



COMPLEX PROJECTS 2017 | 2018
AMS MID-CITY

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AMSTERDAM CENTRAAL

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AMS MID CITY

Amsterdam's metropolitan center is being used more and more intensively and is expanding ever further. This means that almost all the neighbourhoods within the A10 orbital motorway now display city-center traits. In 2015 almost 13 million people visit the capital and the municipality expects that by 2025, 23 million visitors will come to the city.

Despite the enormous magnetism of the heart of Amsterdam for countless people, enterprises and institutions, people are always forced to search a little further out: first in the 19th century districts adjacent to the city center, then in the surrounding belt of development realized in the 1920s to 1940s, and now the 'city-center milieu' is spreading out across the IJ waterway and towards the Zuidas. Most attention is now given to the buffer zones and the areas of Amsterdam North and the Southern flank. In 1977, Amsterdam's first metro line was opened, connecting Zuidoost to the city center and Amsterdam Centraal.

AMS-Mid City studio studies the transition of the 'urban zones' along the metro corridor from Amsterdam Centraal to Zuid-Oost, analyzing three sites in three separate publications:

1. Amsterdam Central
2. Amsterdam Amstel
3. Amsterdam Zuid-Oost

This research book will elucidate the Central area to the reader: its demography, the topological characteristics, spatial and infrastructural defects and opportunities.



PREFACE

Introduction
History
Future Developments



INTRODUCTION

Amsterdam Centraal is a highly desirable destination for living, working, and touristic activities. It is an area where old meets new, creating a variety of challenges for growth and development. This is clearly witnessed with the UNESCO heritage-listed city centre, in contrast to the underdeveloped industrial Noord. The central area captures a diversity of people, with a mixture of permanent residents and a high floating population of tourists and workers. Centraal Station operates as an unavoidable presence in this area, increasingly becoming an inter-modal connection point between the city centre, its surrounding neighbourhoods, its peripheries, and the Netherlands in general. It currently plays host to 250,000 passengers, yet this is already expected to grow another 80,000 people to 330,000 passengers by 2020.

Connection - To the north of the station is the IJ waterway, the (dis)connector between south and north. As Noord transforms itself from an industrial stronghold towards a combination of high-end residences and a mix of knowledge-with the regular ferry network crossings, the implementation of the North-South metro line, as well as the proposals for river crossings.

Zoning - The need for this stronger linking between north and south is centred on the shifts experienced in Noord, where land use is moving away from monofunctional zones towards replicating the city centre model of mixed use development zoning. This is also taking into consideration the ambitions of the city to further densify, as outlined by the Strategic Vision Amsterdam 2040. It states that more than 50,000 dwelling projects are to be developed along the ring-zone, inclusive of Amsterdam North. Despite this ambition for mixed zoning though, much of the development has been housing targeted at high-income earners.

Branding - The Centraal area has a strong sense of branding and is in possession of a series of icons. On an urban scale, icons are centred on the historic identity of the canals, and the related typology of the canal houses. This famous typology of canal houses also plays host to Amsterdam's 'dirtier' side of tourism, prostitution and weed. On the banks of the IJ, new icons have been emerging over the last decade, including the EYE Institute and the A'DAM Tower. Culture also has a significant presence with many renowned museums, galleries, and exhibitions located across the city centre.

Gentrification - As the city aims to position itself as a global hub of innovation, the desirability of its centre as a place to live and work in order to attract highly skilled knowledge is of critical importance. However this has seen the creeping effect of gentrification into neighbourhoods, exacerbated by tourism and the role of creative industries. A similar consequence is also being witnessed in the North, as it repositions itself away from its industrial legacy and develops its post-industrial identity. This is to be achieved through attracting targeted demographics, namely creative professionals, skilled knowledge, and high-income earners. This is a strategy centred on gentrification.

Borders - These complexities are contributing to the Centraal area being defined by a series of physical, psychological, and social borders. These borders manifest themselves physically, via the waterway of the IJ, and the railway line that acts as a barrier between the South and the IJ. These borders also are represented socially and psychologically, through the experienced differences between enclaved communities. For this reason, the S-scale of the map has been placed in a way that captures as many of these different types of borders as possible, whilst equally privileging the South, the IJ, and the North. The following articles aim to comprehend these key contestations and problems of the site, namely to tackle the issue of borders.



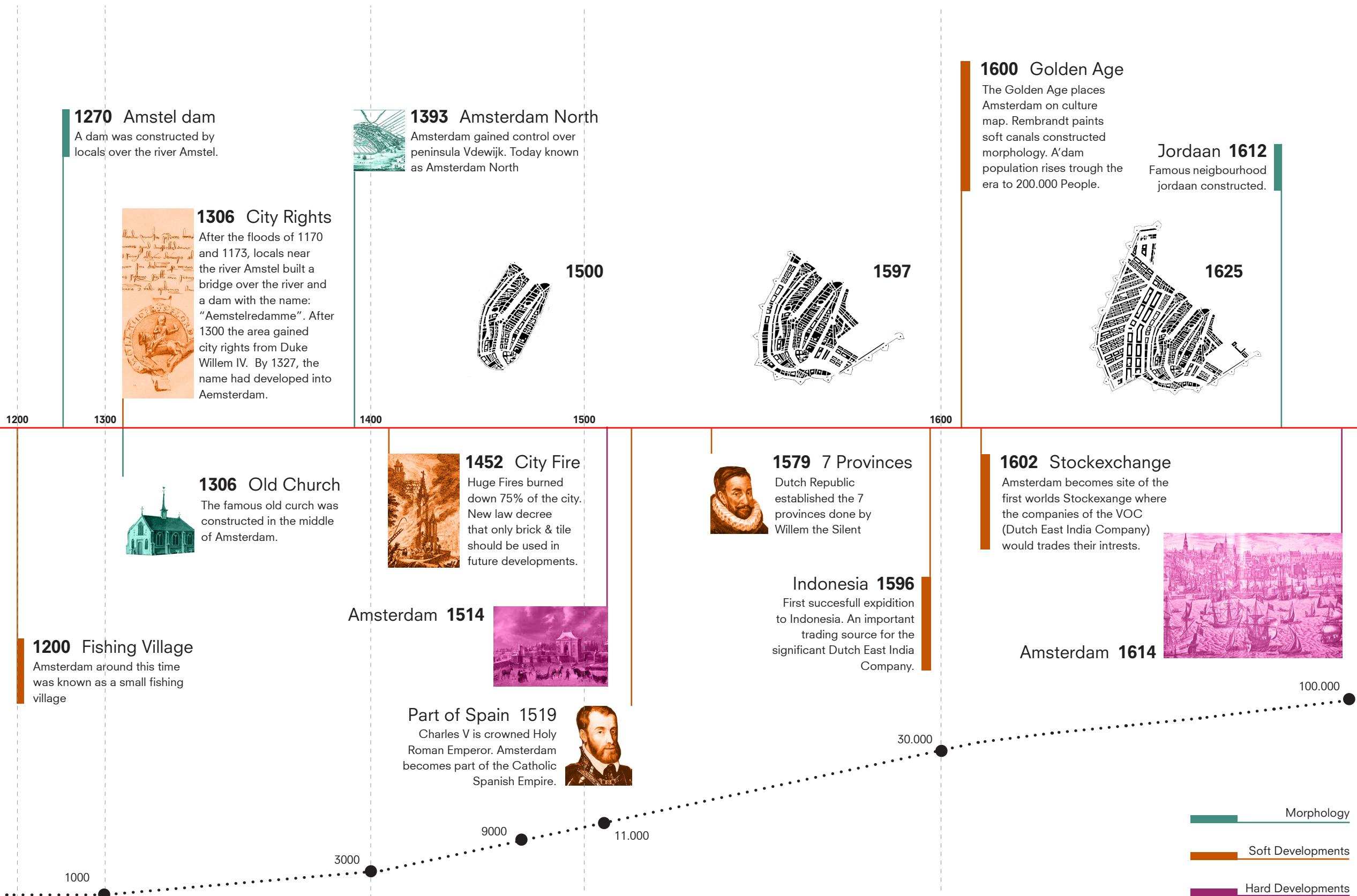
HISTORY & HERITAGE

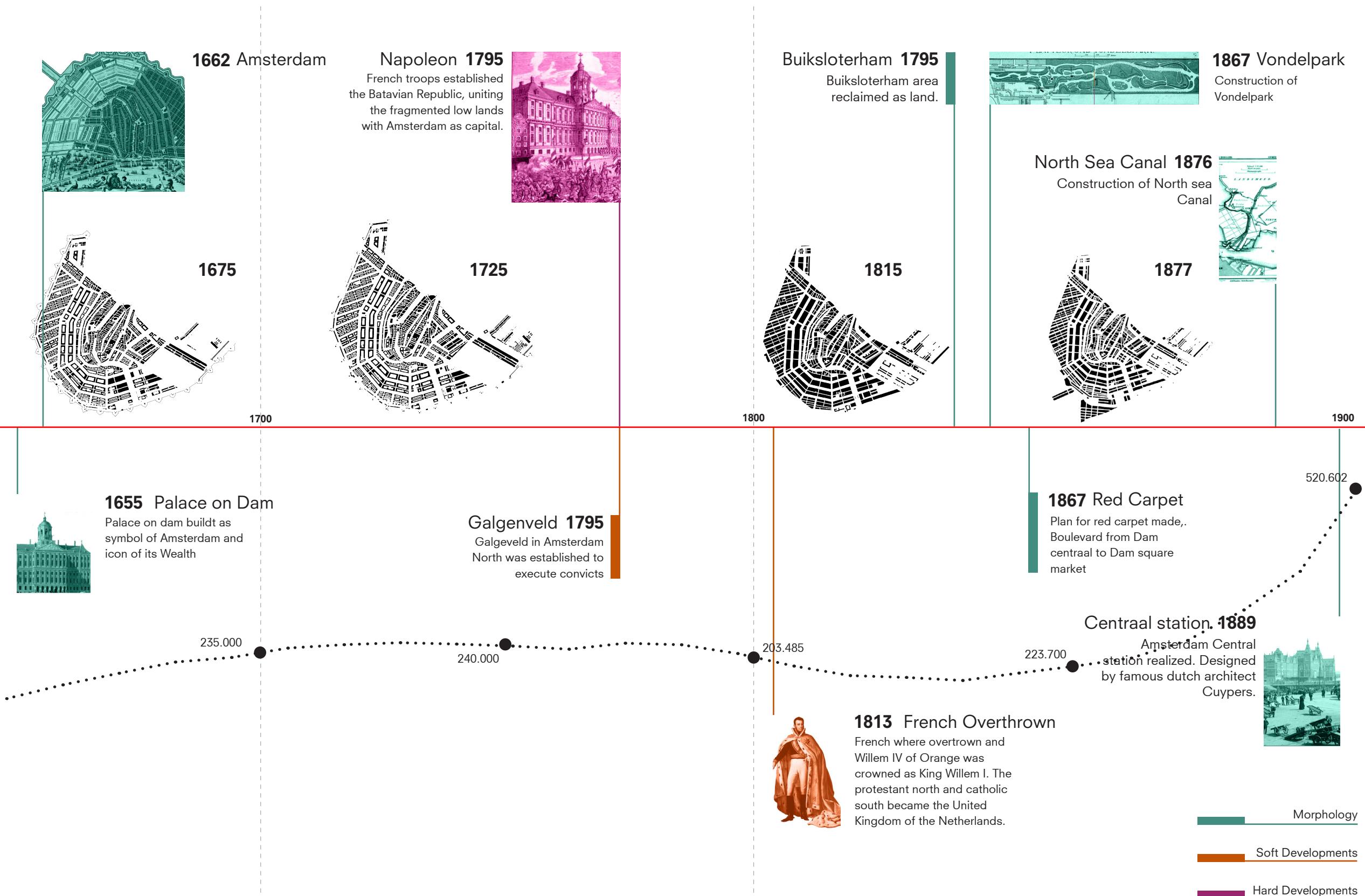
A HISTORICAL BACKGROUND ON AMSTERDAM

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1900 Heavy Industries

Heavy industry area's such as Braka and Kromhout emerged in Amsterdam.



1917 Plan Zuid

plan zuid by berlage proposed and realized



WO-II 1940-45

The Dutch occupied by Nazi Germany



1903

NDSM 1913

NDSM warf as industry area emerged. Shell established as company in Amsterdam.



1900 Jordaan Slum

1/7 inhabitants lived in the Jordaan. It was a slum.



1940



1926 Van der Pek Buurt

Van der pek buurt, more social housing and introduction of garden villages.



1914 WO I

Amsterdam affected by the first world war causing a shortage in resources

1962 Ringroad A10

Construction of the A10 ringroad started and finished in 1996

Immigrants to NL 1970

Guest laborors from Turkey, Marroc, Italy, Spain and Portugal came to the Netherlands



First Sail event 1975

Mayor Sail Event held for the first time in Amsterdam. Now attracting more than a million visitors.

1950 Rebuild phase Netherlands

After the world war many parts of the country had to be buildt. Rotterdam as forefront of this rebuildt.



1968 IJ tunnel

Construction of IJ tunnel

North South line 2003

North and south get connected by a metro line

IJburg 1996

New reclaimed land and neighbourhood called IJburg



Eye Film Institute 2012

The iconic eye film institute opens its doors



Circular Buiksloterham 2015

Large scale project for circular economy in Amsterdam proposed.



North South line 2003

North and south get connected by a metro line

IJburg 1996

New reclaimed land and neighbourhood called IJburg

Riots 1980

Amsterdam under the spell of riots on issues regarding housing and infrastructure and nuclear energy.



Same Sex Marriage 2001

Same sex marriage legalized in the Netherlands. First country in the world.



Amsterdam plan 2040 2014

Municipality releases plan for the expansion and further development of amsterdam.

Adam Tower 2016

Former Shell tower is renovated and named Adam Tower.

Morphology

Soft Developments

Hard Developments



FUTURE DEVELOPMENTS

CHANGING SKYLINES

The city of Amsterdam wants to add 70.000 dwellings to the current housing stock for the year 2040. These numbers are based on the predicted growth of population in Amsterdam.

In the Amsterdam Centraal district a few industrial areas are planned to be transformed into mixed neighbourhoods for living and working. To make the city more liveable the quality of infrastructure and public space will be improved. The main focus lies on the waterfront of the river IJ, the connection of the North with the city centre and the public space running from the central station to the city centre.

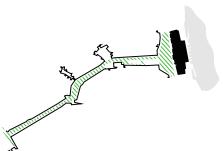
The developments take place in stages allowing for adjustments along the way.

How will the skyline of Amsterdam look like in 2025?



Campus Overhoeks

Function 1.500 - 1.800 dwellings (20% social housing), Schegpark area
Concept luxurious apartments, all-oriented architecture, communal gardens, slow traffic
Construction 2017-2025



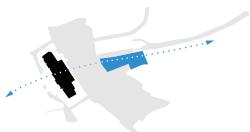
Rode Loper

Function public space
Concept city entrance, visual unity,
color, slow traffic
Construction 2013-2018
Length 2.2 km



Houthavens

Function 2.700 dwellings (20% social housing), schools, businesses, hospitality, hotel
Concept harbour structure, climate neutral, relation with water
Construction 2016-2019



Sixhaven station

Function metrostation
Concept connection North-South
Construction descision to be made
by 2020



Buiksloterham

Function mixed 4.500 dwellings and working
Concept circulair economy, self-build, organic transformation, industrial heritage, test-site
Construction 2008-2030

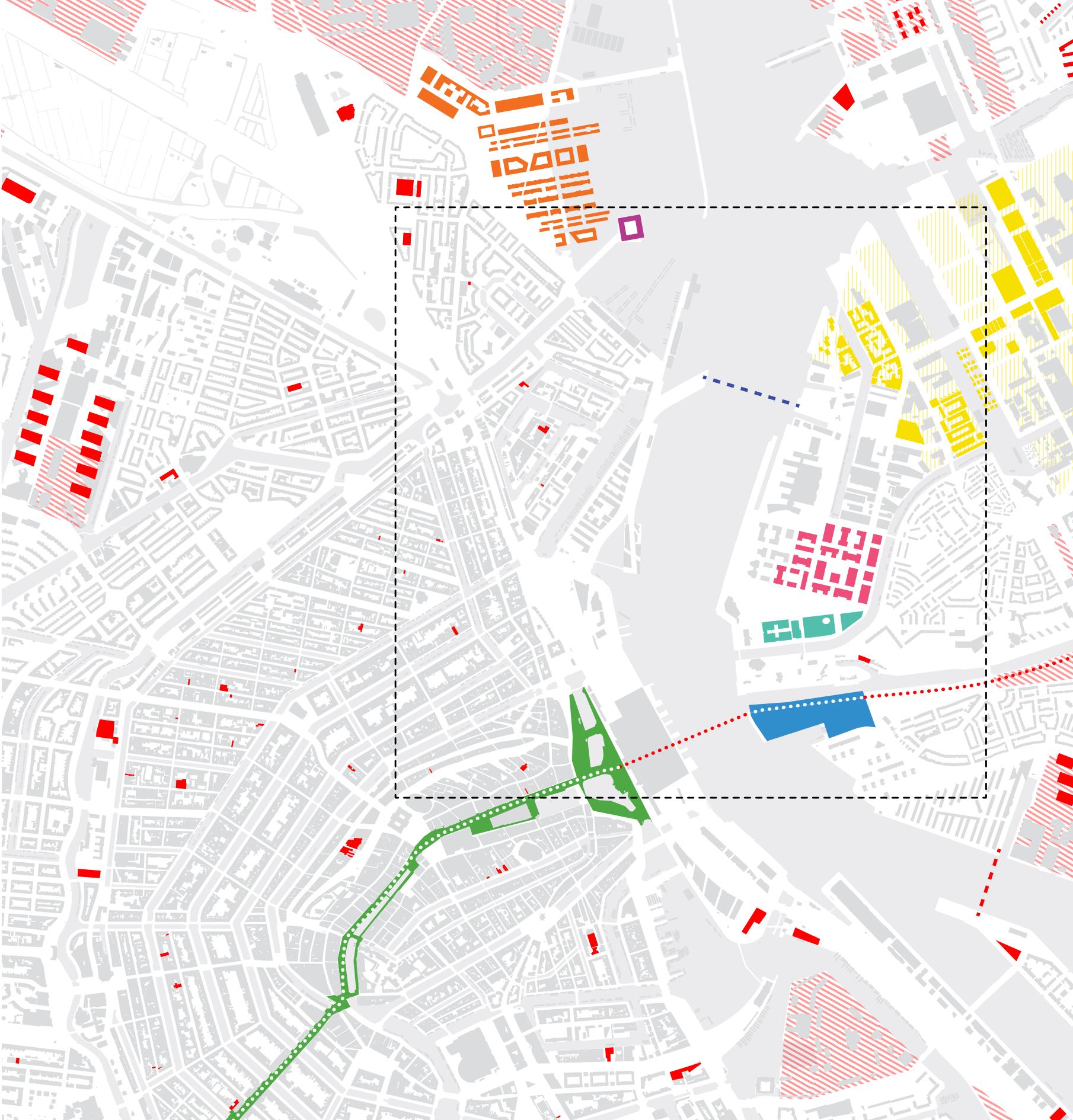
Pontsteiger

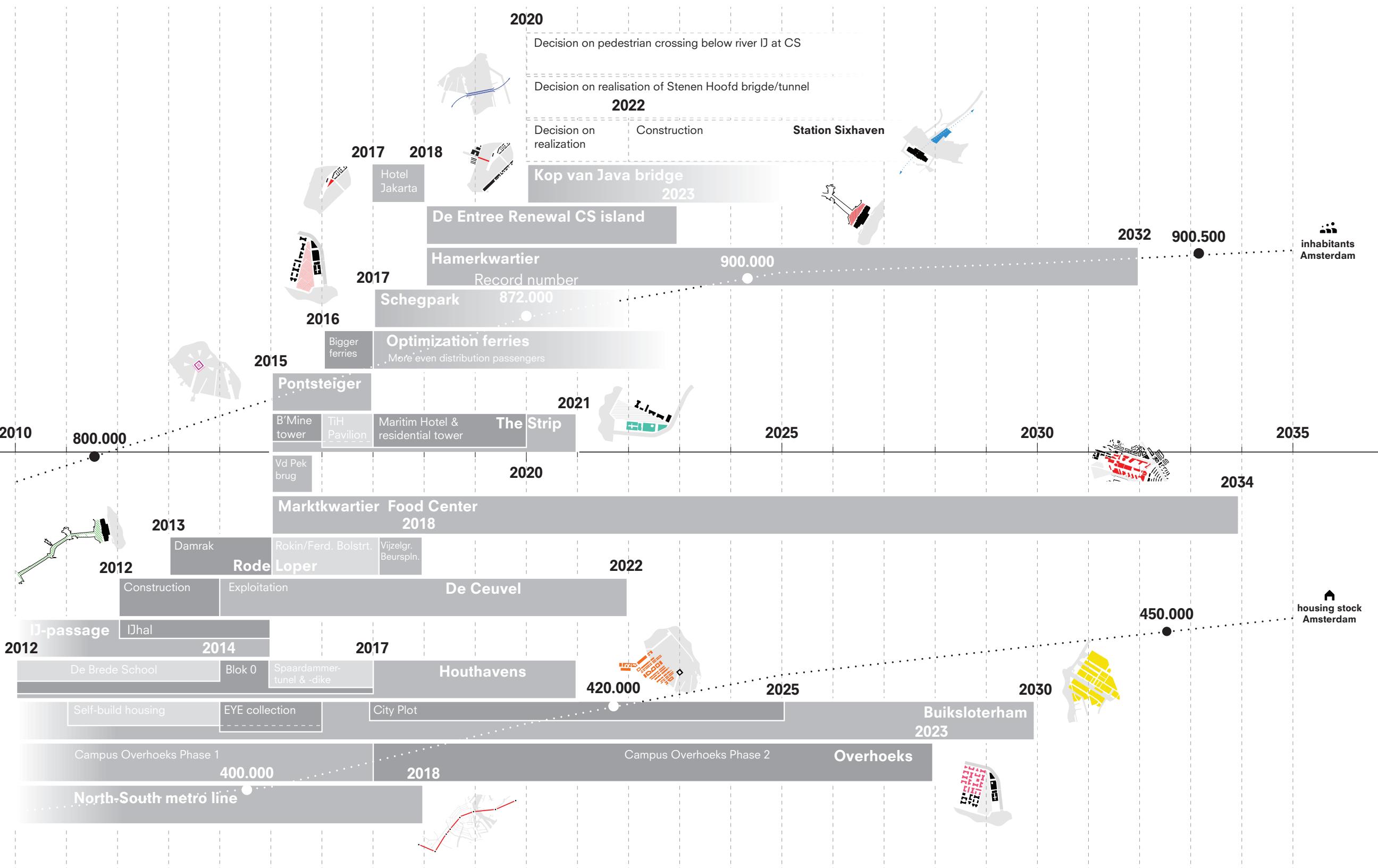
Function 328 dwellings (252 rental 66 privately owned), hospitality, other services
Concept landmark, luxurious apartments
Construction 2015-2017



Stenen Hoofd brug

Function bridge
Concept part of the 'Jump over the IJ'
strategy which aims at connecting the
North and South
Construction descision to be made
by 2020







Buiksloterham Cityplot



Buiksloterham I Cityplot



Buiksloterham I De Cevel



Buiksloterham I Buiksloterham Noordwaarts



Buiksloterham I Cityplot



Buiksloterham I De Cevel



Buiksloterham I Patch 22



Buiksloterham I Blackjack



Buiksloterham I De Vrije Kade



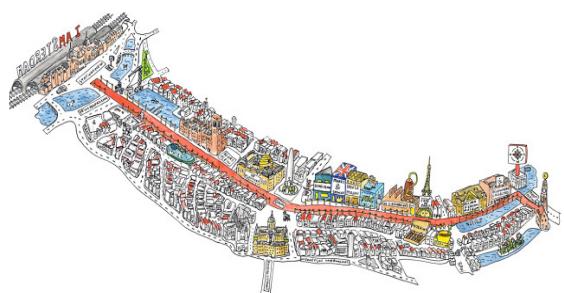
Buiksloterham Cityplot



IJ-Bridge I Javabrug



IJ-Bridge I Steenhoofdbrug



De Rode Loper | UITKrant



De Rode Loper | Damrak



Overhoeks



Overhoeks | The Strip



Overhoeks | De Zeven Provinciën



Overhoeks | The Strip, Park and Campus



Houthaven



Houthaven | XS Deluxe



Houthaven | Blok 0



Houthaven | Pier 2



Pontsteiger



Pontsteiger | Courtyard



HARD DATA

Barriers of Water

Neighbourhood Divisions

Demographical Data

City Growth Morphology

High-Rise in Amsterdam

Culture

Noise Pollution

Commuting

Demographics

Landscape

Roads

Transport

Voids

Building ownership

Amenities

Building use

Building history

Heritage

BARRIERS OF WATER

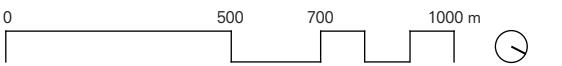


Central Amsterdam has an ever-present relationship with water. No matter which part of the city centre one finds themselves in, they are bound to experience the unavoidable presence of water.

The two key types of water sources that are found in the city centre are;

1. The river IJ, which is the body of water that ruptures apart the historic southern part of the city with the traditionally industrial north
2. The canal systems that help form the iconic cityscapes of the historic southern portion of the city

Both of these water sources are critical for the identity of Amsterdam, and help fuel many of the city's attractive qualities and its subsequent desirability amongst both locals and tourists alike. Yet both of these also cause the creation of borders that fracture the city and delineate many of its neighbourhood boundaries. Water not only divides the city in two with the formation of a north and south side, but also further divides the two halves into several fragmented pieces.



NEIGHBOURHOOD DIVISIONS



Houthavens

A port area formerly dedicated to lumbering. However this role has dramatically declined over recent years, and the area is now under major redevelopment to form a series of residential islands.



Buiksloterham

Historically this has been the site of Amsterdam's heavy industry. As this declined though, the area is undergoing extensive redevelopment towards mixed-use sustainable urban functions.



Volewijk

A residential neighbourhood in the city's north with more than 4800 homes located there. It has been targeted as a key priority district as expansion of the north continues to grow.



Burgwallen - Oude Zijde

The historic heart of Amsterdam, with the city's oldest buildings that reflect its history of trade and religion being situated here. The area has been mostly taken over by tourism, including being the site of the Red Light District.



Grachtengordel West

This area contains the UNESCO-protected 17th Century Canal Ring and the associated canal houses containing shops, restaurants, cafes, as well as some people maintaining residence in these iconic buildings.



Jordaan

Originally a workers' enclave, the area was almost demolished before community protests saved it. It became popular with students and artists, and is now one of the most expensive areas of Amsterdam.



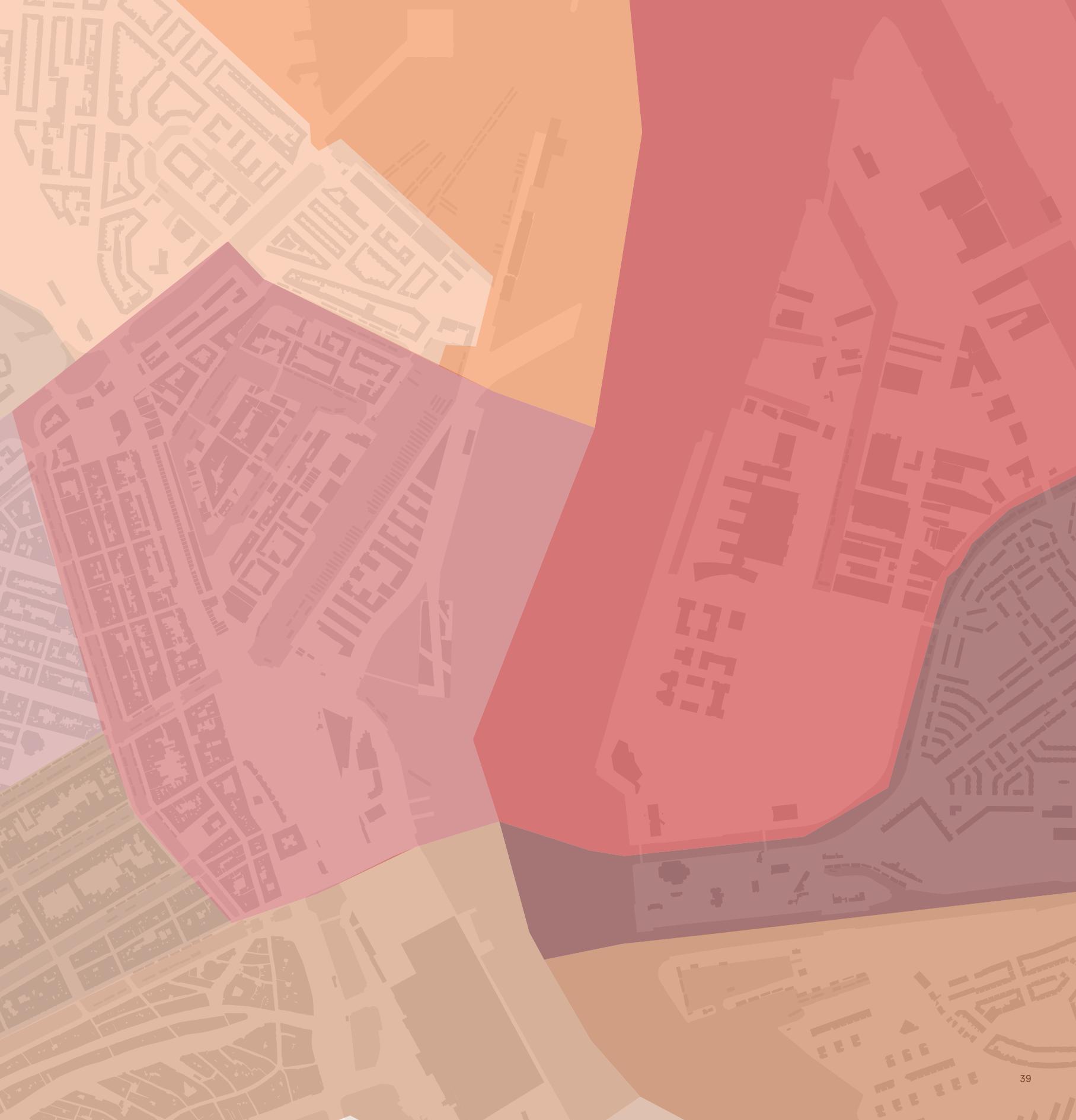
Haarlemmerbuurt

A neighbourhood that is renowned for its focus on encouraging independent businesses, with its two key commercial streets dominated by small-scale local boutiques and enterprises.



Spaarndammer en Zeeheldenbuurt

A mostly residential neighbourhood that originally had a working class focus due to its proximity to the ports. The area contains famous examples of workers' housing in the 'Amsterdam School' style from the 1920s.





Burgwallen - Oude Zijde



Burgwallen - Oude Zijde



Grachtengordel West



Grachtengordel West



Jordaan



Jordaan





Haarlemmerbuurt



Spaarndammer en



liplein / Vogelbuur



Haarlemmerbuur

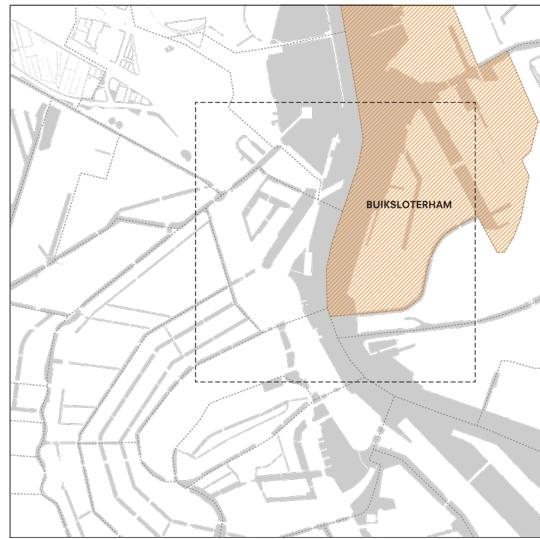


Spaarndammer e

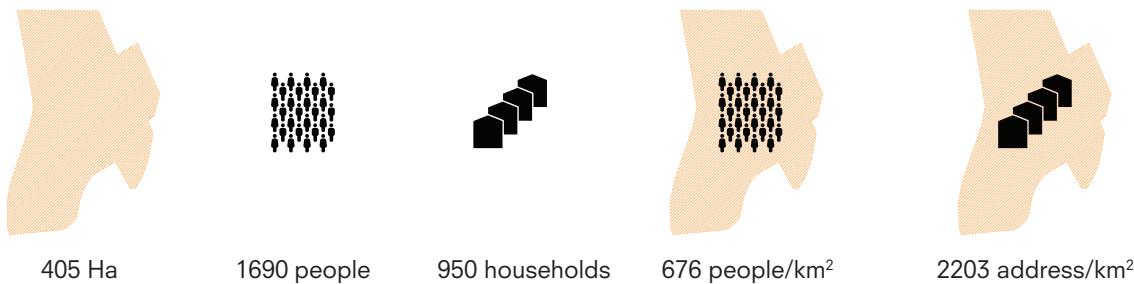


liplein / Vogelbuu

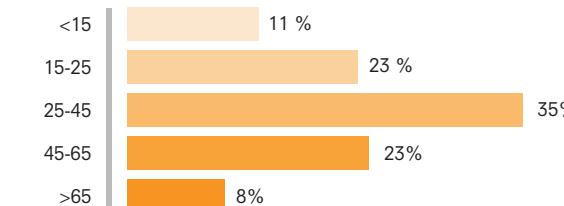
BUIKSLOTERHAM



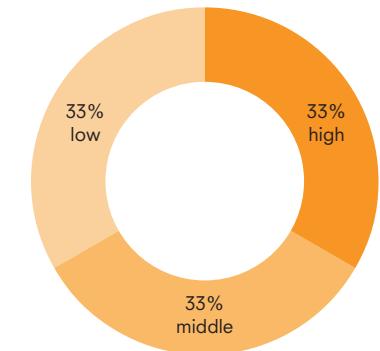
Buiksloterham is an area at the North of Amsterdam. Traditionally the district used to accommodate the heavy industry function. However, in recent years the area is rapidly developing into a sustainable mixed-use urban area. Status quo of the area is characterised by the relatively low density of population, with quite a big land area. Accessibility and variety of functions are quite poor. The average walking distance to the entertainment facilities is approximately 1.8 km and 4.6 km to the nearest station. Demography of Buiksloterham is composed predominantly of young (15-45 y.o) people of Dutch nationality and non-western immigrants. 64% of inhabitants prefer to live alone. In the future due to redevelopment of the area the population will grow considerably and area will become an important part of the city. (CBS, 2017)



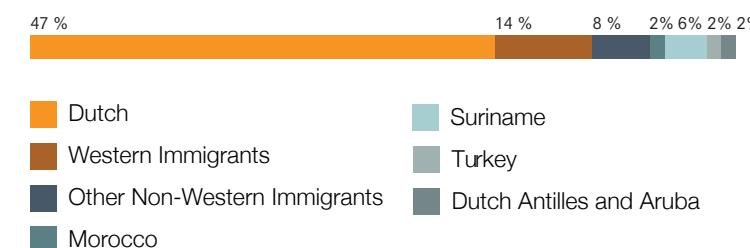
AGE



EDUCATION



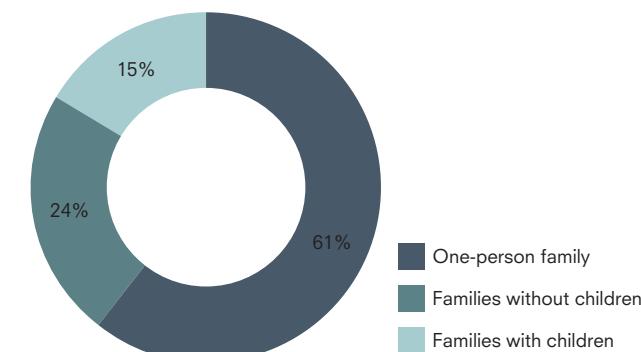
ORIGIN



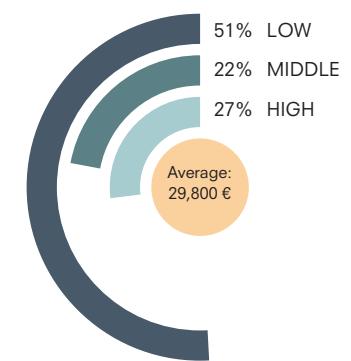
GENDER



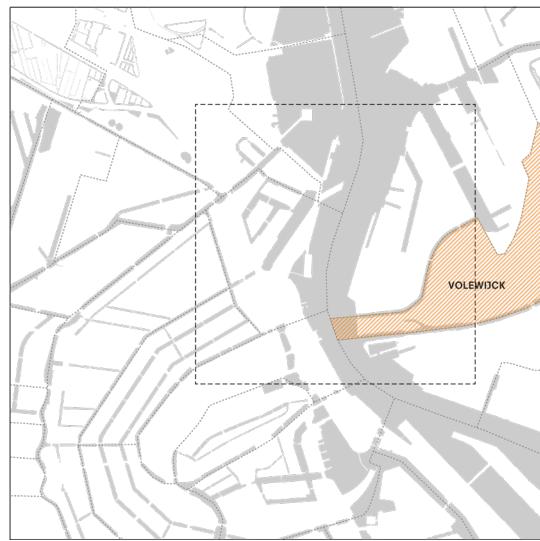
HOUSEHOLD TYPES



INCOME



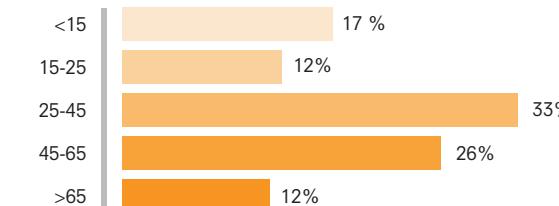
VOLEWIJCK



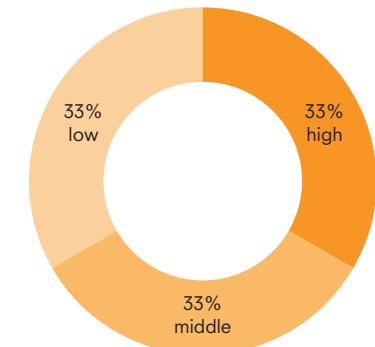
Historically the Volewijck district was constructed as a part of the Garden City movement in the 1920s. It served as a working-class neighbourhood for those working at the nearby factory. Nowadays Volewijck is a living district with moderate population density and close relatively proximity to the variety of functions. Population is generally composed of non-Western immigrants with only 9% of inhabitants of Dutch nationality. Most of people are between 25 and 65 y.o. In comparison to other areas Volewijck has more households with children. In recent years the area is under redevelopment of the Shell territory. As a result ex Shell HQ was transformed into A'dam tower, a mixed use iconic building. Moreover, as a process of densification a new mixed-use development De Strip is planned to transform the look and demography of the area. (CBS, 2017)



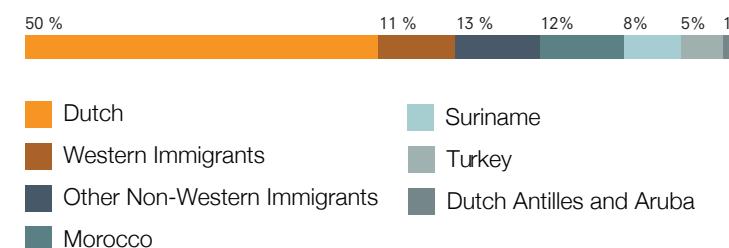
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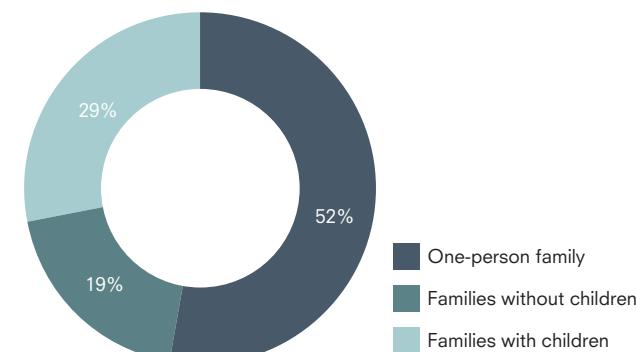
ORIGIN



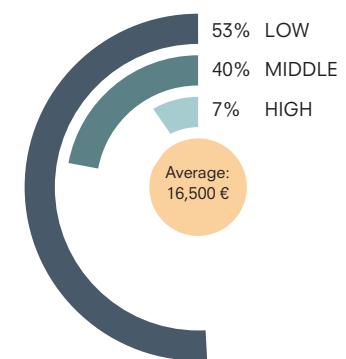
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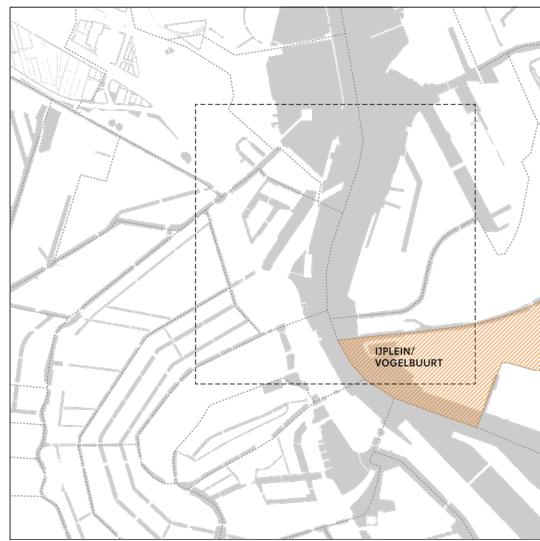
HOUSEHOLD TYPES



INCOME



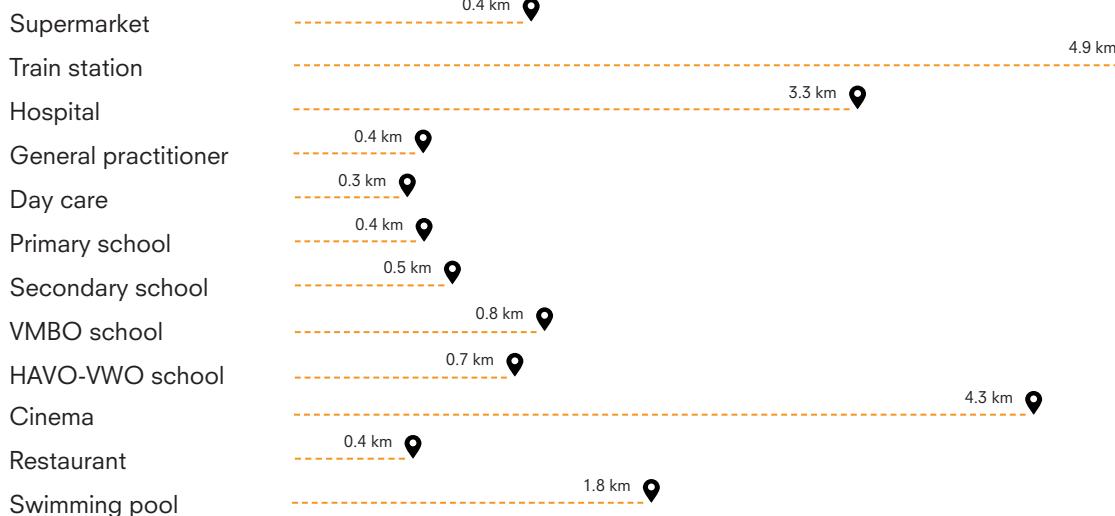
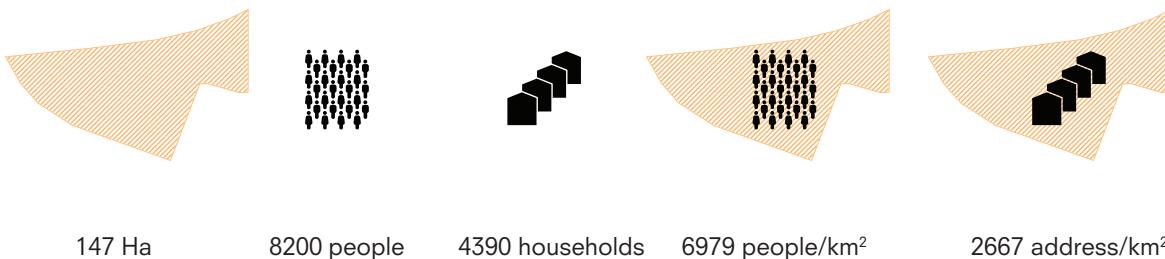
IJPLEIN/VOGELBUURT



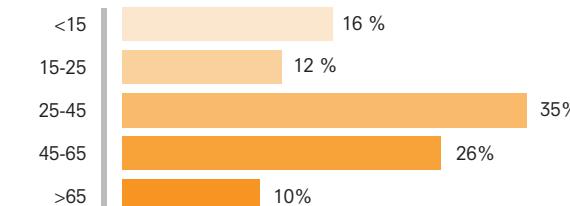
Vogelbuurt district is designed according to the rules of garden city model. It has predominantly low-rise residential area and is characterised by moderate density.

The area also has good accessibility to functions, The transport availability is worse with the closest train station in 4.9 km, however, the situation will change with opening of Sixhaven metro in 2020s. In the area 50% of the population belongs to the low-income group, with the average income of as low as 17,700 €. 47 % of population of non-Western origin, with the biggest group from Morocco. Age statistics represents that most of the population is between 25 and 65 y.o. with variety of education levels.

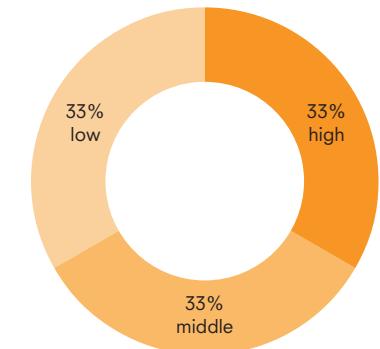
Vogelbuurt, just as Volewijck, has the highest percentage of households with children in comparison to the other areas on the M scale. (CBS, 2017)



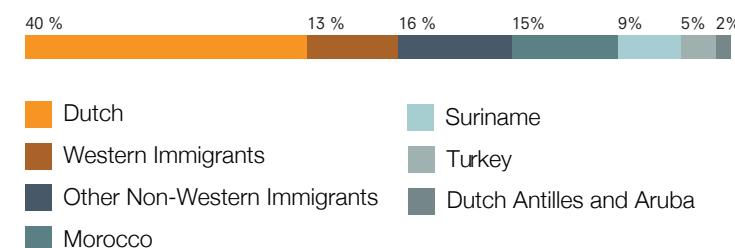
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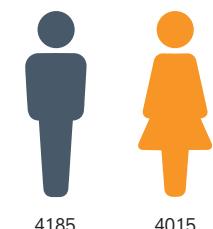
EDUCATION



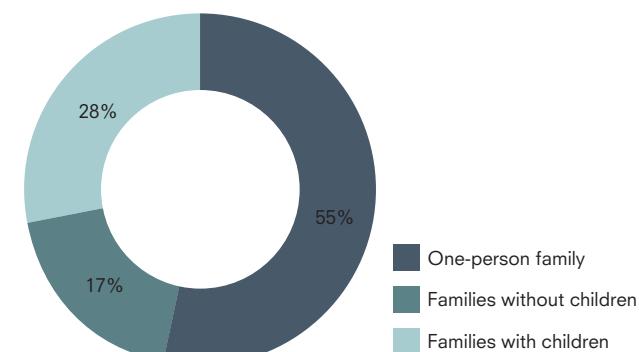
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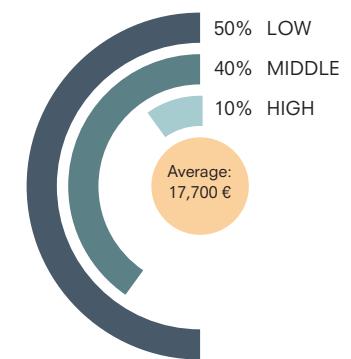
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HOUSEHOLD TYPES



INCOME



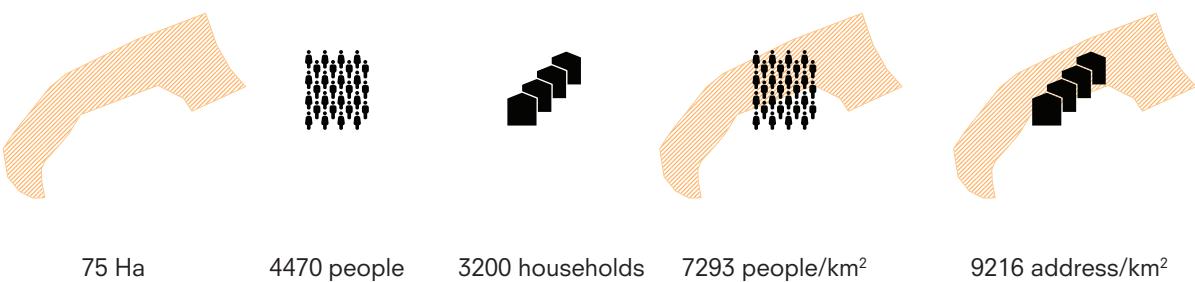
BURGWALLEN-NIEUWE ZIJDE



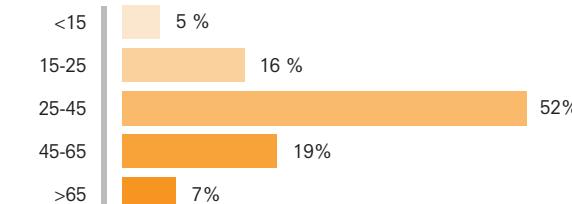
Burgwallen-Nieuwe Zijde is located at the city center of Amsterdam and contains one of the most important transportation nodes, Amsterdam CS. The area is extremely dense and has a high number of tourists.

Burgwallen-Nieuwe Zijde is predominantly touristic with very well developed HORECA sectors with very close proximity and big variety of functions. Due to the fact that it is located in the historic city center, housing is not affordable for the majority of the population and is oriented towards people with high income.

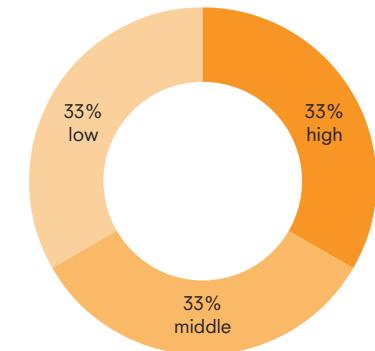
Thus, unlike the Amsterdam North, 82% of the population is of Western origin with high income. The area is not considered to be attractive for families with children and has more single-person households. Thus, there is a high number of people between 25 and 45 who choose this area as a home. (CBS, 2017)



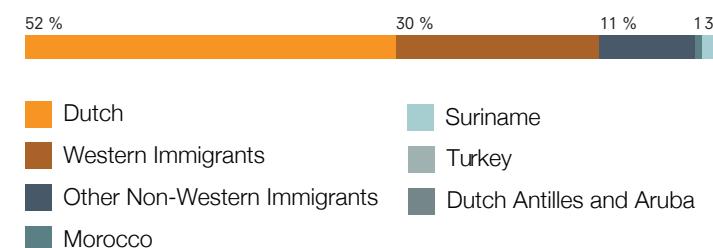
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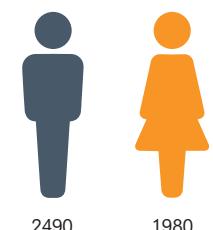
EDUCATION



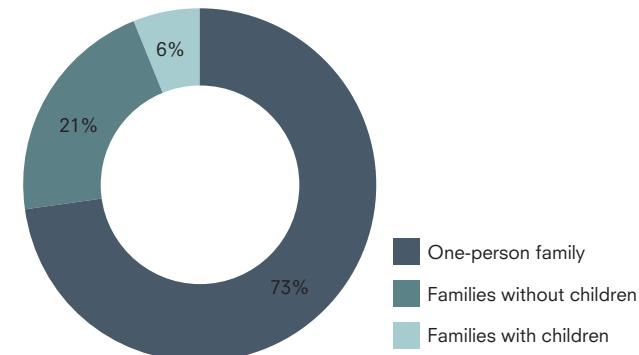
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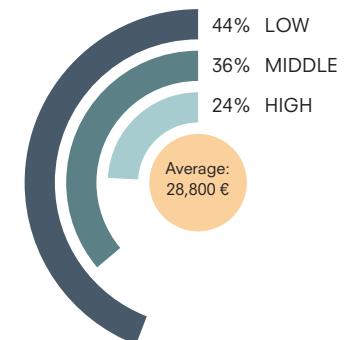
GENDER



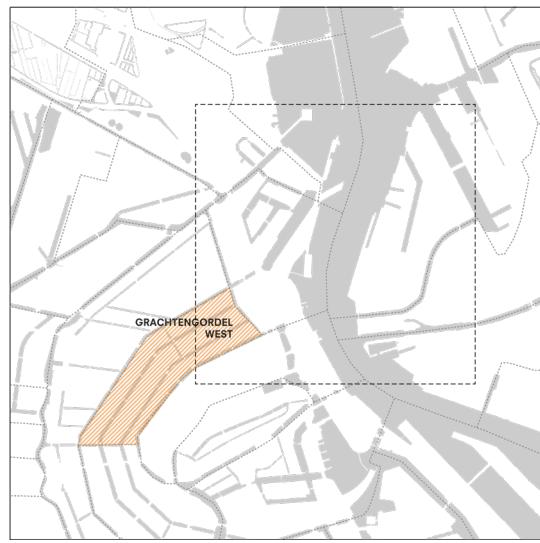
HOUSEHOLD TYPES



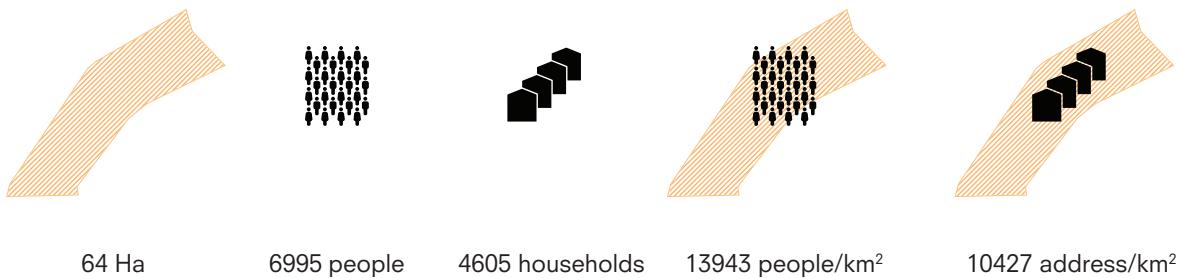
INCOME



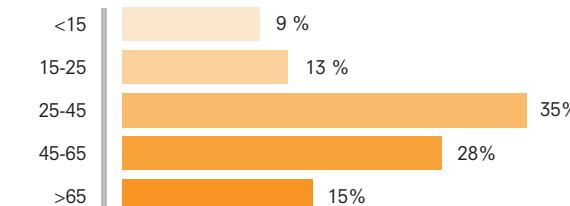
GRACHTENGORDEL-WEST



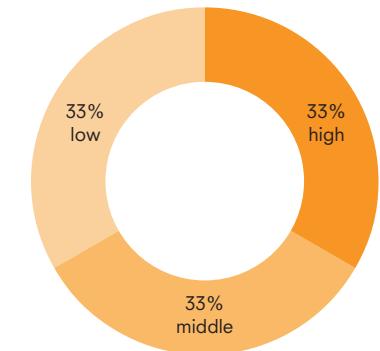
Grachtengordel-West is one of the most central and expensive areas of Amsterdam Centraal. It is a historic area thus popular among tourists. Density of population is twice higher than in Burgwallen-Nieuwe Zijde and is 13943 people/km². The area provides all possible functions in very close proximity. Due to quieter atmosphere than in the neighbouring Burgwallen-Nieuwe Zijde area is more popular for housing and also provides expensive high-end appartments (7,521 €/ m²). Here the population is 90% of Western origin with 60% of Dutch nationality. The average income in the area is very high (45,000 €) and is characterised by 41% of population with high income. Most of inhabitants are of age between 25 and 65 y.o. and very well educated, and thus mostly full-time occupied with low unemployment rates. (CBS, 2017)



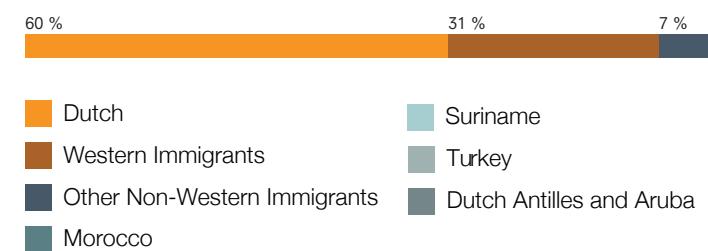
AGE



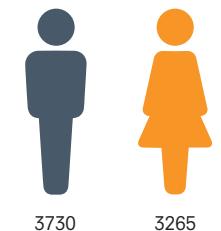
EDUCATION



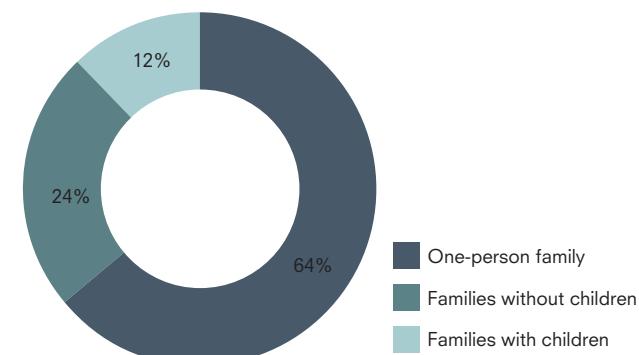
ORIGIN



GENDER



HOUSEHOLD TYPES



INCOME



JORDAAN

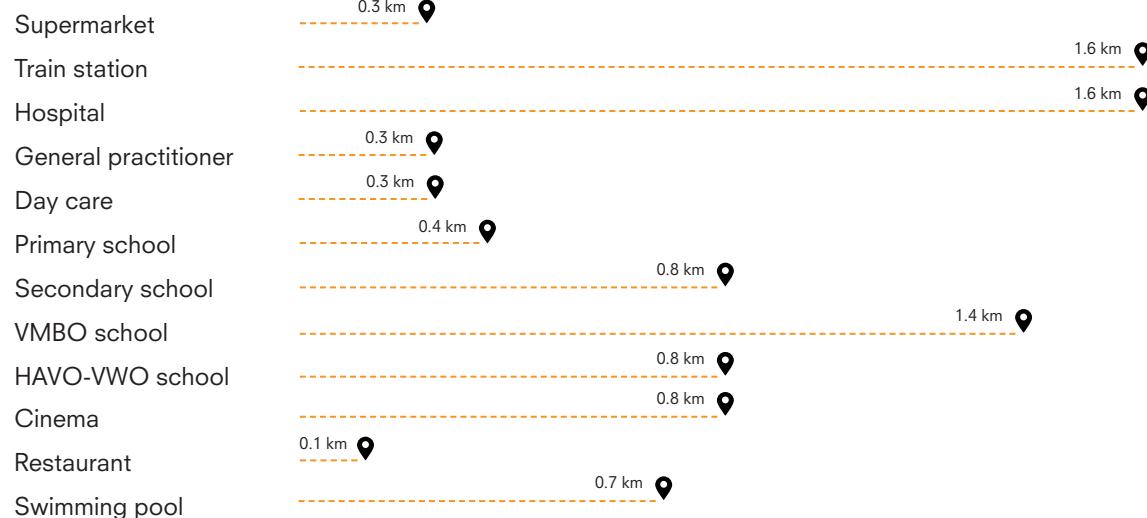
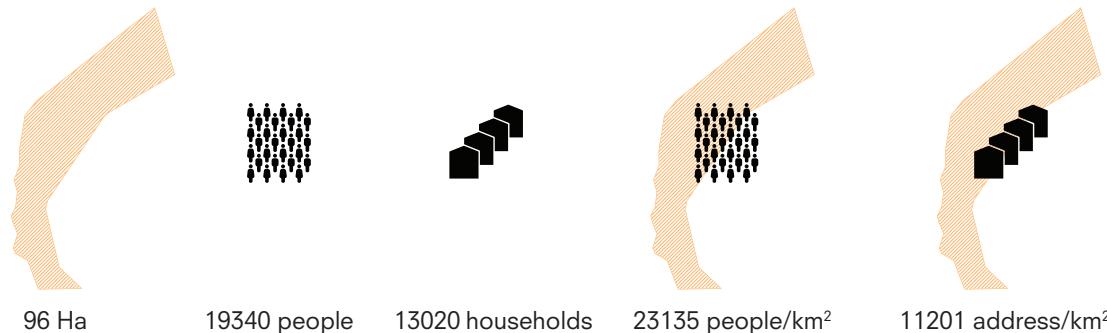


Jordaan is a living and working district with the highest density in M scale with 23135 people/km². The area provides wide variety of functions in close proximity.

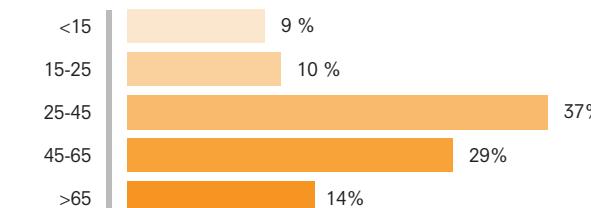
The area is preferred by working age population between 25 and 65 years old with only 9% aged between 0 and 15. Thus the area has 68% of the households for the single people and only 14% for the families with children, showing that the area is popular among working age population.

In terms of the population composition 84% of the inhabitants are of Dutch and other Western nationalities with only 12% of non-Western origin, making it one of the neighbourhoods with the lowest number of non-Western immigrants.

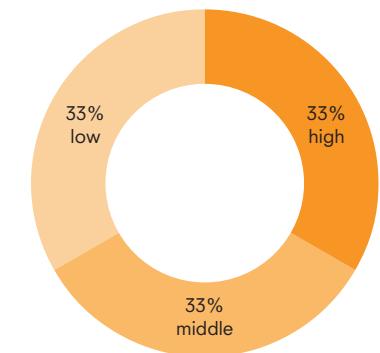
Despite the high number of high income inhabitants there is also a high number of low income receivers (41%), however, the average income is quiet high and is 29,300 € per income receiver. (CBS, 2017)



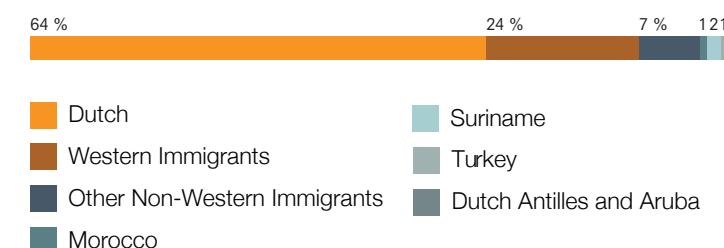
AGE



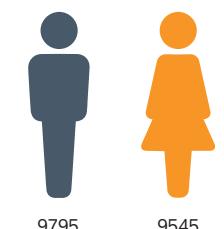
EDUCATION



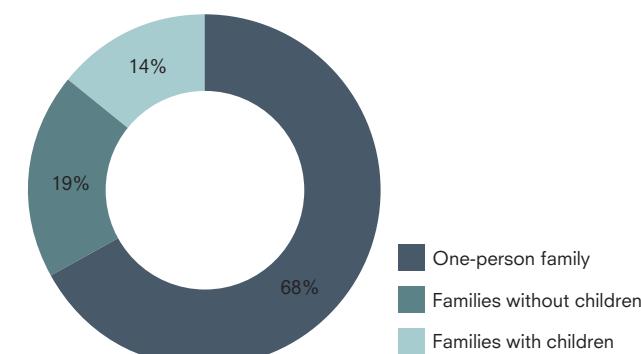
ORIGIN



GENDER



HOUSEHOLD TYPES



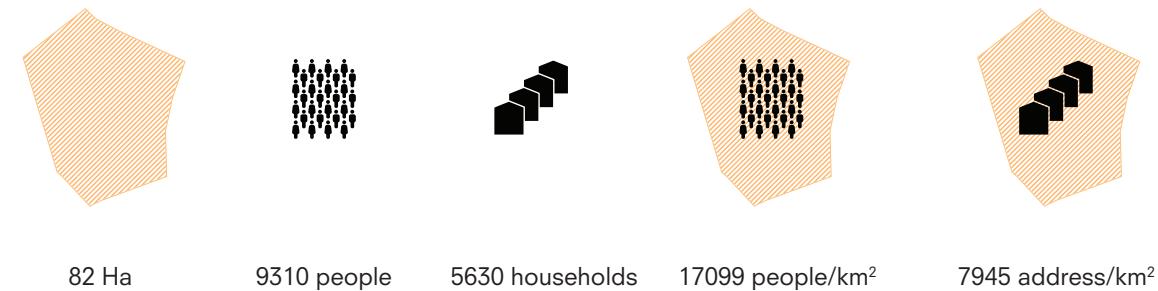
INCOME



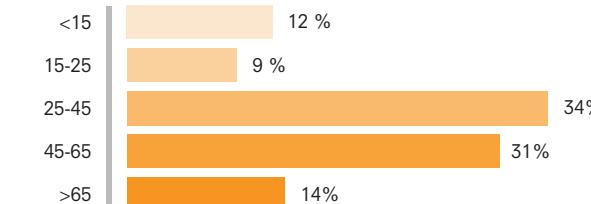
HAARLEMMERBUURT



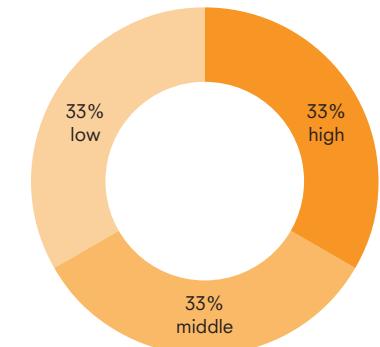
Haarlemmerbuurt area is located close to the city center at its West. The area has quiet high density and accommodates 9310 residents. Just as all centrally located areas the accessibility and diversity of functions is also high. The neighbourhood is predominantly residential with mix of working environments. Most of the inhabitants are aged between 25 and 65 and comprise working age group. Similarly to the other central areas majority of population is of Dutch and Western origin (84%). Unsurprisingly, the area is preferred by the working age population and thus the major part of the households is of the one-person family type with only 19% households with children. In terms of the income, the area is similar to the other central areas and has both high percentage of high income receivers and low income receivers, with average income of 31,900 €. (CBS, 2017)



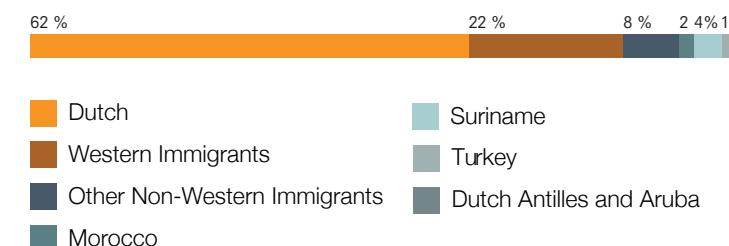
AGE



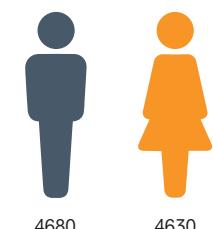
EDUCATION



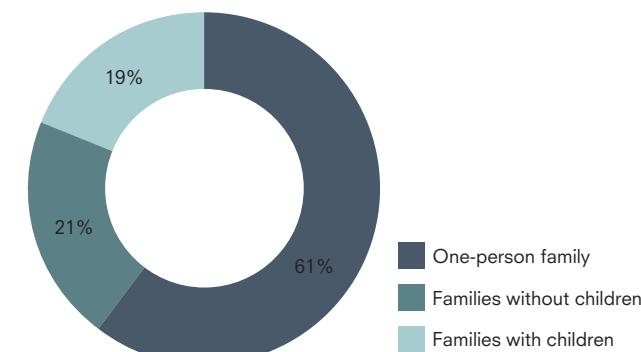
ORIGIN



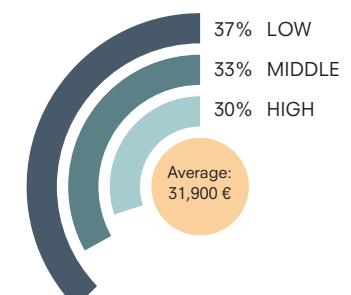
GENDER



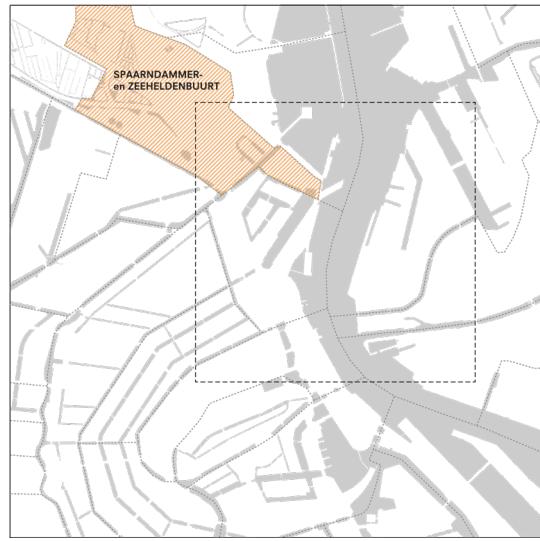
HOUSEHOLD TYPES



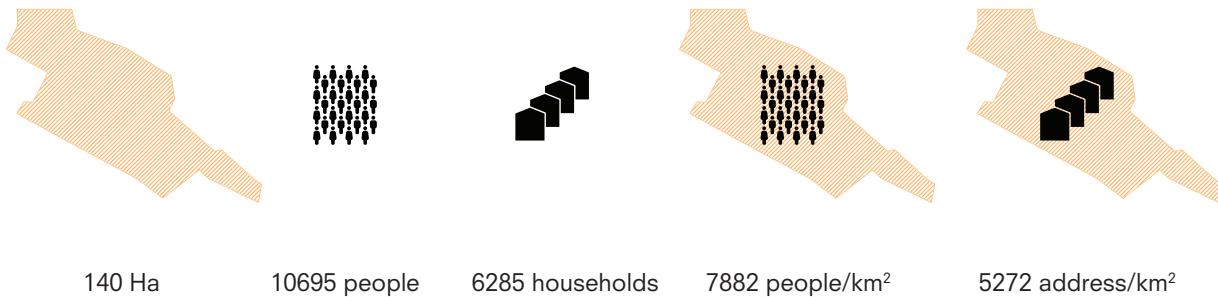
INCOME



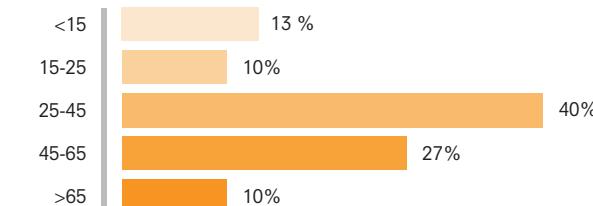
SPAARNDAMMER- EN ZEEHELDENBUURT



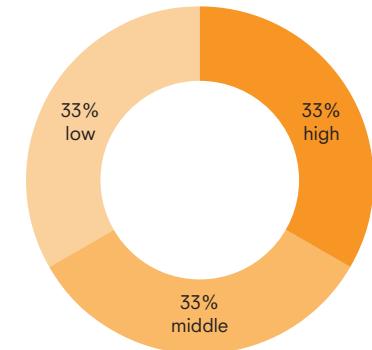
Zeeheldenbuurt is located in the West of the city. The area used to be an industrial area, however, nowadays it has mainly become residential. In comparison to the central area the district has twice lower density of 7882 people/km². Top age group is between 25 and 45 years old, (40%), comprise working age group, with only 23% of population aged from 0 to 25. Majority of residents belong to Dutch and Western origin with only 33 % of non-Western origin, which is slightly higher than in central areas of Amsterdam. The district has different household types. Just as in all other neighbourhoods the leading type is one-person family of 59%. In comparison to the central areas the average income is lower (22.600 €). Similarly, the percentage of high income receivers is also lower, however, the percentage of low income receivers is almost the same (42%). (CBS, 2017)



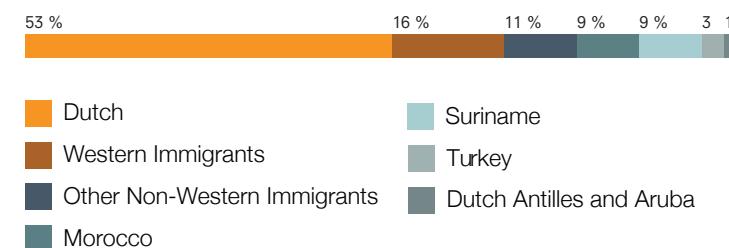
AGE



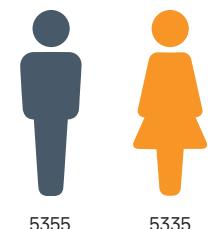
EDUCATION



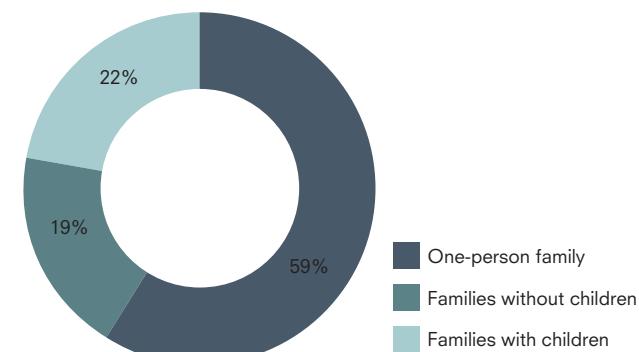
ORIGIN



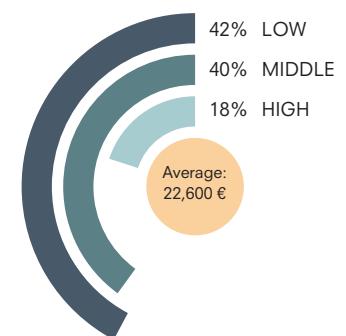
GENDER



HOUSEHOLD TYPES



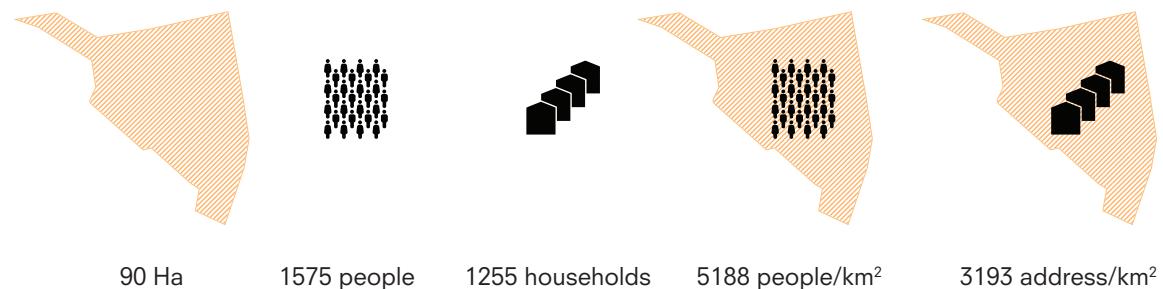
INCOME



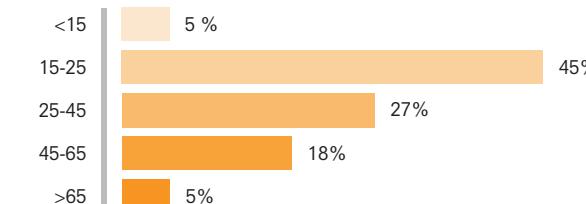
HOUTHAVENS



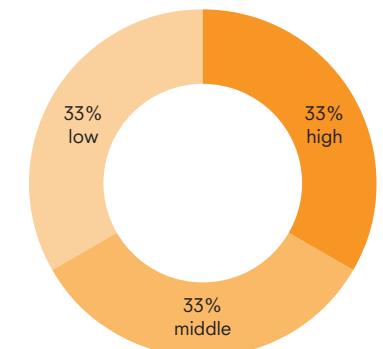
Houthavens district is located on the former industrial territory and now is under redevelopment into mixed use residential area. Nowadays the population density is relatively moderate but will grow significantly after redevelopment is done. The area is desirable by working age population, as 45% of the people are aged between 25 and 65. However, the same percentage of people is aged between 15 and 25 years old, making the area quite young in comparison to the other areas in close proximity to the center. The area's inhabitants are mostly of Dutch and Western origin (85%). The dominant household type is, as in all areas, one-person family (80%) with only 6% of households with children. The average income is lower (23.300 €) and the group of low income receivers is bigger (60%).(CBS, 2017)



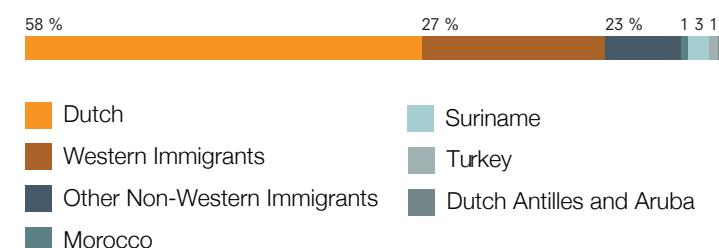
AGE



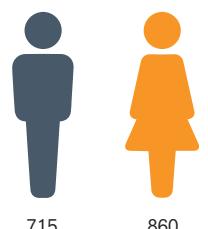
EDUCATION



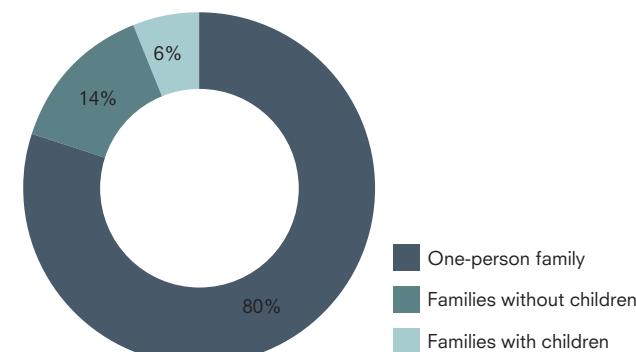
ORIGIN



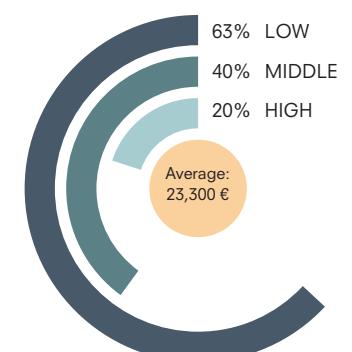
GENDER



HOUSEHOLD TYPES



INCOME



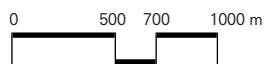
CITY GROWTH MORPHOLOGY

The Canal Belt

Around 1550 the Southern Netherlands were very prosperous and Antwerp was the major trading city of Europe. But after the Spanish conquest, it was quickly done with these dominances. So, 150,000 Walloons and Flemings moved north, 40,000 of whom went to Amsterdam. For Amsterdam their arrival was a true godsend. It provided the city with new entrepreneurial spirit, new trade contacts, markets and, above all, new financial techniques. The profit that Amsterdam drew from this had a strong effect on other immigrants. Creating, as a consequence, a major lack of living space. Only by expanding the city could fulfil the needs. Another consequence was that the gap between rich and poor was increasing.

Legend

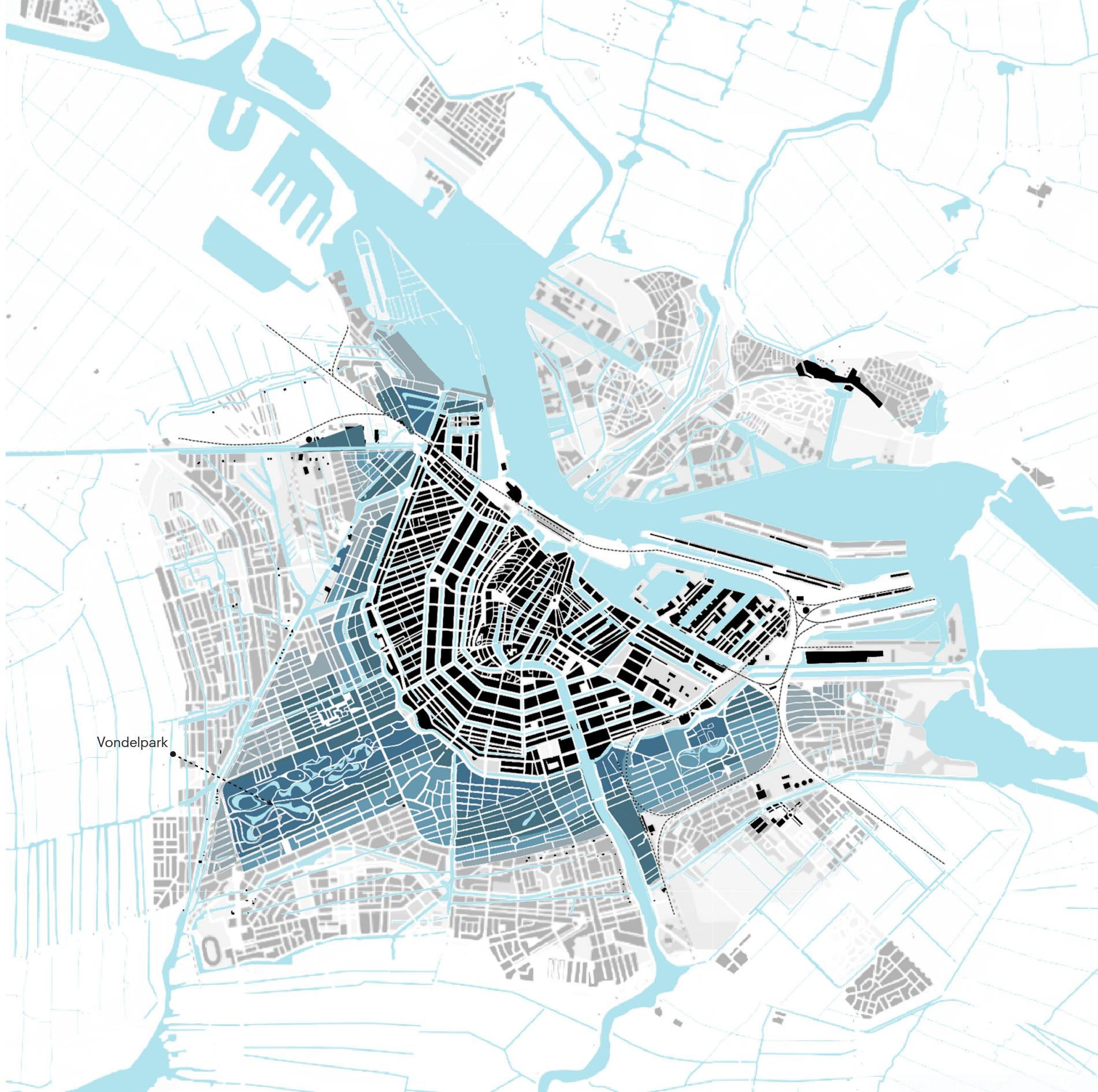
- Till 1587 █
- First and Second Expansion (1587 - 1598) █
- Third Expansion (1613 - 1625) █
- Fourth Expansion (1662 - 1672) █
- Morphological Addictions (1672 - 1860) █



CITY GROWTH MORPHOLOGY

Awakening Amsterdam

In the first half of the 19th century, Amsterdam was in deep crisis. Large parts of the city were dirty and dilapidated. From 1870 the tide turned and the Industrial Revolution gave the city new opportunities. The working group grew. Amsterdam once again became an attractive spot. But just as in the Golden Age, prosperity was not equally divided. For factory workers, who mostly came from the impoverished countryside, separate residential areas were built up in East, Old South and West. The new wealthy elite built spacious residences and beautiful villas around the Vondelpark.



Legend

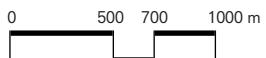
Till 1860

From 1860 to 1880

From 1880 to 1890

From 1890 to 1900

Under construction / execution



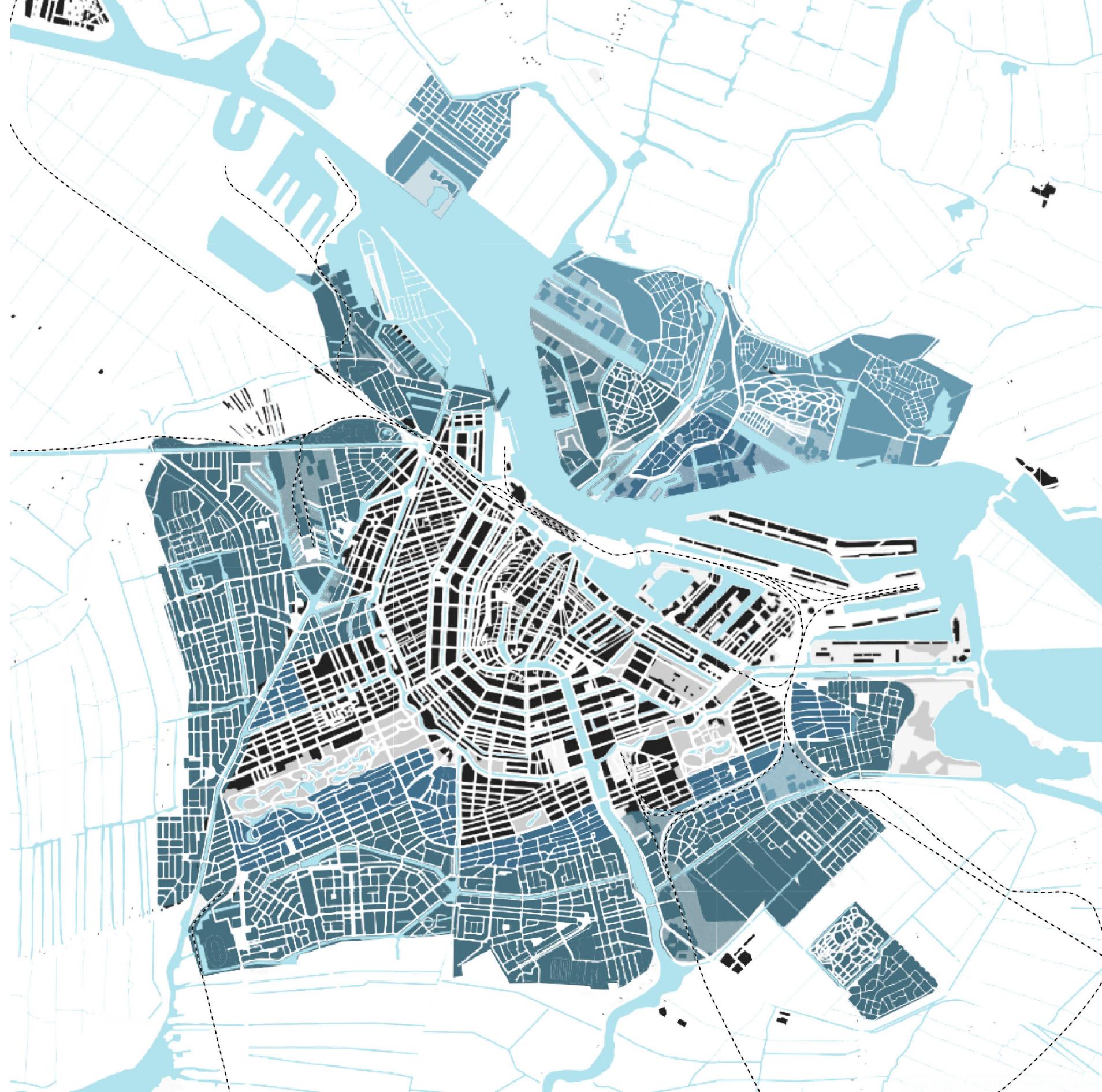
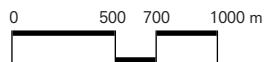
CITY GROWTH MORPHOLOGY

Housing

The growth in the number of inhabitants continued unabated after 1900. The demand for suitable and yet affordable housing also was growing every year more and more. Until then, the council had left the housing market to the free game of mankind forces. The Housing Act of 1901 changed that. The law obliged the municipal administration to make expansion and zoning plans and to draw up programs of requirements for new homes to be built. Moreover, housing associations could be subsidized by the government. From now on, public housing was one of the first points on the municipal policy agenda. In 1915, Amsterdam even started a planning department to build and manage homes.

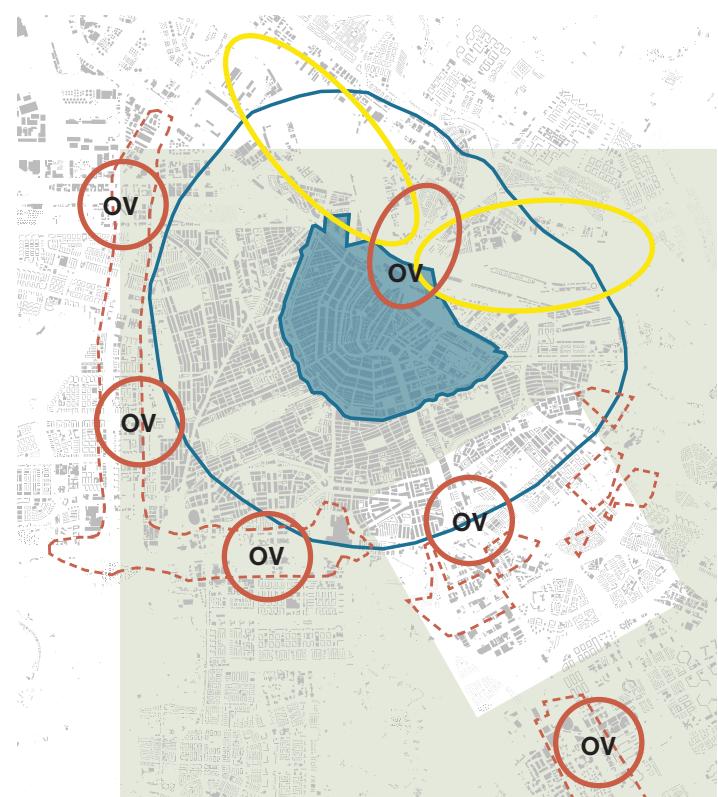
Legend

- Till 1900 ■
- From 1900 to 1918 ■
- From 1918 to 1940 ■
- From 1940 to 1945 ■



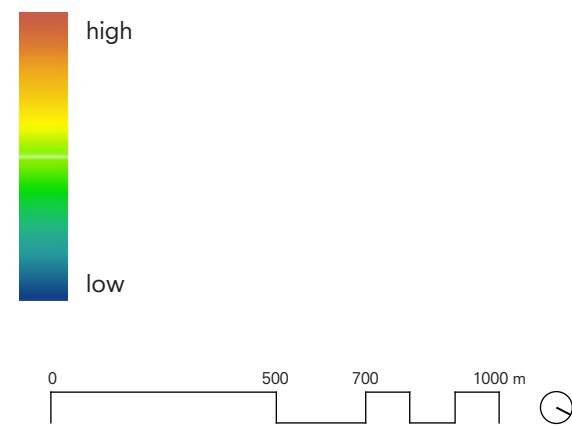
HIGH-RISE IN AMSTERDAM

High-Rise Guidelines

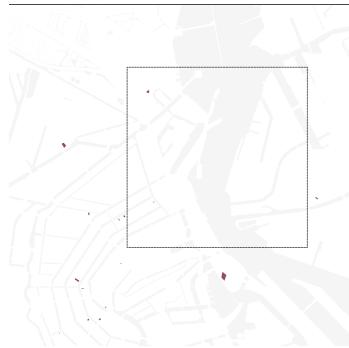
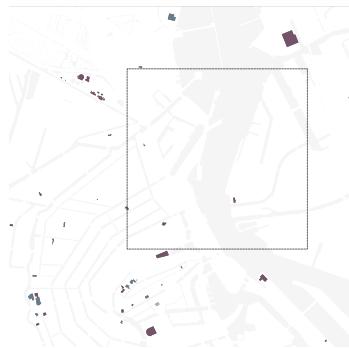


- OV Public transport hub
- Zone along ring Amsterdam
- Icons along the IJ
- 2 km zone
- UNESCO area

Building Heights of Amsterdam Central



CULTURE



Amsterdam can be called an international cultural centre: ask any foreigner about Rembrandt or Van Gogh and he or she will tell you that these are the two cultural figureheads of Amsterdam. Millions of people visit the Rijksmuseum and the Van Gogh Museum for this reason annually. Five of the six most visited museums of the Netherlands can be found in Amsterdam. Besides that there are tens smaller, often more specialized museums to be found in the city, as well in our M scale and S scale.

But Amsterdam is not only famous for its museum collections: also its performing art (venues) are globally recognized. The Amsterdam based companies like The National Opera, The National Ballet and the Royal Concertbuilding Orchestra belong to the absolute top of the world.

Besides the more highbrow cultural venues for music and theatre, there are a lot of pop-venues spread across the city, of which most of them are found in the city centre. People from all over the county visit these venues for a concert of their favourite performer. Paradiso and the Melkweg, just outside our S scale but within the M scale are one of the most famous pop-venues of the Netherlands with a famous history.

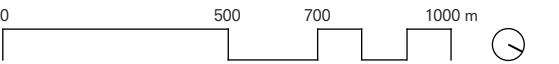
Compared to the music venues, theatre venues attract way less visitors, but the range of these venues are a lot bigger: half of the visitors are from outside the capital.

Of all the cultural activities, going to the movies is the most democratic: more than 60% of the inhabitants of Amsterdam goes to the movies.

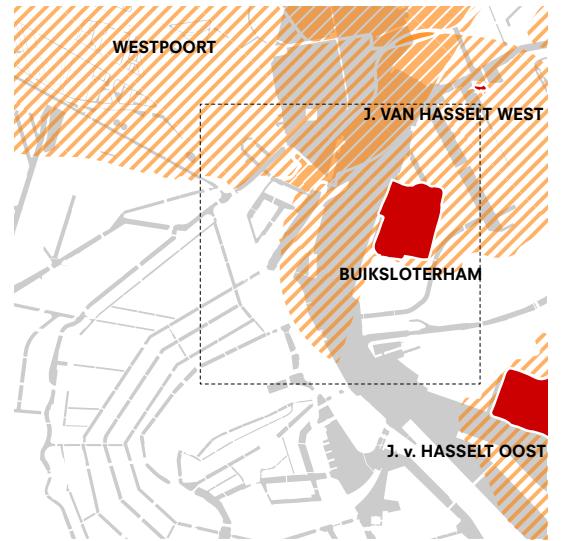
Besides borrowing books, libraries are also often places for cultural activities. Unfortunately, these are now rapidly disappearing due to the rise of E-books.

Index Culture amenities

- Museums
- Music Venues
- Theatre Venues
- Cinemas
- Libraries



NOISE POLLUTION



This analysis shows the noise pollution that is caused by train, road traffic (motors, cars, buses, trucks and trams) and metro, during day time (07.00 - 23.00). During night time 5 dB is added to the outcome since sound is more annoying during that time of day.

Although noise is a part of a lively city as Amsterdam. But long lasting, loud and unwanted sound can also be very annoying. Also, noise can lead to sleep disturbance or health problems such as high blood pressure.

Road traffic is the biggest contributor to noise nuisance. Besides traffic also neighbours and construction- and demolition noise are big contributors. The last are not shown in this analysis. The traffic noise depends on the number of vehicles passing per hour and the type of surface and speed. Also the presence of sound screens is influencing the noise produced.

Amsterdam is taking various measures to reduce noise. Examples are: better insulation of homes, noise reducing asphalt and use of quieter modes of transport, such as electrical driven transport.

On the left the industrial noise regulations are shown. Within the industrialized sites large noise producers are allowed. For each of these sites a zone is assigned in which the max noise production can be higher than 50dB. Outside these zones the max noise production is 50dB.

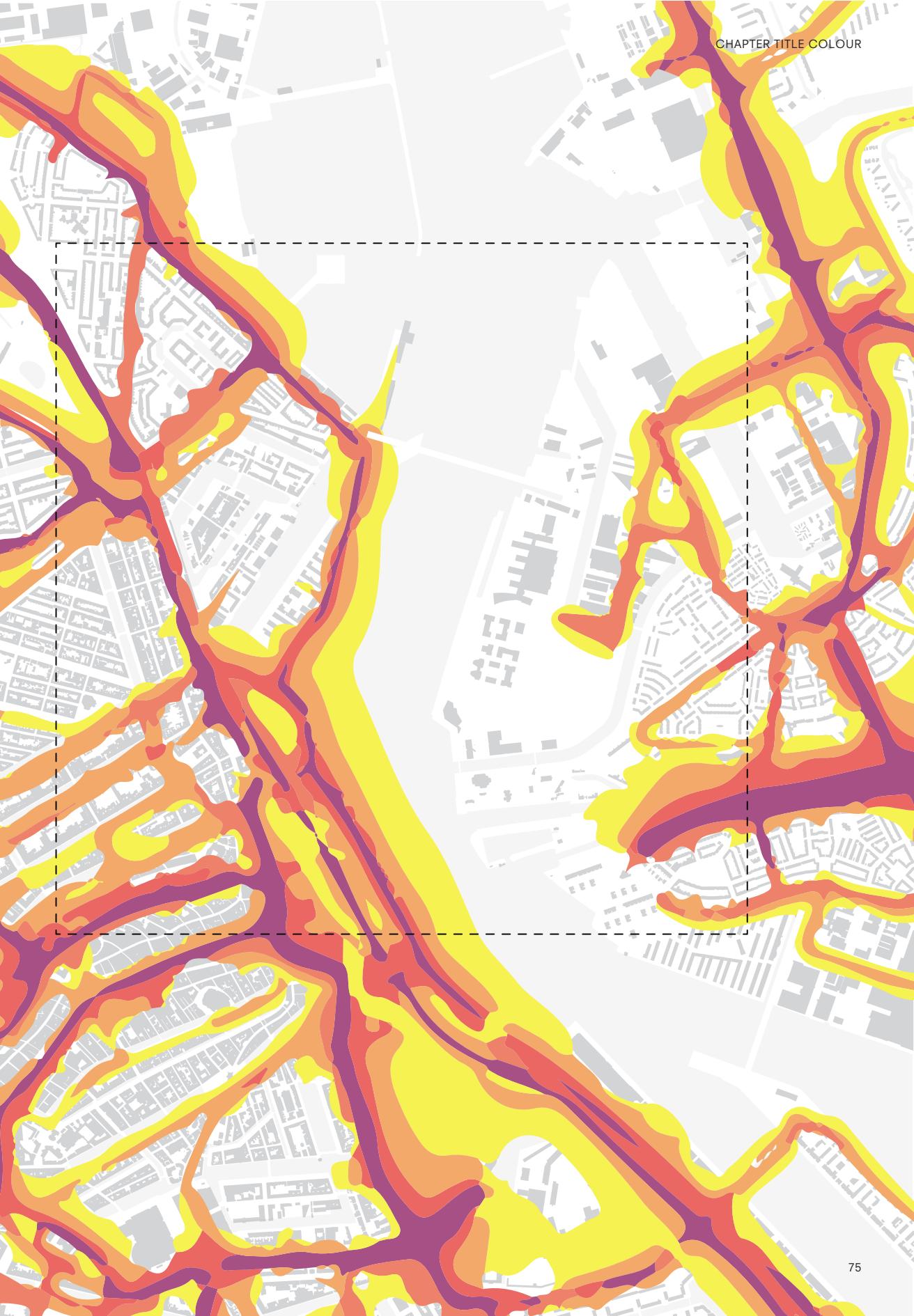
Industrial noise regulations

- Industrialized site
- Sound zone

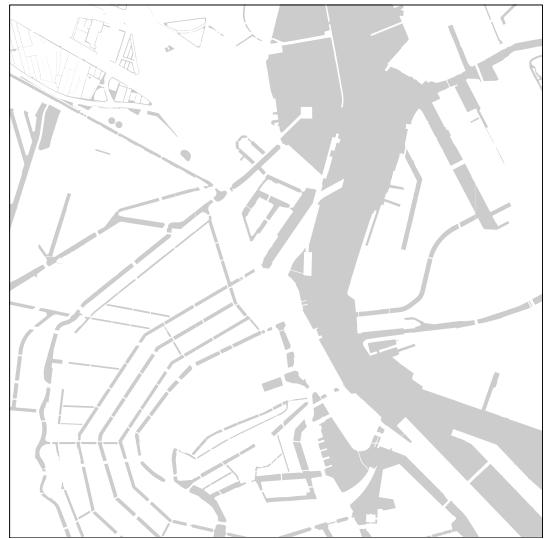


Noise pollution

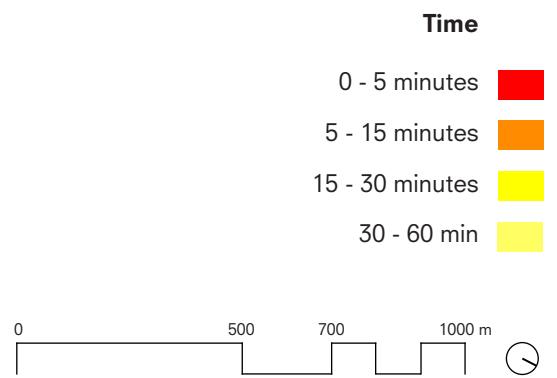
- 70 dB and more
- 65-70 dB
- 60-65 dB
- 55-60 dB



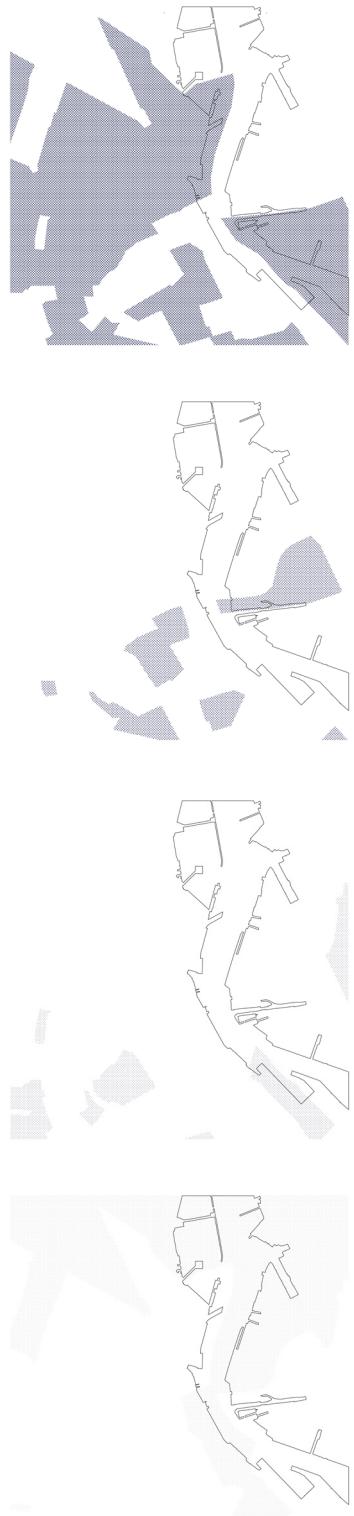
COMMUTING



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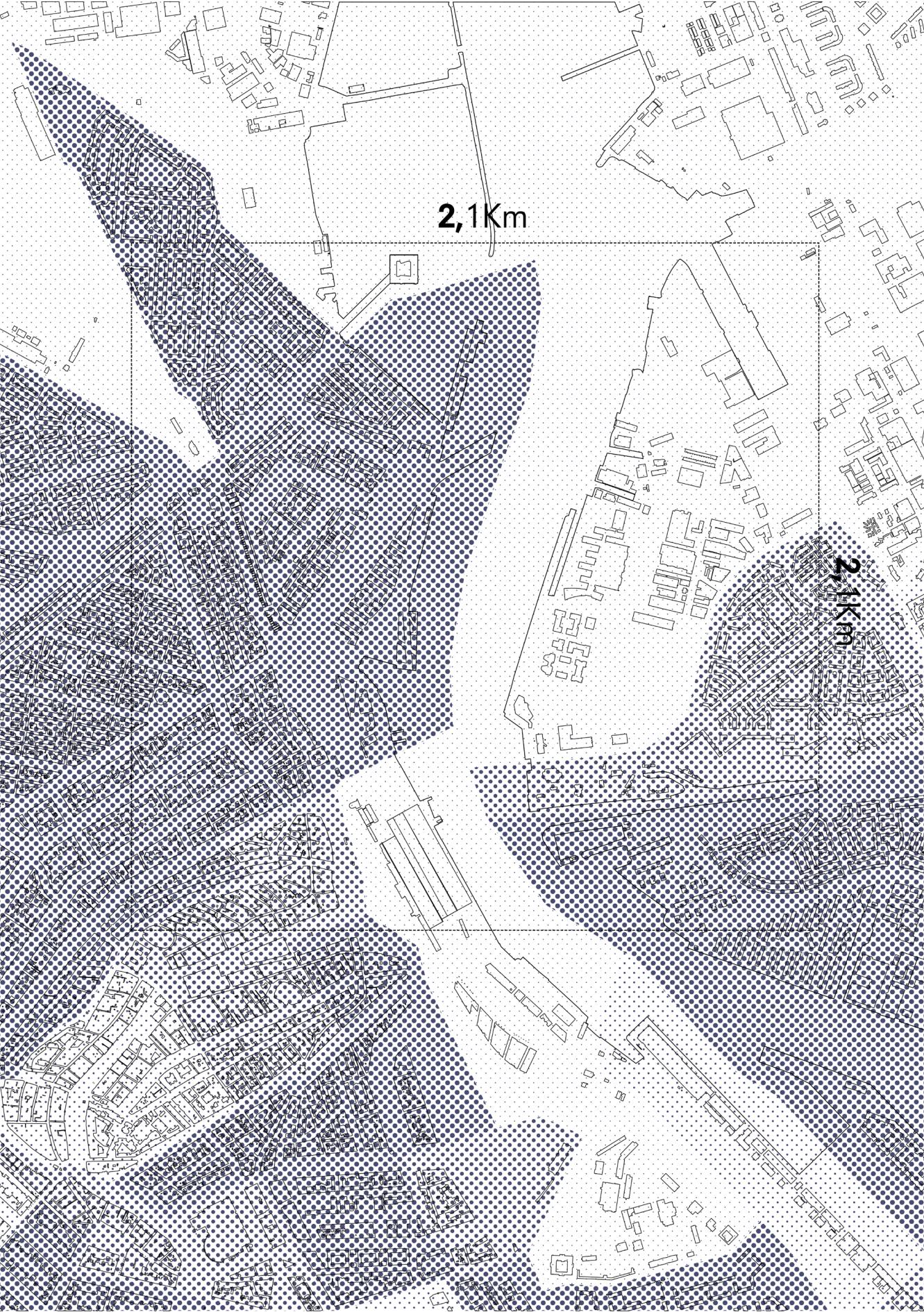
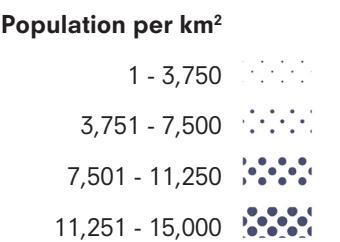


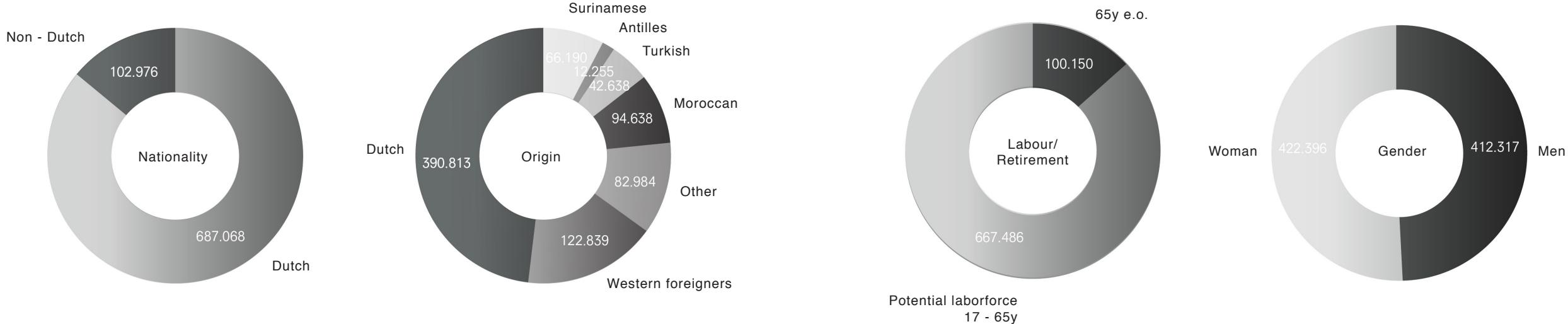
DEMOGRAPHY



This first atlas topic captures population density within the M frame and general demographic numbers on Amsterdam. Based on the data provided by the municipality of Amsterdam the density of each neighborhood within the M-scale frame is mapped. This data is revived from their websites maps.amsterdam.nl and ois.amsterdam.nl. Its visualized in 4 stages of density together with broader data on population and the dimensions of the location of the AMS Mid-city project. Generally the maps show the more dense area towards the city centre and less ones in the north. Though the prognosis indicates that Amsterdam will further grow and the harbor side along the IJ is one of the area's that will densify significantly in population.

The least dense areas within the M-frame are towards the north-east of the significant 'Central Station'. The area around the station itself is also less dense since almost no residential programs are located there. The sharp shaped area on the left bottom side marks the 'westerpark' which is a urban green area which often is used for various events. More denser areas appear spread out on the west side of the location. It is surprising that a significant part of the city centre covers a 2nd degree of density instead of an expected 3th or 4th. This has probably to do with the data generated from registered residents, short stayers and hotel visitors are not taken into account in these population density maps. As expected significantly denser areas appear in the city centre. Interesting is the quite hard division in density in the North. The most populated areas seem to be around the neighborhood 'Jordaan' for the south part. Also the 'Java Island' and the west side of the north part seem to be very dense. The maps give a clear overview on the distribution of residents around the city of Amsterdam.



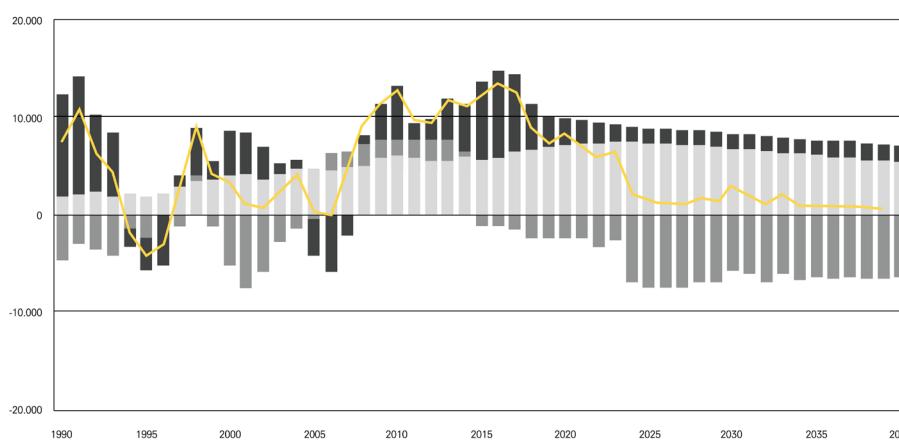


The population of Amsterdam consists mainly of Dutch nationals. Roughly 1 out of 8 people are non-Dutch nationals. This group is expected to be expats. The residents of Amsterdam however are from very diverse origin. Little more than half of Amsterdam's inhabitants have a background to one of the guest labour nations. During the 70's many labourers came to the Netherlands as 'guest labourers' since the economy was developing strongly. Every since the labourers came, the generations that followed them stayed in the

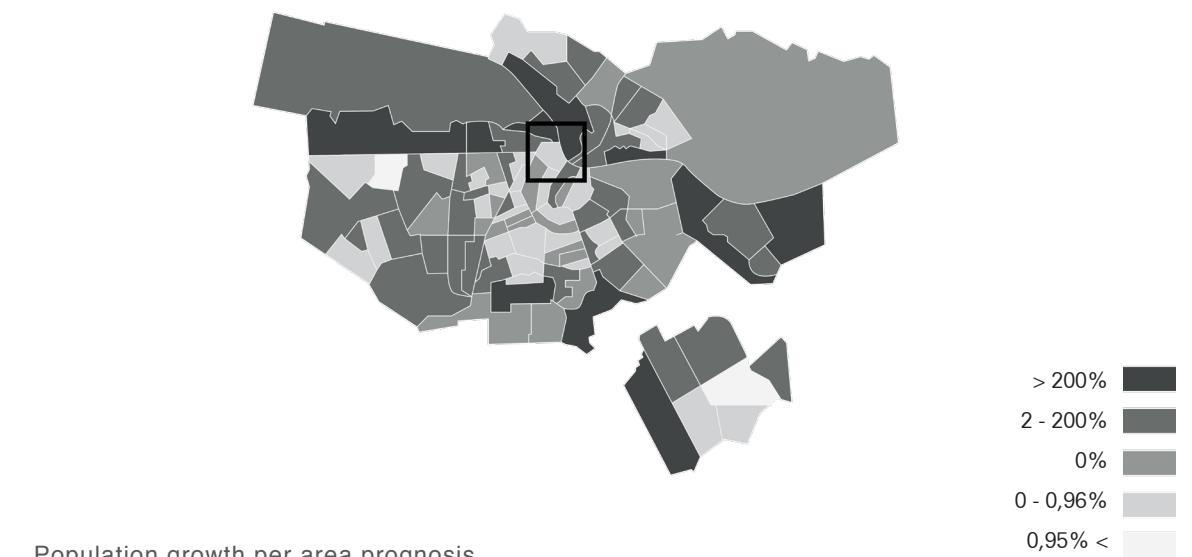
Netherlands. These where mainly from Moroccan or Turkish origin. Surinam however is an old colony of the Netherlands. The two countries still have a strong relationship towards each other. 1 out of 8 people in Amsterdam is with retirement. A majority of the population is fit to work, though it is expected that the group of retired people will grow in the coming years due to the little amount of newborns and the basically large amount of people from the 'baby boomer' generation which by now get into retirement. Furthermore, the gender

division between men and women are fairly equal. Though it should be mentioned that residents in Amsterdam and the Netherlands are considered very tolerant. A cross gender group does exist in the Netherlands but is not taken into account in this research. Moreover, the municipality provided prognosis on the demographic development of Amsterdam. It is expected that the total amount of residents will grow in the coming years. Therefore the municipality wants to invest into 50.000 new

houses in Amsterdam. A large amount of this growth is expected in scattered corners of the city. Important for the S scale map is the high growth expected in the North-west side of Amsterdam.

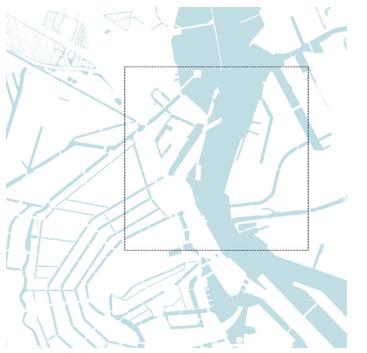


Amsterdam population prognosis



Population growth per area prognosis

LANDSCAPE



The analysis shows the amount of water, greenery and buildings present in the area. It is possible to say that the area is very dense, has a lot of water and almost no green areas. For the analysis of greenery we made distinction among urban greenery, domestic gardens and parks.

Morphology The Amsterdam city centre is very dense. However, if we look at the Northern side of the IJ motorway the area seems to be twice less dense. Due to the centrality of the location it is hard to find any spot that was not yet developed or planned to be.

Water The city centre is built on water. It defines the grid and the logic of developments. At the Northern side of the IJ motorway the urban plan is less dependent on it. The motorway itself seems to be a huge border separating the two parts of Amsterdam's city centre in two areas lacking connections.

Parks There is only one park in the city centre area and at the other side of the IJ, where people can enjoy life. Apart from that there are not many public green areas. This is why it is possible to conclude that the city lacks green public areas.

Greenery The area of the city centre of Amsterdam lacks greenery. In the old city centre the only greenery can be found in the domestic courtyards and the urban greenery, represented by trees. The latter in fact defines the appearance of the city and makes it look more attractive for citizens and tourists.

The Northern side of IJ area is much greener and has more attractive appearance for its inhabitants.

Legend

Buildings



Water



Urban Greenery



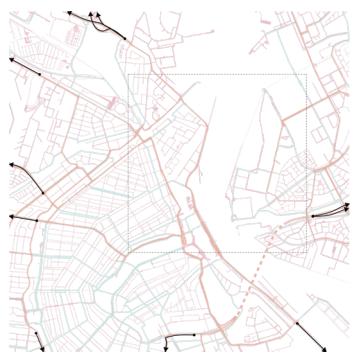
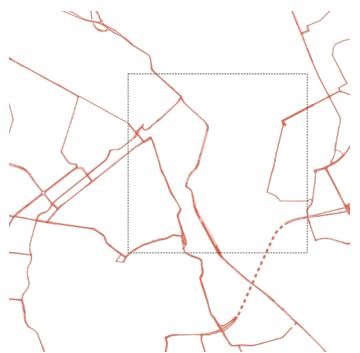
Domestic Parks



Parks



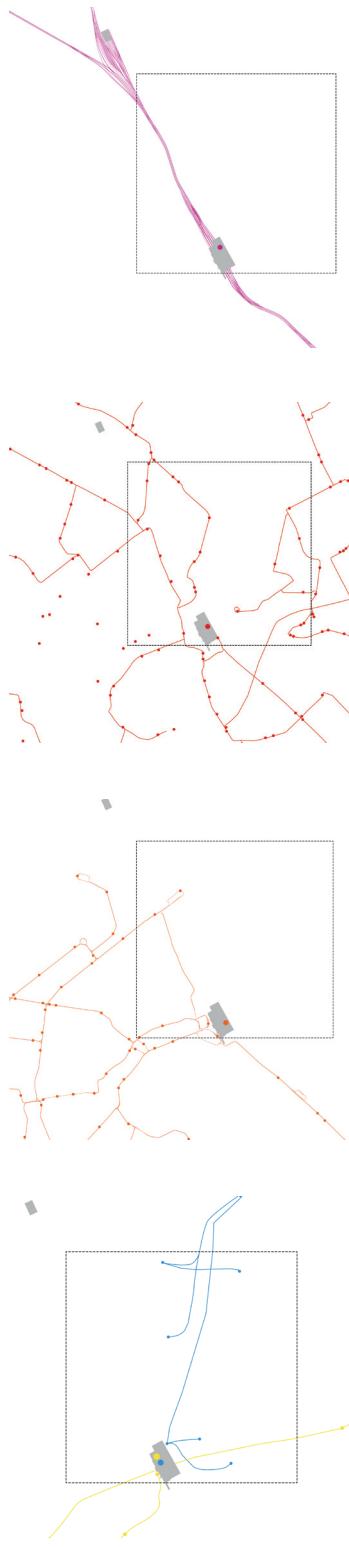
ROAD NETWORK



For the mapping of the road network, we looked at the primary streets along our site. The old center has the most dense and intricate road network. The road network in our site is characterised only by the primary and secondary streets, together with the bike network. The city center is extremely permeable by bike, but it cannot be said the same for cars: when visiting Amsterdam by car you will quite surely struggle trying to understand where to go or where to leave your car! Analysing the road network it is possible to see how it was implemented over time, defining and framing specific areas of the metropolitan Dutch capital. The studied area is outside the highway, which defines a ring on its own. The studied area is thus characterized only by secondary and primary road networks. The latter, forms a neat and sharp barrier toward the IJ river and the north part of the city. The primary road network frames different districts of the area, such as the Old city center with the station, the Westpark and the Jordaan. The same goes for the secondary road network with the only difference that it has a capillary diffusion, defining entire urban blocks especially in the city center. It shows how extremely dense the city center is.



TRANSPORT



The analysis shows the different means of transportation present in Amsterdam city center, such as train, bus, tram, metro and ferry. The area has a very good connectedness with other regions of the country. However, to move in the city center people either walk or use bikes.

Train The train system is the most important artery that connects the Amsterdam Metropolitan area with the rest of the country and several parts of Europe. This gives a lot of potential in terms of economic development for the area. However, the location of the railway lines create an impassable boundary between the Southern and Northern parts of the city.

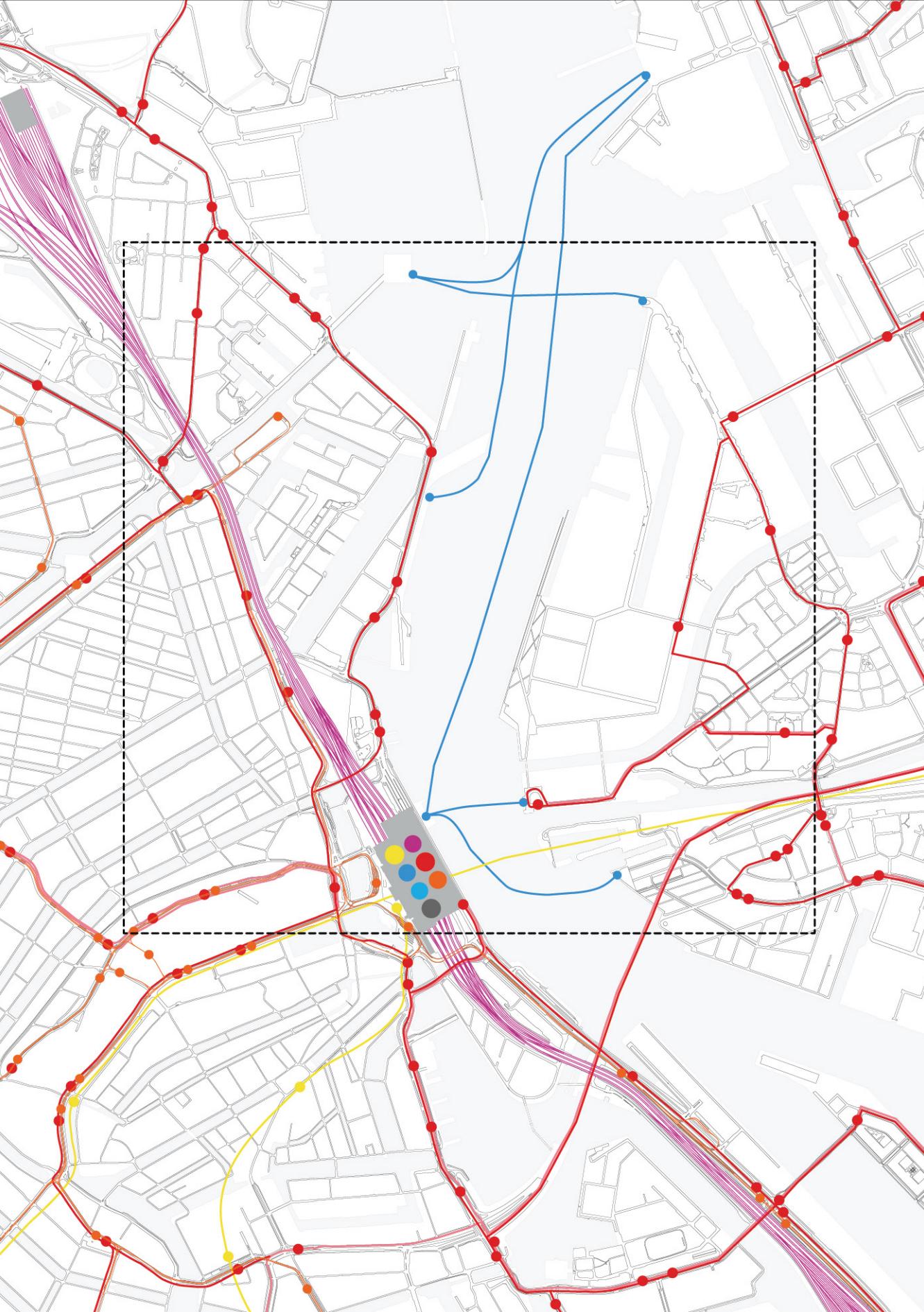
Bus The bus system is very well developed and connects the train station with all the domestic regions and the Amsterdam Metropolitan area. The bus system in the old city center mostly covers all the areas and has frequent stops. It also overlaps with the tram system. At the Northern side of the IJ motorway the bus system mostly covers all the areas, however, with lesser number of stops.

Tram The tram system is present only in the city center of Amsterdam, leaving the other areas lacking the benefits of this means of transportation. It covers all the areas and has frequent stops. It also overlaps with the bus system.

Metro This means of transportation is almost not used by the citizens and tourists to navigate throughout the city center. It is only present in one area of the city. However, the future project to create the Northern metro line is under development and raises a lot of technical questions about its realisation.

Legend

- Ferry
- Train
- Bus
- Pick Hour Bus
- Tram
- Metro
- Stop



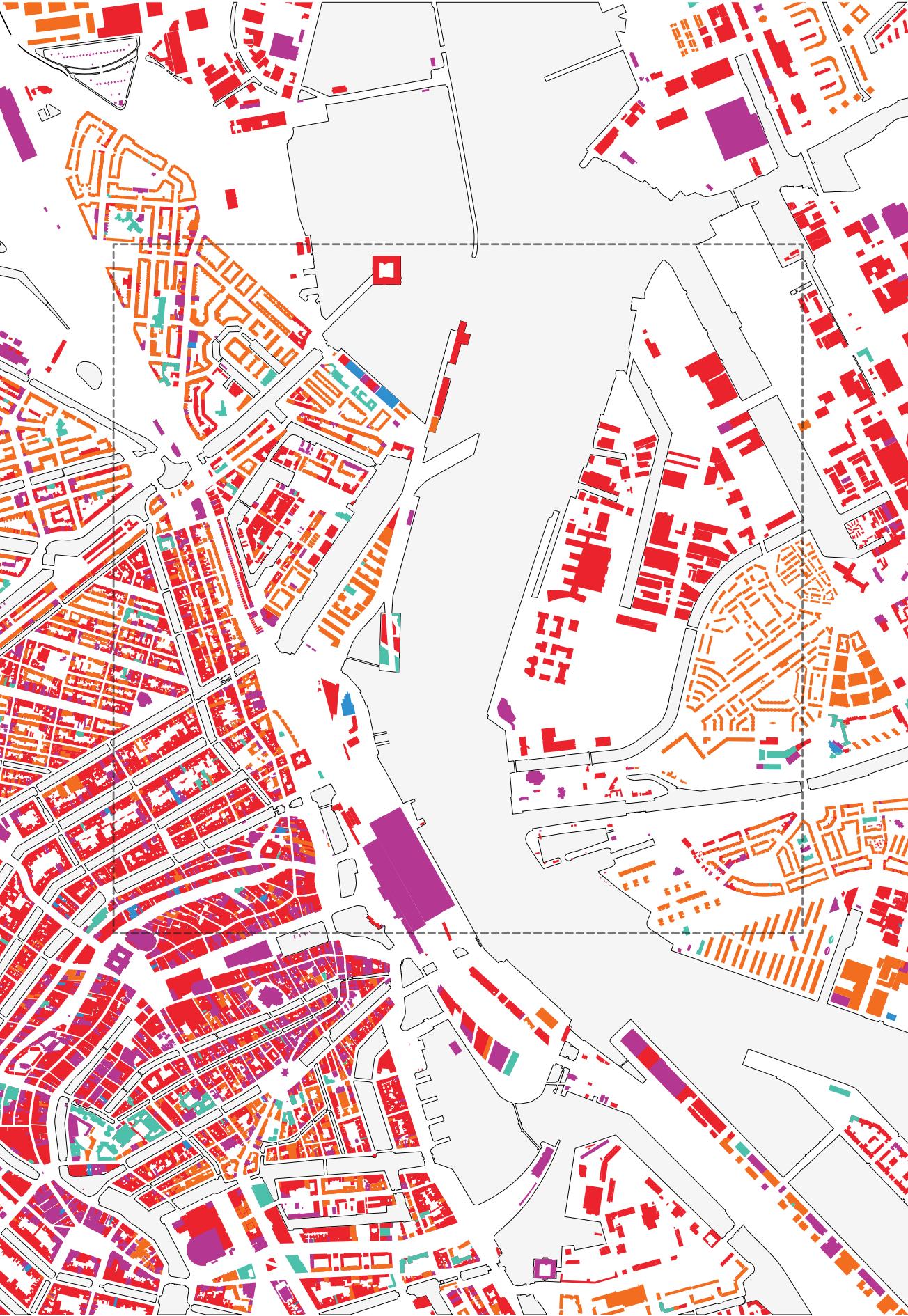
BUILDING OWNERSHIP



The analysis of building ownership focusses more on the function and atmosphere within a certain building which gives you a better indication in how the city actually functions. Private buildings are defined as having a more closed character and are often monofunctional on the ground level. People are expected to consume something in these buildings like hotels and shops or have the privilege to be there in case of dwellings, offices and enterprises. The social structures are owned by housing associations which rent their buildings out for a lower rent than their actual value. Especially in the north and west of our site many of them can be found. In all likelihood most of the buildings are not total social, but vary on each level. Buildings with a civic character are mostly owned by institutions related to the government and have some sort of an open character and don't have a profit objective. The most notable buildings within this category are the educational ones from the University of Amsterdam and the Hogeschool Amsterdam which are spread throughout the city center. In the near future these will cluster more and leave the touristic center. Other buildings within this category include police stations, prisons, shelters, hospitals and residential care.

Ownership model

Private	■
Social	■
Civic	■
Vacant	■
Public	■



BUILDING HISTORY

This analysis shows the historical development of the Amsterdam inner city area. The city scape is not only defined by land-based buildings also the numerous boat houses characterize the area. Still, Amsterdam is rapidly changing which can be seen through the different projects planned for the future.

Before 1800 the canal area and the inner city area was fully developed. Also, big parts of the Jordaan were developed.

Between 1800 and 1900 started to develop further due to the enormous population growth between 1850 and 1900. Amsterdam expanded outside the 17th century defense canal.

The population growth continued in the 20th century and Amsterdam grew even bigger. Developments started to appear on the North bank of the river IJ.

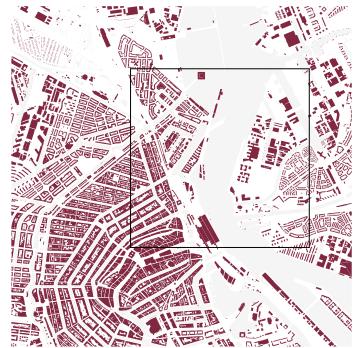
During the second world war Amsterdam got damaged by various bombings. After the war the backlog in housing construction had to be eliminated. New neighbourhoods following the garden city principles emerged.

Construction build

- before 1800
- 1800-1900
- 1900-1950
- 1950-2017



VOIDS



For the voids mapping we looked at four different element: building footprint, public green(parks, public gardens, grass patches), squares and meeting points. But the most important void-creating element is water: the IJ creating a void between the city center and the North, the canals structuring the old center, the old rudiments of harbor canals structuring the North. The old center has the most dense footprint and in the South West the most green space in this M scale. Meeting points in the open public space are not that common in Holland. In the city centre, squares play an important role: when visiting Amsterdam you will quite surely pass the Dam square, Leidseplein or Rembrandtplein. In terms of the ratio between the different types of voids between S and M scale, the following numbers show that the squares, parks and meeting points are quite evenly distributed on these two scales. S scale is a quarter of the size of M scale, which would mean that 25% of the voids can be found in S scale and you could say that this is the case, comme si comme ca.

Squares 125 / 26
 Parks 5 / 2 (partly)
 Meeting points 14 / 4

Index

- building mass
- railway
- squares
- public green
- water
- meeting points

0 500 700 1000 m



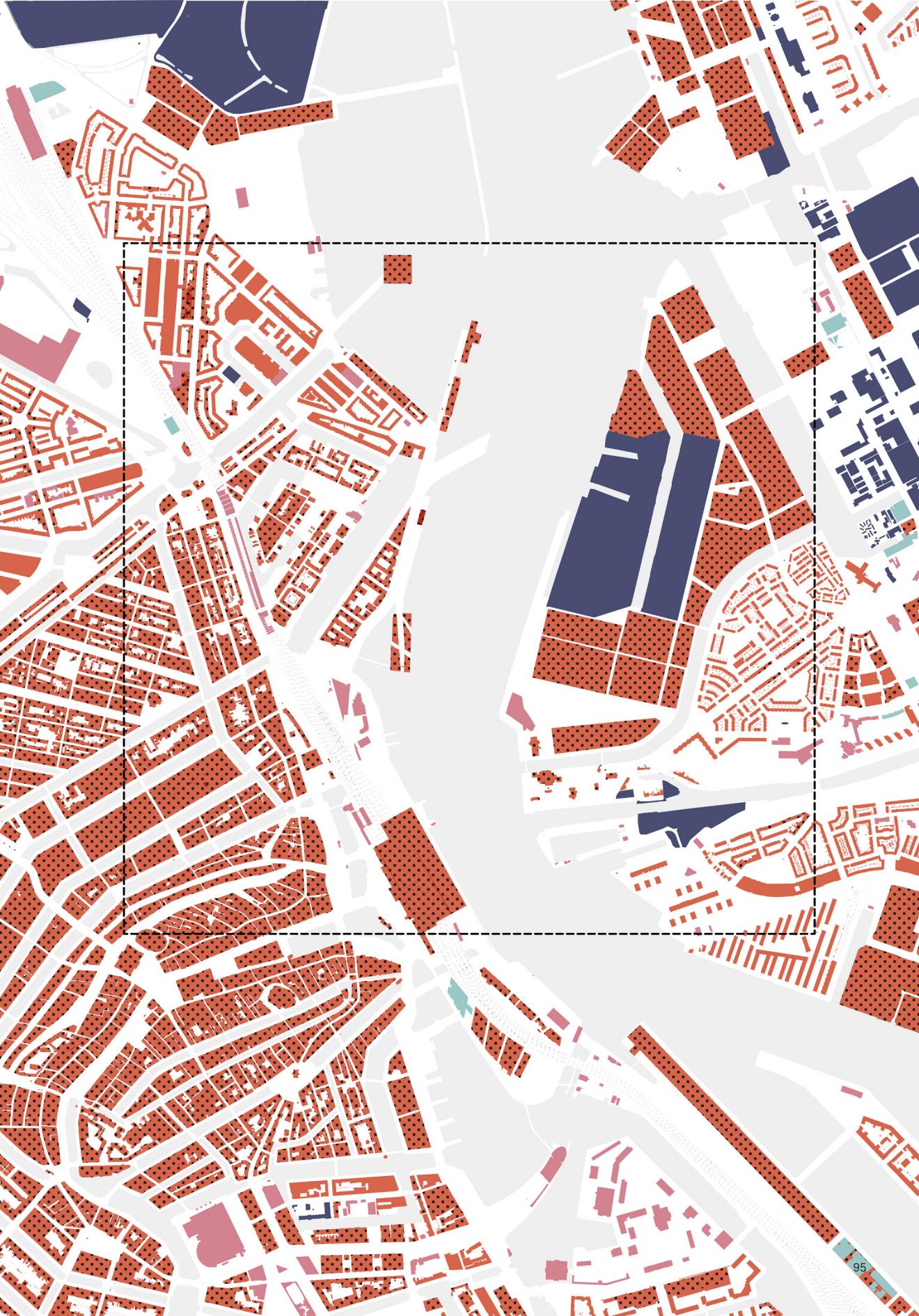
LAND USE



How land use has been designated in central Amsterdam seems focused on allowing for flexibility of use over time, and that monofunctional areas are not favoured. The land in the historic heart of the city has almost exclusively been allocated for mixed functions. This is unsurprising when considering the quantity of buildings in the centre that operate with public-orientated or commercial activities on the lower levels and the upper levels generally used for housing. It is clear a similar strategy is desired for the north side, despite its current state of underdevelopment. There are still some pockets of almost exclusively residential neighbourhoods and business districts, yet these are mostly peripheral to the city centre. Whilst much housing that can be found in the historic centre has been captured under the category of 'mixed', there are still clear pockets of neighbourhoods that are almost exclusively residential. These are seen just out of the 17th century ring of the core, as well as the more established areas of Noord. As with the residential, business-dominated areas are again situated on more peripheral parts of the city centre. This is suggestive that dedicated business parks are not a desired strategy for the inner city. Most of these locations are situated in former industrial sites of the old port areas.

Land Use Categories

Mixed	
Residential	
Business	
Public	
Retail & Leisure	



AMENITIES



Downtown Amsterdam and Amsterdam North are two totally different worlds. The amenities in the North focus on the residents of the neighbourhood, while the amenities in the center are focussed on both its residents as well as students and tourists. But this separation is slowly fading.

Culture Museums are mostly concentrated in the vicinity of the city center and the museum park. Theaters, stages, event halls and cinemas are well spread. On the opposite side of 'de IJ' the EYE, A'DAM and the IJ-hallen are the major attractions. The variation here is still limited. Dirty business like casinos, stripclubs and brothels are situated in small parts of the city center.

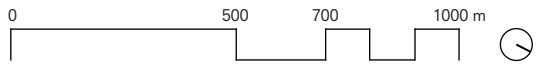
Education Higher education and archives are mainly located in the heart of the city. Educational vegetable gardens and petting zoos for children are mainly to be found in park settings. Childcare and other education are equally distributed across the city.

Health For hospitals there are only two private clinics in the city center. Living care and health practices are well spread over the city. In the North of Amsterdam there is one big night shelter. In the center there are a lot of them scattered around the city. There is a big refugee center just outside the M-scale in West.

Religion There is a diverse array of religious places in Amsterdam. The city center has a rich history of Christian churches. Some of them have a different function nowadays.

Civic The mayor police stations and the fire stations are located at the traffic ring around the city center. There is no ambulance station in the direct vicinity.

Sport The city center of Amsterdam has a great variation in indoor sports. Outdoor sports like are to be found in green areas and near the waterfront (water sports). There are also some green areas with allotments in the vicinity of the railway.



HERITAGE



1.



2.



3.

Seventeenth-Century Canal Ring Area of Amsterdam inside the Singelgracht

In 2010 the ring of canals gained international recognition as a historical monument of global stature by its placement on the Unesco World Heritage list. 'This urban extension was the largest and most homogeneous of its time. It was a model of large-scale town planning, and served as a reference throughout the world until the 19th century.'

The ring of canals is divided into two zones: the 'core' (indicated in orange, this is the area that is actually listed by UNESCO) and the 'buffer zone' (indicated in opaque orange). The buffer zone is there to protect the core, as this area exists of also mostly 17th and 18th century high quality buildings.

Monuments

Amsterdam counts over 8500 municipal and state monuments. This means that these buildings are protected and cannot be adjusted without permission in the form of a permit handed out by the municipality of the city. In this way the historical and cultural value and identity of the city is protected.

The difference between a state monument and a municipal monument is that if a building does not have national meaning or value, the municipality of Amsterdam can put a building on the municipal monument list to protect its local or regional value. Besides individual protected buildings, the city of Amsterdam also has 'protected city and village views'. These entire areas are protected due to their architectural historical value. Two of these protected city views are in our S and M scale: the canal ring and a part of Amsterdam Noord.

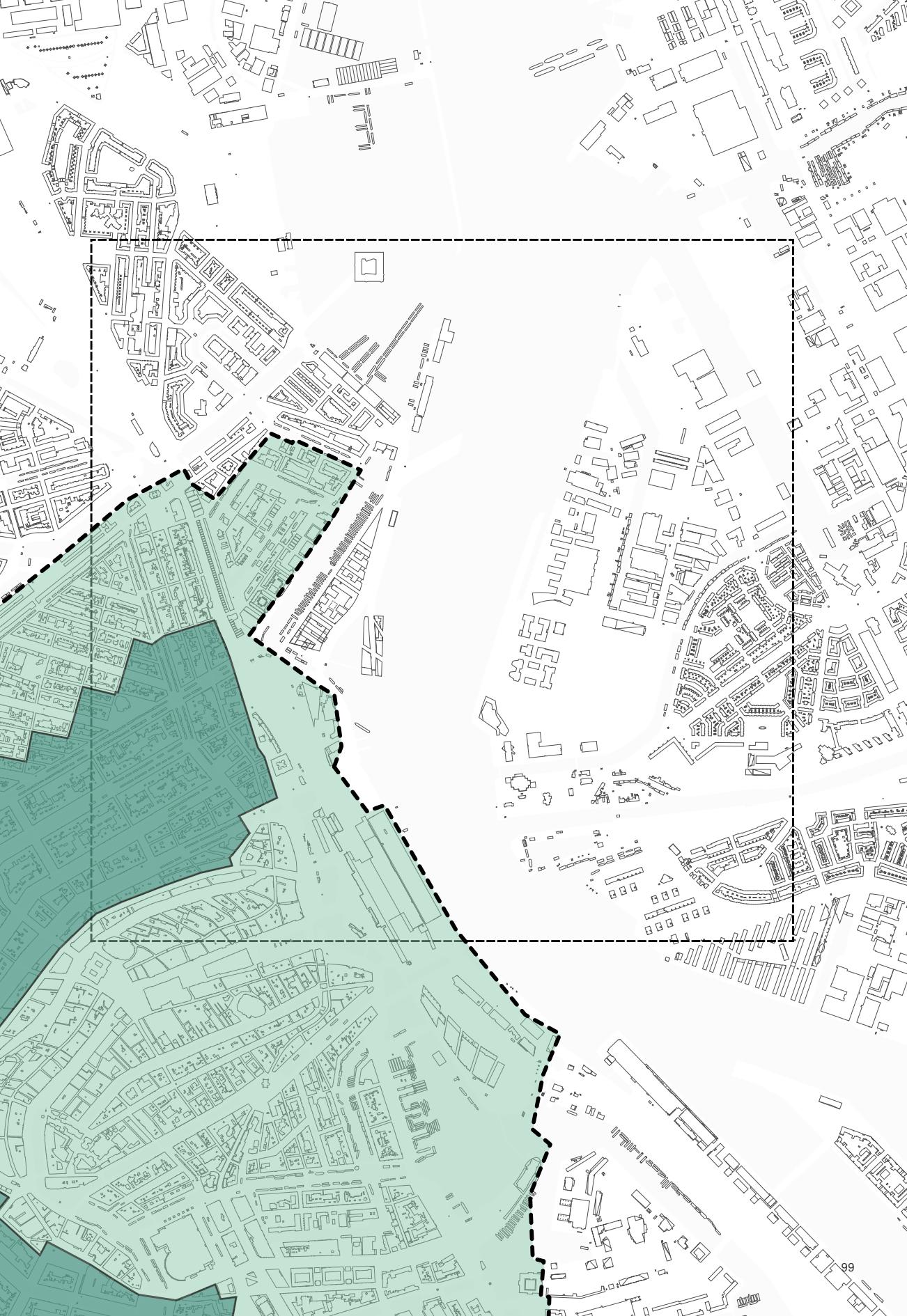
1. protected and 'special' city views of Amsterdam
2. indication of all the state monuments
3. indication of all the municipal monuments

Index

core UNESCO



Bufferzone



A grayscale 3D rendering of a cityscape, viewed from an elevated angle looking down. The buildings are represented by numerous small, light-colored blocks. A single vertical line runs through the center of the city, intersecting buildings and streets. The background is a dark, hazy sky.

SOFT DATA

- Industry
- Landmarks
- Water
- Infrastructure
- Work
- Housing
- Gentrification
- Tourism



INDUSTRY

THE POST-INDUSTRIAL CITY

Amsterdam has a vital relation to industries of all kinds. Throughout history, Amsterdam functioned as a major harbour city of which traces are still clearly visible in the cityscape. Yet on the other side, the city tries to push more recent forms of industry further out of the city in order to make room for new housing developments. What are the opportunities when developing former industrial areas into vital living and working neighbourhoods? What risks are there that one needs to take in account?

HISTORICAL HARBOUR DEVELOPMENT

In the 17th century the harbour of the city of Amsterdam expanded. Islands were made in the river IJ to host harbour activities. The harbour was connected with the North Sea through the Southern Sea. This sea silted, so in 1876 it was decided to dig the North Sea Canal, which resulted in a direct connection between the harbour and the sea. This started a blooming period for the harbour of Amsterdam.¹

The Western Islands

Post 1610, the IJ was dug out and there was also the reclamation of three artificial islands between 1611 and 1615. These islands were protected by fortifications that were part of the Third City Expansion of Amsterdam. Between 1615 and 1890, the islands were used for small industries, shipyards, and storage buildings (herring, corn, tobacco, wine, salt, anchovies, cat skins, pitch and tar). The industrial history of the islands ends

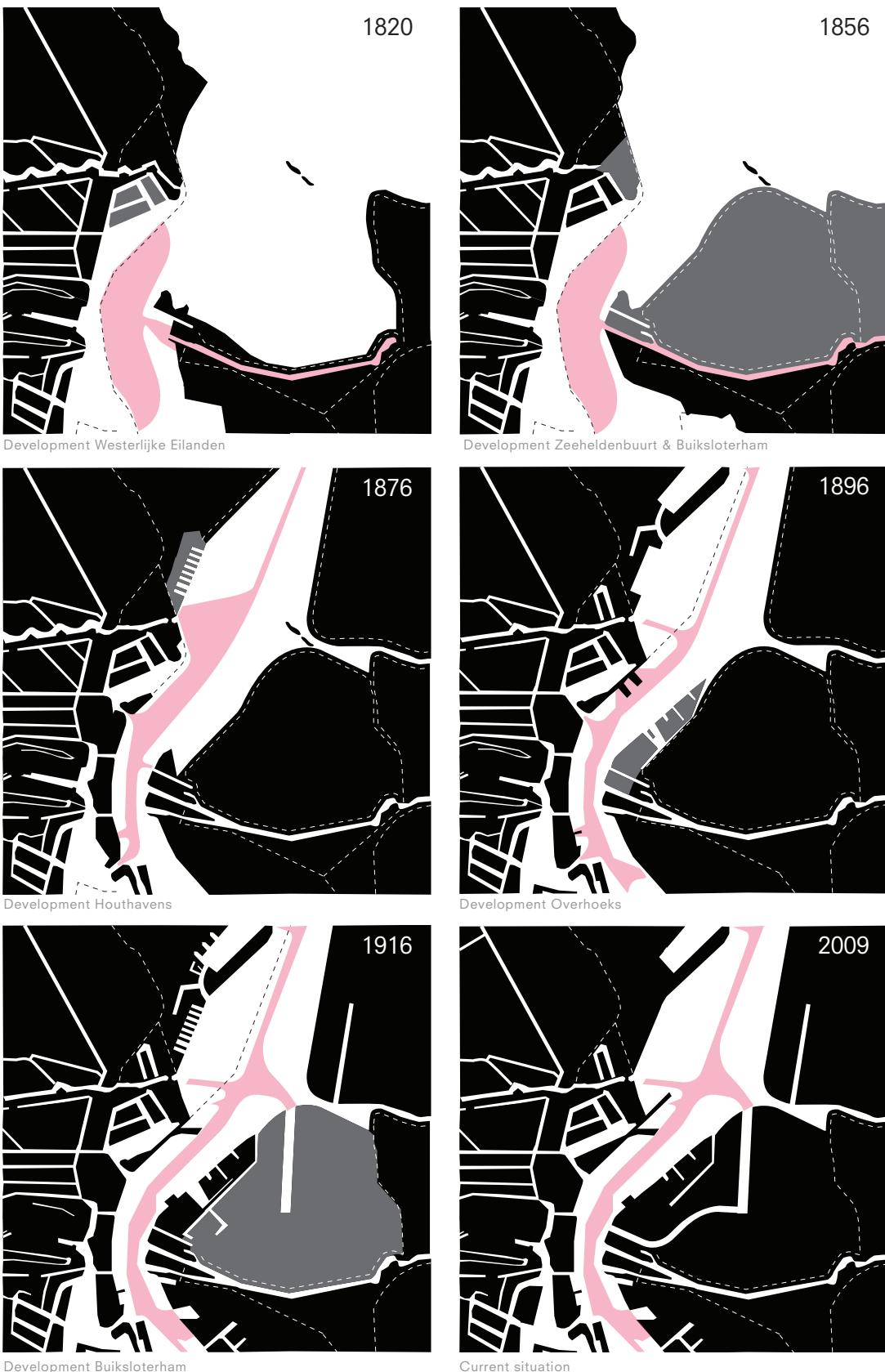
between 1900 and 1950. The Western Islands were not used anymore because ships became to large. Activity shifted towards the harbour area East of the central station.²

Zeeheldenbuurt

The reclamation of land used for the city fortifications was later on, when these fortifications were demolished, and turned into the Zeehelden neighbourhood. Between 1700 and 1900 the islands were used for industrial activities such as shipyards, rope and tanneries. But also for storage of salt, grain and other foodstuffs. Between 1900 and 1950 the municipal border shifted outwards. More housing was built close to the Zeehelden buurt, shifting away former program. Due to the danger of fire, the industrial activities had to move.³



Buiksloterham 1850 The Western Islands in the background. 1850.²



Buiksloterham

The buiksloterham polder was used from 1819 to store the dredged harbor sludge. In 1842 it was decided to reclaim the area and turn it into useful land. In the first instance the area was merely used for agricultural purposes.

From 1870 the stroke of land (Overhoeks) South of the Buiksloterhampolder was made and became part of the Northern river IJ bank. This area still remained unused though.

From 1900 the Buiksloterham becomes part of municipality of Amsterdam and interest to develop the area grows. An urban plan by Van Hasselt is developed and rolled out. Main focus of the plan is on heavy industries at the river bank. Housing is planned along the Nieuw Hollandschkanaal. Leisure functions are planned opposite of the current central station at the head of the IJ. Around

1918 the Volewijck (including the Van der Pek neighbourhood) is developed after former housing that was more rural was demolished. The area of Buiksloterham was home to a Fokker airplane factory, a Shell oil laboratory, a large shipbuilding company and other manufacturing businesses.

Later, Buiksloterham became a model for any city grappling with what to do with a decaying industrial zone.⁴

Houthavens

The Houthaven is the first harbour in Amsterdam to be dug out in 1876, at the same time as the North Sea Canal. The harbour is used for the storage and tranship of lumber. After 1945 parts of the harbour are filled up since lumber is now transported over land.⁵

Westerdokseiland

The Westerdok island was created in 1832, when the Westerdokdam was created in the river IJ. This former dike transformed into an industrial area with warehouses, waterfronts, harbour elements. The island was also used by workers for living.⁶

Current industries

Right now, current industries are pushed further outside the city. Businesses like a few big industries, officebuildings and light industries (car repairshops, printshops, bakeries, etc) are clustered within the Buiksloterham and Overhoeks area.⁷



Current industries



Harbouractivities on Bickerseiland. Between 1800 and 1850.³



Westerdok, Zandhoekbrug, kop Bickerseiland, around 1900.⁴

TRACES OF THE PAST

Amsterdam's industrial past has left its traces within the area. These include aspects like the contaminated soil and industrial building stock. One of the traces the city is currently dealing with is polluted soil. Now that the city is further developing and expanding its borders, areas first used for shipyards, warehouses and industries are turning into living and working environments.⁸

When it comes to contaminated soil the following policies apply. Contamination caused before 1975 is paid by the government. This is because of

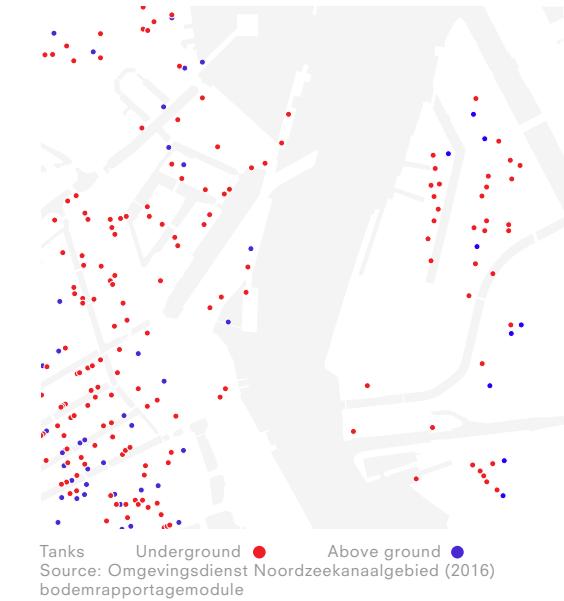


the fact that people were not aware that they polluted the soil. After 1975 the 'polluter pays' principle applies. After 1987 Soil Protection Act the polluter pays principle is fully operational. Between these years there is a grey period.

In recent years, the national government has spent around 150 million euros a year on soil remediation. In addition, the annual market turnover in recent years is the same as government spending, which means total annual expenditure of around 300 million euros.⁹

The standard approach in the Netherlands to an area like the Buiksloterham would have been to buy out whatever businesses remained and turn the site over to a big developer. Instead, city leaders opted for a more organic approach. They changed the zoning to allow for a mix of uses.

In 2007 80% of the Buiksloterham area was contaminated. Generally, one distinguishes two types of soil contamination. These are immobile (metals and asbestos) and mobile substances (chlorinated organic compounds) and mineral oil. Mobile contamination means that the contamination has spread out significantly to the groundwater, immobile contamination did not.



INDUSTRIAL REMAINS

Throughout the city there is a lot of architectural evidence of Amsterdam's industrial past. A lot of the industrial remains are declared a national monument. Most of the monuments have lost their initial function and are transformed into housing or office space. Below are a selection of historical



Grain silos at Silodam. Transformed into apartments.⁶



Storage houses at Zoutkeetgracht. Transformed into apartments.⁷



Sailing industry at Nieuwe Teertuinen. Transformed into housing.⁸



Factory of Steam and Other Tools. Grote Bickersstraat. Transformation into housing.⁹



Shell Laboratory at Overhoeks. Tranformed into business complex for small creative companies.¹⁰



Shipyard De Vries-Lentsch at Grasweg. Transformed into business complex for creative companies.¹⁰



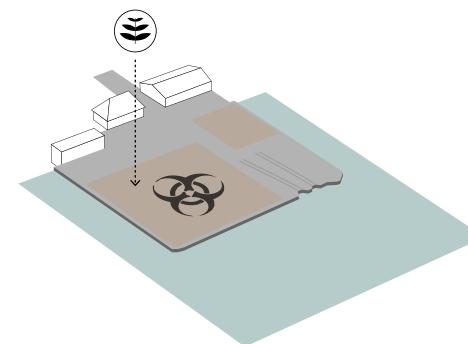
Patent oil factory F. Alberdingk at Brouwersgracht. Transformed into apartmentcomplex.¹¹



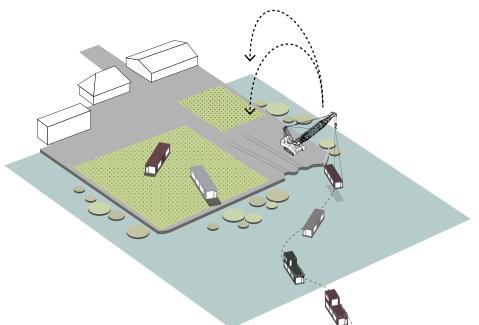
Liqueur stewardship and wine dealer at Nieuwezijds Kolk. Transformed into beercafé.¹²

DE CEUVEL

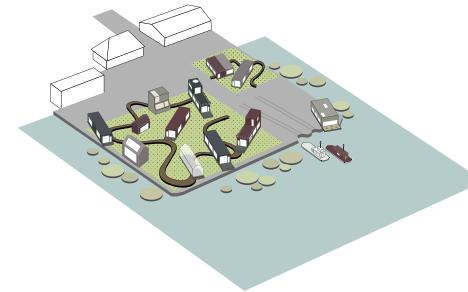
Within the Buiksloterham 'De Ceuvel' is situated. De Ceuvel is located at a former shipwarp. Instead of common sanitation the pollution soil is slowly cleaned through a more organic process. During the period that the area was waiting for a new purpose, the city of Amsterdam has made the land available for developing a purifying park.



Step 1.
The polluted soil in the area is covered by purifying grass.



Step 2.
Left over boathouses are being refurbished and placed in the park



Step 3.
A raised wooden pathway makes the boathouses accesable.



Step 4.
After 10 years, the boats move to a new location. The cleaned land is given back to the city of Amsterdam.

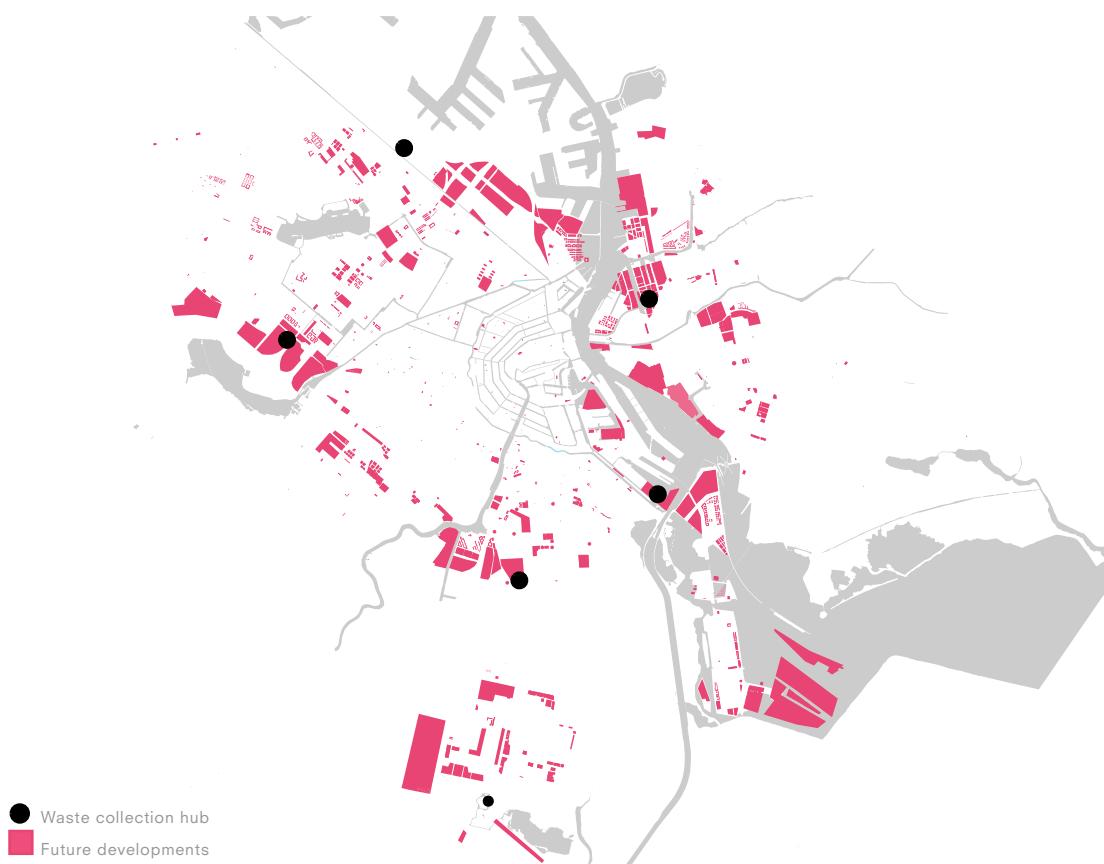
De Ceuvel development strategy¹³

WASTE

The amount of waste production varies per neighbourhood and population density. The populated areas at Amsterdam Noord have a high number of waste production.

Amsterdam has 6 waste hubs all situated within a 4 km radius around the city centre. Residents can bring all types of waste including bulky waste to these spots. North, being a post-industrial district, has a wastehub in the middle of the area.

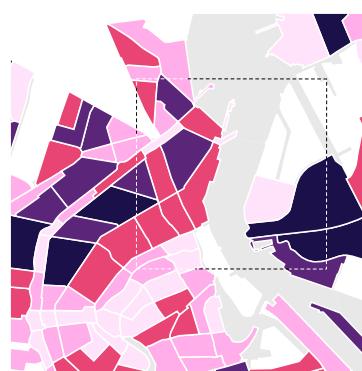
It is advised by the central government to have one waste collection hub per 60,000 inhabitants. Amsterdam has one hub per 137,000 inhabitants. At the same time the number of inhabitants is rising. In order to regulate the accessibility of the waste hubs for all inhabitants, the municipality is actively assigning future development locations in close range to waste collection hubs.¹¹



Waste production (per year/per neighbourhood)

Source: Gemeente Amsterdam. (2015). Afvalketen in Beeld: Grondstoffen uit Amsterdam

- more than 1.500.000 kg
- 1.000.000 - 1.500.000 kg
- 500.000 - 1.000.000 kg
- 250.000 - 500.000 kg
- less than 250.000 kg



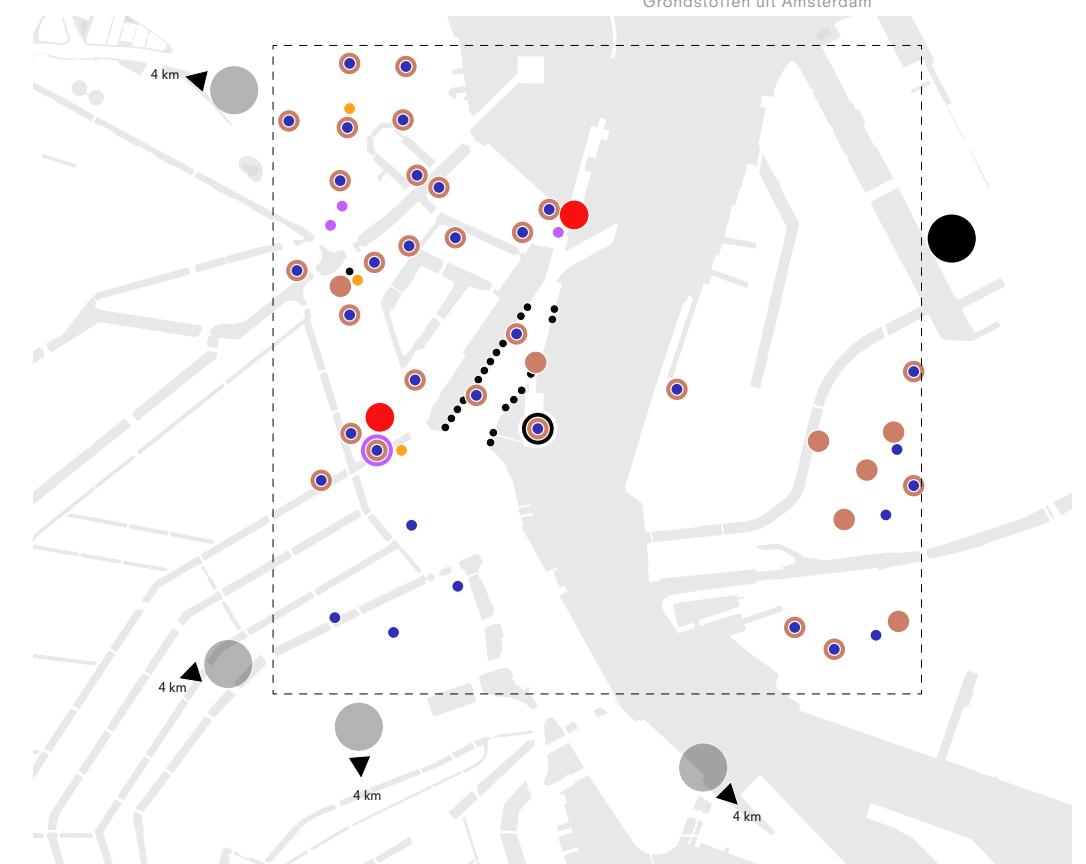
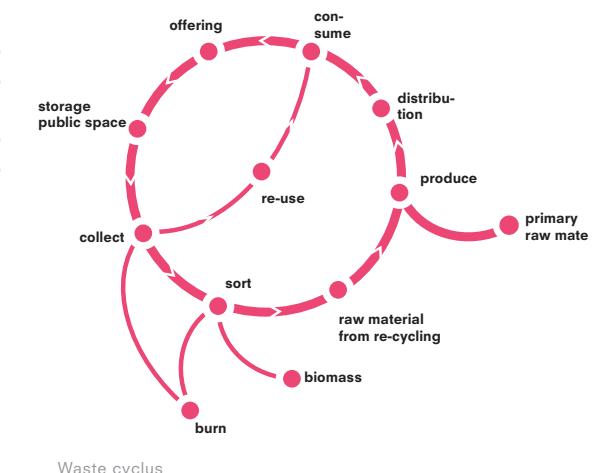
The type of waste treatment in Amsterdam is different for each city district. Specific types of waste (textile, plastics, glass, paper and residual waste) can be disposed at underground and above ground containers throughout the city. Residual waste of certain types can be offered to the garbage man on specific days during the week. The same goes for bulky waste. The last is exceptional in the Netherlands. In the city centre, district waste is collected by garbage services in bags. In some areas there are underground garbage containers. In Amsterdam Noord there are underground press containers.

Waste collection points

Source: Gemeente Amsterdam (2016) Afvalwijzer

- textile
- plastics
- glass
- paper
- residual waste
- small chemical waste
- waste collection hub

Depending on the type, the waste will be either burned, used as biomass, recycled into raw material again, or be re-used.¹²



THE OPEN AIR MUSEUM?

When it comes to the inner city and the 19th century canal belt, Amsterdam follows an extremely defensive strategy. The UNESCO world heritage label excludes a big part of the city from further developing. At the same time industries are moving away from the city. The city of Amsterdam is moving from an industry based city to an city based on knowledge businesses and tourism. It is time that we again value our industrial past? Will Amsterdam's industrial heritage, as a counter reaction on post-industrialism, be turned into an open air museum and therewith admired by the public again?



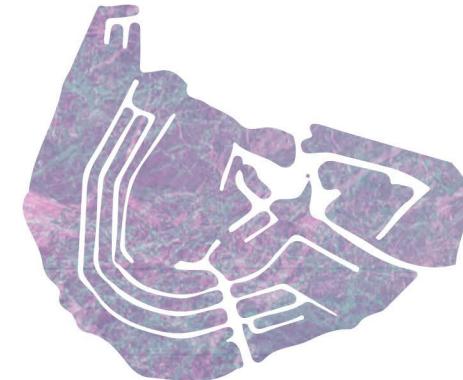


LANDMARKS

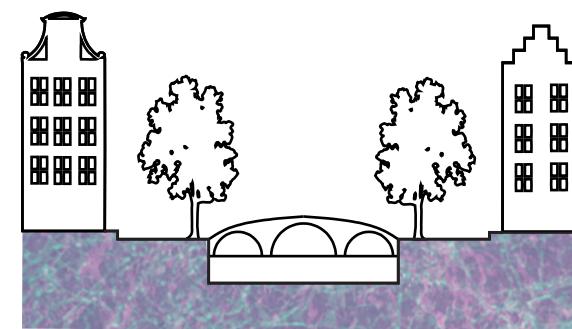
HERITAGE AS CITY IDENTITY

Rotterdam has its Erasmus bridge, Utrecht the Dom tower, Paris is known for the Eiffel Tower and London for the London bridge. But with which iconic building is Amsterdam identified? Not just one building, but the entire inner city: the canal rings. On a smaller, more local scale iconic buildings are scattered all over town giving character to the neighbourhoods. The photograph on the left shows the Wester Church, one of the most iconic buildings of the Jordaan area.¹ Along the river IJ a new trend has started with new iconic buildings: maybe in the future Amsterdam will have its own Eiffel tower?

LANDMARK AS CITY BRANDING



Amsterdam is not known for any specific building like the Statue of Liberty in New York City or the Sydney Opera House. What Amsterdam, in terms of architecture, is known for is the entire inner city: the canal ring. This is not only recognized by the municipality and national government, also internationally Amsterdam is famous for this historical and cultural part of the city. This is why the canal rings are also listed on the UNESCO World Heritage list (WHC, 2010).



Amsterdam

REDISCOVERING THE WATERFRONT

Will Amsterdam be a 'sparkling metropole with 2 million inhabitants' in 2050? If Amsterdam wants to keep competing on global scale with other metropoles, this is what the future looks like, according to endowed professor of Metropolitan Issues Zef Hemel (Loorbach, 2017, pp. 10-17).

The ultimate image of an 'sparkling metropole' is without a doubt the skyline: the city looms up in the distance, the mass of high skyscrapers in sharp contrasts with their surrounding voids. Often this image is enhanced by the presence of water: a morphological void protects the skyline from being devoured by the ever expanding city.

When approaching the city, the skyline as a whole fades away and gives way for individual buildings to stake the stage and the attention of the viewer. Along the water, iconic buildings attain their full potential due to the biggest fluid tribune they are

attached to. The reflection of the water makes these landmarks shine even brighter than when they would be placed in a dense urban area. It is no coincidence that all around the globe landmarks are placed along vast waterways. De Rotterdam by OMA in Rotterdam, the Philharmonie by Herzog de Meuron in Hamburg, the Sydney Opera House by Jørn Utzon in Sydney: all are placed along the biggest waterway that characterize these cities.

Coming back to Amsterdam, the last thing the city is known for is its skyline. But this was not always the case: before Central Station and the railways was built along the southern riverbank of the IJ, the city was dominated by high church towers. You could say that the reason why Amsterdam does not have a bold skyline like New York or Hong Kong, is a result of 'the deep rooted aversion to ostentation and the Dutch ideals of Protestant sobriety (Smit, 2017).'



Image of the former 'skyline' of Amsterdam, seen from the IJ looking at the south²

LANDMARKS ALONG THE IJ



1.



2.



3.



4.

But, the tide is in and on the IJ river. In order to densify within the A10 ring road, the North is developing high-rise residential and office buildings in the Overhoeks area. The former shell tower has been transformed into a new cultural destination, combined with the new iconic EYE Film Museum built in 2012. Also on the Southern part of the river, new landmarks have risen and this is continuing in the future.

The mark was set with the building of the Silodam and IJDock, but the most spectacular building will be the Pontsteiger, a new residential building which will be finished in 2018. Amsterdam.

With the 'Leap across the IJ' project, the connection between the north and south of the city is being explored in multiple ways. A bridge is also an iconic structure often strongly connected with the image of a city: look at the Erasmus bridge in Rotterdam or the Golden Gate bridge in San Francisco. Amsterdam is beginning to understand the importance of these iconic building in order to keep competing with other metropoles and this process is most likely going to continue in the future.

1. Overhoeks development³
2. Pontsteiger Houthavens⁴
3. Proposal for the 'Leap across the IJ'⁵
4. Java Hotel on Java Island⁶



LOCAL ICONIC BUILDINGS

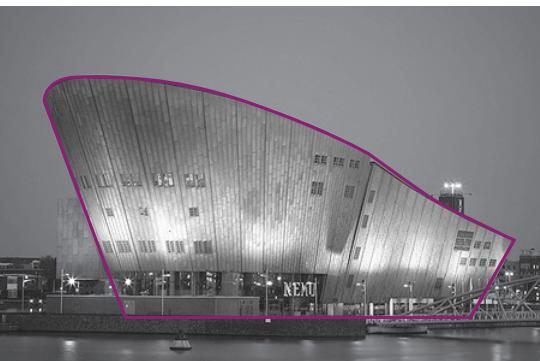
A landmark is defined as a building or place that is easily recognized and helps with way-finding in the city, according to the Cambridge Dictionary. A landmark is defined by the contrast with its surroundings in terms of: height, shape, color and style.

Even though Amsterdam does not have one iconic building that represents its identity, on a smaller scale there are a lot of iconic buildings scattered over town that gives identity to the neighbourhood and helps people navigate and identify important places. Amsterdam is a city with relatively low-rise

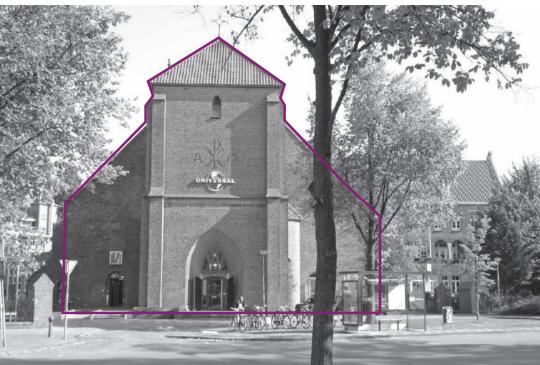


Oude Kerk	1330	1
Nieuwe Kerk	1409	2
Munttoren	1487	3
De Waag	1488	4
Zuiderkerk	1611	5
Noorderkerk	1623	6
Westerkerk	1631	7
Paleis op de Dam	1655	8
Scheepvaartsmuseum	1656	9
Koepelkerk	1671	10
Windmill De Bloem	1768	11
Haarlemmerpoort	1840	12
Posthoornkerk	1860	13
Rijksmuseum	1885	14
Sint Nicolaaskerk	1887	15
Station Centraal	1889	16
Silodam Apartment	1898	17
Hotel American	1902	18
Gashouder	1902	19
Beurs van Berlage	1903	20
Moskee Elmouhssinine	1912	21
Amrath Hotel	1912	22
Het Schip	1921	23
Betlehemkerk	1923	24
OBA Hagedoornplein	1923	25
NDSM Kraan Hotel	1950	26
Koptische Kerk	1952	27
Nationaal Monument	1956	28
REM Eiland	1964	29
Gerben Wagenaarbrug	1965	30
A'DAM Toren	1966	31
Watertoren	1966	32
NH Hotel A'dam Noord	1966	33
Ventilatiegebouw	1968	34
Europarking	1971	35
Seaplace Restaurant	1984	36
Stopera	1986	37
De Muur	1987	38
Nemo	1997	39
Westcord Art Hotel	2001	40
Silodam MVRDV	2003	41
Bimhuis	2005	42
De Piramides	2007	43
IJdock	2011	44
EYE Filmmuseum	2012	45
Amstel Botel	2015	46
Doubletree by Hilton	2015	47
Pontsteiger	2018	48

(1) FREE STANDING LANDMARK
example: Nemo Science Museum⁷



(2) PROGRAMMATIC
example: OBA Hagedoornplein⁸



(3) CONTRASTING SHAPE
example: Koepelkerk Singelgracht⁹



AMSTERDAM WITHOUT LANDMARKS

Artist Johannes Verwoerd shows in this photo reportage how the city view of Amsterdam would transform if the most iconic buildings were removed.



Amsterdam Central Station⁵⁸

'Amsterdam Landmarks shows us a different Amsterdam. An Amsterdam that seems familiar, but that we cannot quite place. (...) Through these images, viewers are encouraged to re-evaluate their surroundings, reflecting on Amsterdam's spatial planning and identity. Erasing several buildings from the map of Amsterdam would leave us with a fair amount of

space. (...) We could return the new land to Mother Earth, or fill it with concrete housing blocks. Once again, urban planning will be wide-open once more. But what is a city without monuments? Aren't De Waag and the Concertgebouw part of Amsterdam's identity? (...) What meaning these new cityscapes hold for the city is up to the viewer to judge (Verwoerd, 2016).'



Dam Square⁵⁹

TALLEST BUILDINGS



The Wester Church, designed by architect Hendrick de Keyser (who also designed the Northern and Southern Church) in 1631 remains the tallest church tower of Amsterdam. The protestant church was built in the Golden Age for the wealthy residents of the canal rings. The church is built in a renaissance architectural style and the top of the tower is crowned with an 'emperors crown', the blazon of Amsterdam.

The A'DAM tower was built in 1966 by a design of Arthur Staal as a headquarters for Shell, a famous Dutch oil company. That is why the tower was often referred to as the 'Shell Tower'. In 2014 the building was re-developed by Claus and Kaan architects with a multi-functional purpose and opened in 2016.



Highest building Amsterdam North:
A'DAM Tower



Highest building Amsterdam Centre:
Wester Tower (Wester church)

FUTURE SCENARIOS



In 2050: will Amsterdam's international landmark remain the **canal rings**...



... or will the city have its own **Erasmus Bridge**...



...will there be a race for the **tallest building**...



...or the most **contrasting shape**...



...or will the new landmark of the future be **programmatically defined**?

NEW ICONS ALONG THE IJ?

Due to the extreme densification of the inner city of Amsterdam, historical iconic landmarks have vanished. On the scale of the neighbourhood they still play an important role in way-finding and orientation, but the ring of canals as a whole could be recognized as Amsterdam's international landmark.

Because Amsterdam is a very low rise city, tall buildings immediately stand out in the crowd. The A'DAM Tower can be seen as the landmark of Amsterdam North, as well as the Westertoren can be seen as the landmark of the South. There is however an interesting development to be seen along the river IJ. Along the riverbanks there is enough room for large scale iconic buildings, with the first project already halfway through construction: the Pontsteiger. Or is Amsterdam finally ready for its own Erasmus bridge with the 'leap across the IJ' project?





WATER

A UNIQUE URBAN LANDSCAPE

Venice of the north is what the city of Amsterdam is often called. The iconic canals within the city centre creates a unique urban environment that attracts many tourists from all over the world. The strong presence of water in the city is not unusual in the Netherlands. The country has a rather unusual relationship with water. Within this chapter we investigate the relationship between Amsterdam and water. Focused on its canals and the river 'IJ'.

THE DUTCH & WATER

With a significant part of the country below sea level comes an extensive history of water management knowledge. The Dutch are using their water management knowledge world wide in various projects. This knowledge comes from a long and rather hard relationship with the sea and rivers.

First settlements in the Netherlands were based on 'Terpen' or small hills where settlers would build their houses on top of in order to protect themselves of floods. Over the years the Dutch gained the knowledge to build dikes as protection. Amsterdam has earned its name from a dike which was built along the Amstel river.¹

Through the development of windmills, the Dutch enabled themselves to move water by wind power. This resulted in the creation of polders. These polders are large flat areas that are lying several metres below sea level. Dikes and dunes protect them from flooding.²

Over the years this management of water elaborates trough the usage of canals for transportation and the development of the 'Delta' works. A huge artificial walled structure protecting large parts of the country from flooding. It is one of the 7 civil engineering world wonders.³

17% of the Dutch land mass is reclaimed land from sea and lakes. With new motorised technologies the Dutch enabled themselves to move land and create it their own. From this the whole province of Flevoland is made which almost fully consists of reclaimed land.⁴

The canals of Amsterdam are Unesco Heritage and part of the 7 wonders of the modern world.

With Rotterdam as one of the biggest ports in the world and Amsterdam being the 4th of Europe, the Dutch have a big economical interest in importing and exporting goods across the globe with rivers and the sea being of economical value. The port of Amsterdam takes 1900 hectares of area and 600 hectares of water ways. In 2008 it employed almost 65,000 people, of which half is from Amsterdam.⁵



Nearly **17%** of the Netherlands is **reclaimed land** from the sea and lakes.



Roughly **1170 Windmills** exist in the Netherlands of which most are still operational.



10,000 houseboats in the Netherlands and over 2,400 in Amsterdam alone



Per person, the Dutch use **120 litres** of clean water everyday for various reasons.



Living safely below sea level costs everyone residing in the Netherlands some **330 Euros per year**.



Waterschap, the regional water control board per area. There are **27 waterschappen** today.



The waterschappen manage **18.000km dikes** and **225.000km waterways** today.

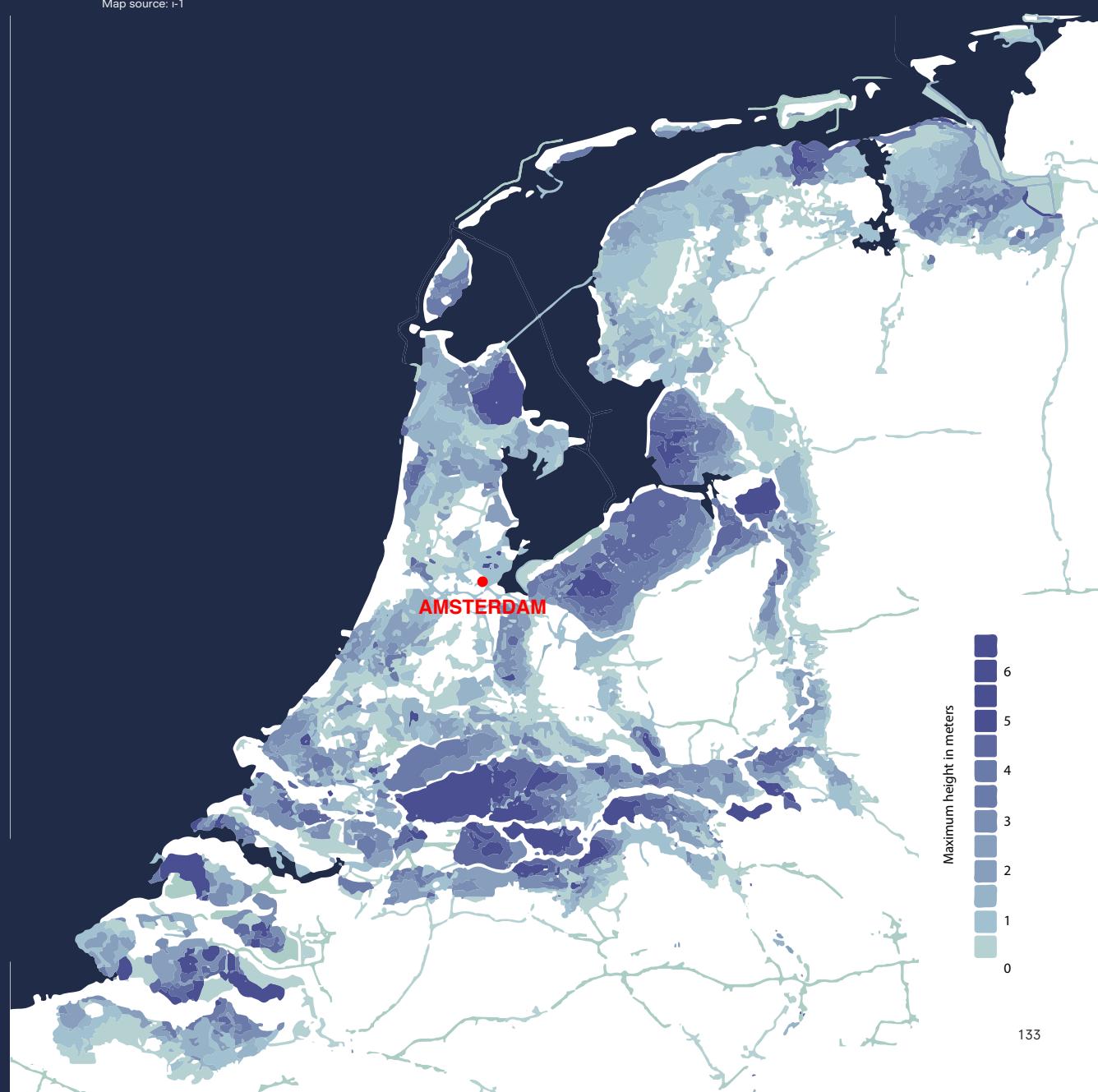
LIVING BELOW SEALEVEL

In general the Dutch relationship with water is unlike that of any other country in the world. It is a densely populated country situated partly below sea level. Its deepest point is located in the area of the city of Rotterdam. 5,9m below N.A.P. In general, one third of the Dutch territory is actually below sea level. Rising sea levels is a

serious issue for the Dutch considering the areas which could potentially flood in case dikes would fail. Fortunately, Amsterdam is built +/- 2m higher in ratio to sea level and therefore is safer from flooding, though protection from the water will always be needed (See detailed flood map in appendix).

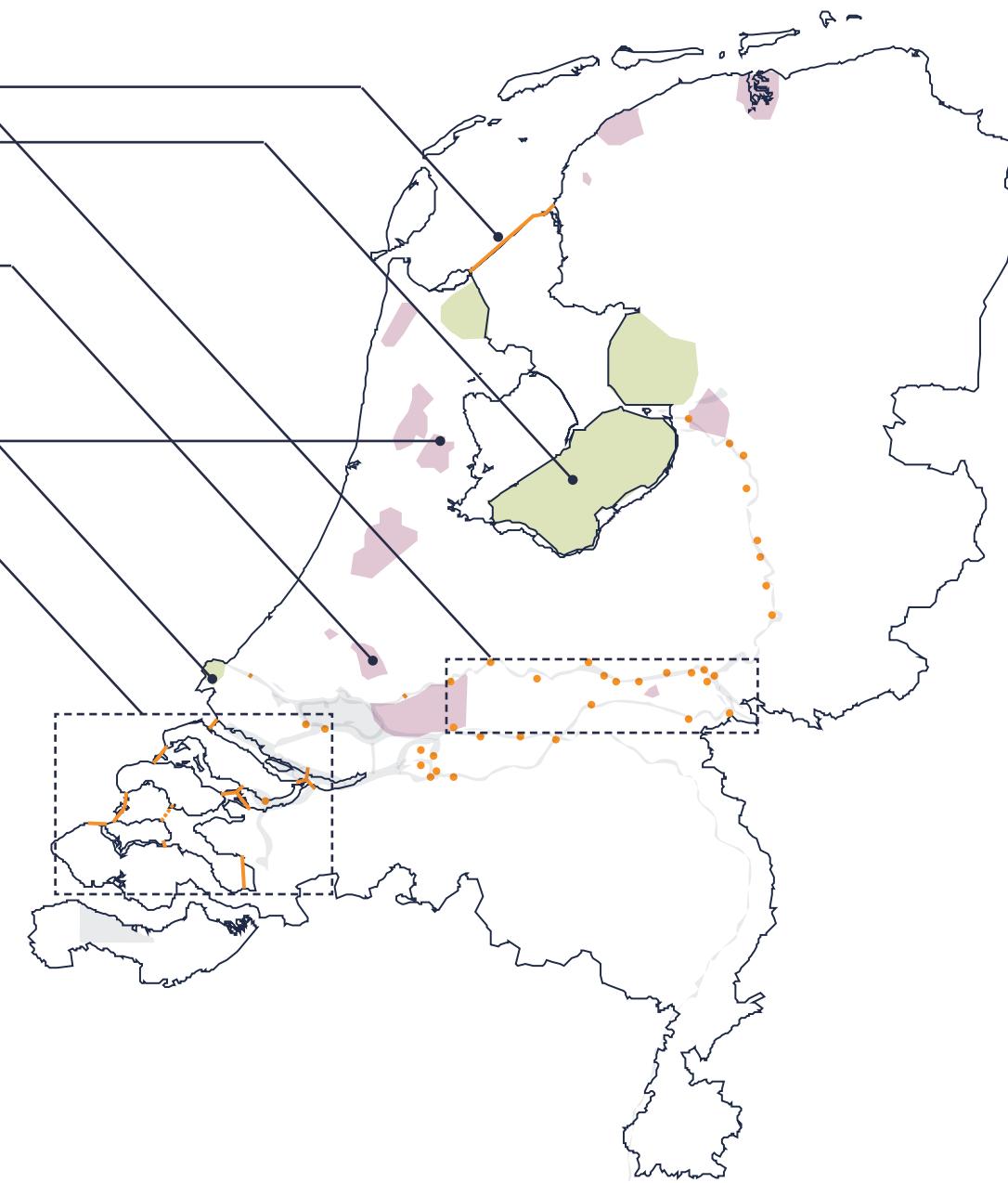
Infographic source: 6

Map source: i-1



2013	Maasvlakte project
2007	Room for rivers program
1986	Deltawerken opening
1953	Waternoedsramp
1932	Afsluitdijk
1918	Zuiderzee works
1900	First sewage systems
1820	Zuidplaspolder King William of Orange I was the first to create polders with steampower
1798	Founding 'Rijks waterstaat' Part of the Ministry of Infrastructure and Environment, responsible for watermanagement
1780	One of the first significant polders Beemster & Schermer
1707	Pannerdensch canal Splitted the Rhine in two to improve water traffic efficiency
1421	SintElizabethvloed Large area's of Flanders, Zeeland and Holland where flooded
1400	Windmills used to polder
1287	SintLuciavloed
1255	First official water Authority Responsible for managing dikes, waterways, sewage treatments
1170	All Saints Flood Creating the 'Zuiderzee'
1100	Development of peat-soil
1000	First man made dike Peins, Friesland
0	
-500	Usage of Terpen

DUTCH WATERMANAGEMENT INTERVENTIONS



- Reclaimed land
- Polders
- Dams, Dykes, Locks, Storm barriers

Infographic source: 7

WATER ON SITE

'The water in and around the city is of one of the qualities that distinguish Amsterdam from most other metropolises. The awareness that this is a huge asset for the city will only grow stronger'.
Municipality of Amsterdam

Rediscovering the banks of the river 'IJ' is one of the main aims according to the municipality's agenda described in the 2040 structural plan. The municipality would like to spread the growth of leisure and tourism over different parts along the water banks, stimulate sustainable usage of water and use business strategies to realize these ambitions. While these ambitions are very broad and vague, the municipality provides several specific aims. These include: creating more swimming areas and recreational places on the riverbanks, introducing new dwelling areas on top of water, furthermore, enhancing the water network for recreational and transpirational shipping, expanding yacht harbours and optimizing the IJ riverbank connections.⁸

Three Identities

Along the IJ river the municipality mainly distinguishes three identities. In the east the focus will be on water recreation purposes, in the centre the area will be focusing on tourism and the international identity of the city. Using the north waterfront for potential olympic games is in consideration. The west will be focusing on further urbanisation towards the harbour. With the developments along the IJ, the municipality would like to take out all big event activities in the UNESCO area and move them to the 'oosterdok' area which is in south of the Central area. Cargo shipping over water is stimulated instead of trucks through the small UNESCO streets.⁹

The IJ and Harbour

The IJ is an important connection between the Atlantic and the Ruhr area of Germany, the port of Amsterdam and other Dutch harbours. The port of Amsterdam is the 4th largest within Europe. The municipality expects that ferry traffic will increase and the harbour will grow in its size. They would like to explore options for bridging the North and South for 2020 to facilitate infrastructure for the increase in transportation between the two parts. Overhoeks will be further developed with attractive places for tourists. Along the river banks, space will be made for leisure and sail/yacht harbors.¹⁰



WATER & CULTURE

In contemporary Amsterdam, the canals and the river IJ are strongly connected to its cultural activities. Unlike most Dutch cities, the canals are in many cases an area of festivals. During these festivals, many people tend to come together and celebrate certain moments such as Kingsday, Gay Pride, Grachtenfestival and the famous Sail event. In these cases, the canals are filled with boats for recreational purposes but also part of the festival itself.

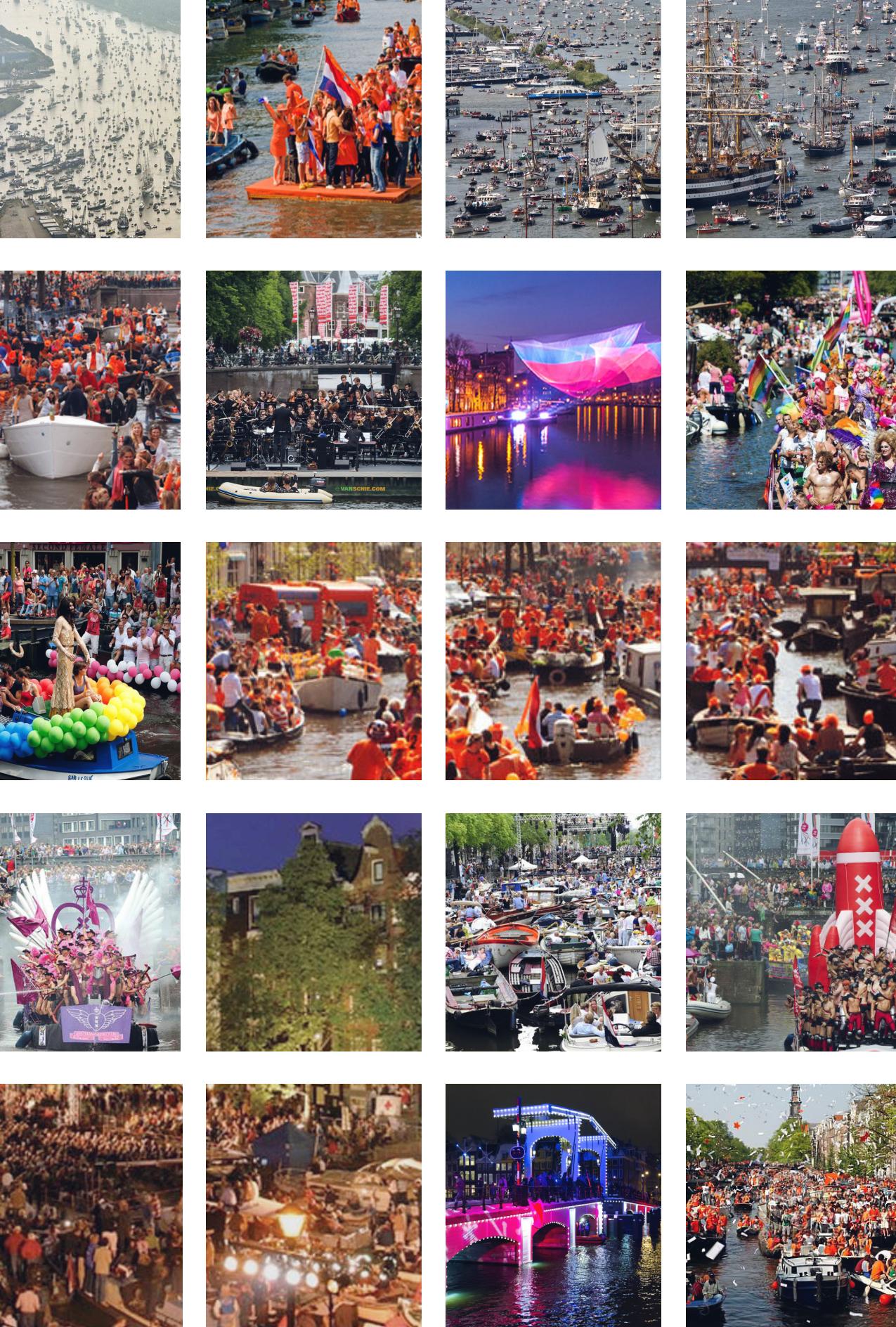
During the 'Grachtenfestival' stages are built on the canals where artists perform. The ones in the boats have the privilege to sit first row.

Moreover, the canals are the history on which Amsterdam has built upon. What used to be waters for sewage and transportation purposes are now waters that facilitate iconic sceneries for travellers and Amsterdammers. Notorious are the tourist vessels which float through Amsterdam in large amounts.

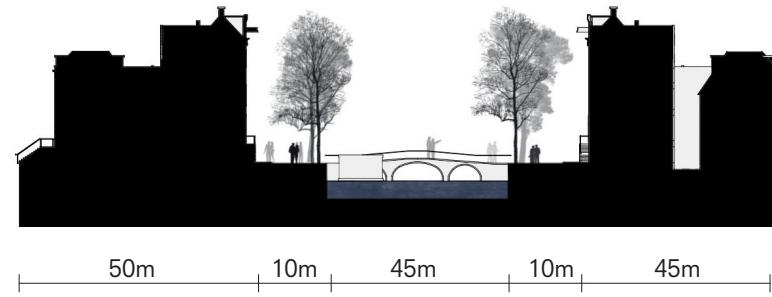
The canals facilitate a public space on which one cannot walk but only float. There are strict regulations if one would like to make use of the canals by boat. This also requires tax payment and docking fees. It is a rather odd form of space within a city but also gives its an exclusive quality as well.¹¹



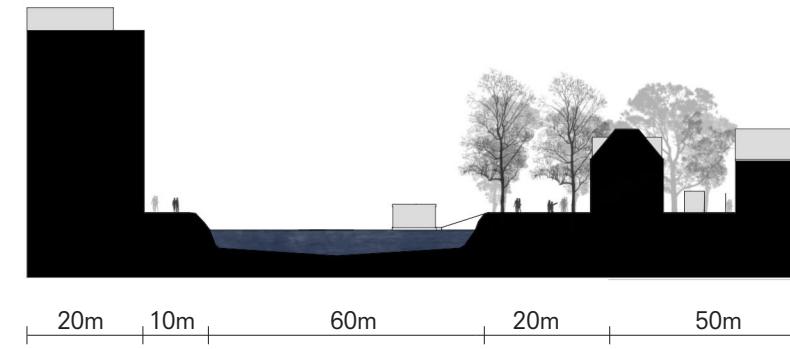
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Images: i-2



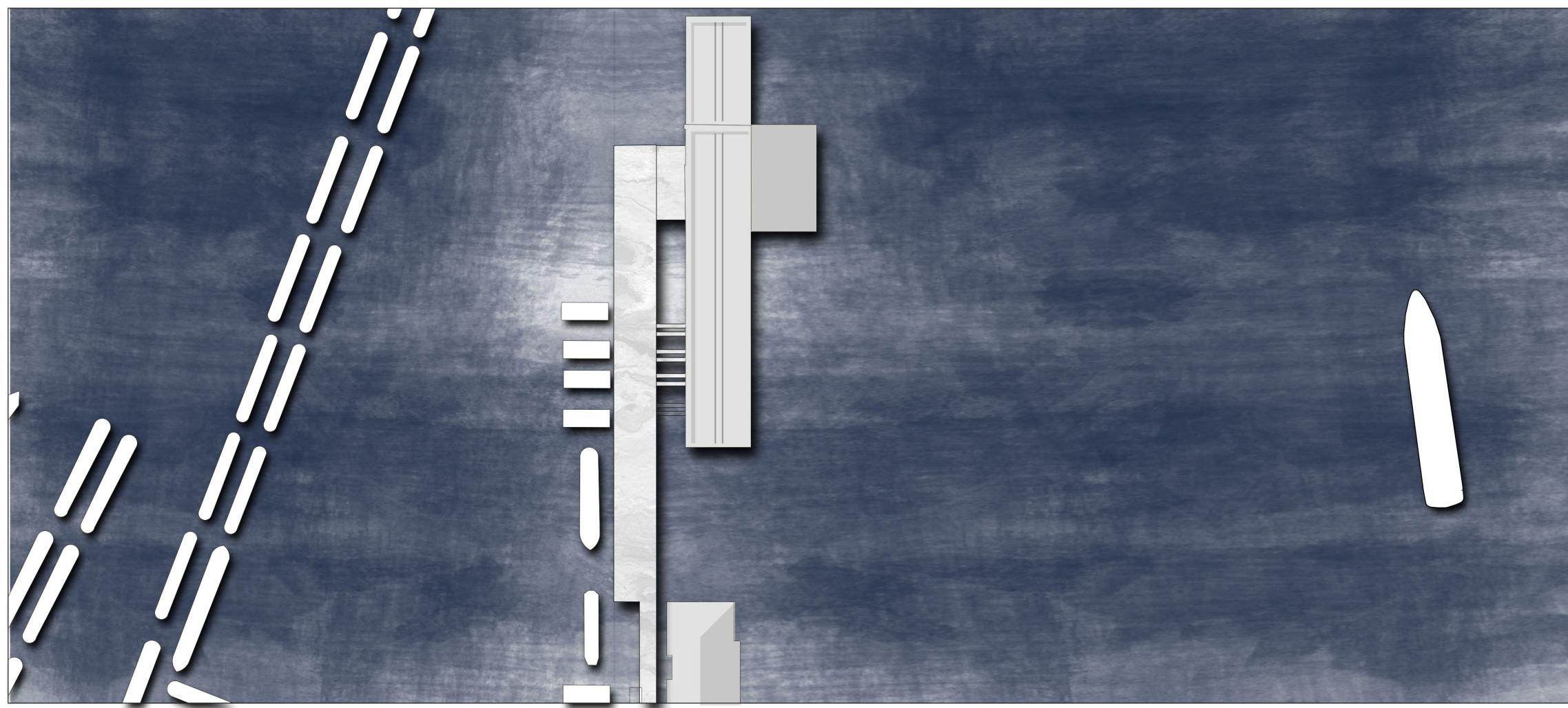
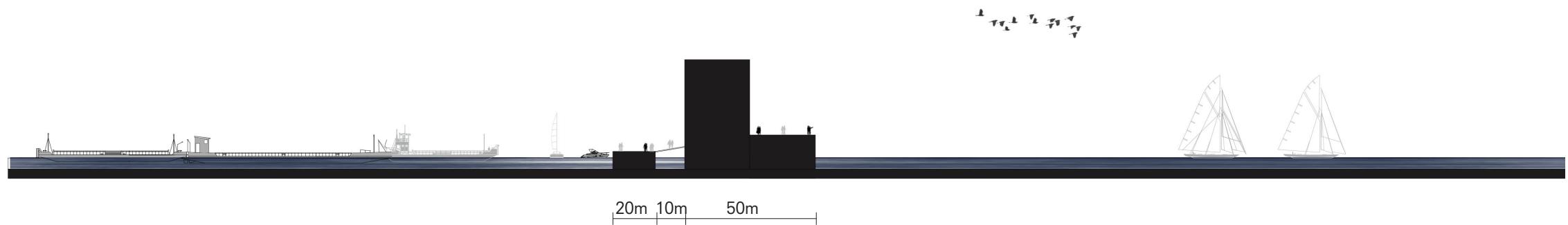
DIMENSIONS ON WATER
AMSTERDAM CENTRE CANAL SECTION



NORTH CANAL SECTION

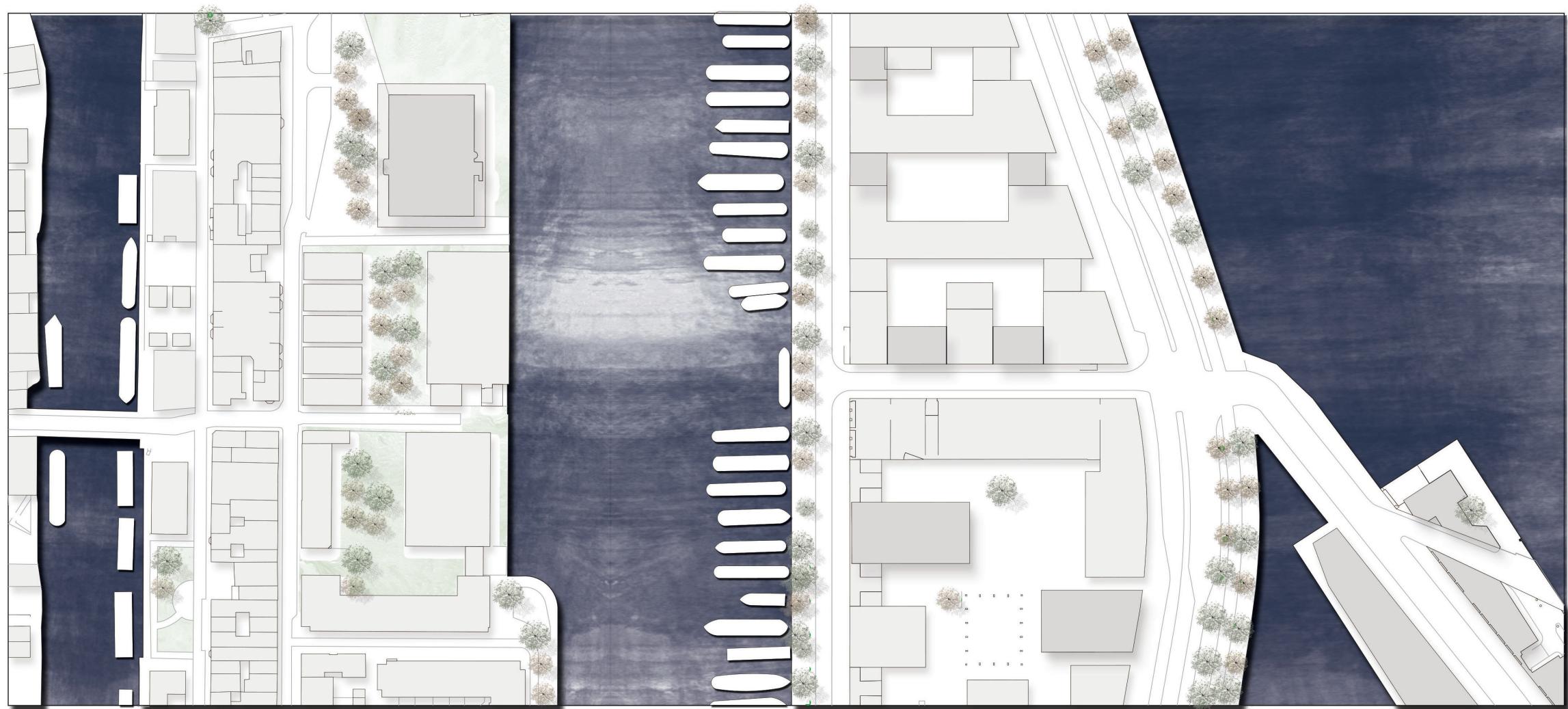
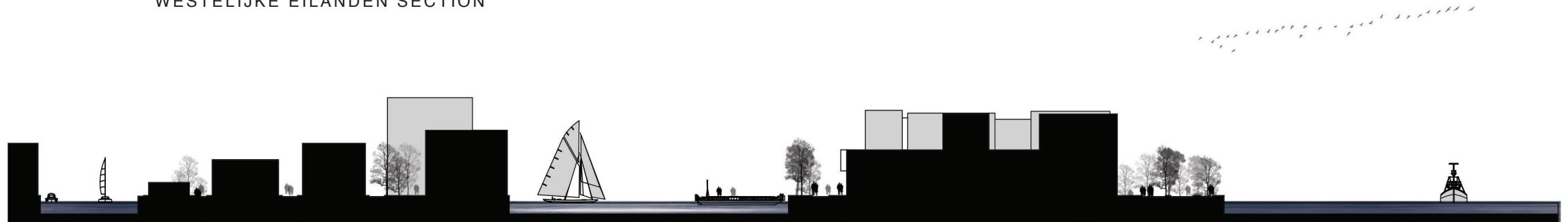


DIMENSIONS ON WATER
HOUTHAVENS SECTION



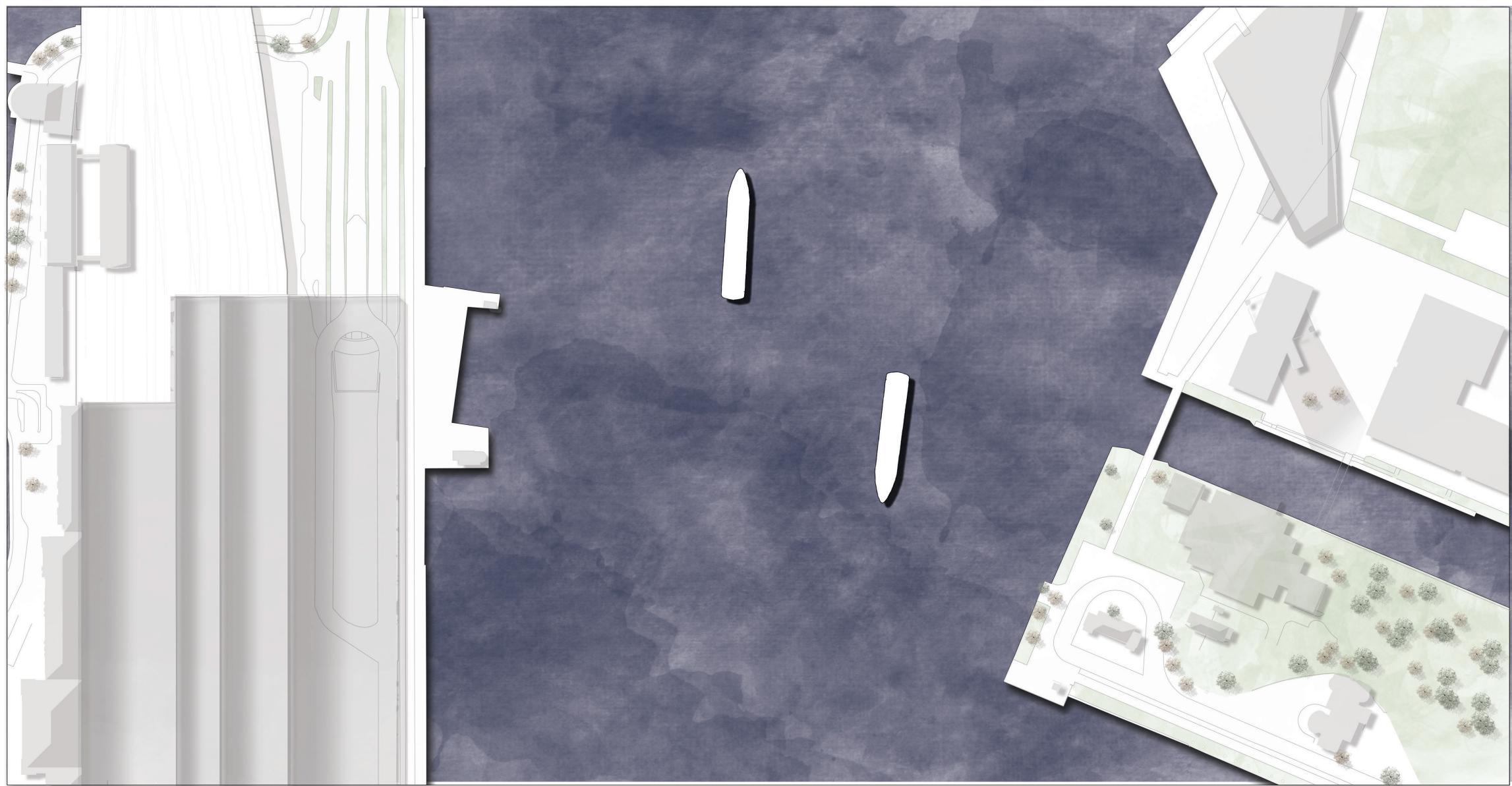
DIMENSIONS ON WATER

WESTELIJKE EILANDEN SECTION



DIMENSIONS ON WATER

IJ RIVER SECTION



WATER, AN ESSENTIAL ASSET?

Canals are a unique heritage that Amsterdam gained from its historical relation with water. The municipality believes the water will become a more important asset for the city and wants to elaborate on this element. By connecting the city more to the water through housing and activities, as well as possibly in the future by bridging the North and South. The water on the borders is causing urban parts with different identities. The biggest border being the river IJ. It adds value to the site for its views and is economically important but also a segregator between north and south. Culturally the canals and water are of great importance. Many festivals are being held on these areas of Amsterdam celebrating its identity. Knowing its cultural and historical value, what would be left of Amsterdam without canals?





BARRIERS

INFRASTRUCTURAL BARRIERS

Our site is characterized by the presence of infrastructural barriers, which make the use of space around them difficult and quite unpleasant but at the same time they unite the city with the rest of the country. In this chapter, the topic of barriers and infrastructures will be unfolded in an extensive manner, providing categories and visuals about the most relevant barriers.

FRAMED

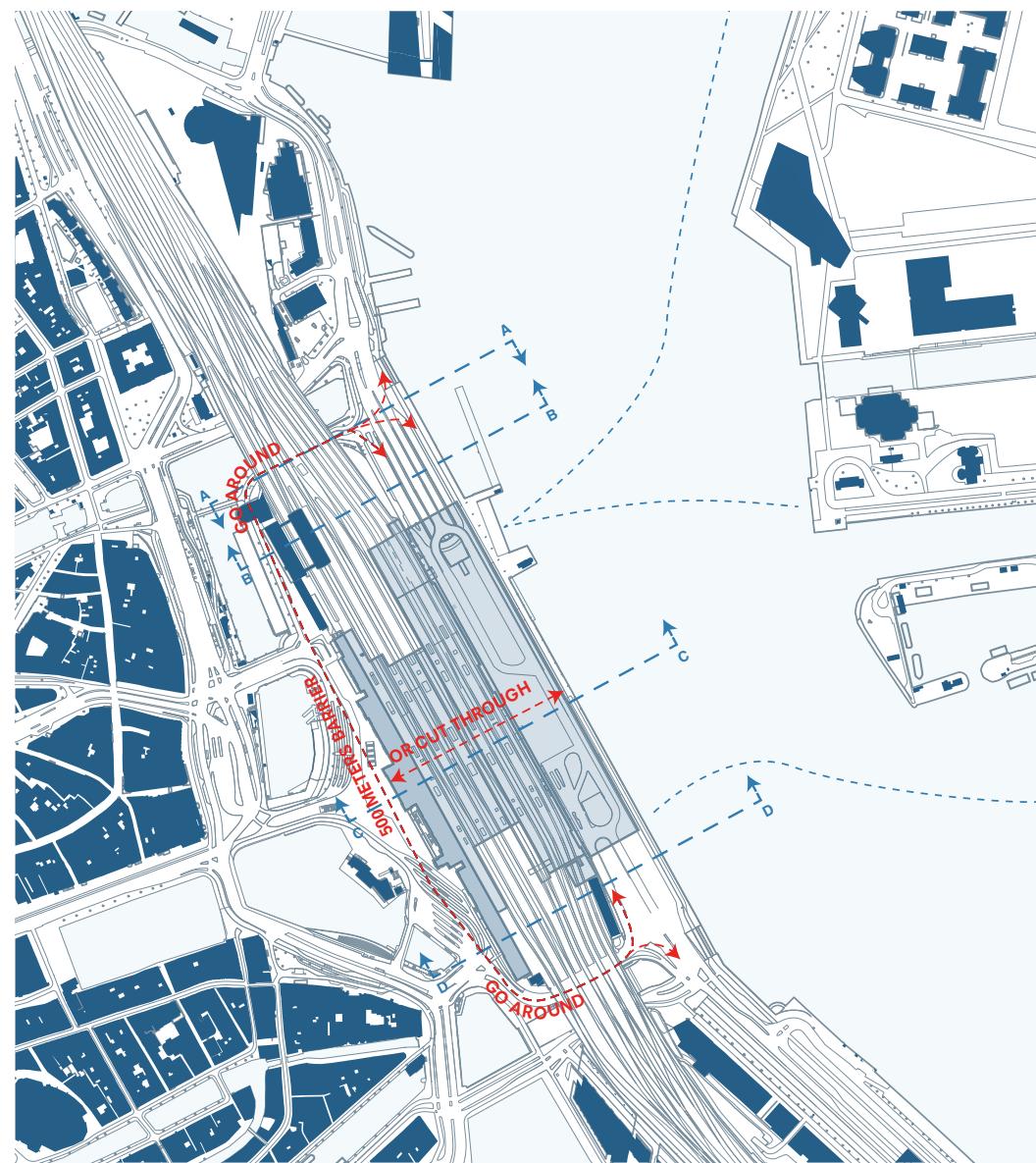
This map shows how fragmented and disconnected the city of Amsterdam really is. By doing so, we understood that there are many "invisible" barriers in Amsterdam: the streets, since they run parallel to the canals. Therefore what make of them a barrier is the inability of crossing the street at any given moment, but only at some specific points due to the presence of bridges or tunnels. The Train station and the railways, should be viewed as the final act, as it seals off the city center from the IJ waterfront, and with that even the ability of having a direct visual connection with it. Moving onward from the station, the last barrier is represented by the IJ river itself. Highly trafficked by boats and cruise ferries, divides the central part from its northern development, making difficult to easily roam around from one side to the other. In the next pages will be shown a set of the most relevant barriers in our site. The barriers taken into account are: the IJ river, Central Station, and the typical Dutch house block development. Further more, we divided the classification in three sub-categories: visual barriers, physical barriers and cognitive barriers.



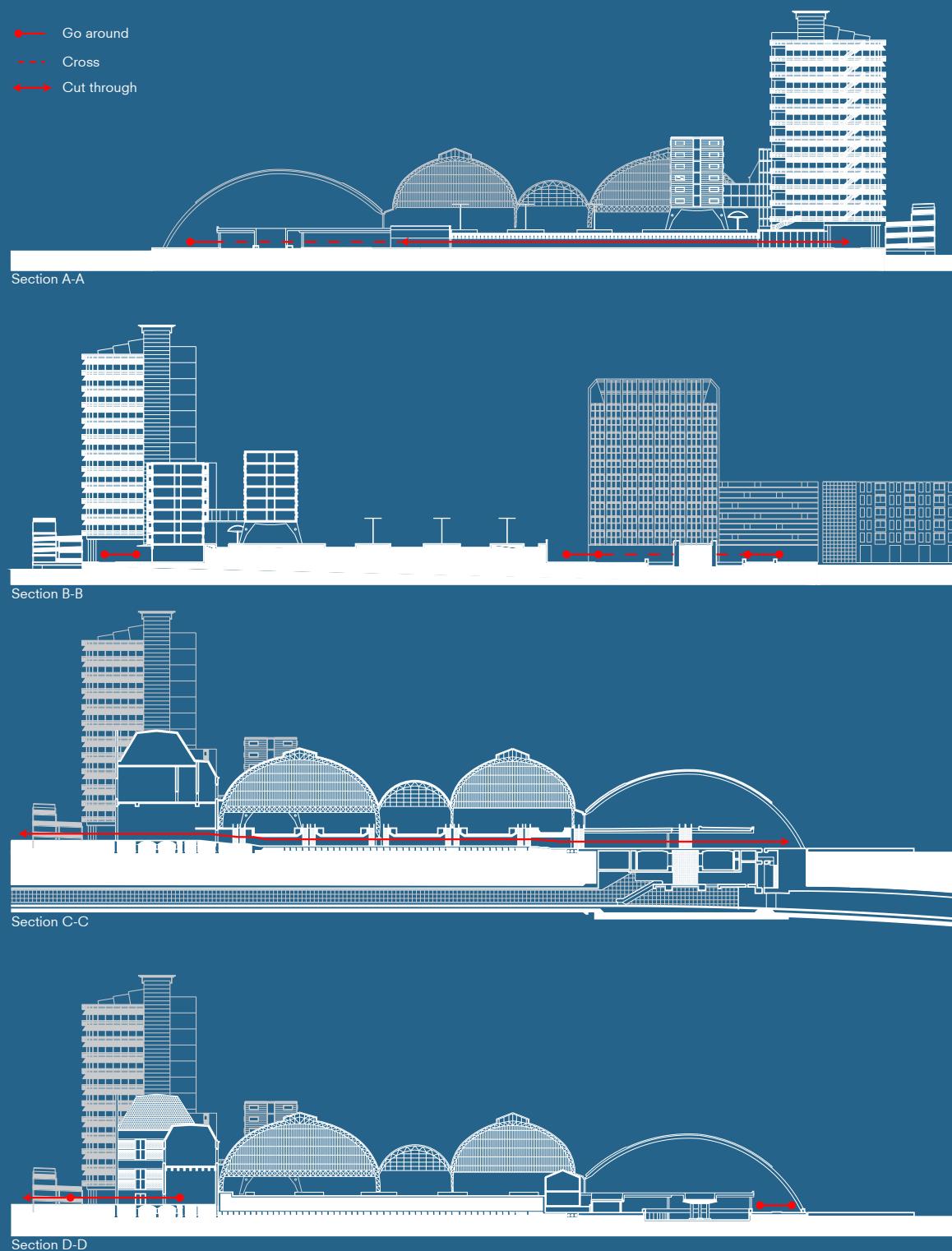
CENTRAL STATION

Among the major architectural barriers we find is Amsterdam Centraal, the largest railway station of Amsterdam, and a major national railway hub. Used by 162,000 passengers a day, it is the second-busiest railway station in the country after Utrecht Centraal and the most visited national heritage site of the Netherlands. It is also one of the oldest stations in the country. Built in 1888 in the famous

"Water Style" by architect Pierre Cuypers. It represents an architectural barrier in the physical, visual and cognitive sense. What makes it so is its location: totally spaced between the old historic center and the IJ waterfront, making it completely inaccessible.

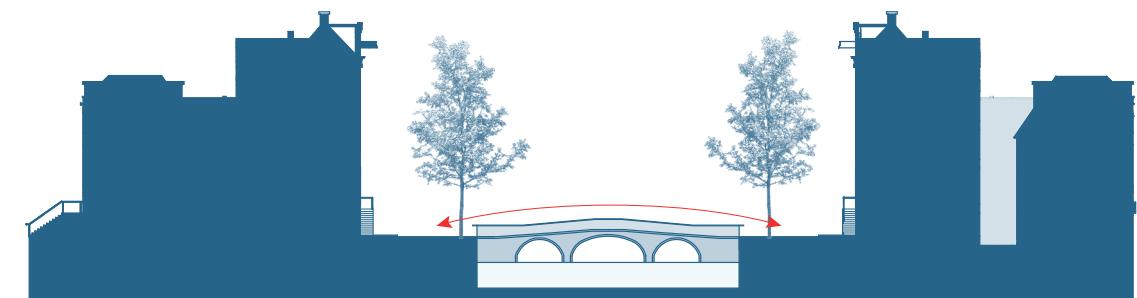


- Go around
- Cross
- Cut through

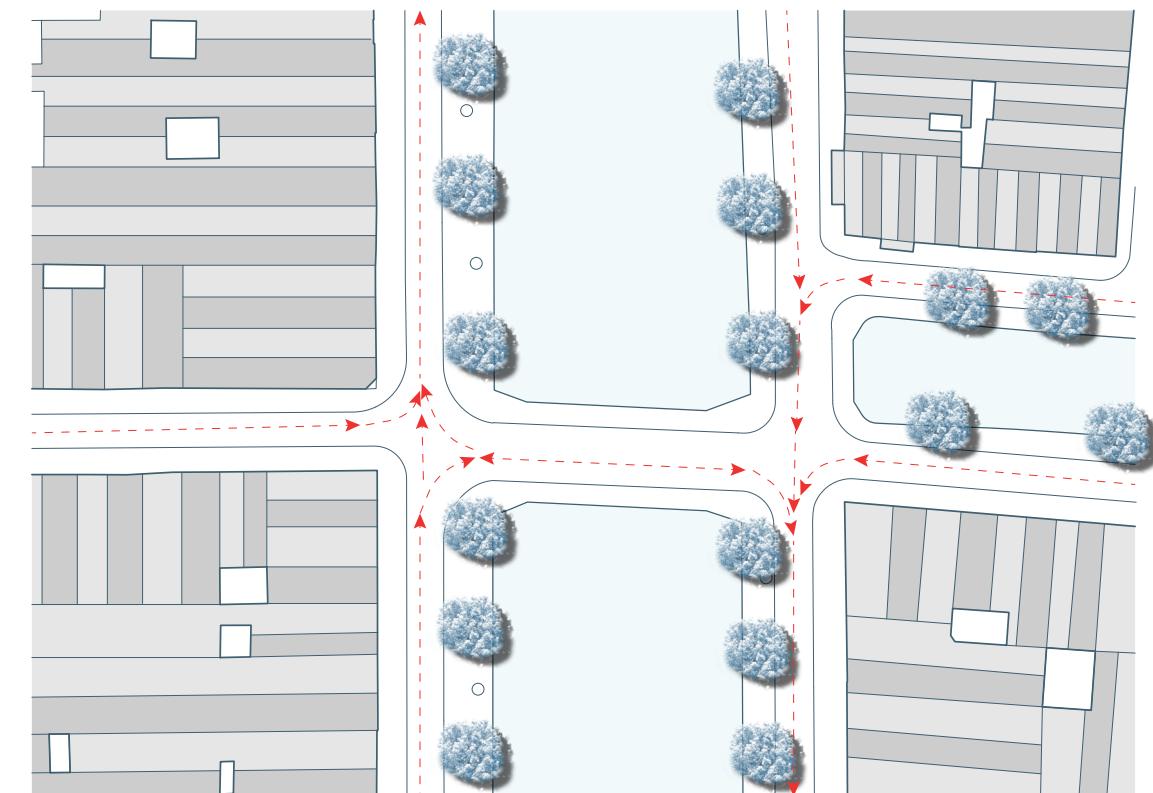




THE CANALS



Section along the typical Canal Houses



The forced path to cross the street

Much of the Amsterdam canal system is the direct outcome of city planning. In the first half of the 17th century, due to immigration rising, an extensive plan was put together, calling for four main, concentric semicircle shaped canals with their ends resting on the IJ Bay. Nowadays, they are known as the "Canal Ring" ("grachtengordel"), three of the canals were mostly developed for residential purposes (Herengracht or "Patricians' Canal"; Keizersgracht or "Emperor's Canal"; and Prinsen-

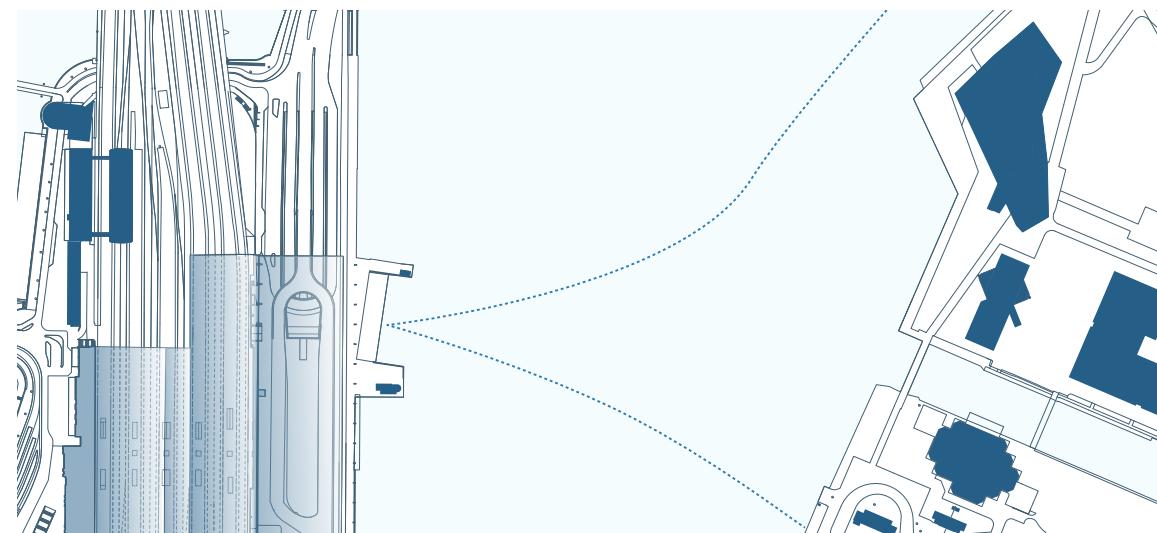
gracht or "Prince's Canal"), and the fourth, outer canal, Singelgracht, was mainly built for defensive purposes and water management during the golden age. The plan also envisaged interconnecting perpendicular canals; a set of parallel canals in the Jordaan quarter. Later the Singel was converted from a defensive purpose to residential and commercial purpose. They represented the streets of the old city, a water infrastructure stretching along the whole city before the advent of the car with the



THE IJ RIVER



Section along the river IJ



Plan view along the river IJ

streets. Nowadays Amsterdam has more than one hundred kilometers of canals with 1,500 bridges for crossing them. Today they represent the biggest physical barrier we can find throughout Amsterdam. The shape of the urban fabric, for centuries has evolved parallel to the development of the canals and the river IJ. As mentioned before they were used to carry people and goods with the famous (**jaagschuiten**). An efficient system able to transport products and people between one side and the other. In most cases, were hauled because they did not have enough room to sail and because it could keep a pretty tight schedule. A boat up to 20 tons could be pulled with a speed of over 10 km / h. With heavy ships of up to 100 tonnes the speed was around 6 km / h. Today, it is no longer possible to experience this, except for rare exceptions. Channels are still accessible, but only for tourist purposes and no longer as infrastructures. Same speech to the IJ, although it still feels its commercial and tourist value, but no longer the one to efficiently connect the two banks of the river. Indeed

the Netherlands can account on something like 3000 kilometers of water infrastructures, the IJ is one of the important. It connects the Atlantic side with the Ruhr area in Germany. But it also represents the biggest physical barrier since it divides the north part from the rest. Connections are not easy and only possible through ferries. That's because without the ferries, operated by the municipal public transport company GVB, many citizens of Amsterdam could not easily commute back and forth across the IJ. GVB serves 6 ferry routes across the IJ, which currently serve more than 15 million passengers per year. And the number is still rising if compared to the 12 million in 2011. This is a direct consequence of the growing importance of the North area, where more and more people and businesses are settling. Unfortunately during peak hours, or when there are special events in the city, the ferries tend to be overcrowded. Debarking on the other side can be very difficult, as lots of people want to get on to the ferry while others are still trying to get off the ship at the same time.



Linear view



Canal in Amsterdam



Bike parking near CS

CP AMS MID CITY 2017 - 2018

VISUAL BARRIER

Amsterdam, the city reclaimed from water, is famous for its sighseens, visual scenarios that stretches along the canals. Talking from a barrier point of view, they are also a visual barrier. For visual barrier, one means all the buildings or infrastructures that alter the perception of the space or the preclude the view of some valuable points of the city. The canal houses, for example, are a good example of this. Due to its urban layout and standard regulamentation, most of the time you have the feeling of going around a corridor without the ceiling.



Streets as corridors



Mainly only linear front views



Barrier against the IJ



Bridge close up



No way for crossing



Only few crossing points



Bicycle park



Resemblances in many streets



Same layout sidewalks ad tramways

PHYSICAL BARRIER

As previously mentioned, the famous sighseen of Amsterdam represent the major phisical barrier. They force citizens and visitors to follow specific path for crossing from one side to the other. This often results in walking or cycling for long distances before encountering a bridge. It goes without saying, another major physical barrier is represented by the access to the public means and the route they follow: some areas are covered better than others. For example, Damrak street, one of the oldest street in the city center, has only one stop for each side. Moreover, all of them converge to Centraal Station, making its frontside very congested.

COGNITIVE BARRIER

Visual and physical barriers are not the only ones that you may encounter roaming around Amsterdam. There are also invisible ones! The so called "cognitive barriers" are all those that render difficult the perception or the fruition of a specific space by the lack of information or either by the lack of visual diversity. It's not unusual to get stuck in a bicycle parking lot because one can't recognize his or her bike. Or maybe got lost in the inner city due to the resemblances of one street to the other. A good access to the public infrastructures is represented also by providing a good level of information. Again, the frontside of Centraal Station is good example when it comes to talk about accessibility, as it lacks of clear sign posts.

AN OPEN CITY?

As we have seen, our site is characterized by the presence of many barriers, some simply visual, many other physical or infrastructural. The result is a difficult use of space, or of some whole areas, whose enormous potential remains totally unexpressed. Like the two shores of the IJ, especially at the front where the station is located, whose location marks a clear border between city and river. Giving a total sense of closure by the city. How would the city be if another proposed location was chosen such as Sarphatipark or Leidsplein? We tried to envision this scenario with the collage on the other page. There you the total difference in perception and fruibility. An open city.



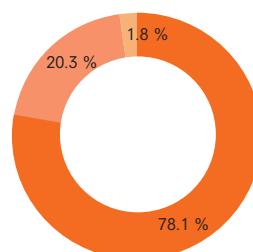


WORKING ENVIRONMENT

KNOWLEDGE ECONOMY

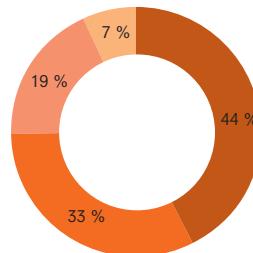
The emergence of new technology affects all areas of people's lives. So does it affect the architecture and the city. With the appearance of virtual reality the physical reality of buildings and cities is affected. One of the typologies experiencing the most obvious effects of the cloud reality is the workspace environment, namely the office. The influence of technologies allows for working from anywhere at anytime, going far beyond the boundaries of the physical working space, leading to the high vacancy of this typology. Thus the future of working environment in Amsterdam is under question.

SERVICE ECONOMY



Economic sectors (1990 - 2015) ¹:

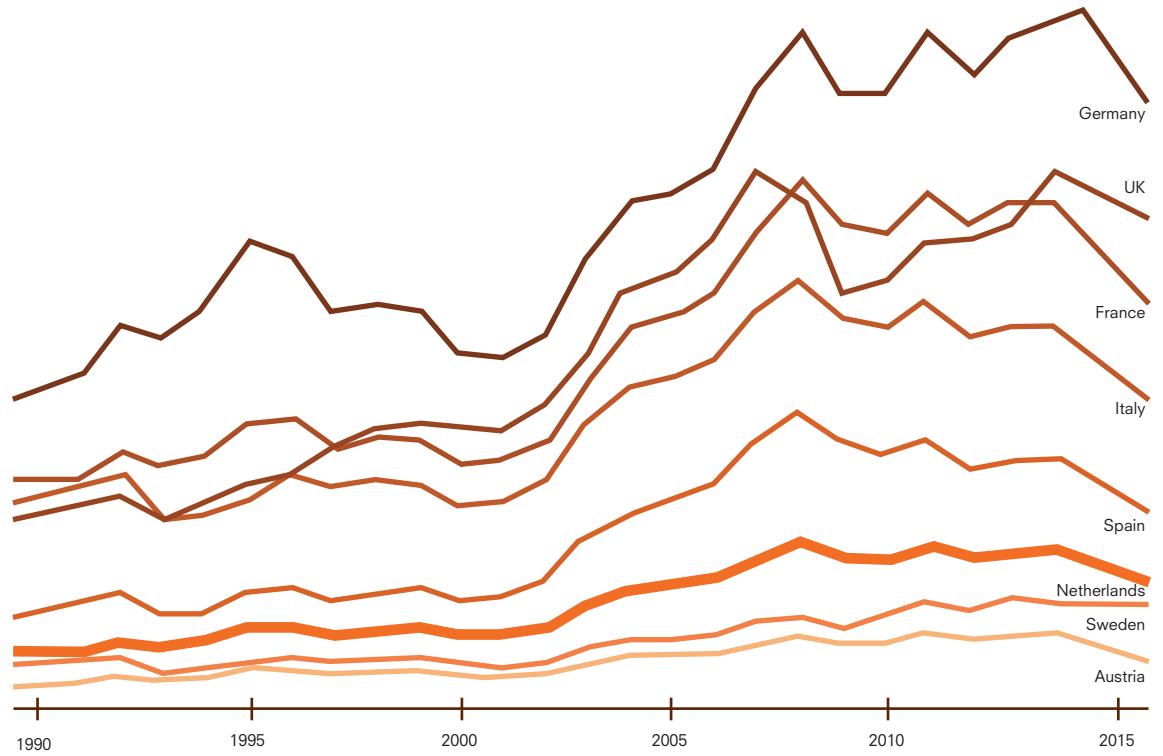
- Services
- Industry
- Agriculture



GDP by sector (1990 - 2015) ²:

- Commercial Services
- Non-commercial Services
- Other Sectors
- Industry

GDP in EU (1990 - 2015) ³:



The Netherlands economic structure runs on the principles of an open economy. The Netherlands is a prosperous economy that depends on foreign trade. The economic structure features a stable industry sector, low inflation and unemployment rate and an impressive current account surplus. There are three main sectors. The service sector is the most dominant in Netherlands' economy. The service sector contributes as much as 78.1% to the GDP (2015) and generates employment opportunities for 80% of the workforce (8.33 million). The industry sector contributes 20.3% to the GDP and employs almost 18% of the workforce. The government is taking steps to encourage the growth of new industries in areas that are economically depressed. Specific measures have been taken to encourage growth in biotechnology, aerospace industry and microelectronics. The agriculture sector is a well mechanised sector that employs almost 2% of the workforce and contributes to exports as well. The various goods that the sector produces are: grains, potatoes, sugar beets, fruits, vegetables, livestock (CBS, 2016).



Financial services area ⁴



Typical tourist attractions ⁵



ICT offices area ⁶

Financial services

The financial and business services sector is one of the largest economic sectors in the Netherlands, and the Amsterdam Metropolitan Area lies at its heart. It generates an estimated 20% of the region's GDP and 15% of its jobs. The region has many international law and accountancy companies. Amsterdam hosts the global headquarters of accounting firm KPMG and a host of other professional business services, such as legal affairs, management, pensions and tax consultancy, all of which ensure that businesses are served effectively. In turn, the presence of financial and business service providers has helped accelerate the increase in international head offices and corporate treasuries in the Amsterdam Area. (IAmsterdam,2016)

Tourism

The tourism sector is becoming ever more important to the Dutch economy. In 2015 it generated 5.2 % of GDP, according to Statistics Netherlands (CBS). It represent expenditures of 38 billion annually. Tourism sector plays a major role in employment, providing work and income to approximately 626,000 people. This represents more than 4.5% of the working population.

The main sectors of hospitality are hotels, restaurants, hospitality, art and culture, gambling and dirty businesses, aviation, tour operators, travel agencies. Approximately three-quarters of employment are in these areas. (CBS, 2016)

ICT services

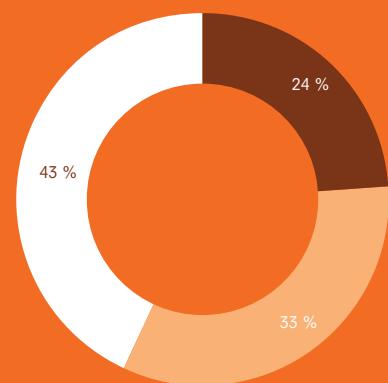
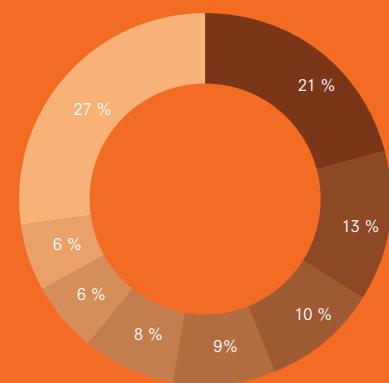
The Dutch are front runners in today's digital revolution. Nowadays, virtually all major companies are focusing on ICT developments. Large Dutch insurers and banks such as ING and the Rabobank offer highly progressive ICT-based services. Dutch businesses were also some of the first to outsource their ICT activities and incorporate the latest technology into their activities. Companies including Heineken, Shell, ABN Amro. Amsterdam is the digital capital of Europe, providing access to a large concentration of ICT expertise, with an ICT workforce of 250,000 people and a growing population of graduating talent. In addition to the state-of-the-art digital infrastructure, Amsterdam also boasts the strongest foundations to support knowledge-intensive enterprises. (IAmsterdam,2016)

OFFICE LANDSCAPE. THE NETHERLANDS

There are main areas of the office landscape in the Netherlands: Randstad areas and its significant G4 cities (Amsterdam, Den Haag, Rotterdam and Utrecht). These locations are considered to be the magnets of economy, thereby being attractive for investment and office development sector. In average in the country the main office areas are occupied by the sectors related to technical activities, information and communication and public administration. Among all the areas Amsterdam is the biggest office market with the lowest vacancy rate in the country, primary due to its position on the global market. This location scores extremely well when it comes to accessibility, facilities, availability of talent and a positive outlook for more office jobs in the region. These positive aspects have resulted in a high demand for office space, historically low vacancy and increasing (top) rental prices. Utrecht is the second city in the office ranking. This region has been divided to the Stationsgebied

(station area) and City Centre, which occupy positions five and six respectively. These high scores can be attributed to the liveliness of the area, the availability of talent, the central location and good accessibility. The revitalisation of the station area will lead to even greater activity in the near future. As a result, the whole is expected to rise even further. The area is becoming a mixed-use destination with besides offices also residential units, hotels, retail and other real estate being realised.

Another magnet is the Rotterdam's Central District. This location scores well on economy, talent, and its standard of facilities. Despite being located in a multi-functional office area in Rotterdam still has a relative high vacancy rate. Rents are under pressure and heavily supported by incentives. However, Rotterdam Central District is a very mature office area and perhaps the only genuine CBD in the Netherlands. It also has the most international skyline in the Netherlands. (JLL, 2014)

Office area/sector (2014) ⁷⁾:

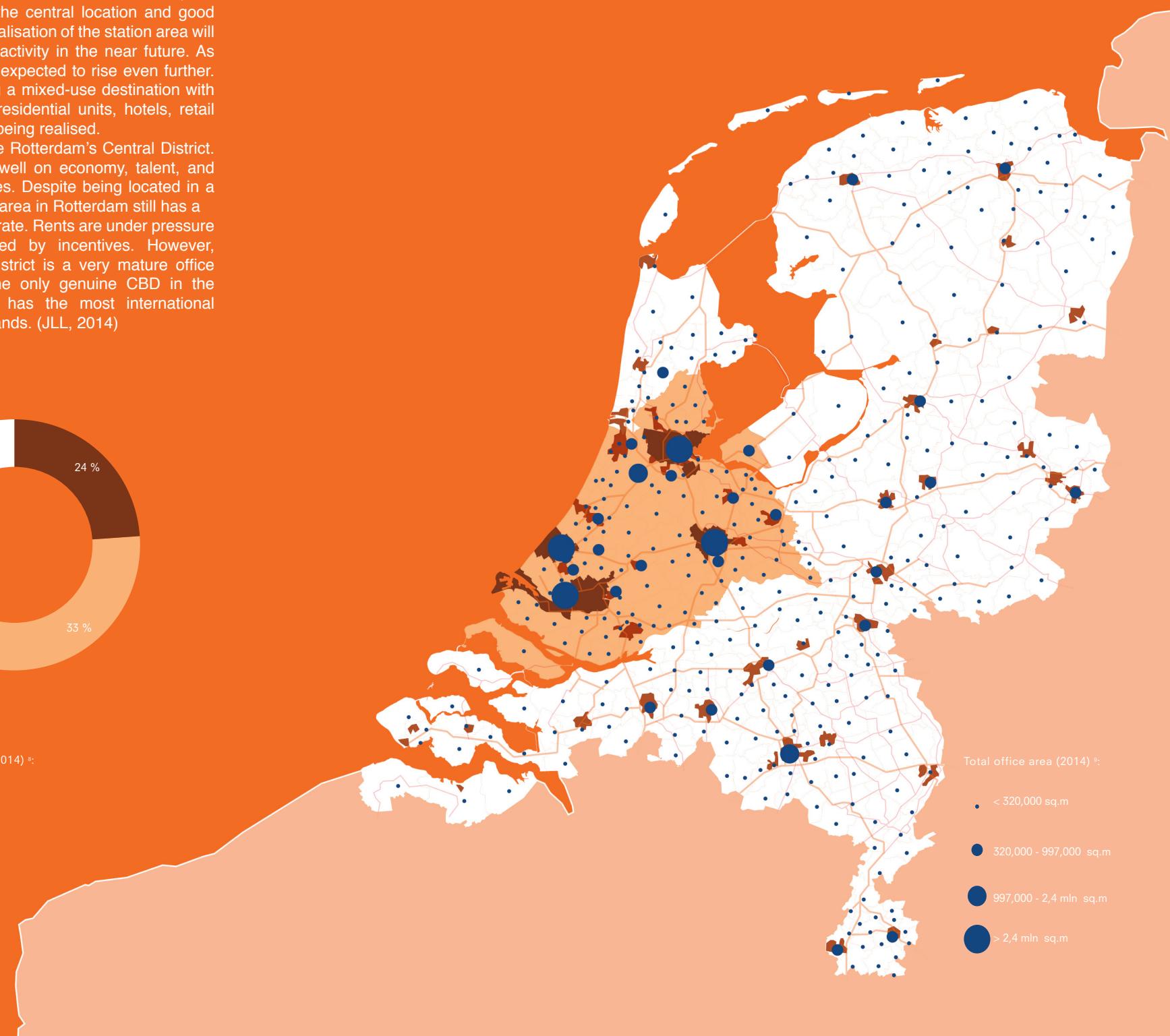
Technical activities	Human health and social work activities
Information and communication	Manufacturing activities
Public administration and defence	Real Estate activities
Financial and insurance activities	Other activities

Office area/location (2014) ⁸⁾:

Other Netherlands
Other Randstad
G4

Total office area (2014) ⁹⁾:

< 320,000 sq.m
320,000 - 997,000 sq.m
997,000 - 2,4 mln sq.m
> 2,4 mln sq.m



OFFICE LANDSCAPE. AMSTERDAM

There are some main office areas in Amsterdam Metropolitan Region. Most of them are developed around and connected to the main roads and the transportation hubs (airport, train stations and metro stations). The most popular locations are situated on the South due to geographic benefits. However, in the recent years there is an initiative to develop also the Amsterdam North Area and bring development there as well.

The most important economic sectors that rent the office spaces in the Amsterdam city center are finance, creatives and recently a booming market of technology sector.

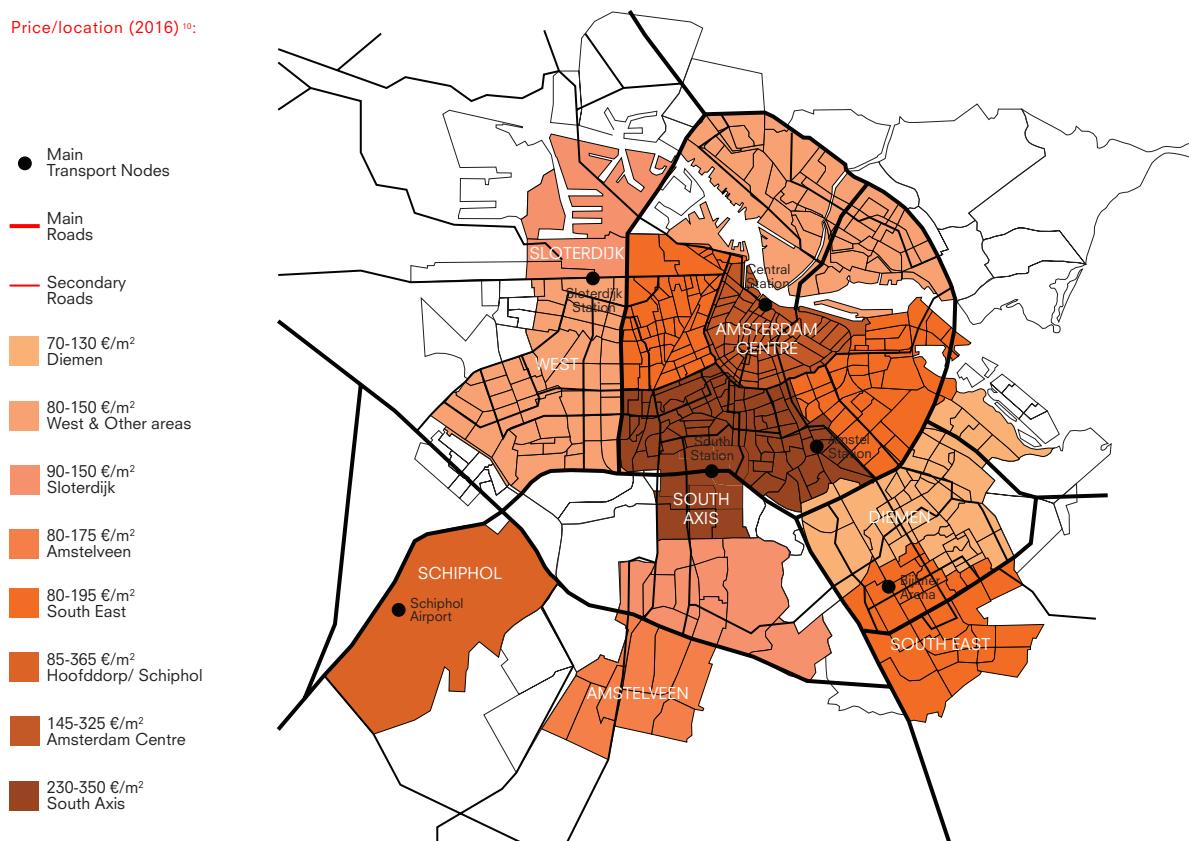
The technology sector in Amsterdam now accounts for one third of the growth in the office market, according to a new report. The report, called "Understanding European Technology Clusters", was published by the consultancy firm CBRE. It found that the tech sector is one of the fastest-growing sectors in the Dutch economy, and

Amsterdam is the principal focus for much of this activity. This happens due to such factors as accessibility, amenities, and a large pool of highly-educated workers. In 2014, technology companies only accounted for a quarter of the total volume, but that figure has since grown to more than one third.

Activity was dominated by companies active in the field of e-commerce, which were responsible for more than half of the total take-up in the technology and media sector, versus only 12% in 2010. Booking.com was responsible for the largest lease of 2015, acquiring 13,500 square metres in the Piet Hein Buildings along the IJ river.

The report predicted that IT services and e-commerce companies will continue to be the dominant drivers of demand for office space in and around Amsterdam, with software and technology hardware also becoming increasingly important sub-sectors. (IAmsterdam,2016)

Price/location (2016)¹⁰:



GLOBAL TECH COMPANIES



Enterprise Software company
\$ 457 million revenue



Social Networking Service
\$ 27.638 billion revenue



Multinational technology company,
specializing in internet services
\$ 89.46 billion revenue



Automotive, Energy Storage
technology company
\$ 85.32 billion revenue



Entertainment company
\$ 8.83 billion revenue



Software, Website Optimization
\$ 38,75 million funding



American automaker, energy
storage company, and solar panel
manufacturer
\$ 7.0 billion revenue



Energy Drink company
\$ 6.5 billion revenue



Navigation Traffic and
map products
€ 1.64 billion market cap



Security Software
€ 3.1 billion profit, 2015



Holiday Booking
\$ 38,75 million funding



Hotel Booking Platform,
\$ 8.6 billion gross profit
(priceline)



Data Discovery,
\$ 41.5 million funding



Specialist auction platform,
€ 940 million estimated value



Payment Processing software,
\$ 2.3 billion valuation



Beauty appointment Booking
\$ 108 million projected sales 2016



Cloud-based file transfer service,
\$ 23 million estimated 2014 revenue

MAIN OFFICE AREAS

Zuidas office area ¹¹

Zuidas

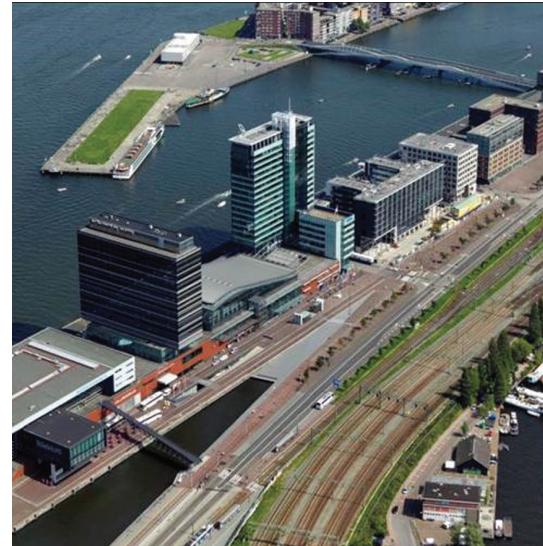
The Zuidas in Amsterdam is the most popular office location. The Zuidas' main feature is its international atmosphere, high quality facilities and good accessibility. All these factors make it popular among (inter)national companies. The top services that prefer this location are legal and financial. Due to its popularity there is low vacancy and increasing prices for rent. Moreover, there is a shortage of available office space which rises demand for new office buildings.

In order to create a lively multifunctional neighbourhood the municipality has the plan to build large-scale residential- and leisure oriented properties. (JLL, 2016)

South East office area ¹²

South East

Amsterdam – South East Centre (or ArenA area), is characterised by easy accessibility by public transport via the intercity-, metro- and bus station, Bijlmer ArenA, relatively contemporary buildings and modern facilities. Due to the presence of Heineken Music Hall, Arena Boulevard and Ziggo Dome it attracts a lot of visitors on a daily basis. Due to all these factors the area recently attracted a lot of interest in terms of office construction. It is particularly interesting for the financial services. (JLL, 2016)

IJ-oever office area ¹³

IJ-oever

The IJ-oever office area is a relatively new office area that has been actively developing since 2000. Due to its proximity to the vibrant city center, modern look, mixed-use of residential, work and leisure buildings (for instance, public library, Hilton and Movenpick hotels, Bimhuis music hall) it is a new desirable office location for companies. Moreover, these features contribute to the decreased office vacancy in the area. This is why recent major developments are planned to happen here until the mid 2020s, with one of the biggest being the Booking.com headquarters. (JLL, 2016)

Canal district office area ¹⁴

Canal District

On the map of the Dutch office market the Canal District takes one of the most prominent and desired positions. Its historical character is the main contributor to constant interest. It is undoubtedly an area offering a wide range of functional diversity per square kilometer of area (for instance, horeca, cultural activities, creative industries, night life). All these factors contribute to the area attractiveness as an office location, even though it is hardly easily accessible by transport and has parking issues. Especially such sectors as financial, legal, media and communication sector and, most notably the emerging tech industry, including Google, Uber, WeTransfer. (JLL, 2016)

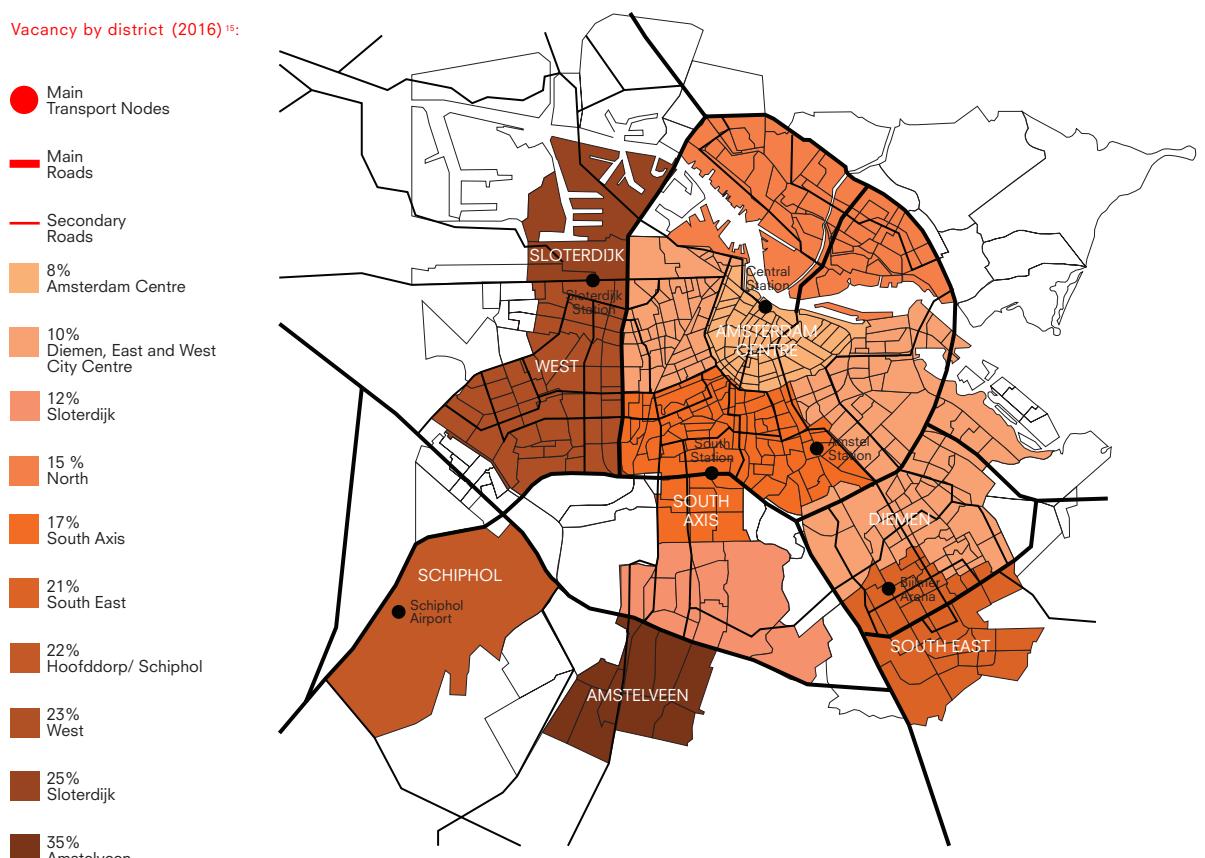
VACANCY OFFICES

Structural vacancy is an increasing threat to the functioning of the Dutch office market. In a market based on growth, office buildings are developed continuously, though the current market situation with a more or less constant amount of office space in use leaves an increasing number of office buildings vacant. As user preferences change a replacement office market appears: older buildings are left for preferred new buildings, and the vacancy concentrates in the older stock and structural vacancy occurs. The mismatch between office buildings' functional lifespan and their technical lifespan causes structural vacancy of office buildings, and finally the end of office buildings' economic lifespan.

In case of Amsterdam, the biggest office market in the Netherlands, as much as 18%, or 1.2 million square metres of office space is vacant, of which a considerable amount is structurally vacant.

In this market, structural vacancy concentrates in buildings with specific physical characteristics.

Vacancy by district (2016)¹⁵:

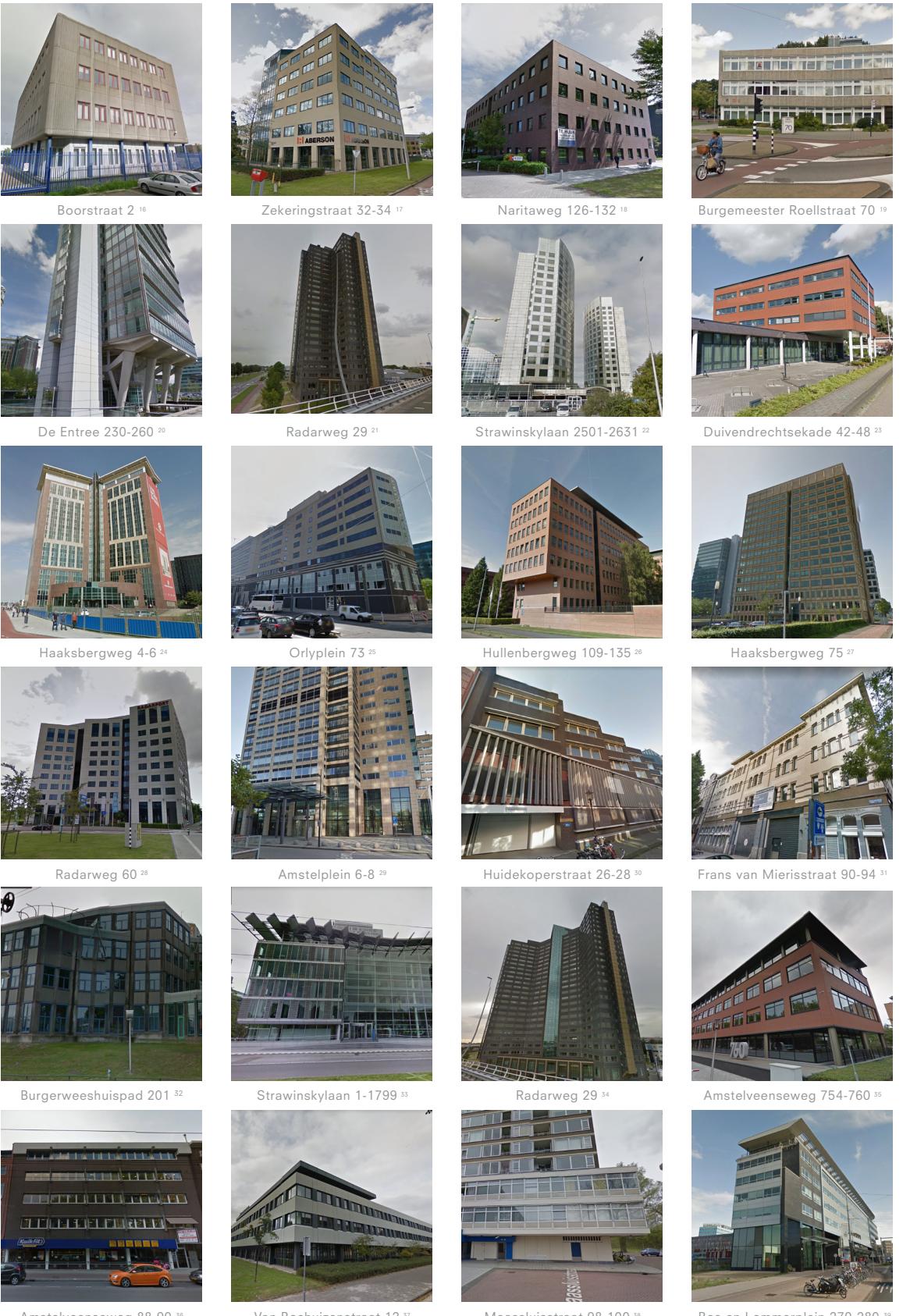


These characteristics describe office buildings that are less preferred by office users than other office buildings. Among the characteristics that contribute the most to the structural vacancy are location, building scale and lifespan.

The building scale characteristics, such as lack of inherent identity, insufficient facilities, hindering expression of the organisations' identity and low quality interior design are proven to be the biggest contributors to vacancy.

Moreover, location is considered to be one of the main factors contributing to the success of office place. Monofunctional, fragmented, inaccessible by transport, unsafe and low-status locations are the least demanded by businesses.

In addition the life span and obsolescence of a building also matters in its chances to survive vacancy crisis. Buildings that are functionally obsolete, in technical decay, unsatisfying indoor climate, high energy costs, without parking facilities have high chance of being vacant. (Remoy, 2010)

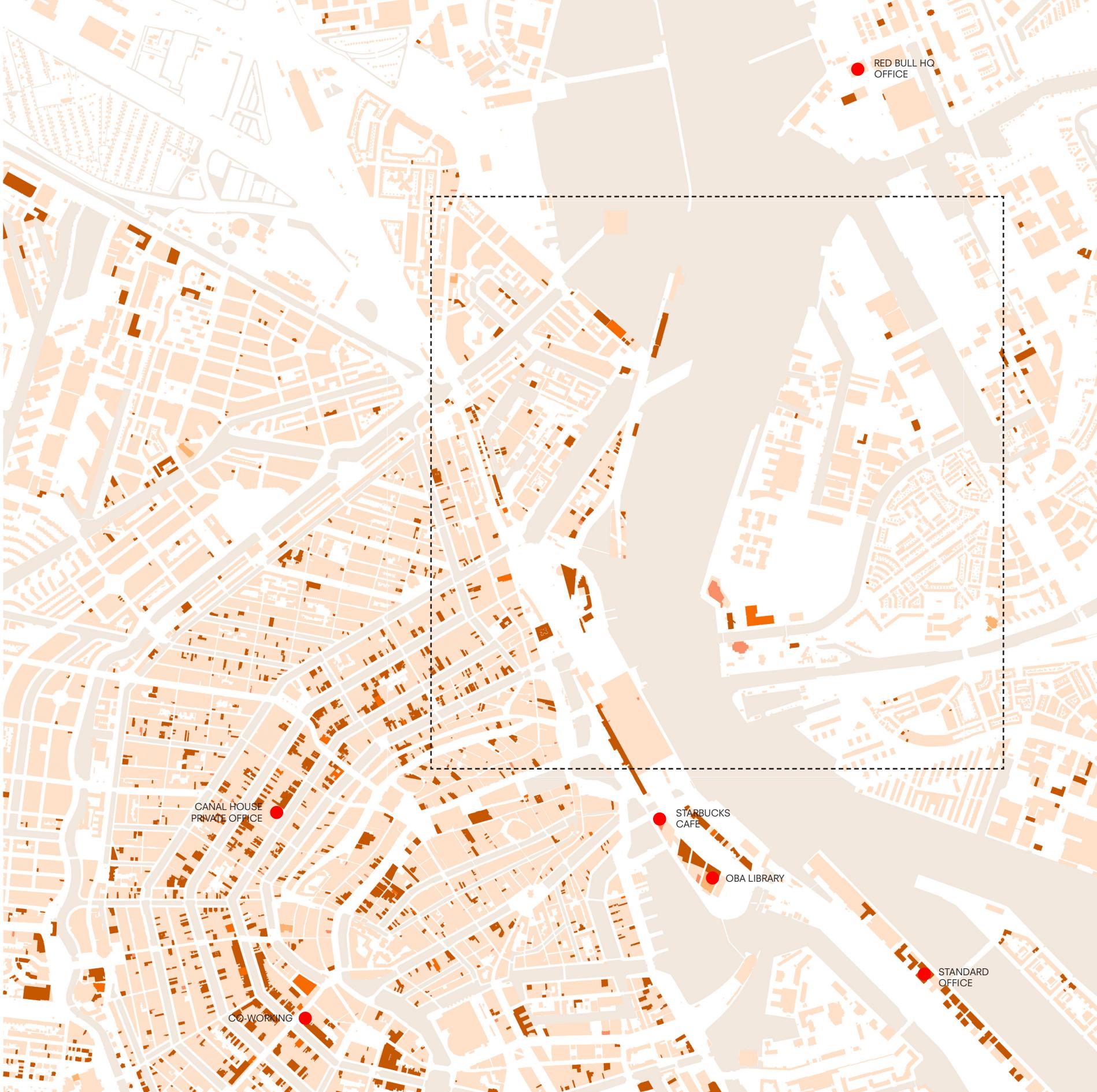
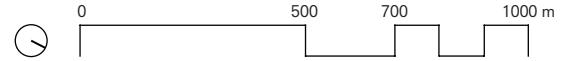


WORKSPACE LANDSCAPE

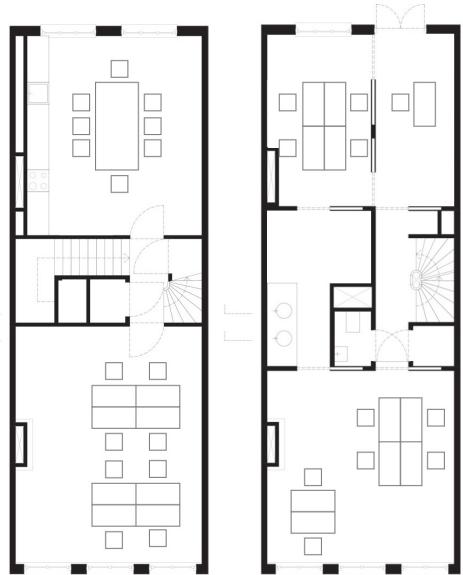
There are different typologies in the city center of Amsterdam. Based on the size of the company, its branding image, location, type of employment and affordability the workspace typology can be divided into small-scale offices, typical offices, innovative corporate offices, co-workings and thirds spaces, represented by cafes and libraries.

Landscape:

- Water
- Buildings
- Offices
- Co-workings
- Cafe-wifi
- Library



SMALL-SCALE OFFICE



Small scale office. Plan. Asterweg 20-S3⁴⁰



Small scale office. Interior. Asterweg 20-S3⁴¹

In the Amsterdam Metropolitan region these type of office is mostly present in the old inner city center. Due to the attractiveness of historic atmosphere the area attracts a lot of young professionals who are engaged in the economic sector related to technology or creative industries. Usually the old centre provides office space located in a canal house. The layout of a former housing is perfect for small to medium scale company.

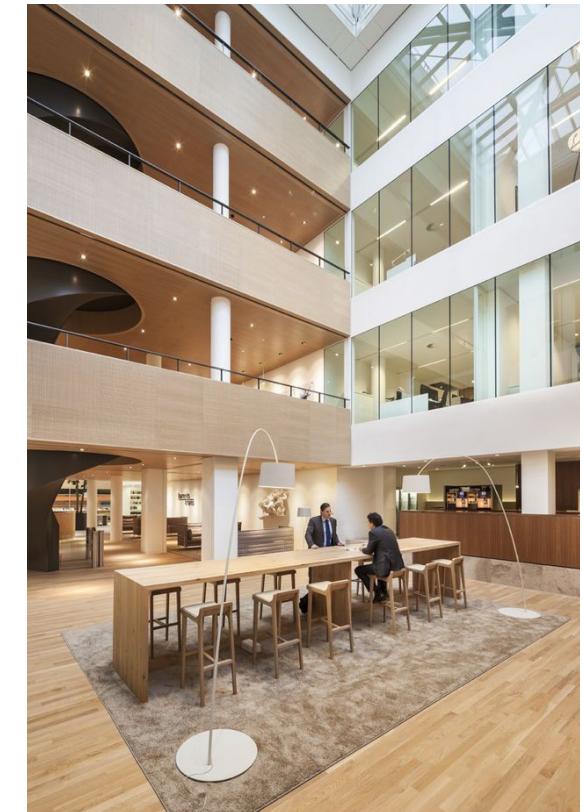
Typically the floor plan after being transformed in a workspace gives opportunity to have minimum office layout and includes some desks, a shared kitchen, a meeting room and sometimes a separate an executive office.

The renting price for this type of office location is quite high and varies between 145 and 325 €/m², which is the second most expensive area after South Axis CBD.

TYPICAL OFFICE



BarentsKrans office. Plan⁴²



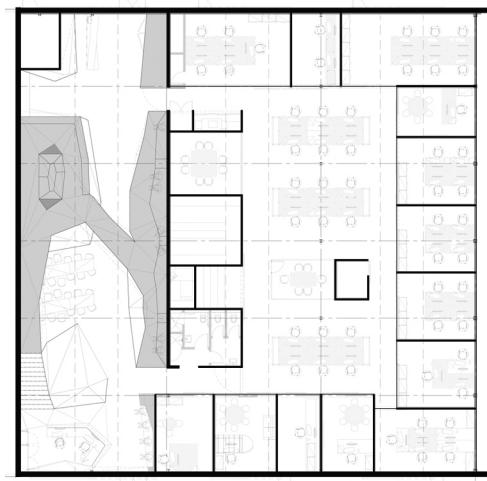
BarentsKrans office. Interior⁴³

In the city center of Amsterdam these type of office is mostly present in the IJ-overs office area, in the northern section of Amsterdam city centre, and has developed strongly since 2000. Usually this office typology provides space for big companies, who are attracted to centrality of location and luxurious interior design, representing companies' status. The layout of office is usually a segregated

space. The floorplan represents the management structure that is usually based on the top-down hierarchy. The space typically consists of separate rooms on separate floors or areas, representing the status of an employer in hierarchy of a company.

The renting price for this type of office location is also quite high and varies between 145 and 325 €/m².

INNOVATIVE CORPORATE OFFICES

Red Bull HQ. Plan ⁴⁴

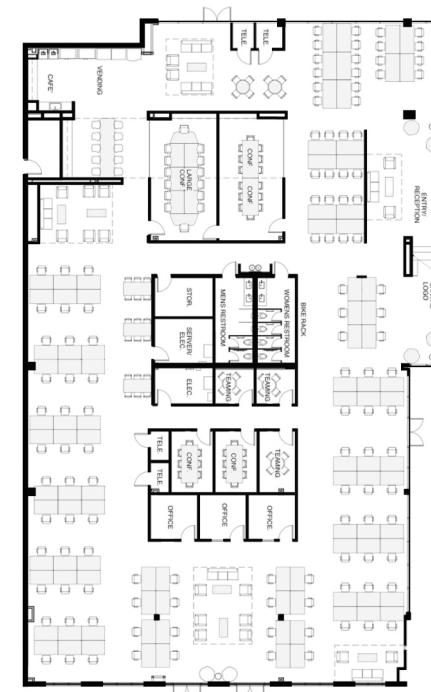
In the city center of Amsterdam these type of office is mostly present in Northern area that in recent years attracts a lot of informal creative industry well characterised by creative community of NDSM. Such locations are also becoming popular among big companies, such as Facebook, Google, Uber, Red Bull and so on.

Due to the changing character in management structure from traditional hierarchical to more

collaborative the location choice and the layout of the companies' office is affected. There is a tendency to create a more non-hierarchical office floor plan, that enhance creativity by means of mixing different employers in one space, creating multiple areas for on-purpose collaboration and accidental encounters. The interior design of such spaces itself tends to be informal and creative.

Red Bull HQ. Interior ⁴⁵

CO-WORKING

WeWork co-working. Plan ⁴⁶

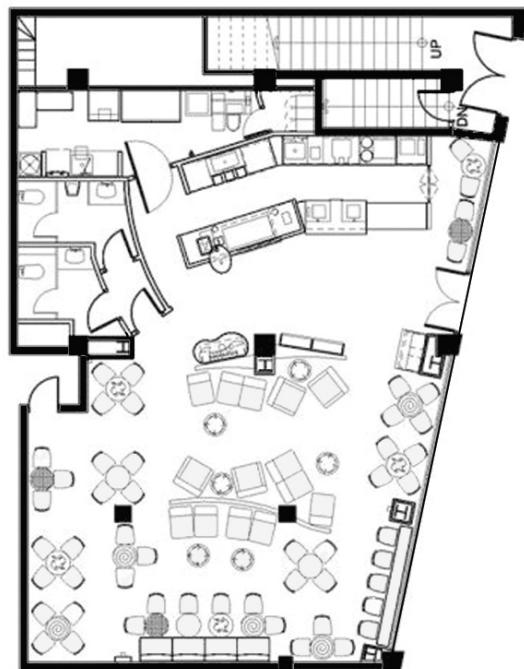
In recent decade the new type of a workspace appeared, called co-working. The provision of such typology on the site is becoming more well represented and is mostly focused around the city center and the creative areas on the Northern side of IJ river.

The idea is based on the principle of sharing economy. The principle is a shared space, facilities and equipment that reduces the price and increases

WeWork co-working. Interior ⁴⁷

affordability of a workspace. Such conditions benefit small-scale businesses and start-ups. The layout of such office is usually an open floor plan that allows for higher density. There are typically shared common areas for collaboration that is highly promoted in these spaces to enhance creativity and nurture a business based on peer-to-peer support. The renting price for this type of office location is quite cheap (around 200 €/person).

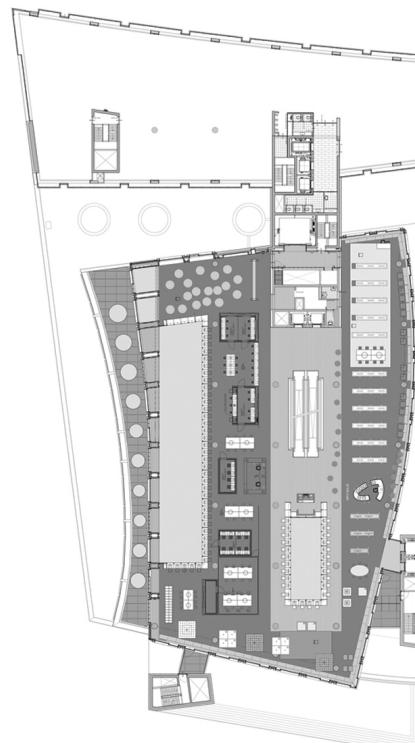
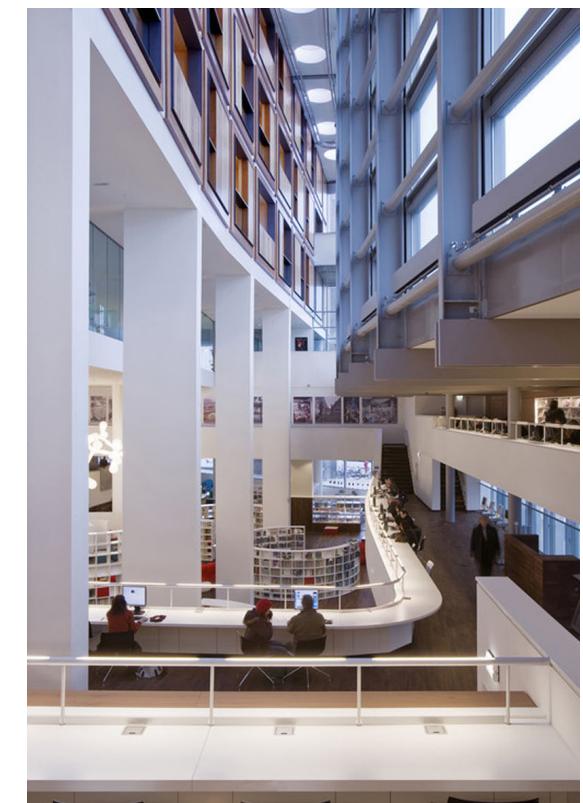
CAFE

Starbucks. Plan ⁴⁸Starbucks. Interior ⁴⁹

In recent years a new type of informal work space appeared in the city center of Amsterdam. The so-called third space is the outcome of the fast life style of the citizens and the emergence of portable technologies. The most common providers of such spaces are chain cafes, such as Starbucks and Coffee Company, who in a small price of coffee provide free wifi and a temporary spot to work.

Such working conditions are mostly welcomed by the young workers and students who are starting their businesses or freelancers. The layout of this informal workspace typology is arranged as a living room for communication and has no private spaces for quiet concentrated work. Usually people who prefer this 'office' find quietness in their headphones.

LIBRARY

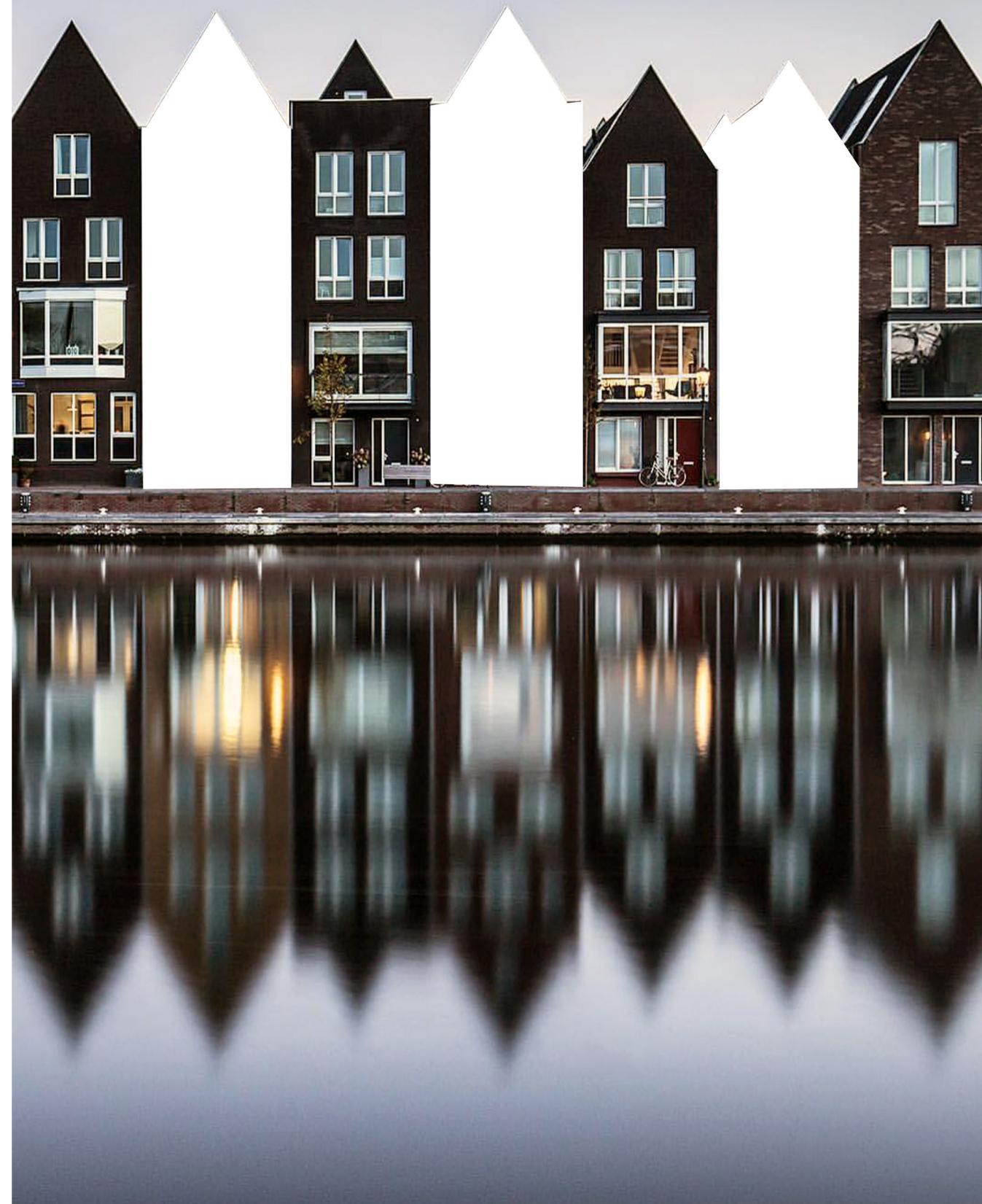
OBA library. Plan ⁵⁰OBA library. Interior ⁵¹

Another type of the third space that provides informal workplace is a library. On the site there is only one major library and three small communir libraries around the inner city. The OBA library is a perfect space to work in quiet private atmosphere. There are also rooms for group work and areas for renting. The space also provides the common areas for interaction and

rest, where people can take a break. Due to its open public character and educational function this kind of workspace is mostly preferred by freelancers, young businessmens and students. The affordability and architectural quality of space makes a perfect work environment for the beginners in the business world.

WORKSPACE DISAPPEARS?

With the development of big data, notion of work and workspaces are changing its organisational and spatial order. How will changes in social developments affect working environment in the future? Will the vacancy that arised in office sector increase and lead to total disappearance of fixed workspaces and everyone will work from home or the third space? Or will it adapt to new trends and change?

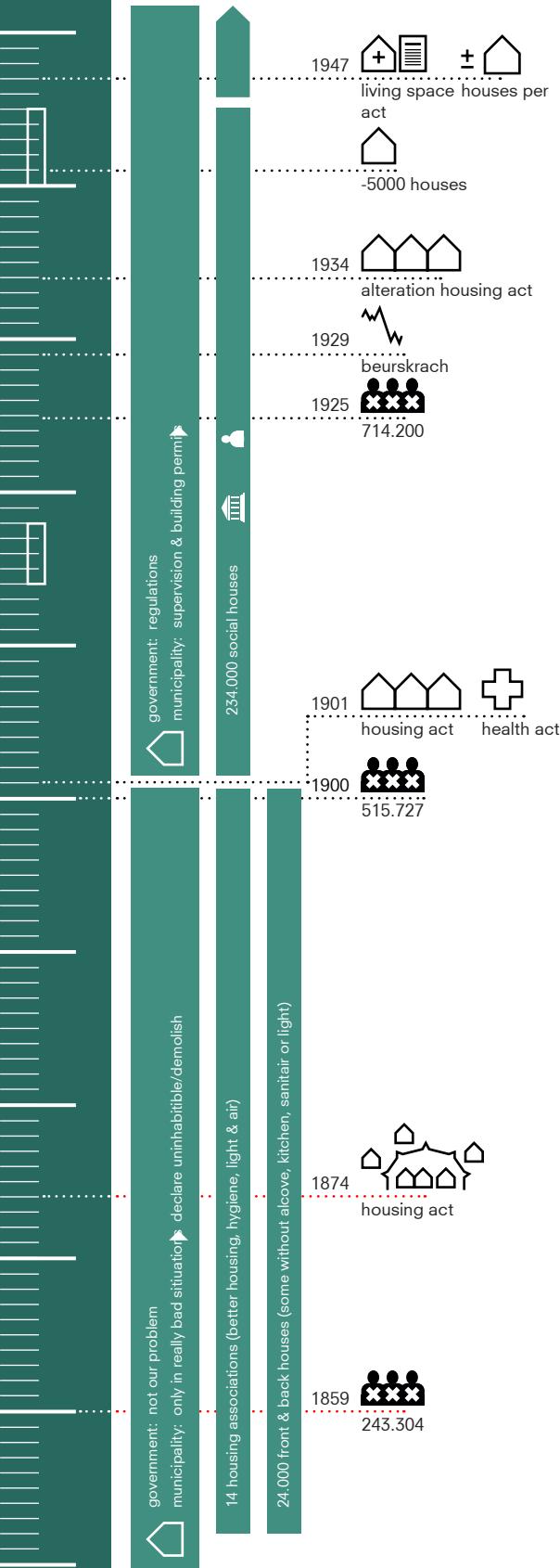




HOUSING

FROM ALCOVE TO MICRO UNIT

Amsterdam is a home for different people for allready hundreds of years. The city underwent many changes for the changing needs of its inhabitans. First alcove housing for the working class, hofjes for the elderly and canal housing for the merchants. In later times social housing, penthouses and even micro housing. What are the key elements and how are these elements reflected in various types of housing? And what will the future of Amsterdam housing look like? To answer this questions there will be a short history on housing in Amsterdam, an overview of housing types and a insight in trends on rental rates and housing prices.



HISTORY OF SOCIAL HOUSING

The history of social housing in Amsterdam is strongly influenced by the actors that were involved. These actors are the national government, the municipality of Amsterdam and the private sector. Until the 20th century the government didn't take responsibility for housing issues. The municipality of Amsterdam didn't have a big responsibility either. Only with serious problems, like when public health was at stake or the building was about to collapse. Then they had the power to declare a building uninhabitable and in some cases breaking down the building.

The population of Amsterdam grew massively in this period. Partly because of the economic and industrial development and partly because of the agricultural crises that caused people to move to the city. In 1859 the city had 243.304 citizens and in 1900 the city grew to 515.727 people. Until 1874, the city couldn't build outside the city walls. Every square meter was rented and even basements were occupied. There was no attention for drainage, paving or lighting.

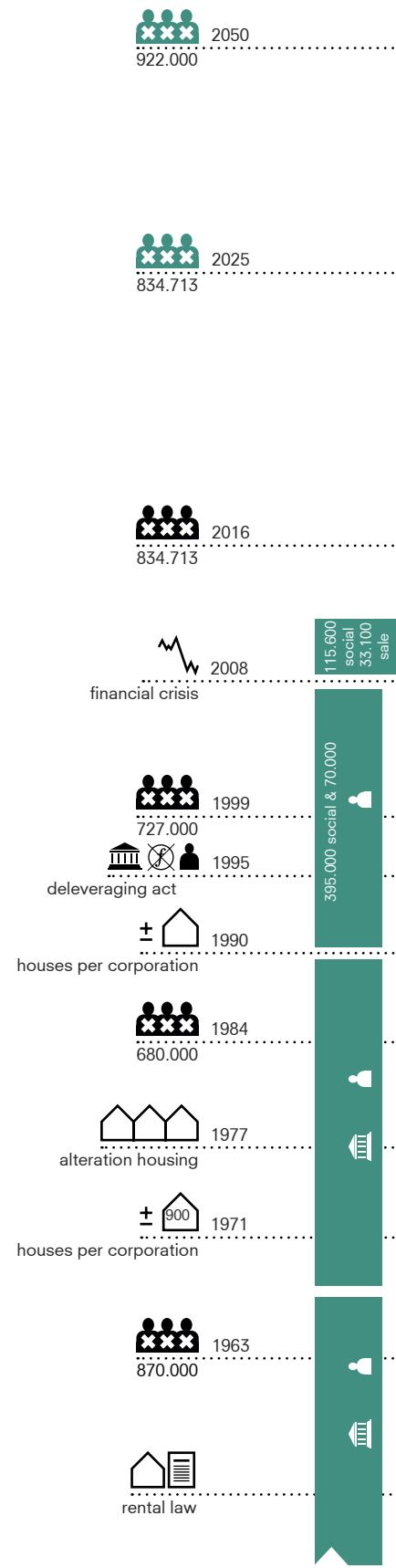
With the approval of the 'Vestigingswet' in 1874 it will be possible to build outside the city walls. In a short time 24,000 apartments are constructed in these new areas of Amsterdam. Many of these houses didn't have an alcove, kitchen or stove. The first housing associations were created by concerned citizens who couldn't bear to see so many people suffering from the bad circumstances. They started building good and healthy housing for the working class. Between 1952 and 1901 fourteen housing associations arose in Amsterdam who managed to achieve a total of 14,000 apartments. A small number, but they set the standard for the construction and management of housing for the working class.

The 'Woningwet' (Housing Act) and the 'Gezondheidswet' (Health Act) are adopted in 1901. The Housing Act gives the government the authority to set the rules of requirements for buildings, apartments and public spaces. The municipality is in charge of monitoring and determining of the building regulations. The power of the municipality to intervene is extended. The municipality can summon owners to improve property, according to city planning by the municipality buildings can be expropriated and buildings can be declared uninhabitable or even demolished. Furthermore, the Housing Act provides more financial opportunities for housing corporations. It allows the state to provide loans and to cover operating deficits of housing corporations. Exploitation surpluses should flow back into the building and maintenance of social housing.

The costs of the rent that the Housing Act prescribed was derived from the quality, operating costs and the income of the residents. In 1919 this way of determining the rent is adjusted. The income of the tenant is no longer included in the calculation. From then on the minimum rent for social housing is determined by the minimum cost of rent minus the maximum contribution from the government. The people who were still unable to rent pay for a house had to rely on charity initiatives. In 1920 the economy recovers. Private investors are again willing to invest in real estate and the government stops the funding for social housing. The corporations are forced to increase the rent. This resulted in vacancies and payment defaults of tenants. The Wall Street Crash of 1929 increases the trend of higher rents.

Early 1933 the Netherlands is startled by a large number of strikes against the high rents. Hundreds of people refuse to pay their rents. It took until 1950 till the regulations are replaced by the 'Huurwet'; the Rental Law, thereby the foundations are set for the rent protection as it has developed ever since. From then on the government determines to what extent the rents can increase and gives the tenants legal protection. In 1951, the Ministry of Housing issued the document 'Voorschriften en Wenken' (V&W); regulations and tips. It contains the regulations that housing should meet in order to receive financial support from the state. In this way, the state has influence on the quality of housing and stimulates the standardization of housing. V&W has been revised frequently and in 1965 and 1976 new versions were launched aiming for better quality of housing.

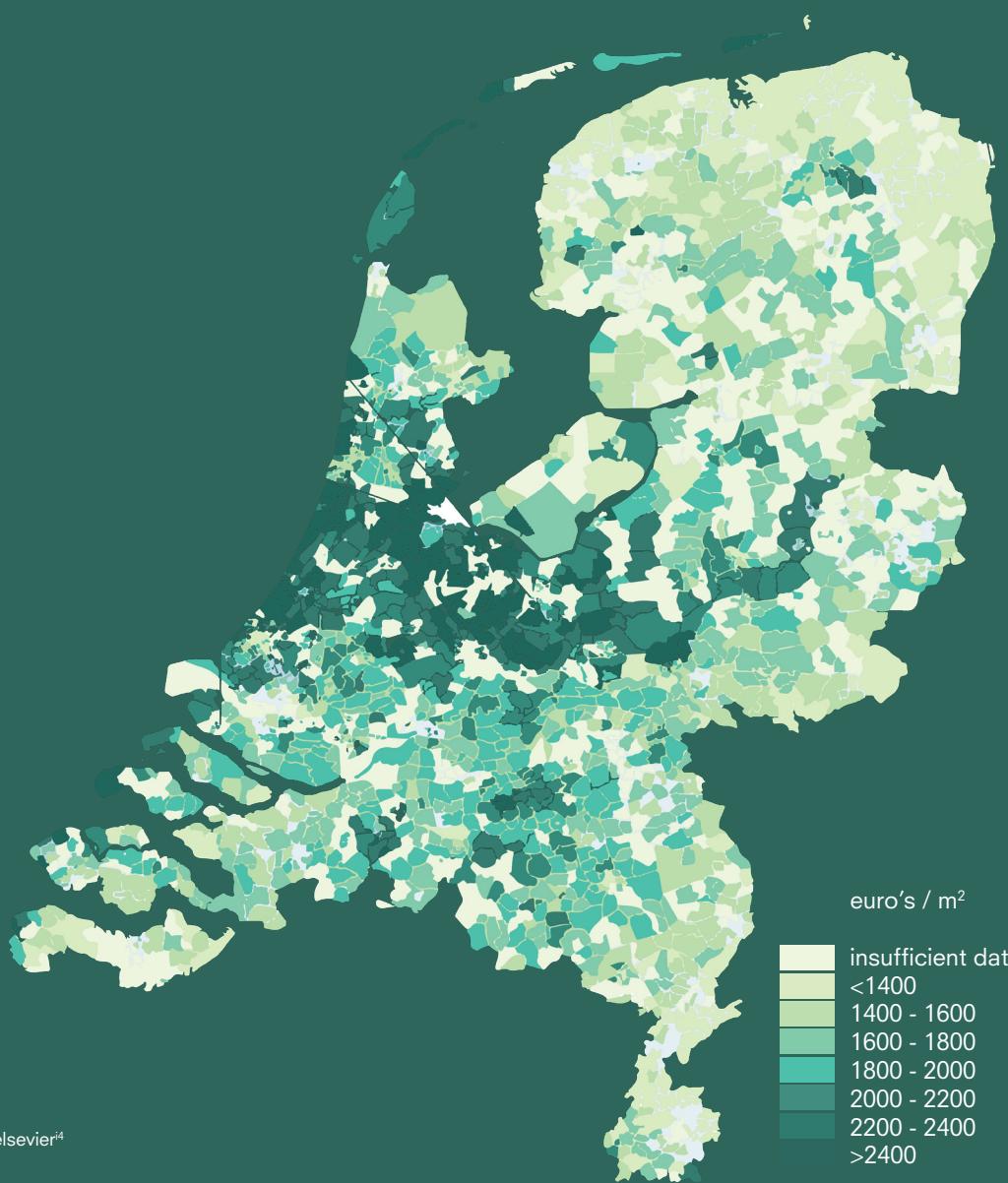
In 1992, the V&W was replaced by the 'Bouwbesluit' (BB); building regulations. The BB consisted of building construction regulations considering safety, health, usability, energy efficiency and the environment. These new regulations were supposed to cut down regulations and reduce influence from the government. In 1995 the housing corporations became financially independent. They maintain and expand their social responsibility. Corporations invest in the living environment, public space, in elderly housing and participate in the care of the district. At the same time they also start to invest in higher segments of rental housing and they start to sell some of their property. Municipalities and the state also stood guaranteed the financing of these projects, while this money was intended to house people on a tight budget. Also, there were incidents due to administrative failure and financial mismanagement. The Housing Act of 2015 needs to bring corporations back on the social track. The freedom of corporations is limited, new property taxes are being charged and supervision will be intensified.¹



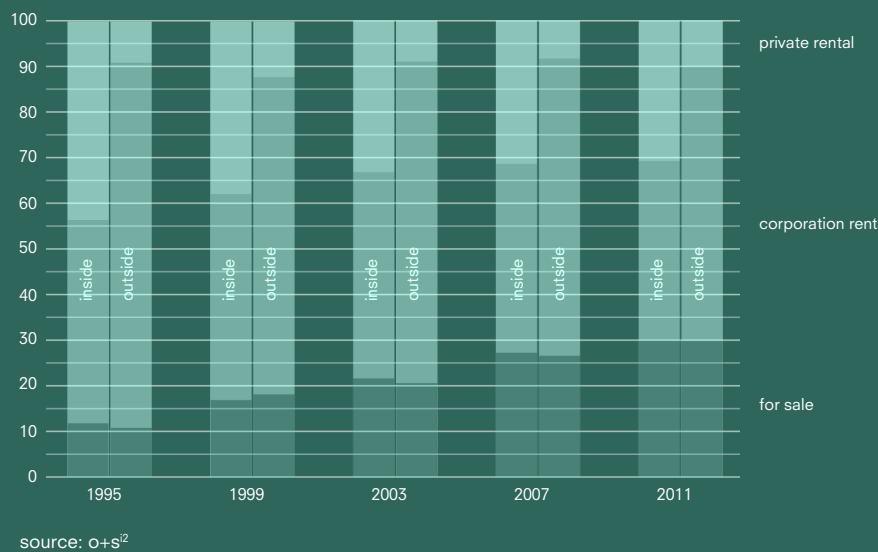
Rental rates in the five major cities per m²



Housing price per m² (average per district, 2015)



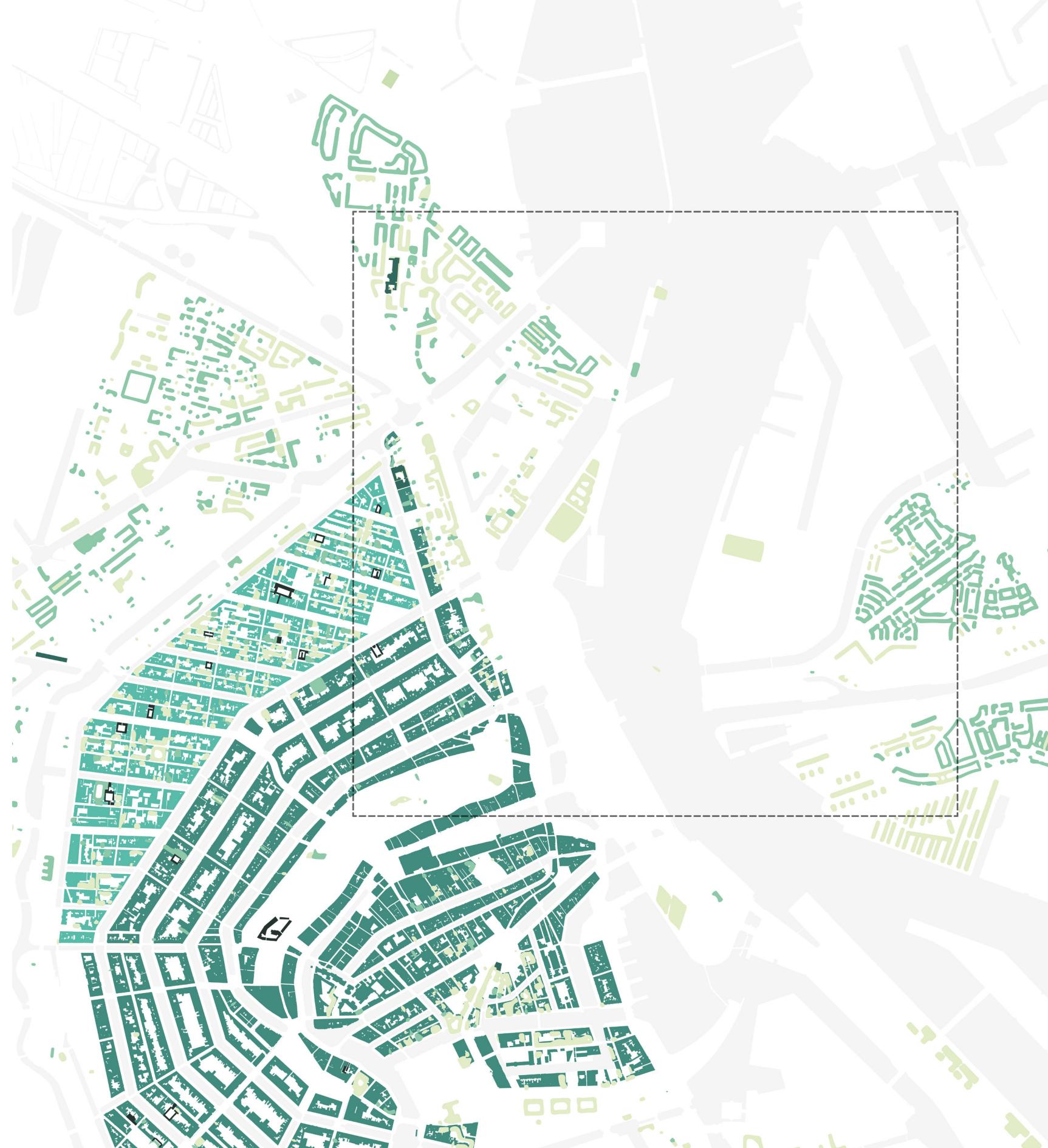
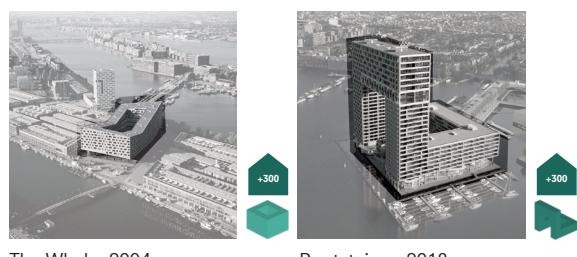
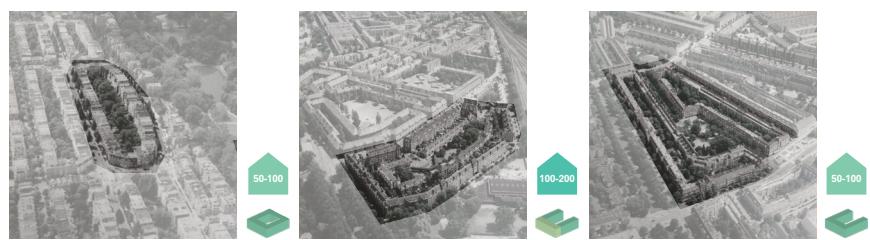
Development of housing inside and outside the ring



House price Herengracht in euros corrected with inflation

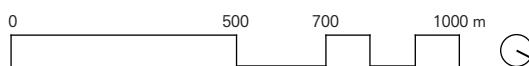


TYPOLOGY AND DENSITY OF THE BLOCK

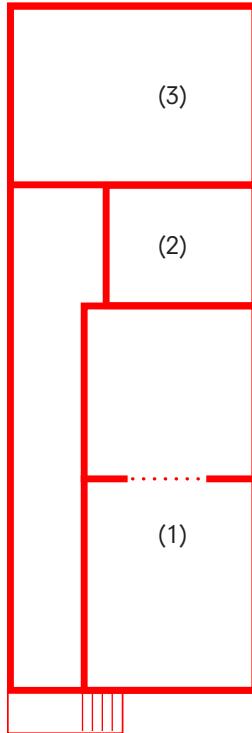


HOUSING TYPES IN AMSTERDAM

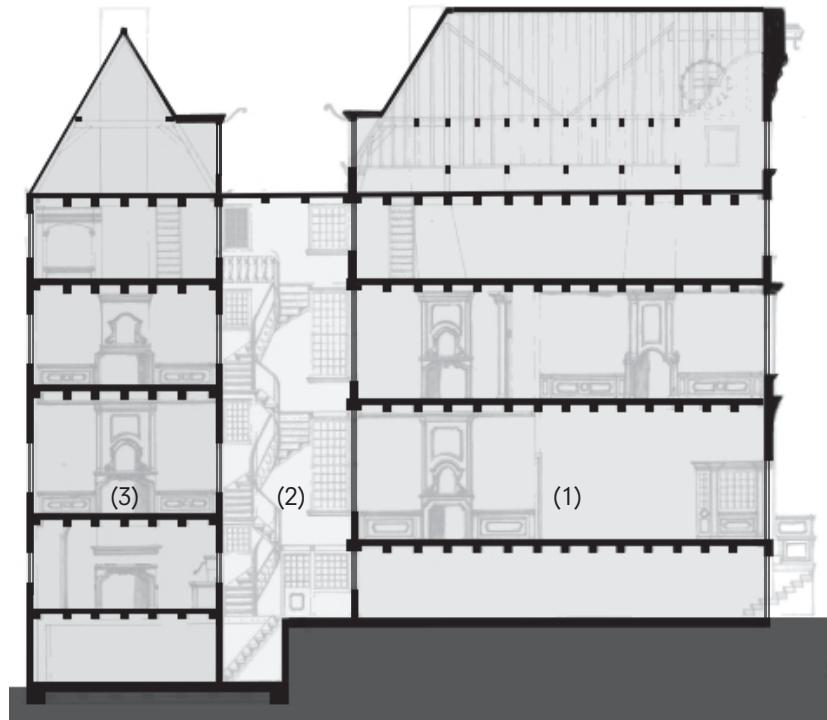
Courtyard housing	Corporation housing before 1945
Canal housing	Corporation housing after 1945
Alcove housing	Retirement homes
	Micro housing



CANAL HOUSING



Ground floor canal house



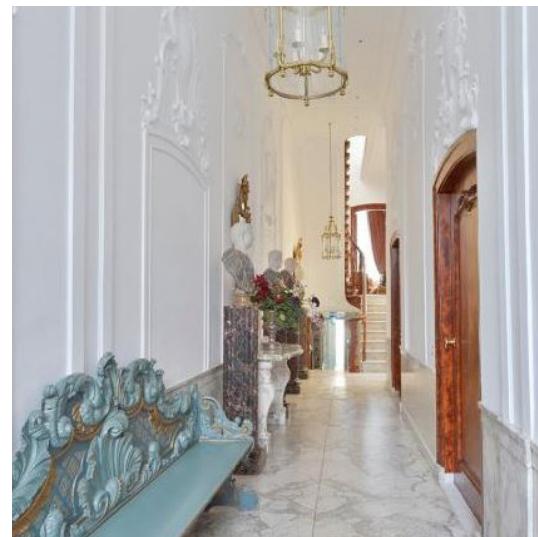
Section canal house

The canal house consists of three parts, (1) the front house, (2) a small courtyard and the staircase and (3) the back house, behind this there is the garden with a summerhouse. In most canal houses we can still recognize beautiful interior parts of the 18th and 19th century. Like hallways with marble floors, marble wainscoting and wall and ceiling finishes in stucco from the 18th century. But also windows, doorsteps and gable details from the 19th century.

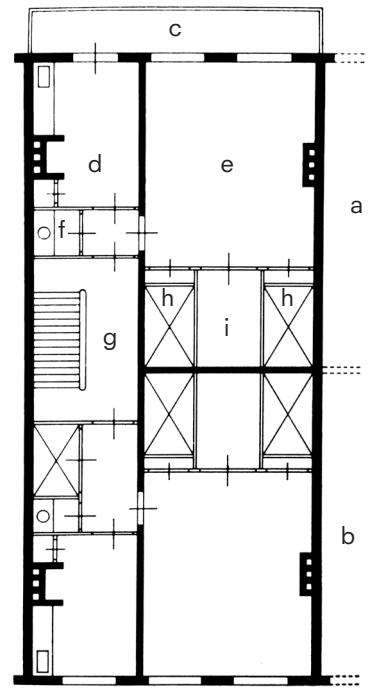
The canal houses are built on narrow plots and therefore have an elongated floor plan that has been divided by a courtyard to allow light and air in the building. Characteristic for Amsterdam cityscape is the richly ornamented gables. A wide variety of façade types originated, such as stepped, neck and bell shaped gables.

There is a distinction between the 'merchants-house', the 'Herenhuis' and the 'shop house'. Most of canal houses in Amsterdam were merchant houses. The merchant houses were always orientated towards the canals which enabled

the merchants to deliver their goods directly to their front door. The attics and basements of these houses served to store the goods. With the 'Herenhuizen' the entire house had a residential function. The 'shop house' is distinguished by a wooden shop window and front door at street level. Alongside the canals shops were not allowed, with the exception of the corners. Above the shop they are usually one or more houses.²

Herengracht 293 t/m 305 by Caspar Philips, 1768¹⁵Willet-Holthuysen, Herengracht 605, 1882¹⁶Keizersgracht 203 entrance hall¹⁷Stairs in the Cromhouthuizen¹⁸

ALCOVE HOUSING



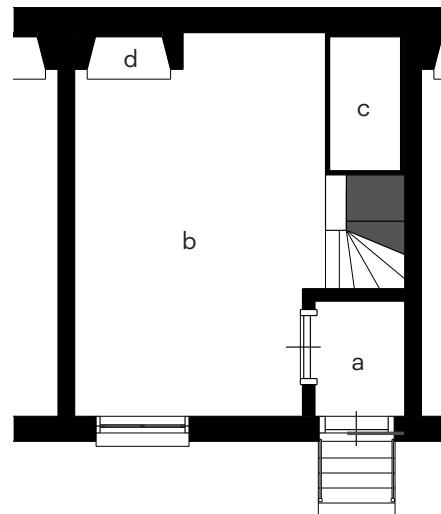
a) rear dwelling
b) front dwelling
c) balcony
d) kitchen
e) living room
f) w.c.
g) common landing
h) bedstead
i) alcove

General floor plan alcove housing⁹Alcove housing blocks in the Willemstraat, 1878¹⁰

Amsterdam attracts many workers in the 16th, 17th and 18th century. The pressure on the housing market is so big that homeowners rent out attics, basements and small rooms to entire families. There were also building complexes for workers only. These were often large housing blocks which were divided into one-room apartments where whole families lived together. These rooms consisted of the living space and the alcoves (a cabinet to sleep in). The youngest child slept in the 'rolcoets' which is the bottom drawer of the alcove. Mostly a pot could be found on the corridor that was used as a toilet by all residents of the floor. Some lucky people had a pot on their own room separated with an alcove. Slumlords build small and cheap houses behind the existing houses that are accessible through corridors of less than a meter wide. Also new floors were added to rent more space.

Officially it was not allowed to build within the courtyards, but in the 'Jordaan' the landlords did not care about these rules. In the 18th century there were 972 corridors connecting 1690 illegal houses where 3795 families lived. Often money was saved with the construction by using less piles than needed, making several houses fragile from the beginning.³

COURTYARD HOUSING



a) common landing
b) living room
c) bedstead
d) fireplace

Groundfloor 'Hofje van Brien'



Hofje van Brien

The founders of courtyard houses were mostly prosperous and socially involved townspeople. The motif to establish a 'hofje' can be associated with the Christian value of generosity, hope to end up in heaven and social status. The founders had very different backgrounds. They were noblemen, merchants, industrialists, city officials and religious people. Usually the houses were founded by the inheritance of persons without direct heirs. However, there are also examples that are built during someone's life. The will or regulation described which people had to realize and maintain the courtyard, but also who were eligible to live at the courtyard houses.

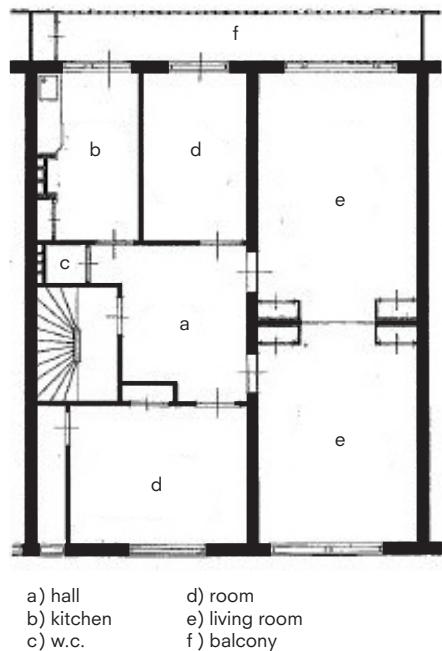
Not everyone was qualified to live in a 'hofje'. First of all the housing was meant for elderly people that couldn't provide for themselves. But also religion, place of residence, gender, age and civil status could be used as a condition to select people. In this way it was easy to establish a homogeneous group of residents.

The apartments at the courtyard were originally one-bedroom apartments that were intended for one or two singles or a couple. Mostly it were low-rise buildings, but in Amsterdam it was mainly

lower and upper homes. The average area of a court house is 35m². There are variations between 17m² and 51m². The layout of the housing at a courtyard were similar to working-class houses, but the details were often more luxurious. Each house was equipped with a fireplace and an alcove. The orientation of the house was towards the inner courtyard and was mostly the only facade with windows. Many facilities were shared, such as the toilet and the water pump. The inner garden was often used as bleachfield, a small orchard and/or as vegetable garden.

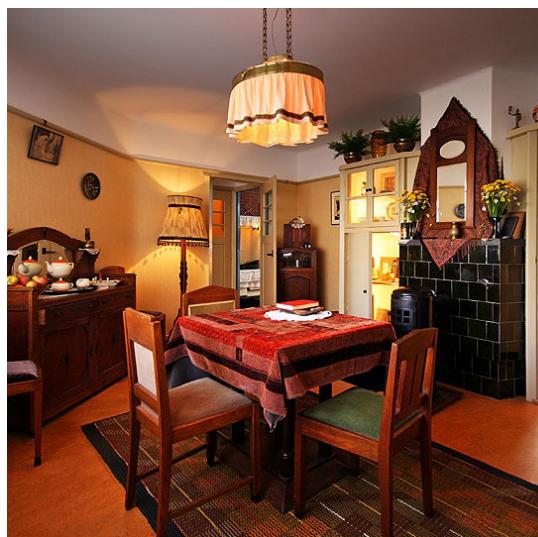
The entrance of the court is an important aspect of the typology of courtyard housing. The transition from public to private is guided by its architecture. The boundary could be indicated by a fence, a wall, a gate and sometimes with an additional transition space like a alley or a hallway. The door or gate works as the first threshold, sometimes only open during daytime or difficult to open to make the boundary tangible. But also sight lines, acoustics, light, colour, furnishing and signs are used to emphasize the boundary. In this way the courtyard gets its private feeling that offers the residents protection.⁴

HOUSING AFTER THE HOUSING ACT

Representative floor plan housing law building¹¹¹Housing law building on the Van Beuningenstraat¹¹²

In 1901, with the introduction of the Housing Act, it became possible for the government to provide interest-free loans to corporations that wanted to build better and affordable housing for the working class. However, there were only few initiatives that made use of the possibilities offered by this new law. Amsterdam was an exception in this regard. In Amsterdam, the Social Democrats gained ground and for them the "housing issue" was one of their main concerns. Housing associations were established, the first in 1907 by Amsterdam horse tram drivers, who called their club Rochdale. Soon, Amsterdam counted dozens of corporations. City councillor and later alderman Wibaut was a member of the Health Commission. Therefore he visited numerous slums to check whether homes needed to be declared uninhabitable. Wibaut came to the conclusion that only demolishing shabby housing was not the solution for the poor working class. The municipality and housing associations had to build good and cheap housing. And in order to make these homes affordable for the poor working class that lived in the slums the housing should also be subsidised. Between 1910 and 1925 these movement brought forth the 'workers palace': apartment blocks with

apartments between 40 and 50 m², with running water, a toilet, kitchen and normal bedrooms. The buildings were designed by left-wing modern architects like Van der Pek and Berlage. The designs were very sober and functionalistic until Michel de Klerk designed 'Het Schip' in the Spaarndammerbuurt. A building with color, undulating brick walls and beautiful ornaments. The Amsterdam School was born. Wibaut came up with the so-called "2000-houses plan": a plan whereby the municipality had to take the initiative to enter the market as a 'contractor'. Eventually 3,500 homes were built according to this housing plan. Many neighbourhoods were redeveloped. However, due to the crisis in the 30's the Jordaan was spared. Nowadays, after many renovations and transformations, it is one of the most popular neighborhoods in Amsterdam. In the 20s and 30s, the so-called garden villages were developed in Amsterdam north. Small neighbourhoods with single-family homes with enclosed gardens and courtyards. The working-class house established itself, built with money of the government and according to the strict rules of the municipality.⁵

Basement apartment, 1914¹¹³Regent room Deutzenhofje¹¹⁵Interior of an apartment in "Het Schip"¹¹⁷Jewish Quarter, 1916¹¹⁴Room with alcove in the "Van Brants Rus Hofje"¹¹⁶Van der Pek buurt¹¹⁸

BOAT HOUSING

Schoonschip in Buiksloterham¹⁹

Reuse of boathouses at the Ceule



Boathousing on the canals of Amsterdam

When the canals of Amsterdam were still used for the transport of goods, living on a boat was a sign of poverty. But in the last century the canals lost their transport function. The cargo spaces of the transport boats were converted into small apartments.

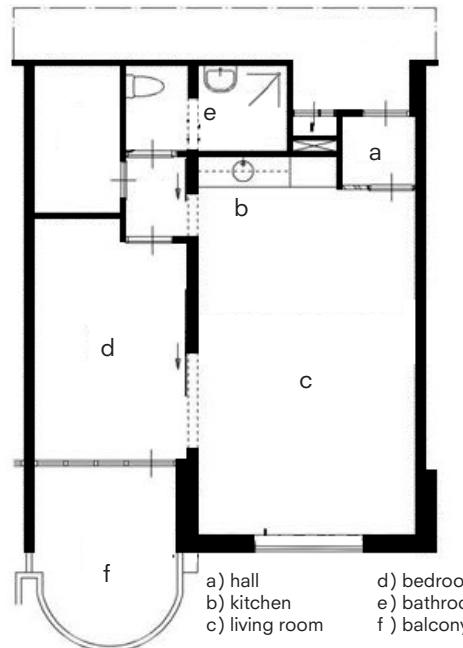
There are different types of boat housing. The main types are the traditional boat house or 'woonschip', which is a ship that is transformed into an apartment (sometimes it is still sailable) and the modern version called 'woonark', which is a floating vessel of steel or concrete with a simple rectangular structure on top. A mixture of these types is called 'scharke'.

The 'woonschip' has many different types of ships and there are some very interesting designs for the 'woonark'.

Today there are about 2500 housing boats in Amsterdam. The administrative fee for a berth fixed in 2014 to € 513. The administrative charges for a replacement license and renovation permit is set at € 563.

Nowadays the boat houses are still very popular. In the project of the Ceule they reuse boat houses by dragging them on land and raising them just above the ground. In that way they are able to work and live there while plants are recovering the polluted ground from the former heavy industry. At the same canal as the Ceule is located their are plans to make a small neighbourhood on the water called Schoonschip. Their motto: "The most sustainable floating district".

THE RETIREMENT HOME



Floor plan apartment de Bogaert



Care home de Bogaert and sheltered housing complex de Westerbeek

The years after the second World War were marked by social righteousness. Care for the elderly was one of the most important issues. The poverty among the elderly had to be addressed. In 1947, the Minister of Social Affairs, Willem Drees, was able to implement the 'Noodwet Ouderenvoorzieningen'; emergency act for elderly provisions. There was a major need for housing, so the emphasis in that time was to accommodate elderly in retirement homes. The vacant houses could then provide accommodation for young families. From 1945 till 1965 the construction of 364 retirement homes created 35.000 places for elderly. The act was intended as a temporary solution and was continuously extended after the first three years. It took until 1957 before the law was officially transformed into the 'Algemene Ouderdomswet' (AOW); general old age pensions act. From then on, the AOW was a mandatory insurance for all. The premium that people had to pay were raised to one's capacity. The retirement age was set on 65 years.

Until 1954 the government only financially supported municipalities and corporations to develop retirement homes. In 1954 also the private sector were enabled to get financial support. The building had to meet the requirements of

the "Voorwaarden en Wenken" (V&W); Rules and Guidelines. The priority of these requirements was to achieve a high building production to meet the demand for elderly housing while maintaining a minimum quality. It is determined in detail what are the minimum dimensions for a room, what communal functions there should be, the layout of the wardrobe and even the presence of an electrical alarm system. The first retirement homes that are constructed according to the V&W have single room with a size of 12m². Over time, these rules are broadened. Many of these retirement homes are soon struggling with space shortages caused by these changing regulations. When possible, apartments are merged to meet the new rules and demands.

Retirement home "de Bogaert" in Amsterdam is a care home from 1979. Since it was founded for and by local residents it radiates the atmosphere and appearance of the neighbourhood. The centre has a clear neighbourhood function which is strengthened by the volunteers from the neighbourhood. The apartment is 56m², with a living room with a small kitchen block, a bedroom and a bathroom. There is even a small storage/study room. It shows how the retirement home is developing in about 30 years.

MICRO HOUSING

Micro apartments XS DELUXE²⁰

It is one of the latest trends on the housing market. But what does this typology incorporate? There is not a standard definition for the typology of the micro unit. A useable definition is a small studio apartment with a footprint up to 32,5m² with a fully functioning kitchen and bathroom. As a result the unit works as a fully functioning apartment on less square meters and for a lower monthly rent then a normal apartment. It is different from the 15m² single room occupancy (SRO) unit that relies upon communal kitchen and/or bathroom facilities.

The main target group for micro dwelling are the people profiled as young professional singles. Secondary there are young couples and roommates, some old move-down singles and pied-à-terre users.

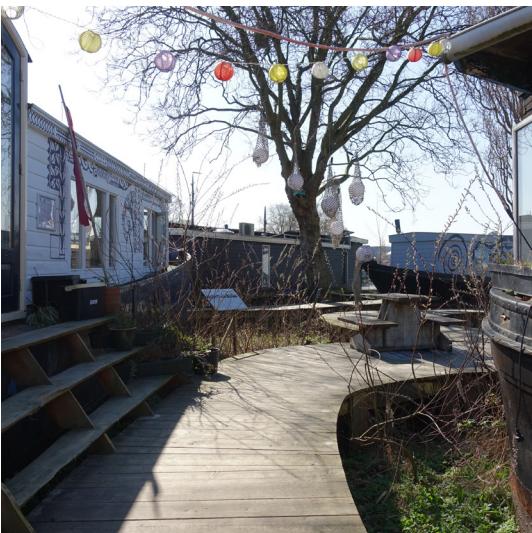
The most important aspect for people to consider to live in a micro unit are the costs, a high desirable location and the amount of privacy. The main point of consideration to live in a micro unit is the lower rent. The rent of a micro unit is on average 20 to 30 percent lower than a normal sized unit. Young professional singles want to live at highly desirable places. But they also want to have a place for themselves.

Another very important aspect of micro dwellings is the efficiency of the dwelling. A single room

should provide the same facilities as a normal apartment. The use of adaptable furniture systems, the relatively high ceilings, large windows and inventive storage systems make it possible to use the space in a more flexible way.

Most projects also offer a wide selection of amenities to increase the living space of the residents and to enable them to experience community outside their private apartment. There are the projects that provide a communal living room and balconies for each floor. But also projects with fitness centres, shared workspace, storage space, a mini-mart, fire pits, BBQ's, communal or catering kitchens, a pool, sauna's and so on... sometimes even combined with a spectacular view from the rooftop.

Another important trend that complements the concept of micro housing is that of the shared economy. A big share of people that are interested in micro housing doesn't own or even want to own a car. They depend on the public transport and shared car programs. Micro concepts are also connecting to these trends with car and bicycle programs. But also in a smaller scale, like shared vacuum cleaners, tools and printers.⁸



Public space at 'De Ceulev'

Living room boat house²¹Communal space in retirement home 'De Rietvink'²²

Façade with canal house appearance, 'De Rietvink'

Alcove housing typology of XS Deluxe²³Wonderwall apartment XS Deluxe²⁴

LIVING IN THE CLOSET?

Amsterdam's number of residents is growing and housing and rental prices are rising. One of the ways to house the new residents is to start living smaller again. In the past Amsterdam all ready had periods where smaller housing types emerged. These types emerged in times people were unable to pay the rents, there was too much pressure on the housing market or when the location was of major importance. Nowadays starters, seniors, singles, small families and students are looking for affordable homes within the city. Could micro housing offer the solution?



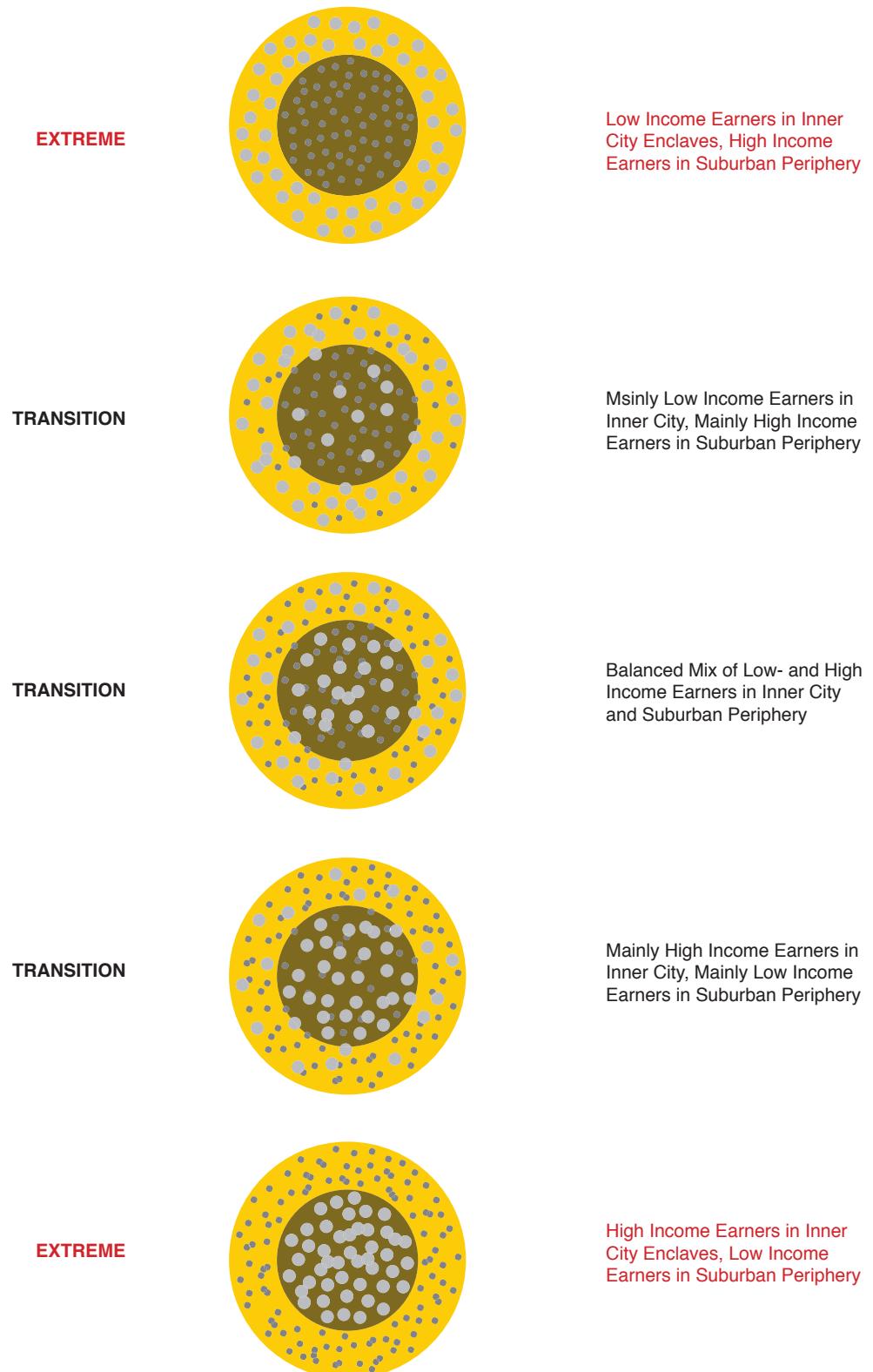
MICRO
MOKUM



GENTRIFICATION

THE OBJECTS OF DESIRE

As Amsterdam's centre becomes an increasingly desirable place to live and work, this has seen dramatic gentrification-fuelled shifts to occur in its urban composition. This has been encouraged by strategic housing policies introduced by the Dutch government that have seen both bottom-up interventions and top-down planning to be introduced. Yet this approach to urban regeneration is not without its consequences.



Time Cycle Diagram of the Gentrification Process

INTRODUCING GENTRIFICATION

In 2008, a Housing Memorandum issued by the Dutch Government stated that gentrification was to be used as a key strategy for the future development of Amsterdam (Savini 2015). Gentrification is an urban condition that receives a polarising response, but first it should be seen as to what it is, how it works, and what are some of the basic impacts that it can subsequently cause for the city.

In its most general understanding, gentrification is a particular transformation of a metropolitan environment. This phenomenon is being experienced predominantly in cities in which the inner city core was originally dedicated primarily to production-orientated industry. As these cities restructure to now favour service and technology-based industries, this has seen a return of middle to high-income earners taking residence in the city once again (Hamnett 1991).

This follows the previous large-scale urban restructuring that was experienced during the 1950s and 1960s in which these same social groups took flight into suburbanisation that in turn caused inner-city decay (Hamnett 1991).

Gentrification is a process and outcome that has physical, economic, social and cultural consequences.

Physically, one can witness the renovations or rehabilitations of the existing housing stock of an inner-city neighbourhood in order to meet the living requirements of the new owners. As inner-city areas increase in desirability, there are economic shifts in the land and housing market, with natural appreciations in dwelling prices and a realignment of housing tenure systems from renting towards ownership (Smith 1982).

A social condition of this process is that the working-class residents that previously dominated the composition of the neighbourhood most likely experience some form of displacement. This displacement could be a physical outcome, whereby they are forcibly evicted by either the government or due to unsustainable rent increases. Yet this could also be a psychological displacement due to shifts in the cultural understanding of both the area in question, as well as the larger inner-city environment as facilities and services are targeted towards new populations (Hamnett 1991).

2008

Active Gentrification

Housing memorandum actively states gentrification is to be pursued as a key strategy in the development of the city

2000

\$\$\$\$ Housing Demanded

Housing memorandum re-emphasised liberal principles with its goals of increasing the supply of expensive housing, promotion of home ownership, sale of rental units, in order to give consumers more choice and prevent higher-income people from leaving urban areas

1990s

'Restructuring Policy'

Introduction of 'restructuring policy', aim was to increase number of expensive, owner-occupied dwellings in inner cities whilst reducing quantity of social rented housing stock

1995

Associations Cut Off

Supply-side subsidies stopped, housing associations became financially independent and had to look at funding projects on capital market

1989

Misallocated Resources

Shift in Dutch housing regulation as possibilities of governmental failures pointed out, like misallocation of resources as some high-income households living in inexpensive units, some low-income households living in expensive units

1970s

Skyrocketing Deficits

Dutch government confronted with skyrocketing public deficits that raised questions about effectiveness of heavy state involvement in areas of high expenditure like housing

Manufacturing Out

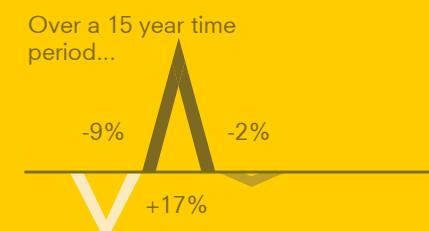
Western cities losing traditional revenue streams as industries moved out of cities, housing and real estate markets pinpointed as ways to improve cities' financial wellbeing

1960s

Social Housing Tools

Key tools used by Dutch government to ensure widespread provision of decent and affordable housing were;

1. Supply-side subsidies
2. Rent regulation
3. Allocation regulations



AVERAGE WAITING TIME FOR 2-BED APARTMENT



THE DUTCH PURSUIT TOWARDS GENTRIFICATION

Following the Second World War, the Netherlands became renowned for its attitude towards the provision of affordable housing for all of its citizens that was of an adequate standard for habitation (Savini 2015).

This was an attitude that was retained into the late 1980s, despite issues with government funding during the 1970s that also coincided with the evacuation of manufacturing industries from city centres (Savini 2015).

During the 1990s, after a buildup of dialogue that centred on the misallocation of housing resources, government policy shifted towards developing more expensive housing in cities (Kadi 2011).

By the late 1990s, a 'restructuring policy' had been implemented and the housing associations had been cut off from funding. This culminated in 2008 with gentrification clearly identified as the development strategy (Kadi 2011).

As a reaction to the shifts in policy that have been witnessed over the last 20 or so years, there have already been quite pronounced changes that have occurred in the housing market of Amsterdam.

This is seeing the property market increasingly swing towards owner occupied housing, that has raised prices and competition for housing enormously, also affecting the rental market too (Kadi 2011).



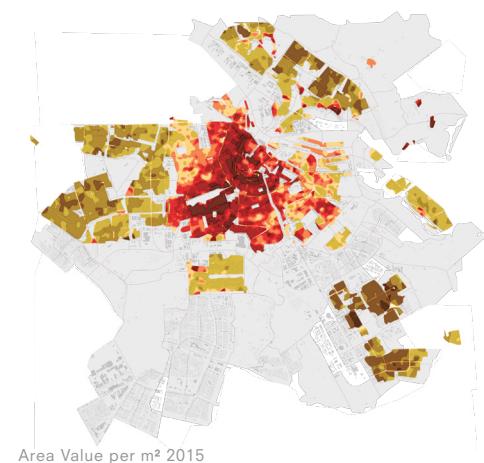
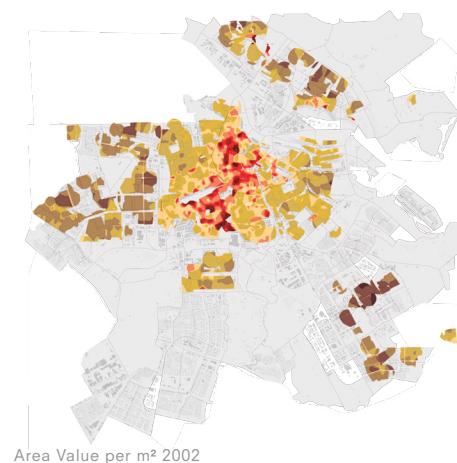
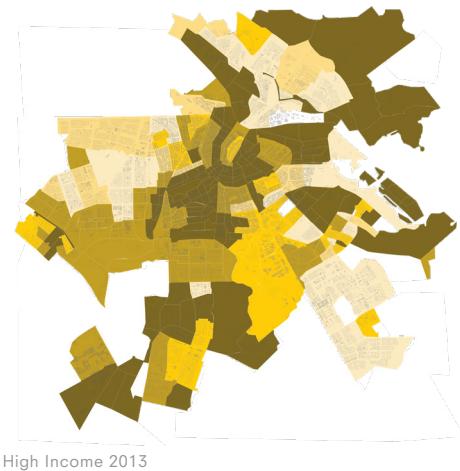
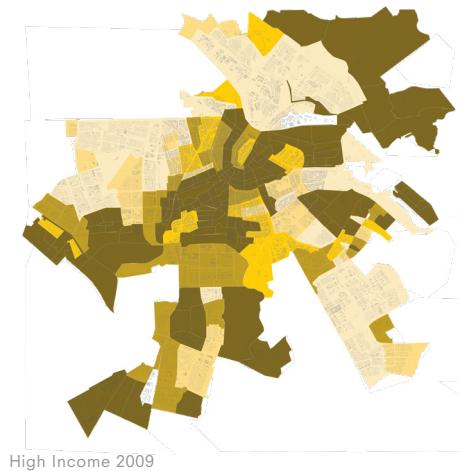
AMSTERDAM RESTRUCTURING

As these maps illustrate, even over a relative short time period, some trends are visible when looking at the impacts these policies have had on the socio-economic construct of Amsterdam.

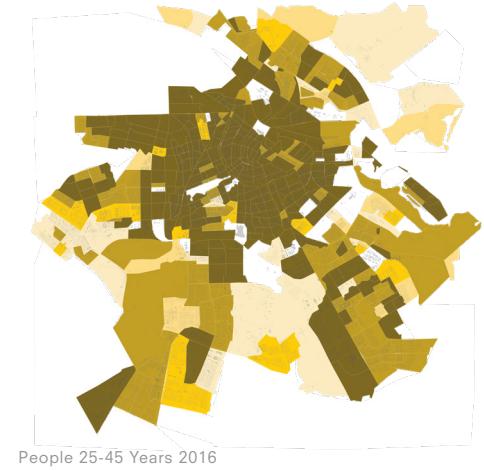
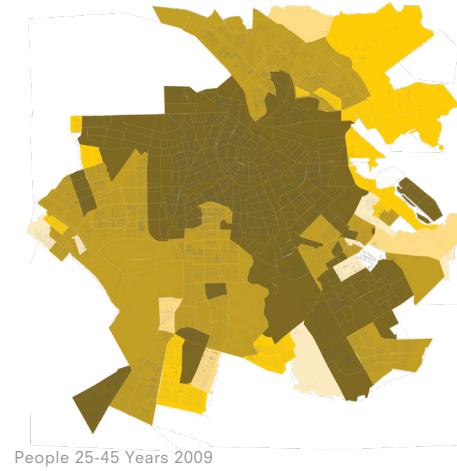
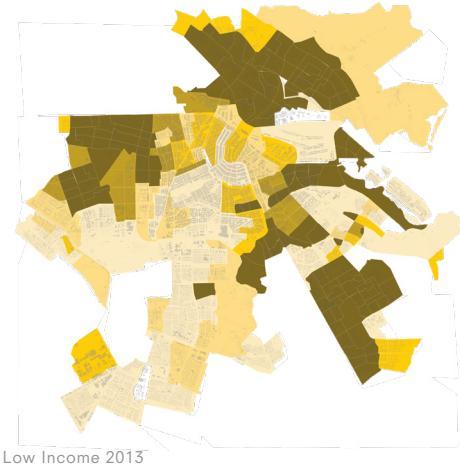
In many areas of central Amsterdam, there is a reduction in the number of low income earners, whilst high income earners increase. This is especially evident in transformations around parts of Noord.

The city centre has also witnessed a significant spike in the value of land over the last 13 years, with much of this land now valued at over 4000 euros.

The centre is also becoming increasingly the domain of working adults, with a continued growth of the presence of 25-45 year olds, whilst children and the elderly continue to play a minor role in the make-up of these neighbourhoods.



Area Value maps from Gemeente Amsterdam Data²





BOTTOM-UP GENTRIFICATION - JORDAAN

Jordaan is one of Amsterdam's clearest examples of a neighbourhood that has undergone a large gentrification process.

The area was originally built in the early 17th century as a working class neighbourhood, with many small houses and slums composing the cramped housing stock. These were developed to service those who resided in the more luxurious Canal Ring (JordaanINFO).

The area became a hotbed of radical leftist politics and was the setting for many demonstrations and riots.

During the 1970s, the ambition was to demolish the original housing stock and replace it with modern flats. This led to large-scale protests and ultimately an ongoing restorative project that has been carried out incrementally through taking a bottom-up approach to development. This has therefore been carried out on a small scale, aimed at preserving the original character (Jordaanweb).

As these restorations were carried out, artists, young entrepreneurs, and students became attracted to the area by the low rents available. As more expensive renovations were carried out, high-income earners increasingly began moving into the area and transforming it further (Jordaanweb).

Jane Jacobs in her seminal text 'The Death and Life of American Cities' (1961) discusses the need for diversity in forming a positive and healthy neighbourhood. She establishes four main criteria that act as the 'generators of diversity', or tools that assist in establishing a vibrant neighbourhood. These are:

1. Diversity in population, both in terms of demographics as well as a mix of permanent inhabitants versus a transient population
2. Diversity in functions and amenities in the neighbourhood to encourage different people over varying hours of the day
3. Diversity in building stock, with buildings of varying ages and quality that encourage different types of people to make use of them



Far Top: Nieuwezijds Achterburgwal (now Spuistraat) circa 1867 ⁴

Far Bottom: Jordaan canals present-day (personal image)

Near Bottom: Location Plan of Jordaan Perimeter

THE VIBRANT NEIGHBOURHOOD



DISTINCTIVE TYPOLOGIES

Taking Jacobs' criteria into account, these have driven this gentrification process of Jordaan. The first is the distinctive canal housing typology, which was the catalyst for bringing in a new generation of residents in to the area as they were renovated. This incremental, bottom-up development has allowed for a range of building stock of varying ages to co-exist in the neighbourhood that attracts different demographics.



LANDSCAPE COMPOSITION

This distinctive typology has been reinforced with the recognisable streetscapes of canals and small streets that, when combined with the canal housing, form an idyllic urban environment that is highly attractive due to its uniqueness. So, it brings in both residents as well as a transient population through the area. The small blocks of the neighbourhood allow for discovery and exploration but the canals provide orientation.

Canal Housing ⁵

Brouwersgracht



ARTISTS AND CREATIVES

Due to the urban renewal focusing on small-scale restorations of existing housing and its attractiveness to demographics such as the creative class, this has inevitably seen the proliferation of galleries and artist studios located in the area. This has given Jordaan a particular identity as a site for art, which remains today. This is encouraged with occasional days where various ateliers will open themselves and their work spaces up to the public.

Joep Buijs Art Gallery ⁶

DIVERSE FACILITIES

As the area gained this reputation of being a hub for creative-driven initiatives, as well as witnessing an increase in high-income earners moving into the area, this has caused amenities and facilities to target these particular demographic groups. This can be seen with the number of high-end designer boutiques, dining options, and bars that are scattered around the small streets of the neighbourhood.

Streetscapes ⁷



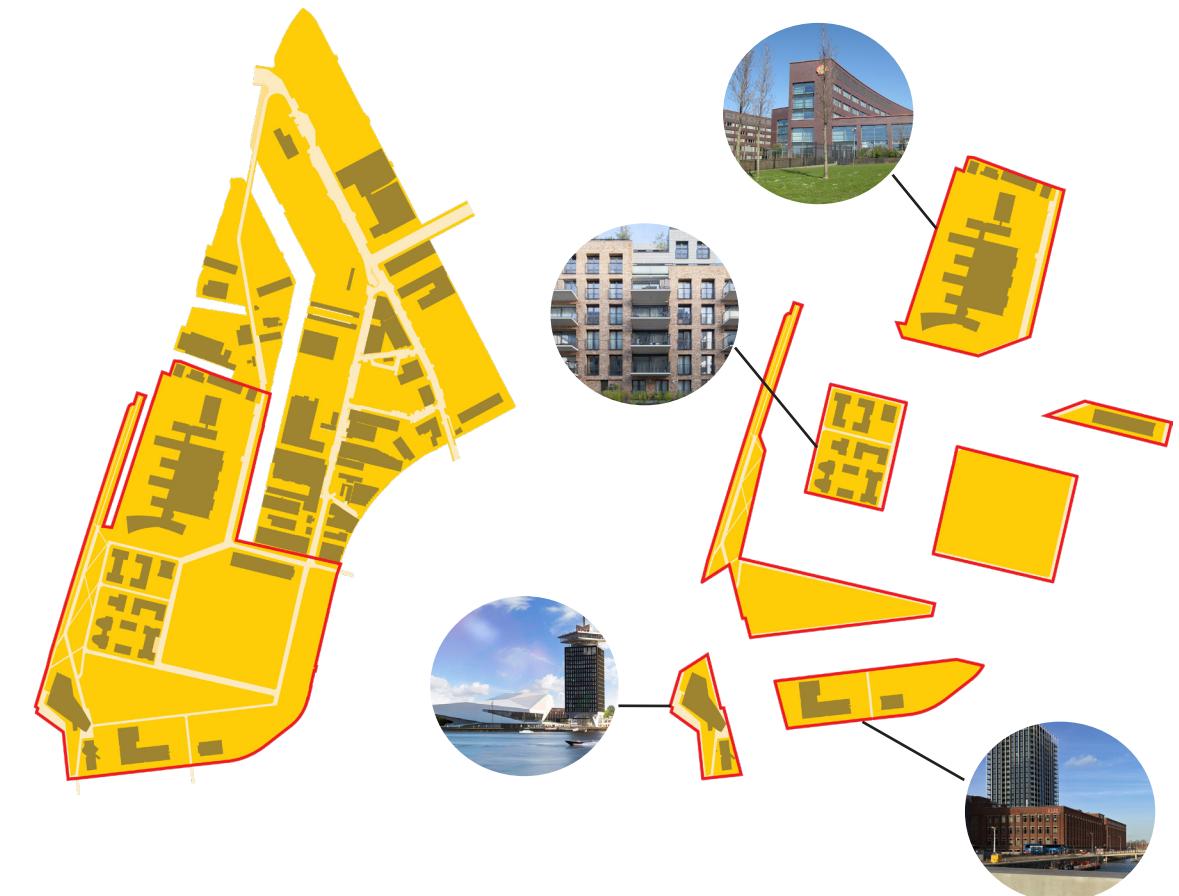
TOP-DOWN REGENERATION PLANNING - OVERHOEKS

Overhoeks is a new mixed-use neighbourhood located in Amsterdam Noord by the river IJ, which has been developed on the land of the former Royal Dutch Shell Research Facility.

The planning of this area was driven from a large-scale top-down organisational and masterplanning approach. This is exemplified with the allocated residential enclave focusing on providing high-end luxury apartments (Gemeente Amsterdam 2012). This has been criticised due to the residential area being below social housing provision targets. Despite the neighbourhood being zoned for mixed-use, there has been a clear compartmentalisation of the different functions of the area.

As already mentioned, there is the upmarket residential section, whilst next to this is the Shell Technology Centre. On the south-eastern corner are the cultural and leisure landmarks of the A'DAM Tower (Shell's former Overhoeks Tower) and EYE Institute. On the eastern edge will be hotels, a school and commercial spaces available (Gemeente Amsterdam).

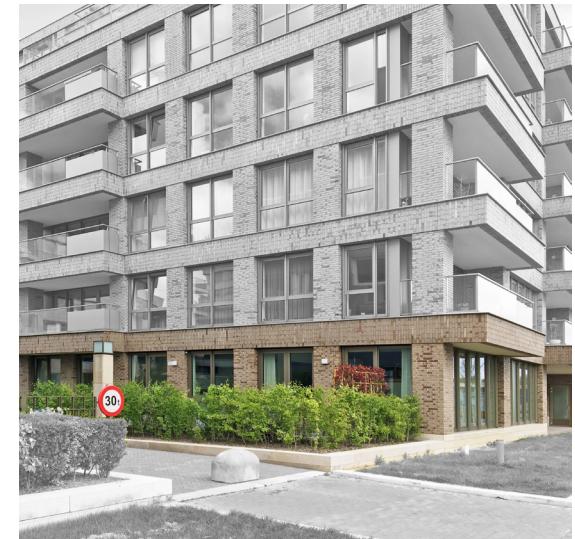
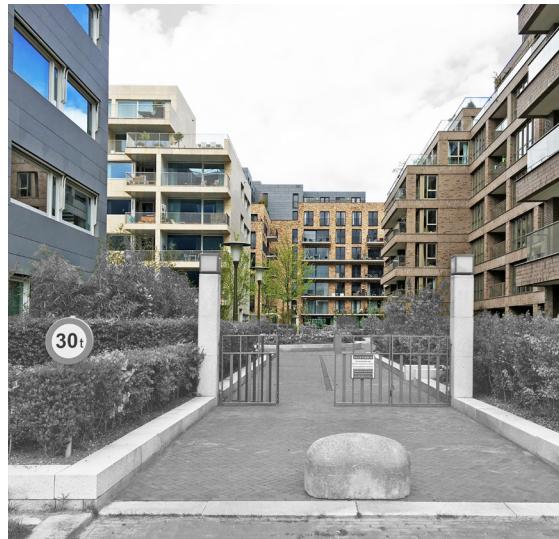
So, despite the mix of activities in the area, there are clear borders in operation in Overhoeks. When considered under Jacobs' criteria for a successful neighbourhood, this has actually formed monofunctional clusters that work on their own individual time scales and cause disconnection.



Overhoeks Perimeter

Overhoeks Experienced - A Series of Enclaves

THE MONOFUNCTIONAL NEIGHBOURHOOD



WALLED ENTRY

Many of the apartment complexes in the area do not open themselves up to the street, instead having various barrier devices to discourage public entry from the exterior of the block. Some of these devices include gates, bollards, fences, garage entries, and thick hedging. The relationship between resident and the public is therefore reduced to only a visual one.

REPETITIVE BUILDINGS

Due to the residential precinct being developed at the same time, and targeting a very specific market of high-income earners seeking a luxurious apartment form of living, this has created apartment complexes that are all highly homogeneous in how they operate. This forms a neighbourhood cluster that has little variation in the quality and age of building stock.

LONG STREET BLOCKS

The streets that compose the residential neighbourhood are long and repetitive, with few breaks in the blocks. This reduces the interest of all individuals other than those who reside in the area when there are few opportunities to make diversions and detours along side streets. The streets all follow similar logics of walled greenery that buffers the apartment complexes behind.

DE-ACTIVATED GROUND

The ground plane of the residential blocks all follow the same setup, that is of being dedicated for more apartment dwellings. This causes these apartments to either be shielded away from public sight or they are open and empty of activity. Again this causes little activation of the ground level as there are no publicly-oriented activities available or occurring to bring in other demographics.

A CITY OF ENCLAVES?

As Amsterdam embraces policies that target the privatisation of the housing market, as well as encouraging high-income earners to move into the city centre, this has caused a significant restructuring of its demographic composition. It needs to be questioned whether a relentless pursuit for attracting high-income earners into the city is entirely desirable, especially when considered against the social implications this has on the urban environment.

Bottom-up approaches like the Jordaan allow for diversity to occur due to development that is more small-scale and incremental, developing neighbourhoods that encourage various demographics and backgrounds to actively mix with one another. Yet these neighbourhoods can also be a victim of their own success. If they become overly desirable, this can cause demographics that can afford to pay to increasingly take over the area. This in turn leads to growing homogenisation.

On the other side of the spectrum sits the large-scale, top-down approach towards developments such as the Overhoeks. Here there was an explicit targeting towards high-income earners into the residential apartments that have been developed there. This neighbourhood works on a monofunctional time cycle, with little that activates the area beyond the residential enclaves. This raises the question of whether this is the future direction of the city - a series of enclaved precincts that disconnect rather than connect a city and its diverse range of inhabitants.





TOURISM

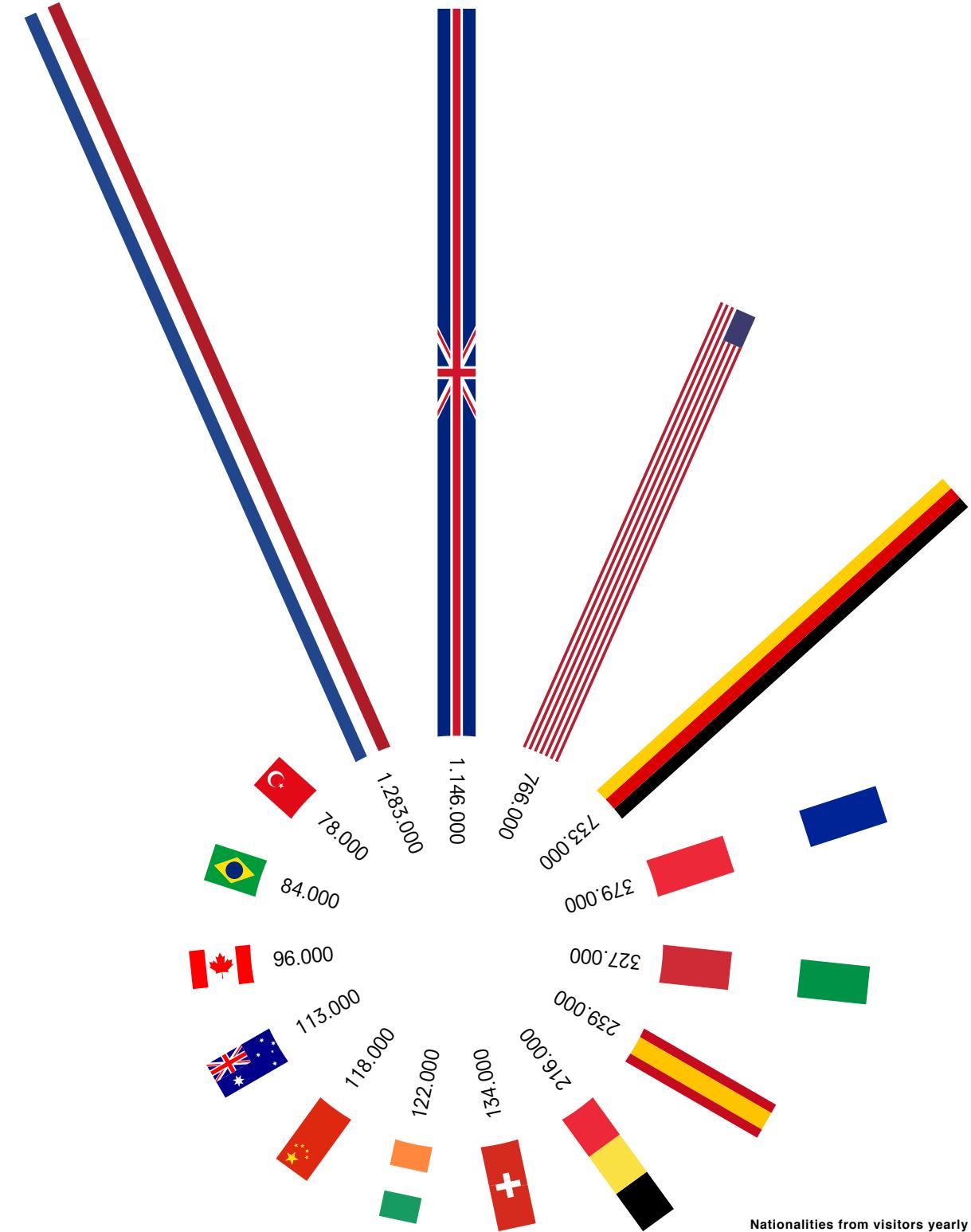
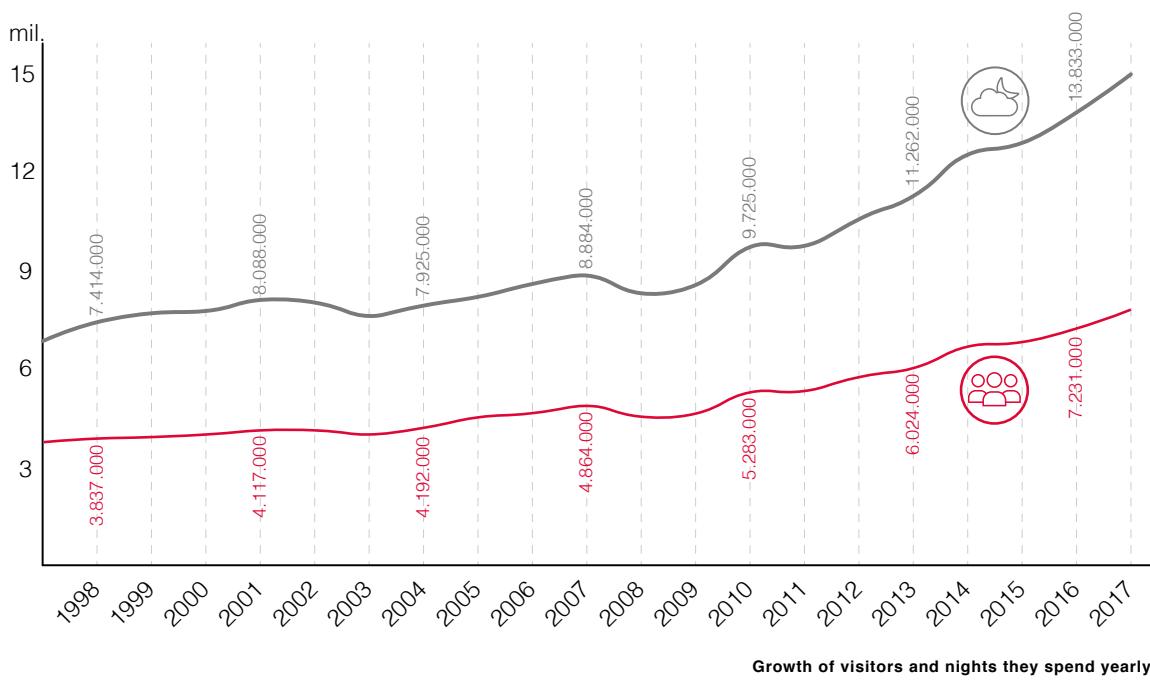
VENICE OF THE NORTH

Amsterdam was discovered as a touristic destination on a large scale at the end of the 1990's. In this period, budget airlines were growing quickly which gave a new dimension to the phenomenon of city trips. Tourists were not only interested in the more traditional culture as the Anne Frank Huis and the Van Gogh Museum, but also in the one of drugs and the Red Light District. The centre is now in a position where tourists seem to outnumber locals. This is similar to the development of Venice as a touristic hotspot.

GROWTH IN VISITORS

One of the first things which comes to mind when thinking about Amsterdam is the amount of tourists within the city. Since the phenomenon of citytrips emerged in the last decade of the 20th century Amsterdam became a tourist hot spot. The city comes in as the 13th most visited city in the world with over 7 million visitors yearly. Most of the visitors are from west and south Europe, whilst the United States form the biggest exception. Visitors from other continents tend to combine a trip to Amsterdam with visits to London and Paris, which are the two most popular destinations within Europe. Coincidence or not, but since 2004 when the 'i amsterdam' marketing campaign started, the amount of visitors has been growing steadily with the exception of 2004 when the economical crisis kicked in. Around 2002, the city noticed that the amount of visitors was levelling and even tending to decrease due to competition with other European cities. This was a problem for Amsterdam since

a large amount of its income is from the tourist industry which started the initiative of city branding. Next to this, Amsterdam has been expanding their attractions to keep people to stay longer. By 2017, the average stay has grown to almost two days, which means that people have to spend a night in the city. This is lucrative for hotels and restaurants and gives job opportunities. The market for Dutch visitors is still focused on 'dagjesmensen' (people who arrive in the morning and leave in the evening), which is also still growing. Next to the branding of being a cultural capital, the city is now focusing as well on events such as festivals and congresses. More than 300 festivals are hosted yearly by the Dutch capital and it is the seventh most visited city for congresses worldwide. Due to all these trends the city doesn't have to worry anymore about decreasing numbers of tourists. It actually is the exact opposite which worries the locals



GATES TO THE CITY**SCHIPHOL AIRPORT**

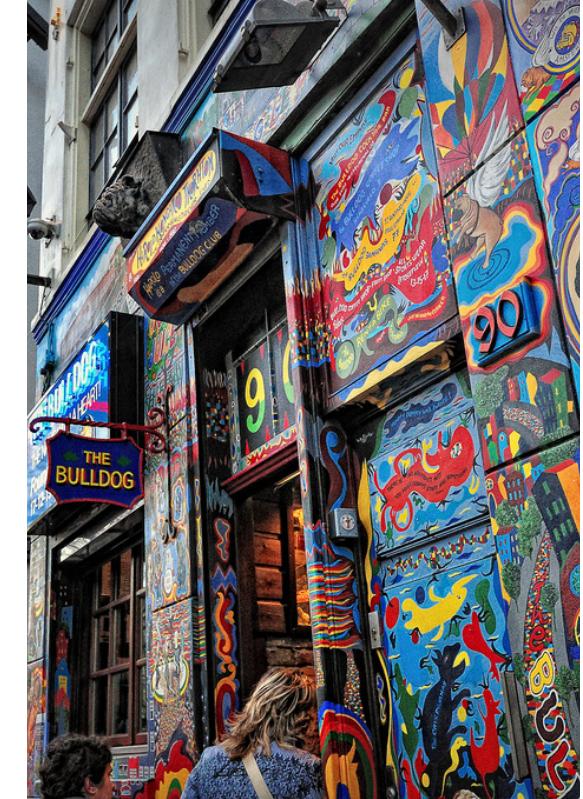
Perhaps somewhat surprisingly, the city of Amsterdam is connected to one of the biggest airports in the world. Schiphol is a major transport hub that connects the Netherlands with 274 direct international destinations. Because of this, more than 63 million travellers pass through it on a yearly basis, with most people only making a transfer. The success of the airport is due to its strategic location on the border between the continents of Europe and North America which makes it mainly competing with London Heathrow and Paris Charles de Gaulle. It is now in a phase of repelling short destination flights to Lelystad since there is little space to expand further due to the surrounding villages.

**AMSTERDAM CENTRAAL**

Only 15 km away from Schiphol lays Amsterdam CS, which is the second largest train station by travellers in the Netherlands with an amount of 162,000. A train ride from Schiphol of less than 20 minutes brings you to the city centre. The construction of the station was finished by 1889 for which even three artificial islands were created. The Dutch architect P. Cuypers designed the new monumental gate to the city. The rise of the train meant that the water became a less important means of transportation, which made Amsterdam literally turn its back to it. The station is now in a phase of optimising itself as much as possible since visitor numbers are still growing and further expansion is not possible.

DIRTY BUSINESS**RED LIGHT DISTRICT**

The character of the place dates back to the days in which the area was still a port district. Already in the Golden Age it was known as an area for entertainment in the form of prostitution. In the 1970s the area became notorious for its criminal activity in the form of drug dealers and mobsters. Since 2000, prostitution has been legalised within the area to improve the controllability over it. This decision was largely made because of the trafficking of human beings, with 75 percent of the prostitutes are from foreign origin. The city is now in a period in which it avoids the distribution of new permits for brothels. Its one of the most popular sites within the city with 2.5 million yearly visitors.

**COFFEESHOPS**

These shops started as cafes, yet began to transform during the seventies when criminal activity grew in Amsterdam with the opening of three of them. A peak was reached by 1995 when the Dutch capital housed more than 450 coffeeshops including illegal ones. Since 1992, coffeeshops are partially accepted by the government, for which several conditions were set. These include not being allowed to advertise, to sell hard drugs and a restriction was put on the amounts you were allowed to buy. While the amount of coffeeshops in the city is decreasing yearly, it is still one of most popular places for drug tourism and one of the main reasons why people visit Amsterdam.

A DAY OF SIGHTSEEING

One of the biggest issues concerning tourism for Amsterdam is that it is really clustered in a small zone in the centre, which makes it extremely crowded near and between the most famous tourist attractions. In 2015 the Dutch newspaper NRC handed over 30 GPS trackers to random tourists to map their activities within a day from



which the results can be seen below. While the trackers were given to various population groups, there were surprisingly many similarities between the walked routes. This was seen with the biggest clusters being along the Red Light District and the Dam Square.



HOTSPOTS



Amsterdam is known globally by its canals, which creates a very specific atmosphere and makes the city an actual open-air museum. This corresponds with the most popular tourist attraction: the Canal Boats which have various docking places throughout the city. Most of them are placed around the central station. Nowhere in the world is the density of museums as high as in Amsterdam. The core of these cultural institutes is the 'Museumplein', with the just expanded Van Gogh Museum and the renovated Rijksmuseum displaying Rembrandt's masterpiece: 'de Nachtwacht'. The Anne Frank Huis along the Prinsengracht is another tourist favourite with the always characteristic waiting lines turning around the corner of the canal house. Another characteristic attraction is the Diamantslijperij in the Pijp neighbourhood which is a popular destination for Asian and Russian tourists. Amsterdam is now in a phase in which it tries to distribute tourists more evenly over the centre by opening new tourist attractions such as the EYE-museum along the northern shore of the IJ-river.

1. **Canal Cruises**
3.250.000
2. **Rijksmuseum**
2.474.000
3. **Van Gogh Museum**
1.612.000
4. **Artis Zoo**
1.314.000
5. **Anne Frank Huis**
1.227.000
6. **Holland Casino**
797.000
7. **Heineken Experience**
732.000
8. **Diamantslijperij**
729.000
9. **Stedelijk Museum**
689.000
10. **Madame Tussauds**
625.000

AIRBNB MARKET

In 2008 the American startup of Airbnb started its services with the noble concept of being able to rent someone's room when on a holiday which provides a more authentic experience than a hotel or hostel could possibly do. In the short period of five years, the service became a worldwide known concept with Amsterdam being one of the densest places in the world. By 2015 the 11,000 Airbnb properties in Amsterdam made together 100 million euros, competing hugely with the hotel business. Almost all the properties are within the ring and form together 2.72 percent of the housing stock with a share of 7 percent within the Canal belt. The Airbnb market is still expanding in Amsterdam due to the lucrative business it provides on a yearly basis, bringing in an extra 9000 euros in. The success and concentration of it can be dedicated to the small scale of Amsterdam, in which any location within the centre can be reached within half an hour by bike or tram. The success of the

startup from Silicon Valley however has a big downside to the city. In the first place, it forms an unfair competitor with hotels which have to meet all kind of safety regulations and have to pay tourist taxes to the city as well. At the same time, more and more people are buying apartments in Amsterdam to use them solely as an investment by renting them out the entire year. Because of this, entire neighborhoods are losing their character since residents are pushed out of the city resulting in no mans lands of ever changing inhabitants. To stop this, the municipality was the first city in the world to settle regulations with Airbnb. In 2014 rent through Airbnb became fully legalised under the condition that apartments would have to now pay 5 percent tourist tax for each reservation made through the website. It was also agreed upon that an apartment was only allowed to be rented out for 60 days a year to stop the ever migration of temporary inhabitants.



FUTURE SCENARIOS

Looking at the future of Amsterdam four different scenarios can be imagined depending on the amount of tourists and the amount of area which is in their interests. The worst scenario would be the so called 'Venetian' one, in which inhabitants leave the city centre because they can't live there anymore due to it becoming overcrowded. When the inhabitants leave the city a part of its identity becomes lost. An opposite scenario would be that the amount of tourists will lower by focusing on attracting high-class tourism, as in Zürich, which

only those who can pay can then afford coming to Amsterdam. Another possibility is that the amount of visitors is spread on a huge scale throughout the Netherlands; the so called Hollandcity. Tourists will now not only be interested in Amsterdam but also in other Dutch cities. A less extreme option would be that tourists are introduced to the metropolitan area of the city. The municipality is now focusing mostly on a scenario between the first and last one, in which the touristic center is expanded with more and more attractions in the municipality self.



clustering



increase

decrease



scattering



A POPPING BUBBLE?

Each year more and more people are visiting the city of Amsterdam for different reasons which vary from a cultural visit to the ever popular dirty business the city is so well known for. New trends such as the upcoming Airbnb market have a great influence on the city pushing even more residents away. Amsterdam is now in a period in which it has to decide how it will develop to avoid becoming overflowed totally by tourist. It is still in a position in which a development similiar to the one Venice went through can be avoided.





SPACE DATA

Overview

Korthals Altes Silo

Noorderkerk

De Bloem

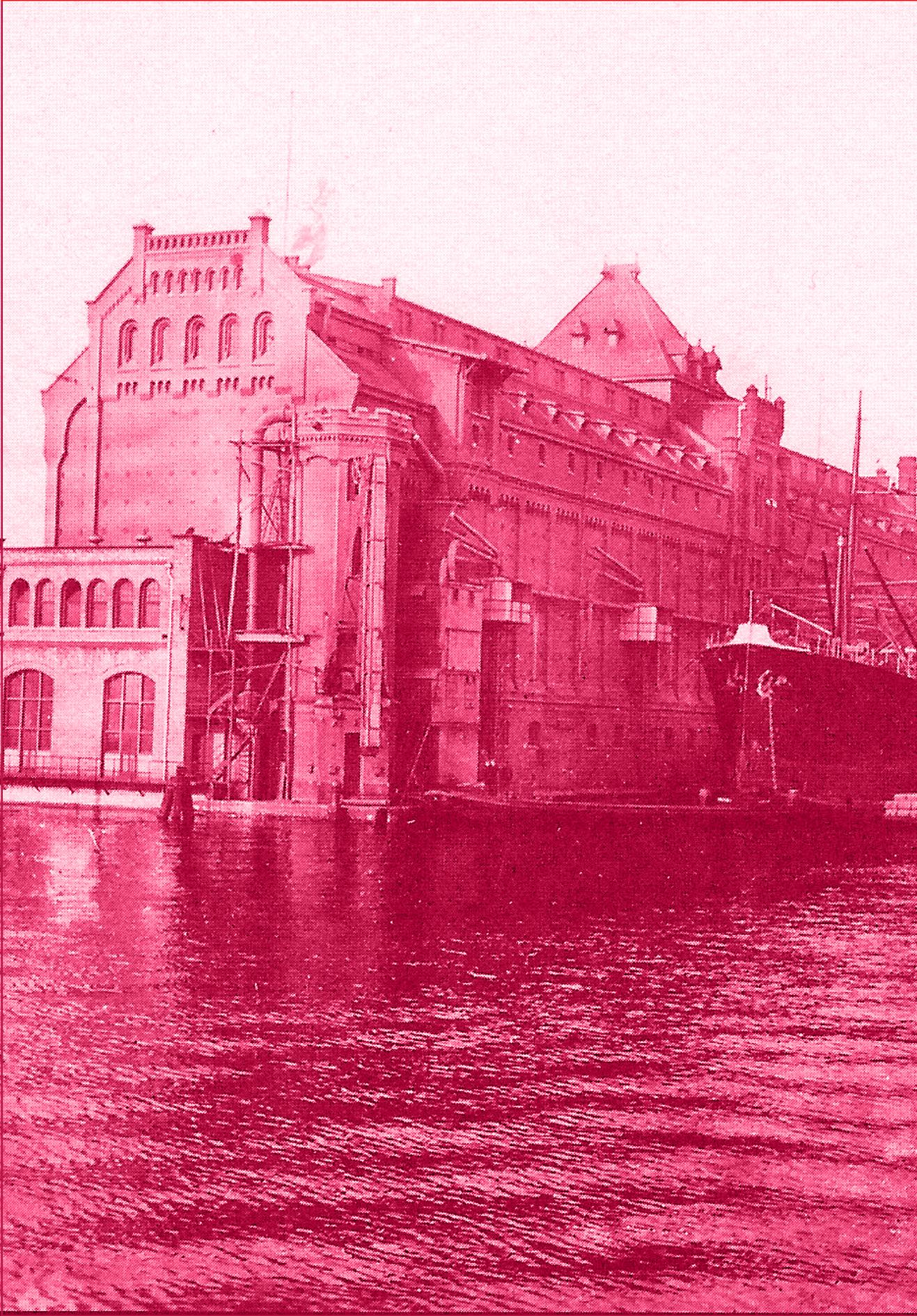
Bridge

A'DAM Toren

Hofje van Brienens

Silodam

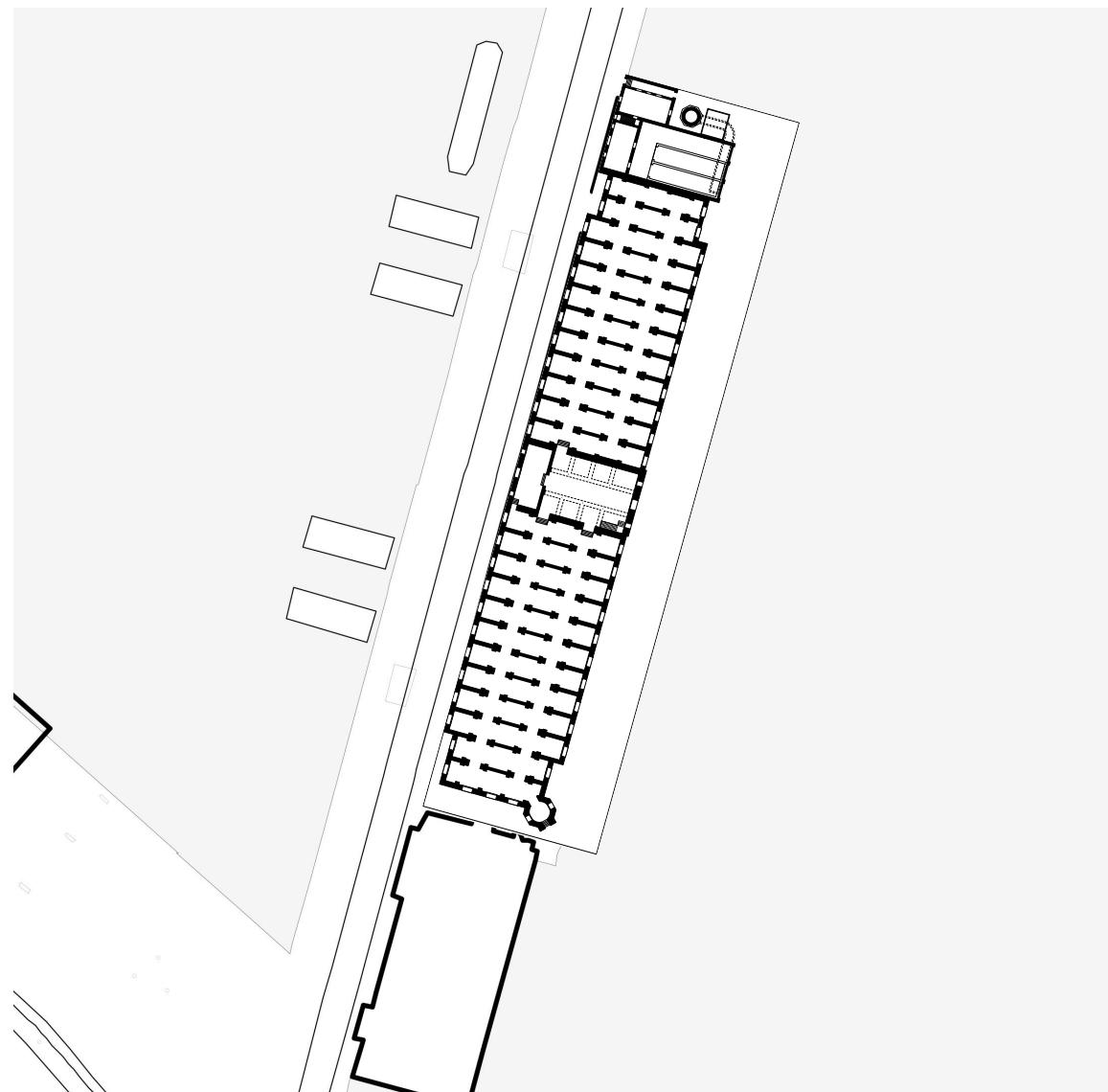
Amsterdam CS



KORTHALS ALTES SILO

INDUSTRY

The Korthals Altes silo was commissioned in 1897 by merchant Korthals Altes and designed by architects J.F. Klinkhamer and A.L. van Gendt. They designed a palace like building which represented the importance of the grain trade. In the silo 17 million kilos of grain could be stored in 60 vertical shafts. Moreover, the building was part of the defense structure of the city of Amsterdam. This chapter shows an historical analysis of the building as it was used between 1897 and 1999. After 1997 the silo was transformed into a residential building with workspaces.



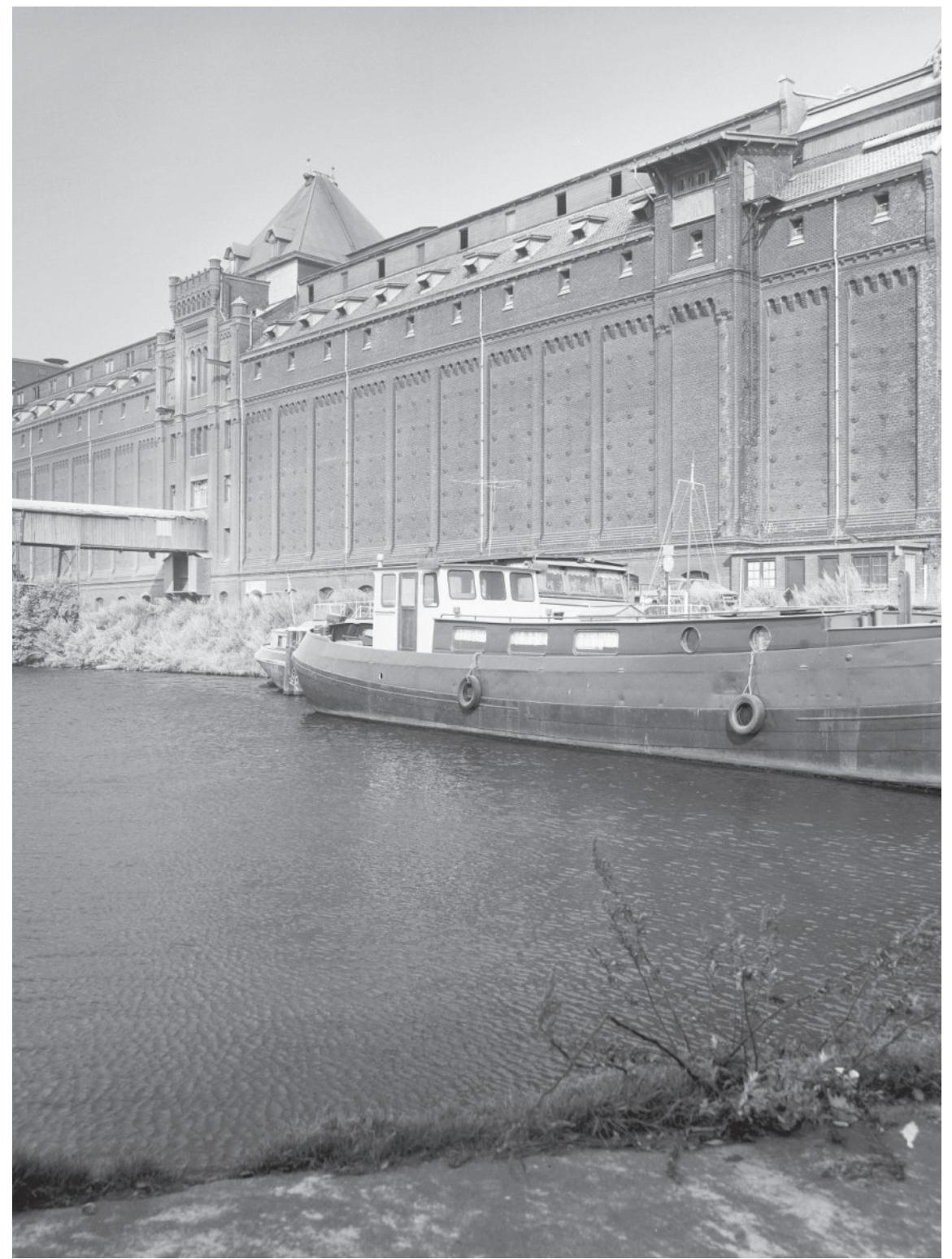
Urban context

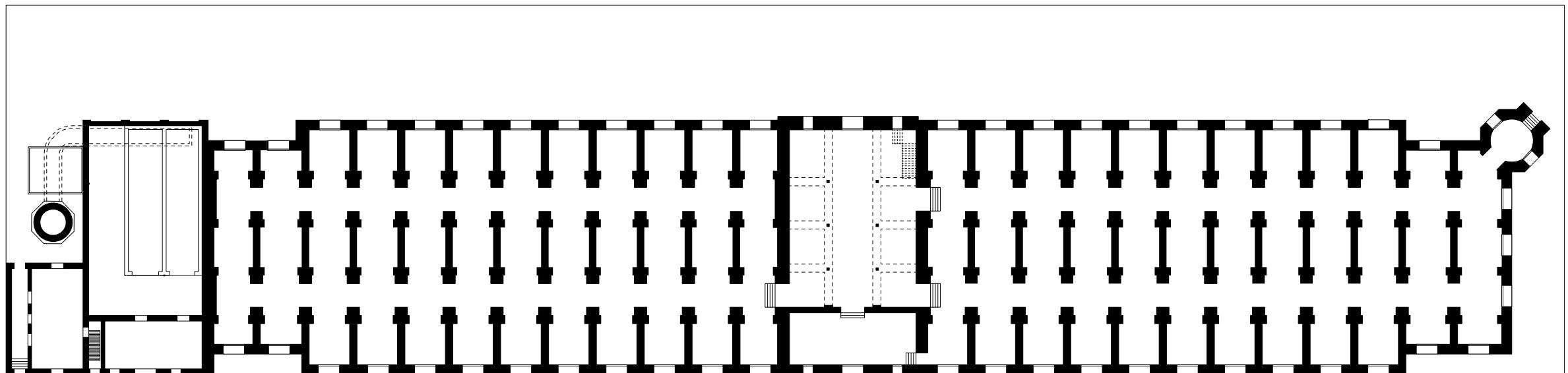


Program bar

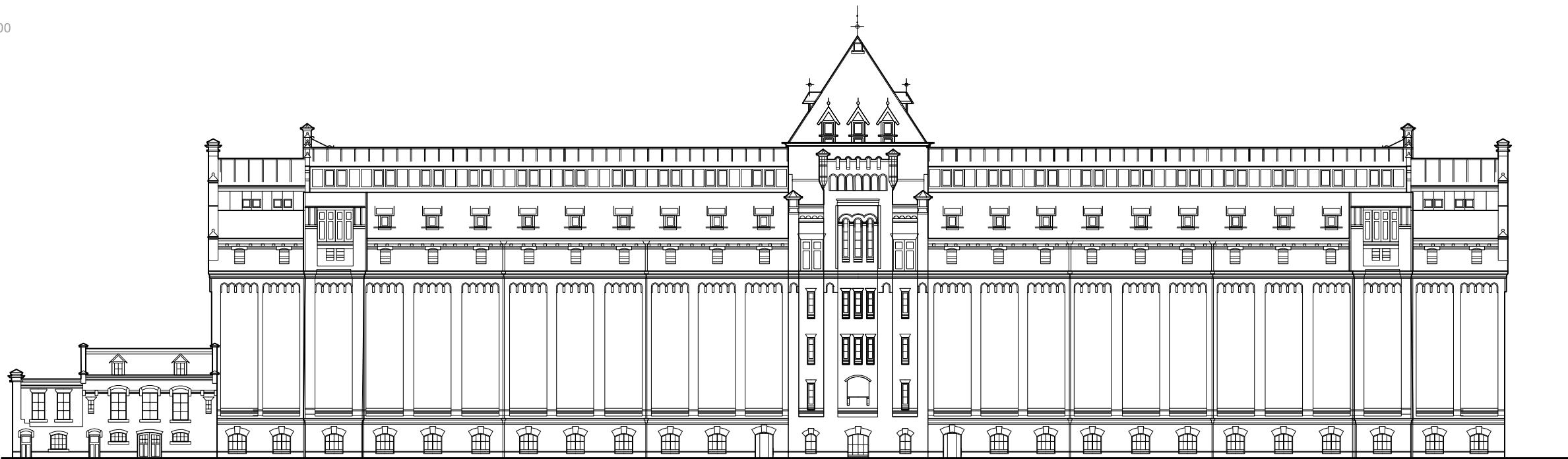
GFA: 6084m²**GIA: 4655m²****FAR: 1,26**

Spatial data

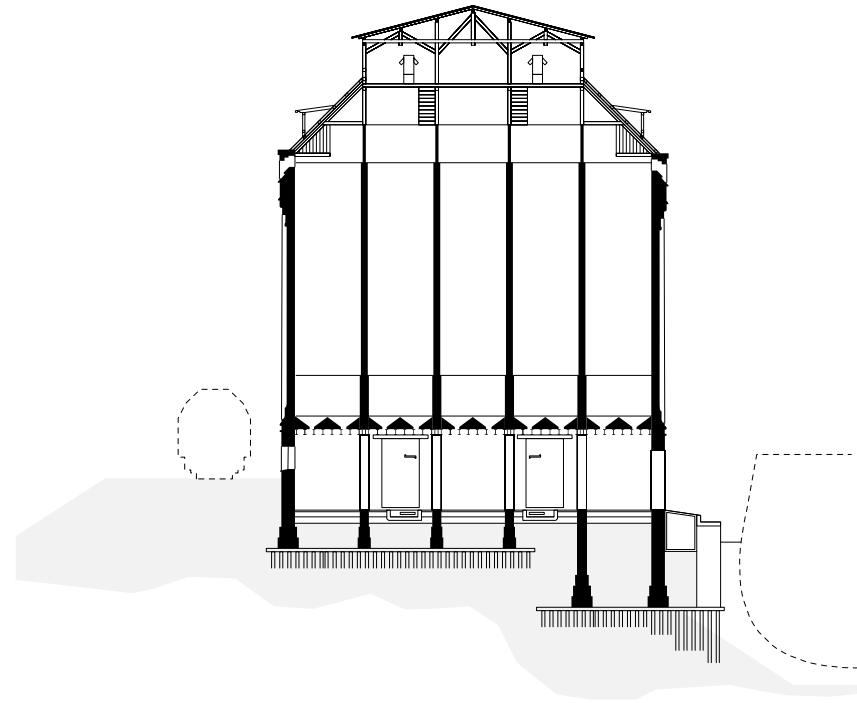




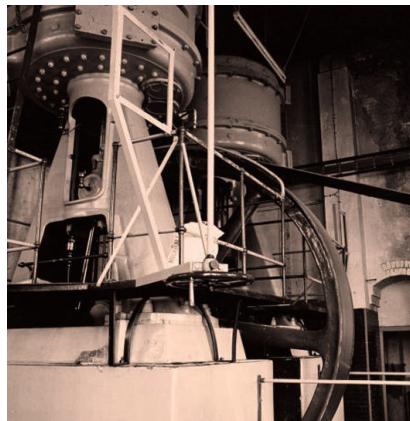
Floorplan 1:400



Facade 1:400



Cross section 1:400



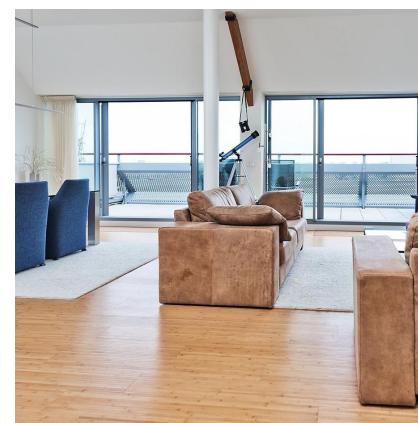
Machineroom (IAMsterdam, 1987)

It was the first time that in the Nederlands grain could be stored in vertical shafts. Because modern techniques were applied manually lifting of bags of grain became unnecessary.



Facade after transformation (Kees Stoof, 2016)

During the transformation from silo into residential building was adjusted and made more open. Among others, the large deepened areas in the orgininal facade were replaced by large windows.



Apartment after transformation (Funda)

One of the luxury apartments realised after the transformation into an residential building in 2001.

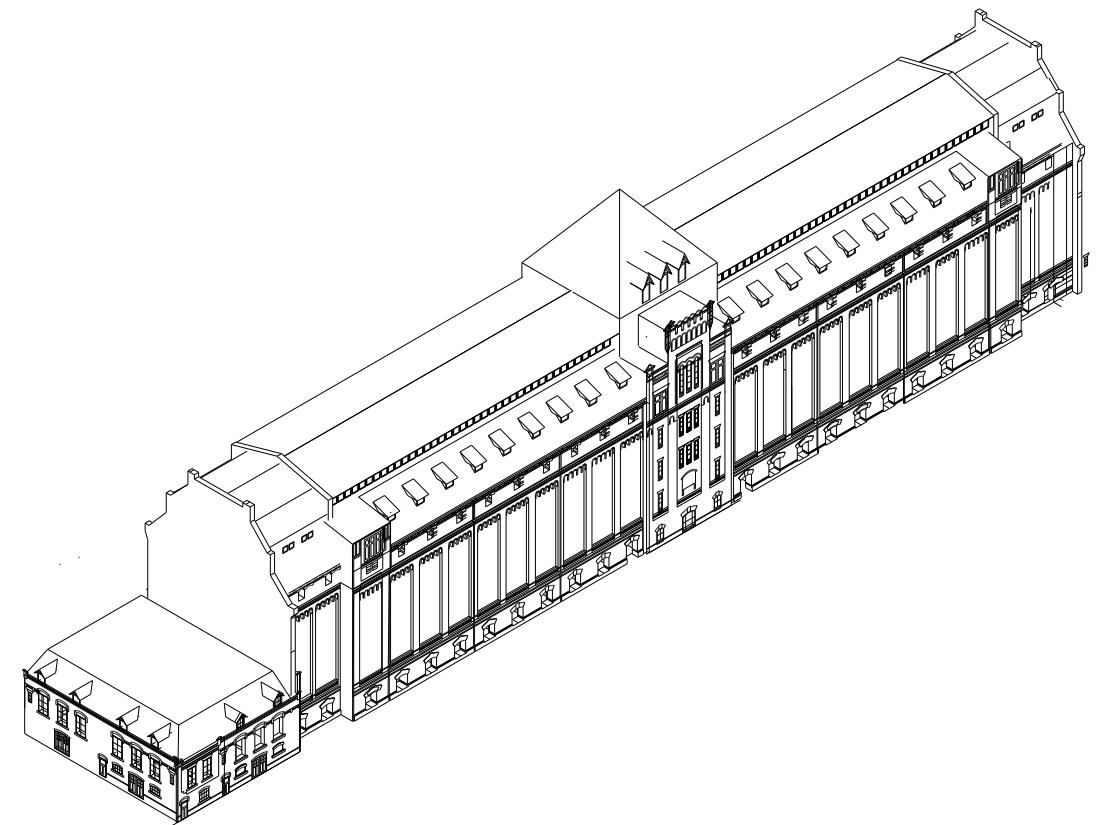


Memorial stone 1987

Memorial stone placed on April 26th 1897 by Jan R. Korthals Altes. He was the director of Society for Exploitation of Cereals and Warehouses. In 1896 he commissioned the construction of the silo.



Southfacade after transformation



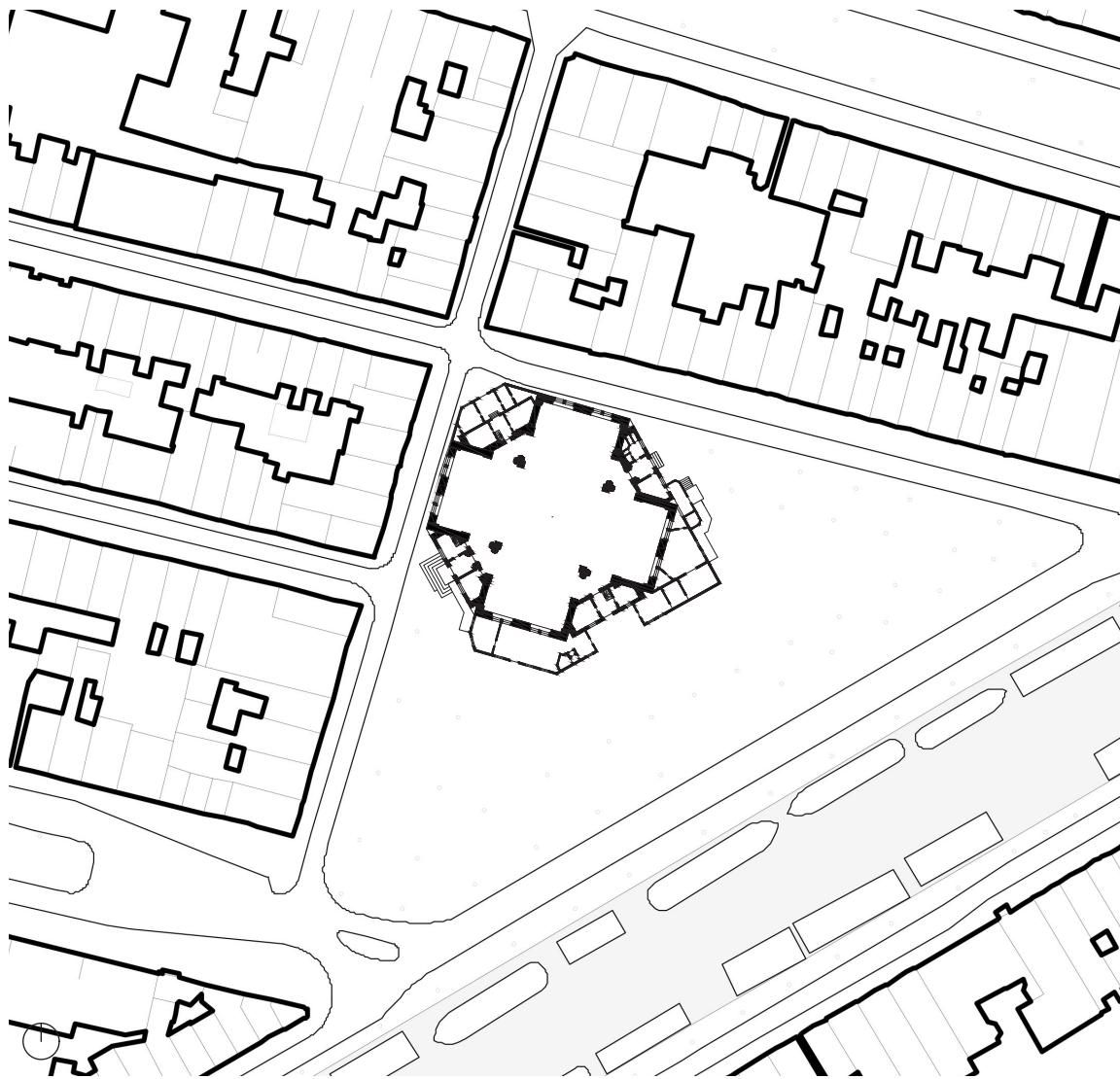
Axonometry



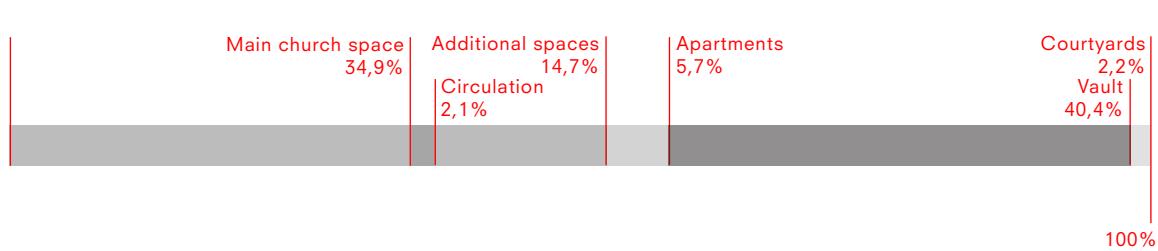
NOORDERKERK

LANDMARK

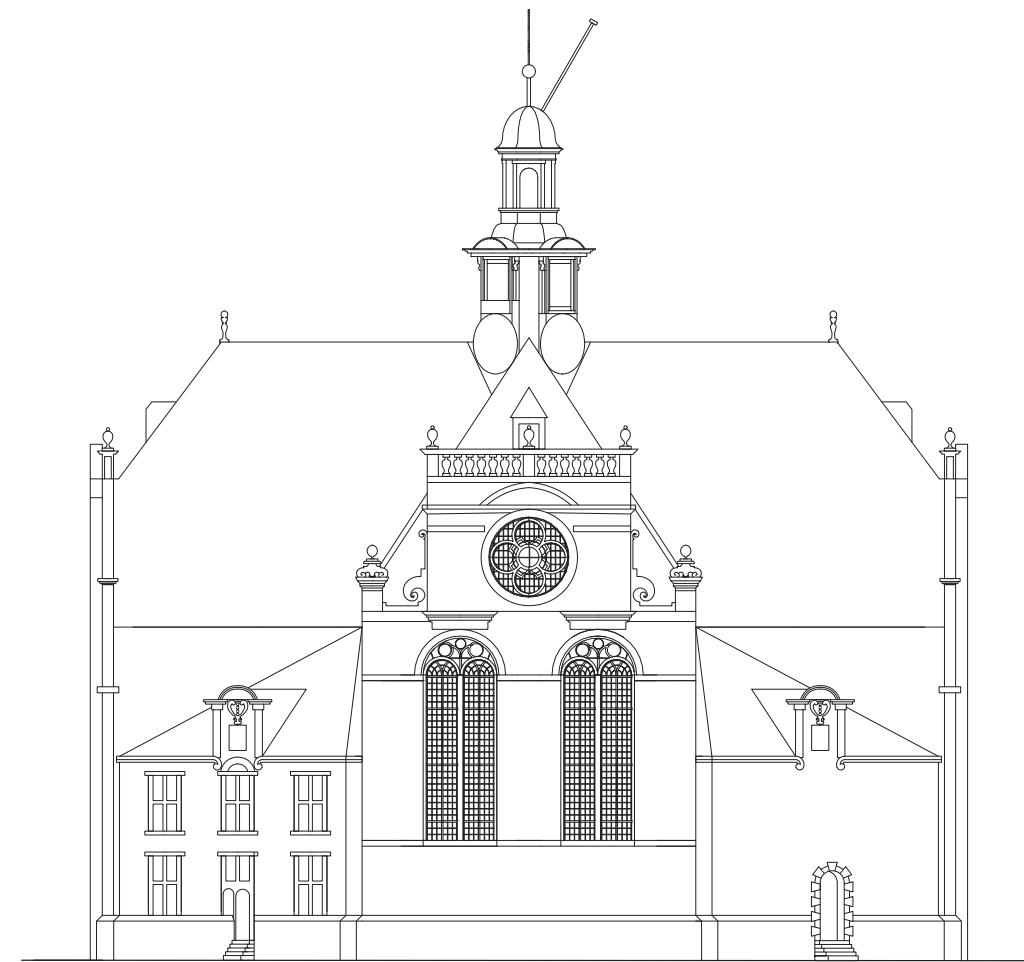
Completed in the 17th century, the Noorderkerk ('Northern Church') together with the Southern, Western and Eastern church were built in the Golden Age of Amsterdam for the well-to-do protestant residents of the canal rings. These newly built specifically protestant churches provided a challenge for the architect Hendrick de Keyser, who designed the Northern, Western and Southern churches. Protestant churches differ from catholic churches in their lack of statues and religious images, the disappearance of the ambulatory and the requirement of an east-western orientation. The Noorderkerk is shaped in a symmetrical, cross-shaped layout (Greek cross) with large Tuscan pillars dominating the interior. On each corner of the cross, small annex buildings can be found and a small tower crowns the top of the building. The Keyser erected the church in a Renaissance style and it represents one of the first examples of protestant architecture.¹



Urban context

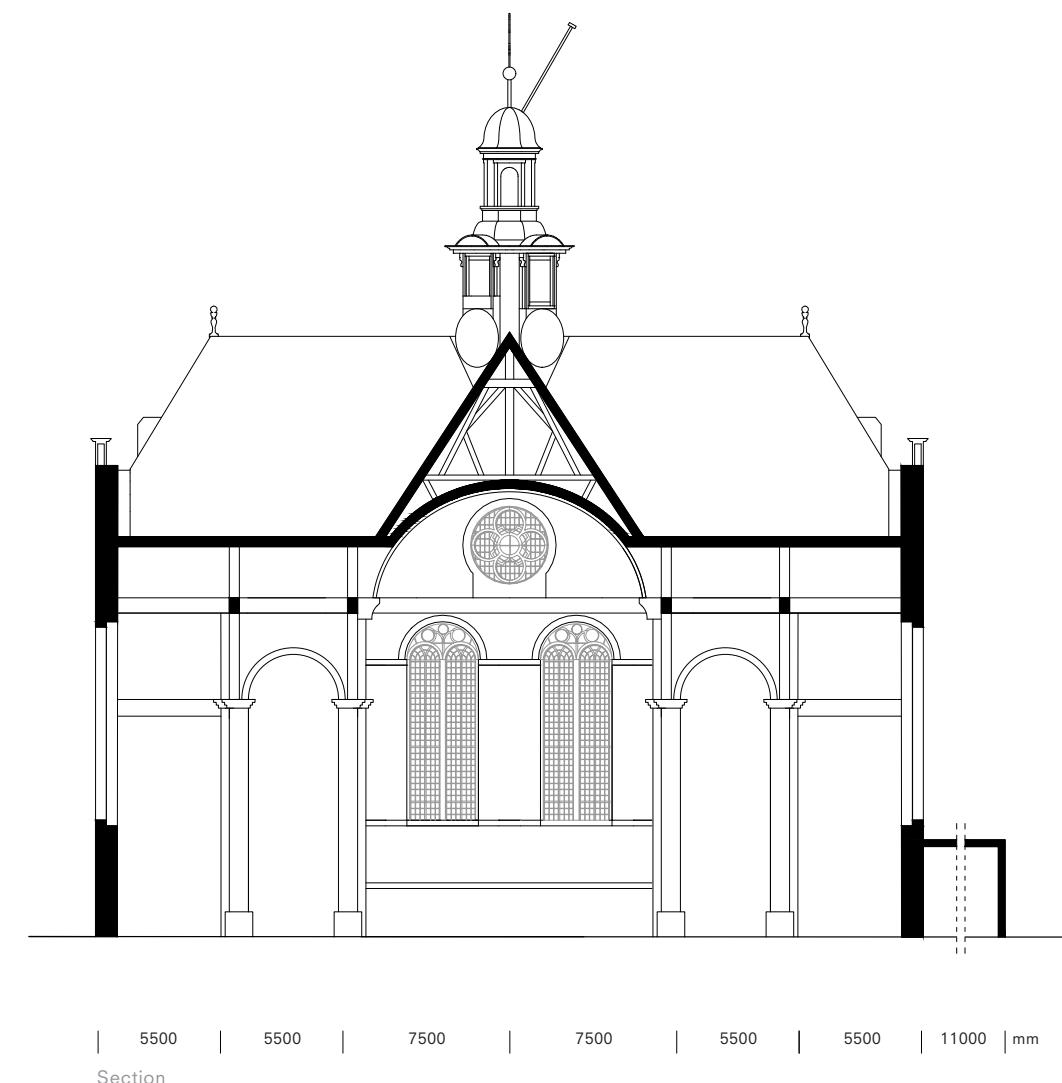
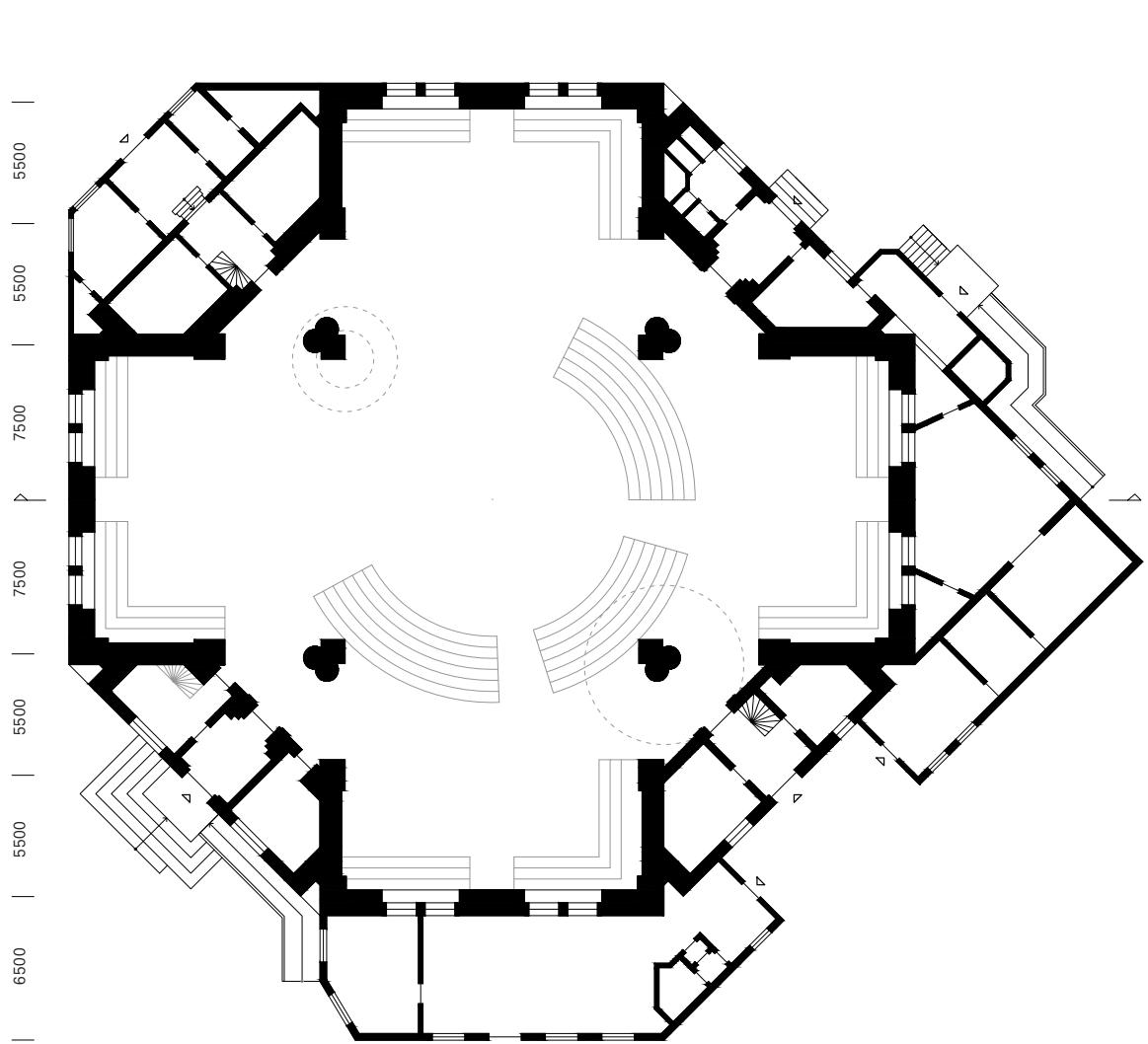
**GFA: 2937m²****GIA: 2704m²****FAR: 1,99**

Spatial data



5500 | 5500 | 7500 | 7500 | 5500 | 5500 | mm

Facade





The Noorderkerk is crowned by a small tower placed on top of the centre of the building. Within Christian churches, the tower represents the connection between heaven and earth. Inside the tower there is a clock that summons the devotees to come to mass, that rings for weddings or funerals and it also tells the time every fifteen minutes. On tower top there is a cross placed with a rooster as a symbolic representation of the protestant church: the rooster crows at dawn; it is a new beginning, just like believing in Jesus Christ.²



When the Noorderkerk was built, a part of the Noordermarkt was destined as a graveyard and the other part functioned as a market. Soon the graveyard was considered too small for all the deceased and people of the Jordaan feared for the smell, it was removed and the entire square could be used for the market. Underneath the floor of the church there is a vault with every tombstone still occupied up to five deceased. The sons of the architect Hendrick de Keyser himself are also buried here.³



In the middle of the church the pulpit is placed at one of the corners of the four columns marking the liturgical centre. The entire church is built around the pulpit in the shape of a symmetrical Greek cross. On top of the pulpit the bible is placed, because in protestantism the Word was re-established as the focus point of Christianity. This is a beautiful example of how the architect reformed the standard cross-shaped floorplan of the catholic churches for the new function that the protestant churches desired.⁴



Old sketch of the Noorderkerk, seen from the Prinsengracht⁵

Interior photograph⁶

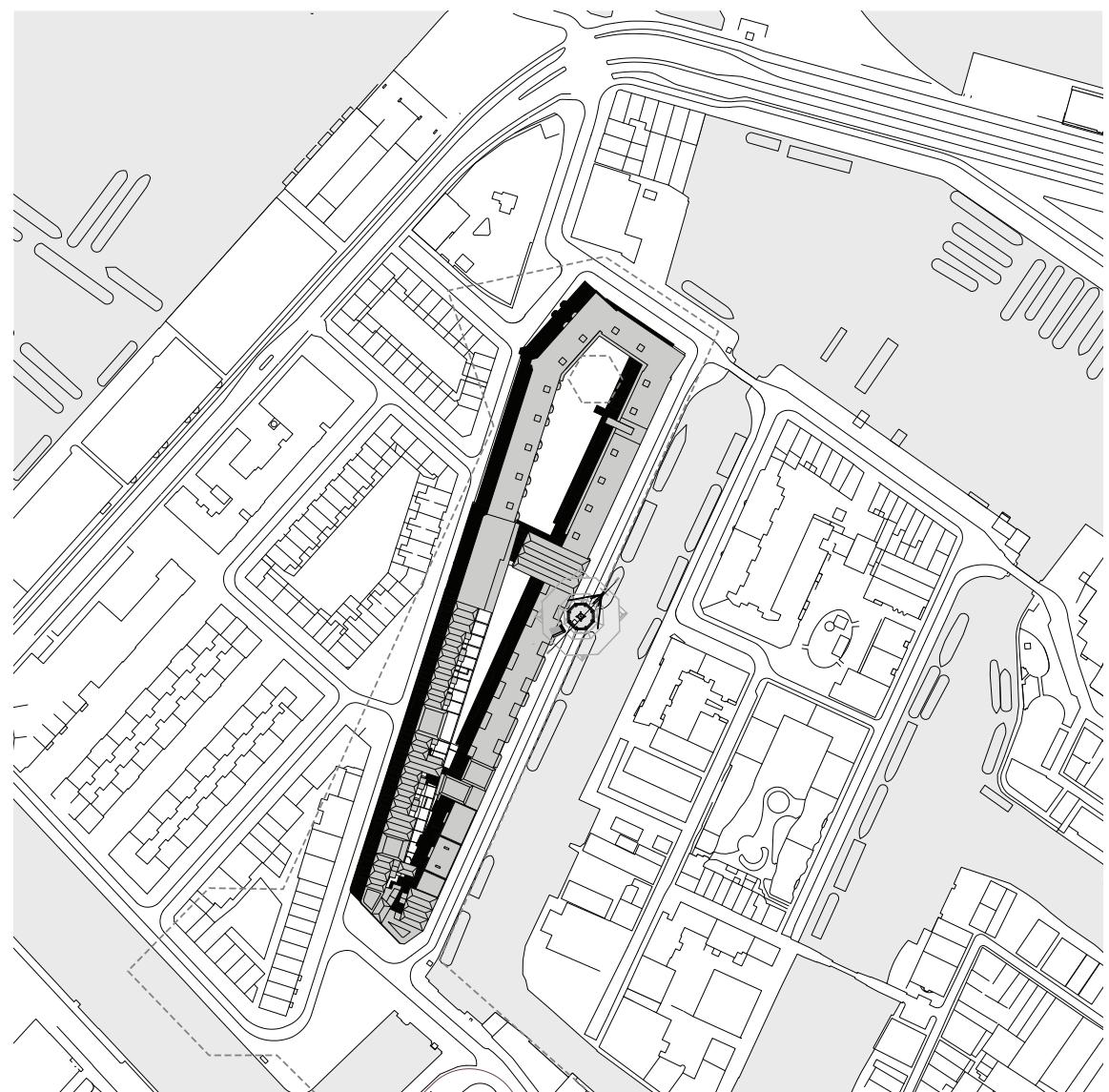
Axonometry in situ



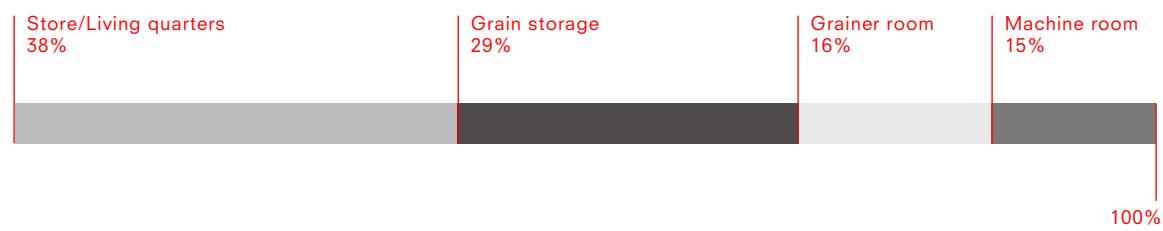
DE BLOEM

THE WINDMILL

Strongly associated with the Netherlands are windmills. A historical productive based typology that enabled many civilizations including the dutch to use wind energy to drive useful machines. These include graining seeds, sawing wood, pumping water to reclaim land etc. The windmill transformed the Dutch landscape by their appearance and the results they generate. Most of the land that is under sea level is created by use of windmills. Moreover, food production has relied strongly on windmills as well since they were largely responsible for graining seeds in order to create bread. Within this typology research the grain windmill which was formerly existent on the S scale is mapped. As reference windmill 'De Bloem' is used which exists on the M scale.



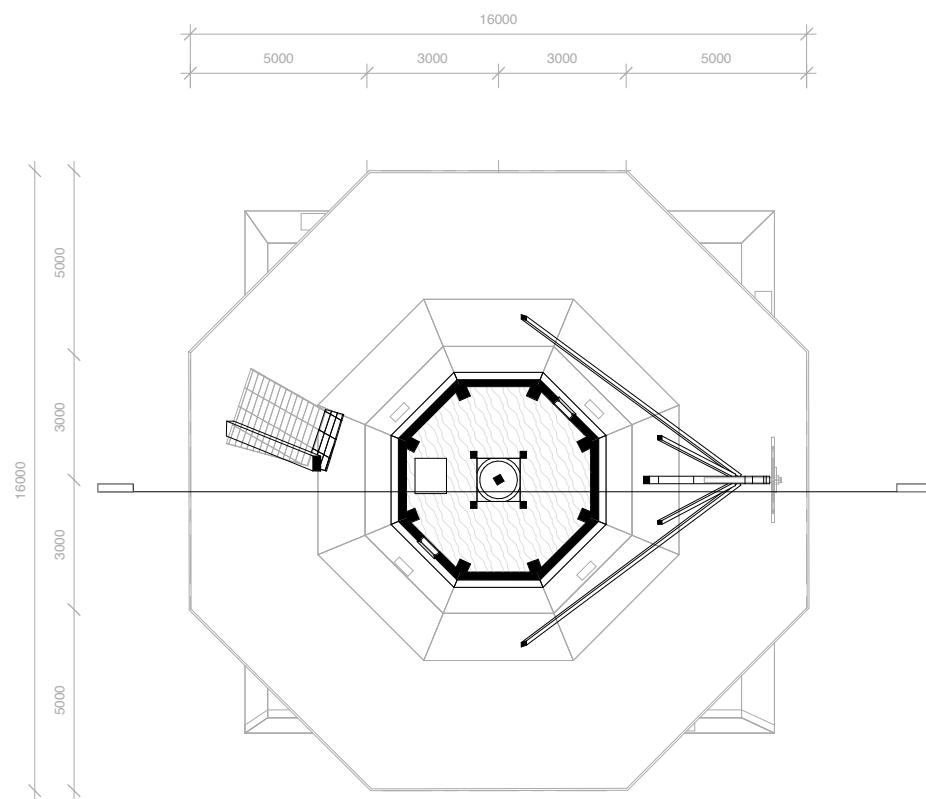
Urban context

**GFA: 495m²****GIA: 1875m²****FAR: 1,36**

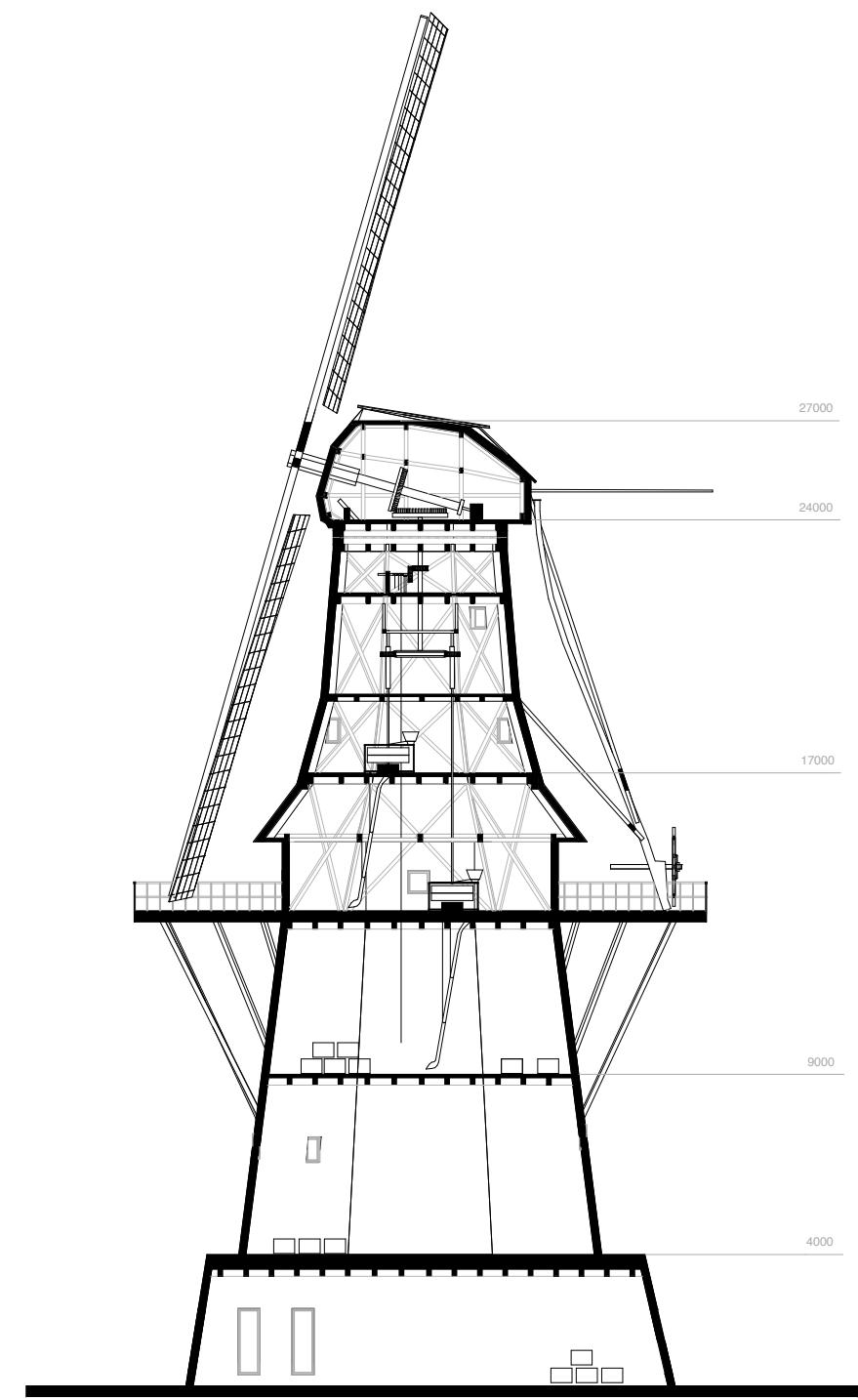
Spatial data



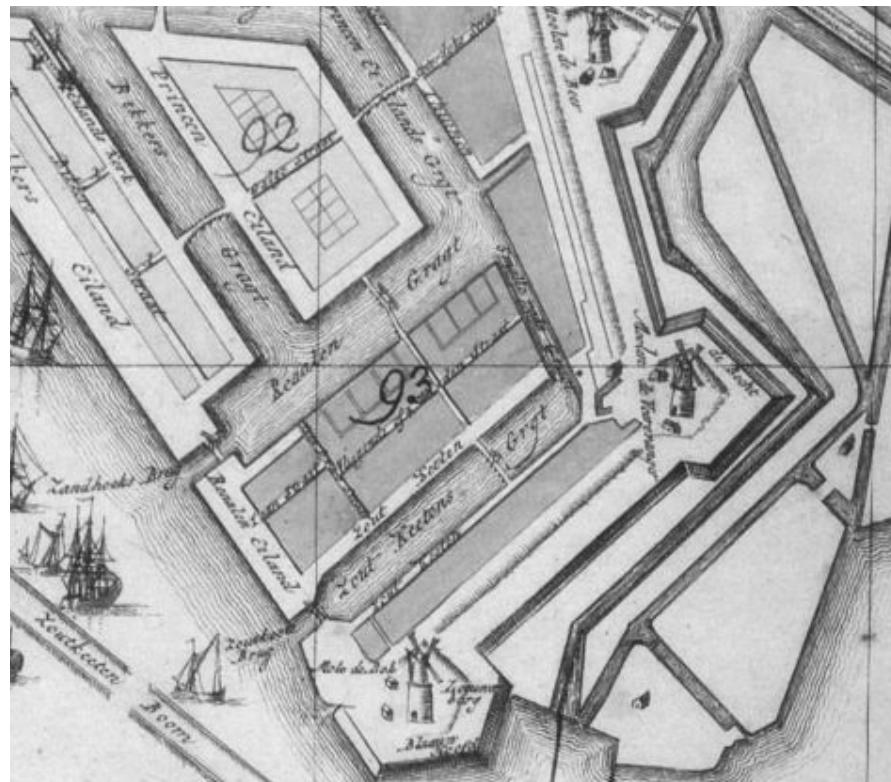
Facade



Floorplan



Section

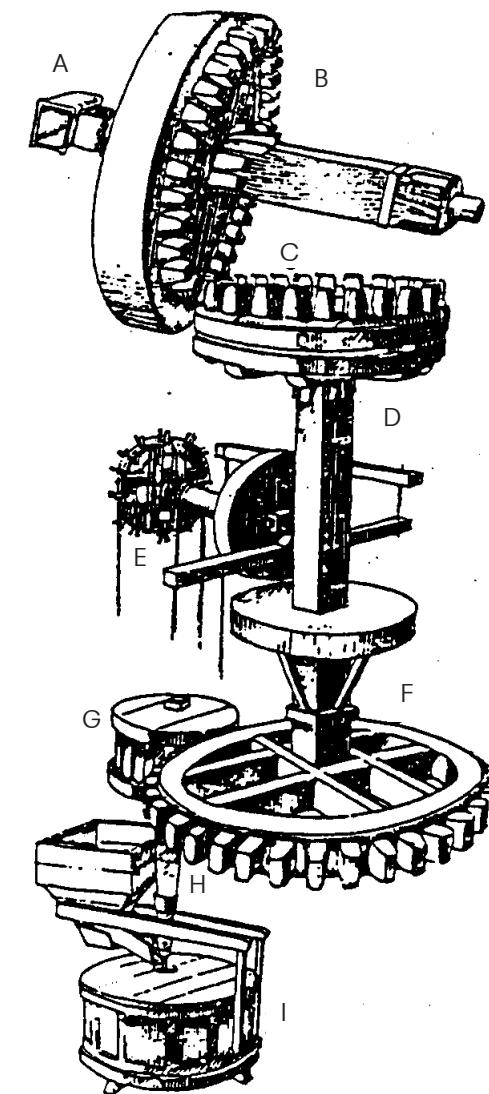


Above: Situation of windmills during the 1700's
 Below: Formerly existing windmill on the Marnixstraat in the Jordaan

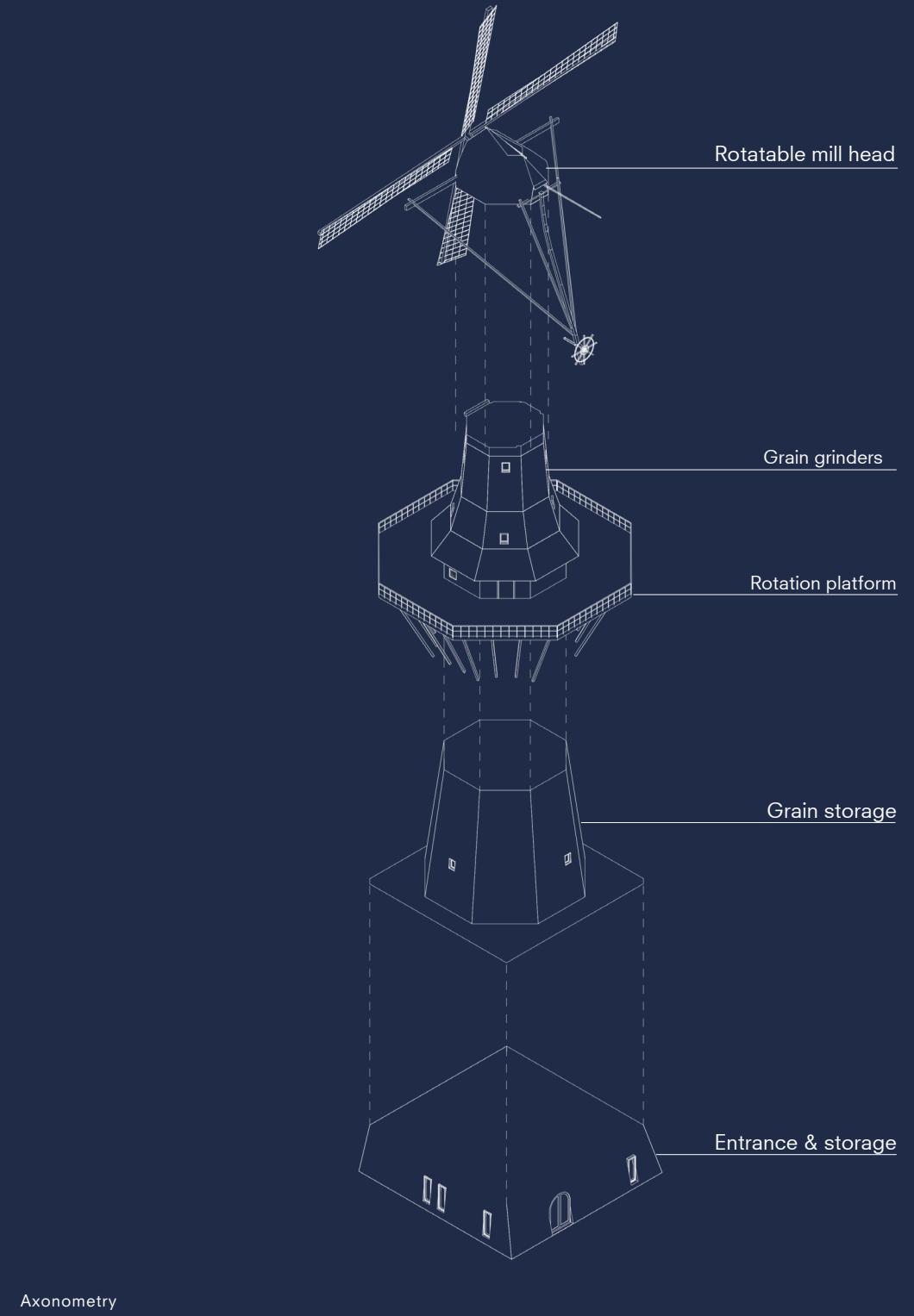


Historical situation

Detail



- A Mill Axis
- B Top wheel
- C Top Axis
- D Drive wheel
- E Grain bag crane
- F Main drive wheel
- G Small drive wheel
- H Grain collector
- I Grain grinder

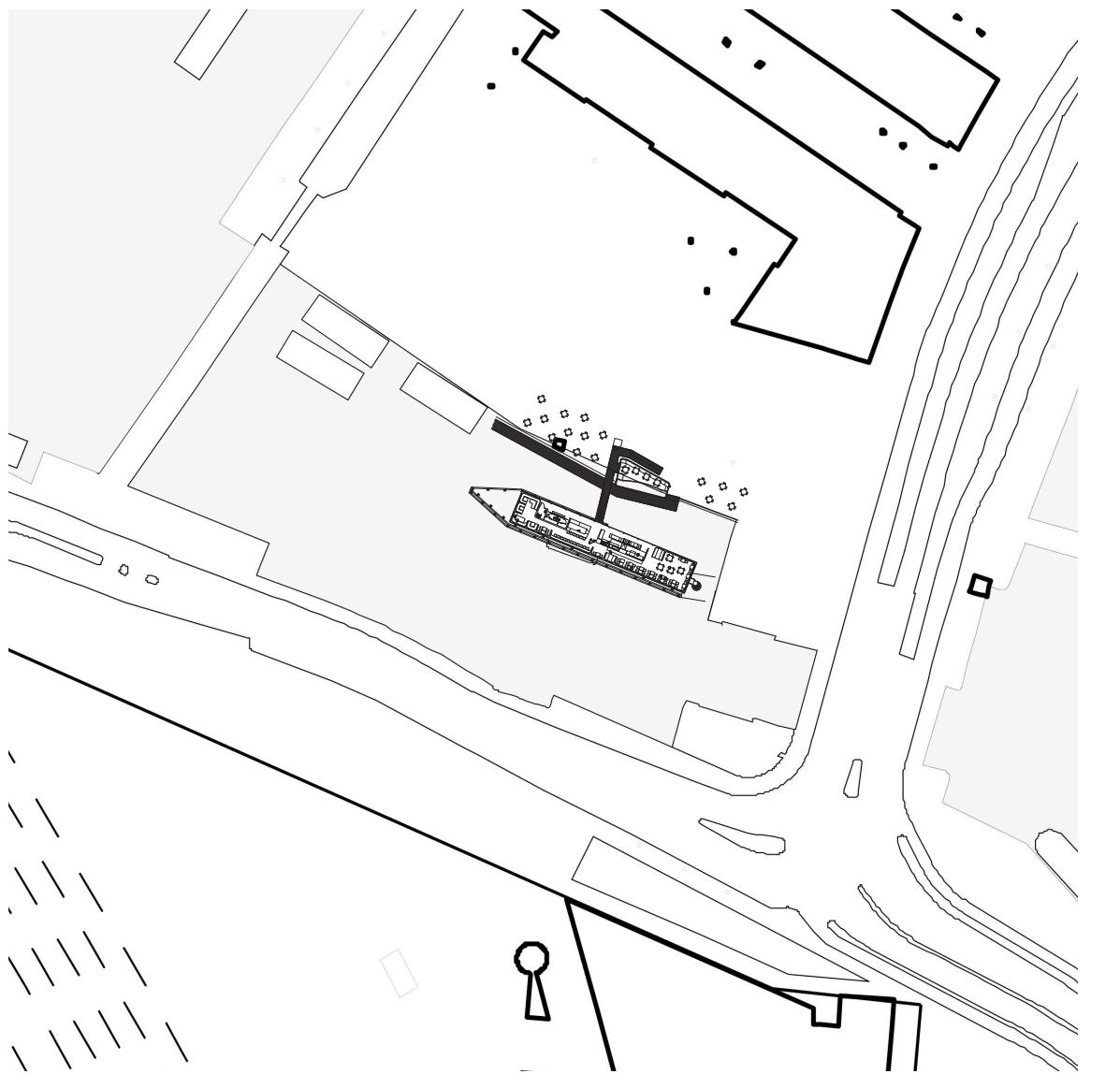




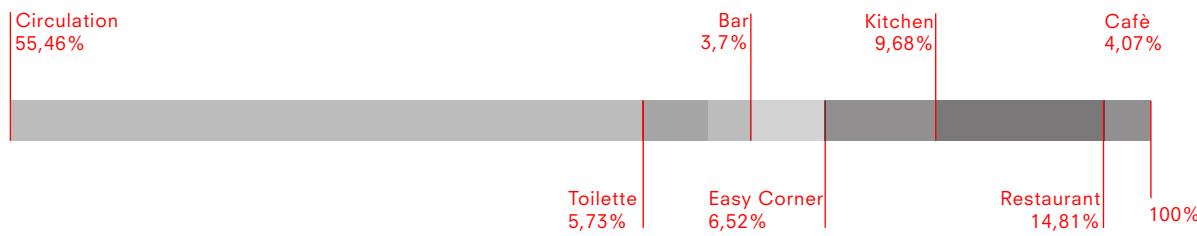
BRIDGE N°19S

BRIDGE

The railway bridge on the Westerdokseiland in Amsterdam is one of the last surviving pivot bridges in the Netherlands. Bridge No 19 S was constructed in 1922 as a modernized railway connection between the Westelijk Stationseiland and the Westerdokseiland, which was at that time being transformed into a large shunting-yard for the railways. The bridge, which had long fallen into disuse, was still a striking object, historically as well as architecturally. The City of Amsterdam was therefore keen to preserve this showpiece on the river IJ and decided to give the monumental bridge a public function. Because of the location and the panoramic views it was decided to use it as a café-restaurant.



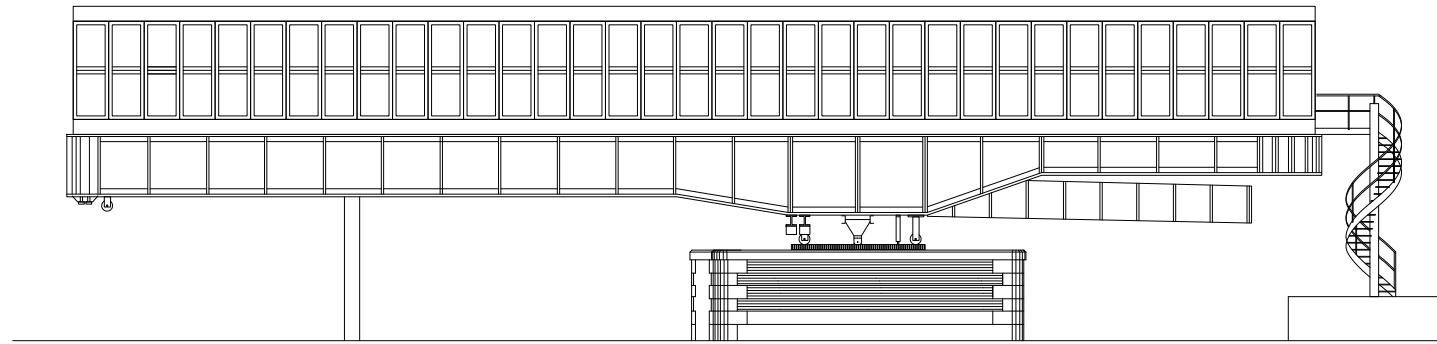
Urban context

GFA: 270m²GIA: 265m²

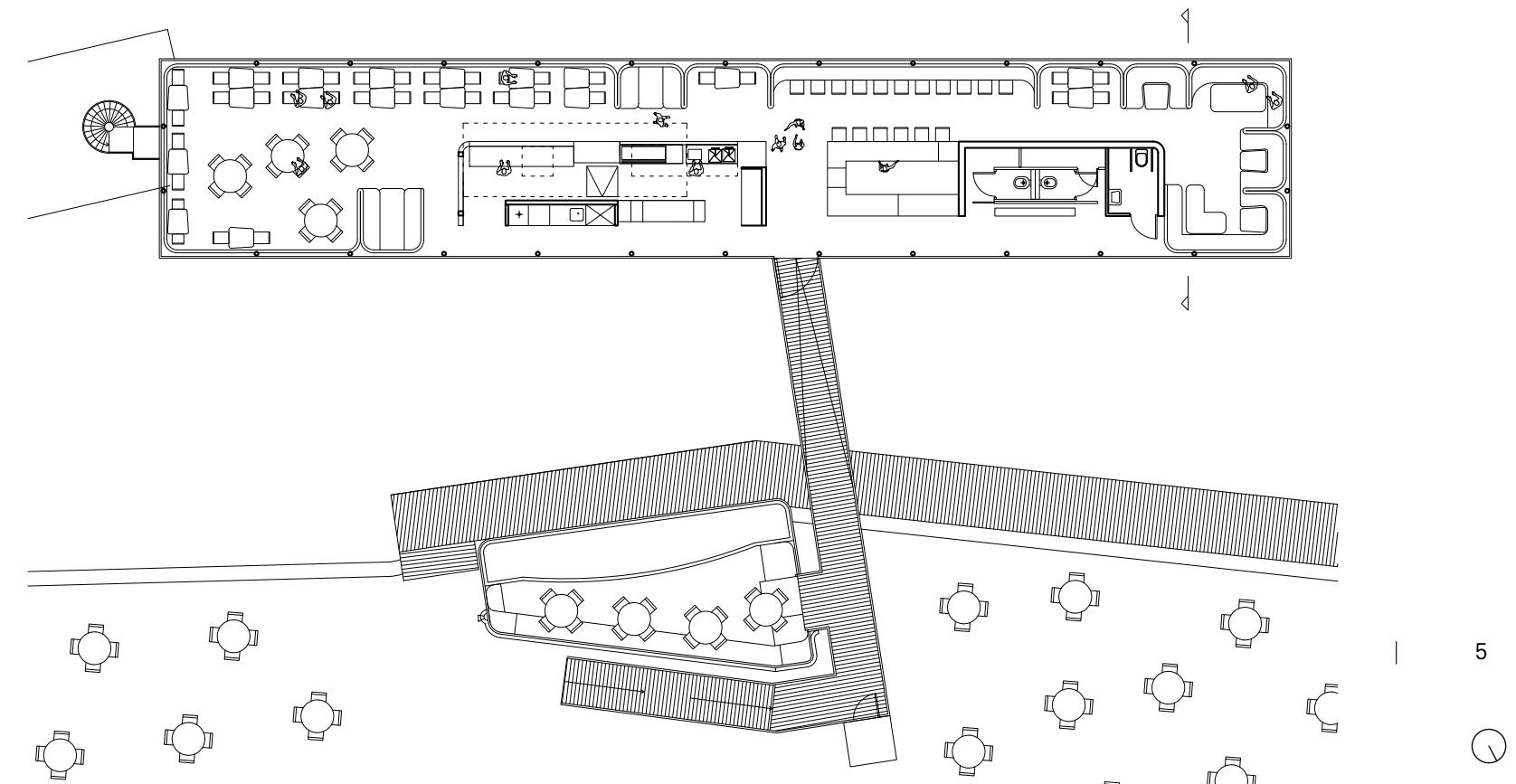
FAR: 6,75

Spatial data

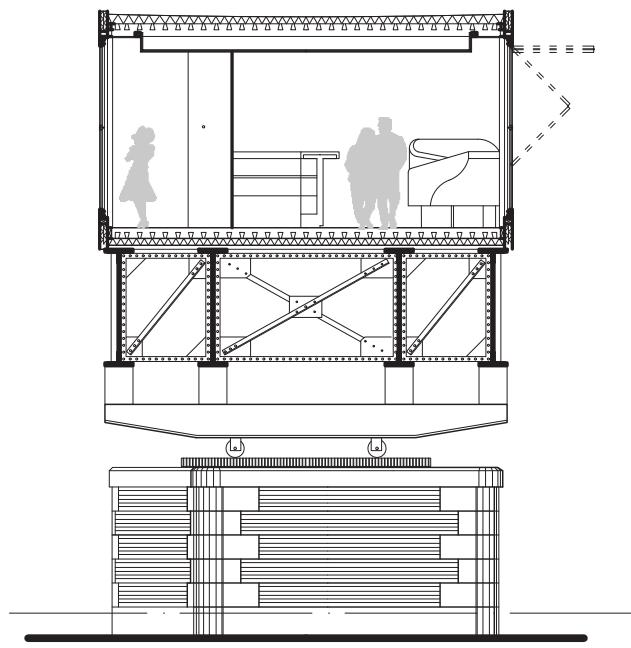




Facade 1:200

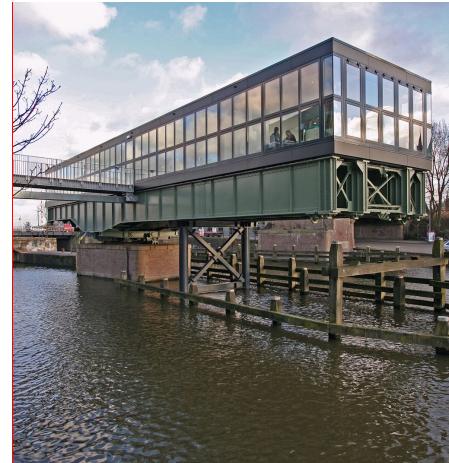


Floorplan 1:200



5

Section 1:200



The railway bridge on the Westerdokseiland in Amsterdam is one of the last surviving pivot bridges in the Netherlands. Bridge No 19 S was constructed in 1922 as a modernized railway connection between the Westelijk Stationseiland and the Westerdokseiland, which was at that time being transformed into a large shunting-yard for the railways.



organized a design competition in 2005 and the entry by de Architekten Cie. was chosen from the 14 submissions. OPEN café-restaurant is a pure, transparent, glass volume that fits precisely onto the existing bridge. It is composed of a floor, a roof and a glazed façade that is formed entirely of pivotal windows, all of which can be opened.

Details



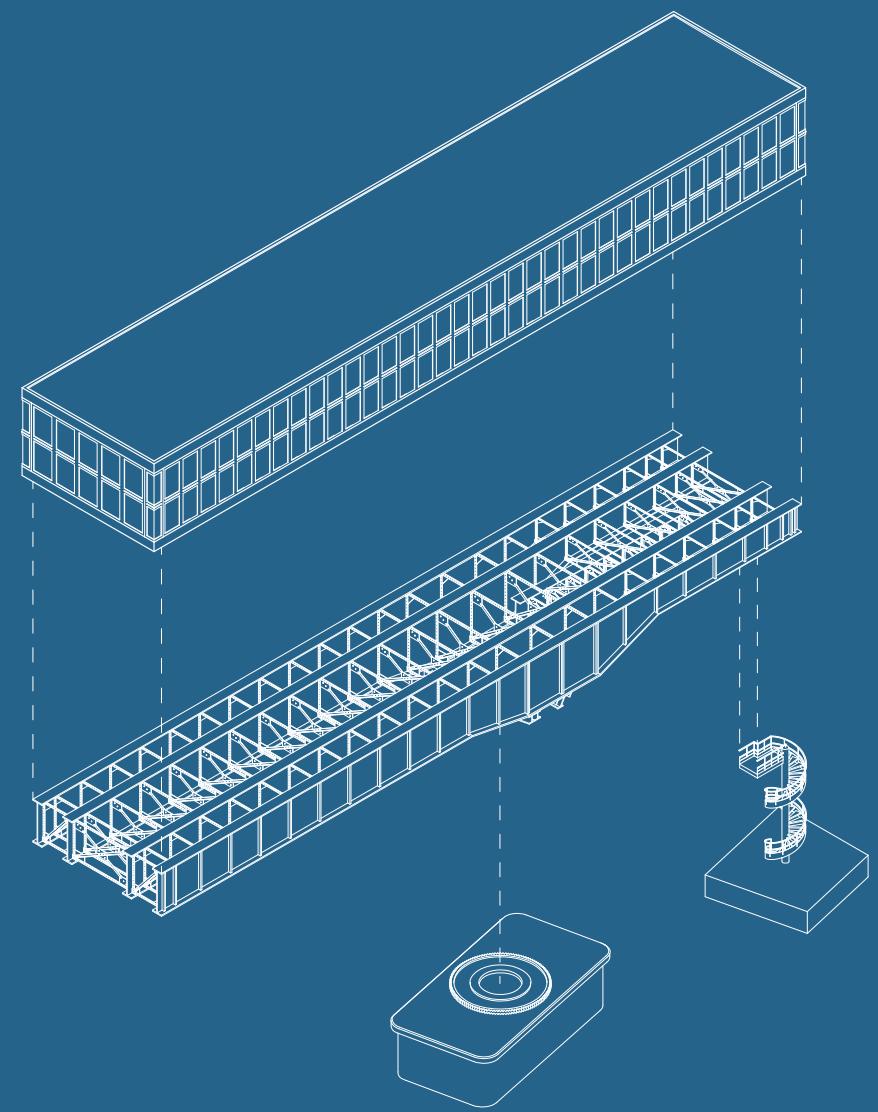
The bridge, which had long fallen into disuse, was still a striking object, historically as well as architecturally. The City of Amsterdam was therefore keen to preserve this showpiece on the river IJ and decided to give the monumental bridge a public function. Because of the location and the panoramic views it was decided to use it as a café-restaurant. The City Council



Inside two detached green volumes contain the kitchen, cloakroom, toilets and bar. A pleated wooden ribbon meanders along the inside of the glazed façade, constituting in succession benches, a bar with seating, and railing. This layout makes it possible to appreciate the whole of the interior and lends the space its spacious and airy character.



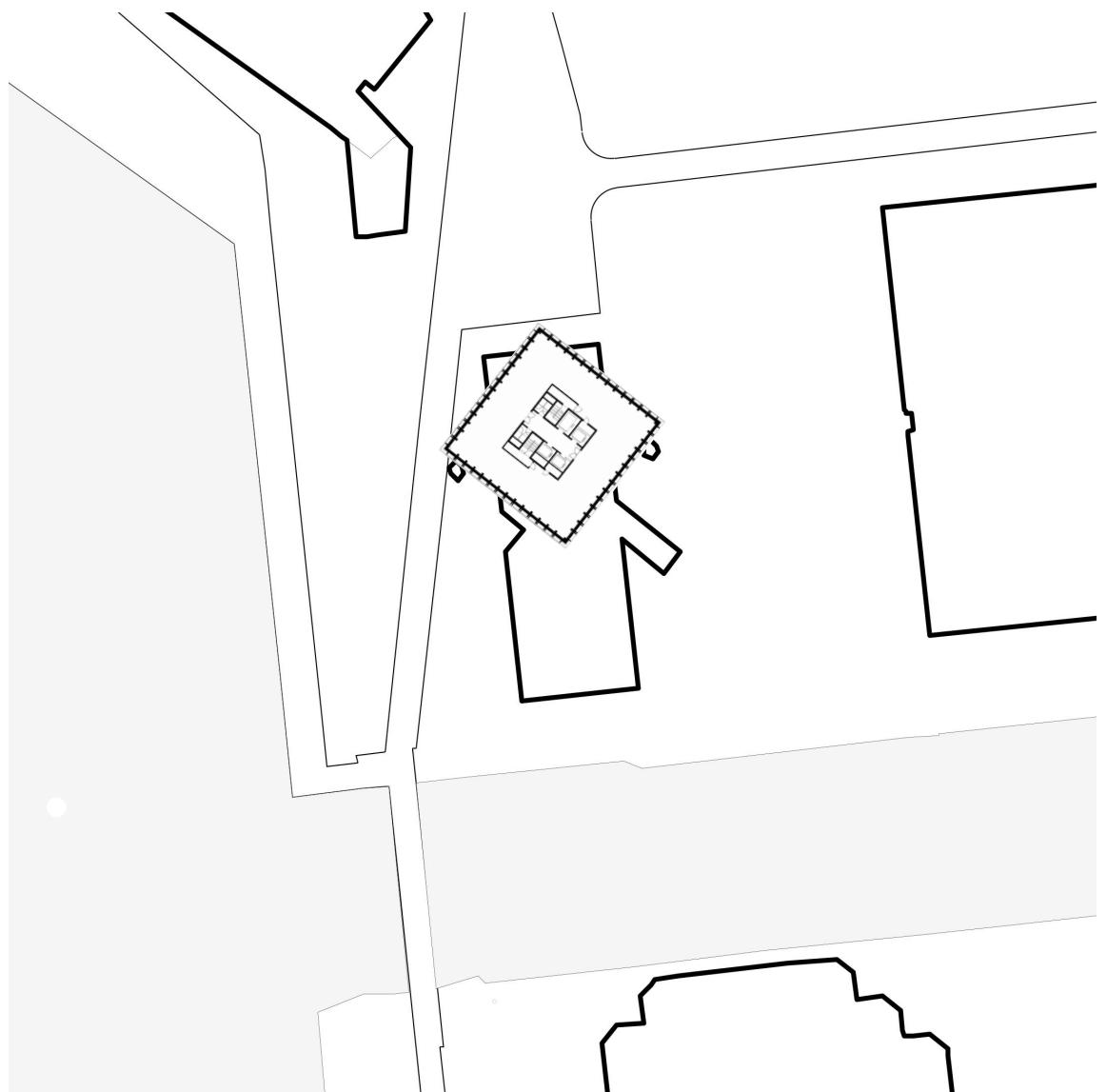
Axonometry





A'DAM TOWER OFFICE

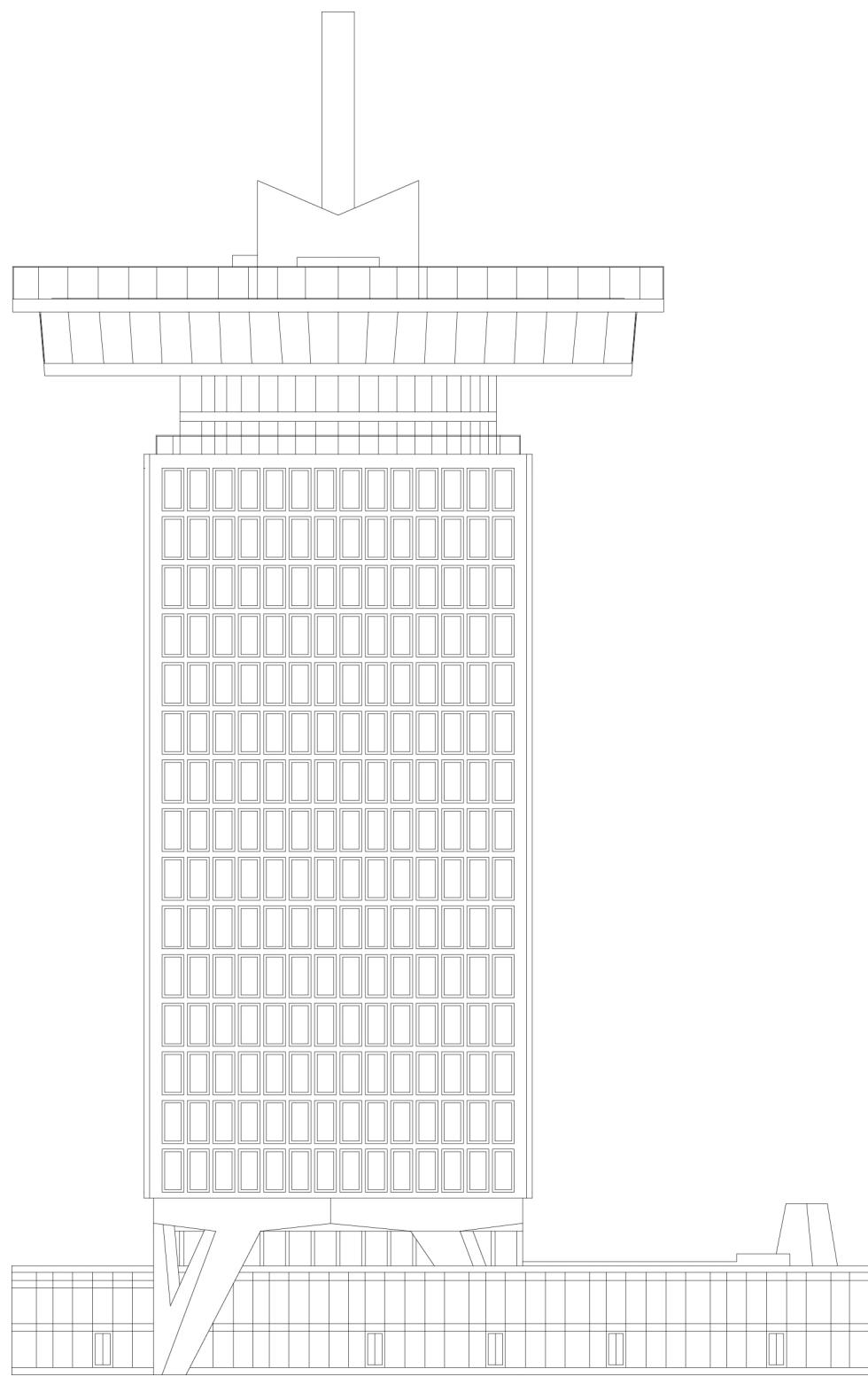
The A'dam Tower is a conversion and expansion of the Toren Overhoeks, the 1970s HQ of Royal Dutch Shell. The project architects, Claas & Kaan, have stripped the tower back to its steel frame, recladding it and adding an observation deck. The project targets tenants from the creative industries. It will be a 'multifunctional building open 25 hours a day'. The breathless advertising, written in the first person by 'A'dam', promises relentless excitement in the most famous icon of Amsterdam city center.



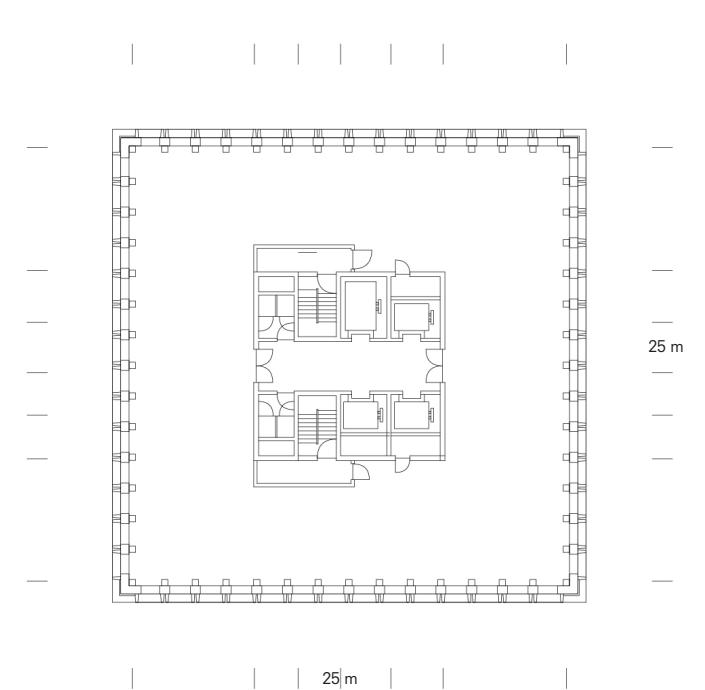
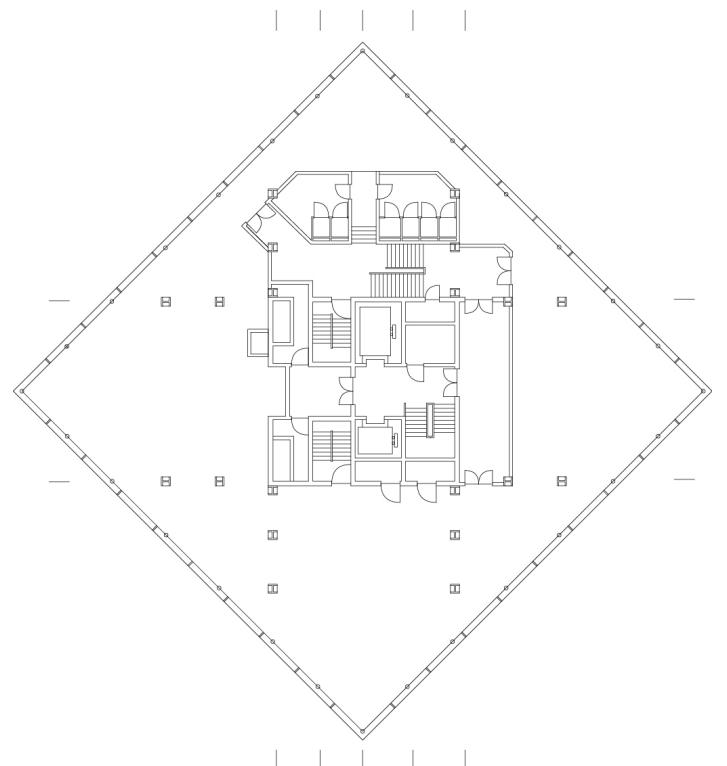
Urban context

**GFA: 1650m²****GIA: 1225m²****FAR: 9,72**

Spatial data

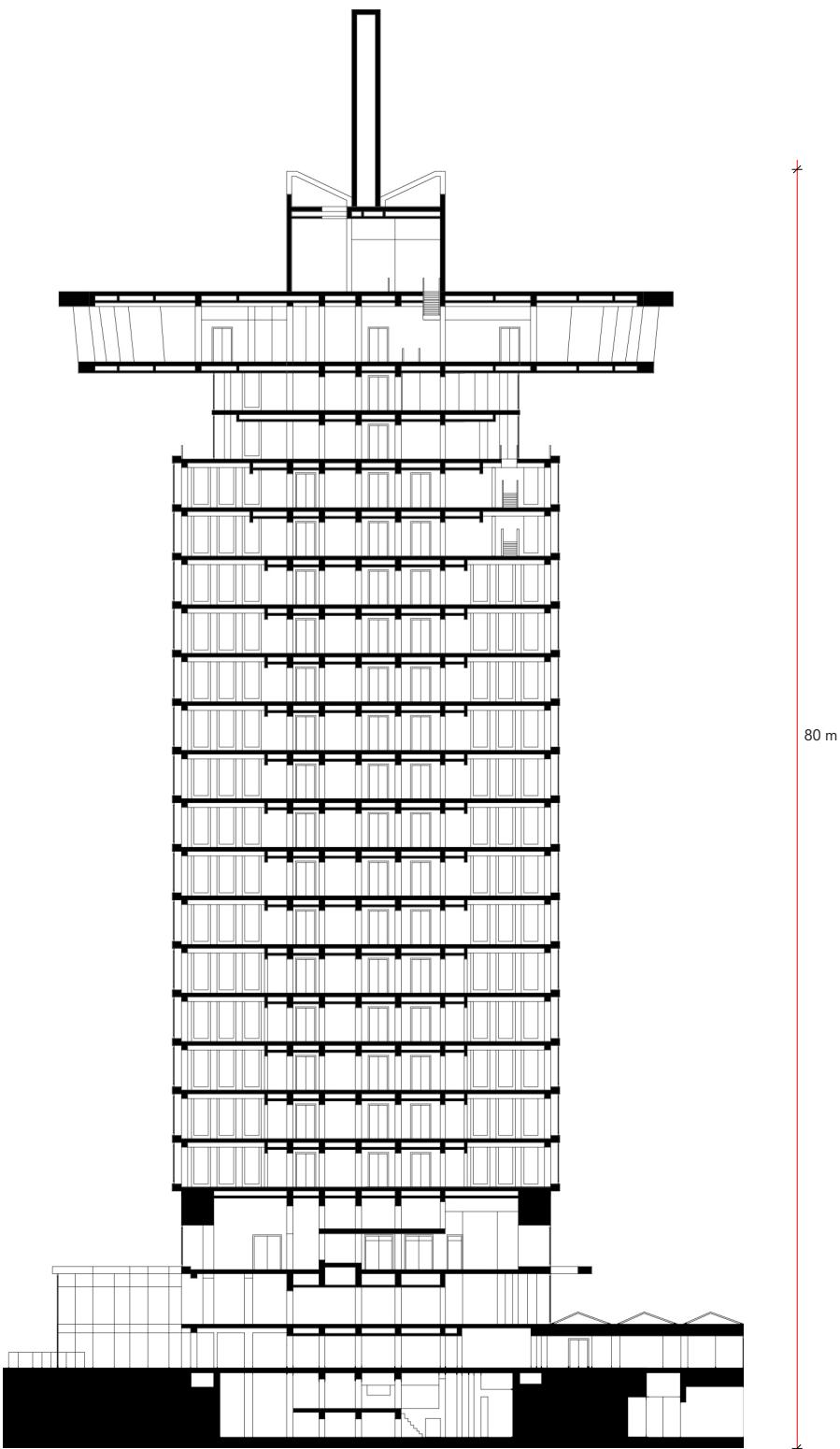


Facade



Floorplan

Section

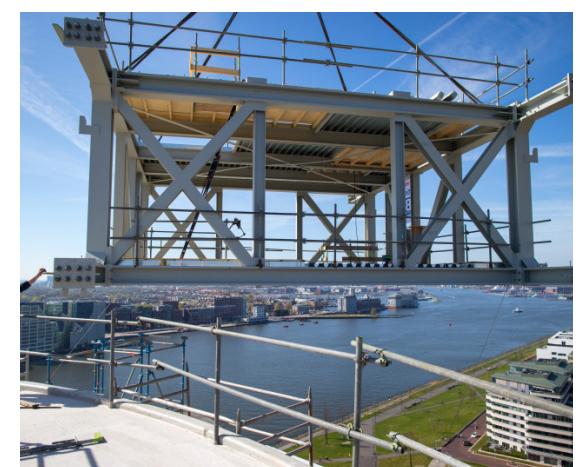


Shell HQ. Masterplan¹A'Dam tower. Competition render²Shell HQ. Crown³

The A'Dam Toren was HQ of the Royal Dutch Shell in 1970s. The Overhoeks area mostly belonged to this global petroleum corporation. After the company moved out the area was given to developers in order to transform it to a new vibrant neighborhood. For that reason the new branding and engineering solutions were needed.

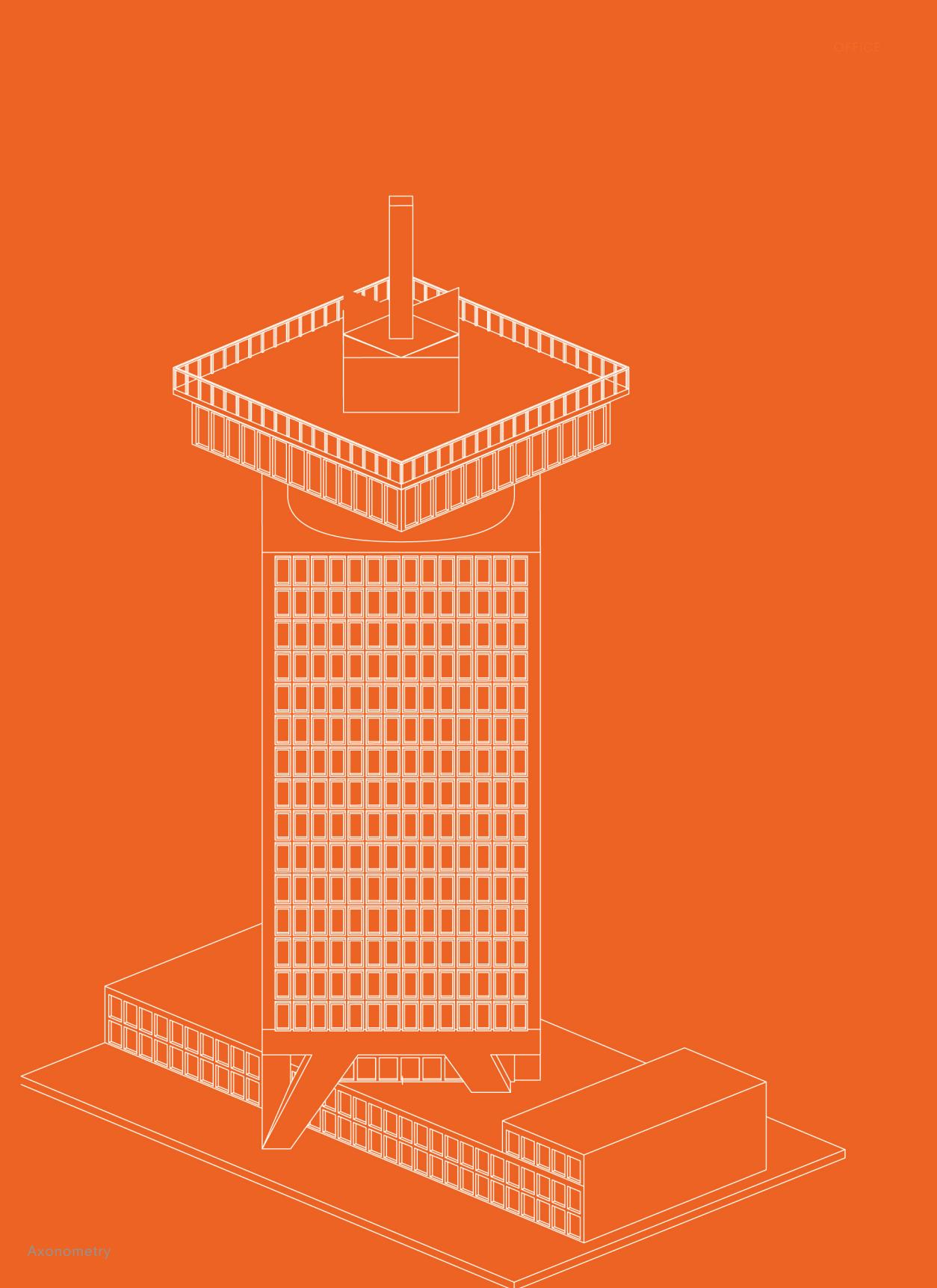
A'Dam tower. Facade⁴

As part of redevelopment the functions as offices and hotel were introduced. Such programs required better control over indoor environment. One of the requirements was to keep the same appearance as the old facade. Thus the new standardised prefabricated concrete elements were developed to meet both cultural and comfort needs.

A'Dam tower. Crown installation⁵A'Dam tower. Detail⁶

Not only was the facade transformed, but also the overall volume. As part of the city branding the tower was meant to become the new icon of Amsterdam. For that purpose the so-called crown was raised on top of the historic Shell HQ. On the 19th floor it accommodates revolving panorama restaurant and on the 16th a

double-height space for exhibitions, conferences or product launches. For the transformation has raised the distinctive crown of the roof and gutted the entire facade. Only the concrete shell is left standing. The old concrete facade elements are recycled and components have been incorporated into the project. (Wikipedia, 2016)



Axonometry



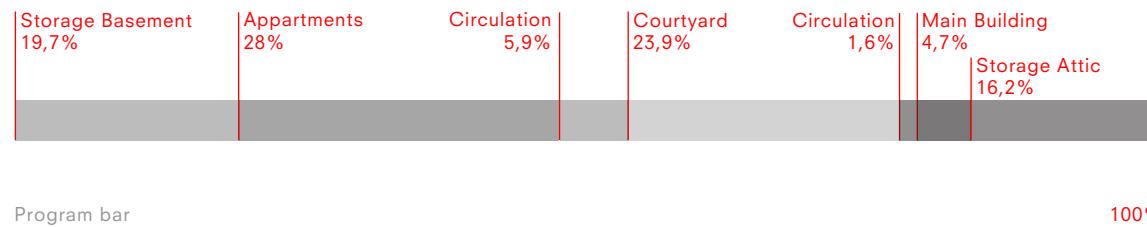
VAN BRIENENHOFJE

COURTYARD HOUSING

The courtyard housing of "van Brienens" from 1806 in Amsterdam was designed by the city architect A. van der Hart. The influence of French Enlightenment is reflected in the monumentality and pragmatic design. There isn't one decorative detail that doesn't have a useful function. The water pump and the bell, as well as the garden that served as bleachfield and vegetable garden, show this economic approach. To the principle of the traditional courtyard, the building was a reversal of the inner and outer world in urban sense. This is reflected in the closed street façade which could be read as three volumes; side-façade, Regent building, side-façade. The buildings are visually connected by a horizontal band and the roof line. The natural stone façade decorates the entrance of the Regents building and emphasizes the greatness of the deed by the founders. The "Van Brienenhofje" consisted of 46 (now 26) apartments and the attics were intended as rentable storage space.



Urban context

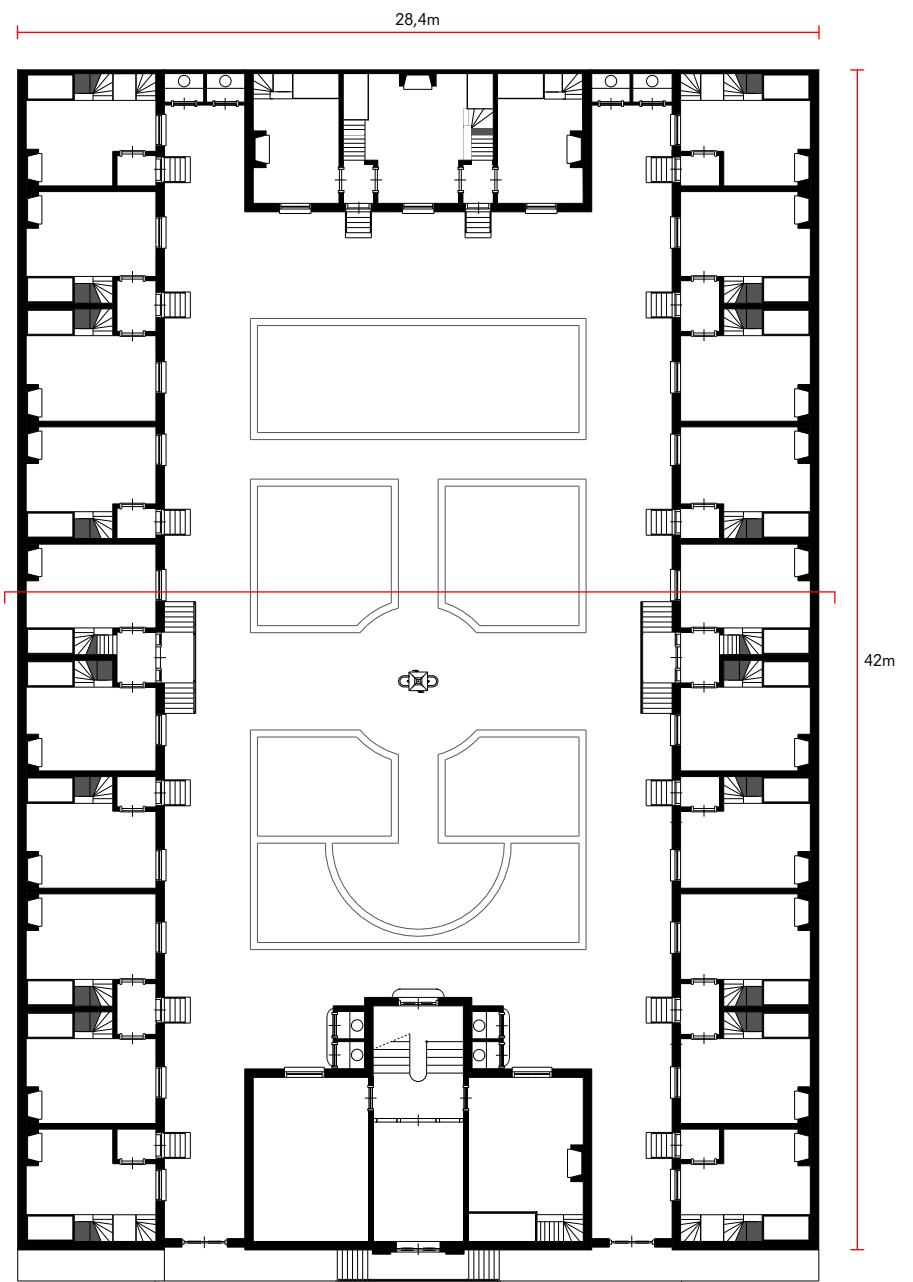


Program bar

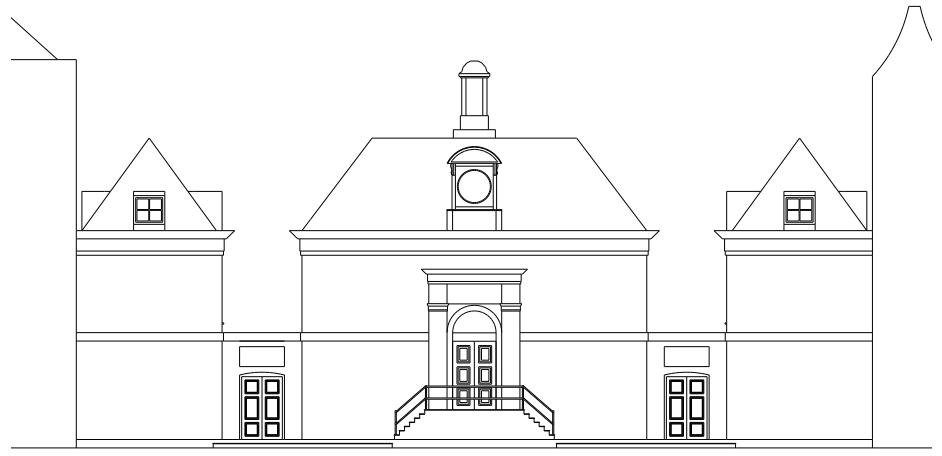
GFA: 2355m²GIA: 1875m²

FAR: 1,53

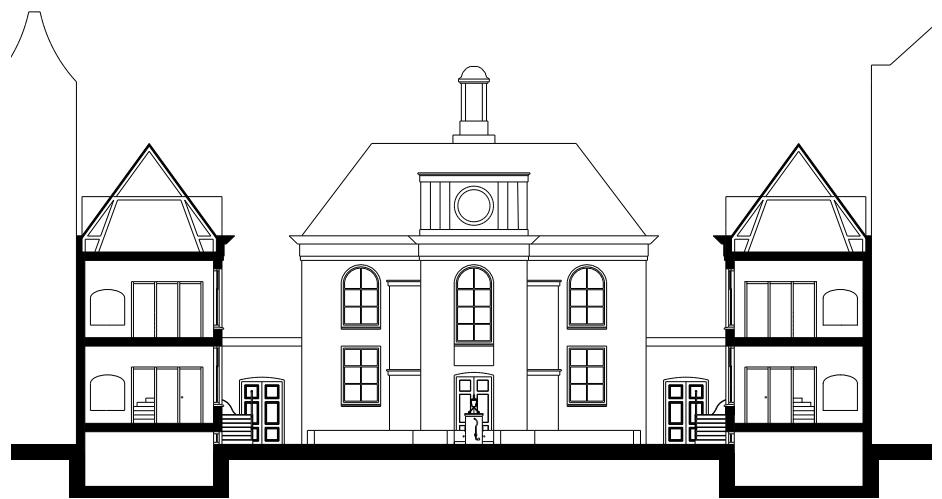




Floorplan



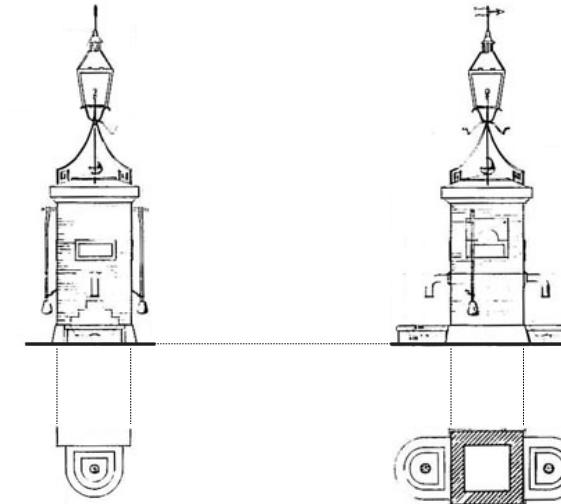
Front façade



Section

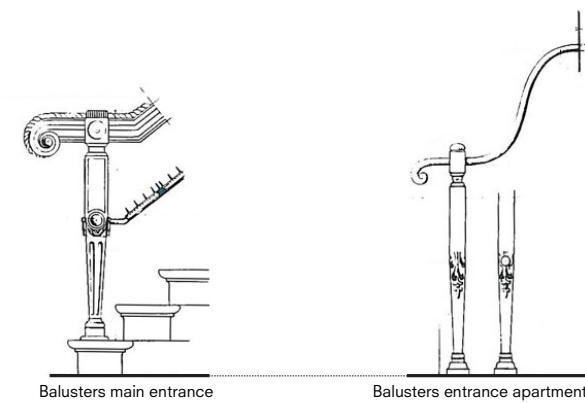


Details



Water pump

With courtyard houses some of the facilities are shared. The standard facilities were the water pump with a lantern and a number of shared toilets. The pump was located in the middle of the courtyard to have an equidistant distance to the apartments. At 'het Hofje van Brien' the women were supposed to clean the apartments of single men, but the men had to carry the water from the water pump.



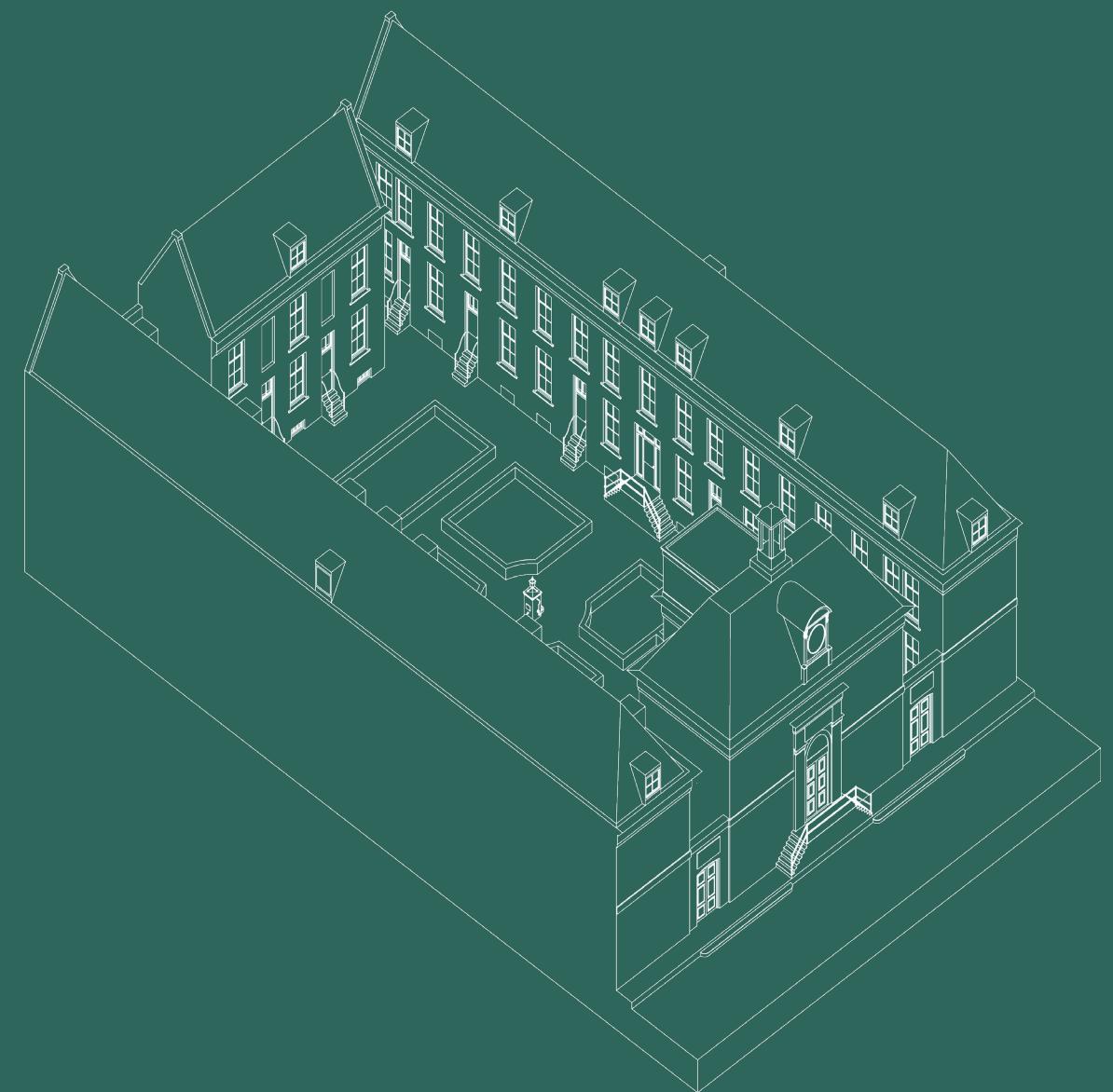
Balusters main entrance

Balusters entrance apartments

Bordes

A very important element in Amsterdam's housing typology is the bordes and basement. Van het Hart uses this typology to emphasize the entrance of the houses at the courtyard. For the main entrance he designed a special baluster.

Courtyard



Axonometry



HERENGRACHT 60-62

CANAL HOUSING

Most of the Amsterdam canal houses are similar in structure, facade type and layout. The most common canal house has a three windows wide façade with on the left or right a bordes, a hoist beam hanging from the attic for storage of products and a decorated cornice. Inside, these houses are often the same. The floor and panelling of the hallways are mostly finished with marble. Seven out of ten canal houses is extended with an extra house in the back that is connected with the hallway. This section also contains the 'sael'. This beautiful room is neatly decorated and was used for receipts. In the space between the front and rear house a light shaft brings light deep inside the building and the monumental staircase connects to the other levels. The visible backside of the staircase is covered with ornamental stucco.

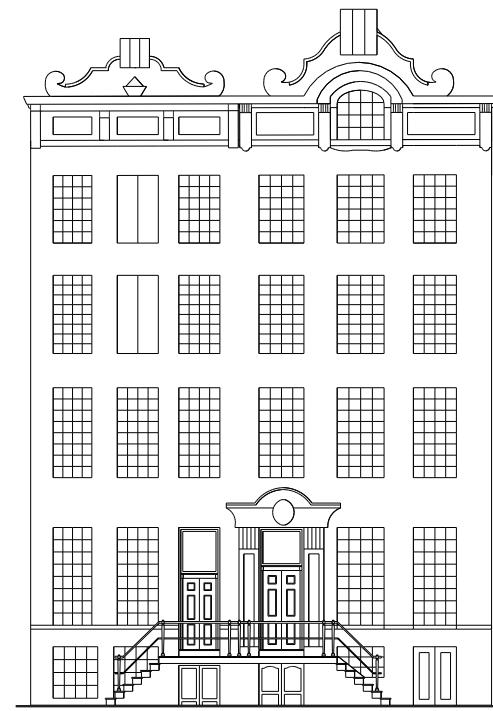


Urban context

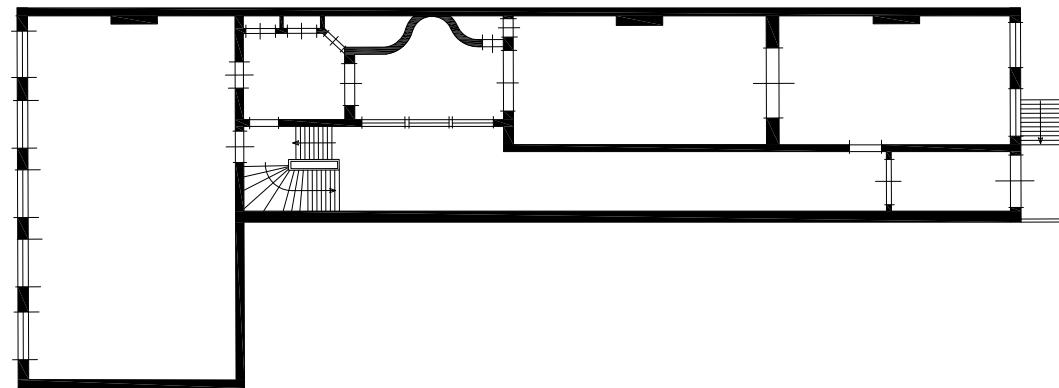


Program bar

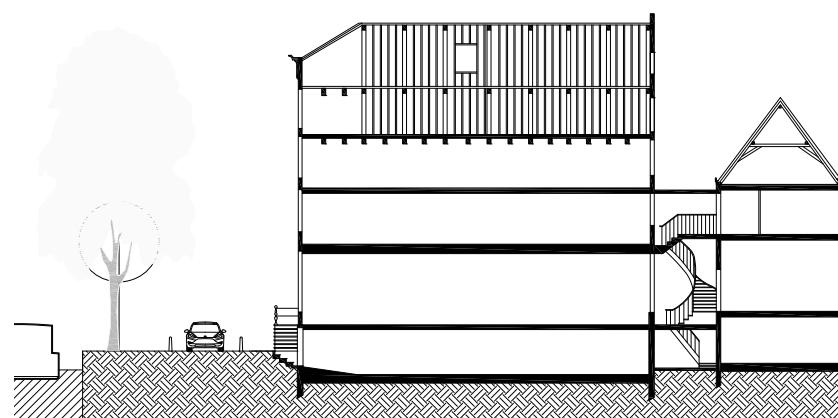
GFA: 1500m²GIA: 1200m²



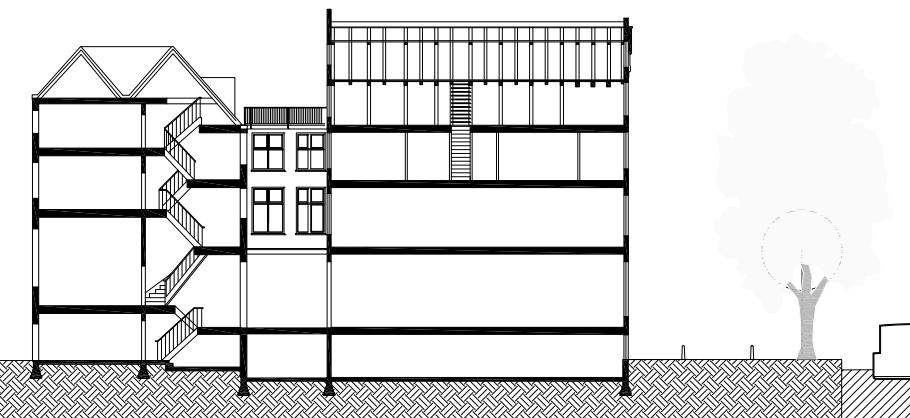
Front façade



Floorplan

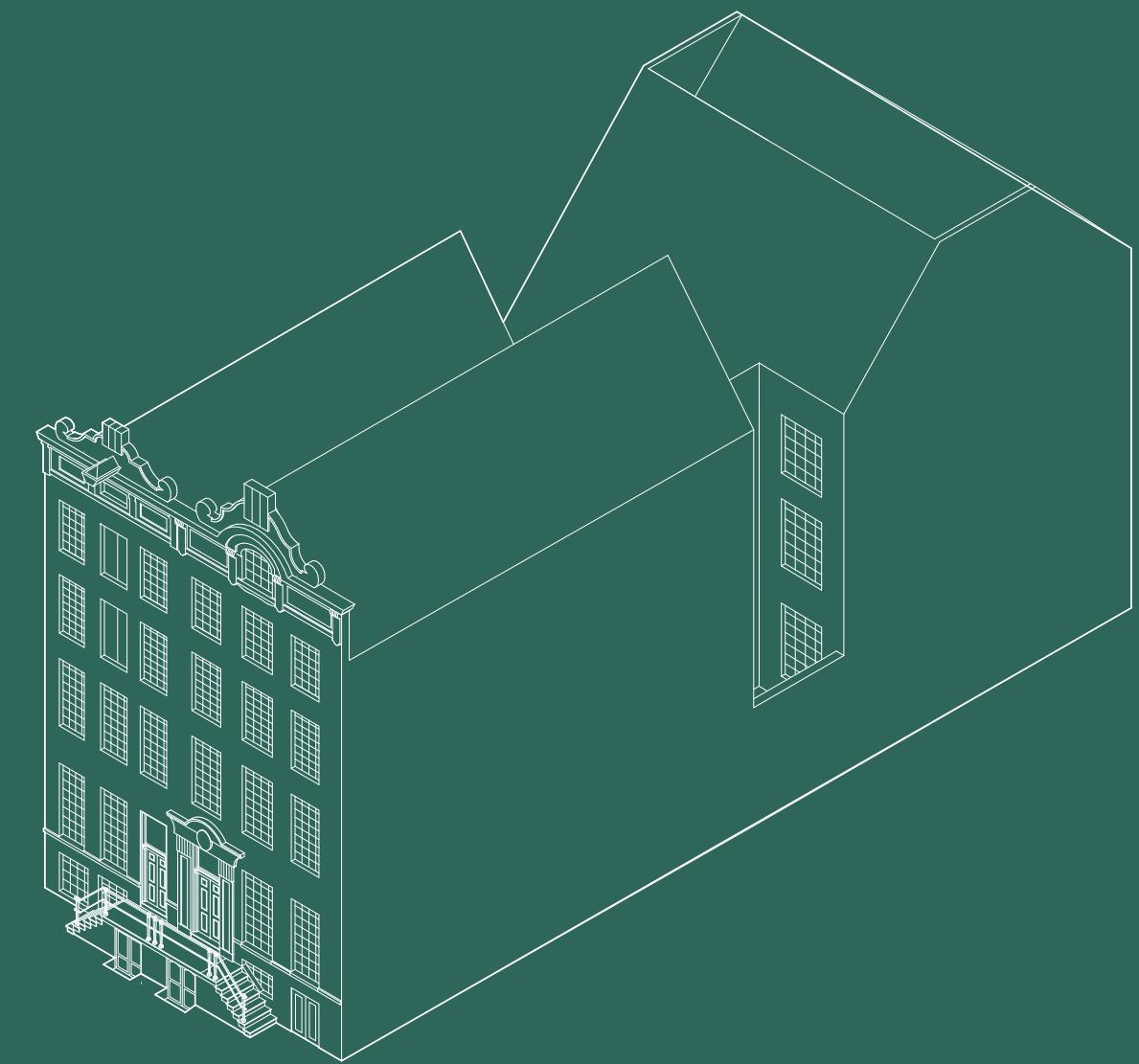


Section





Details

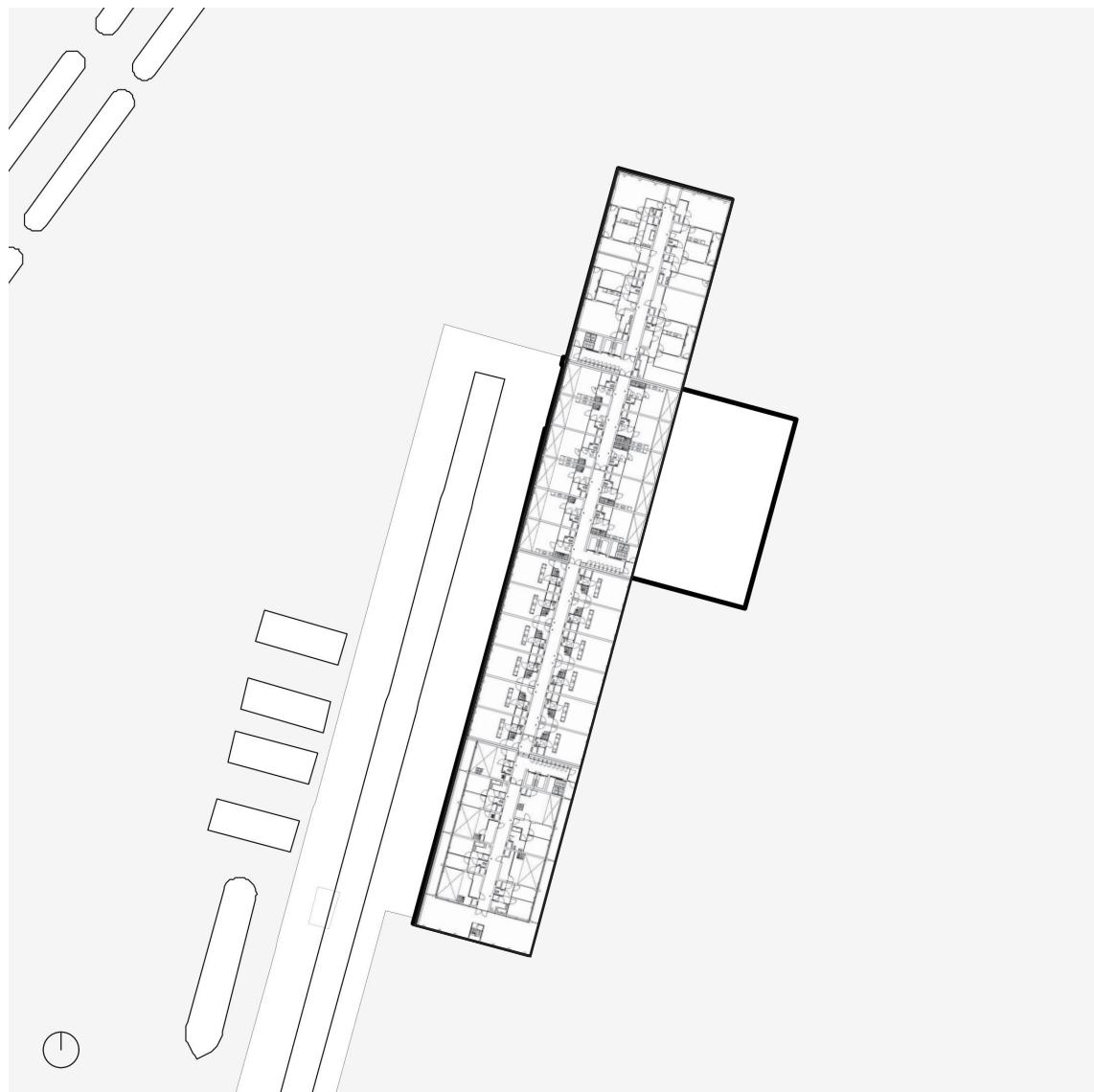


Axonometry



SILODAM GENTRIFICATION

The Silodam is a housing project that combines apartments, business units, and public spaces within a volume that rises 10 storeys, and is 20m deep. It was developed during a time where a housing shortage was being experienced in Amsterdam and the river was also being rediscovered. The apartments are a mix of rented and owned, as well as various sizes and colours that allowed for a range of residents to make use of the development. These form a series of groups, which each have 4 to 8 apartments assigned to them. These different apartments are connected together via an internal network that aims to create neighbourhoods.

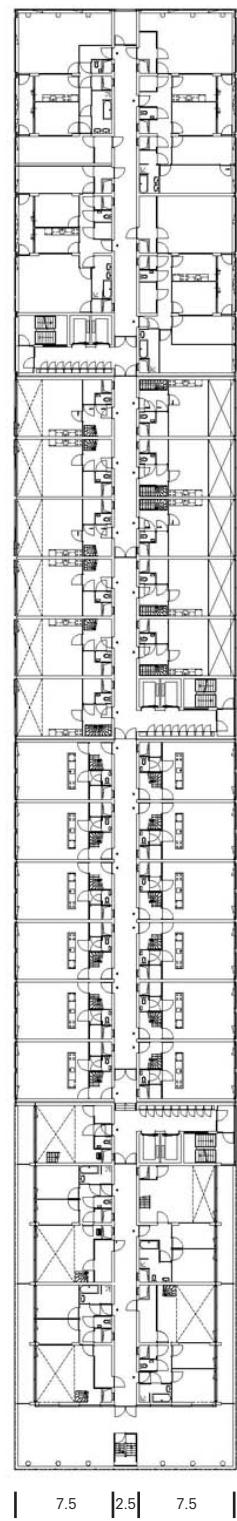
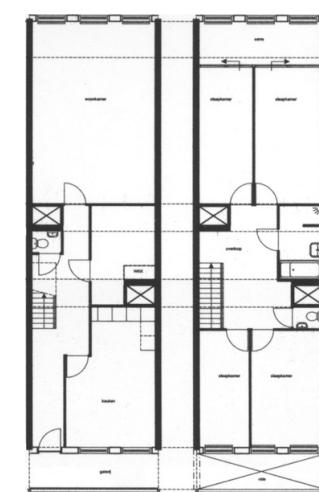
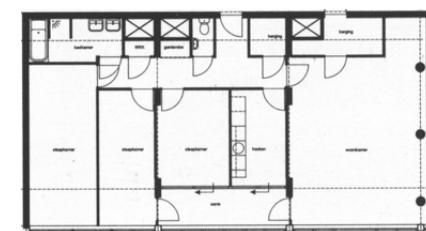
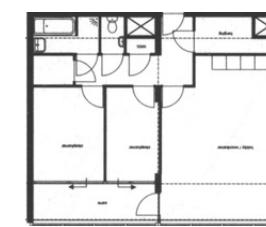
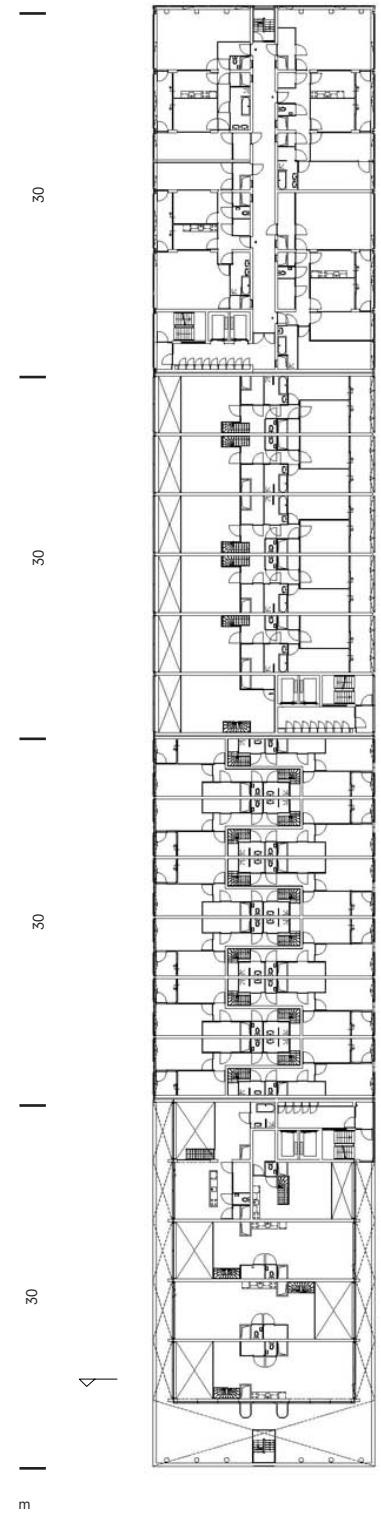
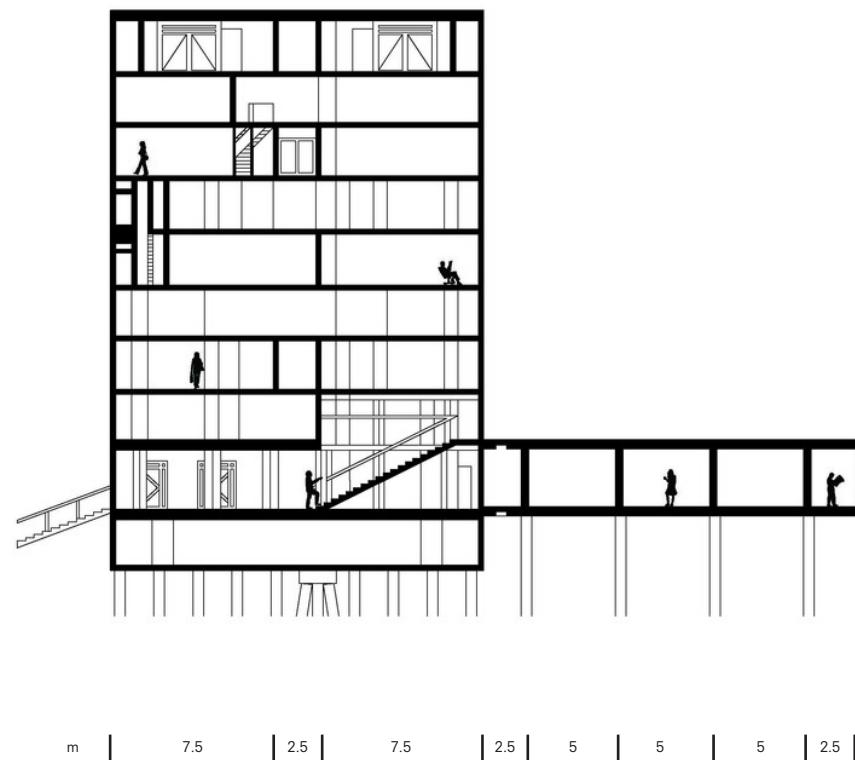


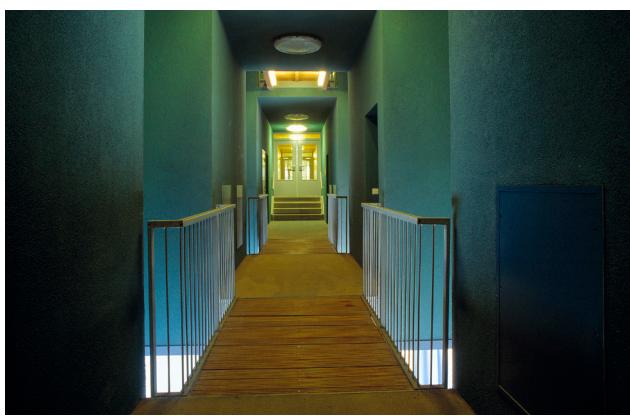
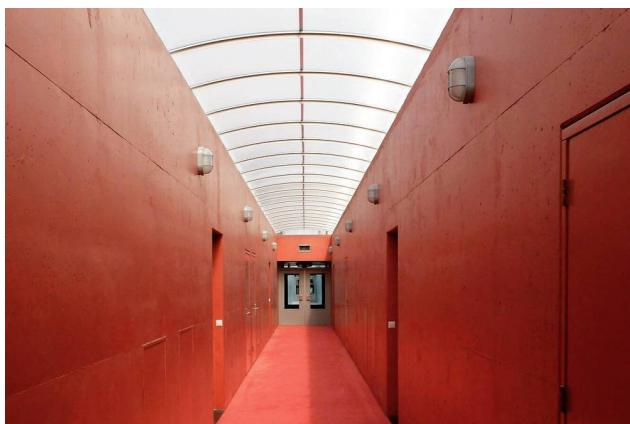
Urban context

**GFA: 26,000m²****GIA: 25,200m²****FAR: 10**

Facade 1

Spatial data

Floorplan ²Apartment Typologies ³Section ⁴



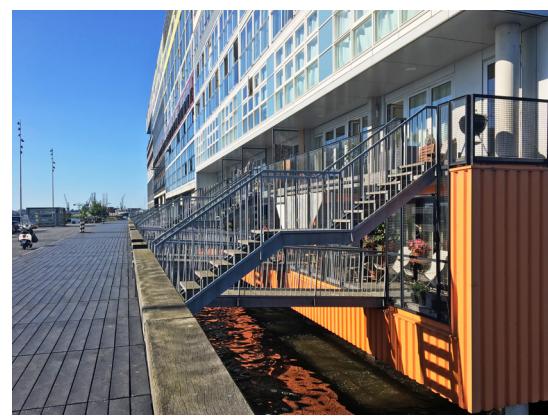
Interior Perspectives ⁵



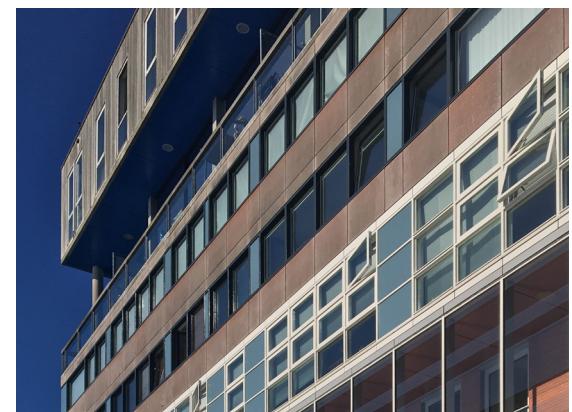
The various apartment typologies are identified both internally and externally by the different colours and materials utilised in the corridors and on the facade.



A marina is situated underneath a portion of the building, allowing for residents to have the ability of docking boats to occur.



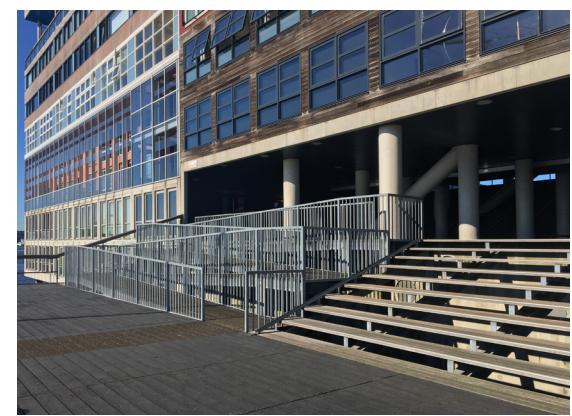
Access into the development varies, with some lower level apartments having walkways that connect back with the pier.



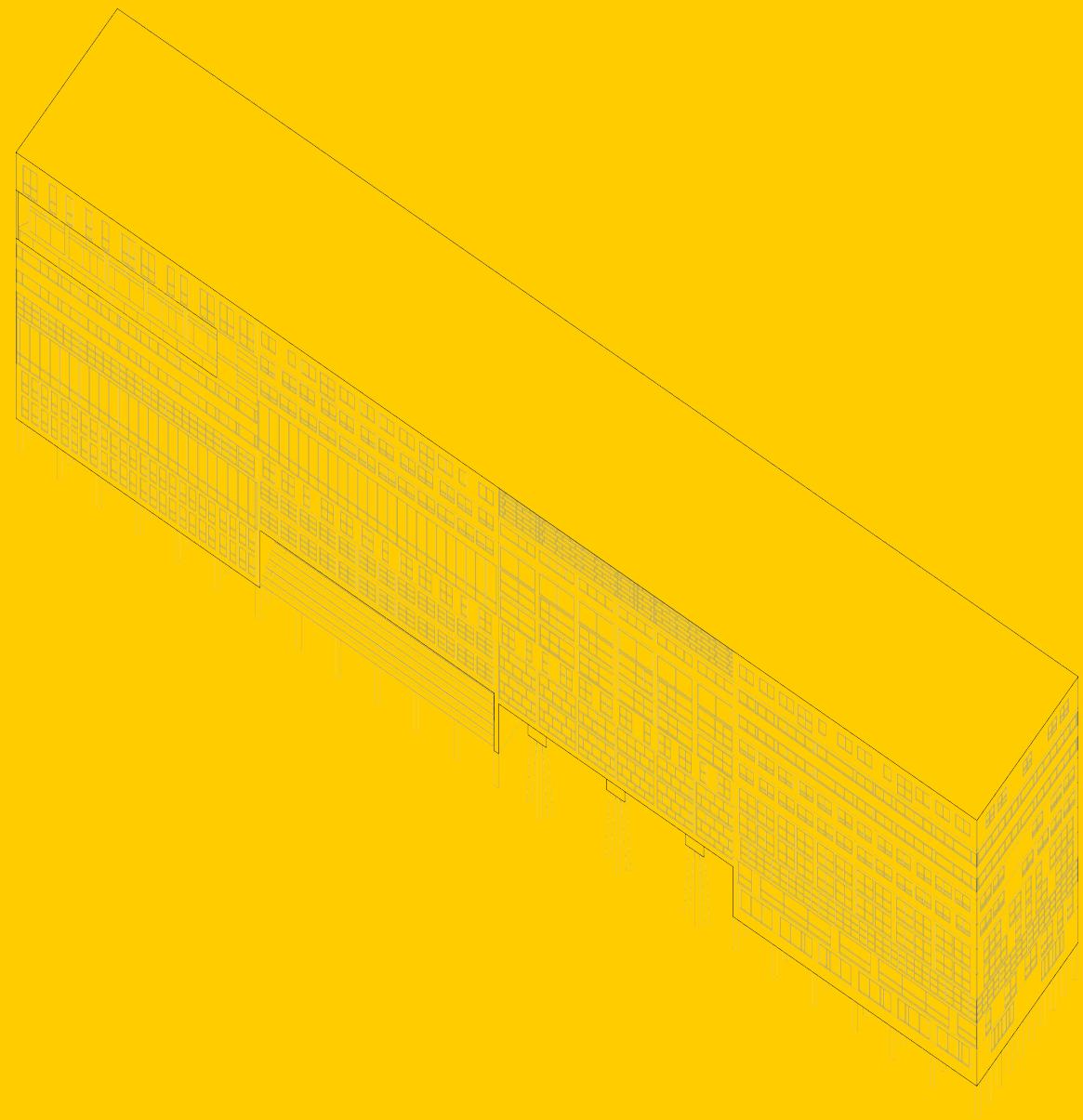
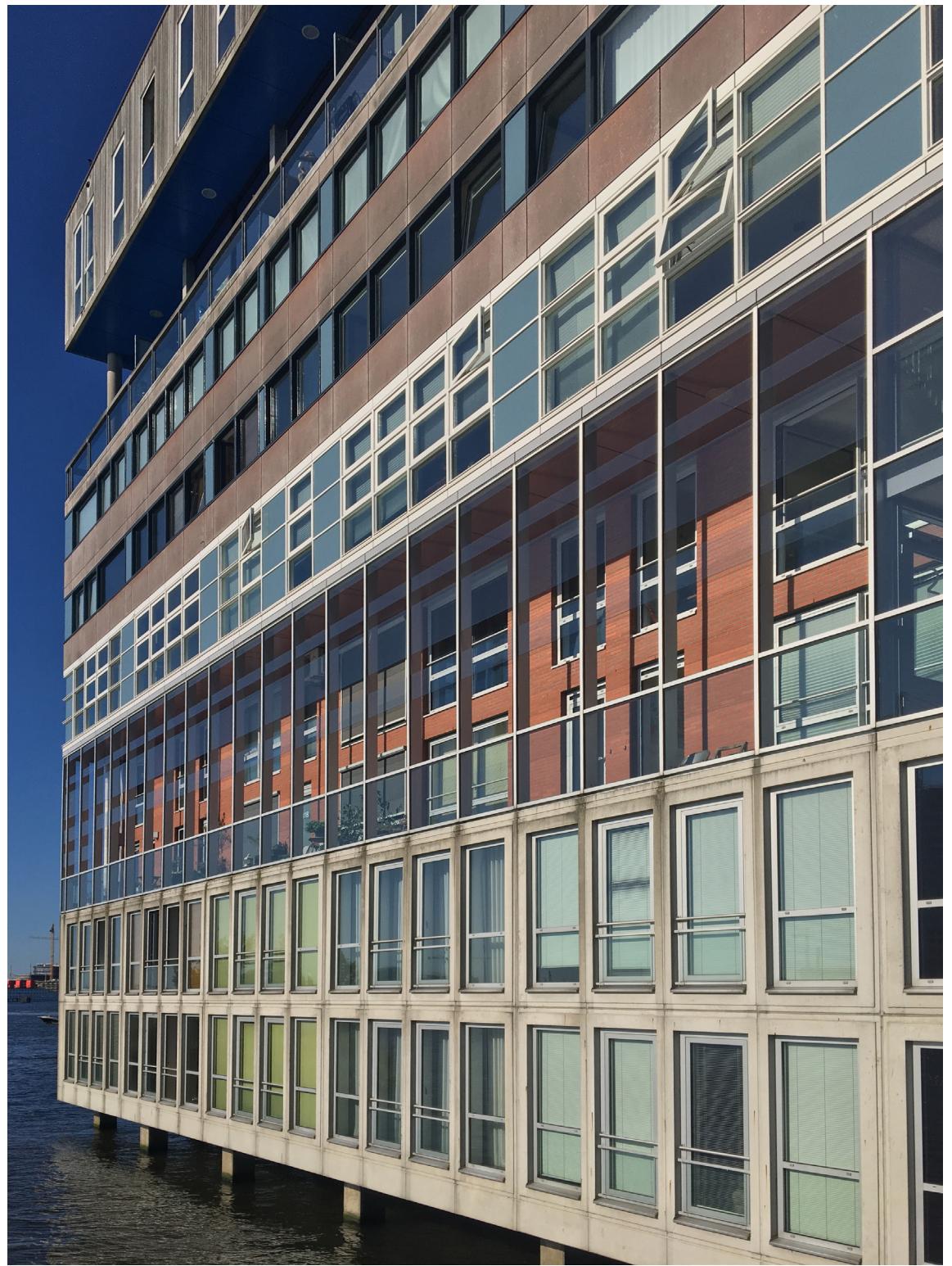
This is also visualised through the interspersing of balconies that are recessed at points along the building, based on the typologies in play.



A balcony has been extended out over the river, which can be accessed by all residents. The space below this also hosts business functions, who also receive these views ⁶



There is also a more prominent and communal entry point provided, which is also inclusive of an accessibility walkway.



Axonometry



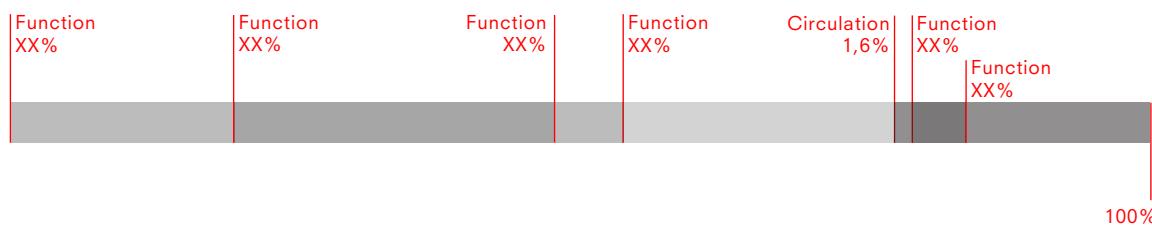
AMSTERDAM CS

TRAINSTATION

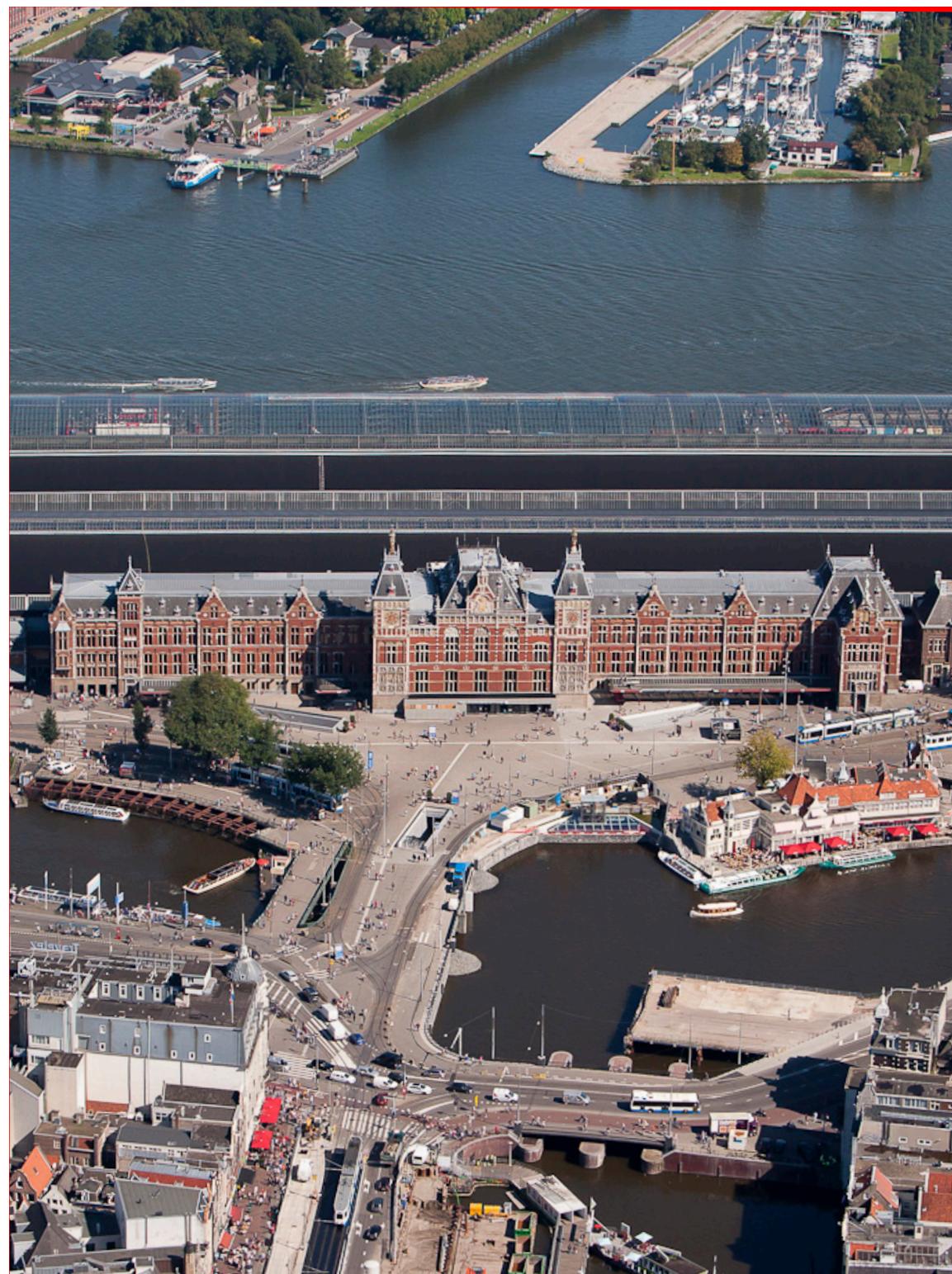
Already in 1864 it was decided that a new transport hub would replace two former stations within the city of Amsterdam. The Dutch architect Pierre Cuypers was responsible for design of it after the succesfull completion of the Rijksmuseum. Through time the station developed into the third biggest transport hub in the Netherlands with major expansions and changes during the fifties and eighties adding more means of transportation and more facilities mostly in the form of retail. The station is now in a phase in which further expansion is limited by the site of it which means that it is in a constant process of optimazation.

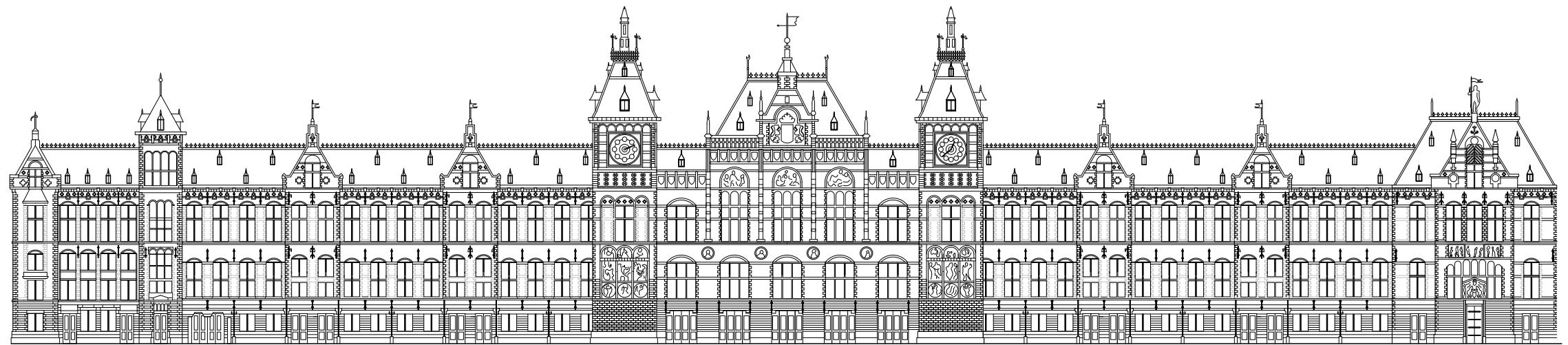


Urban context

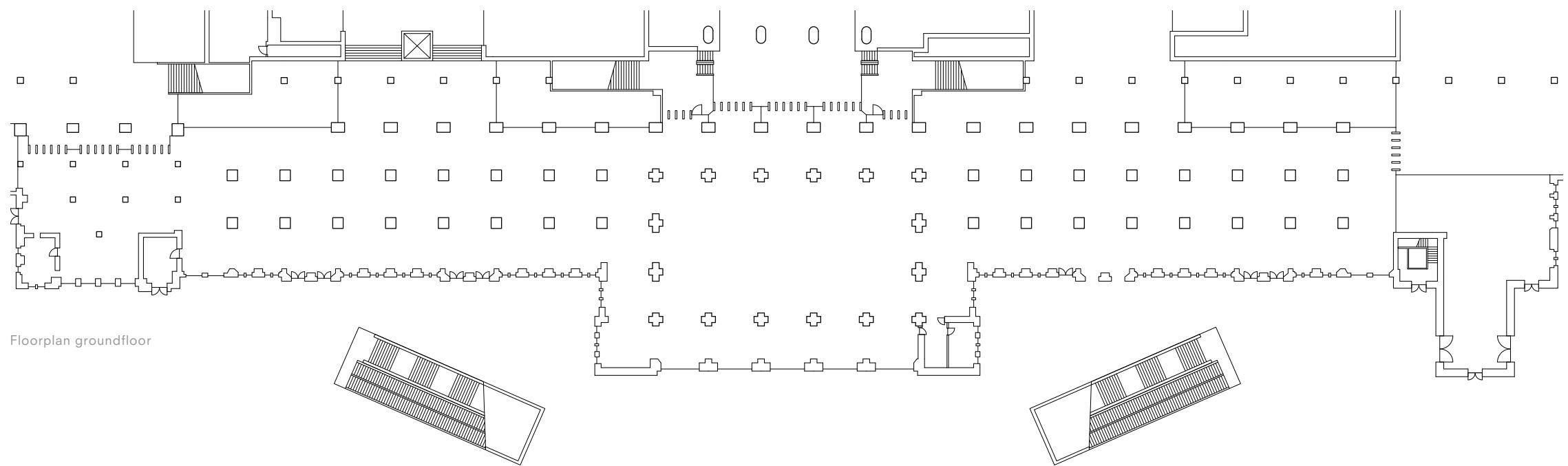
**GFA: 45.706m²****GIA: 44.854m²****FAR: XX**

Spatial data

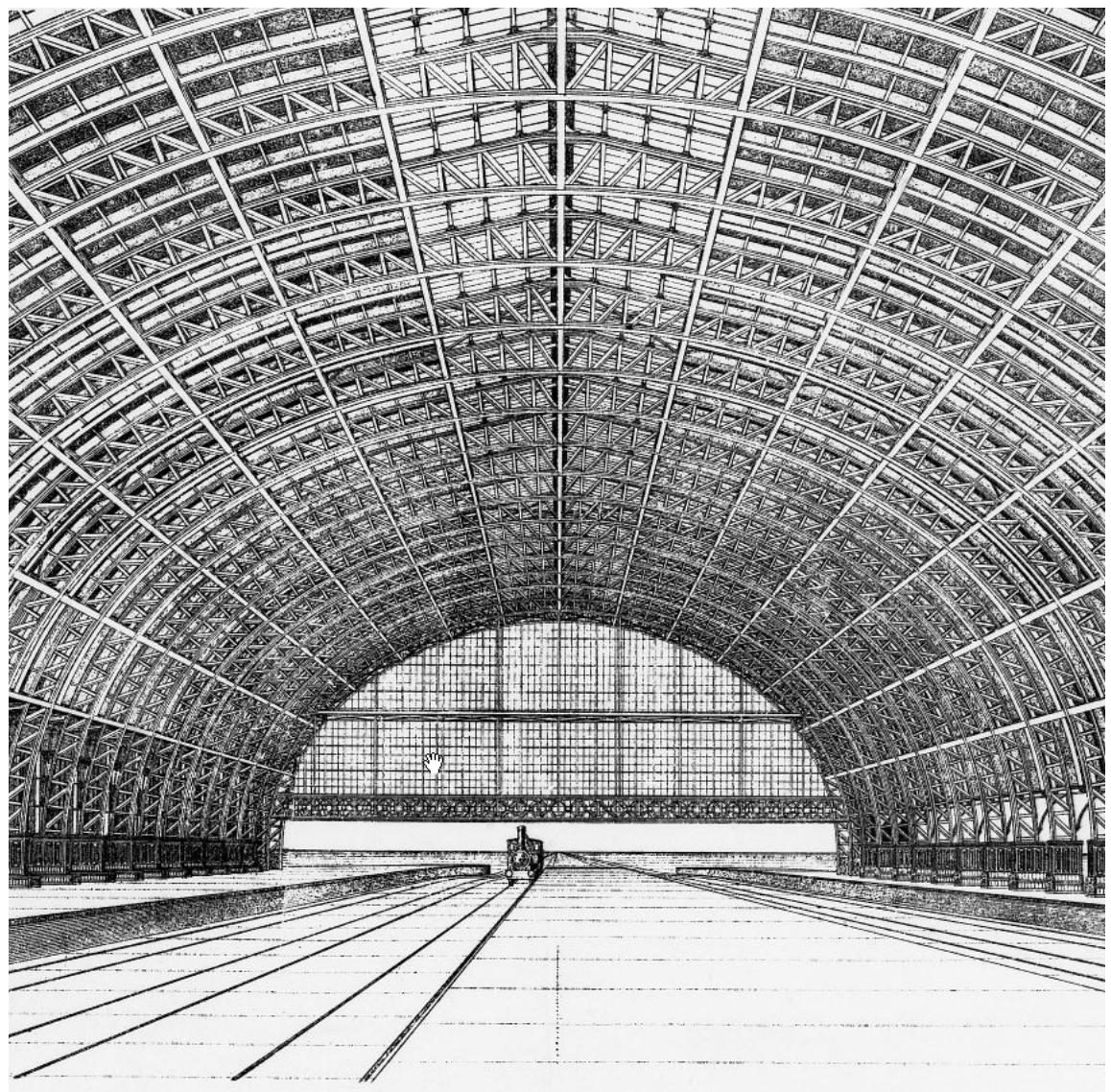




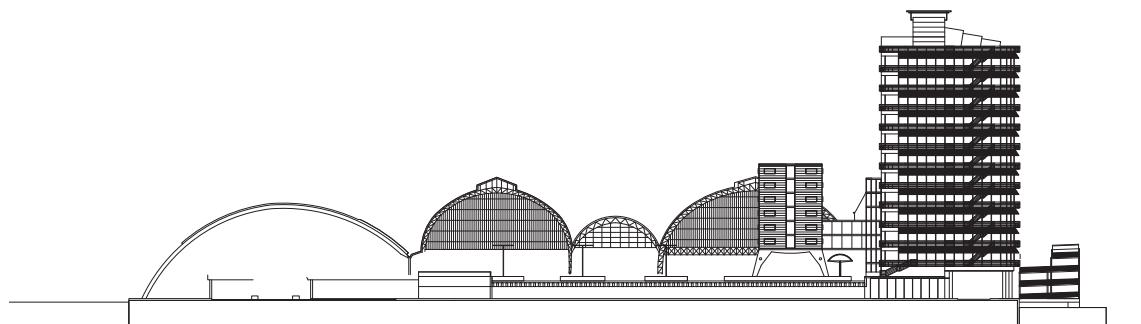
South facade



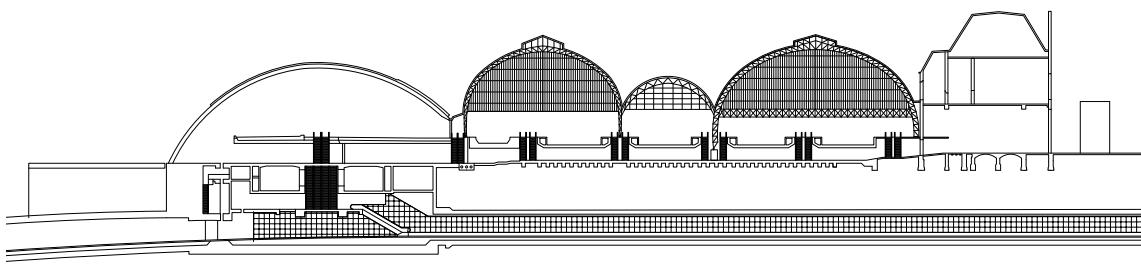
Floorplan groundfloor



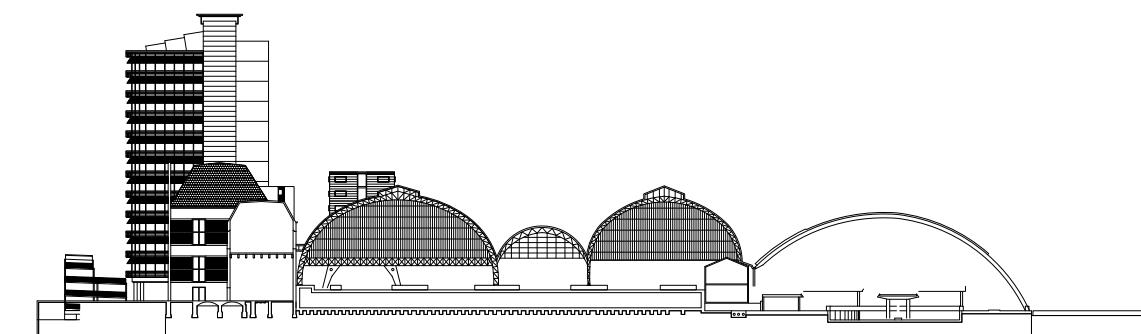
Canopy above the railway



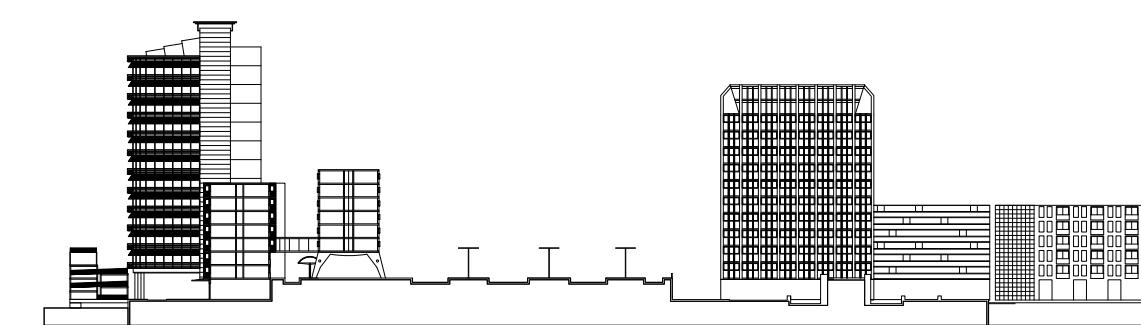
West facade



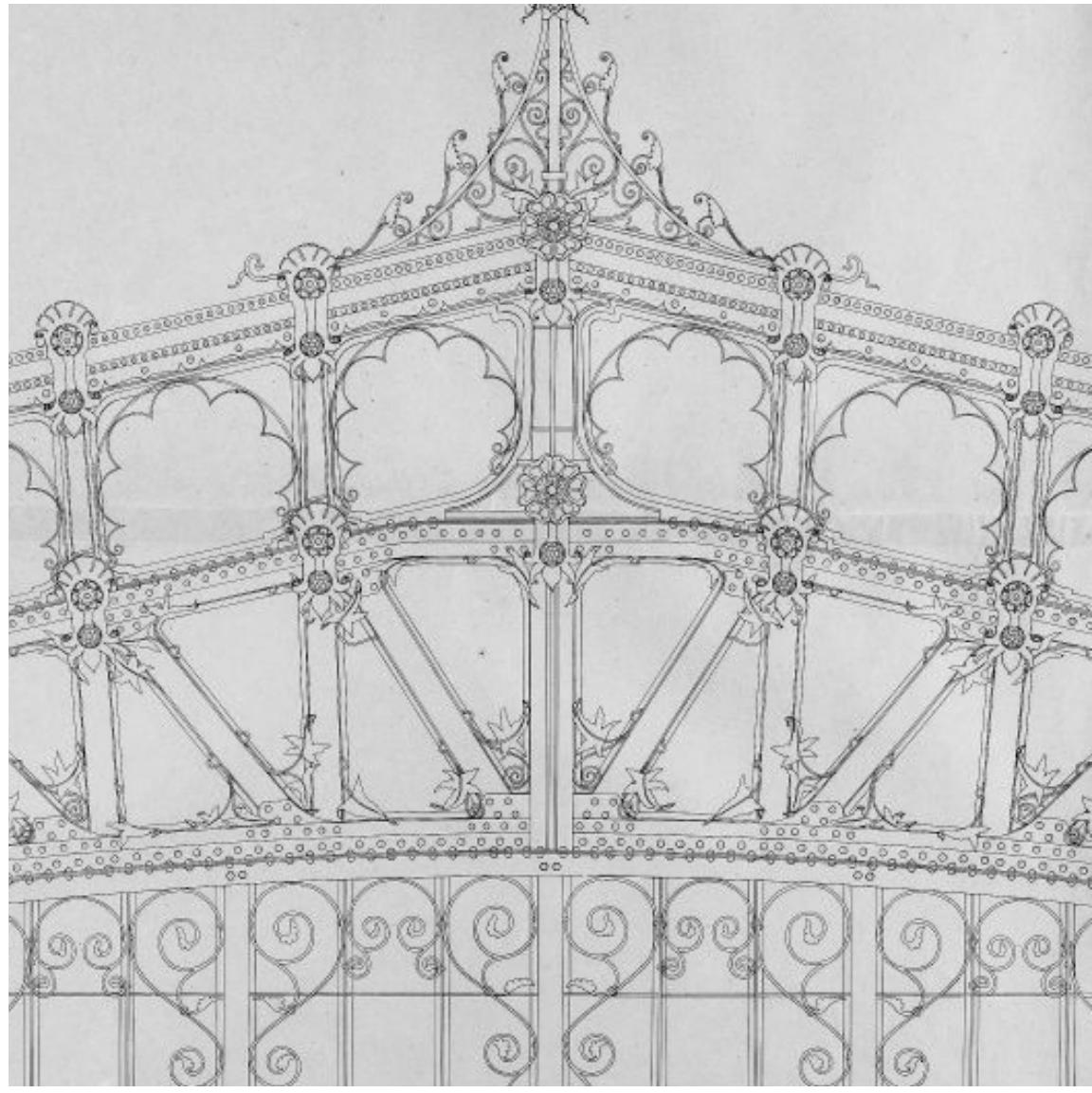
West section



East facade



East section



Detail of top canopy



Covered bicycle path north



IJ-hal



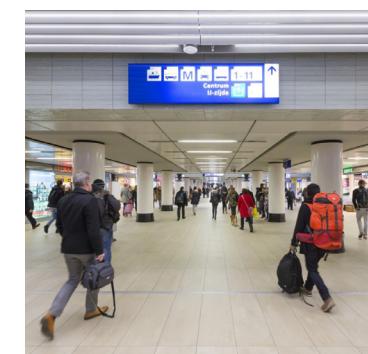
Cuypershall



Platform 13 and 14



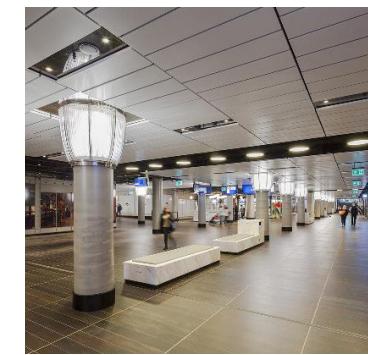
Detail front facade



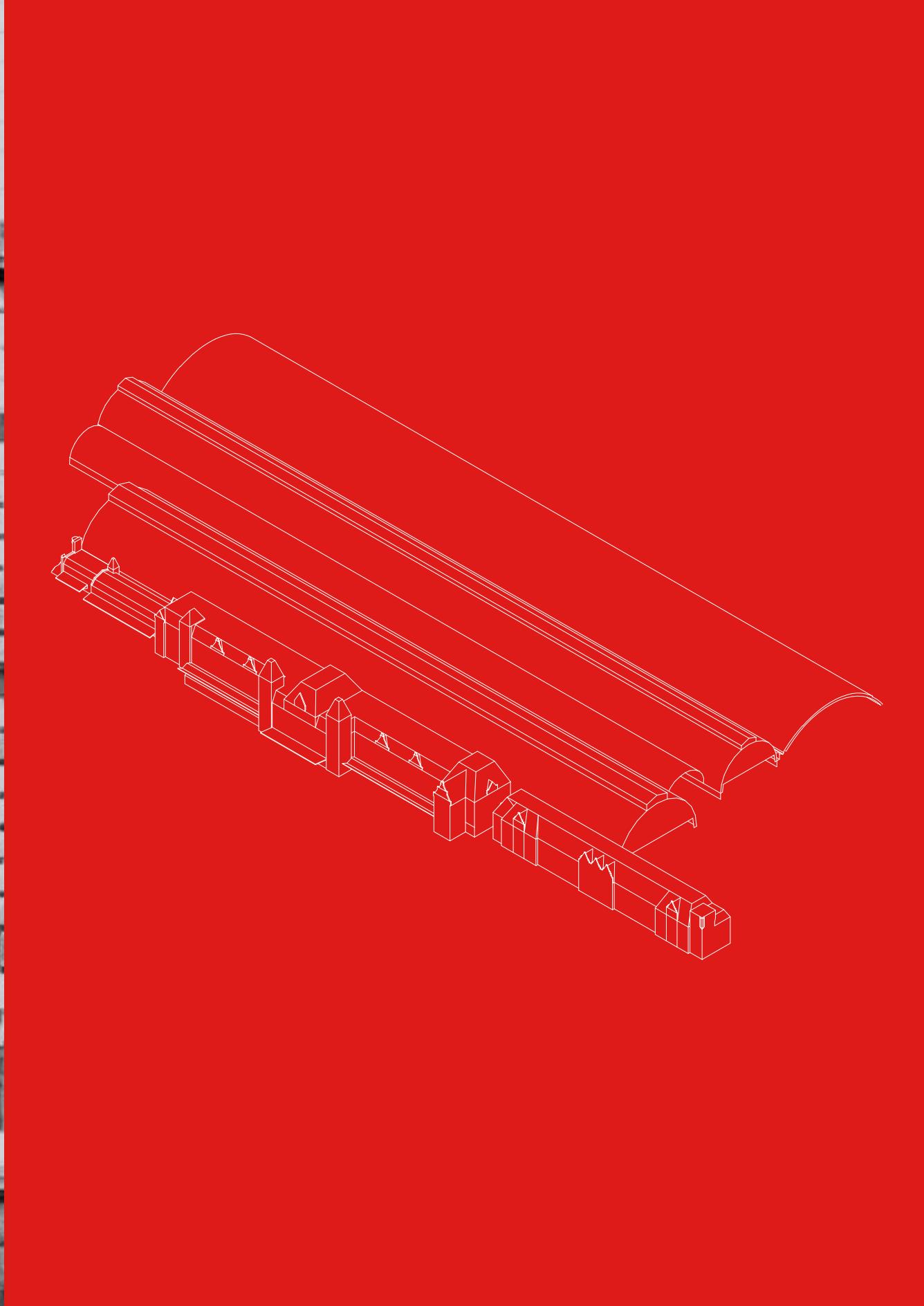
Middentunnel

Former waiting room 1st class

Fietstunnel west



IJ-passage





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Literature
Illustrations

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