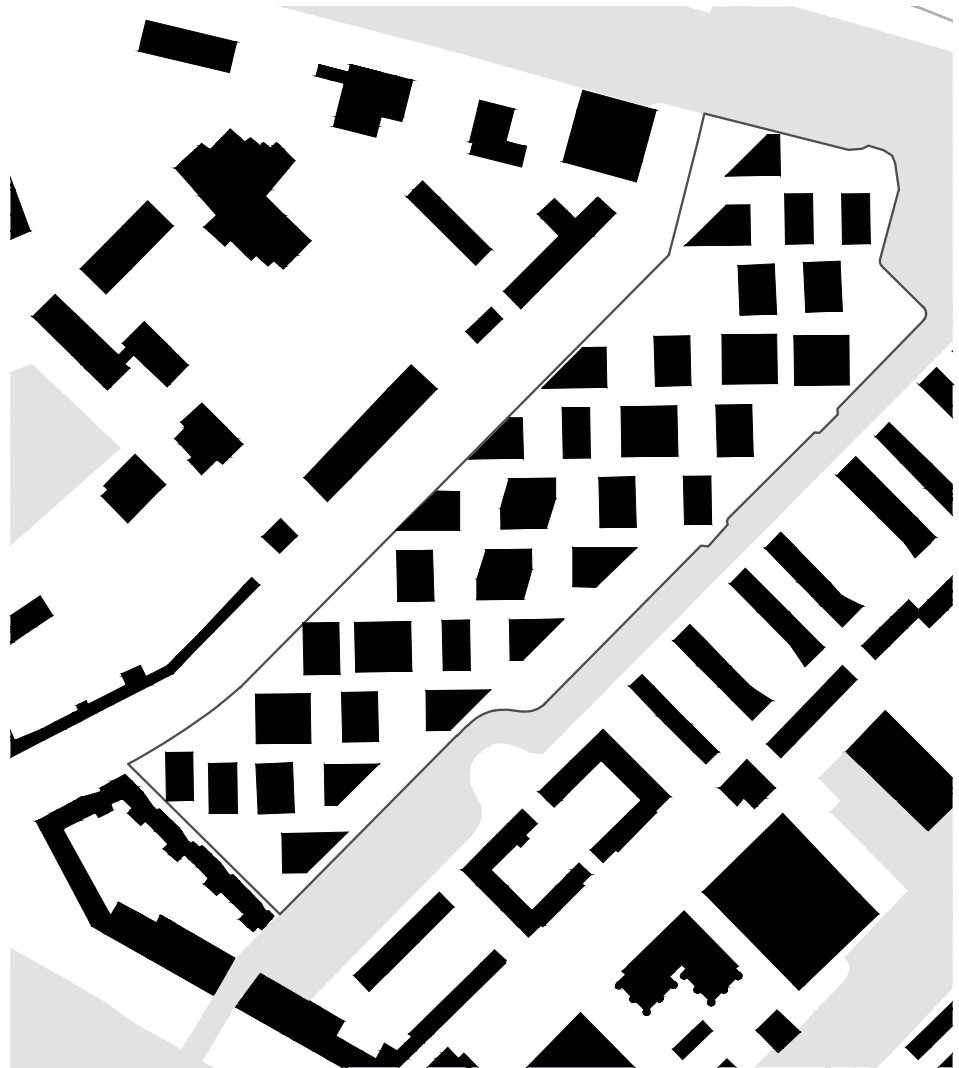
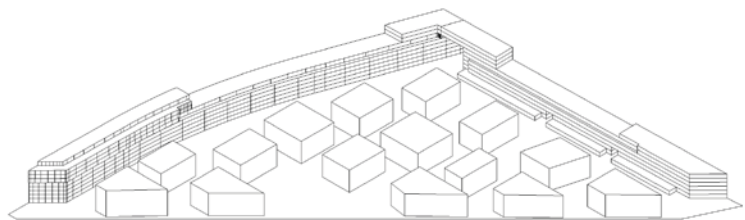


Figure ground 1:5000



Massing

23: KLIEN RIETLAND, AMSTERDAM

Location: Amsterdam.
Architect: ir. John Bosch.
Typology: Ground bound.
Units: 140 Villas.
Construction completed: 2008.

Area: 55.471 m².
Footprint: 22.188 m².
Open area: 33.290 m².
Floors space: 50.240 m².
Height: average 3 floors.

FSI: 0.91
GSI: 0.40
OSR: 0.66

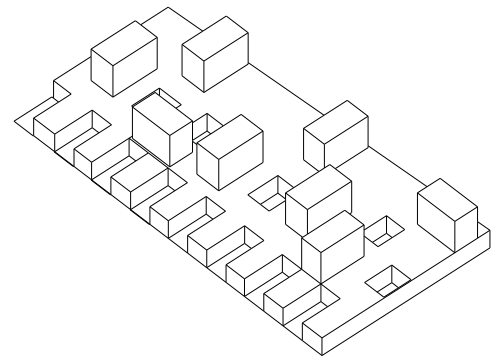
Typology: Ground bound.
Units: 140.
Construction completed: -

Area: 60.000 m².
Footprint: 22.188 m².
Open area: 37.812 m².
Floors space: 50.240 m².
Height: average 3 floors.

FSI: 0.84
GSI: 0.37
OSR: 0.75



Figure ground 1:5000



Massing

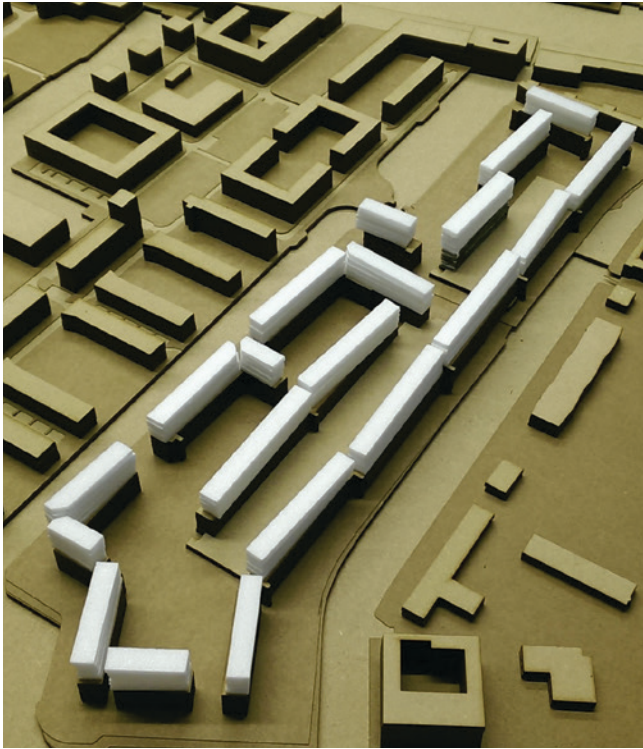
CONCLUSION/REFLECTION

Through the typology study the following findings were uncovered:

- Scale of site can be compared with other city fabrics through a composition of their typical block structures on site (e.g Barcelona, Berlin, Beijing)
- Site dimensions make it difficult to maximise the density of the site - Ideally the site should accommodate two rows of urban blocks, but it is too shallow to fully accommodate this.
- Careful choice of typology could allow the target density to be greatly exceeded. However in many instances this results in more isolated, high-rise typologies. In this cases the ground-floor condition and a impact of obstrusive high-rise massings on the Amsterdam skyline should be guiding parameters.
- Integration of existing buildings as part of the design approach will quickly compromise the ability to attain the required density target and create a coherent urban design.



MODEL STUDIES



Option 01

Option 01

Percentage of existing blocks:	100%
Applied Strategy:	Topping up (optoppen)
Added m ² :	57,825m ²
Total m ² :	115,650m ²

Outcome: Quality of public spaces and building structure remain the same.



Option 02

Option 02

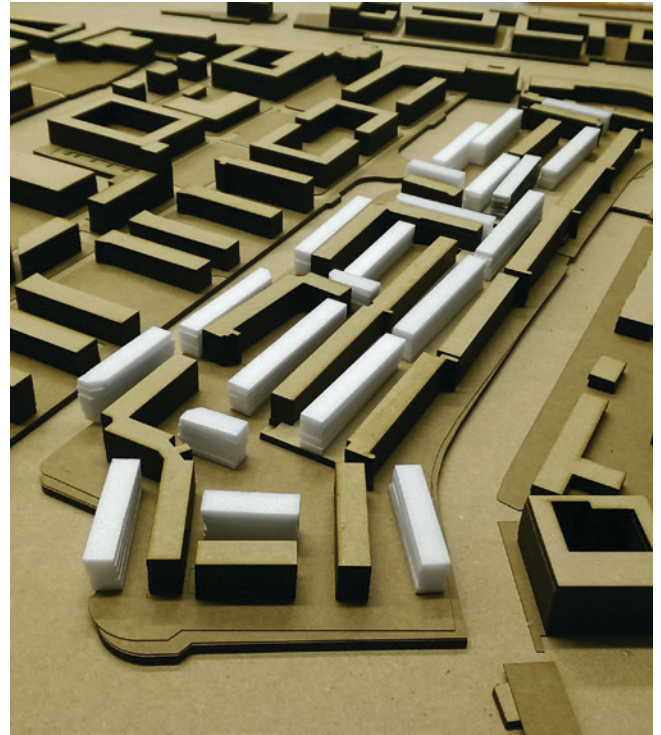
Percentage of existing blocks:	100%
Applied Strategy:	Free Volumes
Added m ² :	57,825m ²
Total m ² :	115,650m ²

Outcome: Quality of public spaces and building structure remain the same.

Option 03

Percentage of existing blocks: 100%
Applied Strategy: Extension + Towers
Added m²: 57,825m²
Total m²: 115,650m²

Outcome: Quality of public spaces and building structure become enclosed and dense.

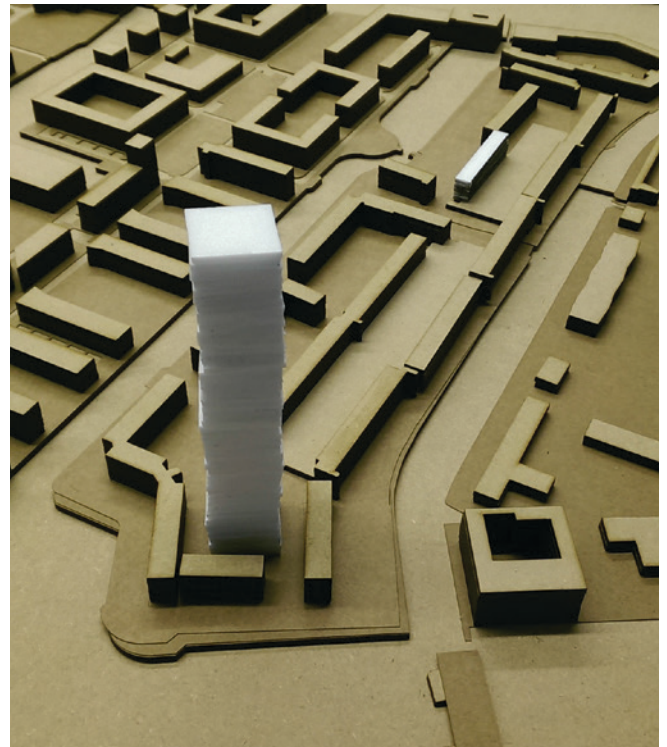


Option 03

Option 04

Percentage of existing blocks: 100%
Applied Strategy: Additional free-standing
Added m²: 57,825m²
Total m²: 115,650m²

Outcome: Quality of public spaces and building become more dense.



Option 04

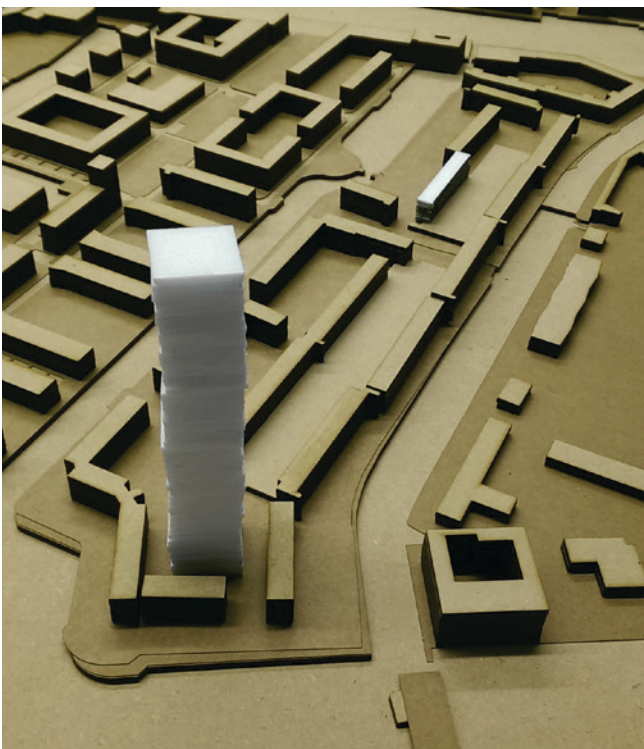


Option 05

Option 05

Percentage of existing blocks:	100%
Applied Strategy:	Dense Low-Rise
Added m ² :	57,825m ²
Total m ² :	115,650m ²

Outcome: Quality of public spaces and building structure remain the same, only one area of the site will have extreme density.



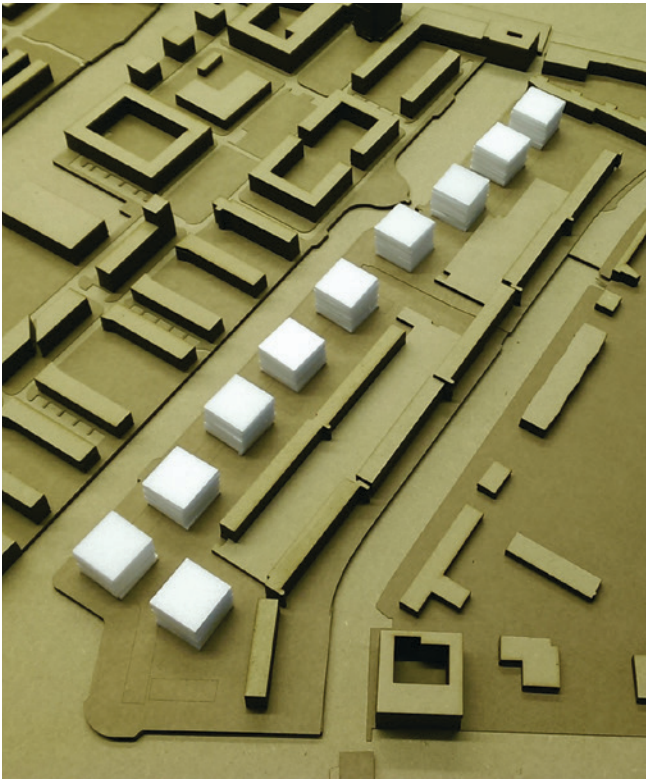
Option 06

Option 06

Percentage of existing blocks:	100%
Applied Strategy:	Dense High-rise
Added m ² :	57,825m ²
Total m ² :	115,650m ²

Outcome: Quality of public spaces and building structure remain the same, only one area of the site will have extreme density. High-rise overshadows and reduces privacy.

MODEL STUDIES

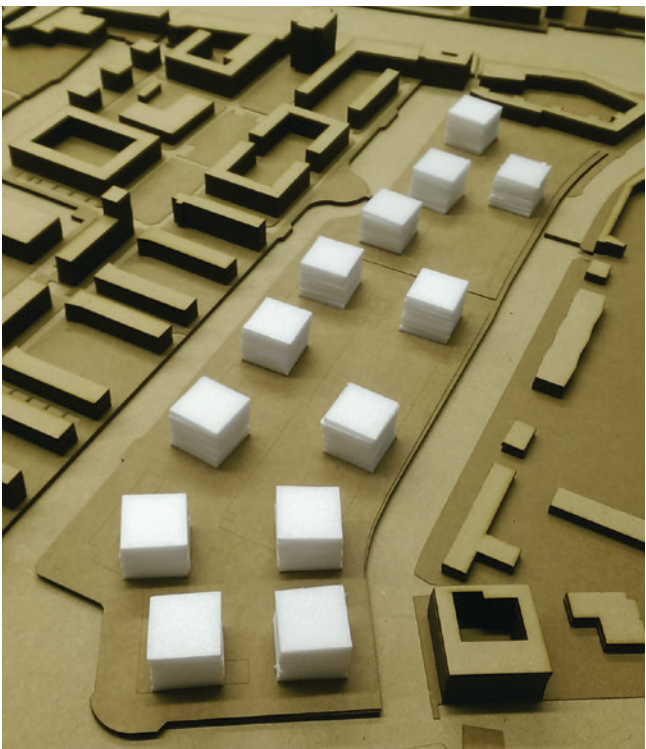


Option 07

Option 07

Percentage of existing blocks:	50%
Applied Strategy:	Topping up (optoppen)
Added m ² :	86,737m ²
Total m ² :	115,650m ²

Outcome: Creation of one big open space with high-rise wall typology.



Option 08

Option 08

Percentage of existing blocks:	50%
Applied Strategy:	Villas in empty space
Added m ² :	86,737m ²
Total m ² :	115,650m ²

Outcome: Enclosure to street remains. Creation of different morphology due to combination of blocks and slabs.



Option 09

Option 09

Percentage of existing blocks:	50%
Applied Strategy:	Towers in empty space
Added m ² :	86,737m ²
Total m ² :	115,650m ²

Outcome: Variation in low and high-rise. Public space is more open.



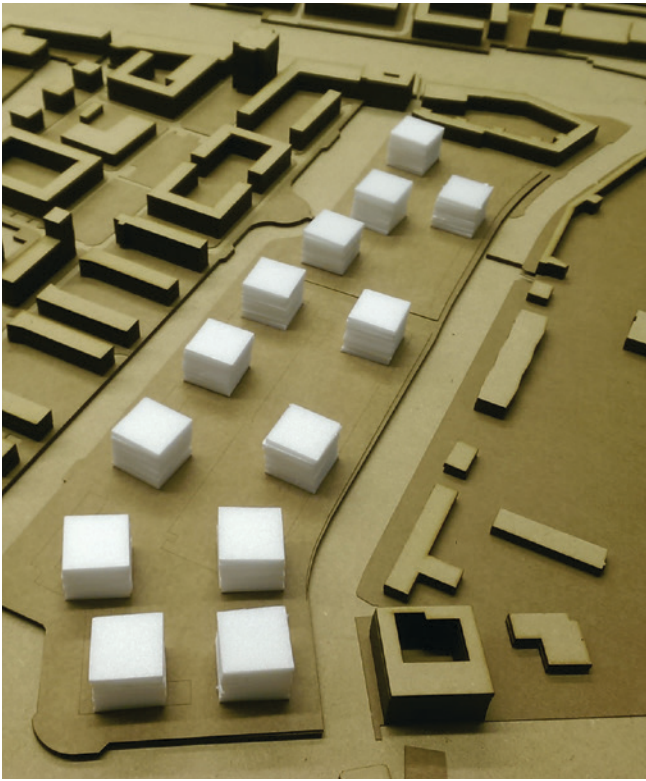
Option 10

Option 10

Percentage of existing blocks:	50%
Applied Strategy:	Blocks in empty space
Added m ² :	86,737m ²
Total m ² :	115,650m ²

Outcome: Openness to street. Creation of varied morphology due to combination of blocks and slabs.

MODEL STUDIES

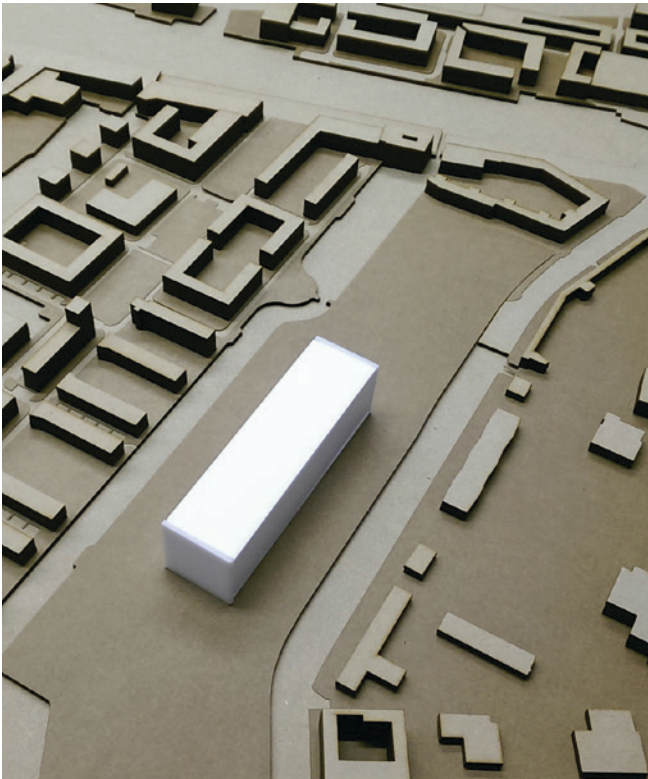


Option 11

Option 11

Percentage of existing blocks:	0%
Applied Strategy:	Independent blocks
Added m ² :	115.650m ²
Total m ² :	115,650m ²

Outcome: Public space is bigger and becomes more open.



Option 12

Option 12

Percentage of existing blocks:	0%
Applied Strategy:	Single Volume
Added m ² :	115,650m ²
Total m ² :	115,650m ²

Outcome: Large open space surrounding dense block.



Option 13

Option 13

Percentage of existing blocks:	0%
Applied Strategy:	Single Volume
Added m ² :	115,650m ²
Total m ² :	115,650m ²

Outcome: Large open space surrounding dense block.

CONCLUSIONS

Through the process of the density study the following findings were uncovered:

- Attaining an FSI of 2.0 can be achieved on site without introducing significantly larger massing than the existing condition if the site is totally cleared of all existing structures
- Building retention and increased density brings numerous complications in terms of open space provision and daylighting
- It is possible to clear the site and provide all required density in singular monumental massing, however the scale of these blocks, combined with the lack of definition of open space suggests this would be an inappropriate strategy



CHALLENGES OF DENSIFICATION

Increasing the dwelling-density of an existing city is by no means an easy task. Pressure for the construction of dwellings to supply the demand which is foretasted in Dutch cities over the coming 50 years is the principle driver of densification; but this need is not matched with an understanding of how to integrate this aspiration with the reality of the existing city. Amsterdam in particular comes with numerous challenges physically, but also economically and socially. Nevertheless all these concerns are centred around one argument:

How can you add to an existing city without damaging its qualities and values?

An increase in density brings with it multiple complications in terms of how a city functions. Increased density means more people, more activity and more pressure on infrastructure. Any increase needs to be understood in terms of how it affects the provision of these functions, and how improvements might also have to be made to transport networks, energy grids and waste management systems in order to deal with the increased requirements associated with densification.

Beyond this however it is also necessary to consider how density can be effectively delivered. In itself density is nothing more than a mass of people living together at a certain proximity. Density in itself gives no design direction, it is simply a pressure that a design must accommodate. Equally there is no association between density and quality. It can be argued both high and low density environments have qualitative advantages, in terms of proximity to services, proximity to open space, threshold populations to sustain particular functions, or environmental quality. Dense urban environments such as Paris can be held as ideal models of urban growth, whilst equally dense slums in South-America offer a markedly worse quality of life for residents. Equally the low density, sub-urban condition gives each resident their own private villa, complete with large private green spaces and white picket fences. However at such low density proximity to services is low and the perception of isolation is high.

In order to structure the design of density it is thus necessary to define qualitative strategies to focus the creation of dense-urban environments in existing cities. A recent study, *Recommendations for living at Super-density*, outlined several criteria that form the basis of high quality dense development¹:

- Energy Efficiency
- Re-provision of vegetation
- Maximising natural daylight
- Minimising water-runoff

These criteria suggest ways in which the affects of increased

density can be offset through thoughtful design. Every new insertion in the city must be as efficient as possible to minimise its environmental footprint, move-over new insertions should to foster synergies between new dwellings and existing actives though mergers of interest. Recent examples of this have focused on topics such as co-generation of heat or car sharing.

Beyond this the report also focused upon the need for good connectivity and accessibility in order to promote and sustain density both presently and in future. Ultimately the fundamental obligation of any intervention in the city today is to permit future intervention to meet the needs of future generations.

Over the coming pages an list of design considerations will expand upon the criteria for densification, showing both the complexity of the task and multiplicity of actors involved in the process.

Reference

1. Design for London, *Recommendations for living at Superdensity*, 2007.

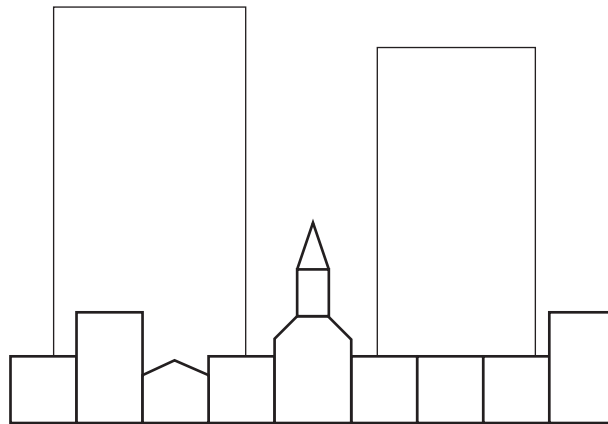


DESIGN CONSIDERATIONS

New developments in an area should not be seen as an aggressive insertion into the existing context. Instead they should maximise opportunities and latencies in the existing condition to create new possibilities for current and future residents.

Increasing density in the first place will place greater pressure upon the social infrastructure of a place. High density means more healthcare, retail, education, leisure and recreation, open space and public transport. It is likely that increased density will be delivered hand-in-hand with improvement to these aspects. This is one method of integrating into and respecting the neighbourhood context.

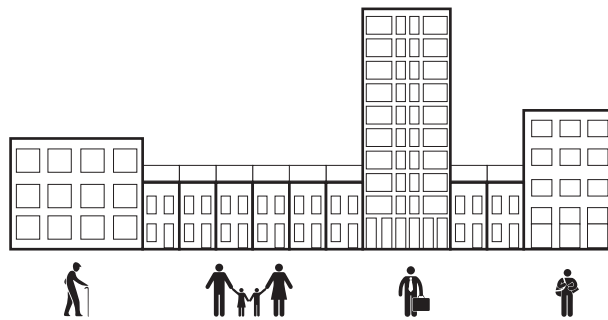
01: NEIGHBOURHOOD CONTEXT



New developments in an area should not be seen as an aggressive insertion into the existing context. Instead they should maximise opportunities and latencies in the existing condition to create new possibilities for current and future residents.

Increasing density in the first place will place greater pressure upon the social infrastructure of a place. High density means more healthcare, retail, education, leisure and recreation, open space and public transport. It is likely that increased density will be delivered hand-in-hand with improvement to these aspects. This is one method of integrating into and respecting neighbourhood context.

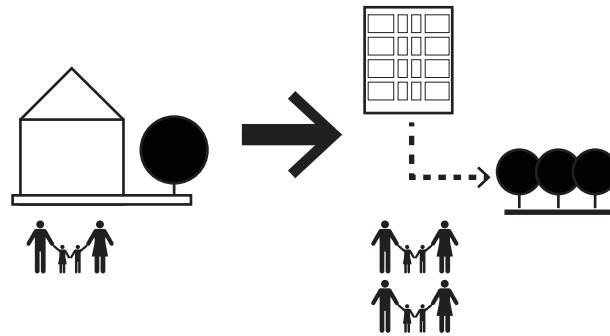
02. BALANCED COMMUNITIES



Added density should not polarise a particular target group. Instead it should either preserve the existing groups or introduce new groups which complement the current community. Thought must be given to the future resilience of high-density development, small, affordable units today can easily become the slums of tomorrow, therefore increases to density must be able to offer a diversity of appropriately sized dwellings to match current as well as future space standards.

Thought must also be given to incorporating different tenure groups. Few will buy their own dwellings, many will rent and some will require assistance to afford their homes. Increasing the density of an area must not make it more difficult to find an appropriate, affordable dwelling for a diverse range of residents.

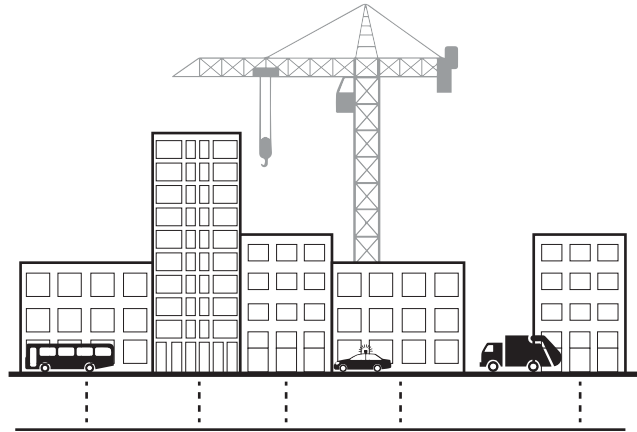
FLATS FOR FAMILIES



Increased density results in a shift away from generous ground bound villas with ample private recreational space to stacked flats and duplexes which share collective amenities and public open spaces. This transition normally occurs at densities around 120 dwellings/hectare.

New proposals must therefore consider the needs of families in high density developments. Maisonette and Duplex typologies allow generous dwellings that can either be located on the ground, where individual access offers close connection to the street and surrounding open space. Duplexes on upper floors can also take advantage of building setbacks to offer open space on roofs and terraces.

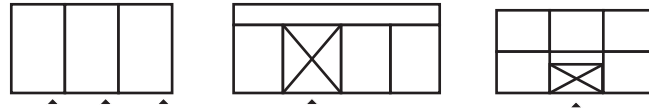
MANAGEMENT



Higher densities place more stress upon the management systems of a city. More people mean more traffic, more waste, the need for increased policing along with more use of key infrastructure, raising questions of renewal and maintenance.

It is key that all of these implications are fully considered and strategically addressed and co-ordinated in the implementation of a densification scheme, ensuring that its addition does not increase the chance of congestion, pollution and crime.

ACCESS



As density increases so too must the efficiency of both building and dwelling design. Critical in this is the method of access to the dwelling. At lower densities each individual dwelling can be connected to the street, maximising its privacy and connection to the street.

However as densities increase this is no longer possible. Within these buildings three access methods are commonplace:

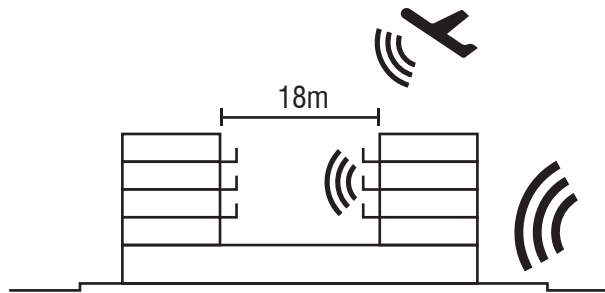
Corridor Access

Deck Access

Core Access

Care must be taken in design to ensure that each strategy is appropriate to the number of dwellings it must serve, both to optimise its efficiency and offer sufficient privacy and convenience to its users.

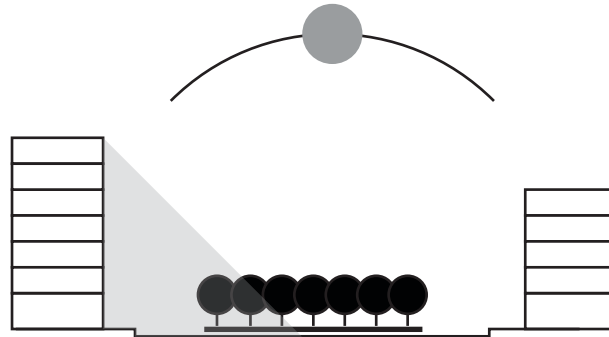
PRIVACY



Privacy is visual but more importantly acoustic. Ensuring that increased density does not impinge on the ability of the individual to enjoy their own privacy is tantamount to the success of a densification strategy.

For Visual privacy a typical minimum distance of 18-22m is considered ideal. Acoustic privacy is somewhat harder to determine, with key concerns originating from invasive noise from the surrounding urban context as well as neighbouring dwellings. Our individualistic lifestyles today mean that we do not perform the same activities at the same time. This is a challenge for design as it results in the need to ensure privacy at all times of the day and between all spaces within the dwelling. This can be handled by the careful placement of bedrooms, living spaces and bathrooms within the dwelling, as well as ensuring the fabric of a buildings construction is designed to acoustically isolate each dwelling, reducing noise transfer and offering privacy.

OUTDOOR SPACE + PUBLIC REALM

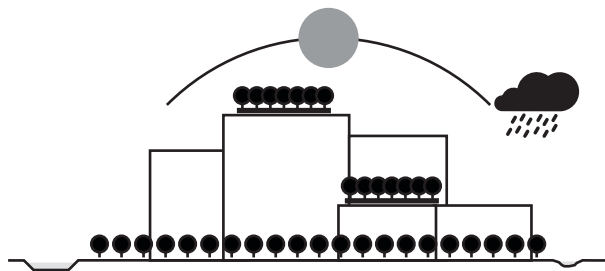


The three-dimensional implications of density often result in taller buildings, where overshadowing of public and open space may become a key concern. Moreover the implication of additional parking provision and servicing can reduce the level of activity within buildings at ground-floor level. This risks creating negative experiences within the public realm of uninteresting ground-floor conditions, overshadowed open spaces and wind vortices from tall buildings.

Instead servicing and parking must be integrated into the building design at the outset to ensure it is both minimised and concealed from the street. Doing so allows ground planes to be filled with active public and commercial activities.

Densities should be carefully planned so as not to create poor micro-climates, considering wind-direction, sun-paths and exposures to determine how density and height can still preserve green open space and appealing playspace at ground level.

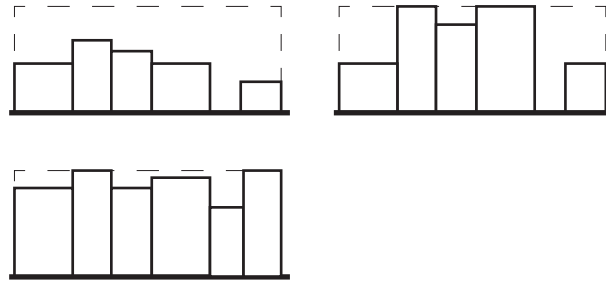
ENVIRONMENTAL SUSTAINABILITY



The process of construction remains one of mankind's most environmentally irresponsible activities. The city is an entirely artificial construction and attempts must be made to integrate nature and ecology into the city, reducing its ecological footprint.

This covers technical aspects such as energy efficiency, building performance and construction techniques. But beyond this the design approach must also consider renewable materials and energy sources, the ability to reduce fossil-fuel dependency, transport strategies, waste reduction and water conservation.

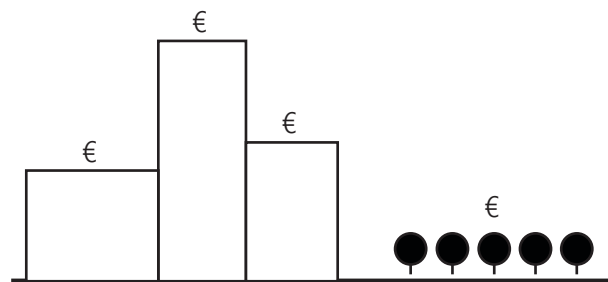
ROLE OF LOCAL AUTHORITIES



Local Authorities are responsible professionals whose role is to guide and oversee development, Any attempt to increase the density of the city must be related to studies and research into the most feasible opportunities to do so. Their role is to make the development 'fit' in the ongoing growth strategy of the city.

What is required is a strategic vision of the final scenario, as well as a staged plan of its delivery, guidance on maximum tolerated development and an integrated overview of how increased density creates better quality places in the city.

SERVICE CHARGES



Increased Density and Intensity of use of the city brings with it the cost of supporting and maintaining the facilities that it needs. Often what this means is the increased cost of living in an area due to increased services charges. However this can also be offset amongst the variety of tenure times which are included in the densification strategy. Often more affluent target groups are charged at a higher rate to allow key-workers the opportunity to live in the same area, and as such countering the gentrifying effect density is so often associated with.

Increased density can also be perceived as an opportunity to generate increased revenue. Density brings with it a critical mass of activity and inhabitation, whose presence is able support economic activity in an area. New relationships and innovative economic models can utilise the opportunity of increased density to fund ongoing maintenance or facilitate the creation of new services.



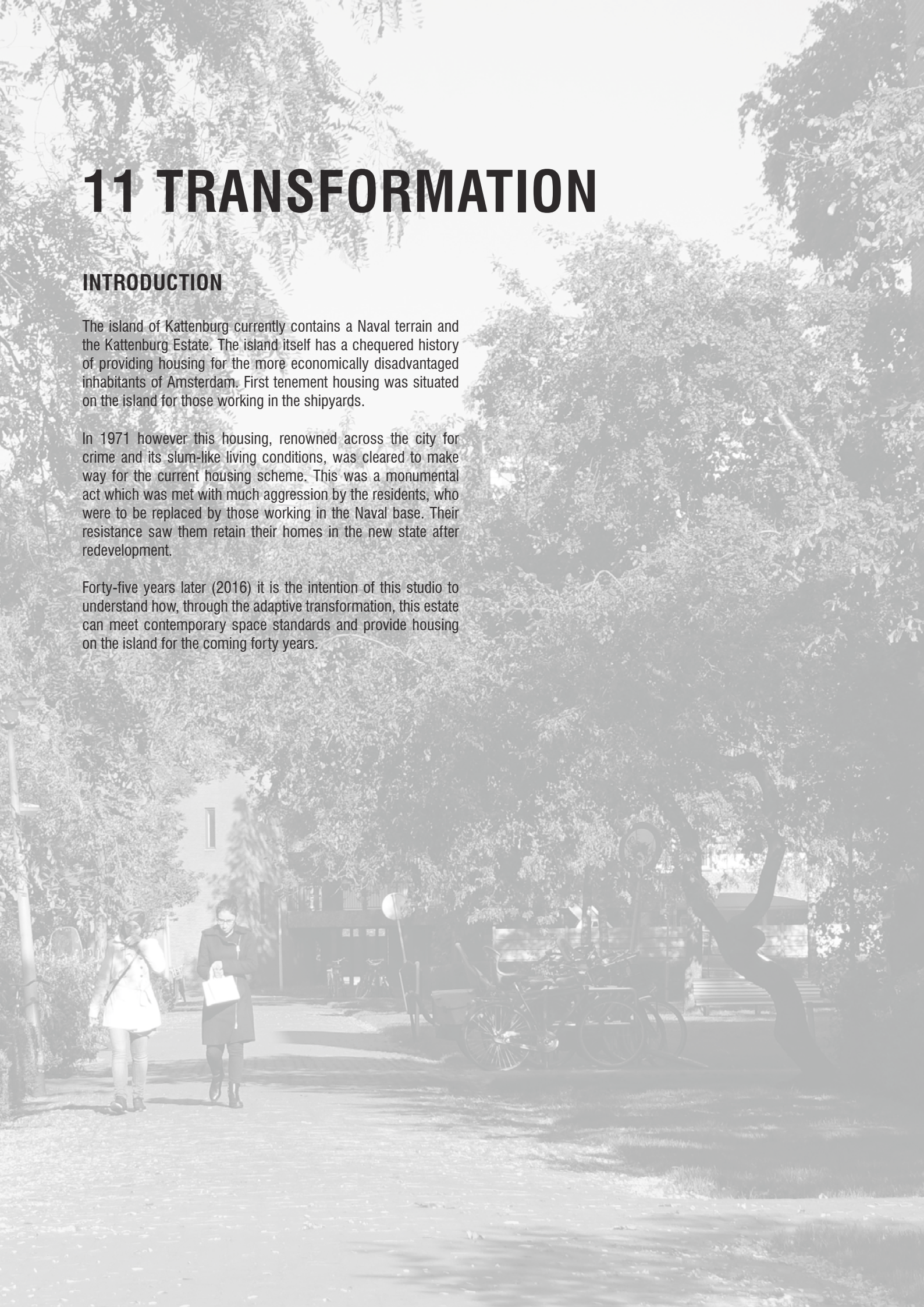
11 TRANSFORMATION

INTRODUCTION

The island of Kattenburg currently contains a Naval terrain and the Kattenburg Estate. The island itself has a chequered history of providing housing for the more economically disadvantaged inhabitants of Amsterdam. First tenement housing was situated on the island for those working in the shipyards.

In 1971 however this housing, renowned across the city for crime and its slum-like living conditions, was cleared to make way for the current housing scheme. This was a monumental act which was met with much aggression by the residents, who were to be replaced by those working in the Naval base. Their resistance saw them retain their homes in the new state after redevelopment.

Forty-five years later (2016) it is the intention of this studio to understand how, through the adaptive transformation, this estate can meet contemporary space standards and provide housing on the island for the coming forty years.



WHY TRANSFORM INSTEAD OF REPLACE?

When buildings are designed, their architects dream of the immortality of their creations. Reality however, is somewhat different. Weathering, use and the passing of time limits many buildings effective lifespans to approximately fifty-years. At this point it becomes necessary to evaluate the condition of the building economically, as well as structurally and spatially. In many cases it will mark the beginning of the end, and the opportunity for new-buildings to be constructed in their place; this has certainly been the case historically.

The marked improvement in construction techniques of modernist architecture however forces the profession to re-evaluate the approach of demolition and renewal. In some cases structures of this age have sufficient structural merit to last around another twenty-five years without intervention, and even longer if appropriate measures are implemented, typically pertaining to technical energy performance and access. In the case of state-funded modernist mass-housing the generous spatial standards adopted at the time, far in excess of any minimum recommendation at that time, have ensured that dwellings designed fifty years ago can still accommodate the same target groups in satisfactory comfort today.

The global crisis of 2008 has brought a worldwide era of uncertainty, dramatically altering the perception of the built environment. The inability of governments to raise state capital combined with severe financial austerity within the private sector has brought about a hesitancy to invest in projects with long returns on investment or high-risk factors; something which has come to epitomise the built-environment. Today we prefer to prolong investment as long as possible, making the best with what exists for as long as possible before considering complete renewal. Within architectural design this is becoming evident in the increasing focus upon transformation, adaptation, interventionist approaches and the concept of up-cycling; light-touch approaches which increase the value of buildings by capitalising on the embodied energy within the structure.

In the case of Kattenburg an additional claim for a transformative approach is the embodied social capital of the community itself. Creating a cohesive community of people who live together happily and healthily remains a mysterious art, and where it has become possible every effort should be made to retain it. In many cases the destruction of this leads to the loss of financial value irrespective of the amount of investment. The rapid privatisation of these estates to unlock short-term financial value is seeing the complexity of their ownership structures increase, becoming ever more fragmented and difficult to control.

This chapter of the research report presents strategies to bring about transformative renewal of modernist mass housing estates through typological precedent studies.



TOPPING-UP



Adding additional dwellings onto an existing building by placing extra floors on top of an existing building.

Advantages:

- Vertical layering allows additional functions to be stacked together;
- Faster and cheaper than demolishing and total new build;
- Retains existing character of streetscape;
- Construction can occur without disrupting existing uses/functions.

Disadvantages:

- Must work with structural system of existing;
- Structure may not be able to support a sufficient number of additional floors.

Reference:

Le Grand Parc de Bordeaux, Lacaton & Vassal, Bordeaux.



References

<http://www.aquitansphere.com/upload/aquitanis%20rhab%20Grand%20Parc%20vue%20du%20site%20et%20des%20btiments%20avant%20rhabilitation.jpg>

<http://lacatonvassal.com/data/images/full/20150423-123725-z417.jpg>

<http://www.lemoniteur.fr/media/IMAGE/2011/10/17/>

[IMAGE_20111017_15537234.jpg](http://www.lemoniteur.fr/media/IMAGE/2011/10/17/IMAGE_20111017_15537234.jpg)



ADDING-ON

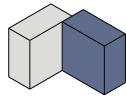


fig. 1
Etat existant



fig. 2
Rénovation de la tour existante

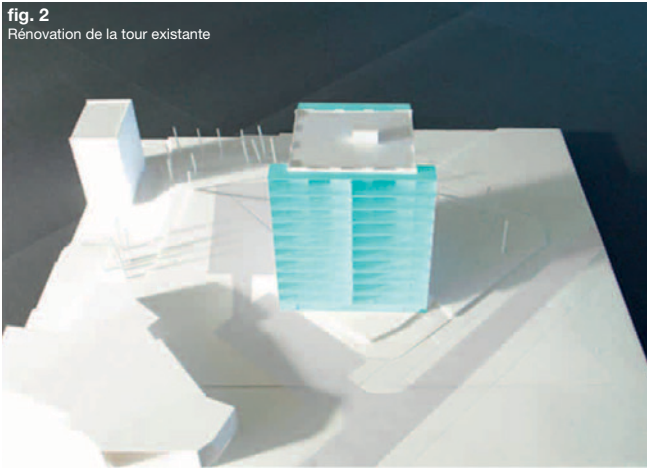


fig. 3
Création de nouveaux logements



Extension of existing by constructing adjacent structures and connecting to original building.

Advantages:

- Can use existing circulation system;
- Reduces construction time;
- Faster and cheaper than demolishing and total new build;
- Retention of existing dwellings overcomes ownership issues;
- Construction can occur without disrupting existing uses/ functions.

Disadvantages:

- Inherited constraints from existing buildings in new design;
- Compromised daylighting of existing dwellings;
- Necessity to improve existing building as well as add new dwellings.

Reference:

Saint Nazaire Plien Ciel, Lacaton and Vasal.

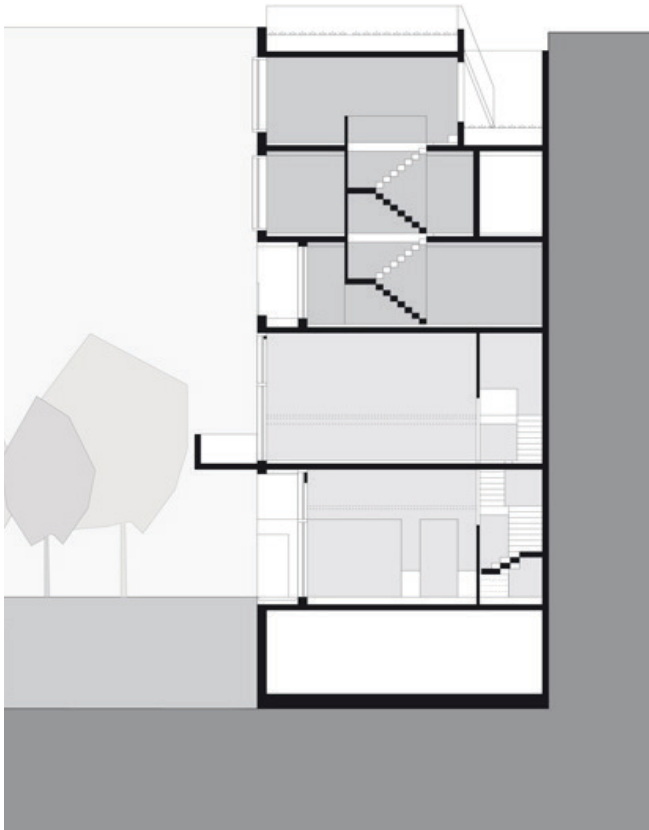
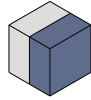
References

http://www.mabire-reich.com/IMG/pdf/Fiche_80_logements_collectifs_locatifs_sociaux_Saint-Nazaire_Lacaton-Vassal_mandataire_Mabire-Reich_architectes_suivi_chantier.pdf

http://www.mabire-reich.com/IMG/pdf/Fiche_80_logements_collectifs_locatifs_sociaux_Saint-Nazaire_Lacaton-Vassal_mandataire_Mabire-Reich_architectes_suivi_chantier.pdf



BACK-TO-BACK



Extension of existing by constructing adjacent structures and connecting to original building.

Advantages:

- Increases density of the area;
- Reduces construction time;
- Faster and cheaper than demolishing and new build;
- Retention of existing dwellings overcomes ownership issues.

Disadvantages:

- Inherited constraints from existing buildings in new design;
- Compromised daylighting of existing dwellings;
- Necessity to improve existing building as well as add new dwellings.

Reference:

BIGyard, Zanderroth Architekten, Berlin.

References

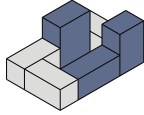
http://cdn2.world-architects.com/files/projects/32264/images/1139_8.jpg

<http://41.media.tumblr.com/22539c6c322ff0874cf7ef5553446a52/>

tumblr_mlywk9h38o1rv8zajo1_1280.jpg



INFILL



Extension of existing by constructing adjacent structures and connecting to original building.

Advantages:

- Increases density of the area;
- Reduces construction time compared to new build;
- Faster and cheaper than demolishing and new build;
- Retention of existing dwellings overcomes ownership issues.

Disadvantages:

- Inherited constraints from existing buildings in new design;
- Compromised daylighting of existing dwellings;
- Necessity to improve existing building as well as add new dwellings.

Reference:

ICON, Tannerhecht Architecture, San Diego, California.

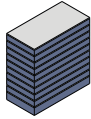
References

<http://cdn2.tsilvaarch.com/images/icon-01.jpg>

http://www.bustler.net/images/uploads/aia_housing_awards_09_13x.jpg



REMODEL



Extension of existing by constructing adjacent structures and connecting to original building.

Advantages:

- Can use existing circulation system;
- Reduces construction time;
- Faster and cheaper;
- Retention of existing dwellings overcomes ownership issues.

Disadvantages:

- Inherited constraints from existing buildings in new design;
- Compromised daylighting of existing dwellings;
- Necessity to improve existing building as well as add new dwellings.

Reference:

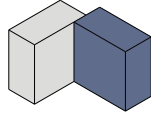
Park Hill, Hawkins Brown, Sheffield.

References

https://upload.wikimedia.org/wikipedia/commons/1/18/Park_Hill_facade.jpg
<https://s-media-cache-ak0.pinimg.com/originals/39/2c/55/392c55b23433cefa767ef423743153be.jpg>



EXTENSION



Extension of existing by constructing adjacent structures and connecting to original building.

Advantages:

- Can use existing circulation system;
- Reduces construction time;
- Faster and cheaper than total new build;
- Retention of existing dwellings overcomes ownership issues.

Disadvantages:

- Inherited constraints from existing buildings in new design;
- Compromised daylighting of existing dwellings;
- Necessity to improve existing building as well as add new dwellings.

Reference:

Tour Bois-Le-Prêtre, Druot et Lacaton & Vassal, Paris.

References

<https://betterarchitecture.files.wordpress.com/2013/02/after-copy.jpg>

<http://www.architectural-review.com/Journals/2011/12/19/h/d/b>

TourBoislePrete.jpg



APPENDIX

CONTENT

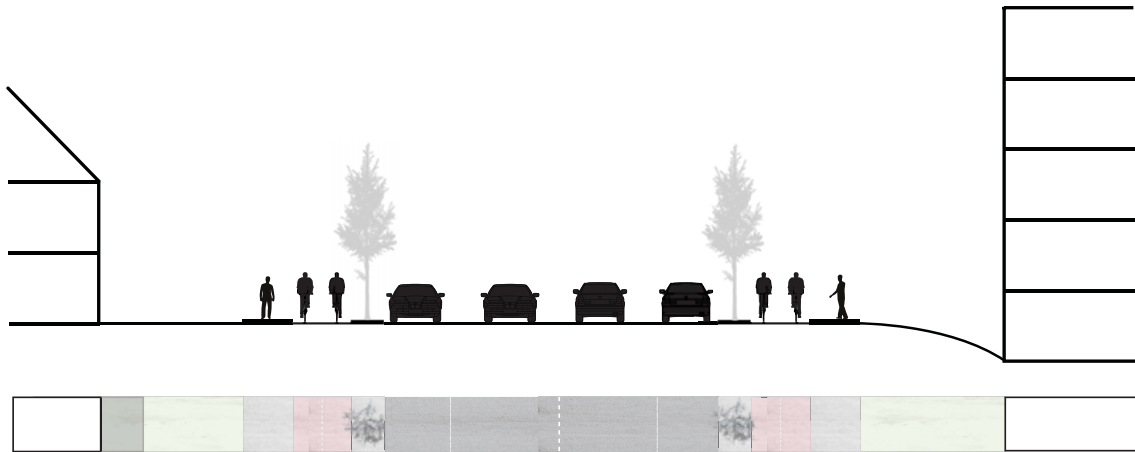
- 01 Street profile comparison
- 02 Typical floor plan
- 03 Ground floor plan

01 STREET PROFILE COMPARISON

Introduction

In order to research transforming the Kattenburgerstraat a comparison between several street profiles of Amsterdam has been made. On each page a streetprofile and some data is shown. In the bottom of each page the data for the Kattenburgerstraat so the differences can be seen at once.

KATTENBURG

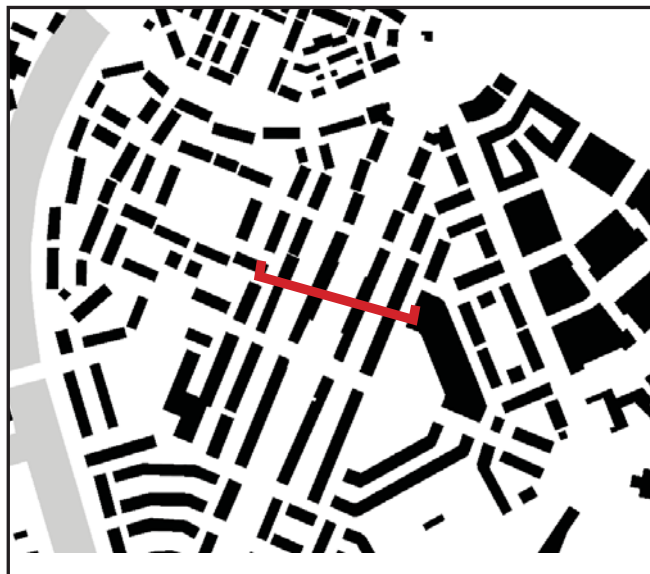
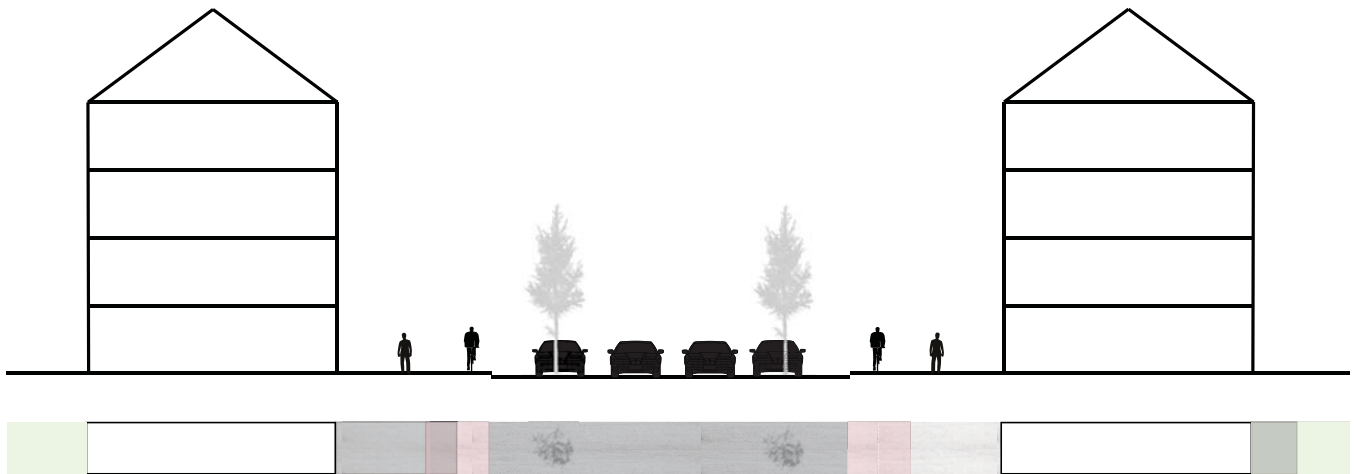


Amsterdam Kattenburg

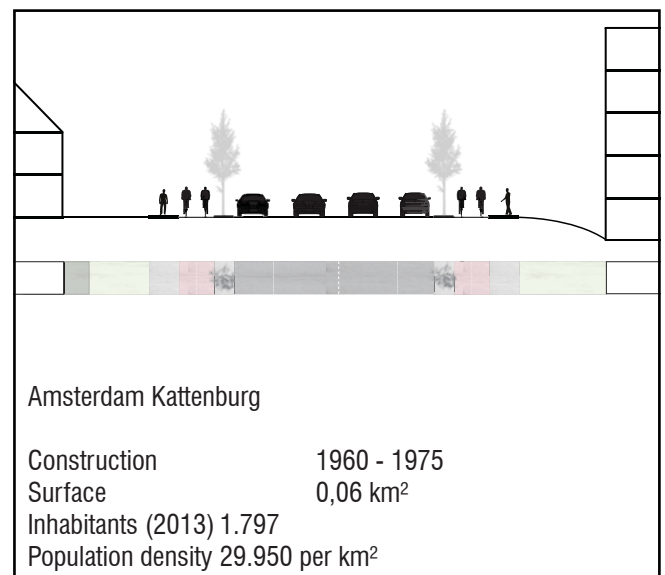
Construction 1960 - 1975
Surface 0,06 km²
Inhabitants (2013) 1.797
Population density 29.950 per km²



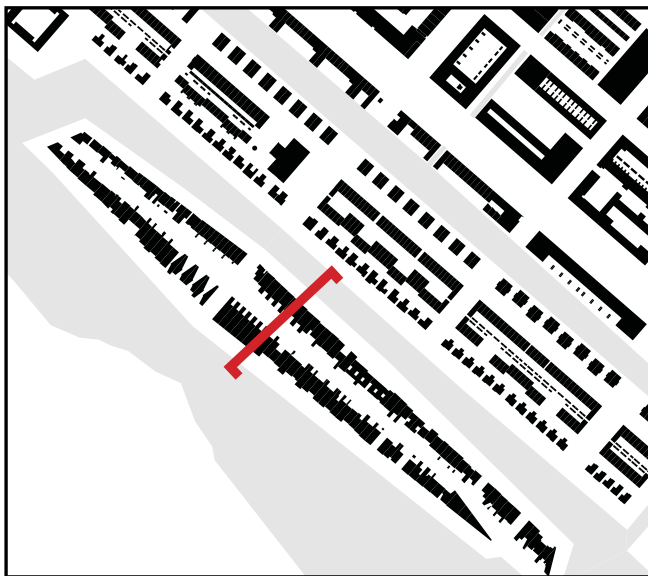
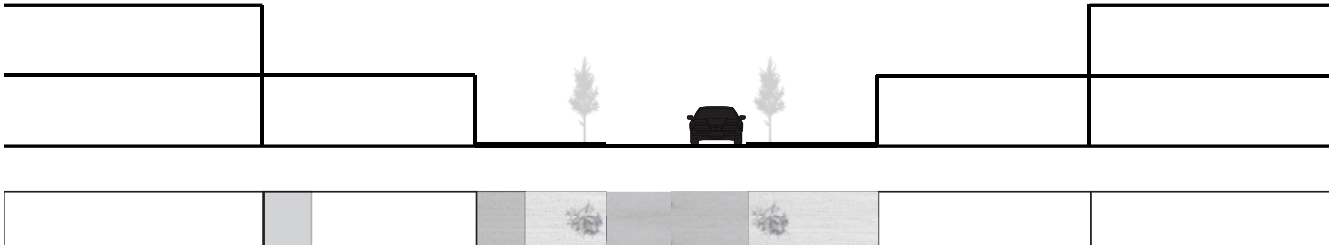
VAN DER PEKSTRAAT



Amsterdam Van der Pekbuurt
 Construction 1900 - 1945
 Surface 1,31 km²
 Inhabitants (2008) 9.570
 Population density 7.305 per km²

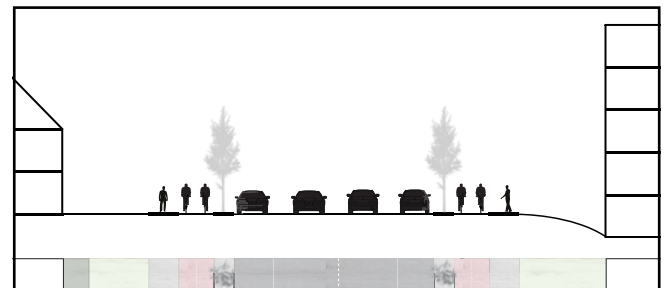


IJBURGLAAN



IJburg

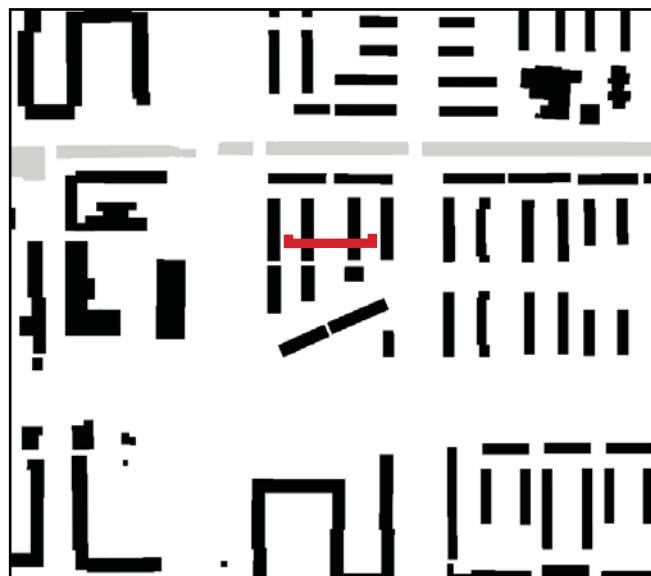
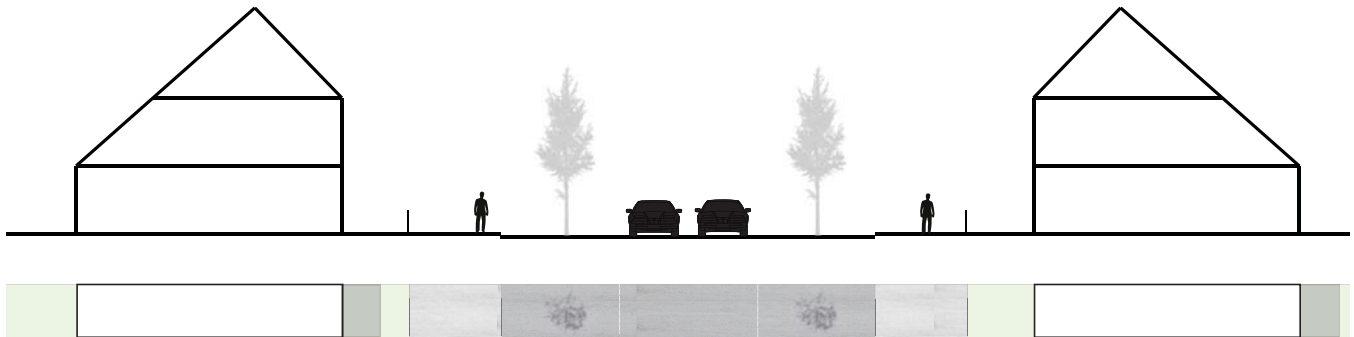
Construction 2003-2007
 Surface 1,48 km²
 Inhabitants (2008) 7.540
 Population density 5.094 per km²



Amsterdam Kattenburg

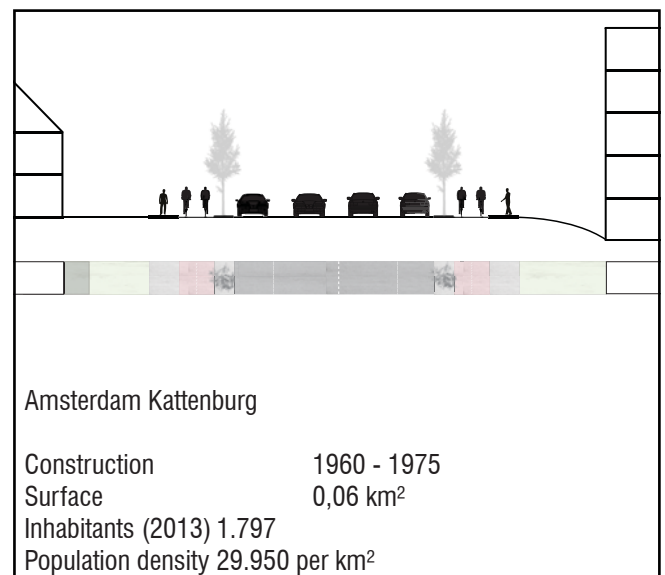
Construction 1960 - 1975
 Surface 0,06 km²
 Inhabitants (2013) 1.797
 Population density 29.950 per km²

JAN VAN DER NEUTHOF



Gein

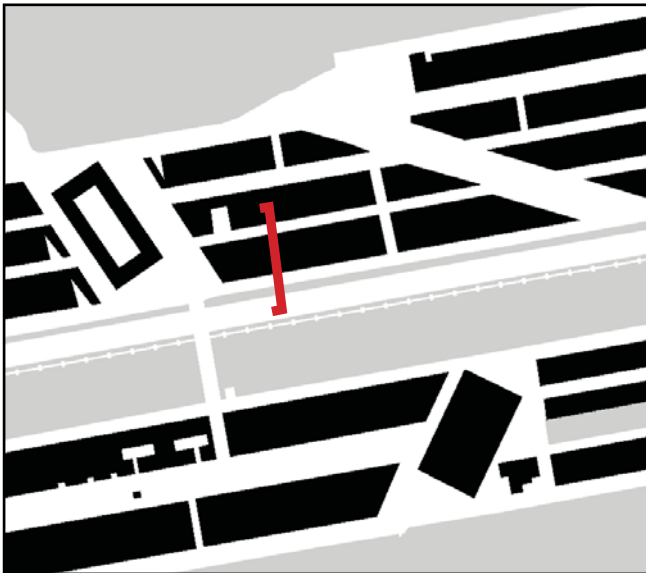
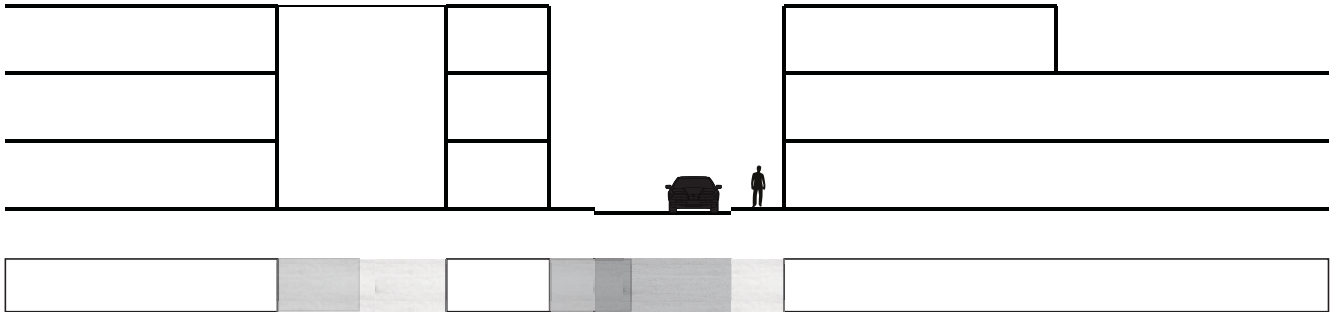
Construction 1960 - 1985
 Surface 1,91 km²
 Inhabitants (2008) 11.820
 Population density 6.188 per km²



Amsterdam Kattenburg

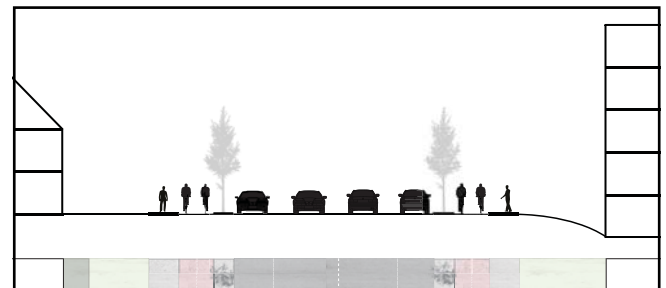
Construction 1960 - 1975
 Surface 0,06 km²
 Inhabitants (2013) 1.797
 Population density 29.950 per km²

LAMPENISTENSTRAAT



Oostenlijke Haveneilanden

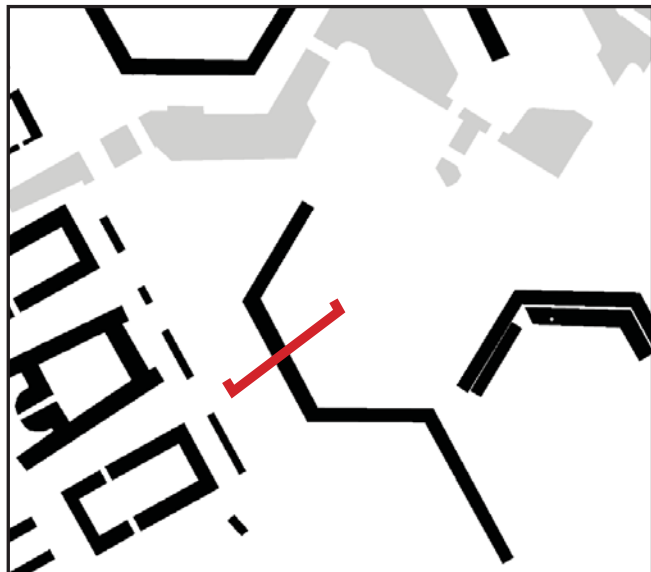
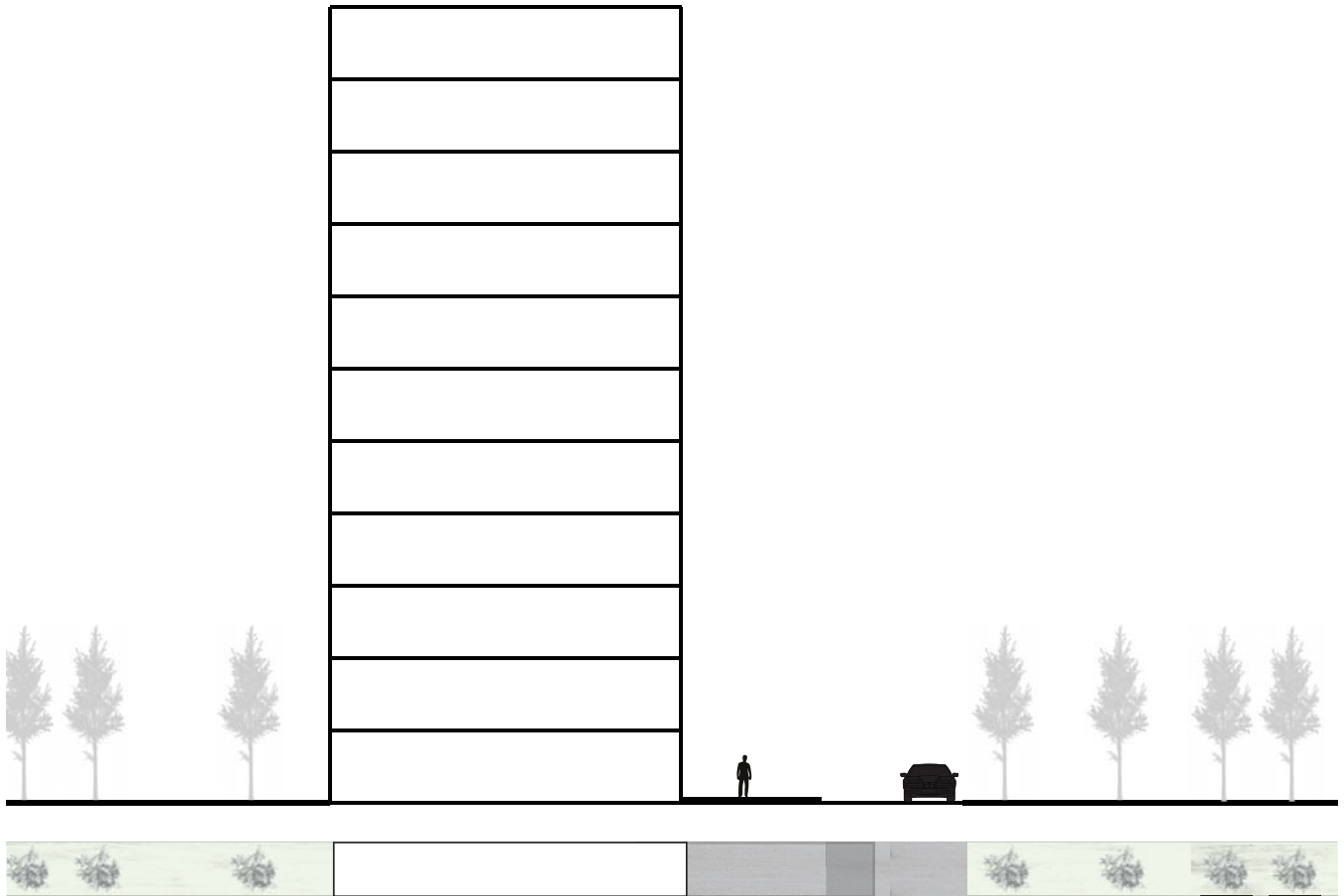
Construction 1985- 1995
 Surface (water and land) 1,50 km² (3,66)
 Inhabitants (2008) 17.820
 Population density 11.880 per km²



Amsterdam Kattenburg

Construction 1960 - 1975
 Surface 0,06 km²
 Inhabitants (2013) 1.797
 Population density 29.950 per km²

GROESBEEKDREEF & NELLESTEINPAD

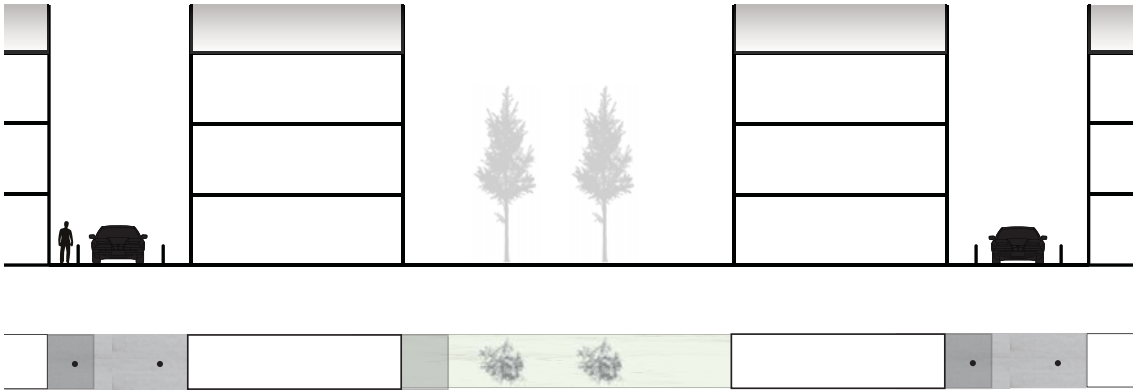


Amsterdam Bijlmer

Construction 1966 - 1969
Surface 4,08 km²
Inhabitants (2008) 23.840
Population density 5,843 per km²

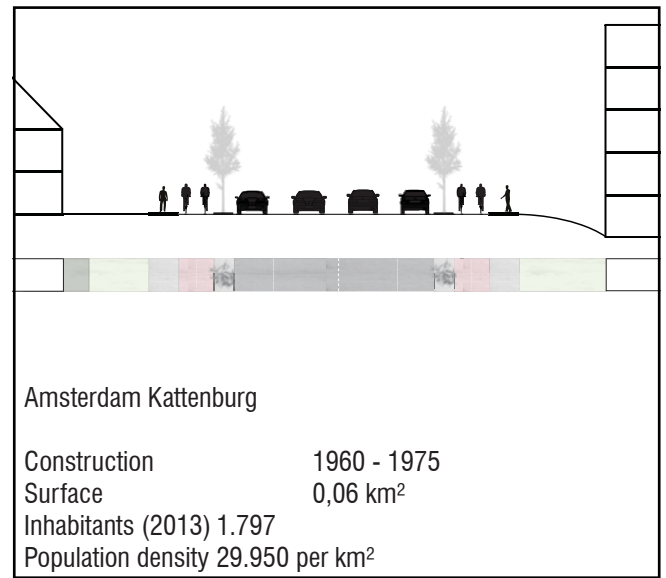


LINDENSTRAAT & BOOMSTRAAT



Jordaan, Amsterdam

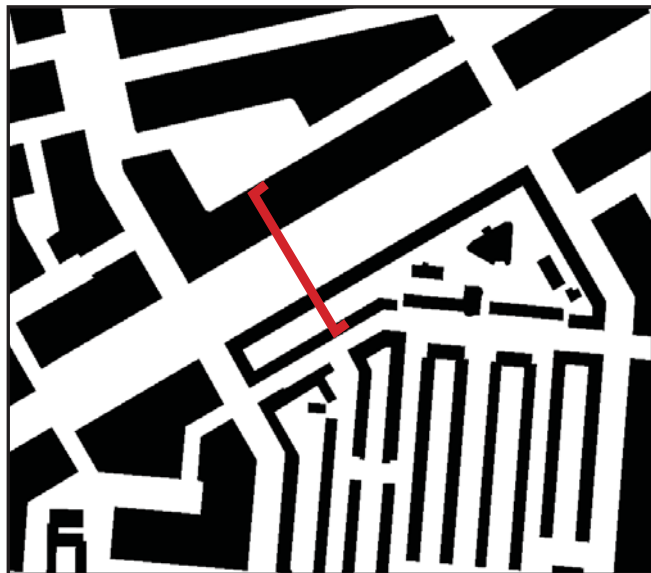
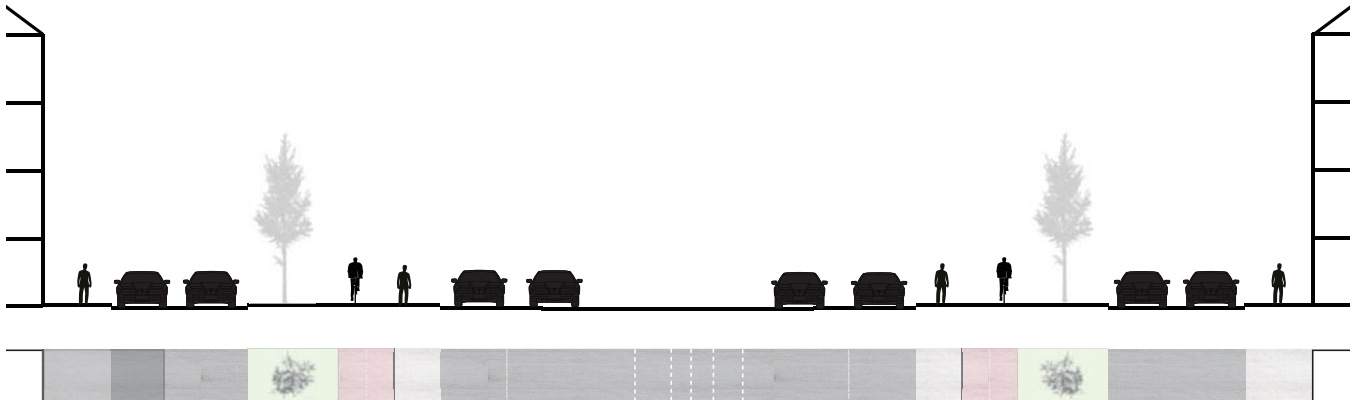
Construction 1613 - 1625
 Surface 0,96 km²
 Inhabitants (2008) 18.680
 Population density 19.458 per km²



Amsterdam Kattenburg

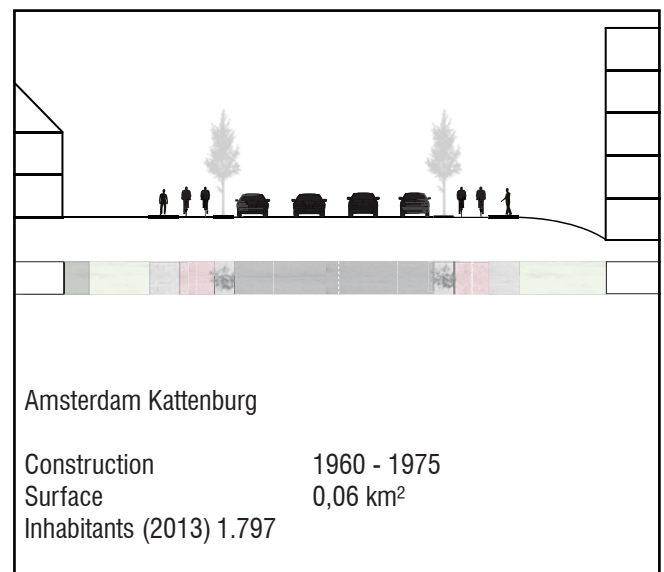
Construction 1960 - 1975
 Surface 0,06 km²
 Inhabitants (2013) 1.797
 Population density 29.950 per km²

ROOSEVELTLAAN



Scheldebouurt, Amsterdam (plan zuid - Berlage)

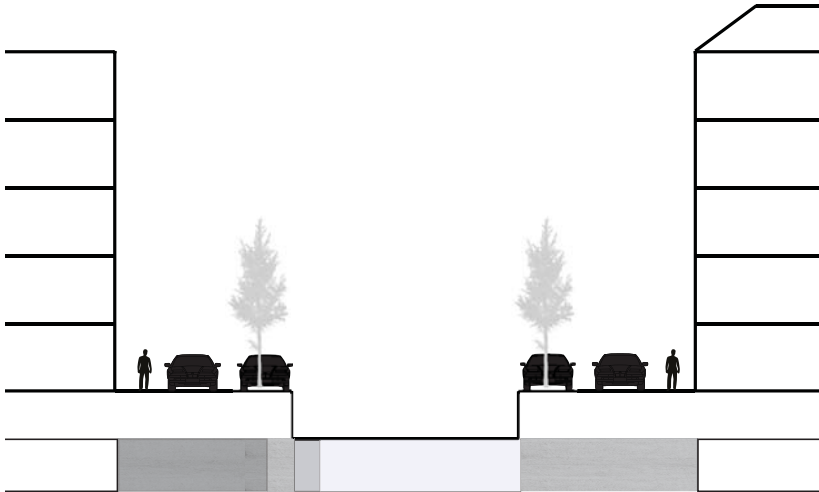
Construction 1917 - 1925
 Surface 17,41 km²
 Inhabitants (2010) 133.810
 Population density 7.685 per km²



Amsterdam Kattenburg

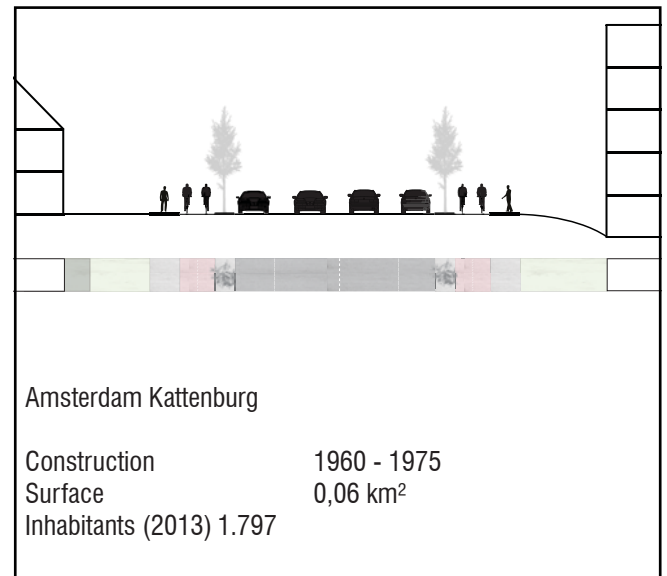
Construction 1960 - 1975
 Surface 0,06 km²
 Inhabitants (2013) 1.797

OUDEZIJD'S ACHTERBURGWAL



Old City Centre, Amsterdam

Construction < 1500
 Surface 0,41 km²
 Inhabitants (2008) 3.750
 Population density 9.146 per km²



Amsterdam Kattenburg

Construction 1960 - 1975
 Surface 0,06 km²
 Inhabitants (2013) 1.797