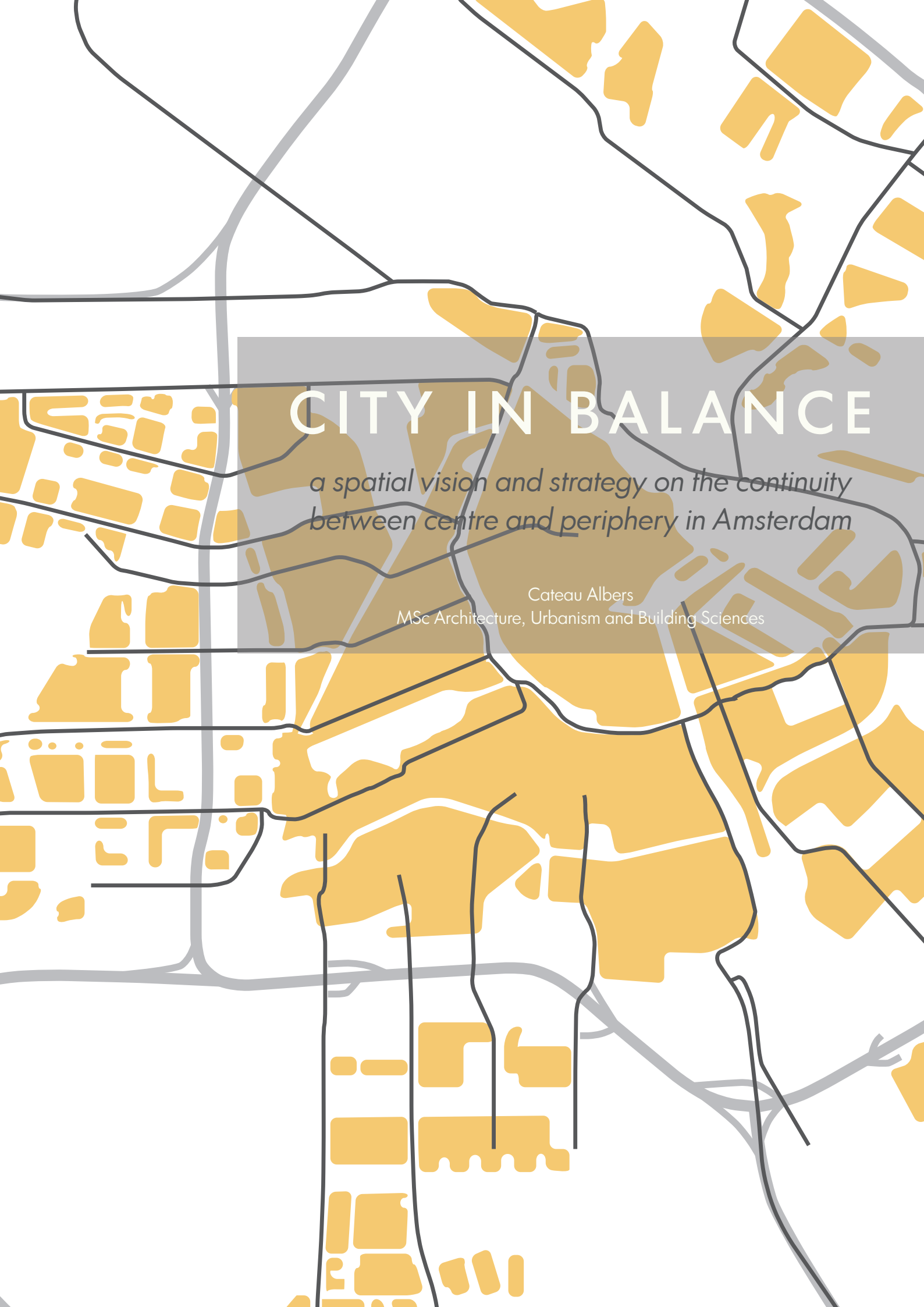

CITY IN BALANCE

a spatial vision and strategy on the continuity between centre and periphery in Amsterdam

Cateau Albers
MSc Architecture, Urbanism and Building Sciences

COLOPHON

City in Balance
a spatial vision and strategy on the continuity between centre and periphery in Amsterdam

Msc Thesis (P5)

Cateau Albers
4275829

Key words:
Amsterdam - continuity - centre - periphery - Ring-zone - infrastructure - dichotomy - gentrification

Graduation Studio:
Urban Transformations and Sustainability

Research group:
Design of the Urban Fabric

First mentor (Urban Design):
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Faculty of Architecture and the Built Environment
Msc Architecture, Urbanism and Building Sciences
MSc track: Urbanism
Delft University of Technology

Delft, 6th of July 2018

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TU Delft

YESTERDAY

a dichotomised Amsterdam

TODAY

a gentrified Amsterdam

TOMORROW

a rebalanced Amsterdam

PREFACE

Strolling around the city, we all make use of our intuitive knowledge telling us that there are good chances shops can be found in the lively high street ahead of us, while it is less presumable that there will be shops in the quiet residential street when turning right. Without knowing, we are all familiar with the organisation of centrality in cities. As a matter of fact, we all 'follow' this hierarchy of grids when strolling around.

In the city centre of Amsterdam, we can actually recognise a continuous network connecting all squares, parks, transport hubs and other significant places in the city. When entering the Ringzone, however, this suddenly changes. The high street transforms into a traffic artery leading us towards the periphery. People following these streets get disoriented when searching for centrality in peripheral areas. What we experience is a discontinuity between centre and periphery in Amsterdam.

That is the premiss of this thesis: both the tangible and intangible city of Amsterdam are dealing with a discontinuity between centre and periphery, which has a great impact on urban life in the entire city. It is actually the layer of infrastructure that can provide the essential spatial conditions for the spontaneous emergence of vital urban life, which is the aim of this thesis.

< Figure 1.3. Amsterdam (based on De Hoog, 2005)

In this thesis I have unravelled the hidden importance of the relationship between city and infrastructure for the city as a whole, while getting a better understanding of how cities work. Simultaneously, this thesis creates awareness of the fact that Amsterdam is not an urban village anymore. Instead, Amsterdam is dealing with the same trends as other metropolitan cities. It is time to take a stand and pay attention to the dichotomy between centre and periphery. The city needs answers to fundamental questions regarding the future of Amsterdam. Last but not least, this thesis includes an exploration of the desirable future of Amsterdam. A future in which Amsterdam shows that it can still offer an attractive living and working environment to every citizen, despite the massive urban growth.

This graduation year has been an adventure for me, in which I have developed myself as an urban designer. When walking and looking around in a city, I have now a much better understanding of all the urban dynamics surrounding us. Therefore I would like to thank my first mentor prof. ir. R.J. Dijkstra and my second mentor dr. S.A. Read for all the valuable meetings and feedback. Moreover, I would like to thank my fellow students for their support and the useful peer review sessions.

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SUMMARY

Amsterdam is dealing with a discontinuity between a gentrified urban centre and a disadvantaged periphery, caused by the presence of different spatial concepts. The centre follows the concept of centralisation and therefore has fine grain, marked by the richness of connections between the different scaled grids. Centrality happens on the streets and so these streets, including the radials, function as high streets full of vital urban life. The periphery, however, follows the concept of decentralisation and has a coarse grain with a disengagement between the different scaled-grids. The vivid high streets of the centre change into traffic arteries, characterised by a thinness of experience of public space. Centrality happens in self-contained pockets and neighbourhoods are culturally and socially homogeneous. In between centre and periphery the Ringzone is located, which is actually a grey zone dominated by the metropolitan scale.

Meanwhile, the municipality aims to maintain welfare and prosperity for all residents and therefore should acknowledge the social and economic importance of public space. The social benefit of spatial interventions is, however, not visible in the municipal strategy and in the scale and character of the projects close to the Ringzone. Moreover, trends like gentrification and fragmentation cause a growing dichotomy between centre and periphery.

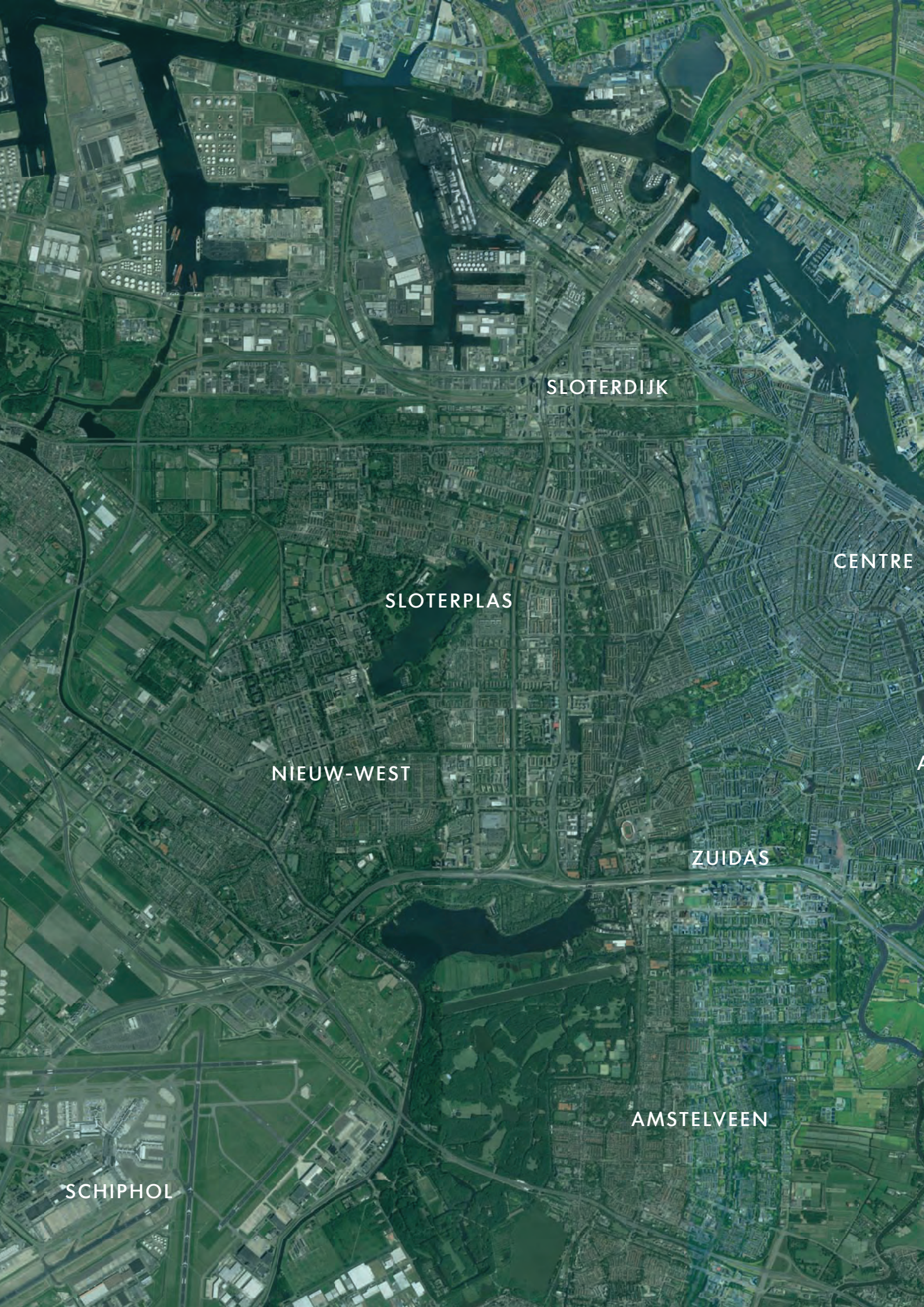
Amsterdam should not take this for granted, but needs to restore the balance between centre and periphery by creating continuity of vital urban life instead. Therefore, the city should focus on linking the concept of centralisation and decentralisation by making use of the radials connecting both city parts and crossing the Ring. The radials have potential as arteries of public life and the local economy, leading towards a reorientation process from centre towards periphery. Vital urban life is the end-product of the different scaled grids in the city and creating urban life therefore starts by integrating these grids. The strategy shows how Amsterdam can make a step towards continuity by zooming in on several locations in Amsterdam's peripheral district Nieuw-West. This new approach towards the radials contribute to 'The City in Balance' and offers new insight for both other city parts and entire cities dealing with a dichotomy.

SAMENVATTING

Amsterdam kent een discontinuïteit tussen een gegentrificeerd centrum en een benadeelde periferie, veroorzaakt door de aanwezigheid van verschillende ruimtelijke concepten. Het centrum volgt het concept van centralisatie en heeft een fijnmazig netwerk, gekenmerkt door de vele verbindingen tussen netwerken op verschillende schalen. Centraliteit vindt plaats op de straat en daarmee functioneren deze straten, inclusief de radialen, als vitale, stedelijke hoofdstraten. De periferie, daarentegen, volgt het concept van decentralisatie en heeft een grof netwerk waarbij netwerken veel minder sterk geïntegreerd zijn. De levendige straten van het centrum veranderen hier in verkeersaders, gekenmerkt door een minder rijke beleving in de openbare ruimte. Centraliteit vindt plaats in clusters en buurten zijn homogeen in sociaal en cultureel opzicht. Tussen centrum en periferie ligt de Ringzone: een grijze zone gedomineerd door de metropolitane schaal.

Ondertussen wil de gemeente het welzijn en de welvaart van inwoners behouden en moet daarom het belang van openbare ruimte in sociaal en economisch perspectief erkennen. De sociale baten van ruimtelijke interventies zijn echter niet zichtbaar in de gemeentelijke strategie en in de schaal en het karakter van projecten nabij de Ringzone. Daarnaast veroorzaken trends (gentrificatie en fragmentatie) een groeiende tweedeling in de stad.

Amsterdam mag hier geen genoegen mee nemen en moet de balans tussen centrum en periferie herstellen door continuïteit van vitaliteit te creëren. Daarvoor moet de stad zich richten op het verbinden van de concepten van centralisatie en decentralisatie door gebruik te maken van radialen, die beide stadsdelen verbinden en de Ring oversteken. De radialen hebben potentie als 'aderen' van vitaliteit en de lokale economie en kunnen de stad heroriënteren richting de periferie. Vitaliteit is het eindproduct van de verschillende netwerken en dus begint het creëren van vitaliteit bij het integreren van deze netwerken. De strategie laat zien hoe Amsterdam de discontinuiteit kan doorbreken door te kijken naar verschillende locaties in Nieuw-West. De nieuwe benadering voor radialen draagt bij aan 'De Stad in Balans' en brengt nieuwe inzichten voor zowel andere stadsdelen als andere steden die een tweedeling kennen.


SLOTERDIJK
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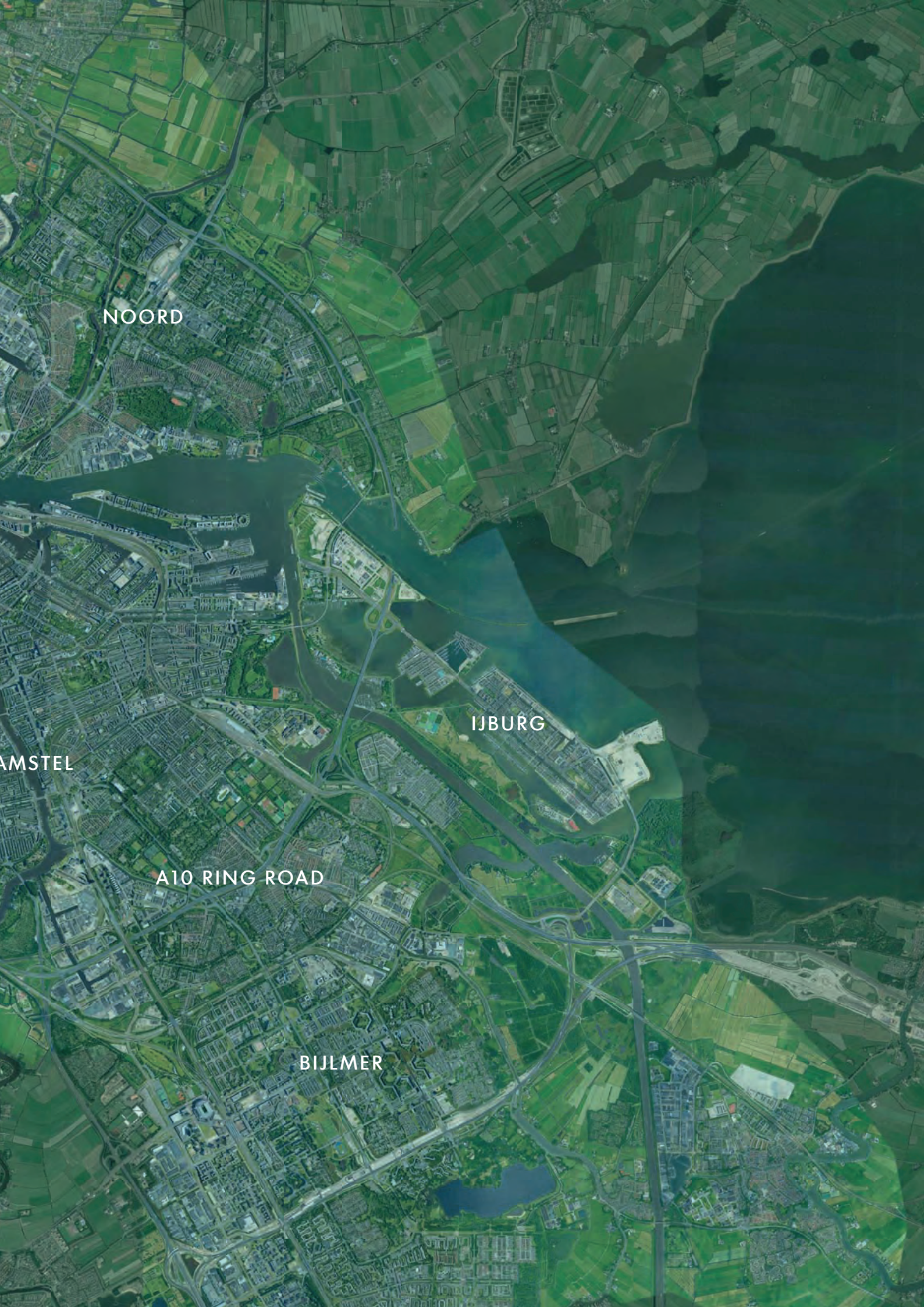

NOORD
IJBURG
AMSTEL
A10 RING ROAD
BIJLMER

CHAPTER I

INTRO DUCTION

- Introduction
- Project motivation
- Choice of studio: Design of the Urban Fabric
- Definition of the Ringzone

INTRODUCTION

After decades of suburbanisation, cities have once again become popular (Gemeente Amsterdam, 2011a). Amsterdam can count itself among this category with an annual growth of 11.000 people per year. Already for years Amsterdam belongs to the fastest growing cities in the Netherlands, causing a decline in the country's periphery. The cityscape of Amsterdam is changing ever faster as a consequence of population growth and the increasingly knowledge-driven economy underpinning this phenomenon of growth.

At the moment, Amsterdam counts more than 850.000 residents. Whereas Amsterdam is dense compared to other Dutch cities, a comparison with other European capitals led to the conclusion that Amsterdam is not as compact as it seems to be. The ring roads of Amsterdam and Paris are almost equally long, but inside the Parisian Peripherique the population density is almost four times higher than inside the Ring A10 of Amsterdam (de Hoog, 2005). Hence, it made sense to accommodate the expected growth by intensifying the existing urban territory, instead of an increasement of its surface area.

In 2011, the Ringzone captured the attention of the municipality as the most suitable place in Amsterdam to develop into an attractive new area of Amsterdam (Gemeente Amsterdam, 2011a). And this identification is the starting point of this thesis; whereas in the General Expansion Plan of 1934 the Ringzone was designed as a green, unbuilt space in between the pre-war and post-war city, the area is now mainly a mental and physical barrier in between the city centre and the periphery. Moreover, the area became highly dominated by the presence of the ring road and co-related functions and so the Ringzone has a major impact on the continuity between Amsterdam inside the Ring and Amsterdam outside the Ring. In fact, the Ringzone as an in-between space plays a determining role in keeping Amsterdam in its entirety together.

In this thesis, developed as part of the research group 'Design of the Urban Fabric', belonging to the MSc Architecture, Urbanism and Building Sciences at the Faculty of Architecture and the Built Environment of Delft University of Technology, the continuity between Amsterdam inside the Ring and Amsterdam outside the Ring of both the tangible and intangible structures is being discussed in the first place. This analysis demonstrates the consequences of the dichotomy Amsterdam is dealing with on multiple planning layers of the urban landscape. Moreover, the thesis touches upon the ring road and Ringzone as constructed barriers.

While the gap between centre and periphery is slowly taking over the city, Amsterdam continues to grow. Although the municipality claims that Amsterdam should be a city for everyone, the city is dealing with socio-spatial segregation at the same time. Metropolitan trends are increasingly visible in Amsterdam and have an impact on the growing dichotomy between centre and periphery as well. Amsterdam is becoming more and more unbalanced, demonstrated by problems appearing in the centre, Ringzone and periphery.

Therefore, the second part of this thesis focuses on how Amsterdam can restore the balance between centre and periphery, while using the relationship between city and infrastructure as a starting point to create spatial conditions for the emergence of vital urban life. The ultimate aim is to create a spatial vision and strategy for Amsterdam, in which the desired future of Amsterdam and the spatial translation of this future will be explained. Moreover, the vision and strategy take the lessons learned derived from the problem definition into account, which makes the entire thesis a comprehensive, but coherent story in which multiple scale-levels are represented.

With this approach, this thesis deals with the expected growth of Amsterdam and thus the expected future of Amsterdam. Moreover, this thesis aims to demonstrate that Amsterdam – if the city wants to offer residents an attractive living an working environment now and in the future - needs to be aware of the changing relationship between centre and periphery and the impact of the Ringzone on this relationship. The city is no longer an urban village, but actually on track to become a metropolitan city facing global trends.

Figure 1.5. One of the first traffic jams in the Netherlands, 1955 (Schippers, 2014)

Figure 1.6. The clash between social and functional public space (ANWB)

PROJECT MOTIVATION

Generally speaking, infrastructure poses continuously the question of integration into the surrounding urban and natural environment: it often causes fragmentation or isolation by constructing barriers, it destroys the beauty of the scenery or the ecological balance and produces nuisance (Shannon & Smets, 2016).

In the nineteenth century, however, there was still morphological cohesion between infrastructure and urbanity. Networks of public space were integrated and the construction of infrastructure was often intertwined with other objectives. Josef Stubben's Ringstraße in Vienna and Frederick Law Olmsted's network of parks in Boston are famous examples of this (BNA Onderzoek, 2017).

The rise of the car at the beginning of the twentieth century marked a break with previous decades (Wagenaar, 2015). Infrastructure became disconnected from its environs as it became an autonomous network, set up by engineers (Shannon & Smets, 2016). Hence networks got disintegrated, causing a separation between functional and social networks of public space (Meyer et al., 2008).
Even in Amsterdam, where the ring road A10 was once built in order to relieve the city, it is now putting pressure on the city and causing a dichotomised city. Here the relationship between city and infrastructure was brought back to a level on which both are functioning as two autonomous systems (BNA Onderzoek, 2017). This actually has a significant impact on the continuity and thus the functioning of the city.

The thesis focuses on the continuity between centre and periphery. Whereas this thesis started with an emphasis on the planning layer of infrastructural networks in the Ringzone, the research actually evolved during the year. The result is a thesis that incorporates the continuity of the tangible and intangible structures while focusing on the relationship between centre and periphery and the impact of the Ringzone on this relationship. With the relationship between city and infrastructure as one of the key elements in this thesis, the disciplines of infrastructural design and urbanism have to be combined and there is a need to cross these fields in order to realise integration.

Figure 1.7. The ring road of Vienna, designed by Josef Stubben (Gugerell, 1955)

Figure 1.8. Emerald's Necklace in Boston, by Frederick Law Olmsted (Emerald Necklace Conservancy, 2018)

Figure 1.9. A modern example of integrating city and infrastructure: Madrid Rio project, designed by West 8 (The City Project)

Figure 1.10. The A10 ring road of Amsterdam, near Bos and Lommer (NH Nieuws)

CHOICE OF STUDIO: DESIGN OF THE URBAN FABRIC

The research group 'Design of the Urban Fabric' studies both the tangible and intangible structures of the urban environment from a design perspective. As these types of structures are all subject to urban trends in a dynamic world, the research group and related theses consider the existing urban fabric and its suitability or adaptability to these trends. In other words, the emphasis is on finding the best (urban) answers for a fast-changing world, which incorporates a constant need for anticipation. Therefore, the research group promotes two approaches: design driven by science and design driven by practice. The latter, in which design is used to address questions arising from practice, (Research Group Design of the Urban Fabric, 2016), plays a key role in this thesis.

Additionally, the research group acknowledges the valuable combination of research and design by defining the goal of the research group as "to understand through research how urbanism can contribute to making sustainable, attractive and vital urban design." Since this is also a central question in this thesis, research and design are both crucial.

For the graduation year 2017-2018 three central themes have been picked: (1) Cities and Health, (2) Cities and Growth, and (3) Cities and Technology. Moreover, several urban urgencies have been addressed, including fast urban growth, urban social inequality, health and environmental issues, sustainability and urban mobility. This thesis is thus strongly related to the studio, as Amsterdam is subject to rapid growth and is more and more characterised by inequalities between centre and periphery, reflected in the discontinuity of both tangible and intangible structures of the city. Moreover, the thesis is related to some of the research group's main research questions, such as "How can (re)designing the urban fabric contribute to improving the sustainability and vitality of the urban environment for our and future generations?" and "How do the physical environment and the intangible structures interact?"

Creating a spatial vision and strategy requires a deep understanding of the complexity of transforming this area. Hence, the Dutch approach followed by this research group, regarded as a design model for complex tasks, is very relevant. The approach, which entails the combination of a critical analysis (A), an integrated design (D) and a structured presentation (P) is the basis of the project approach as well.
In the end, the thesis should contribute to the knowledge of how to foster an attractive, sustainable and vital urban environment, which is in line with the general objective of this research group.

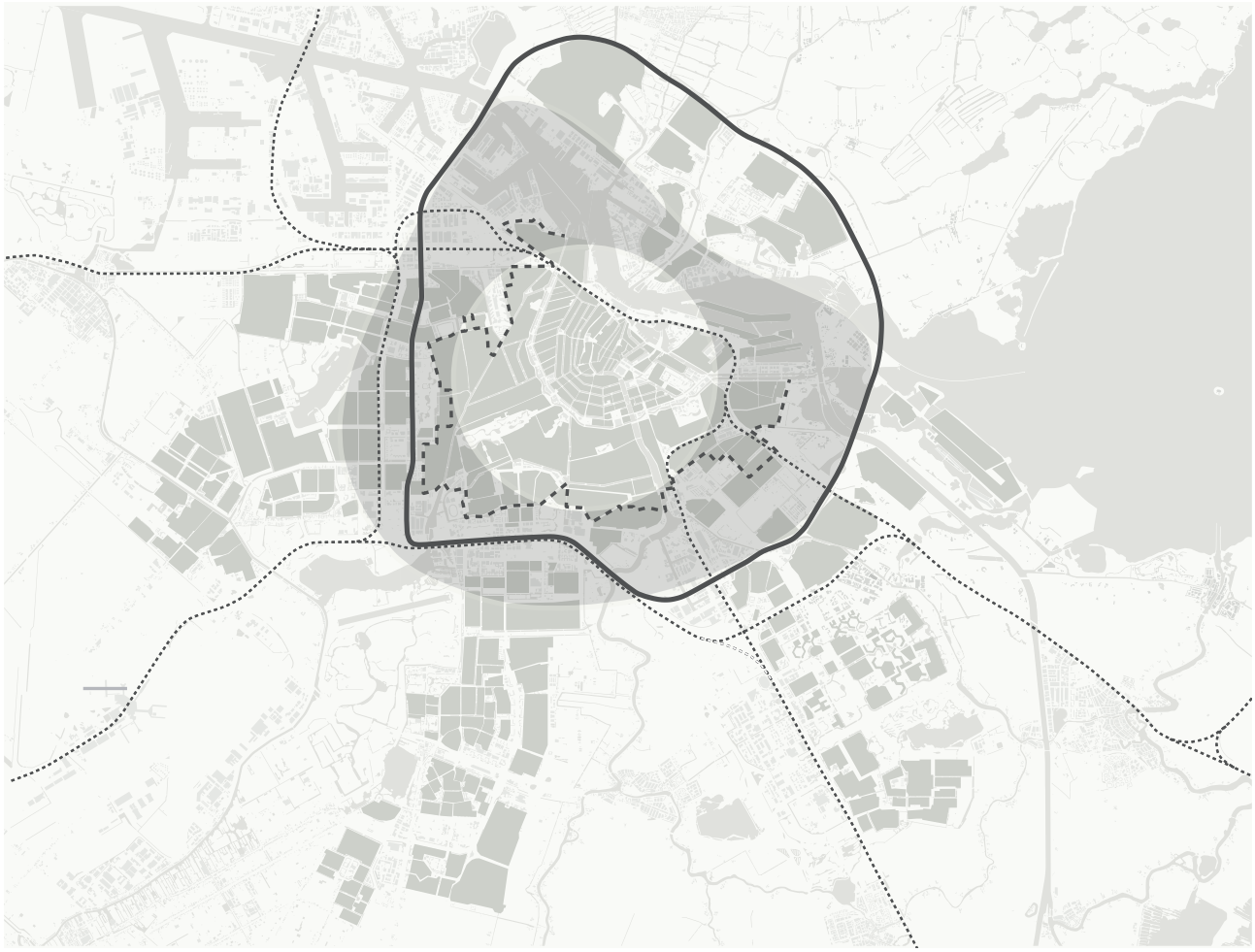


Figure 1.11. The definition of the Ringzone

DEFINITION OF THE RINGZONE

The Ringzone is located in between centre and periphery and therefore plays a key role in this thesis. The Ringzone can be defined in various ways, which is demonstrated by the map (Fig. 1.11.). The Ringzone has its own characteristics regarding the tangible and intangible city structures and can therefore be distinguished from the central and peripheral areas.

The Ringzone does not just consist of the areas adjacent to the ring road. The Ringzone as defined by the municipality is the grey zone on the map (Fig. 1.11.) This area includes both mainly city parts inside the Ring and only a few peripheral areas.

When looking at urban structures, however, one could define another Ringzone. Inside the Ring the boundary of the area is defined by the General Expansion Plan, drawn by Van Eesteren in 1934 (Fig. 1.12.). This plan anticipated on the expected population and traffic growth and included a proposal for new expansion areas (the red areas on the map). In between the existing city (black areas) and the newly planned areas a green unbuilt zone was planned. This zone was later used to construct the ring road.
The white line on the map (Fig. 1.12.) could be called the 1930s line. Because of the economic crisis and after that WOII the city did not expand for several

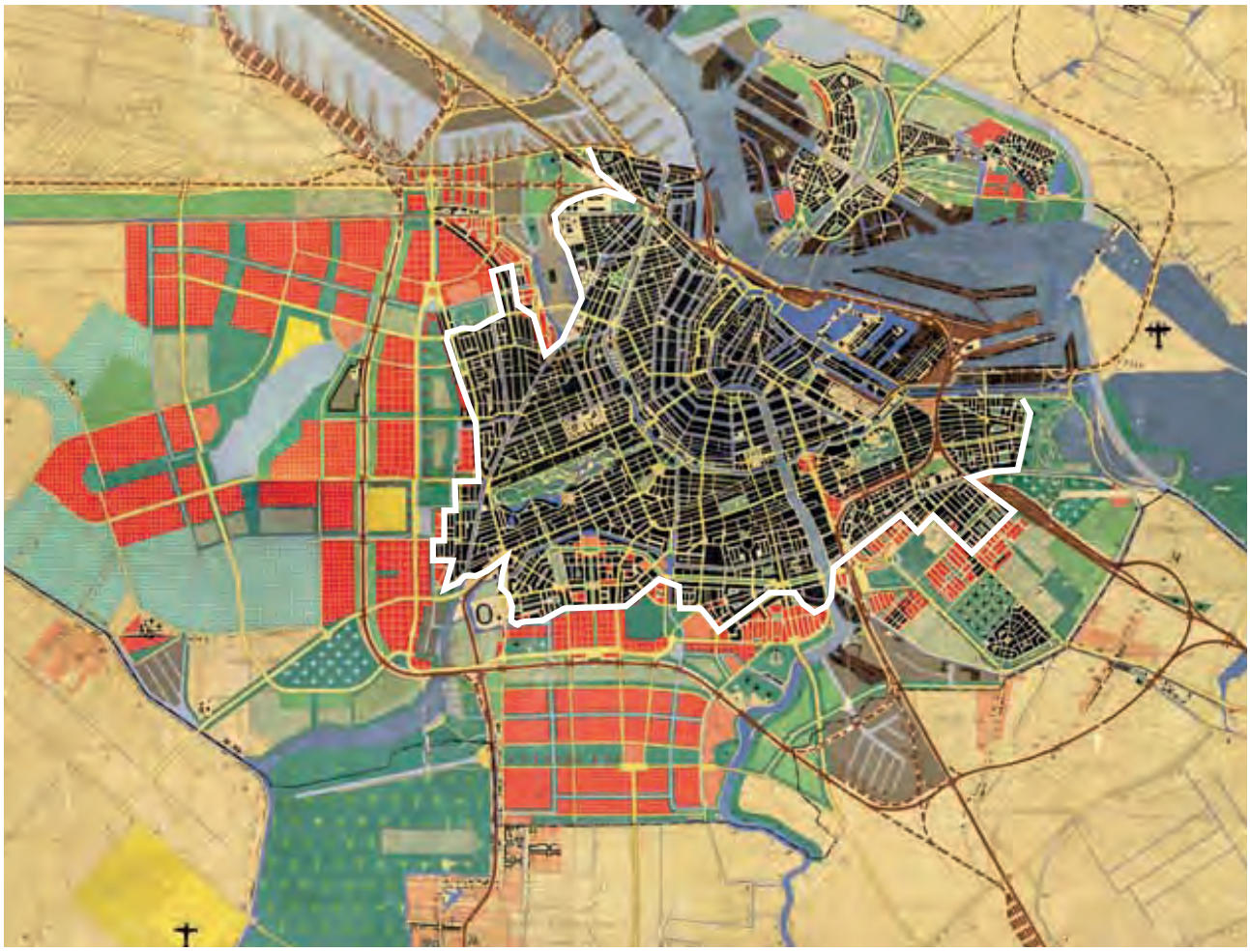


Figure 1.12. The 1930s line in the General Expansion Plan (Van Eesteren Museum)

decades. After this period, in the 1950s, the red expansion areas were added to the city and the green unbuilt zone became a grey zone in between centre and periphery. Later, when the ring road was constructed, the grey zone became dominated by the ring road and the functions attracted by the ring road, causing a discontinuity in the city.

The edge of the Ringzone in the periphery is much harder to define. The railway follows the ring road in the western and southern periphery, which causes another infrastructural barrier beside the ring road. Moreover, when moving from centre to periphery there are areas where industrial and living areas alternate each other without any clear boundaries. Therefore, it is questionable if it is even possible to define a Ringzone.

In this thesis, the Ringzone is defined by the 1930s line and ends in the periphery where there is no domination of or orientation towards the metropolitan-scaled grid anymore.

CHAPTER II

PROBLEM DEFINITION

- Context of Amsterdam: a magnetic city
- Towards a dichotomised Amsterdam
- Continuity of tangible and intangible structures
- Towards a gentrified Amsterdam
- A new character and scale for projects
- Fragmentation
- Towards a rebalanced Amsterdam


Rotterdam
Den Haag
Schiphol

A MAGNETIC CITY

After decades of suburbanisation, cities have once again become popular (Gemeente Amsterdam, 2011a). The city of Amsterdam has been growing rapidly and its population increased by over 850.000 residents (Gemeente Amsterdam, 2018). Already for years the city belongs to the fastest growing cities in the Netherlands, causing a decline in the country's periphery (Gemeente Amsterdam, 2011a).

Within the context of a city with a fast-growing population it is paramount to maintain the welfare and prosperity of all residents, as the city council of Amsterdam stated in 2011 (Gemeente Amsterdam, 2011a). Therefore the muncipality acknowledges the importance of the knowledge-driven economy and, related to that, a strong position in the global economy. A strong knowledge-driven economy requires both knowledge-driven enterprises and human capital and so the city is more than willing to accommodate the expected population growth of 11.000 people per year.

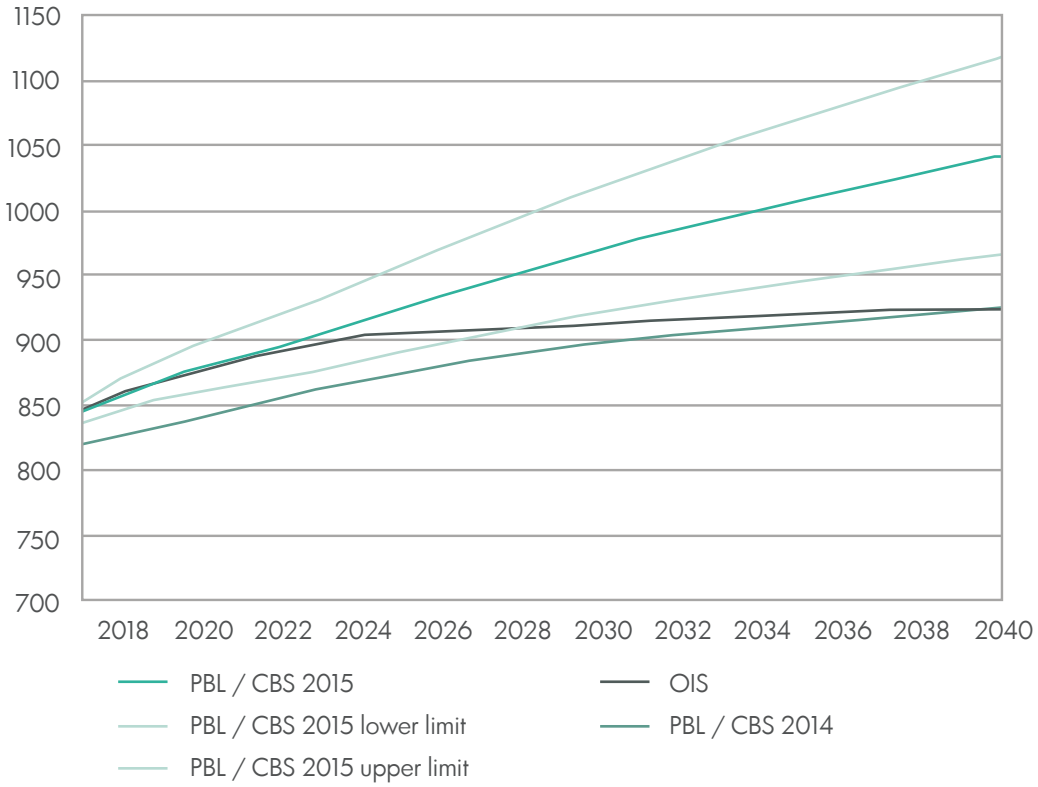
Amsterdam is now facing a huge building challenge and decided to intensify the existing urban territory, leaving the surrounding landscape untouched. This resulted in a building challenge of 5.000 new dwellings per year and thus a need for densification and transformation (Gemeente Amsterdam, 2011b). Even in a dense city like Amsterdam the muncipality found space to grow: in 2011 the muncipality of Amsterdam identified the Ringzone as "the most suitable area to develop into an attractive new part of Amsterdam" (Gemeente Amsterdam, 2011b). The desired outcome is as follows:

"In this area, strategically positioned in between the pre- and post-war city, close to the A10, the metro and the IJ water, is space and good reasons to densify. During the coming years the Ringzone will develop itself as an area connecting the city centre with the city districts outside the Ring and as a gate to the city with excellent cycling routes and public transport connections, and attractive streets and parks [...] In the Ringzone there are many opportunities for sustainable urban densification: living and working in compact, attractive neighbourhoods with urban facilities nearby along pleasant, vital streets. The challenge is to realise more urban quality for a variety of residents and to improve liveability by carefully planned urban densification."

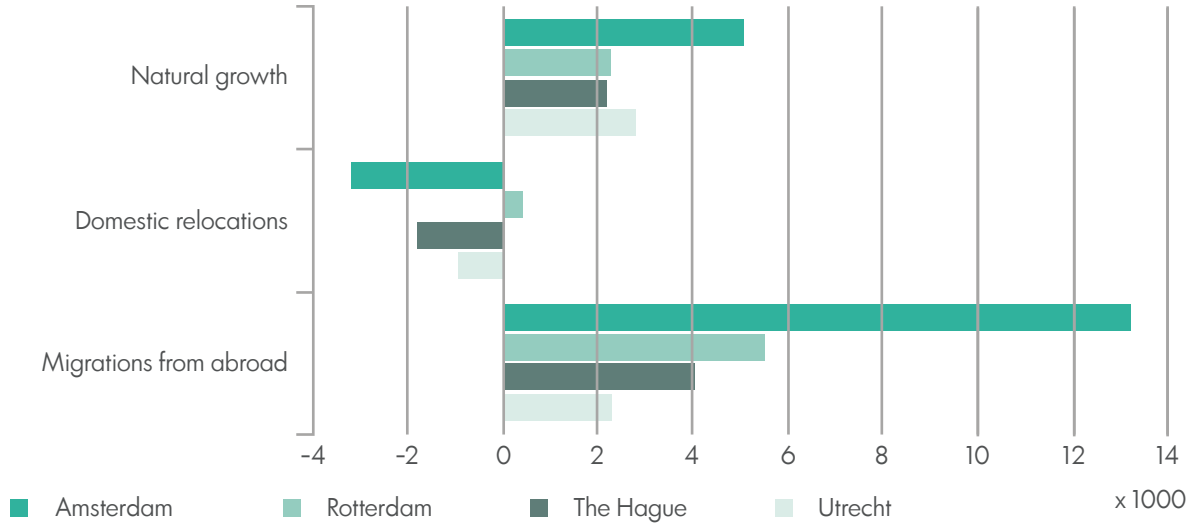
(Gemeente Amsterdam, 2016, p. 7) translated by author

The council planners and urban designers call the transformation of the Ringzone even an "once in a lifetime opportunity to turn the Ringzone into a pleasant, lively and beautiful area" (Gemeente Amsterdam, 2015). It is remarkable, however, that apparantly the muncipality considers the Ringzone as a new part of Amsterdam, whereas the Ringzone is not new at all. In fact, the area cannot be treated as a tabula rasa, since the urban layout of the Ringzone is determining for the coherence of Amsterdam. The Ringzone is located in between centre and periphery and has therefore a strategic location mainly in terms of liminality: the Ringzone is the place where the daily urban systems of people living the centre and people living in the periphery can overlap. Moreover, the Ringzone plays a crucial role in the continuity of both the tangible and intangible structures of Amsterdam. The Ringzone is either the place where people from both sides meet each other, or a mental and physical barrier that people do not dare to cross. In order to understand the impact of the Ringzone and its reputation as a barrier on the continuity of the tangibles and intangibles, we need to study the changing relationship between city and infrastructure in Amsterdam from the 1930s onwards.

Population growth of Amsterdam 2012 - 2040 in thousands
Source: CBS / PBL / OIS



Population growth of the four large cities in the Netherlands (2016)
Source: CBS.



YESTERDAY

a dichotomised Amsterdam

TOWARDS A DICHOTOMY

As mentioned before, the Ringzone is located in between the pre- and post-war city of Amsterdam and is highly dominated by the structure of the A10 ring road and the surrounding grey zone. In order to understand the impact of the Ringzone on the continuity of the tangible and intangible structures of the city, one needs to go back to 1934: the year in which the General Expansion Plan of Amsterdam was developed under the direction of the urban planner Cornelis van Eesteren and in which year the Ringzone was born as well (BNA Onderzoek, 2017; Kloos, de Korte & Wendt, 2010). The plan set the tone for further urban development and had to anticipate on the rapid population growth and, related to that, rapid traffic growth as well. The map demonstrates the new ideas on the relationship between city and infrastructure, as a response to the rise of the car. In fact, the General Expansion Plan meant a real break with the past; whereas Amsterdam had a tradition of concentric expansions, such as the city walls and canals, the new developments followed new spatial concepts (Kloos *et al.*, 2010). Instead of the concentric, compact urban fabric of the city centre, the new city parts became rather decentralised and were planned on the western and southern side of the city.

Harmonious urban integration

The General Expansion Plan included extensive research on traffic and the quality of living and working. A main objective was to create harmonious urban integration and therefore one of the key elements of the plan was a well-organised road network. Existing radials in the city centre were used to connect the centre with the new garden suburbs. These suburbs were accessed by a rather orthogonal road network, which was more efficient in terms of accessibility and safety. The area in between the existing

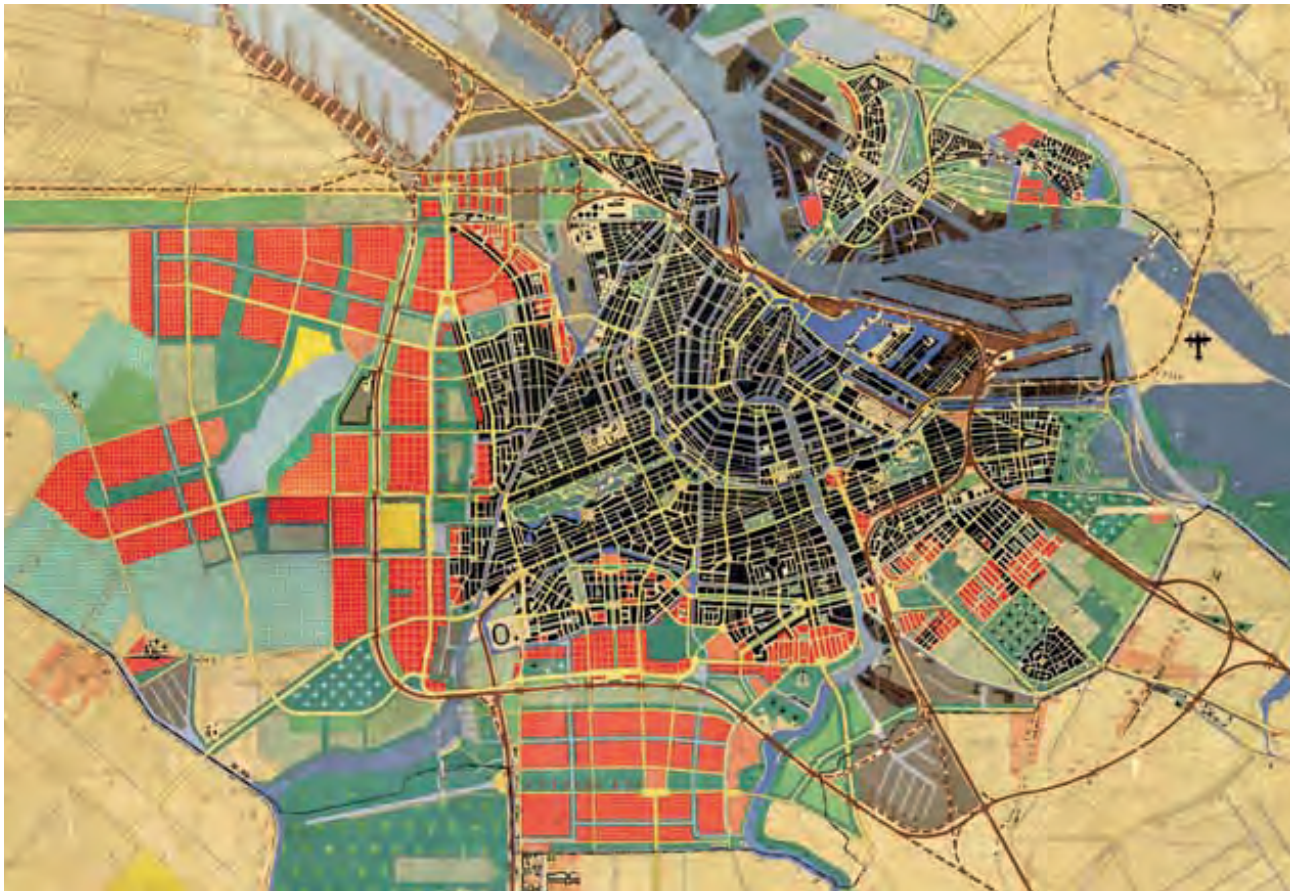


Figure 2.6. The General Expansion Plan of Amsterdam (in Dutch: Het Algemeen Uitbreidingsplan (AUP). The existing city is coloured black, whereas all the red blocks are newly planned expansion areas.

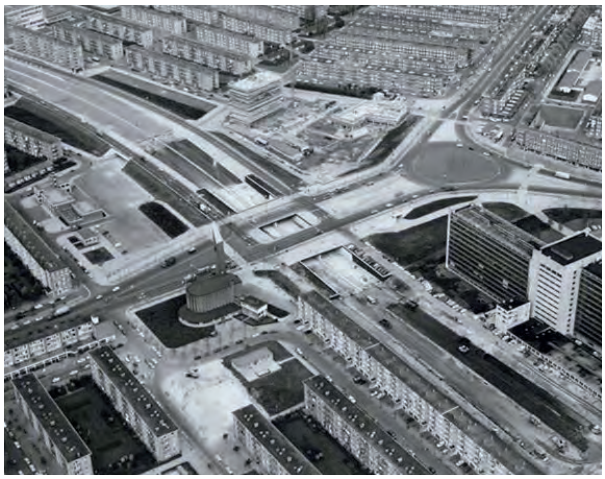


Figure 2.7. Construction of the ring road near Sloterdijk (Ring Noord) in 1968 (Gemeente Amsterdam Stadsarchief)

Figure 2.8. Construction of Bos en Lommerplein, 1968 (Ring West). This is the only part where buildings are used as sound barriers

city and the planned city was designed as an unbuilt green zone, which is now part of the Ringzone (Kloos *et al.*, 2010).

This zone gave the opportunity to connect the entire city of Amsterdam with the regional road network by introducing a ring road (BNA Onderzoek, 2017). The road was meant to ensure a good traffic flow in north-south direction. The first segments of the road were mentioned in the General Expansion Plan and were supposed to become part of a consistent parkway with harmonious urban integration (Kloos *et al.,* 2010). The design of the road, however, was entirely focused on the view from the road, using traffic speed as a metronome (BNA Onderzoek, 2017).

Revival of the ring: a consistent parkway?

Events in the past decelerated the implementation of the General Expansion Plan (BNA Onderzoek, 2017). Because of the economic crisis of the 1930s and the outbreak of the Second World War in 1940, the idea of the ring was only revived in the 1950s. By that time, Amsterdam's population had grown much faster than expected and the General Expansion Plan had to be adjusted (Kloos et al., 2010). The general consensus of the 1950s was that more space should become available for the increasing traffic volumes and more attention was being paid to traffic safety. Therefore, several east-west connections were raised in order to avoid intersections with local traffic, causing disintegration between social and functional networks in the city.

The General Expansion Plan only showed segments of the current ring road as a consistent parkway, but twenty years later this idea was translated into a new type of road for the Netherlands: the urban ring road (Kloos et al., 2010). Although Rijkswaterstaat (the Dutch Department of Public Works) preferred a strong national network of highways, the municipality of Amsterdam was much more interested in accessibility and traffic distribution over the various radials in the city. This led to a discussion about the location of the ring road, but both parties agreed in the end on the final location of the A10: the road was supposed to be constructed in the unbuilt zone of the General Expansion Plan and had to become section-free, leading towards to decision to construct an elevated ring road.

City and Ring as two autonomous systems

The A10 ring road was constructed in several phases: the first section opened in 1966 and the last section was completed in 1990 (Kloos et al., 2010). Due to the combination of the long construction time of the work, the rapid technological developments in mobility and the growth of the city, the ring segments are clearly distinguishable (BNA Onderzoek, 2017). Several parts are located on embankments, resulting in isolated city parts. The ring aimed to connect the city, but city and ring actually became two autonomous systems. The intention of Cornelis van Eesteren to create harmonious urban integration and a consistent parkway is thus far from reality.

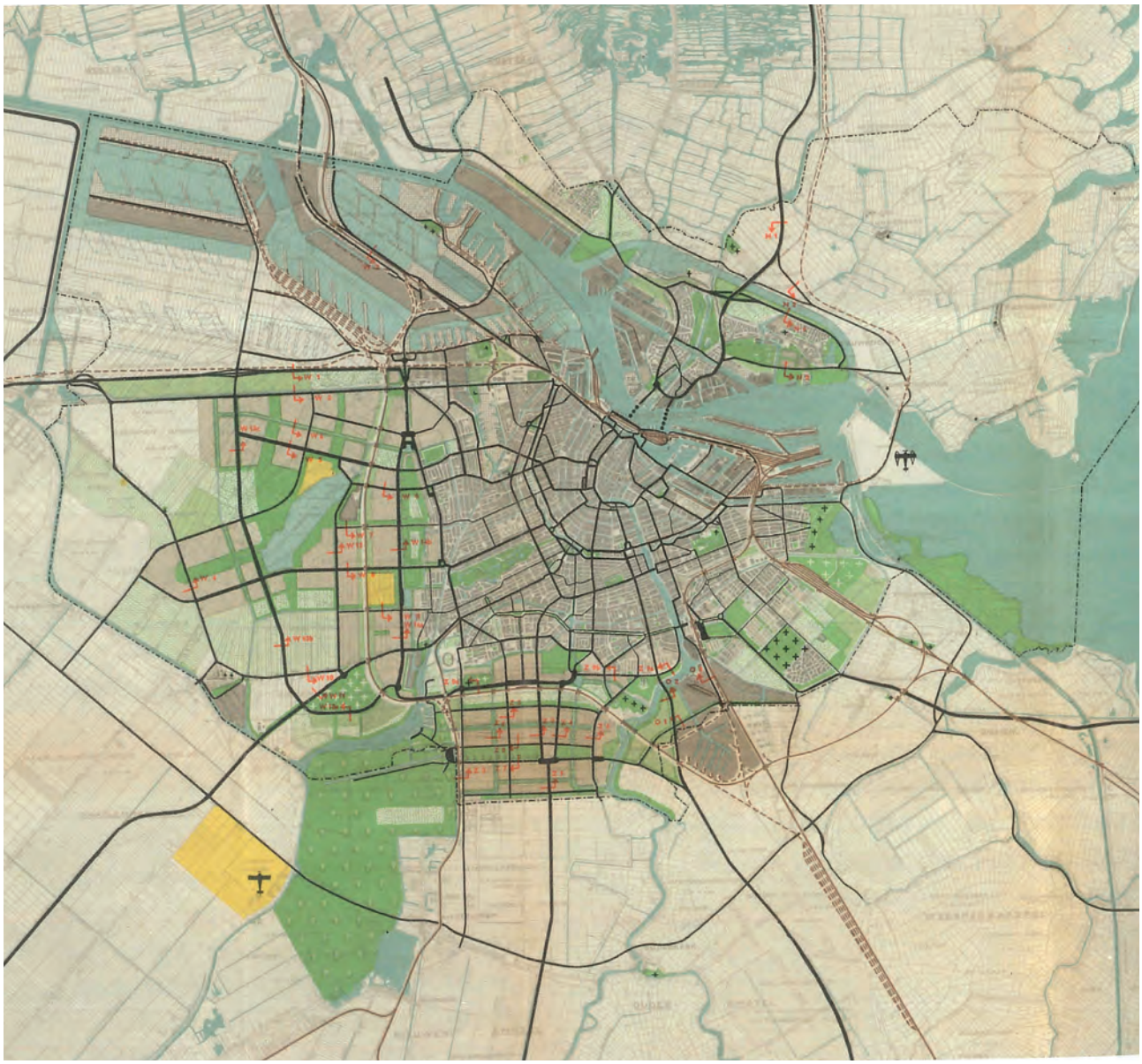
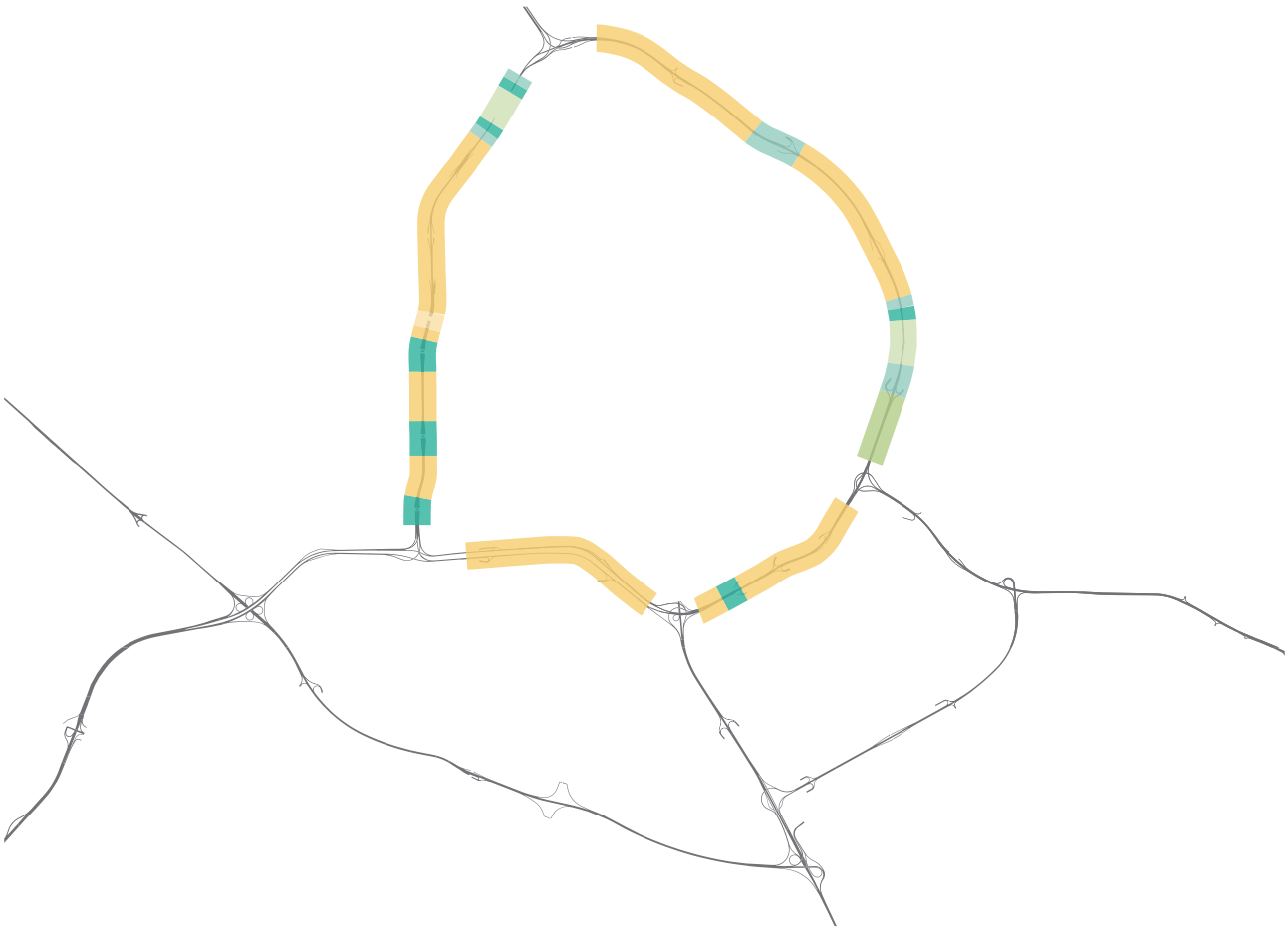


Figure 2.9. The main road network as designed in the General Expansion Plan of Amsterdam. The radials are supposed to connect centre and periphery (Van Eesteren Museum in Kloos, de Korte & Wendt, 2010)



dike
building as sound barrier
sunken with taluds
floor
stilts
tunnel

Figure 2.10. Ring segments.
Drawing based on Atelier Rijksbouwmeester, Hesen & West 8, 2013

"The intention of van Eesteren was to create harmonious urban integration between city and infrastructure and to create a consistent parkway. However, city and ring are now functioning as two autonomous systems and the ring consists of clearly distinguishable ring segments."

EMBANKMENTS

The ring road, with a length of 32 kilometers, is in most places located on embankments, causing a disconnection with the other networks in the city.

< Figure 2.11. The ring road near Bos and Lommer

TUNNELS

In almost all cases the ring road can be crossed by one of the tunnels that look highly unattractive and cause a feeling of unsafety.

< Figure 2.12. Crossing the Ring in Amsterdam West

BRIDGES

Only in a few cases it is possible to cross the ring road by making use of a bridge. However, most bridges are only accessible for cars and trams and not for pedestrians or cyclists.

< Figure 2.13. Crossing the Ring by one of the few bridges: Cornelis Lelylaan (Google Earth, 2017)

INTERMEZZO: THE *LOBBENSTAD*

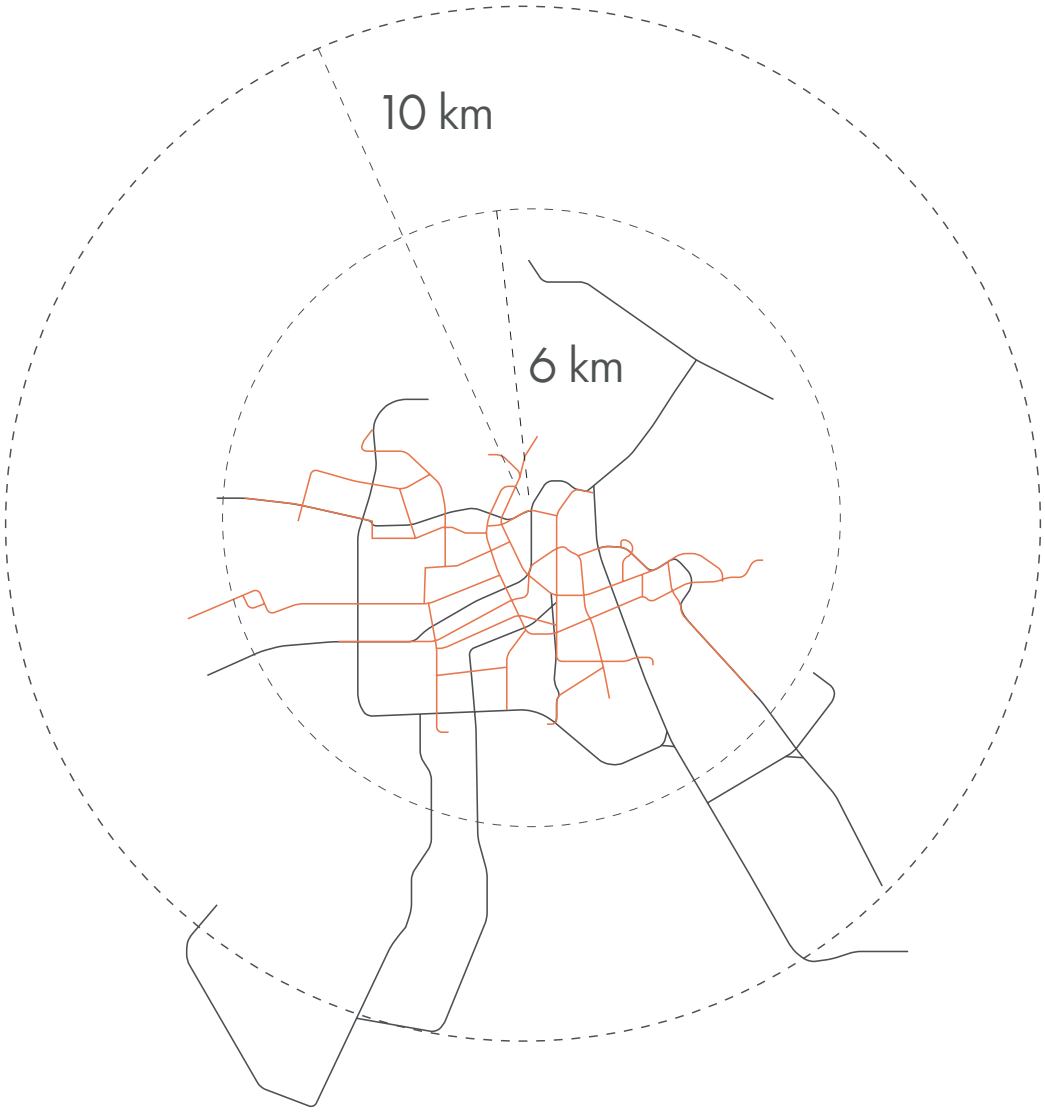
When discussing the urban integration in Amsterdam, it is important to realise that the Ring is actually located in between two spatial concepts: centralisation (centre) and decentralisation (periphery). Whereas Amsterdam's centre already followed the concept of centralisation, the General Expansion Plan meant the introduction of the opposite concept: decentralisation. This is strongly related to the scale of the plan and the size of Amsterdam at that time (de Hoog, 2005). The designers of the General Expansion Plan felt no need to design an expansion plan on a regional scale, as they still regarded Amsterdam as a compact city. By that time, Amsterdam only had a radius of 6 kilometers, which was indeed small enough to cover by bike or tram. The design of the new expansion areas, however, was inspired by the Garden City Movement. These areas were supposed to follow the concept of decentralisation. Compared to other Garden Cities in Europe, however, the ones added in Amsterdam did not have the required amount of jobs or amenities in order to function independently from the city centre. That is exactly one of the main challenges for Amsterdam: how to deal with a periphery designed as an independent part of the city, but depending on the centre in terms of jobs and amenities?

Although the General Expansion Plan does not mention the word 'lobbenstad' (finger city), Cornelis van Eesteren actually did create a 'lobbenstad' by adding the expansion areas as fingers to the existing city. The General Expansion Plan included a design for a well-organised road network, but an efficient public transport network that covered all areas of the city was still lacking (De Hoog, 2005). In fact, the metro network was only introduced in the 1970s and several parts of the expansion areas were not accessible by tram until the 1990s.

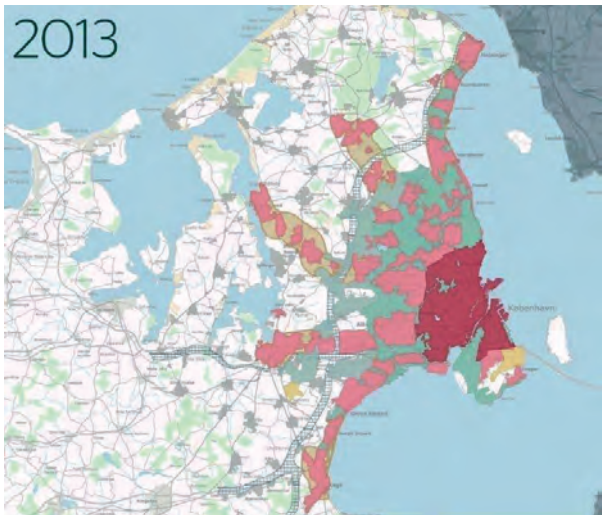
When comparing the expansion plan of Amsterdam to the expansion plans of other 'lobbensteden' (cities with fingerplans), there are remarkable differences. Cities like Hamburg, Kopenhagen and Stockholm can all be compared with Amsterdam, but these three cities all developed a coherent public transport network before WOII which actually covered all city parts. Moreover, these cities all expanded by adding new fingers or by creating new centres that were strategically positioned near public transport nodes for example (De Hoog, 2005). In fact, in these cities the public transport network played a leading role in structuring the expansions including new centres. Amsterdam, on the other hand, did not have such a public transport network and did not create new centres in the periphery that could change the role of the city centre as the centre of gravity. Therefore, the periphery today still heavily depends on the city centre, even without harmonious urban integration between centre and periphery.

Figure 2.14. Comparison of Amsterdam, Copenhagen and London and how these cities expanded. London has a green belt; Amsterdam and Copenhagen have a finger plan in which the green fingers cannot be touched.

> Figure 2.15. Drawing based on De Hoog, 2005



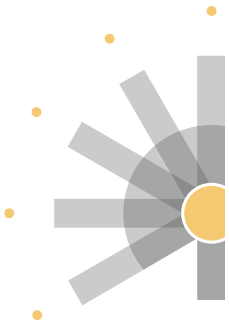
“The centre follows the concept of centralisation, whereas the periphery follows the concept of decentralisation. Contrary to other cities, such as London, the peripheral areas in Amsterdam are still strongly depending on the centre.”

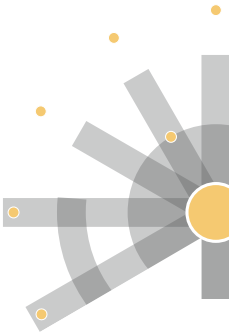


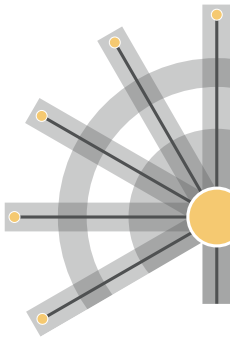
CASE STUDY: COPENHAGEN

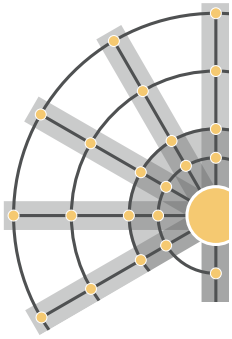
Copenhagen has a 'fingerplan', just like Amsterdam (de Hoog, 2005). Both cities are diverse and internationally oriented. However, they are also both much smaller than cities as London or Paris. The main difference regarding the urban development is that Copenhagen developed its public transport network (consisting of metro and trani) already before World War II. In the sixties and seventies Copenhagen expended and added new 'fingers' to the existing city. Moreover, the city chose to decentralise the central functions and to spread out the centrality. Facilities and jobs were situated along public transport nodes.

Figure 2.16. Finger Plan Copenhagen (Erhvervsministeriet, 2013)
Figure 2.17. Public transport network of Copenhagen (DSB)
Figure 2.18. Finger plan schemes of Copenhagen 1948 – 1989, based on De Hoog, 2005





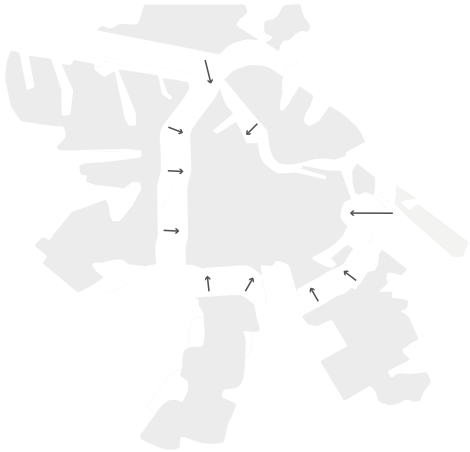


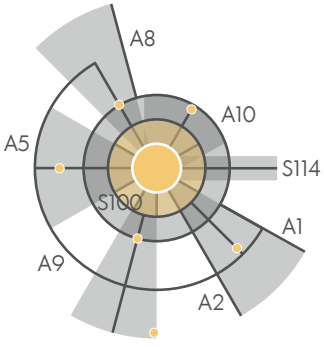


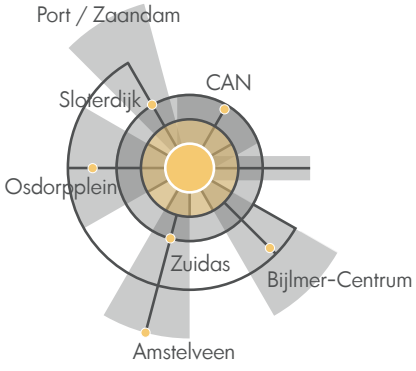
BACK TO AMSTERDAM

When comparing Amsterdam to Copenhagen the biggest remark is that Amsterdam does not have one public transport network covering all parts of the periphery. Whereas Copenhagen makes use of trains and metros driving every few minutes, Amsterdam has a much more complicated and less time-efficient system. Moreover, Copenhagen makes much better use of the place and node value.

In an early stadium Copenhagen chose for decentralisation. Amsterdam is, however, known for a strong orientation towards the city centre. The Zuidas proved that it is possible to change the orientation in the city, but the question for Amsterdam as a whole is: can we create continuity between centre and periphery in order to change the strong orientation towards the centre into orientation towards both centre and periphery?







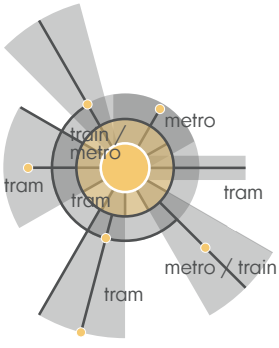


Figure 2.19. Public transport network Amsterdam (GVB, 2018)
Figure 2.20. The periphery still depends on the city centre
Figure 2.21. The center of gravity is being shifted towards the Zuidas
Figure 2.22. Amsterdam according to Fingerplan schemes of Copenhagen: there is much more complexity regarding nodes and paths

Figure 2.23. Amsterdam's city centre (Camping Zeeburg, 2018)

Figure 2.24. Amsterdam's Ringzone (Timar, 2014)

Figure 2.25. Amsterdam's Ringzone (Swart, 2013)

Figure 2.26. Street in the centre (Brante)

Figure 2.27. Street in the Ringzone

Figure 2.28. Street in Amsterdam Nieuw-West (Google Earth)

CENTRE

spatial concept: centralisation
density: compact
type of grid: fine grain

RINGZONE

spatial concept: decentralisation
density: spread-out
type of grid: coase grain

PERIPHERY

spatial concept: decentralisation
density: spread-out
type of grid: coase grain

CONTINUITY OF THE TANGIBLES AND INTANGIBLES

The construction of the Ringzone and the introduction of new spatial concepts meant a break with the past. When looking at Amsterdam today, the urban layout of the Ringzone and the presence of two contrary spatial concepts give reason to question the continuity of both the tangible and intangible structures in the city. In particular infrastructure plays a significant role here, when regarding the emergence of cities as a consequence of networks (Jacobs, 1969). The General Expansion Plan paid attention to the radials in order to create a certain kind of continuity of existing structures, but when analysing the different structures on various scales it is easy to notice the contrast between the structure of Amsterdam inside the Ring and Amsterdam outside the Ring. The radials seem to provide mainly a movement continuity, whereas the experiential continuity is much harder to find.

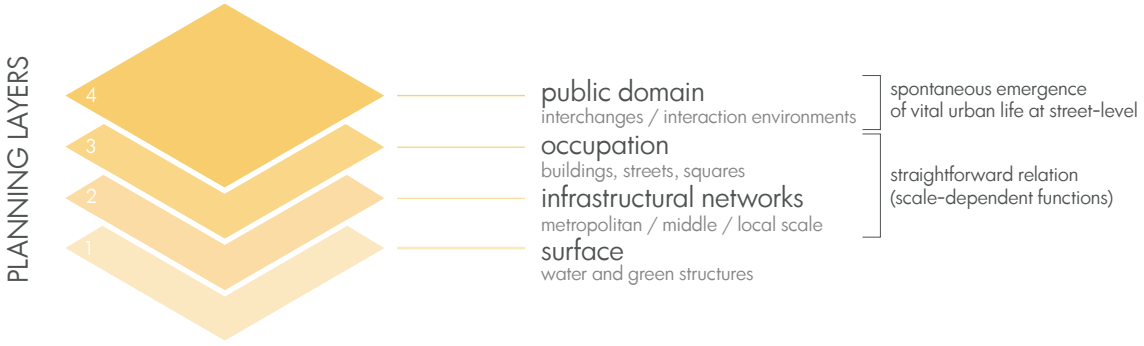
In order to research the continuity of the tangibles and intangibles, we follow the Dutch planning practice by understanding the urban landscape as a system of layers: the first being the surface (ground and water), the second layer consists of infrastructural networks, the third layer can be summarised as 'occupation' (buildings, streets, squares). According to a proposal of De Hoog (2005), we could add a fourth layer of the public domain, consisting of the places that are already producing urban life (Read *et al.*, 2007). Moreover, De Hoog points out that each of these layers has its own rhythm: the first layer develops with an extremely low speed, whereas the third layer changes much more frequently (De Hoog, 2005).

The analysis aims to explore these layers in Amsterdam with an emphasis on the second, third and fourth layer, since the starting point of this thesis is the relationship between city and infrastructure.

Secondly, the analysis aims to explore the relationship between the different layers in order to understand the spontaneous emergence of vital urban life (Read *et al.*, 2007). In particular the spatial conditions created on the layer of infrastructural networks have a significant impact on vital urban life. By following these layers, the continuity of both the physical and non-physical structures will be addressed. Moreover, the analysis takes the continuity on various scales into account, by making use of the three scale-levels as proposed by the method of space syntax.

Identification of three scale-levels of movement

Starting with the layer of infrastructural networks, the entire city region can be separated into three scales of movement: city-region (metropolis), city and neighbourhood (Read, 2009). With this method, all scales of infrastructure are being taken into account. This can be taken one step further by stating that cities are "layerings of infrastructures" (Read & Gil, 2012, p. 3). Each of the scale-levels of movement has its own grid and therefore its own characteristics. The first step is to identify these grids in Amsterdam and to analyse the movement and experiential continuity of each grid. By taking all grids together, we can get an understanding of the end-product: vital urban life. It is thus important to look at the layers separately and explore the co-relations between the layers.



CONTINUITY OF MOVEMENT

identification of the three scale-levels

THE METROPOLITAN-SCALED GRID

Whereas the morphological growth of Amsterdam first followed a concentric outwelling, by mid-century the city started to 'explode' into its periphery (Read & Bruyns, 2007). The landscape around Amsterdam was being transformed and the functional unit of the city was no longer the centre itself, but the metropolitan region or perhaps even the entire Randstad.

This means there was a need for a strong metropolitan grid as well: today the highways and the ring road of Amsterdam belong to the metropolitan grid. Especially the ring road plays a key role here, as it connects the lower scaled grids with the other roads in the metropolitan network. The ring road distributes traffic and has lanes for both through traffic and local traffic.

When looking only at the metropolitan-scaled grid, one would say the entire area inside the ring road of Amsterdam belongs to the city centre. The metropolitan-scaled grid shows an outward orientation.

< Figure 2.34. The ring road of Amsterdam as part of the metropolitan- scaled grid.

THE MIDDLE-SCALED GRID

The primary network for getting around the city is called the middle-scaled grid, or 'supergrid'. This is thus the second layer in the hierarchical structure of movement and functional patterns and connects the different city parts into a coherent urban whole (Read & Gil, 2012). The supergrid connects the main streets and overlays the street and block gird of the dense urban fabric of Amsterdam's centre. That means that the supergrid is also specialised for longer scale movement in the space of the city (Read, 2001).

In axial maps the supergrid network stands out as a network of longer axial lines at a grid scale several times larger than the local grid. Moreover, the grid carries all traffic at a range higher than the local grid (Read, 2009). Public transport, in particular the tram network, follows the supergrid as well.

If this network works properly, it integrates all significant places in the city (Read & Gil, 2012). The middle-scaled grid plays a crucial role in the creation of public domains in the city, as the streets belonging to the middle-scaled grid are often the streets where the daily urban systems of people from different neighbourhoods meet each other. When looking at the map of the middle-scaled grid and comparing that one with the map of the metropolitan-scaled grid, one could say the orientation of the middle-scaled grid is turned inwards. That means the definition of the city centre changes as well: the centre is no longer the entire area inside the ring, but the roads are all oriented towards the canal district.

< Figure 2.36. One of the radials in Amsterdam as part of the middle-scaled grid

THE LOCAL-SCALED GRID

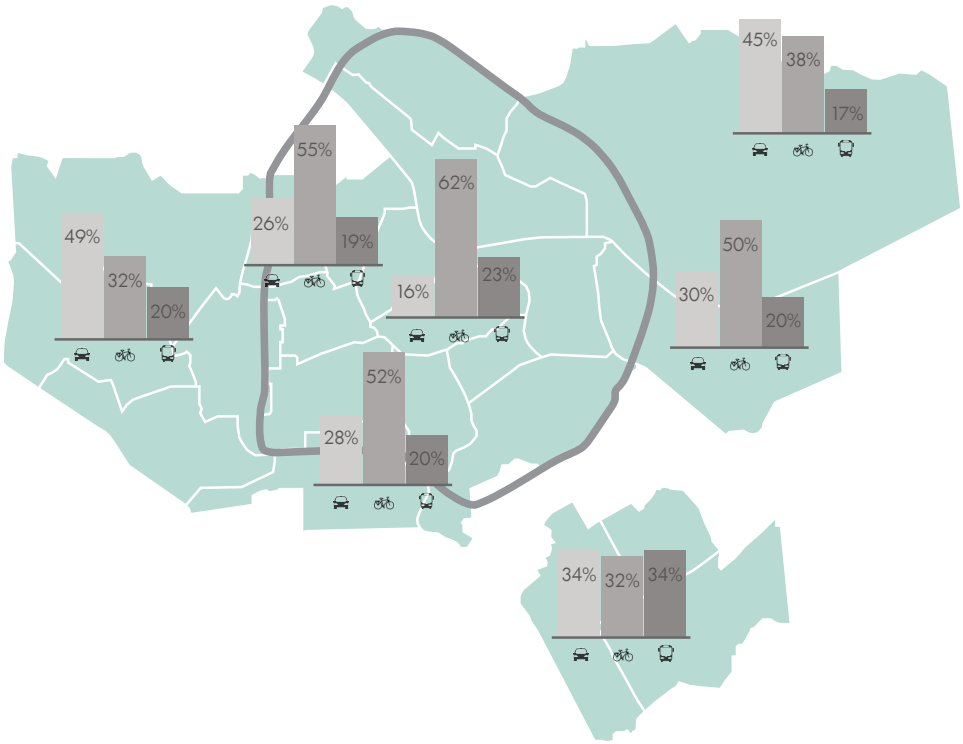
The basic street and block grid can be defined as the local-scaled grid (Read & Gil, 2013). It is a fine-grained network and reflects the neighbourhood role. The streets are mainly used by local traffic and slow traffic is often dominant. Whereas the middle-scaled grid connects neighbourhoods, the local-scaled grid connects buildings and other facilities within the neighbourhood.

When moving from centre towards periphery the interconnectivity between the middle-scaled and local-scaled grid diminishes, which means that the grid becomes less fine grained and distances between streets become larger.

The interconnectivity between the middle-scaled grid and the local-scaled grid is crucial to study, as the occupation of public space in local areas is affected by the way the middle-scaled grid distributes itself (Read, 2001). Apparently, people tend to go to the shallower spaces locally instead of going to the deeper spaces in the neighbourhood. This can be explained by the fact that the shallower spaces locally are better connected to the middle-scaled grid and thus to the larger scale of the city. As a consequence, these places will generally be more used.

Therefore, it is important to consider local spaces in relation with the middle-scaled grid. Spaces that are shallow and integrated with the middle-scaled grid can serve people from adjacent neighbourhoods, but also people who access the space via the middle-scaled grid (Read, 2001). That means that with certain conditions there are opportunities to let the local and wider city-scales overlap.

< Figure 2.38. A local street in one of Amsterdam's neighbourhoods as part of the local-scaled grid



HOW TO CROSS THE RING

In the General Expansion Plan Cornelis van Eesteren aimed to create continuity by extending the existing radials. A part of these radials are now called S-routes ('city routes') and play an important role in the distribution of traffic. Moreover the S-routes connect the different rings of the city with each other. Switching from the metropolitan-scaled grid (the Ring) towards a lower-scaled grid can only happen by making use of one of the S-routes. Therefore, the S-routes can be regarded as the entrances of the city as well. Last but not least, all S-routes lead the traveler towards to city centre and so the map shows a strong focus on the city centre. By bringing all traffic to the city centre, the centre automatically becomes the center of gravity.

Whereas the S-routes cover almost the entire surface of Amsterdam, this is not the case with all other networks. For the movement continuity it is not only relevant to look at the metropolitan-scaled, middle-scaled and local-scaled grid, but also at the public transport networks. The combination of the layout of these networks with the interconnectivity between the different grids results in a higher use of certain transport modes.

For example, the tram network follows the middle-scaled grid, but only at a few places the lines cross the Ring. When moving from Amsterdam-West towards the centre it is possible to use the tram. However, the walking distances towards the tram stops are too long in Amsterdam-West and the tram covers not the entire area. Moreover, the interconnectivity between the local-scaled grid and the middle-scaled grid diminishes when moving from the city centre towards the periphery and so we can understand the statistics. The lack of a good public transport network and the large distances together make people want to use their car rather than taking their bike or the tram.

When looking at the statistics, it is obvious to see that in all parts outside of the Ring there is a higher percentage of car use.

Figure 2.40. Statistics on the different modes of transport (car, bicycle / walking, public transport) used in each part of the city.

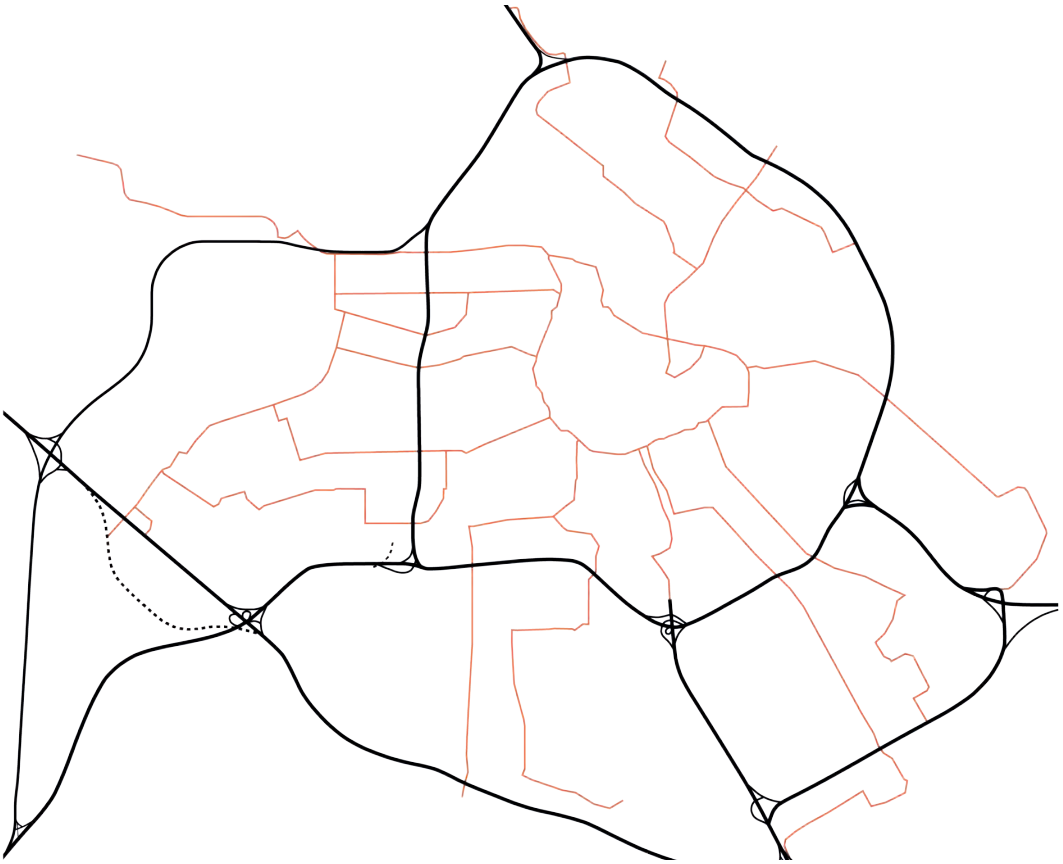


Figure 2.41. radials

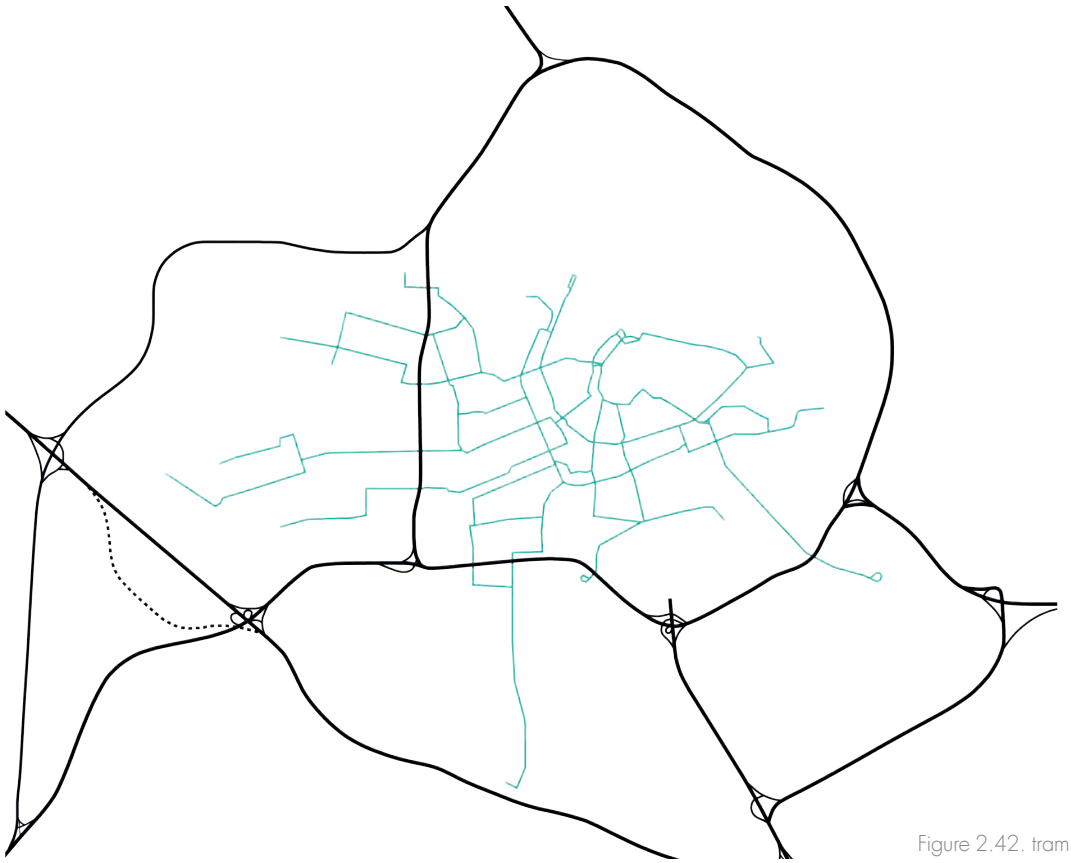
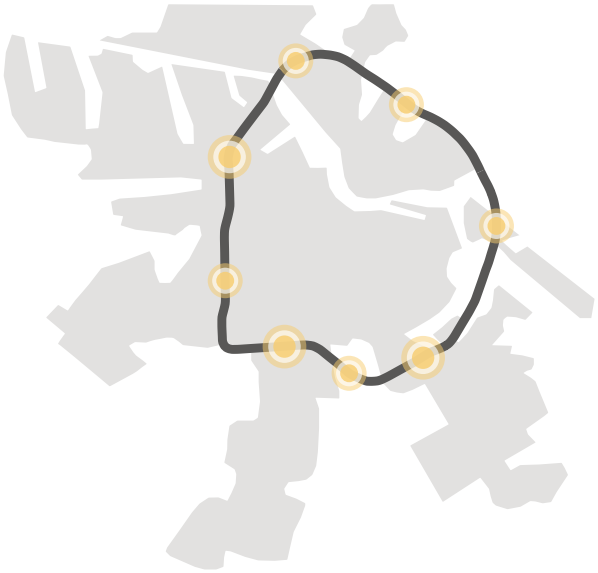


Figure 2.42. tram network



When looking at the train network and the location of train stations it is remarkable that a part of the network follows the ring. It is therefore easy to travel from the western part of Amsterdam towards the southern or south-eastern part of the city. However, it is much more difficult to go from the southern part of the city to the eastern part of the city by train.

The map of the metro network on the next page shows that the metro network follows the Ring on the western and southern side as well. Moreover, the metro network covers the south-eastern part of Amsterdam where the original design took walking distances into account.

The map includes the brand new North-South line as well, which is a metro line that cross the IJ water and connects the northern part of Amsterdam with the city centre and the Zuidas. Despite this new metro line, the capacity of the public transport network will be too low. In 2024 the public transport network will need to transport more than 1 million travelers per day (Duursma & Verlaan, 2017).

Taking all the transport networks together, one can conclude that Amsterdam has a different network for almost each of its 'fingers'. The western part is covered by the tram network, the southern part has a special fast tram connection to Amstelveen in southern direction, the south-eastern part is covered by the metro network and the islands in the IJ water (IJburg) have their own tram as well. Until recently the northern part did not have a public transport connection with the other parts of Amsterdam, except for buses and the ferry. With the North-South line a much faster connection has been realised.

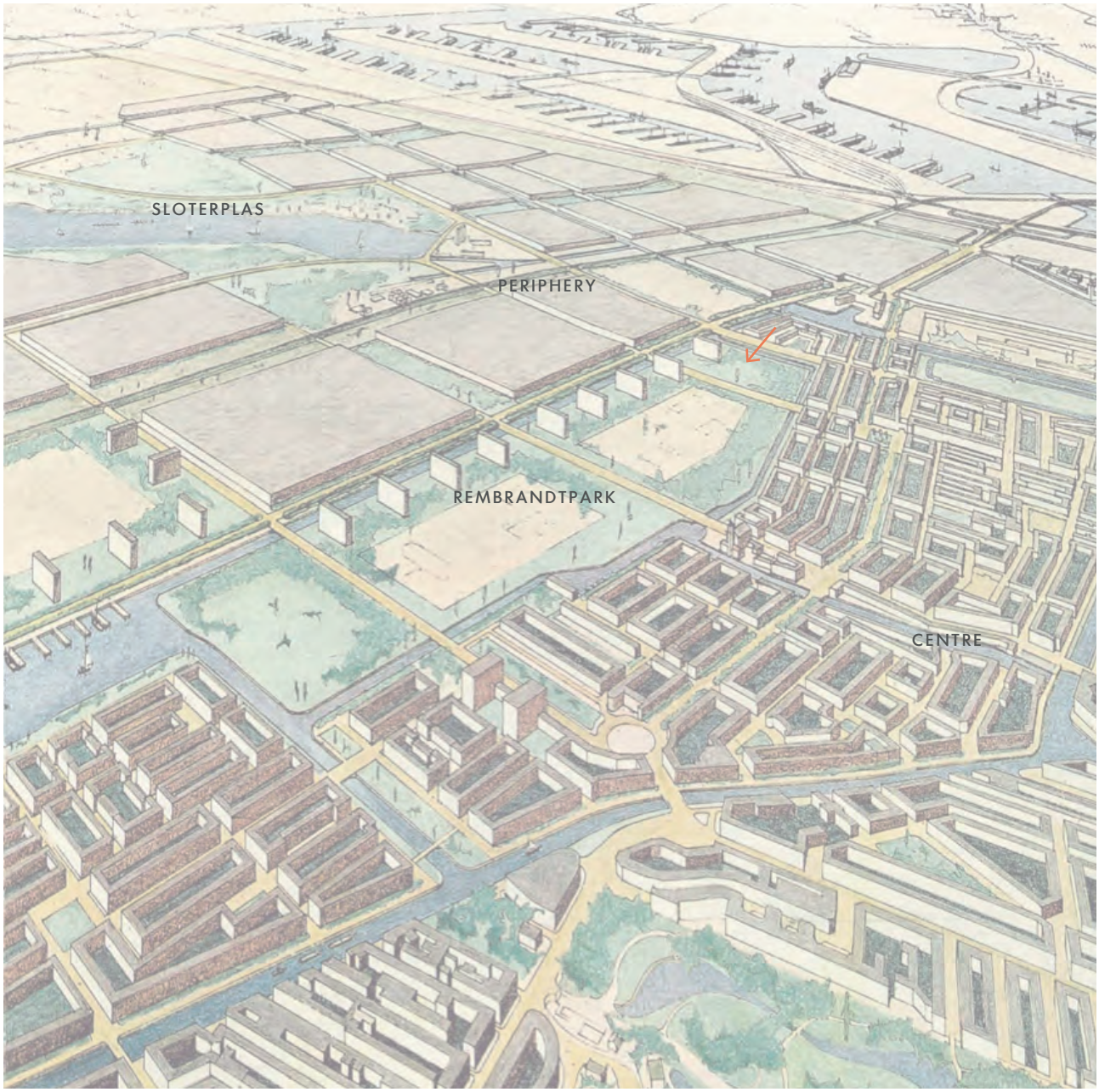
When moving from one part of the city towards the other, one must switch from public transport mode. Moreover, it is in most cases not possible to stay in the periphery when one wants to move from one city part outside of the Ring towards another city part outside of the Ring. People are almost forced to cross the Ring. There are, however, enough stations near the ring road, which raises the question why these are not better used as transport hubs in order to relieve the city centre.

Figure 2.45. Amsterdam has different public transport systems for almost each part of the city, making it more difficult to move from one part to the other.

Figure 2.46. On a few places the Ring is being crossed by public transport lines, which means there is a potential to create a hub where people can get out of their car and switch to public transport.

CONTINUITY OF EXPERIENCE

moving from centre towards periphery along the Jan Evertsenstraat



CENTRE

spatial concept: centralised
density: compact
type of grid: fine grain

When moving along the Jan Evertsenstraat from centre towards periphery, we notice that there is a continuity of movement (there is space for cars, tram and slow traffic) but the pictures along the way still show a discontinuity: the experiential discontinuity.
The Jan Evertsenstraat in the city centre has a symmetric profile, lots of street activity and active plinths. The street is narrow and there is almost no greenery.

RINGZONE

spatial concept: decentralised
density: spread-out
type of grid: coarse grain

Near the Ringzone, the compact urban fabric of the city centre suddenly changes and instead the fabric becomes chaotic. One needs to cross a bridge in order to enter the Ringzone. The Ringzone consists of buildings with large footprints oriented towards the Ring. The Ring itself can be crossed by using a tunnel.

PERIPHERY

spatial concept: decentralised
density: spread-out
type of grid: coarse grain

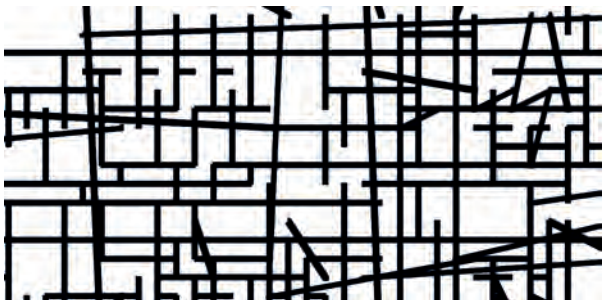
Eventually, when entering the periphery, the streets become assymmetric with buildings on one side and greenery on the other side, reflecting the ambivalence of the proximity of the landscape and the city. Moreover, the streets are wider and are dominated by cars. Buildings are often not oriented towards the street and there is some distance between the buildings and the street itself.

Figure 2.52. Oxford Street, London (ITV, 2017)

Figure 2.53. Avenues des Champs Elysesees, Paris

CENTRE

> compact, centralised, fine grain
> more connections between the local-scaled and middle-scaled grid
> suitable for slow traffic (pedestrians / cyclists)
> overlayered by public transport networks (tram)



PERIPHERY

> decentralised, coarse grain
> less connections between the local-scaled and middle-scaled grid
> dominated by cars

DICHOTOMY ON THE AXIAL MAP

The case of the Jan Evertsenstraat clearly shows that a continuity of movement does not mean a continuity of experience at the same time. In order to understand why this changes, it is necessary to make a comparison between the organisation of centrality in the city centre and in the periphery.

Therefore, we first have to take a look at the axial map of Amsterdam. It is easy to see that the middle-scaled grid and the local-scaled grid have more connections in the centre than in the periphery. In other words, when moving from centre to periphery, the middle-scaled grid and the local-scaled grid start to disengage from each other and the amount of connections diminishes. Moreover, the organisation of centrality changes. In the periphery centrality does almost not take place on the streets anymore, but in self-contained pockets', which will be explained on the following pages. (Read, 1998).

On the larger scale, the difference in organisation of centrality has consequences for the axes in the city. In comparison to London and Paris, Amsterdam has fewer long highly integrated spaces (Read, 1998). Whereas London and Paris are famous for streets like Oxford Street in London or one of the many boulevards in Paris, the radials of Amsterdam do not have a similar status.

This is an important conclusion as these integrated spaces play a crucial role in the continuity of the city. Oxford Street in London and the Champs Elysees in Paris "provide a global scale reference and orientating function, often connecting and integrating and making coherent, in terms of the global whole, quite widely separated parts of those cities" (Read, 1998, p. 252).

Areas where the middle-scaled grid and the local-scaled grid are well-connected are more popular by slow traffic and by public transport. This is visible in Amsterdam as well, as the city centre is very popular by pedestrians, cyclists and the tram. The tram network actually covers almost the entire city centre and only a few lines cross the Ring.

Whoever does take the effort to cross the Ring, enters an area where there are less connections between the middle-scaled and the local-scaled grid. The area is characterised by larger distances and so people tend to use cars. This is all visible in the statistics of mobility in Amsterdam as well.

ORGANISATION OF CENTRALITY

The map on the left shows all the residential areas in Amsterdam. The city centre is compact and centralised, which is visible on the map. In particular the historic centre could be characterised by proximity and contiguity (Read, 2001). There is a high density of people and activities, and the different scaled grids connect places with one another. Neighbourhoods overlap and the radials, belonging to the middle-scaled grid, cross the neighbourhoods. In fact, the radials function as high streets in this area. Centrality happens on the streets, reflected by the amount of street activity and the active plinths with all kinds of shops and other activities.

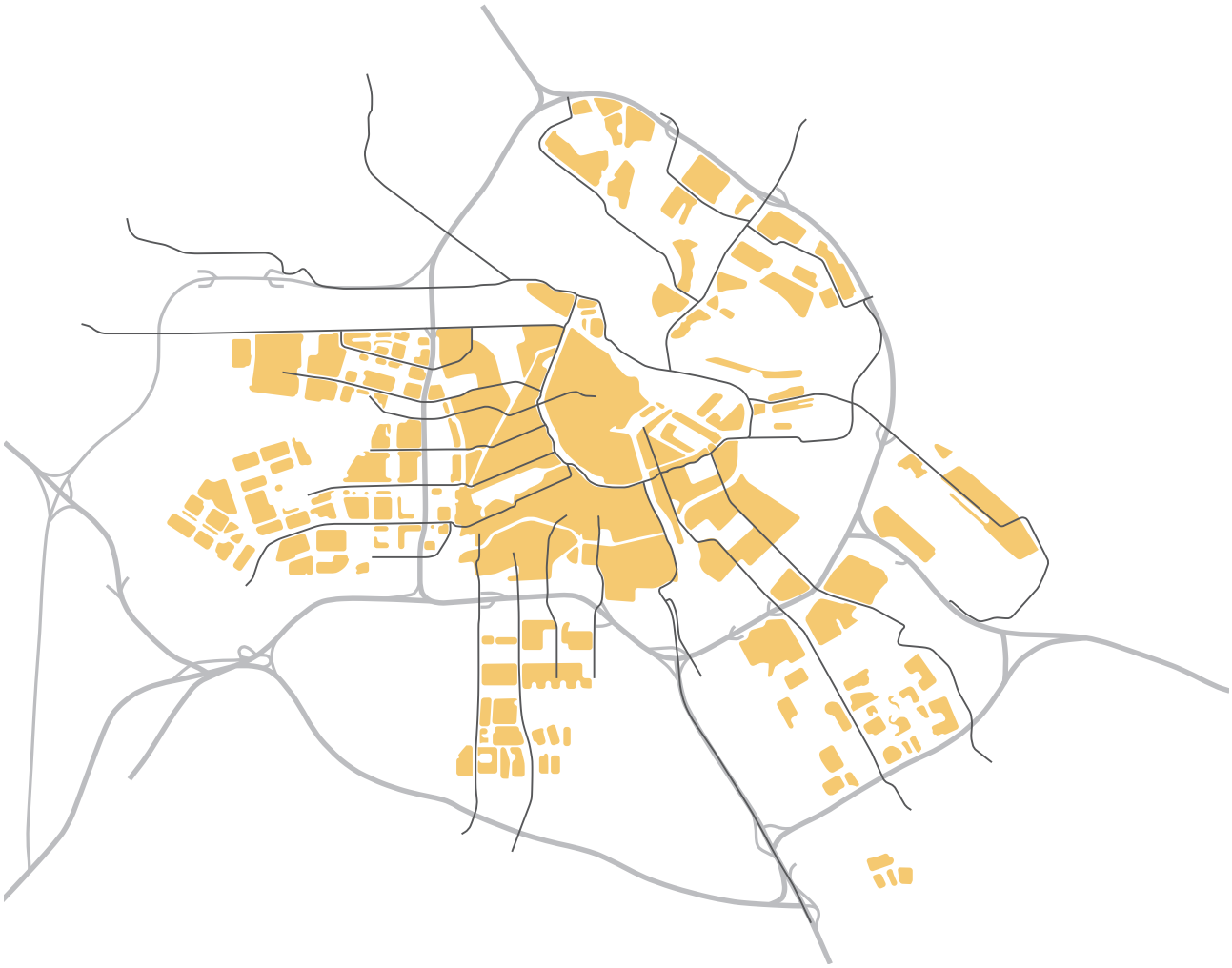
When entering the Ringzone there is a change in the organisation of centrality. Relationships between scales and activity patterns therefore change as well (Read, 2001). It happens no longer on the high streets, but in clusters nearby the high streets. The high streets therefore change into high speed traffic arteries. The mobility patterns in the periphery are still directed towards the city centre, which is expressed by the radials, but there is no longer the dense and integrated experience of the city centre.

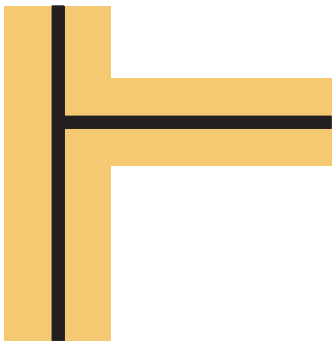
This has consequences for the public domain as well. In the centre the middle-scaled grid (high street) is where shopping and facilities concentrate (Read, 2001). That means there is a hierarchy in the street network. Consequently, people come here for activities on a daily basis. The streets are marked by co-presence of immediate neighbours and people from outside the neighbourhoods. Therefore, the high street is where different social and cultural worlds overlap.

When crossing the Ringzone, the public domain changes. Neighbourhoods become more socially and cultural homogeneous (Read, 2001). Simultaneously, the high street changes into a traffic artery and is no longer the place allowing different worlds to overlap. Social and commercial activities tend to become segregated and are being clustered outside the neighbourhood. Relationships become more distantiated as well.

Moreover, the city centre is marked by the richness of connection between the different scaled-grids and overlapping worlds. The periphery is rather marked by a thinness of experience of the public space, caused by the lack of this richness of connectedness and co-presence (Read, 2001).

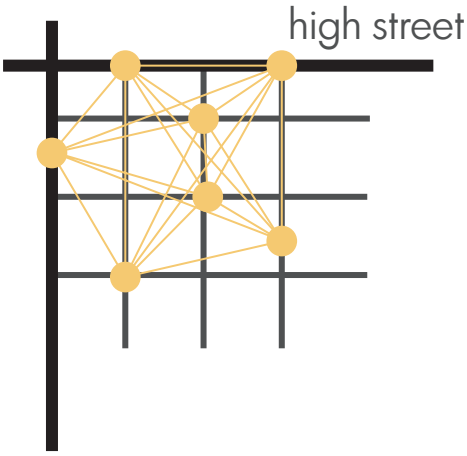
> Figure 2.56. Organisation of centrality: from integrated streets towards self-contained pockets





CENTRE

> centrality on the streets
> street-level activity visible on the middle-scaled streets
> middle-scaled streets function as public domains



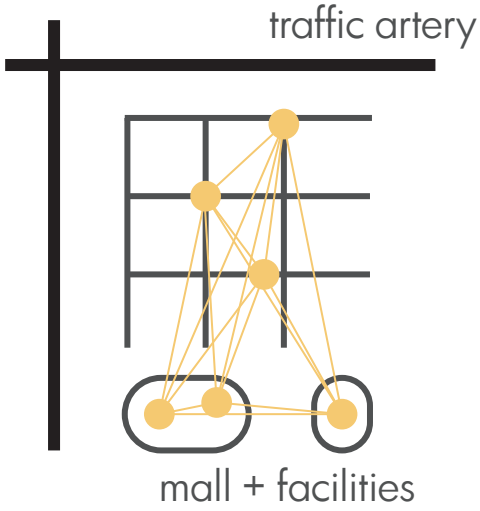
CENTRE

> streets belonging to the middle-scaled grid function as high streets
> street-level activity visible on the middle-scaled streets
> middle-scaled streets function as public domains

Figure 2.58. Drawing based on Read, 2001

PERIPHERY

> centrality in self-contained pockets
> no / less street-level activity visible on most middle-scaled streets
> middle-scaled streets do not function as public domains



PERIPHERY

> centrality in self-contained pockets
> no / less street-level activity visible on most middle-scaled streets
> middle-scaled streets function as traffic arteries
> culturally and socially homogeneous neighbourhoods
> segregated facilities

Figure 2.60. Drawing based on Read, 2001

NON-RESIDENTIAL FUNCTIONS - LOCATIONS OF CENTRALITY

The map above shows the locations of all non-residential functions in Amsterdam. Two areas are marked by squares, one in the centre and one in the periphery. When comparing these squares it is easy to see that in the city centre we can follow the street pattern, but in the periphery it is much harder to follow the street network. This is strongly related to the organisation of centrality, as explained on previous pages. In the city centre activity concentrates on the streets, giving the street the feel and look of an high street. When crossing the Ringzone, this changes and activities are clustered next to the roads. It is therefore much harder to figure out where all streets are located, but the clusters are more easy to see.

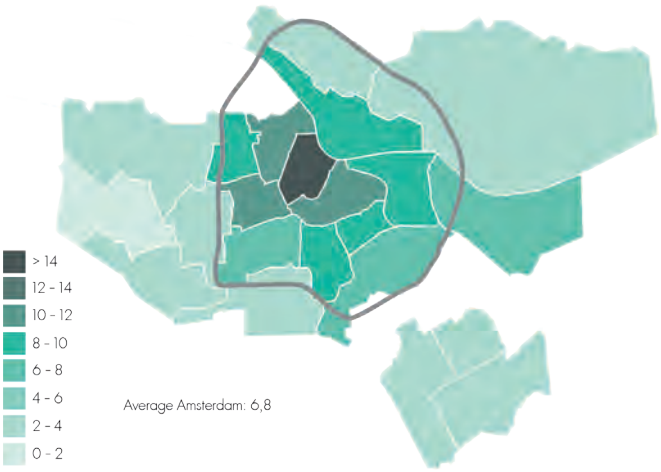
Figure 2.61. Location of non-residential functions. The streets are easy to recognise in the centre, but not in the periphery.

The three diagrams on the right page show the amount of shops, cultural amenities and cafes and restaurants per 1000 residents. In all three cases it is easy to see that the city centre has a much higher density than the areas in the periphery. That means the city centre offers better spatial conditions for the generation of streetlife and small-scaled activities as well. The periphery is less attractive for these facilities and so it is a challenge to change the spatial conditions in the periphery in order to stimulate the spontaneous emergence of streetlife.

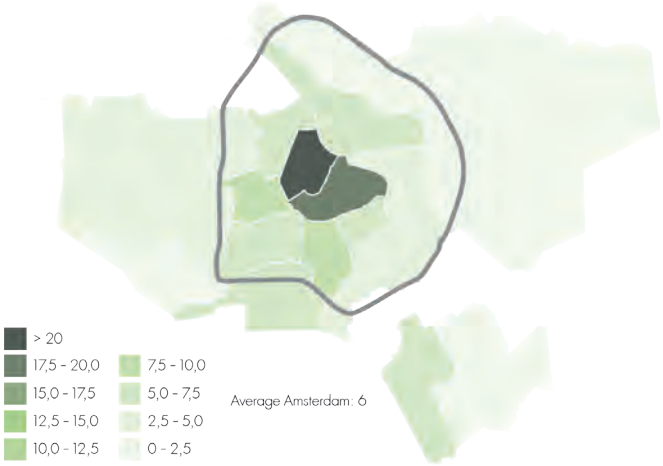
Figure. 2.62. Cultural amenities

Figure 2.63. Cafes and restaurants

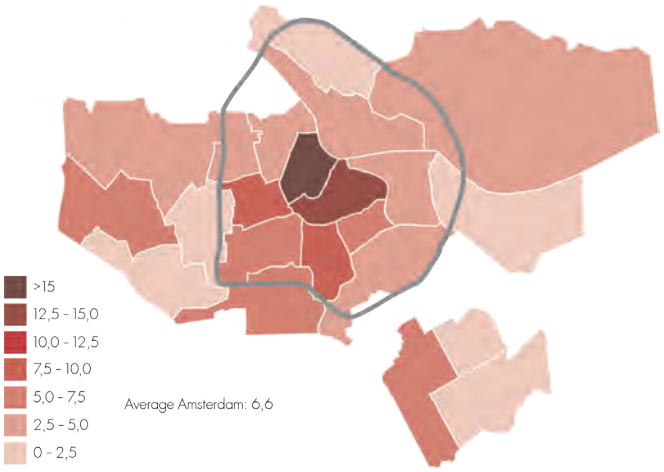
Figure 2.64. Shops



Amount of cultural amenities per 1000 residents (OIS Amsterdam, 2017)



Amount of cafes and restaurants per 1000 residents (OIS Amsterdam, 2017)

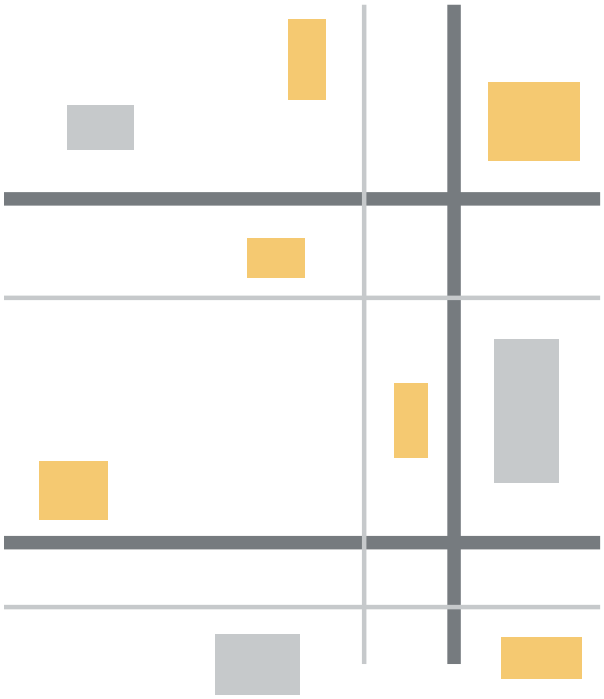


Amount of shops per 1000 residents (OIS Amsterdam, 2017)

CENTRE - LEIDSEPLEIN

The urban fabric in the centre is structured around the relationship between the middle-scaled grid and the local-scaled grid. This structure is expressed in a concentration of functions serving the middle scale and local scale directly on or in relation to the middle-scaled grid. Squares are located directly along the streets and preferably on a crossing of the local-scaled grid and the middle-scaled grid.

The Leidseplein in the centre is a good example: the map shows how the street actually crosses the square and so activity is automatically brought to the square. Moreover, the different scales overlap here, which means the square can function as a public domain.



PERIPHERY - AUGUST ALLEBEPLEIN

The periphery shows a disengagement between the middle-scaled and local-scaled grid. There is a much stronger hierarchy between the different grids as well. Middle-scaled grid streets function as traffic arteries and local-scaled grid streets are often parallel streets. Activity does not happen directly on the streets, but is concentrated in clusters and often separated from residential neighbourhoods as well.

Squares are distantiated from the grids as well and not located on pedestrian or cycling routes. Hence, it is more difficult to find the square if you are an outsider and activity is not brought automatically to the square. The August Allebeplein is a good example. Different worlds do not overlap here and so the square does not function as a public domain.

CO-RELATION OF MOVEMENT AND FUNCTIONAL PATTERNS

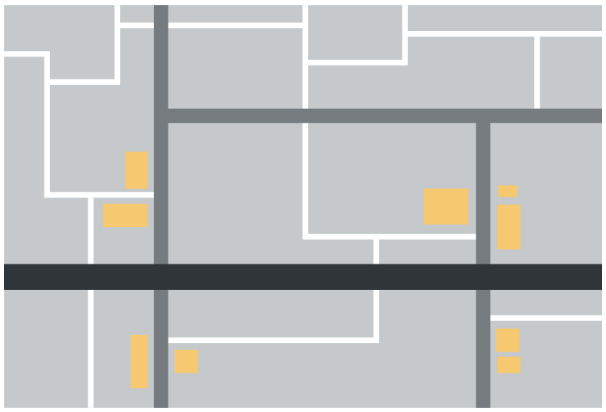
"Infrastructures are much more than providing accessibility, but are actually networks of interrelated places and the objects aligned on these networks" (Read & Gil, 2013, p. 2). Hence it makes sense to assume that there is co-relation between the layer of infrastructural networks and the layer of occupation. The organisation of centrality already demonstrated this co-relation. However, there is a more straightforward co-relation to find: the co-relation between movement and functional patterns. When looking at the metropolitan-scaled grid, one will find functions that are in co-relation with the movement particular to the metropolitan-scaled grid (Read & Bruyns, 2007). Functions like head-office clusters, congress centres, hospitals and industrial parks are all metropolitan-scaled. However, these functions can be found on middle- or local-scaled grids that are more or less directly attached to the metropolitan-scaled grids. On the middle-scaled grid one will find middle-scaled functions as well, such as clusters of specialised shops, employment agencies. These functions are located at middle-scaled grids or at the local-scaled grid when there is a direct attachment to the middle-scaled grid. On the local-scaled grid there is a co-relation with local-scaled functions, such as bakers, supermarkets or corner-shops. These functions are located at local-scaled grids.

Understanding this co-relation helps to explain the sudden changes in the urban layout, such as in the Jan Evertsenstraat (Read & Bruyns, 2007). There is a discontinuity of street-edge functions and streetlife, because of the presence of the metropolitan scale. The ring road belongs to the metropolitan-scaled grid and attracts metropolitan-scaled functions. Most of these buildings, such as hospitals and World Fashion Center, have a large footprint and are oriented clearly towards the ring road. These functions are closed to the middle-scale and add very little to street level activity on the middle- and local-scaled grids. In fact, the metropolitan-scaled grid in combination with the metropolitan-scaled functions generate a grey zone between centre and periphery. Whereas the General Expansion Plan was supposed to lead towards harmonious urban integration, the opposite is visible in Amsterdam today.

Figure 2.71. Metropolitan-scaled function: a hospital near the A10 ring road. The hospital can be accessed by the middle-scaled and local-scaled grid.

Figure 2.72. Middle-scaled function: specialised shops along the middle-scaled grid.

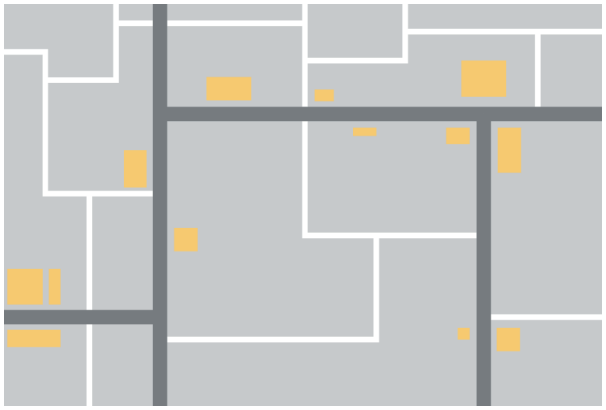
Figure 2.73. Local-scaled function: neighbourhood shops along the local-scaled grid.



METROPOLIS

Metropolitan-scaled grid:
> metropolitan-scaled functions:
head-office clusters, hospitals, industrial parks, congress centres, stadiums, etc.

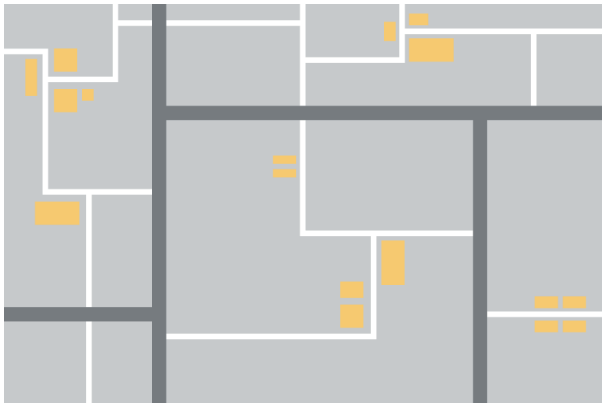
> located at middle-scaled grids / local-scaled grids that are more or less directly attached to metropolitan-scaled grid



CITY

Middle-scaled grid:
> middle-scaled / city-scaled functions:
employment agencies, cluster of shops, flooring / carpet shop, etc.

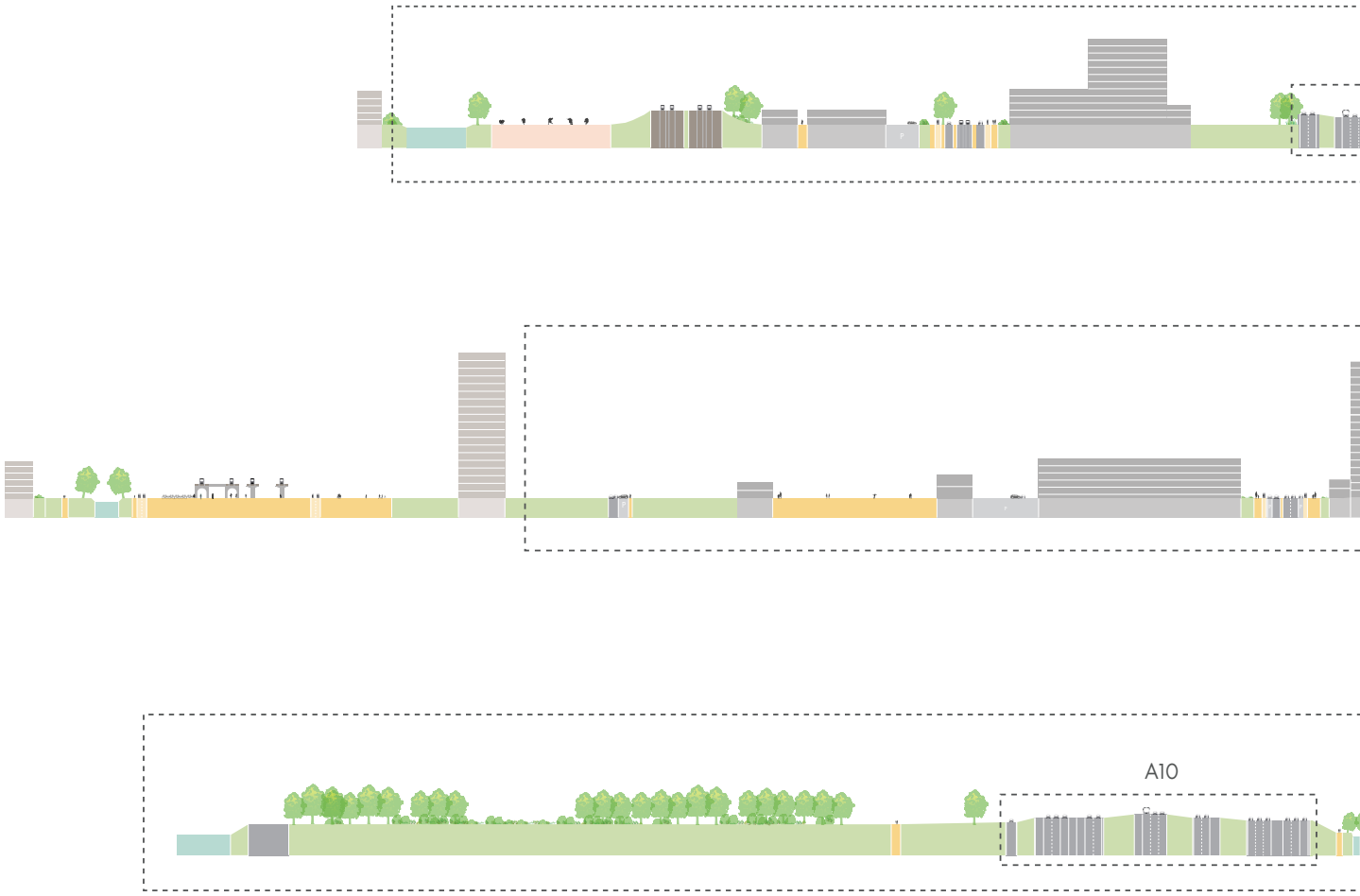
> located at middle-scaled grids
> located at local-scaled grids where that is directly attached to middle-scaled grid

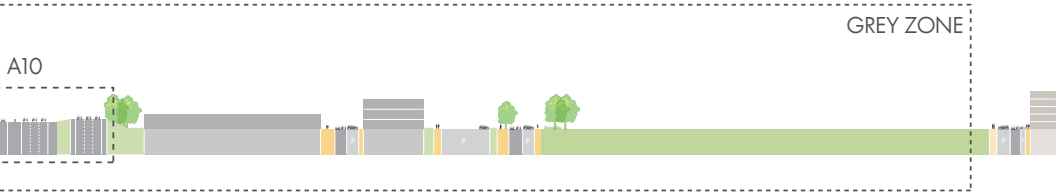


NEIGHBOURHOOD

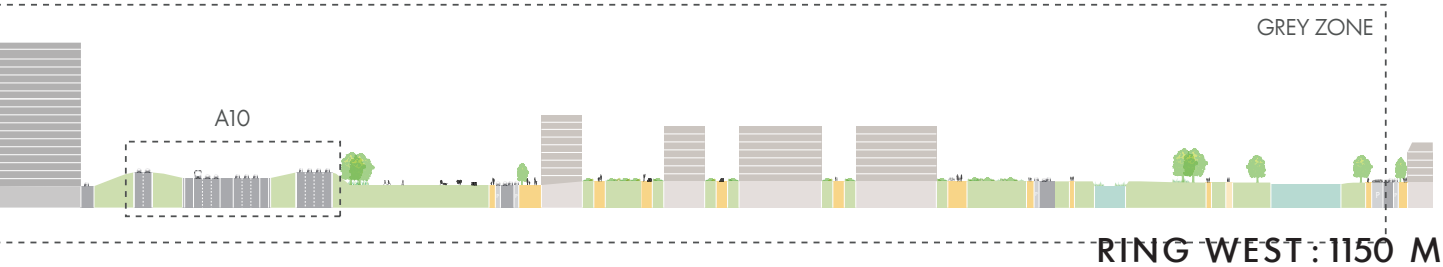
Local-scaled grid:
> local-scaled /
neighbourhood-scaled functions:
baker, supermarket, corner shops, etc.

> located at local-scaled grids

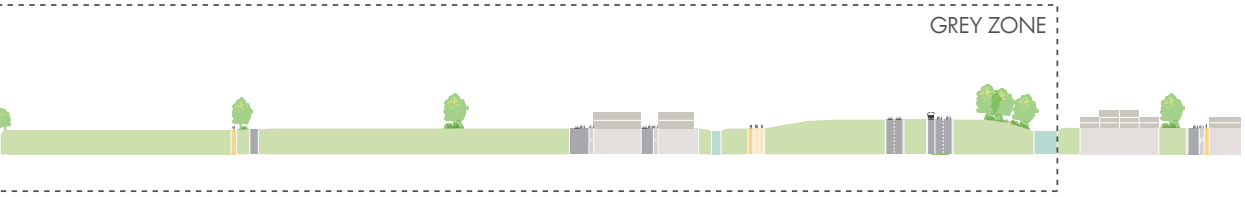

A10



RING WEST : 828 M



RING WEST : 1150 M



RING NOORD : 988 M

CONCLUSIONS

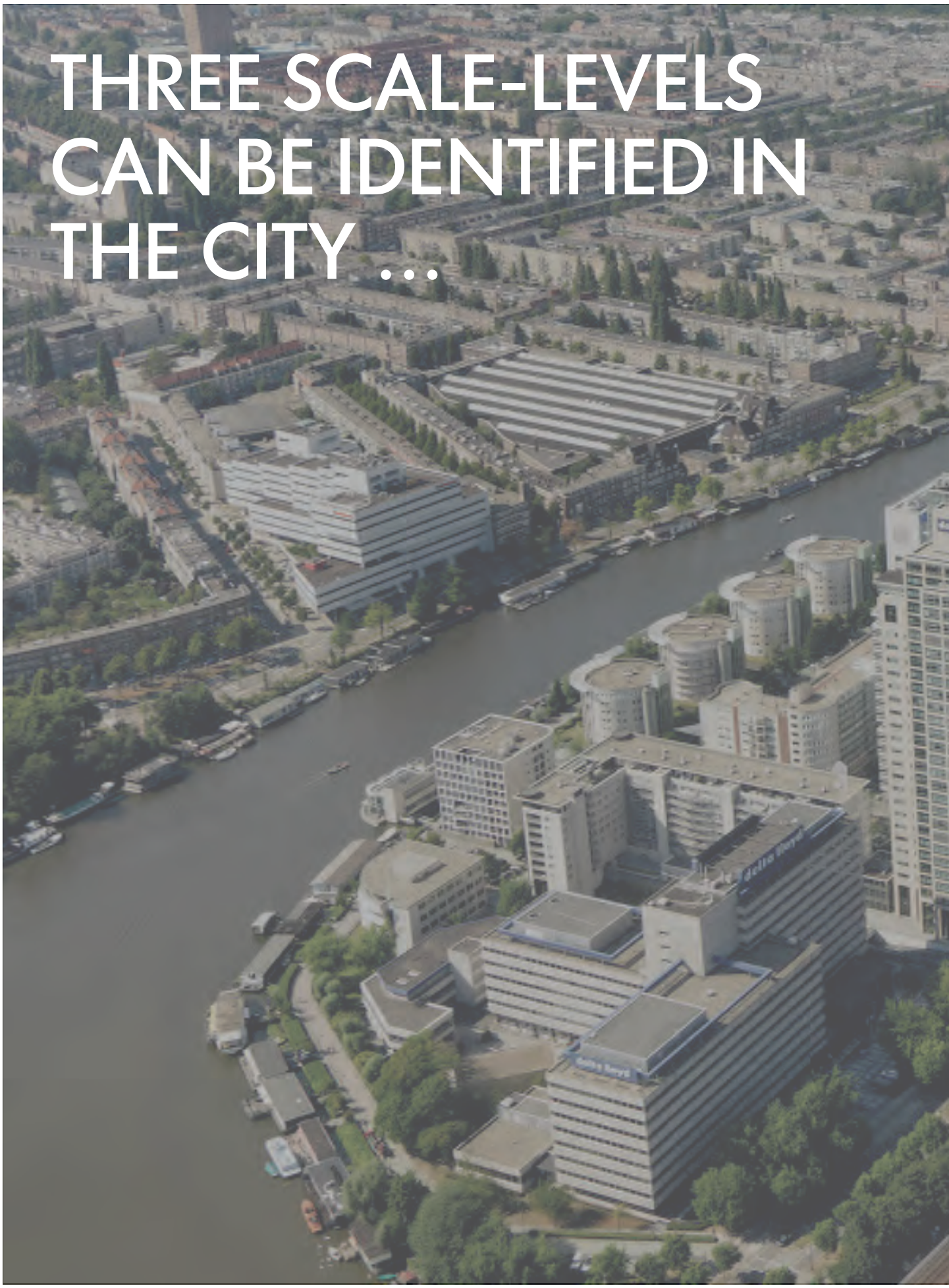
The exploration of the tangible city led to the conclusion that Amsterdam is dealing with a discontinuity. This discontinuity is visible on multiple layers and is mainly caused by the introduction of new spatial concepts. Moreover, the co-relation between the movement patterns and the functional patterns causes the Ringzone to function as a mental and physical barrier. The sections above highlight the width of the Ringzone. The ring road itself is only a small part of the Ringzone, but this metropolitan-scaled grid attracts metropolitan-scaled functions. As a matter of fact, the ring road dominates the surface adjacent to the road. Consequently, the Ringzone, once designed as a green unbuilt space, is now functioning as a grey zone.

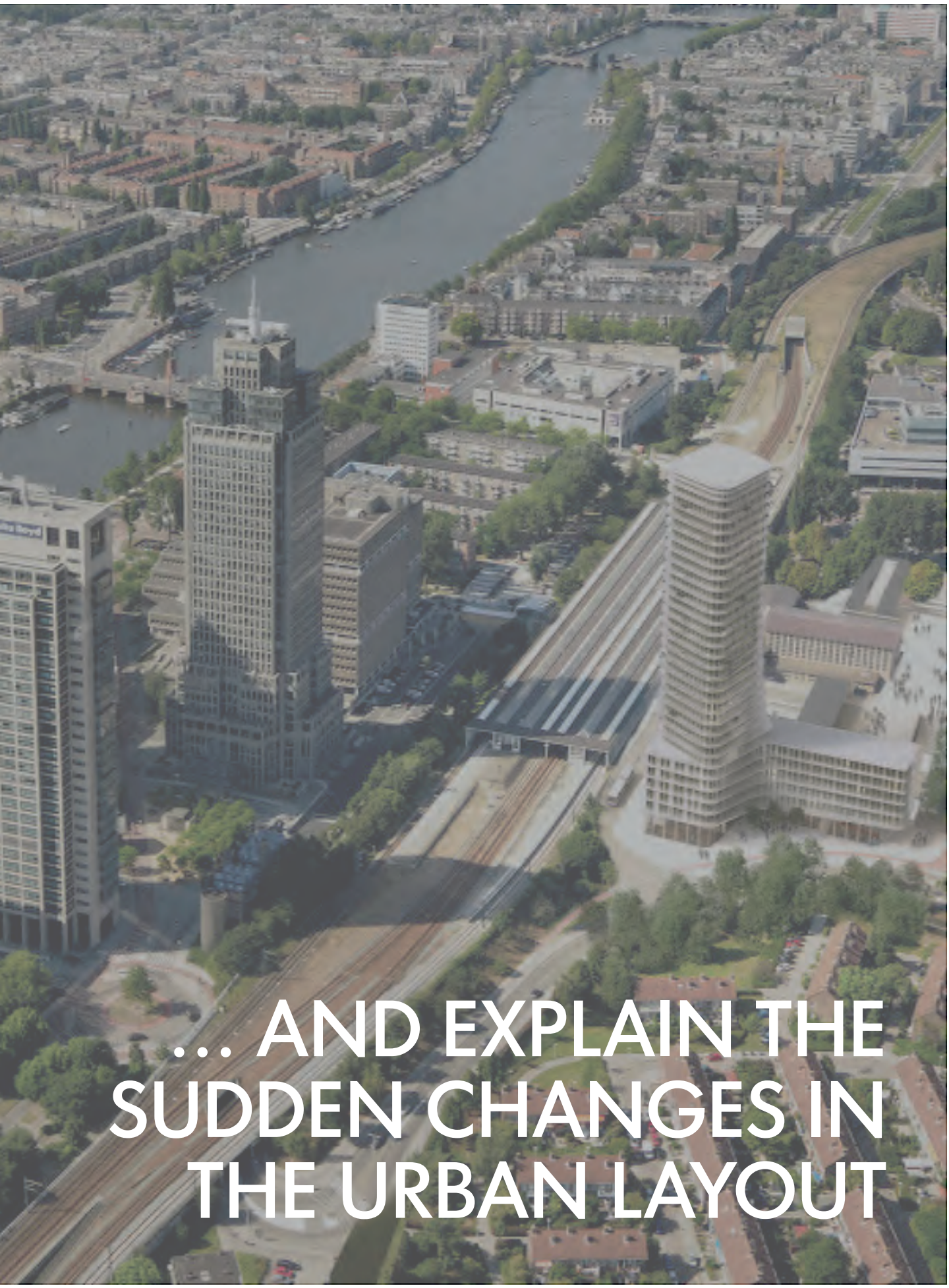
The conclusion is that the tangible city is dealing with a dichotomy between Amsterdam inside the Ring and Amsterdam outside the Ring, strengthened by the grey zone in between. This has consequences for the following parts of this research. Most sections of the Ring are only 60 meters wide, whereas the grey zone is sometimes more than a kilometer wide. Therefore, it makes more sense to focus on a minimalisation of the grey zone in order to bring centre and periphery together again. With the transformation of the grey zone into a liminal space, the barrier is already 16 times smaller and only consisting of the Ring itself. Moreover, with technological changes on its way, there are good chances that it will be possible to reduce the amount of car lanes and make living next to the Ring more healthy. When creating a resilient vision and strategy for 2050, there are thus good arguments to focus on the minimalisation of the grey zone.

> Figure 2.78. The Jan Evertsenstraat: a sudden change when entering the grey zone (Jan Eef, 2013)

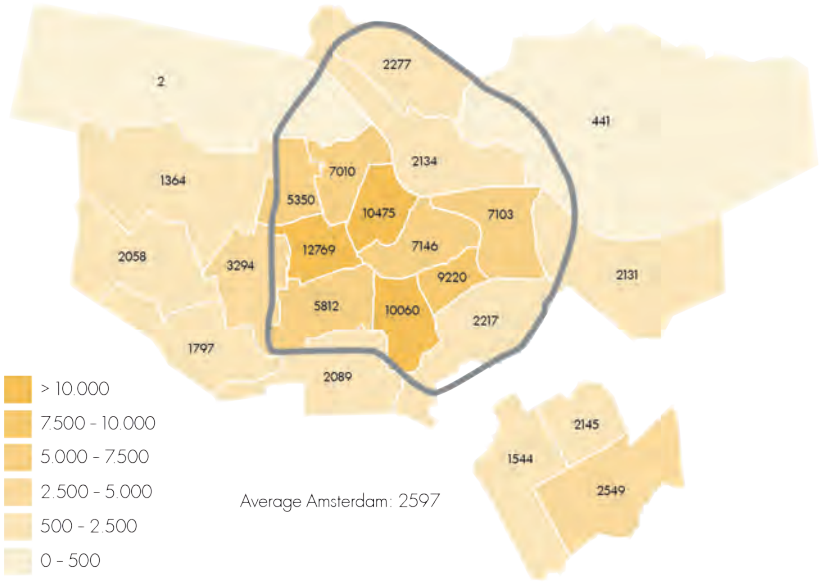

SLUTERIJ
SMIT

THREE SCALE-LEVELS CAN BE IDENTIFIED IN THE CITY ...

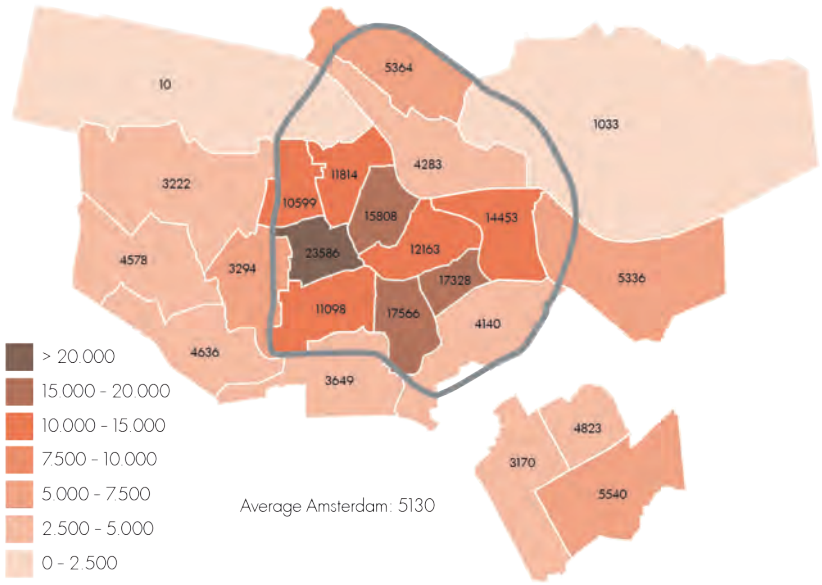




… AND EXPLAIN THE SUDDEN CHANGES IN THE URBAN LAYOUT



Housing density / km2 (OIS Amsterdam, 2017)



Population density / km2 (OIS Amsterdam, 2017)

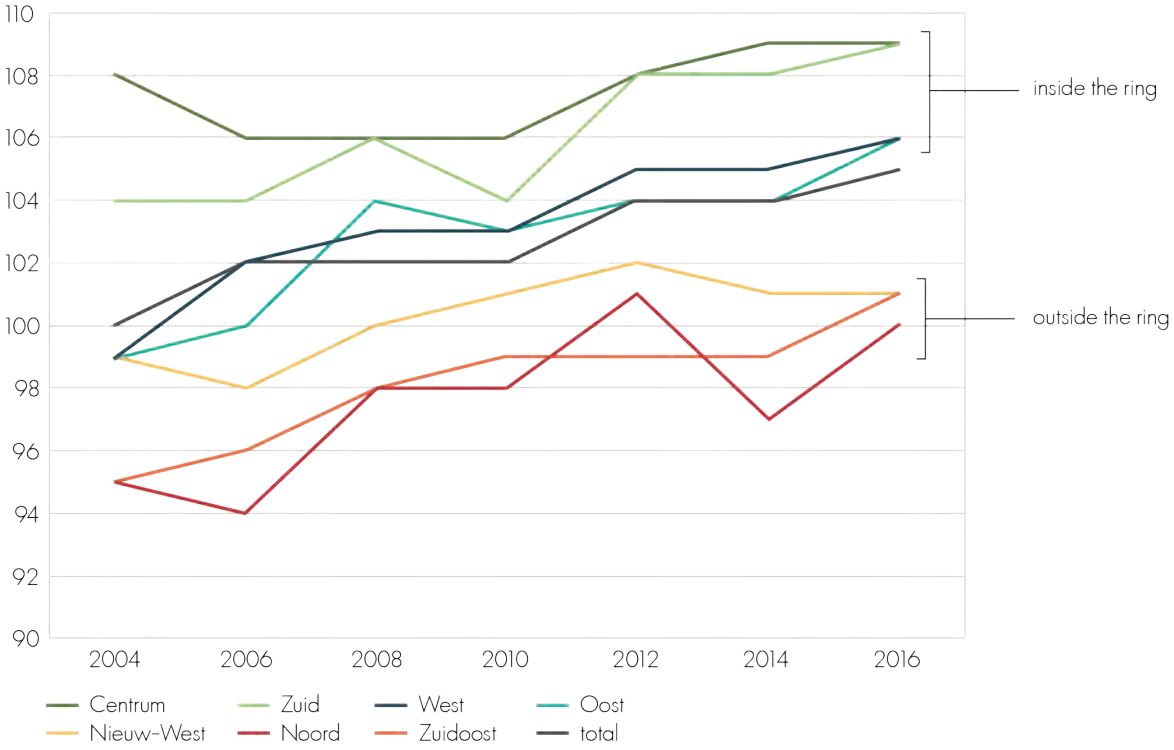
ARE YOU LIVING INSDIE OR OUTSIDE THE RING?

The tangible structures offer spatial conditions for the intangible structures. In other words: the layers of infrastructural networks and occupation should create the required spatial conditions for the emergence of vital urban life. Because of this co-relation, we could state that experiential discontinuity is not only caused by the tangible structures in the city: the intangible structures display this phenomenon as well. Especially when looking at statistics the differences between Amsterdam inside the Ring and Amsterdam outside the Ring become visible.

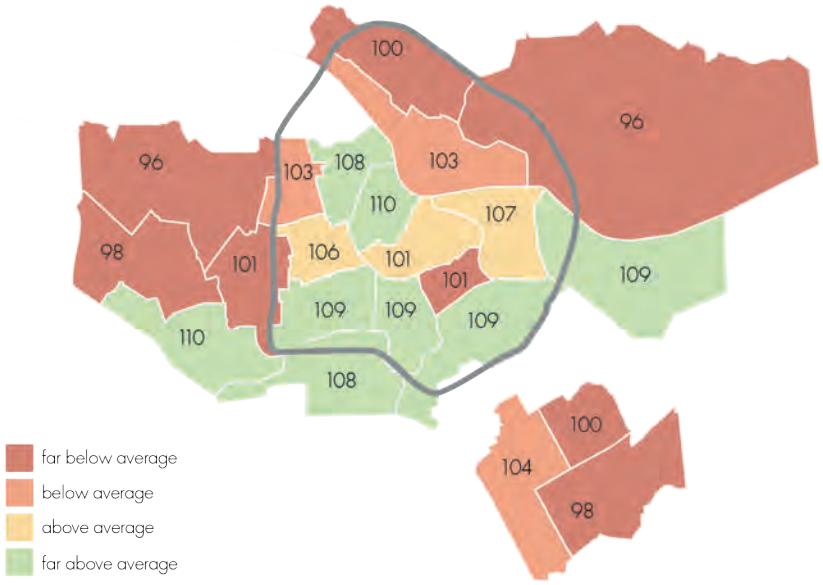
First of all, general statistics such as the population density and housing density already show a contrast between the areas inside the Ring and the areas outside the Ring, which has to do with the urban fabric as well. Additionally, the distribution of public facilities has been researched. When looking at the amount of cafes and restaurants, cultural amenities and shops per 1000 residents it becomes clear that there is a much higher density in the areas inside the ring. Here these amenities are also located along streets, whereas in the outer parts the amenities are more or less clustered together.

Consequently, people spend more time in public space in the areas inside the ring.
However, the socioeconomic contrasts are even more striking. People living inside the ring are generally more satisfied with their neighbourhood and feel safer (except for the centre). They adopt a more healthy lifestyle and the overall participation is higher. These people are often highly educated, have a western background and they do not tend to move. New residents, people who grew up in the Netherlands or another western country and moved to Amsterdam to work or study, prefer living inside the ring.

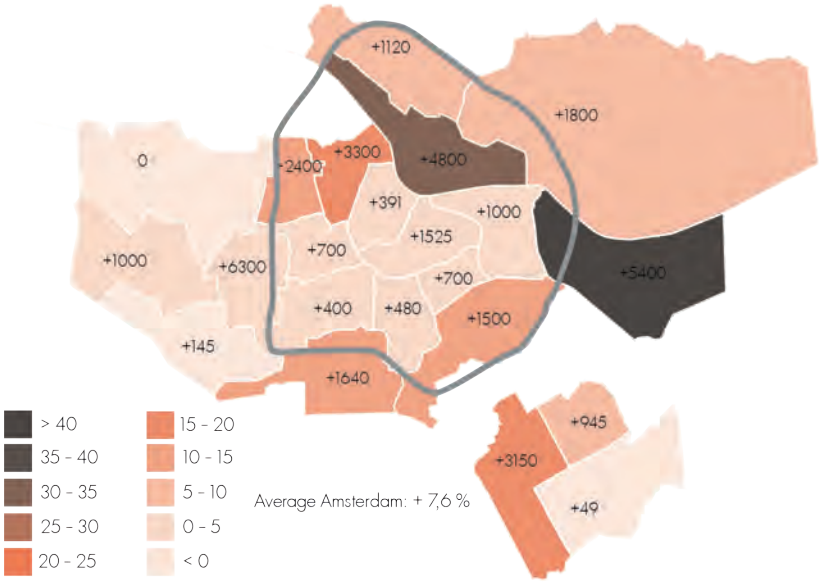
The city outside of the ring is characterised by a high amount of people with a non-western background, a lower education level and a lower income. There is more social housing in these neighbourhoods and the average value of dwellings is much lower as well. People are generally less satisfied with their neighbourhood and more people are tending to move. The level of participation is lower, people spend less time in public space and a higher percentage of people is unemployed.



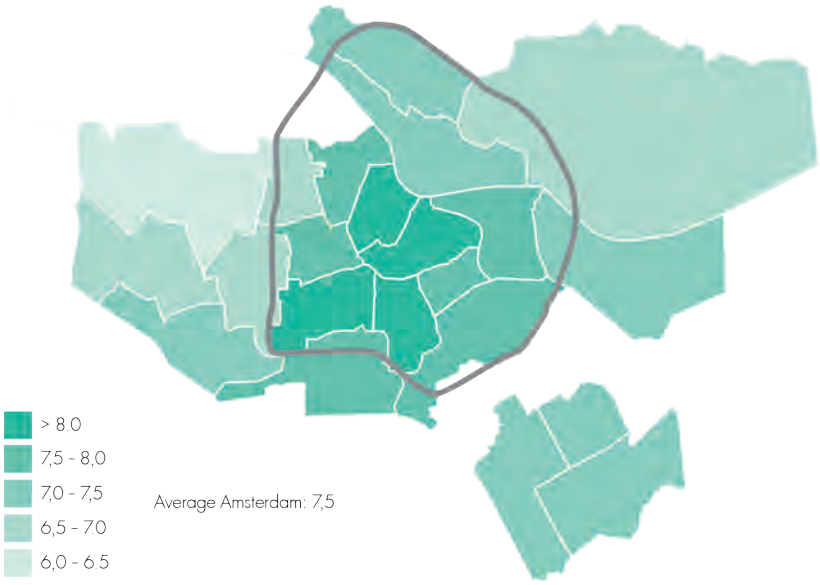
Liveability of areas in Amsterdam in 2016 (2004 = 100) (OIS Amsterdam, 2016)



Liveability of areas in Amsterdam in 2016 compared to 2004 (OIS Amsterdam, 2016)

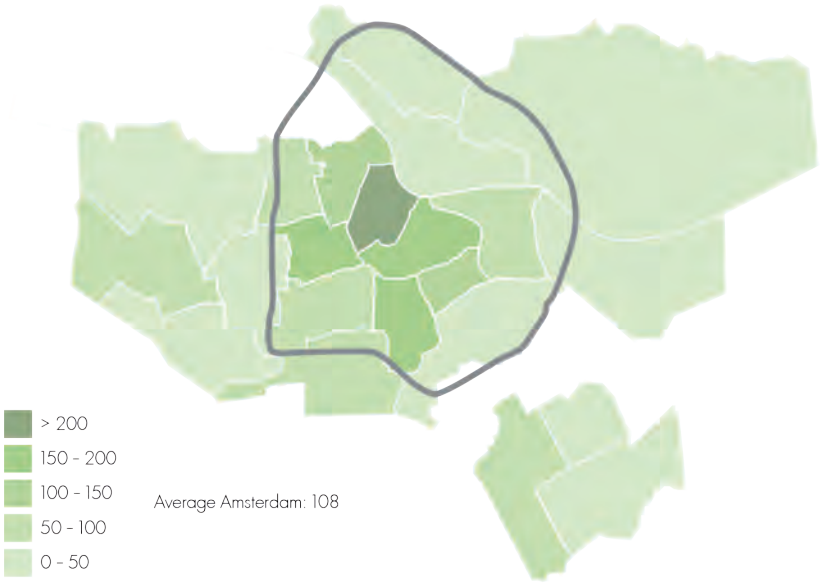


Percentage of expected population growth 2017 - 2025 and the expected amount of new dwellings (OIS Amsterdam, 2017)

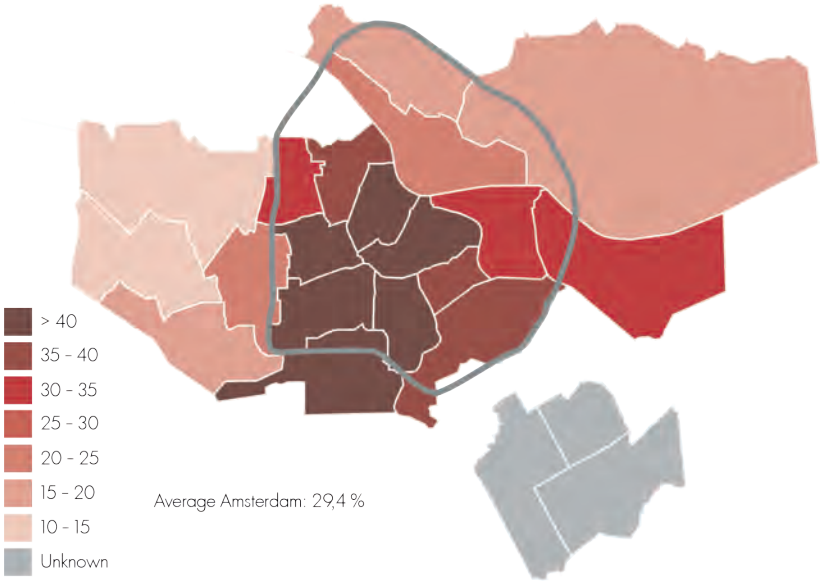


Average grade on satisfaction of residents with their own neighbourhood on a scale 1-10 (OIS Amsterdam, 2017)

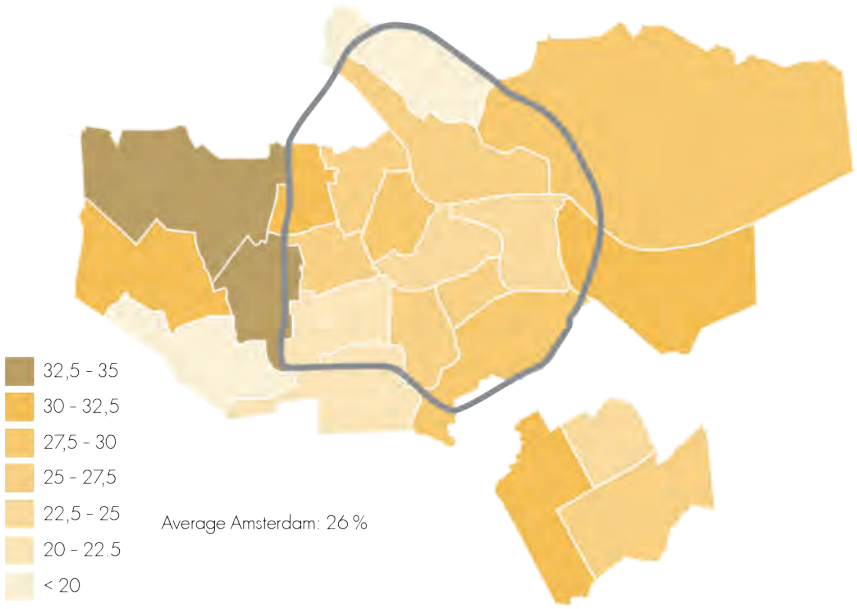
Overall participation, based on income, education, jobs and living situation compared to other areas in the Netherlands (OIS Amsterdam, 2017)



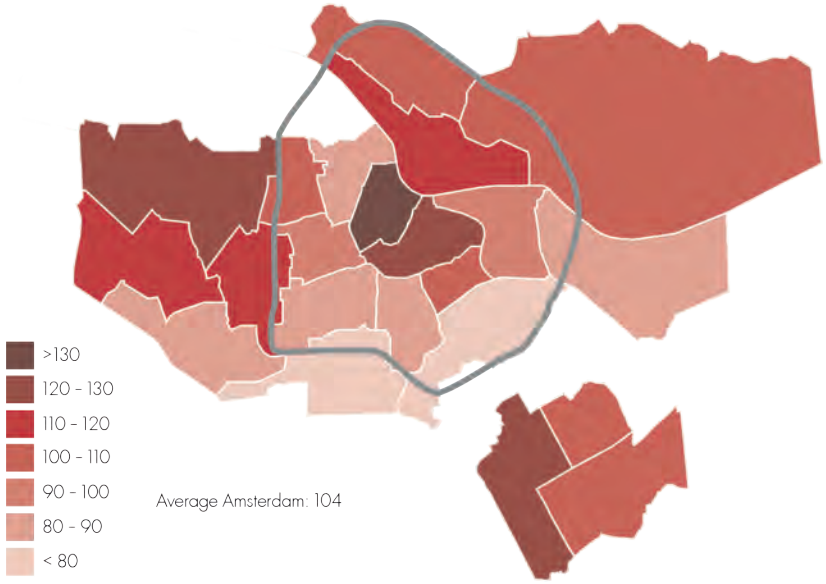
Amount of people spending time in public space on an average day (OIS Amsterdam, 2017)



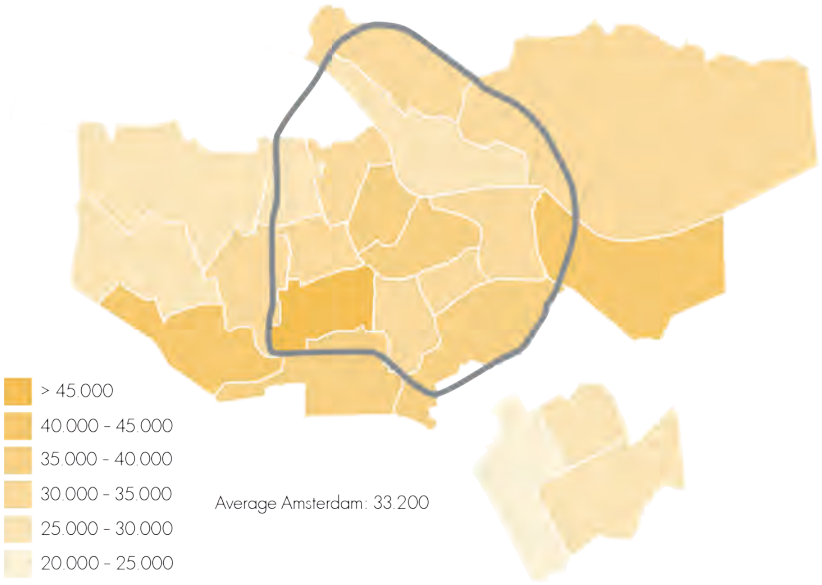
Percentage of 'new residents' - people, grown up somewhere else in the Netherlands or in another western country, moving to Amsterdam to study or work (OIS Amsterdam, 2017)



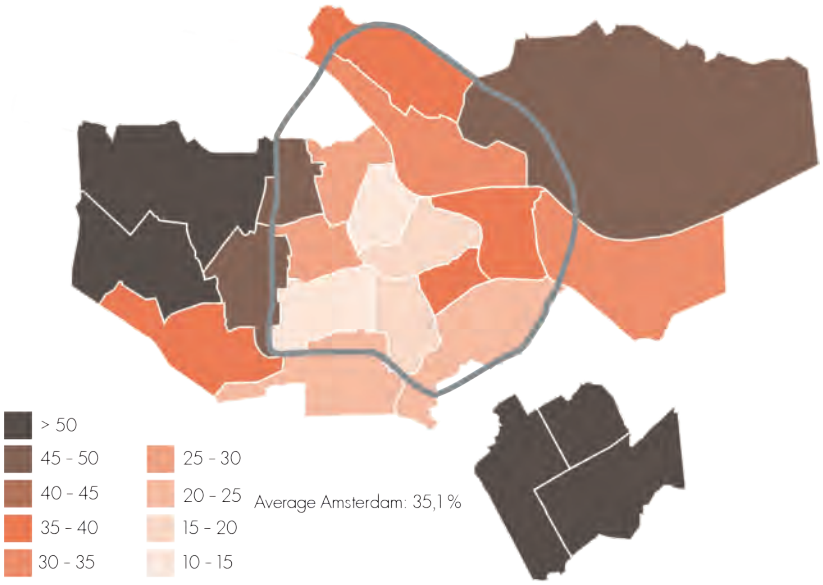
Percentage of people tending to move (OIS Amsterdam, 2015)



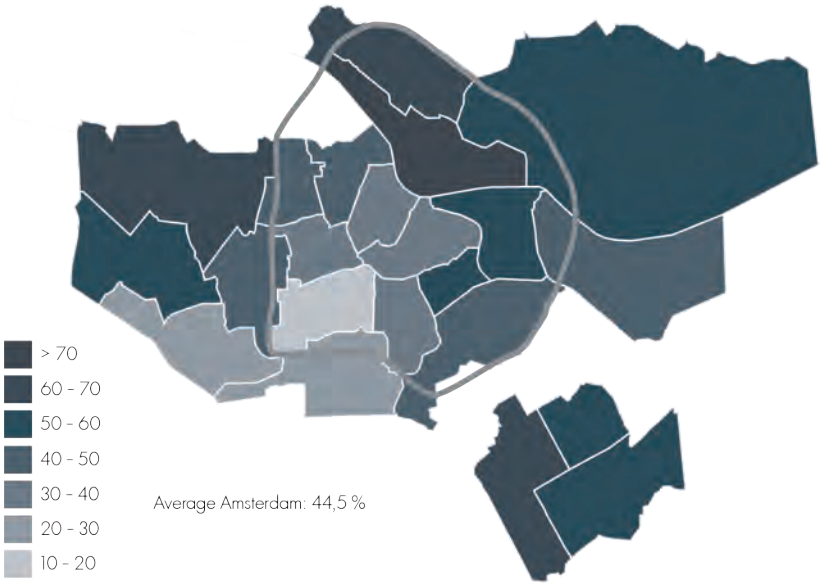
Safety index, based on crime, nuisance and feeling of safety - low = safe (OIS Amsterdam, 2016)



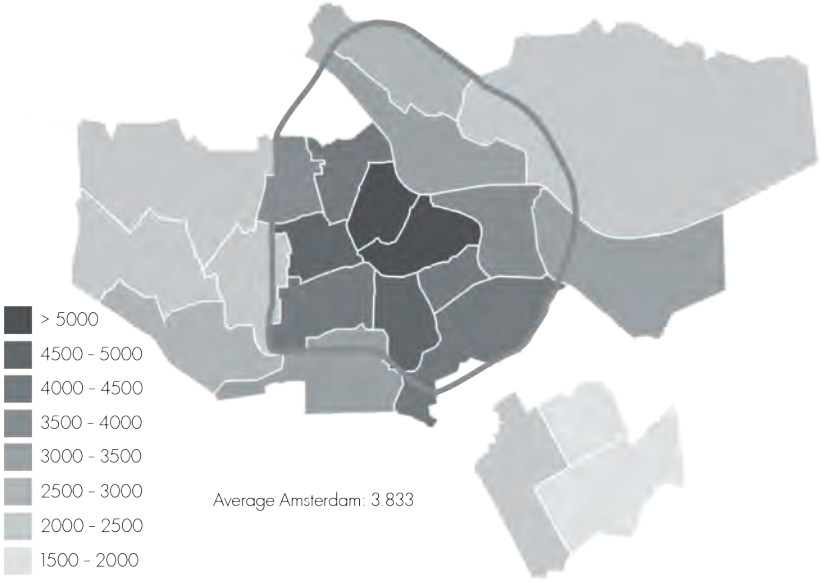
Average income per household (OIS Amsterdam, 2014)



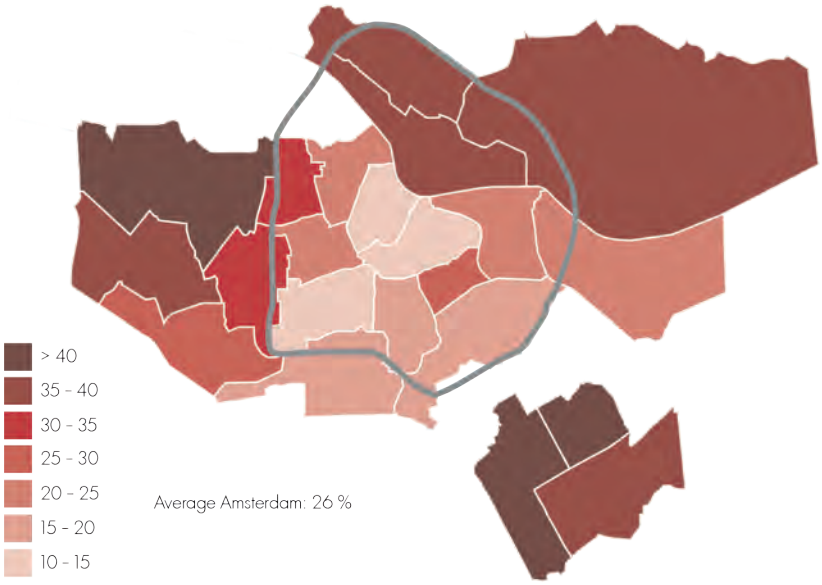
Percentage of residents with a non-western origin (OIS Amsterdam, 2017)



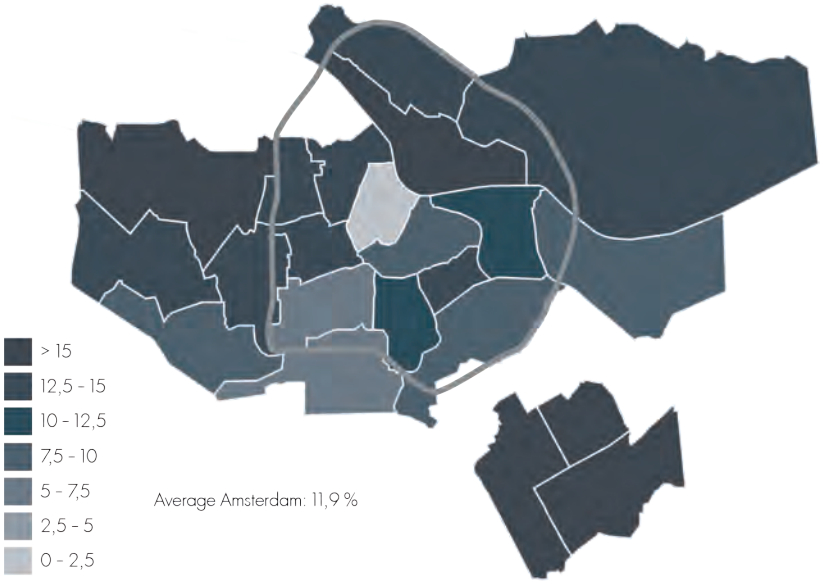
Percentage of social housing (OIS Amsterdam, 2016)



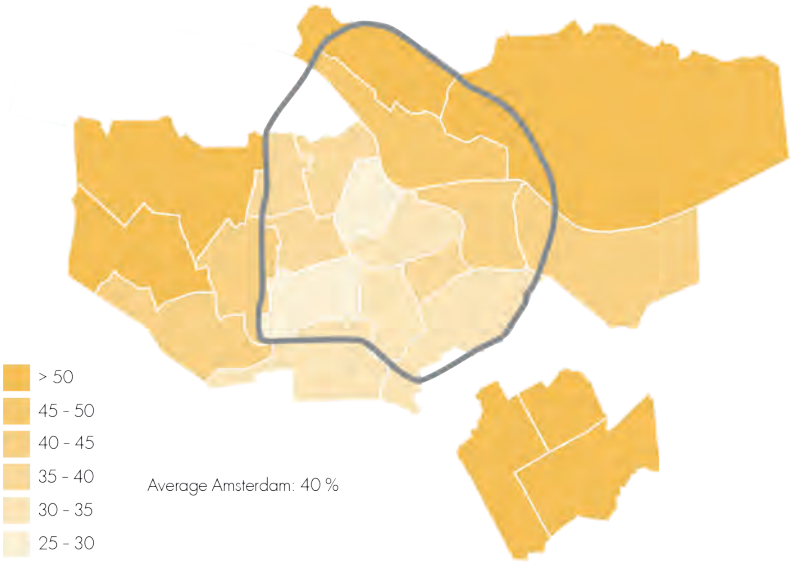
Value of buildings per m2 in euros (WOZ-waarde)



Percentage of residents with low education (OIS Amsterdam, 2014)



Percentage of registered unemployment (OIS Amsterdam, 2017)



Percentage op people with overweight or obese (OIS Amsterdam, 2016)

CONCLUSIONS

The statistics on the previous pages all show that there is a dichotomy visible in the intangible city as well. Moreover, there is a link between the tangible and intangible city, as trends seem to have a spatial footprint. Whereas Amsterdam promotes itself as diverse city (Gemeente Amsterdam, 2011b), it is rather questionable if Amsterdam is not a segregated city instead.

TODAY

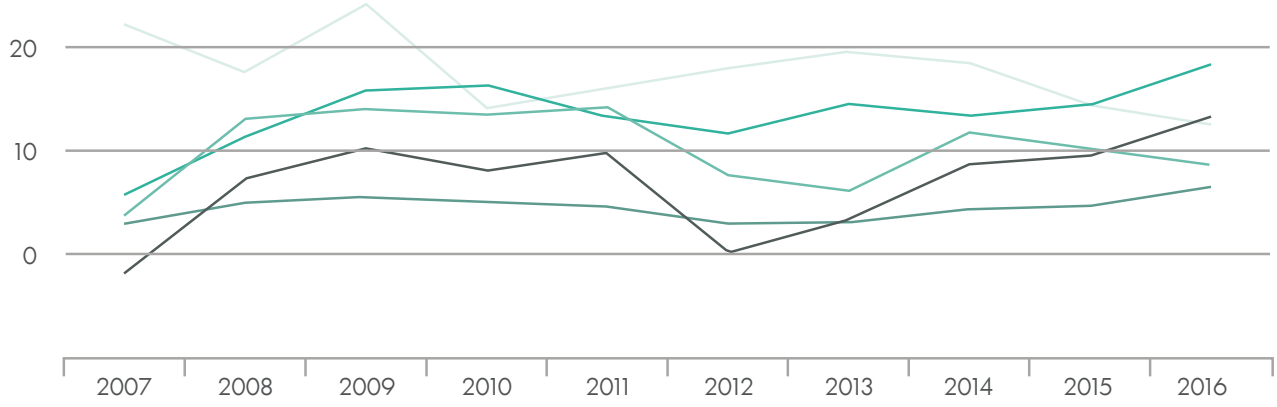
a gentrified Amsterdam

TOWARDS GENTRIFICATION

While the gap between centre and periphery is slowly taking over the tangible and intangible city, Amsterdam continued to grow with 11.000 residents per year during the past few years (Gemeente Amsterdam, 2015). The choice to accommodate the expected population growth within the existing urban territories has its consequences for the already existing dichotomy in Amsterdam. As a matter of fact, the social-spatial division between centre and periphery is getting larger as a consequence of rising inequality. Together with Amsterdam, there are numerous metropolitan cities dealing with the same trends. It once again shows that cities are characterised by extremes: together with growth and innovation comes social inequality and socio-spatial segregation.

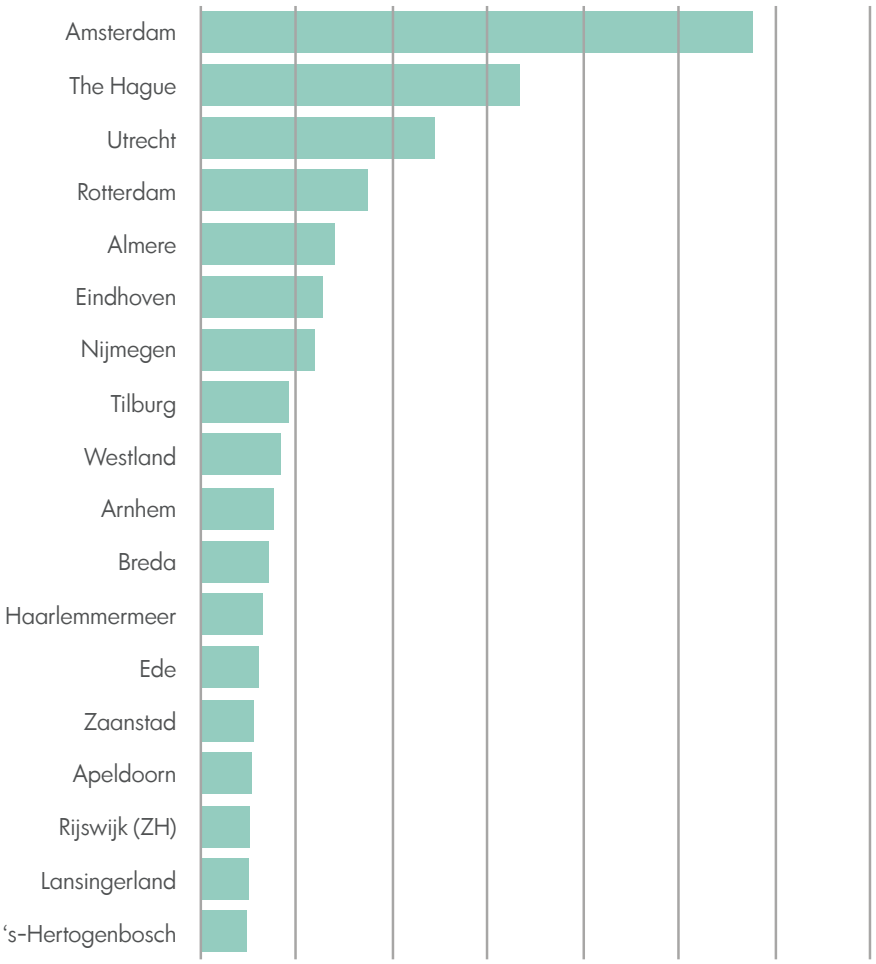
Several institutes and academics have conducted research on the relationship between the physical and non-physical city when it comes to rising levels of inequality and have discovered that inequality has a clear spatial footprint in cities and in neighbourhoods (Van Ham, Tammaru, De Vuijst & Zwiers, 2016). In fact, one of the main ways through which inequality is expressed in cities is the ongoing urban gentrification, which is the renewal of former deteriorated neighbourhoods by means of the influx of more affluent users (Hochstenbach, 2017; Hochstenbach & Musterd, 2018). According to Hochstenbach and Musterd (2018), one of the main ways in which gentrification contributes to deepening social-spatial divisions is displacement. In Amsterdam this led to a gentrifying urban core and a struggling periphery, since most gentrified neighbourhoods can be found inside the Ring. However, there is an outward expansion of gentrification visible and neighbourhoods outside the Ring are now also becoming gentrified. This movement is being accompanied by parallel outward movements of poverty into the periphery and so we can speak of suburbanisation of poverty.

The increasing social-spatial inequality is a major concern for national and local governments, as it can lead to social unrest (Hochstenbach & Musterd, 2018). After all, inequality means that the rich (the haves) and the poor (the have nots) are increasingly living separated, which is threatening the social sustainability of cities. Low income people get cut off



Annual population growth per 1000 inhabitants (2016 - 1 dec 2017). Source CBS

The Netherlands
Amsterdam
Rotterdam
The Hague
Utrecht



Muncipalities growing with 1000 inhabitants or more (comparison 2016-2017)
Source: CBS

from mainstream society and have less freedom in which neighbourhoods to live as they cannot afford to live in certain neighbourhoods.
Besides the fact that the city centre becomes unaffordable for certain groups to live, it also becomes unaffordable for non-residential functions (Milikowski, 2016). Private investors make use of the strategy in which they scale up in the buying of buildings in a certain street and increase the rent for their tenants. Consequently, shop owners, for example, are no longer able to afford their rent and are being replaced by new shop owners who can afford to locate their store here. The city centre of Amsterdam is not only changing rapidly, but – if this large-buying continues – the type of making will be lost that gives Amsterdam its cosmopolitan character (Sassen, 2015).

Who owns the city? - The takeover of Amsterdam

The trends towards increasing inequalities raise several fundamental questions for the municipality of Amsterdam, as there is a general belief that segregation and inequality are unfair and must be challenged. Therefore, the title of the Coalition Agreement 2014-2018 of the municipality was: "Amsterdam is a city for everyone" (Gemeente Amsterdam, 2014). This open city is defined by the municipality as a city that offers all residents opportunities to develop themselves. With the current trends described earlier, this ultimate objective is being threatened. And so Amsterdam needs to be more proactive when it comes to questions like: "What kind of city does Amsterdam want to be?" "Do we allow expulsion?" and "Who owns the city?"

Figure 2.101. The Structural Vision, the Coalition Agreement and the spatial strategy of the municipality (Gemeente Amsterdam)

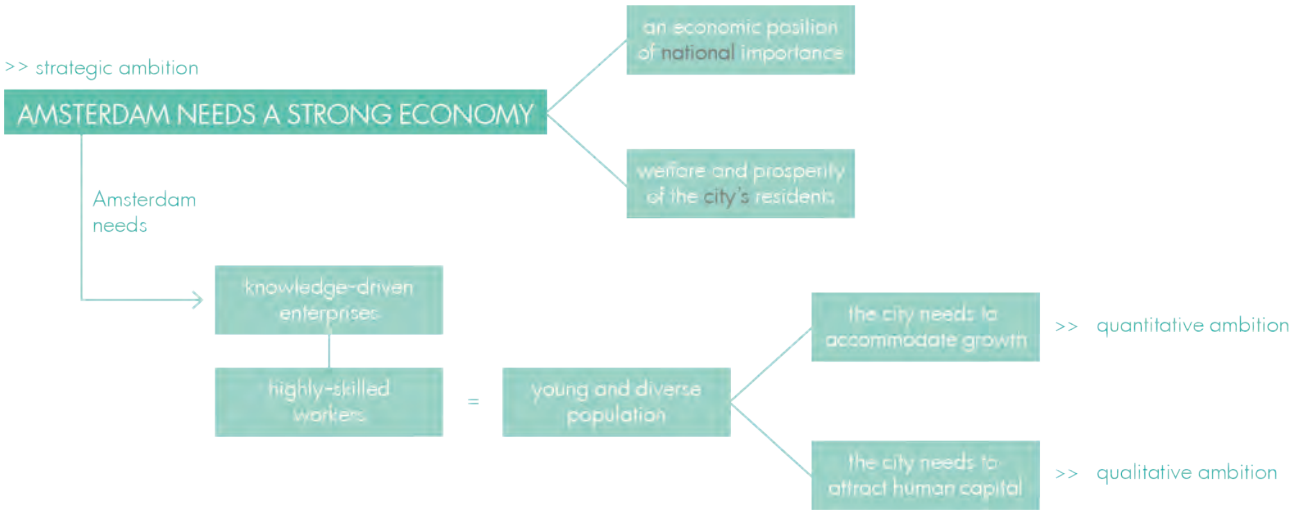
The municipal strategy unravelled

The problem with these questions is that the municipality of Amsterdam does not control the situation and even seems to encourage trends like gentrification. Whereas gentrification is often being described as a spontaneous, bottom-up process, it could actually be argued that the type of gentrification in Amsterdam is partly state-led (Van Eijck & Naafs, 2017). In fact, gentrification is regarded as an important means for driving neighbourhood change (Hochstenbach, 2017). The state often plays a key role in gentrification processes, as municipalities aim to attract and retain more middle-class households. There are numerous ways the state can encourage gentrification, but housing policies – especially in Amsterdam – is one of the main ways. Between 1999 and 2015 the accelerated decline of social-rental stock, in particular in the central neighbourhoods where demand for housing is high, is one of the main indications of gentrification as a state-led process in Amsterdam (Hochstenbach, 2017). Moreover, the marketing campaigns of the municipality concentrate on attracting talent from other cities, such as London after the Brexit, which eventually leads to the exclusion of other groups of society.

In the Structural Vision 2040 the municipality mentions two main objectives: 1) maintaining the welfare of all residents in order to let Amsterdam be a good city for everyone and 2) maintaining prosperity of all residents, which is related to the train of thoughts that Amsterdam is the motor behind the national economy and should therefore stimulate its (knowledge) economy (Gemeente Amsterdam, 2011b). That is underlined by Jacobs (1998) stating that "Cities are the chief motors of economies. You can't talk about economies without talking, at least obliquely, about cities."

When translating these objectives into a spatial strategy, we need to regard the social and economic importance of public space. In the first case, public space is important for the social structures in the city, in particular when public space is functioning as a public domain and bringing different groups of society together (Hajer & Reijndorp, 2001). Public domains allow people to shift their perspectives, which is essential in a city threatened by trends like gentrification and socio-spatial segregation as a consequence.

Secondly, Amsterdam is becoming more aware of the economic importance of public space and even states that "for the knowledge economy, which is all about interaction and exchange, the economic importance of public space has never been greater" (Gemeente Amsterdam, 2011b, p. 113, translated by author). That means that the spatial interventions as proposed in the Structural Vision are directly related to economic success (Gemeente Amsterdam, 2011b). As a matter of fact, gentrifica-



tion, leading to the upgrading of neighbourhoods and thus the attraction of highly-skilled workers and knowledge-driven enterprises, can therefore be understood as an important means for states to stimulate the knowledge economy and is used by the municipality of Amsterdam as well (Hochstenbach, 2017).

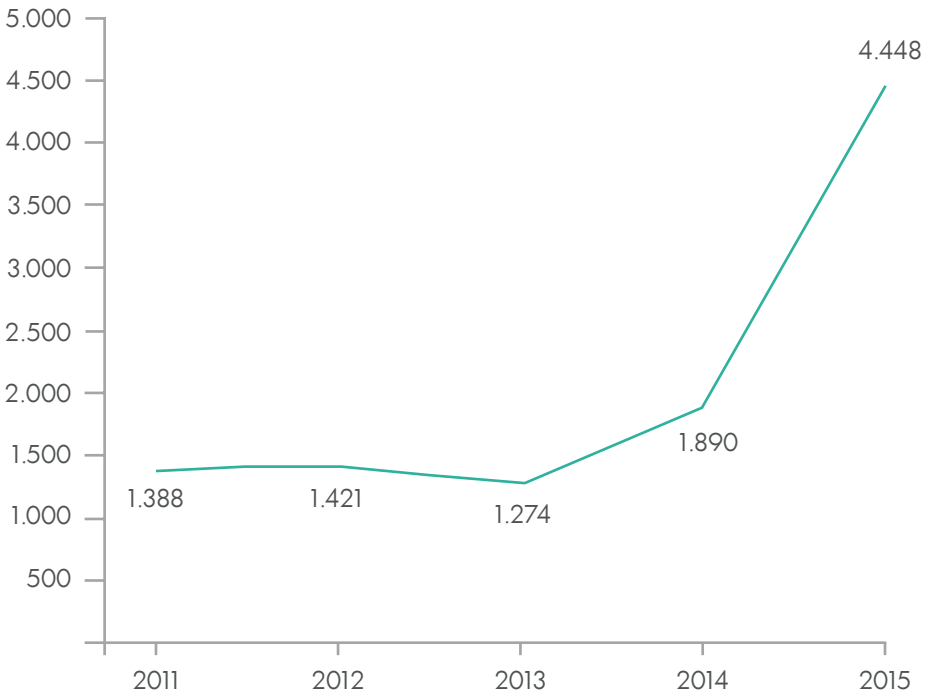
So in order to stimulate the economy, Amsterdam believes there is a need of attracting knowledge-driven enterprises and highly-skilled workers (Gemeente Amsterdam, 2011b). In recent years 'soft factors', such as quality of life, heritage and the metropolitan landscape, are generally considered as the most important assets to attract highly-skilled workers (Vereniging Deltametropool, 2017). In fact, a global metropolitan revolution is unfolding in which there is a general belief that investing in the knowledge economy does no longer mean investing in 'hard factors', such as infrastructure and tax regimes, but actually an investment in a healthier and more attractive living environment is needed, which is in line with thought of public space contributing to the economy.

This is being supported by the influential thoughts of the American urban writer and activist Jane Jacobs, the American urban studies theorist Richard Florida and the American economist Edward Glaeser (Milikowski, 2018). In the 1960s Jane Jacobs pointed out the importance of the presence of people living in a city (Jacobs, 1961). In her book 'Death and Life of Great American Cities' she defended the importance of the appreciation of vital cities, including diversity, streetlife and human scale (Jacobs in Milikowski, 2018). In 2002, Richard Florida published 'The Rise of the Creative Class', in which he demonstrated that the creative class decides to live in attractive, vivid cities. Moreover, he stated that knowledge-driven enterprises follow their workers. This explains why cities as Amsterdam, London and Paris became so popular (Florida in Milikowski, 2018).

In 2011 Edward Glaeser wrote 'The Triumph of the City', in which he indicated that the success of cities depends on maximizing the urban agglomeration effect: When human capital is clustered in one specific location, the economic potential of the location will grow as well. When there is a possibility of exchange and meetings, there is a larger chance of innovation and economic growth (Glaeser in Milikowski, 2018).

> Figure 2.104. The amount of newly built dwellings in the past few years. The quantitative ambition of the municipality is to build 5.000 dwellings per year, which was mentioned in the Strategy 'Koers 2025' of 2016. In 2015 they almost managed to do so. However, 50% of the built houses in 2015 was smaller than 40 m2 and thus suitable for only a small group of society. (OIS Amsterdam, 2016).


QUALITATIVE
attractive living /
working environment
FUTURE
AMBITIONS
STRATEGIC
strong international
position
QUANTITATIVE
5000 dwellings / year
until 2025


5.000
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
500
1.388
1.421
1.274
1.890
4.448
2011
2012
2013
2014
2015

“Do we want a high quality of living ...

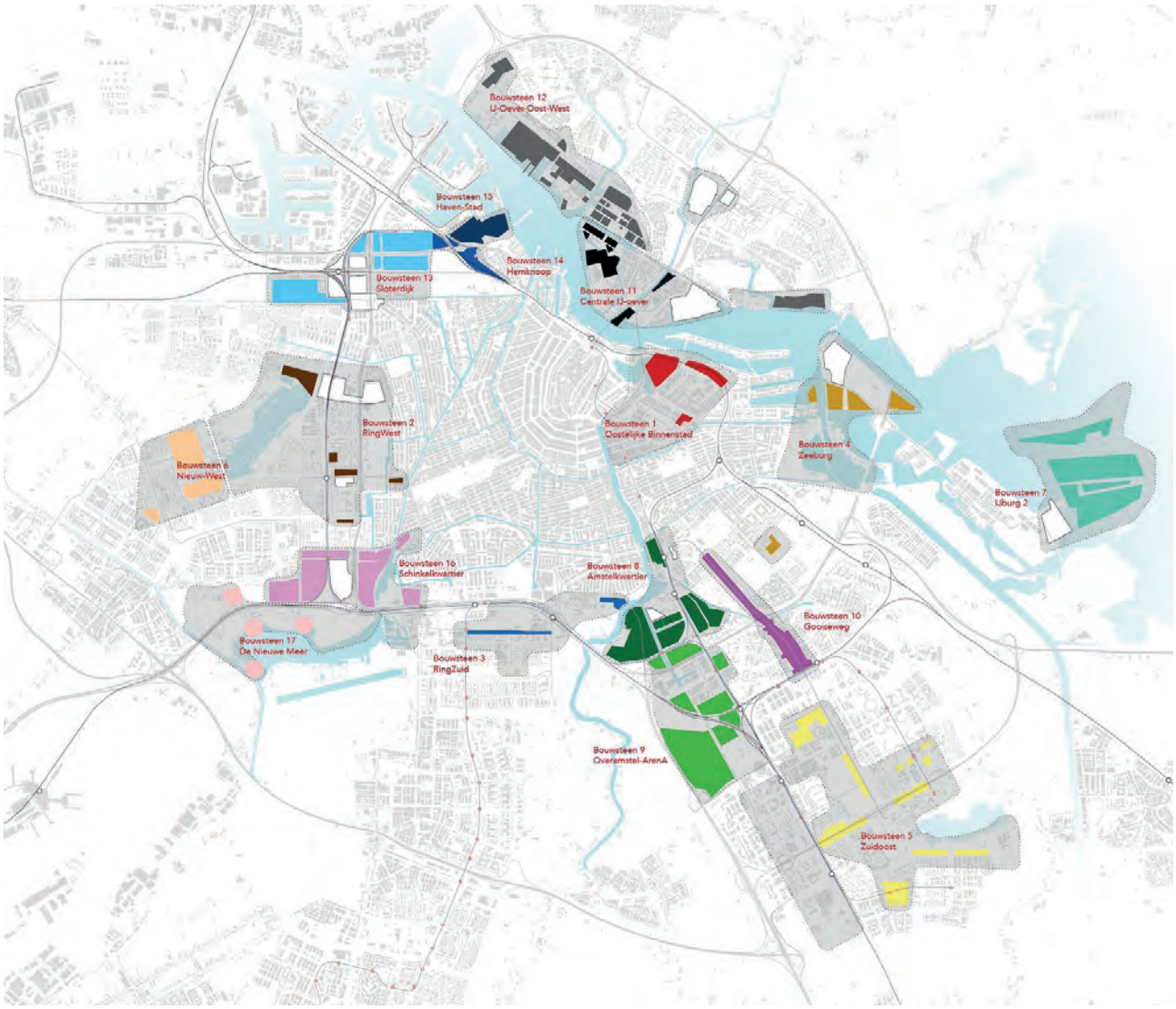


Figure 2.105. Building blocks Amsterdam (Gemeente Amsterdam, 2011b)

... or a high return on investments?"

Clare, 2017

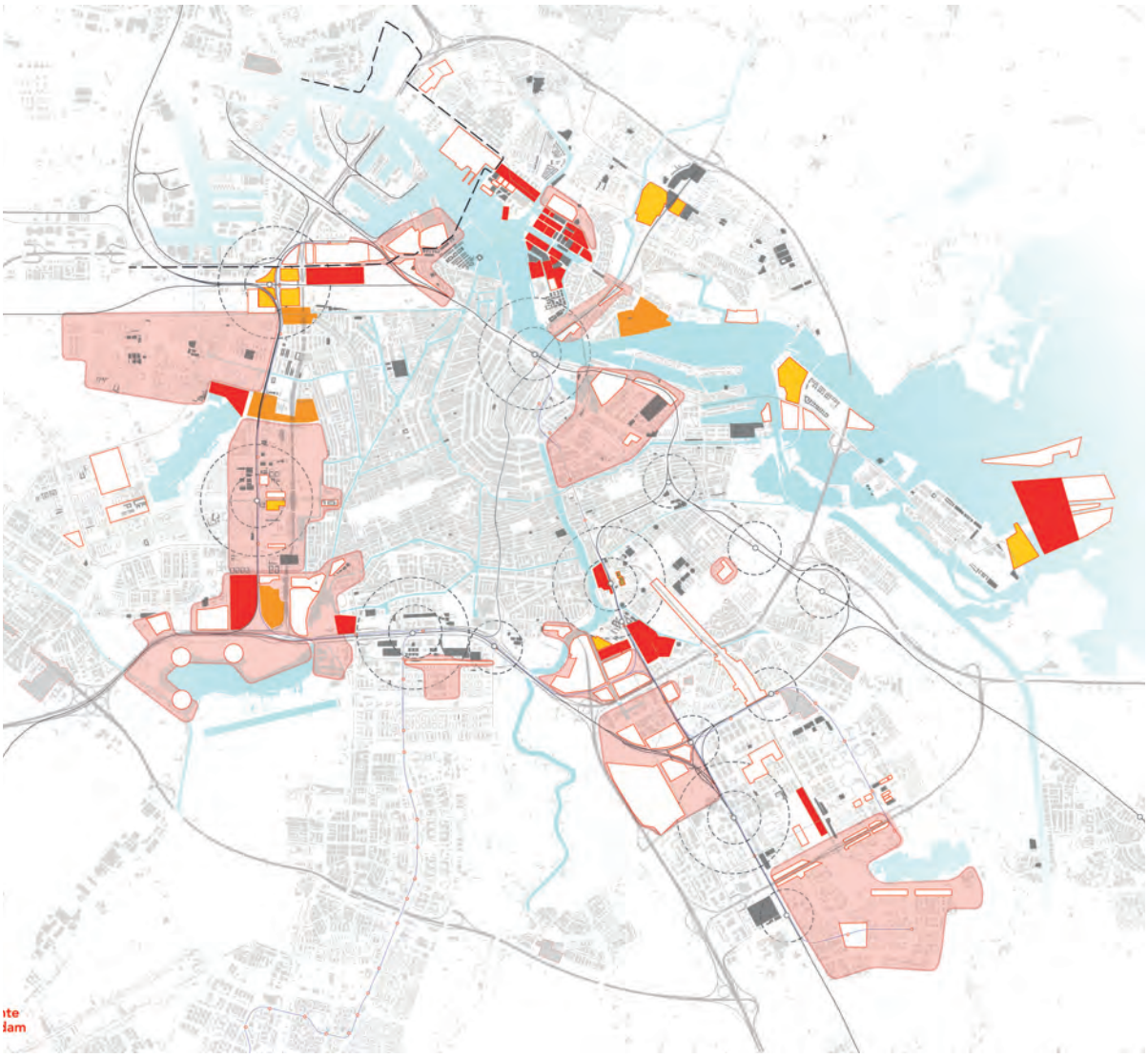


Figure 2.106. Building locations (Gemeente Amsterdam, 2016)

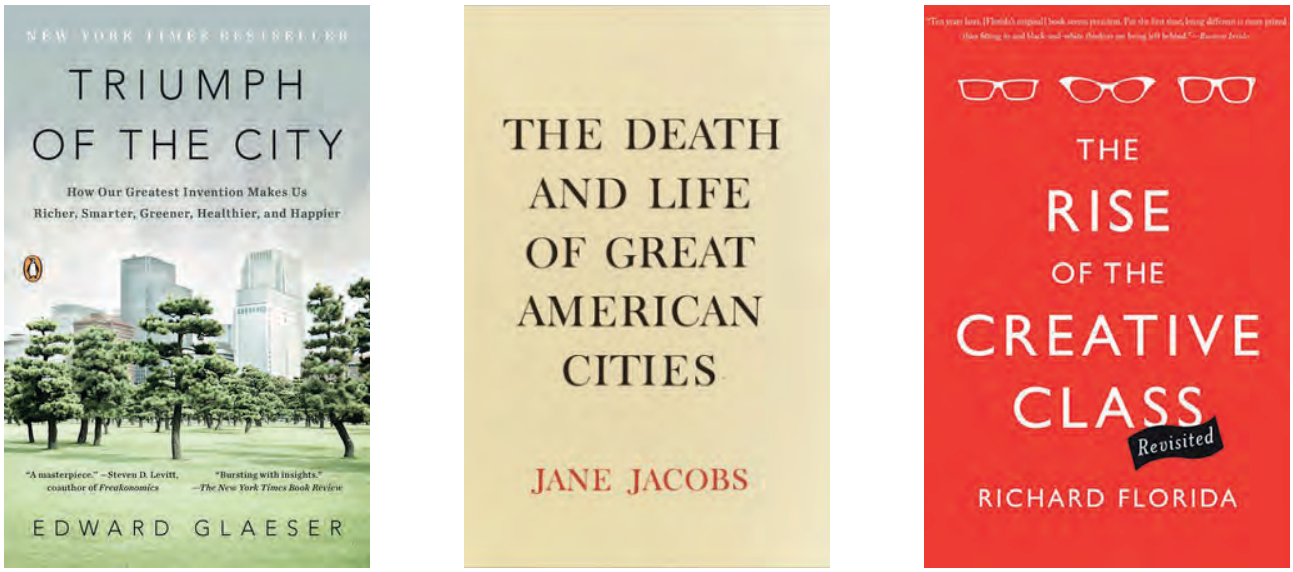


Figure 2.107. The books by Glaeser, Jacobs and Florida

The entire Structural Vision of Amsterdam and the current building projects reflect the thoughts of Jacobs, Florida and Glaeser: the vision focuses on the growth of the city, the importance of the economy and the necessity of being an attractive city (Gemeente Amsterdam, 2011b). In other words, the municipality has a strategic, qualitative and quantitative ambition. The choice to accommodate the expected population growth had profound consequences for all three ambitions, as Amsterdam aimed to build 5.000 dwellings per year without having financial resources or the presence of major investors in large projects (Gemeente Amsterdam, 2015). Moreover, when looking at the building projects facilitated by the municipality in order to accommodate growth and state-led trends like gentrification, it seems that the municipality is shaping the city according to the preconditions of highly-skilled workers: areas with a high concentration of restaurants, bars, theatres and shops, outstanding architecture, good accessibility, attractive public space and enough people from the same group of society (Rath in Milikowski, 2017). By doing so, the Structural Vision is actually reproducing the spatial and social hierarchies it sets out to address by claiming that Amsterdam should be a city for everyone (Enright, 2016). Moreover, growth sometimes seems to be a goal rather than a means to make the city stronger, which has consequences for both the tangibles and intangibles.

The spatial and social hierarchies further explained

The far-reaching consequences for the tangible and intangible city become even more visible when looking at data. The population of Amsterdam increased from 680.000 residents in the 1980s until 835.000 residents today (Milikowski, 2017). Whereas the city continued to grow during the economic crisis, there were almost no building projects left in the city. In fact, during the past seven years the city grew with 88.000 people, but less than 25.000 new dwellings have been built. Although the municipality wants to build 5.000 new dwellings each year until 2025, there is already a shortage of housing and so prices are increasing. Simultaneously, the amount of social housing is decreasing. Only between 2011 and 2016 the social housing stock decreased by 9.000 houses (Hochstenbach, 2017). Additionally, 56% of the 5000 dwellings built in 2015 was smaller than 40 m2 (Milikowski, 2017). That indicates that when housing prices are increasing and there are less dwellings available, people are more willing to live in smaller dwellings.

During the past few years there are certain trends visible in the intangible city as well (Milikowski, 2017). The amount of highly educated people increases, whereas lower educated people leave the city. Lower income households concentrate in neighbourhoods in the periphery, whereas the high income households with a higher level of education move to central, more expensive neighbourhoods.

Living in the city gets more expensive, but the incomes do not rise. The group of people with a western background gets larger and larger (especially expats), but the group of people with a non-western background does not grow as fast. When relating intangible trends with the physical city, we can clearly see that trends indeed have a spatial footprint (Milikowski, 2018).

Linking the knowledge economy with the open city

What we can conclude here is that the municipality has two major aims: 1) maintaining the welfare of residents and 2) maintaining the prosperity of residents. These municipal aims are not only related to each other, but can actually reinforce each other when linking both aims to public space. What we see happening in Amsterdam, is that means to realise one aim actually have a negative impact on the other aim. Whereas "the Amsterdam Structural Vision must seduce and convince with a coherent narrative, a story in which the social benefit of spatial interventions is explained and justified in terms that are as clear as crystal …" (Gemeente Amsterdam, 2011a, p.4), the social benefit of spatial interventions is very questionable. In fact, the municipality seems to ignore this by taking for granted that gentrification contributes to stronger social-spatial contrasts (Hochstenbach, 2017). The Dutch-American sociologist Saskia Sassen (2015) summarises the current happenings in cities like Amsterdam, regarding 'being a good city for everybody', as the following:

"A large, mixed city is a frontier zone where actors from different worlds can have an encounter for which there are no established rules of engagement, and where the powerless and the powerful can actually meet. [...] But today, rather than a space for including people from many diverse backgrounds and cultures, our global cities are expelling people and diversity."

Sassen (2015)

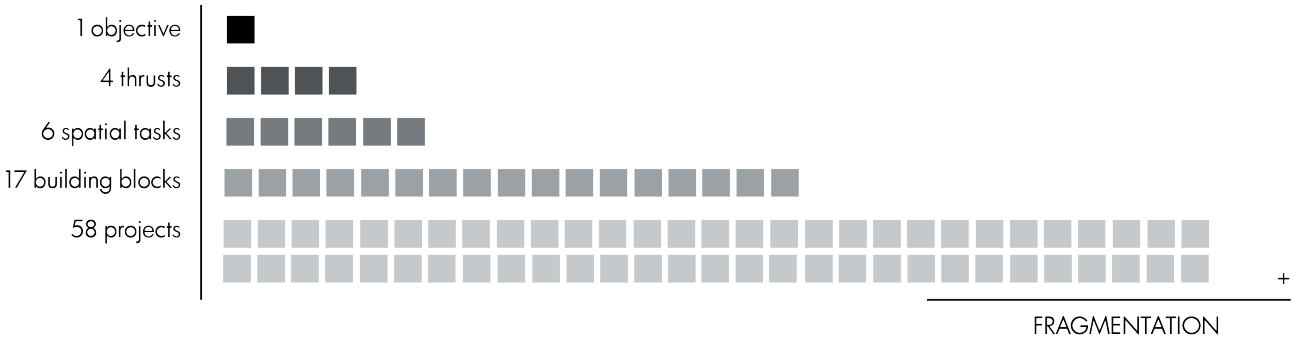
The aim of the municipality should be to connect the two aims by focusing on the social and economic importance of public space simultaneously instead of taking the dichotomy between the gentrified centre and the disadvantaged periphery for granted. The city is not an urban village anymore, but needs to deal with these trends. This thought is supported by Li, Campbell and Fernandez (2013), arguing that both the long- and short-term growth of the knowledge economy are heavily dependent on the level of segregation. The knowledge economy needs both highly-skilled workers and lower skilled workers, because lower skilled workers, who often belong to the deprived parts of society, are essential for the productivity of highly-skilled workers in the knowledge-intensive industries. Hence, the knowledge economy benefits from mixed neighbourhoods instead of socially and culturally homogeneous neighbourhoods due to residential segregation. Moreover, Jane Jacobs already linked the two aims of the municipality decades ago (Sassen, 2016). She would now ask us to focus on the conditions that make the metropolis – the diversity of people, their living and work spaces and the multiple sub-economies involved – and consider the impact of gentrification on these conditions (Jacobs, 1961; Sassen, 2016). According to Jacobs, we could take it one step further by stating that "the urban block is the key building block of economies". She actually suggests that the form of cities is critical (Jacobs, 1970). Cities need a mix of land uses, higher densities and a diversity of businesses in order to actually function as drivers of innovation. These dimensions are now often rather invisible in the modern narratives of development and urban competitiveness.

Figure 2.108. Gentrification (Volkskrant, 2018)

ORGANISED IN PROJECTS

When speaking of a gentrified centre and a disadvantaged periphery, we could say that the centre is being upgraded (too much) and the periphery is being downgraded (Hochstenbach & Musterd, 2018). Indeed, most gentrified neighbourhoods can be found within the Ring, but when looking at the recently built projects or planned projects, there is a trend visible of projects crossing the Ring, causing new changes in the social-spatial layout of the Amsterdam.

In order to understand this process, we need to go back at least to the beginning of the economic crisis of 2008. By that time, the municipality did not have enough financial resources to realise the planned projects and major investors in large projects were not present anymore (Gemeente Amsterdam, 2015). Consequently, the municipality decided to follow a market-led approach in which they would facilitate projects. Because of the absence of major investors, most projects were focused on the small-scale, a high return on investments and low risks. Because the municipality did not take up a leading role, the post-2008 urban investments got a new scale and character (Gemeente Amsterdam, 2013). It can be argued that each crisis is also an impetus for investors. Especially in Amsterdam Zuidoost this phenomenon is visible: during the crisis investors started to renovate offices while hoping that people would settle down there. Within a few years Zuidoost transformed into the 'Harlem of Amsterdam' (Lokerse in Van der Heijden, 2018). In other city parts it resulted in the construction of a high amount of residential buildings with small housing units, meant for students or young professionals who are willing to pay the high rent and thus only serving a small group of society. Moreover, most of these projects consist only of a few buildings with space between the buildings as public space exclusively developed for the project's own residents, without letting the space be part of the public realm. The result is the creation of segregated, inward-oriented islands with a strong focus on the city centre. The projects do not belong to a continuation of public space anymore, but contribute to a patchwork of exclusive spaces. When these projects are located in the Ringzone or just outside the Ring, we can recognise a strong orientation towards the city centre. These projects do bring new groups of society to the periphery, such as students and young professionals, but these groups are not orientated towards the periphery yet. Consequently, the periphery becomes more diverse on the scale of entire city districts, but when zooming in – on the level of the neighbourhood for example – these projects only cause fragmentation by creating inward-ori-



ented islands that do not seek any relation with the direct peripheral context. These neighbourhoods are often culturally and socially homogeneous.

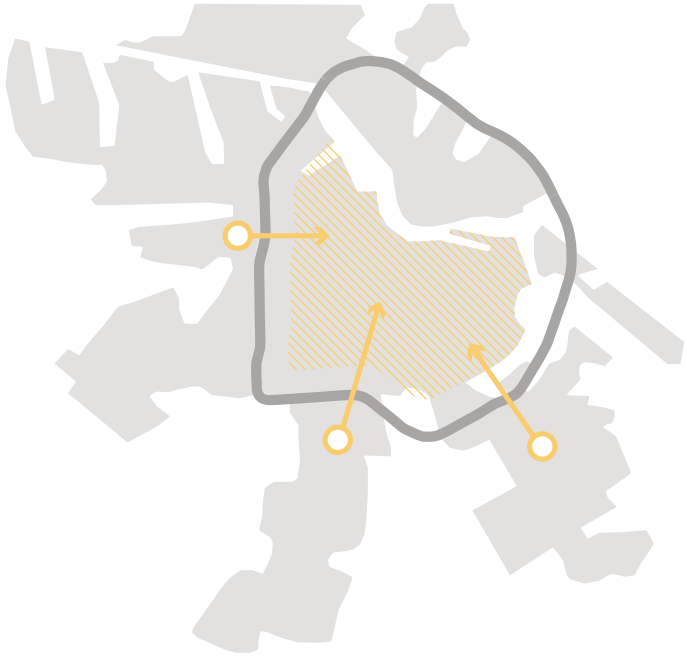
In general, we can state that Amsterdam is organised in projects. Despite the fact that the Structural Vision covers a bigger picture, it has been translated into small-scale projects that are well-designed at project level, but do not seek any coherence on larger scales, with other projects or with the existing context (Gemeente Amsterdam, 2015). We could say that all projects focus on the development of specific sites ('dots'), whereas the connections ('lines') between these areas get less attention. That is a mistake, as these lines – when functioning as arteries of public life and the local economy - can play a significant role in keeping the city together. A comprehensive strategy in which lines and dots of the existing city and new development areas are both being integrated is still lacking. It is therefore striking that the municipality calls the transformation of the Ringzone "a once in a lifetime opportunity to turn the Ringzone into a pleasant, lively and beautiful area" (Gemeente Amsterdam, 2016), since the Ringzone is dominated by large-scale urban structures and plays a determining role on the entire city structure. With all separate projects this vision seems to be far away.

"We are designing buildings, instead of neighbourhoods"

Soeters S. in Milikowski, 2018

CITY DISTRICT LEVEL: DIVERSITY

NEIGHBOURHOOD LEVEL: FRAGMENTATION



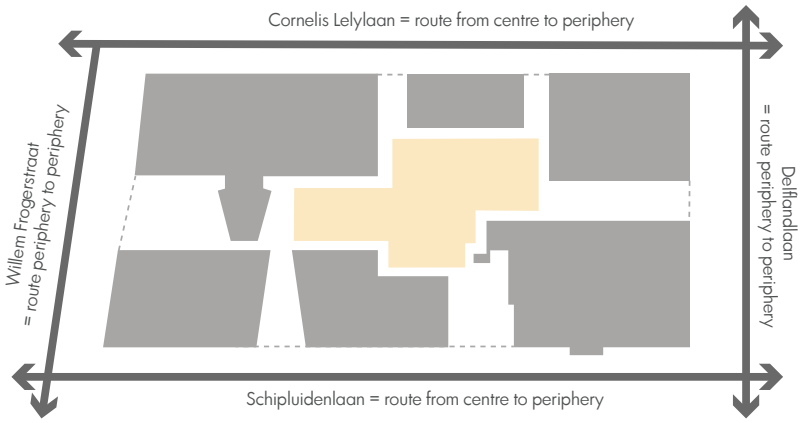
FRAGMENTATION TYPE I: CENTRE-ORIENTED

As mentioned before, the Ringzone has been identified as the most suitable area to develop into a new part of Amsterdam (Gemeente Amsterdam, 2011b). Consequently, many sites close to the Ring are now being redeveloped. The project on the next page is an example of this phenomenon: the peripheral site is located at a 100 meters distance from the Ring and next to the train station Lelylaan, used by more than 15.000 travelers per day (Nederlandse Spoorwegen, 2016). The former site had a monotone and functional character and will now become a metropolitan area connecting people from both centre and periphery, according to the municipality (Gemeente Amsterdam, 2017). The multiple buildings will contain a mix of living and facilities. In total 600 dwellings and 10.000 m2 for facilities will be realised.

The campus shown on the render is called Little Manhattan. It is a co-living housing concept for young professionals with apartments of 3-41 m^2 for 650 - 850 euro net per month (IC-Netherlands, 2017). Besides being oriented towards a specific group, the project promotes itself by indicating its distance towards the city centre.

Little Manhattan is just one of the buildings that are being developed. The map shows how the buildings are situated on the site.The yellow space is a public space meant for people to meet and interact. The problem is, however, that the existing flows of people - indicated by the grey arrows - will never be able to find this public space. Moreover, the idea behind the urban design was to create an inward-oriented area (Gemeente Amsterdam, 2017). When looking at the design, we could say they succeeded in doing that. Podium Lelylaan actually became an inward-oriented island with public spaces exclusively developed for the buildings' own residents. The public space does not belong to a continuation of public spaces from centre towards periphery, but belongs to a exclusive patchwork instead.

The inward-oriented island causes fragmentation in a periphery that is already dealing with the disadvantages of the dichotomy. The entire project is being designed as a dot and there is no attempt to connect the project with the surrounding context. Instead, it is an island located in the periphery, but oriented towards the centre.


Cornelis Lelylaan = route from centre to periphery
Willem Frogerstraat
= route periphery to periphery
Delflandlaan
= route periphery to periphery
Schipluidenlaan = route from centre to periphery

FRAGMENTATION TYPE II: RING-ORIENTED

The second project is also located in the periphery and is called 'Laan van Spartaan'. It is a new neighbourhood in Bos en Lommer, Amsterdam Nieuw-West (Laan van Spartaan, 2018). The neighbourhood is being developed in different phases and will eventually contain more than 1000 dwellings. The way the developer promotes the neighbourhood already shows signals of fragmentation:

"Laan van Spartaan is located just outside the Ring, with your 'own' exit you can directly access the neighbourhood or the ring."

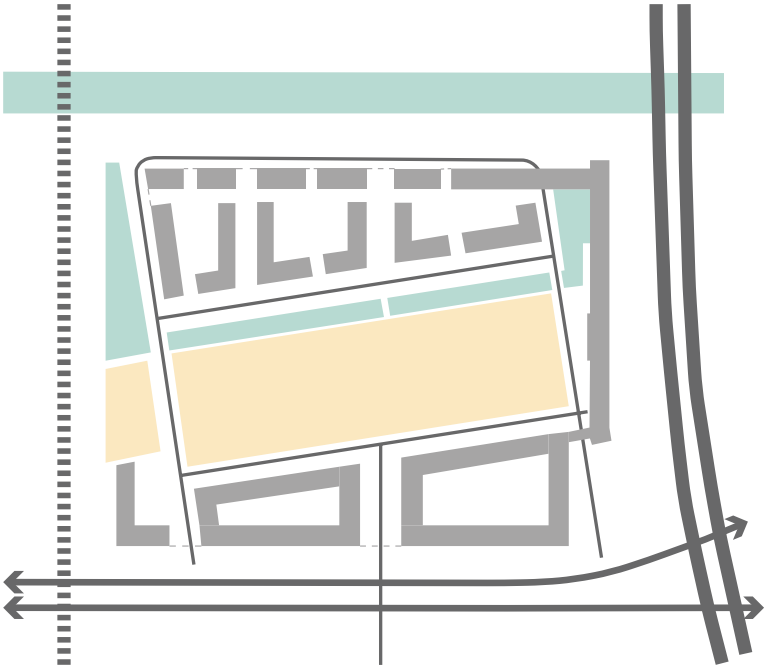
(Laan van Spartaan, 2018, translated by author)

This means the project is well-connected with the ring and people can actually 'hop on / hop off' their own island by using the Ring. Additionally, the project is strongly oriented towards the city centre:

"Laan van Spartaan has good scores on accessibility. The area is just located outside the Ring and thus very close to the city centre of Amsterdam. By bike or by tram you can reach the Dam in 10 minutes. It is also possible to take a boat from the Erasmusgracht towards the city centre!"

(Laan van Spartaan, 2018, translated by author)

When looking at the map of Laan van Spartaan it is clearly visible that the neighbourhood is located right next to the Ring. Moreover, the public spaces are again located inside the neighbourhood, instead of along the street. By doing so, a continuation of public space is again impossible and the public space is again exclusively developed for the neighbourhood's own residents. The buildings itself are partly surrounded by water, which makes the 'island-feeling' even stronger. This kind of project also causes fragmentation, but now the project is more oriented towards the Ring instead of the centre only. When looking at other planned projects in Amsterdam, it is remarkable that almost every project is connected to one of the large infrastructures in the city. In particular the Ring and the radials play a key role in picking locations for new projects.



TOMORROW

a rebalanced Amsterdam

TOWARDS BALANCE

The study of the tangibles and intangibles leads towards the main conclusion that Amsterdam is dealing with a dichotomy between the gentrified centre and the disadvantaged periphery. Moreover, the Ringzone, now functioning as a grey zone, is a mental and physical barrier located between centre and periphery. When taking all planning layers into account, we can draw four main conclusions:

1 Problems occur on various scales, but have an impact on the entire city. However, when analysing the municipal strategy and the current building projects, the bigger picture is lacking and there is no coherence between projects.

2 Whereas one would expect the ring road itself to be the main physical and mental barrier between centre and periphery, it is actually the grey zone that functions as a barrier. The grey zone is often 15 times wider than the ring road itself and is dominated by the metropolitan-scaled grid and thus metropolitan-scaled functions. These functions have a large footprint, are oriented towards the Ring and cause a discontinuity of streetlife.

3 The layer of infrastructure has strong co-relations with the other planning layers and plays a determining role in the organisation of centrality. In fact, the end-product of the integration of the different scaled-grids is vital urban life. At the moment, however, there seems to be a lack of awareness of these co-relations and projects only focus on 'dots' instead of lines. The disintegration leads towards a discontinuity of vital urban life.

4 The city deals with an experiential discontinuity and – for local traffic – a movement discontinuity between centre and periphery, related to the different spatial concepts. The radials, now functioning as the main connections between centre and periphery, can play a key role in creating experiential and movement continuity. However, both the 'length' and 'depth' of the radials need to be considered.

When studying the spatial footprint of trends and strategies that have an impact on the dichotomy, we can draw some more conclusions.

5 The city is dealing with a growing gap between the gentrified centre and the disadvantaged periphery. Gentrification in Amsterdam is at least partly a state-led process, since the municipality actually uses gentrification as a means to drive neighbourhood change in favour of the knowledge economy.

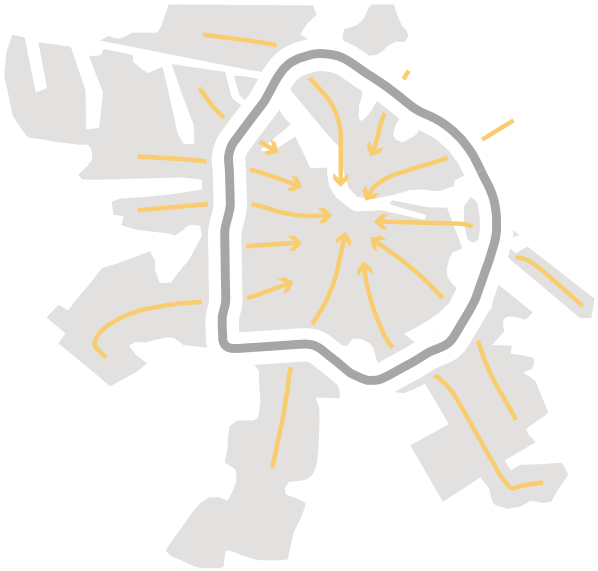
6 There is a disconnection between the municipal aims of maintaining the welfare and prosperity of all residents. When acknowledging the economic and social importance of public space simultaneously, it is possible to bring the aims together. For both the economic and social importance of public space it is necessary to create a continuity of vital urban life, which is also the end-product of the scaled-grids.

7 New projects cause changes in the social-spatial layout of Amsterdam and cause a further upgrade of the centre and a further downgrade of the periphery. Post-2008 developments got a new scale and character. Projects near the Ring are now often inward-oriented islands with a strong focus on the city centre. Public space belonging to these projects ('dots') contributes to a patchwork of exclusive spaces. Consequently, fragmentation takes place in a city that is already dealing with a cleavage between centre and periphery.

Taking all conclusions together, summarised in three elements: Amsterdam's gentrified centre, disadvantaged periphery and the grey (Ring) zone in between, we can conclude that Amsterdam is out of balance regarding the tangibles and intangibles. If Amsterdam wants to improve the prosperity and well-being of its residents, the city needs to search for a significant change in the relationship between centre and periphery. In fact, the city needs to reorient itself from the centre only towards the centre, Ringzone and periphery together.

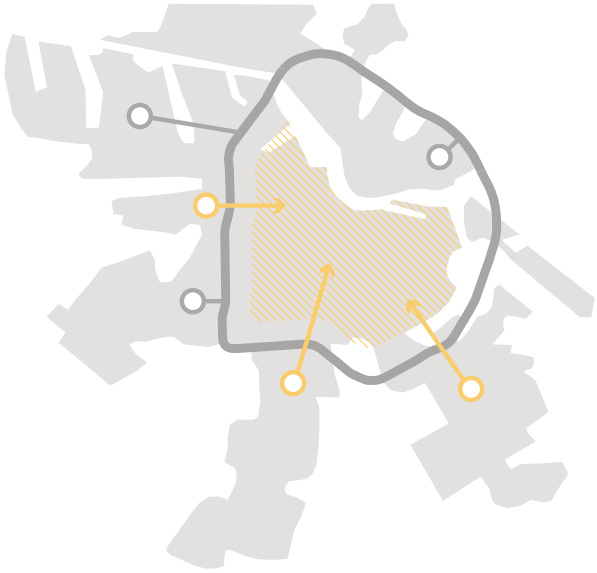
A GENTRIFIED CENTRE

The centre, follwing the concept of centralisation, is subject to gentrification. That causes a very strong orientation towards the cente. The uneven distribution and direction of flows has consequences for the balance between growth and quality of life.



A GREY (RING) ZONE

The Ringzone is dominated by the metropolitan scale, because of the presence of the Ring. That causes a grey zone of sometimes more than a kilometer wide. The grids are disintegrated and there is a discontinuity of vital urban life. Not the Ring, but the grey zone functions as a mental and physical barrier and does contribute to coherence in the city.



A DISADVANTAGED PERIPHERY

The periphery, following the concept of decentralisation, is dealing with the growing dichotomy between centre and periphery, demonstrated by the spatial footprint of rising inequality. The urban developments in the periphery show the consequences of socio-economic trends, such as gentrification. The projects, designed as inward-oriented islands with exclusive public spaces, make the periphery even more dependent on the centre.

A GENTRIFIED CENTRE …

A GREY (RING) ZONE ...

... A DISADVANTAGED PERIPHERY

CHAPTER III

PROJECT STRUCTURE

- Problem statement
- Hypothesis
- Research questions
- Research / design aim
- Intended end-products
- Methodology
- Research approach
- Societal / scientific relevance
- Ethics
- Time-working schedule

YESTERDAY

a dichotomised Amsterdam

TODAY

a gentrified Amsterdam

TOMORROW

a rebalanced Amsterdam

PROBLEM STATEMENT

Amsterdam is dealing with a discontinuity between a gentrified urban centre and a disadvantaged periphery, visible in both the tangible and intangible structures of the city. The centre follows the spatial concept of centralisation, whereas the periphery follows the spatial concept of decentralisation. Consequently, centrality in both city parts is organised in different ways and there is a discontinuity of vital urban life. This reinforced by the grey (Ring) zone in between, which is now functioning as a mental and physical barrier. Even though the dichotomy between centre and periphery is slowly taking over the city, Amsterdam continues to grow ever faster. The municipal strategy as a response to that brings the city even more out of balance, by using trends like gentrification as a means to drive neighbourhood change. The social benefit of spatial interventions is left behind, causing a growing dichotomy and eventually a loss of vital urban life in Amsterdam.

HYPOTHESIS

In order to restore the balance in Amsterdam, it is necessary to aim at a more equal relationship between centre and periphery by creating continuity of the tangible and intangible structures. By starting with the integration of the three different scaled grids, the end-product will be a continuity of vital urban life. Moreover, vital urban life plays a key role in both the economic and social value of public space, which makes it possible to reconnect the municipal aims of maintaining the welfare and prosperity of all residents.

MAIN RESEARCH QUESTION

How can the balance between the gentrified urban centre and the disadvantaged periphery by restored, by concentrating on the continuity of vital urban life as an end-product of the integration of the three different scaled grids?

Note: creating continuity of vital urban life consists of two components:
- the minimalisation of the grey zone
- the minimalisation of the dichotomy (visible in the tangible and intangible structures) between centre and periphery

In both cases it is necessary to start with the integration of the three different scaled grids.

SUB RESEARCH QUESTIONS

The sub research questions will be answered in the different chapters of this thesis, as part of the problem analysis, the required research for design, the creation of the spatial vision and the creation of the development strategy.

Towards a problem definition...

> What is the position of the Ringzone in the context of Amsterdam as a growing city?

> Back to 1934: What was the idea behind the Ring and the Ringzone?

> Back to 1934: What does the introduction of new spatial concepts, as proposed in the General Expansion Plan, mean for Amsterdam today regarding the relationship between city and infrastructure?

> What does the introduction of new spatial concepts mean for the continuity of the tangible and intangible structures between Amsterdam inside the Ring and Amsterdam outside the Ring, starting with the relationship between city and infrastructure?

> What current strategies and trends have an impact on continuity between centre and periphery, regarding the tangible and intangible structures?

Towards a spatial vision...

> What can we learn from the development of the relationship between city and infrastructure?

> What can we learn from case studies of urban transformation strategies that focus on the relationship between city and infrastructure?

> What is the most effective strategy for the Ringzone?

> Taking the main objectives of the Structural Vision 2040 as a starting point, how does the most desirable spatial future look like for Amsterdam as a whole?

> What guiding principles for strategic interventions follow out of the desirable spatial future of Amsterdam as whole?

Towards a spatial strategy...

> How can the spatial vision be translated into concrete action, following the guiding principles?

> What is the link between the strategic interventions and the bigger picture of the spatial vision?

> To what extent are the proposed interventions transferable to other parts of Amsterdam or other cities?

The first set of questions aims to learn from the past, in order to understand the present and to predict the future. The questions refer to the context of Amsterdam and the General Expansion Plan, which meant the introduction of new spatial concepts in Amsterdam. Moreover, these questions aim to get an understanding of the city by analysing centre, Ringzone and periphery and the continuity of the tangible and intangible structures in all three zones.

The second set of questions refers to the required research for design and secondly to the specific parts of the spatial vision: a convincing story on the desirable future of Amsterdam and the guiding principles following out of this story.

The third set of questions aims to translate the spatial vision in concrete action, by zooming in on specific areas in Amsterdam. A design needs to answer these questions. Additionally, the questions take the bigger picture into consideration by mentioning the transferability of the project result.

RESEARCH AIM

This thesis is a proposal to restore balance between centre and periphery in 21st century metropolitan Amsterdam by the creation of continuity of vital urban life as an end-product of the integration of the three different scaled grids. Therefore this thesis takes both the tangible and intangible structures into account, while taking the relationship between city and infrastructure as a starting point. That means it is assumed that this relationship plays a determining role in the continuity between a centralised centre and a decentralised periphery. In order to test the hypothesis and to give answer to the research question, the thesis requires an evidence-informed vision and strategy and so the combination of research and design is essential. This will also help to understand and explain the link between chosen means and goals.

By taking the relationship between city and infrastructure as a starting point, the thesis aims to connect the disciplines of urbanism and infrastructural design. In fact, infrastructure is moving back to the field of urbanism. The research of this thesis aims to approach the problem in an interdisciplinary way in order to let city and infrastructure to merge on different scales, instead of the current situation in which the lack of integration means the beginning of a discontinuity.

DESIGN AIM

The aim of the design is to create a spatial vision and a development strategy. The vision tells the story of the desirable future of Amsterdam, resulting in guiding principles for the strategy. The strategy uses these guiding principles in the design process of the strategic interventions. In all cases, the bigger picture has to be kept in mind. Therefore, the aim of the design is not only to come up with interventions that actually have an impact on the balance of the city, but also to come up with interventions that are inspiring and transferable to other parts of Amsterdam and perhaps other cities as well. Moreover, the design takes the bigger picture into account, which means centre, Ringzone and periphery are all part of the design. In order to create continuity, it is necessary to focus on two directions: the direction parallel to the Ring and the opposite direction.

INTENDED END-PRODUCTS

This thesis aims to combine research and design in order to realise two end-products: a spatial vision and a development strategy.

Spatial vision

The vision describes the desirable spatial future for Amsterdam. Since the bigger picture is lacking in the current strategy, the scope of the vision is therefore Amsterdam as a whole. As a matter of course, the relationship between city and infrastructure and the Ringzone play a central role in this vision as well.

The vision will be built upon a comprehensive analysis of the tangible and intangible structures, while exploring trends that have an impact on the continuity of these structures as well. Events in both past, present and future will be used as input for the vision. In the end, the vision will describe the most desirable future for Amsterdam as a whole for the coming 30 years (until 2050).

Development strategy

The vision functions as a normative frame for the development strategy, as the vision sets out the guidelines for the spatial interventions. The strategy can be regarded as the spatial translation of the vision, leading towards the actual change in the tangible structures of the city. This will eventually lead to changes in the intangible structures as well.

Whereas the vision explicitly focuses on Amsterdam as a whole, the strategy will take a closer look to specific locations that play a key role in the creation of continuity. The development strategy aims to steer developments in the right direction. The strategy follows the guidelines of the vision and translates these guidelines into concrete action (TU Delft, 2017). Both short-term and long-term interventions are part of the strategy and must contribute to the resilience of Amsterdam.

Moreover, both the vision and strategy have to be realistic. The aim is not to show an imaginary future, but a realistic future that can actually make Amsterdam taking steps forward. The strategy focuses on areas with the greatest potential and the highest benefits. By doing so, the strategy can be inspiring for other city parts or cities as well.

METHODOLOGY

Throughout the entire process a wide variety of methods will be used, aiming to combine research and design during all phases. The scheme shows all different phases of the thesis, including in the used methods during each phase. Below all methods are listed and explained, including the aim.

Literature study

Literature study includes all the readings for this thesis, ranging from academic papers to policy documents and newspaper articles. Using literature will enrich both the research and design and will be used mainly in order to make the entire thesis convincing and the design effective. The vision will therefore automatically become evidence-informed.

Mapping

Mapping can be understood as the spatial translation and exploration of Amsterdam and in particular the continuity of spatial structures. The method is used to achieve a wide range of information: from rather basic (but essential) information about the infrastructural networks and the urban fabric to specific features and details. During each phase the method of mapping will be used in order to get a good understanding of the spatial structure of Amsterdam. However, during the phase of designing, the maps will become more detailed and more focused on specific city parts.

Fieldwork

Fieldwork will be carried out for the first time before P2 in order to get a good understanding of the area. This is absolutely necessary for the development of thoughts on the problem definition. The fieldwork will contain the 'view from the road' (the ring road), as well as the 'view from the city (Amsterdam inside the Ring and Amsterdam outside the Ring). In between P2 and P3 fieldwork will take place again, in order to evaluate the diagnosis of the city and to get inspiration for the design process. During the fieldwork it is important to look for both weaknesses and chances. Moreover, field work can help to pick the strategic locations for the strategy.

Photographs, time lapses and sketches will be used in order to document the fieldwork.

Data analysis

Data analysis will improve the credibility of the thesis and is necessary to test the hypothesis. Moreover, statistics can reveal the link between tangible and intangible structures. Moreover, the data analysis will lead to an evidence-informed vision and strategy. The municipality of Amsterdam offers people a great amount of data, including a yearbook with statistics on all different subjects. Moreover, their website maps.amsterdam.nl offers maps based on data. Besides data from the municipality of Amsterdam, data from CBS Statistics Netherlands, PBL Netherlands Environmental Assessment Agency and other institutions will be used. The data should lead to an objective view of the subject and therefore multiple sources of data are required.

Trend analysis

In order to make the thesis more relevant, it is necessary to get insight in the trends Amsterdam is dealing with. Moreover, studying trends from the past and expected trends for the future will make the thesis more on-topic. Reading newspapers and updates on websites, such as the website of the municipality, will help to discover trends. Other methods will be used to confirm the trends, such as the field work and the literature study. Trends in Amsterdam can be global trends at the same time, such as the trend of gentrification or - related to that - socio-spatial segregation. It is therefore interesting to look at other cities to see what is happening there and if these cities provide inspiring solutions for Amsterdam as well.

Case study

As projects related to city and infrastructure often require large investments, it is crucial to make use of case studies. Projects in other cities will lead to a list of lessons learned, which will be researched in the theory paper. Moreover, other case studies can support the decisions made in this thesis. The theory paper involves three case studies: Amsterdam, Ant-

werp and Barcelona, and discusses the strategies of Amsterdam and Antwerp with the lessons learned in Barcelona. Moreover, other case studies can support the decisions made in this thesis, such as a comparison between squares, streets or parks. Case studies are useful for the creation of the vision and strategy. Case studies are relevant for all scales.

Historical research

Learning from the past in order to understand the present and to predict the future is a key element in this thesis. History shows that the relationship between city and infrastructure is constantly changing. The history of Amsterdam shows the impact of the relationship on the continuity of both tangible and intangible structures. For Amsterdam it is essential to study planning schemes from the past, mainly the General Expansion Plan, in order to understand how the city works. Historical research focuses not only on Amsterdam, but on the relationship between city and infrastructure in general.

Space syntax

The method of space syntax was developed at the Barlett, University College London (Read, 1998). The method aims to reveal the relation between 'space' and 'syntax': the relationship between the configuration of the city and the functioning of the city. Space syntax will especially be used to get a good understanding of the spatial structures in Amsterdam and the differences between several areas in the city. In particular the relationship between the different urban layers of Amsterdam will become more clear when making use of the method of space syntax.

Interviews

Interviews with experts will contribute to an understanding of the problem. As several design offices and the municipality are already working on projects related to the Ringzone, it makes sense to find out the ideas behind their proposals. Moreover, an interview with the municipality of Amsterdam will help to make a distinction between the actual desirable future for Amsterdam and the impact of politics and private parties.

Sketching

Especially during the design phase it will be important to start sketching in order to find out what interventions could actually make a change. Sketching the different options and the evaluation of these options will eventually lead to a best possible option. Moreover, this method will help to understand why some options do not work and that will make the story even more convincing.

Peer review and evaluation moments

Reflection is one of the most relevant parts of the thesis. Peer reviews will increase the amount of feedback and it is useful to get feedback from people who are in the middle of the graduation process as well. Meetings with mentors and especially the feedback and questions after each presentation will give input for the evaluation moments.

RESEARCH APPROACH

The scheme on the next page shows the various phases indicated by different colours. During all phases it is important to pay attention to the combination of a critical analysis (A), an integrated design (D) and a structured presentation (P). This approach is provided by the research group 'Design of the Urban Fabric' and will be followed by this thesis as well. These three components will evolve during the process and are allowed to change during the process as well.

The project starts with a phase of orientation. This phase begins on a rather abstract level and becomes more specific over time. The project starts with a more general, personal interest: the relationship between city and infrastructure. This topic is relevant for cities all over the world and the relationship between city and infrastructure is subject to change, which makes it even more relevant. In order to research this relationship, it is necessary to pick a representative case: the city of Amsterdam.

The second step is to define the problem. The relationship between city and infrastructure is used as a starting point here, which causes general problems that are visible in many cities and problems that are specific for Amsterdam. The continuity between centre and periphery will be analysed, structured by following the planning layers of the city. The past, present and future developments of these layers will be taken into account. Moreover, the research incorporates both the tangible and intangible structures of the city on multiple scales.

The problem definition is structured in three parts, which is summarised in the problem statement. The first part describes the dichotomy of Amsterdam, the second part focuses on the impact of trends and strategies on the dichotomy and the third part focuses on the current and future situation by stating that there is a need to restore the balance in Amsterdam. The problem definition focuses on Amsterdam as a whole, but is mainly structured by comparing centre, Ringzone and periphery.

The problem statement summarises the diagnosis of the city and the thesis aims to find solutions for the explored problem. Therefore research questions need to be formulated. The main research question of the thesis is actually the main research question of the vision and strategy as well: how to create a city in balance? The sub research questions will be answered in the different chapters of this thesis and all contribute to finding an answer to the main research question. The hypothesis gives a preliminary answer to the main research question.

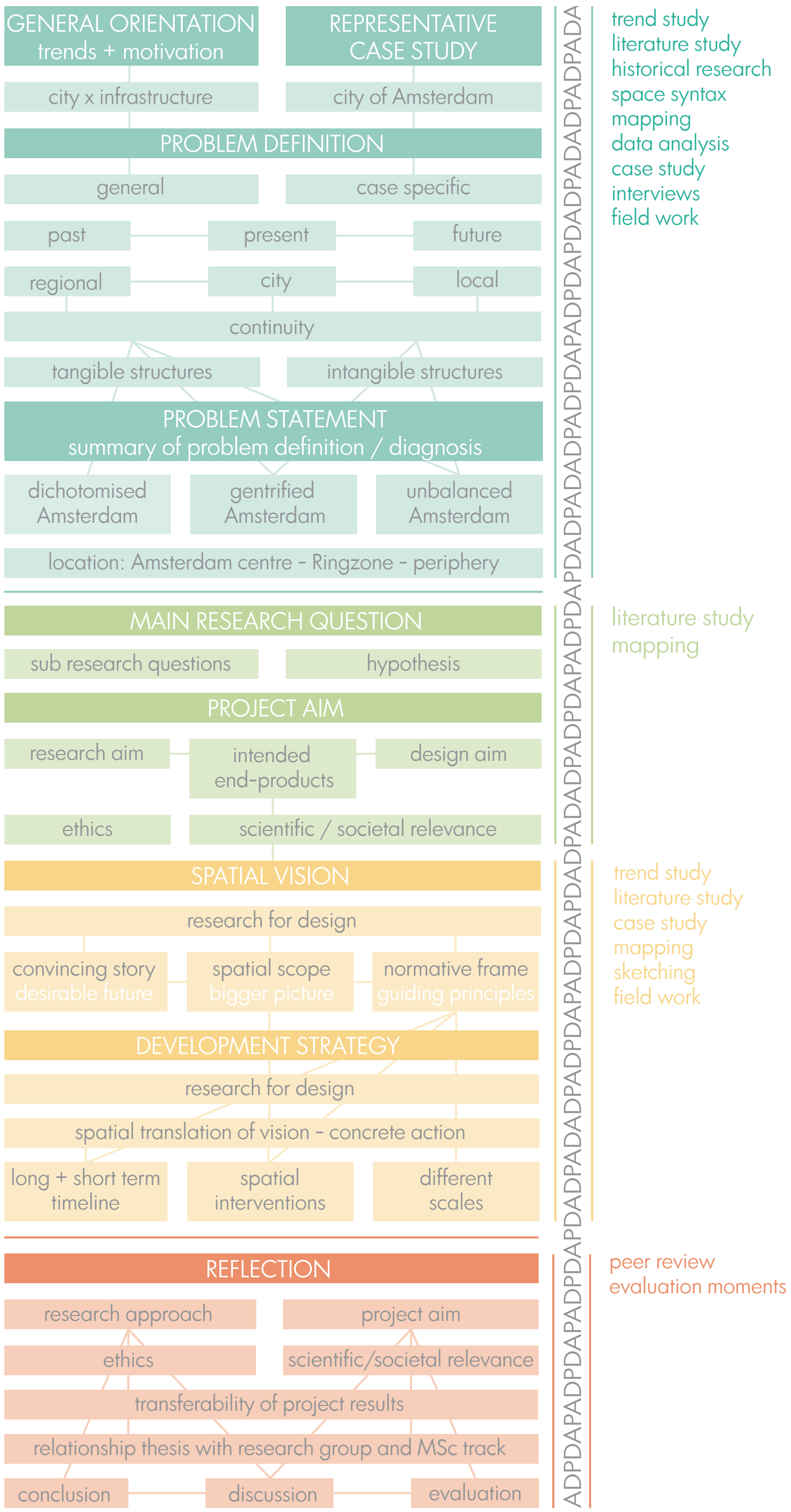
After defining the problem statement, the research questions and the hypothesis, the research and design aim are being formulated. The research aim is supported by a paragraph on the societal and scientific relevance and ethics. The design aim can be linked to the paragraph on the intended end-products. Before working on the end-products research for design needs to be carried out, which consists mainly out of case studies and spatial strategies.

The first end-product is a spatial vision, which contains three elements: a convincing story, the spatial scope and a normative frame. In the end, the vision needs to be a convincing story on the most desirable future for Amsterdam. The vision results in guidelines.

The second end-product is the development strategy, which is the spatial translation of the vision. The strategy shows the different spatial interventions. Moreover, the strategy focuses on multiple scales, while keeping the bigger picture in mind. Whereas the vision might be more abstract and focused on the city as a whole, the strategy is more specific.

After each phase and definitely at the end of the entire process, it is time to reflect and answer the main research question as well. Therefore, there is a separate phase entirely dedicated to this reflection. The reflection is necessary to keep the link between the end-products and the research and design aim in mind. Moreover, the reflection also incorporates critical thinking on the ethics and relevance of this project, and, perhaps even more important, the transferability of the project results. Last but not least, the reflection has to pay attention to the link between the graduation topic, the research group and the MSc track Urbanism of Delft University of Technology.

PROJECT STRUCTURE



SOCIETAL RELEVANCE

Amsterdam faces several challenges, of which most are related to growth. In the Structural Vision 2040 and in the Spatial Strategy 'Koers 2025' the municipality pays much attention to the challenge of growth (Gemeente Amsterdam, 2011b; Gemeente Amsterdam, 2015). Although the municipality acknowledges the importance of an attractive living and working environment, quantity receives more attention than quality. The vision and strategy of the municipality both aim to explain how Amsterdam is going to accommodate the expected growth, including a list of project locations. For the inhabitants of Amsterdam, however, the quality of their living environment counts probably more than the quantitative ambition of building 5.000 dwellings per year. This thesis aims to make the city more liveable by restoring the balance, which makes the thesis already relevant for society.

Growth also means that balance need to be found between liveability and mobility in the city. That is closely linked to the relationship between city and infrastructure, which is the starting point of this thesis. All people living or coming to the city will eventually benefit from a strong integration between city and infrastructure. Especially near the ring road it is necessary to come up with solutions, as the road causes an unhealthy living environment.

Investing in liveability is closely linked to the economic and social importance of public space. Therefore, public space is linked to the two main municipal goals: maintaining the welfare and prosperity of all residents. Since the welfare is closely linked to the knowledge economy and since Amsterdam is the driver of the national economy, it is also in the interest of the entire country.

Although growth is still a relevant theme for Amsterdam, new challenges are gaining more importance. Trends related to rising inequality, especially gentrification, become more visible in the city and have an impact on the daily life of people living in Amsterdam. Since the municipality of Amsterdam does not have a clear answer to this challenge yet and does not show enough awareness of this problem, it is time to take a stand and come up with spatial solutions for these challenges.

SCIENTIFIC RELEVANCE

All over the world designers, policy makers and civil movements are struggling with the relationship between city and infrastructure, often with ring roads involved (BNA Onderzoek, 2017). The fact that they are struggling refers to the scientific relevance of this project: city and ring have each other in a hold, but need each other constantly. That causes a complex, long-term problems for the balance between liveability and mobility. Cities are still in search of good spatial answers to this struggle. Meanwhile, enormous amounts of public and private money are being invested in infrastructural projects, which are often regarded by policy makers as their primary field of investments in order to structure urban settlements (Shannon & Smets, 2016). Hence, it is even more crucial to find out the relationship between means and goals to come up with effective strategies and so there is a scientific relevance.

Nowadays, infrastructure is moving back to the field of urbanism and so a close collaboration between multiple disciplines has become a necessity (Shannon & Smets, 2016). Infrastructure now engages imaginative and social dimensions as much as engineering. This thesis takes the relationship between city and infrastructure as a starting point, but proposes new links in the hypothesis as well. The thesis does not focus primarily on the ring road, but starts with questioning the cause of the barrier between centre and periphery. That leads towards a shift of focus from the road itself towards the integration of the three different scaled grids. The thesis therefore has a unique approach of linking the integration between city and infrastructure with the continuity of the tangible and intangible structures and eventually with the balance in the city as well. Infrastructure is here being acknowledged as a determining layer for the other layers of the city as well. The combination of these links is relatively unexplored and therefore the thesis can add new findings to the existing body of knowledge.

ETHICS

The thesis focuses on the tangible and intangible structures in Amsterdam and especially that combination brought ethical issues and dilemmas. To give an example, the thesis describes the impact of gentrification on the dichotomy in Amsterdam and the spatial footprint of this trend. Exclusion of certain groups of society is already happening in Amsterdam, while the municipality claims that Amsterdam should be a city for everyone. Nevertheless, the municipality does not have clear answers to the arising ethical issues and dilemmas yet and even seems to stimulate this trend. For me it was thus an opportunity to take a stand and to show how Amsterdam could respond to these trends. These issues and dilemmas were therefore part of the research, the design and the results as well. It is, though, hard to predict If the vision and strategy would have the desired impact on these trends. That is why during the process case studies have been looked at in order to find out what means would have the desired outcome. That is also in line with my personal goal of using research as a solid foundation for the design process.

Another ethical issue is the ring road of Amsterdam. The air pollution caused by the road is similar to smoking ten cigarettes per day (GGD, 2017), which means the road raises ethical health and environmental issues. Covering the ring road would improve the health and environmental conditions, but requires large investments as well. Simultaneously, technology is evolving fast and so it is questionable if we still need a covered ring road in thirty years or that we should invest in other networks in order to make the modal split more balanced. This brings forward dilemmas when thinking of the potential applications of results. That is also the risk of focusing on the larger scale (the metropolitan city of Amsterdam) and the longer term (until 2050: there are many uncertainties and new issues might come up. It is thus more difficult to predict and to control.

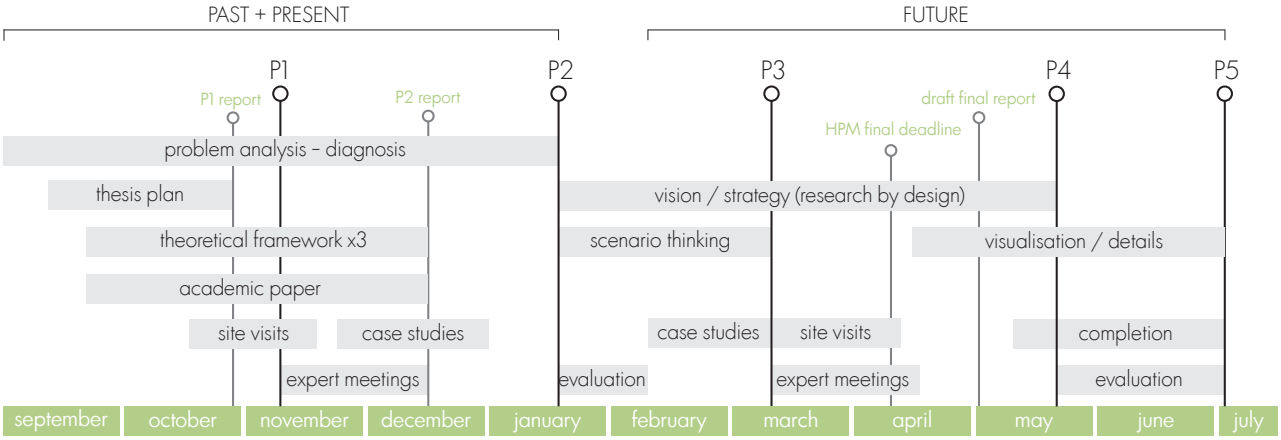
TIME-WORKING PLAN

The thesis is a combination of research and design, which requires a constant integration of both. However, in the first semester a stronger emphasis will be put on research, whereas the second semester is reserved for the design part. That also means that the first semester focuses mainly on the past and present and the second semester is much more concentrated on creating a desirable future, based on what we have learned from past and presetn. The reason for this is that the design needs to be based on the research and analysis of the context. P2 marks the end of the problem definition and therefore the start of the creation of the vision and strategy as well. However, the problem definition is still allowed to change during the second semester.

During the entire year the project approach provided by the research group will be leading, which consists of a combination of a critical analysis (A), an integrated design (D) and a structured presentation (P). When these aspects are constantly being mixed up, the story of this thesis will keep evolving during the entire year as well. That means that near P4 the problem statement can still be adjusted.

After each presentation an evaluation will be carried out and a planning will be made with more precise tasks.

Besides the regular MSc Programme I am also involved in the Honours Programme Master, which means I have to combine my research on Amsterdam with my research on Dar es Salaam, Tanzania. In December I will carry out fieldwork in Tanzania. Nevertheless, both projects need to be finished within the academic year of 2017-2018.



MSc 3: 20 weeks

MSc 4: 20 weeks

CHAPTER IV

RESEARCH DESIGN

- City and infrastructure
- Strategic transformations
- Six spatial strategies
- Why (not) transform the Ring

CITY AND INFRASTRUCTURE

Speaking of the relationship between city and infrastructure implies that these are two separate components. However, cities are more and more regarded as networks, serving the daily urban systems of people (Van den Boomen & Venhoeven, 2012; Hajer & Reijndorp, 2001). In that perspective, it becomes rather impossible to make a distinction between city and infrastructure. Moreover, trends and developments often have an impact on both components and ask for integrated solutions as well. The theory behind this thesis, organised by past – present – future, demonstrates the levels of (dis)integration between city and infrastructure and its consequences. Especially since designers are still using the same building blocks as their colleagues in the past, it makes sense to discuss the different used approaches regarding the integration of infrastructure and city (BNA Onderzoek, 2017). Researching the issue in the context of Amsterdam, as well as in a more general context of thoughts and trends, leads to a framework that will be, in combination with more practical research, the main input for the vision and strategy.

From boulevard to beltway

Many infrastructural projects operate on the scale of the city, which means we are dealing with urban structures that can lead towards coherence or fragmentation (Meyer *et al.*, 2006). Already in public space design of the sixteenth and seventeenth century, when networks were much more integrated, it was a challenge to create a coherent design and this challenge is still relevant today. In the nineteenth and early twentieth century, however, there are examples of coherent designs on the scale of the city. Baron Haussmann's network of boulevards in Paris and Frederick Law Olmsted's network of parks in Boston prove that it is possible to intertwine infrastructure with other objectives (Shannon & Smets, 2016). In the case of Olmsted control of the natural ecology of tidal wetlands was the objective, but he translated this assignment into a large metropolitan system of parks and parkways. In both cases one person was responsible for the design and realisation of the project, which makes it understandable why projects of these scopes could be realised (Meyer *et al.*, 2006).

Besides these well-known examples, nineteenth and twentieth century urbanists in general attempted to combine concerns as mobility, health, recreation and scenery (Shannon & Smets, 2016). Roads and transport systems were represented as the backbone of new settlement structures, as represented by Soria y Mata and Le Corbusier in their plans for 'linear cities'. Infrastructure was regarded as part of regional and urban design, and remained deeply rooted to urbanism.

The French concept of the boulevard was the example for the classic generation of ring roads: "a circular sequence of wide avenues flanked by big trees and relieved with public spaces, stately monuments

Figure 4.1. Haussmann in Paris: Avenue de L'Opera (Pisarro, 1898)

Figure 4.2. Ville Radieuse by Le Corbusier (Source)

Figure 4.3. Example of an orbital motorway (Dixon, 2015)

Figure 4.4. George Washington Parkway (National Park Foundation)

and spacious green parks" (Van Acker & Van de Vijver in BNA Onderzoek, 2017). Defense walls of European cities were transformed into ring boulevards, steered by the discipline of urban planning (BNA Onderzoek, 2017). As cities kept on growing, the walls turned into barriers between the inner city and the suburbs. The boulevard, however, was much more than 'just a road': it turned nineteenth century cities with medieval, dense urban fabrics into modern cities with readable city structures. The Ringstrasse in Vienna, as described by Joseph Stübben in 1857, would become the showpiece of the Habsburg Empire. Moreover, the boulevard introduced traffic hierarchy in the city and different transport modes were separated. After Vienna, cities as Cologne, Paris and Antwerp transformed their defensive belt in ring boulevards as well. Both (local) identity and urban coherence are part of these designs.

Whereas ring boulevards are examples of integrated infrastructural design, infrastructure turned into an autonomous system in the twentieth century (Shannon & Smets, 2016). Simultaneously with the rise of the car, networks in the city became disintegrated (Meyer *et al.*, 2006). A distinction can be made between social and functional public space, reflected in a distinction between local networks and larger, urban networks. Infrastructure became a component of traffic management rather than urbanism and this movement was even reinforced by the fact that urbanists showed a lack of interest in integration in urban designs (Shannon & Smets, 2016). As a result, highways lost their relation with the surroundings and in cities coherence of the existing network was destroyed by mono-functional arterial roads (Meyer *et al.*, 2006).

Post-war beltways and orbital motorways were not based on the urban structures of defensive walls and were indeed designed by engineers (BNA Onderzoek, 2017). Until WOII beltways were often constructed by widening existing roads, resulting in bypasses around major cities. These loops combined local traffic with through traffic. The orbital motorways from the 1960s were entirely new constructed roads, derived from the American Interstate Highway System. These roads were no longer regarded as a part of cities and so the relation between city and infrastructure became completely lost.

Introduction of American road concepts in the Netherlands

Examples of ring roads from abroad, mainly the American concept of the beltway, were a rich source of inspiration for Dutch urbanists and engineers (BNA Onderzoek, 2017). After the construction of the first urban highway in Rotterdam in the 1930s, it turned out that integrating city and infrastructure caused too many accidents and too much space (Meyer *et al.*, 2006). That resulted in a new policy, following the foreign examples: highways were regarded as elements that could not be interwoven with the existing urban fabrics. The relationship between city and infrastructure was therefore forced to change, leading towards three new spatial concepts: the ring road around the city, the parkway along or through the city and the urban highway crossing the city.

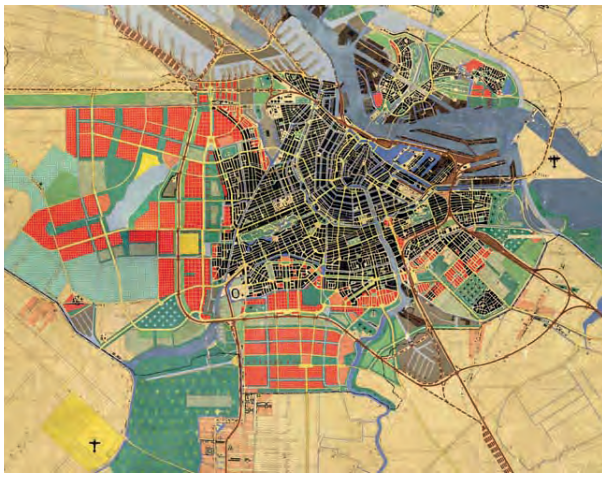


Figure 4.5. General Expansion Plan of Amsterdam, 1934. (Van Eesteren Museum)

After the invention of the automobile in 1885 by Karl Benz, driving and the required infrastructure were associated with the perception of freedom as it provided access to individual landmarks (Shannon & Smets, 2016; Kloos, de Korte & Wendt, 2010). During the first decades of the twentieth century the automobile became a privileged means of discovering scenic routes, offering people a dynamic time-space experience (Kloos, de Korte & Wendt, 2010). These ideas on driving led to the introduction of the parkway in the United States and Europe: a metropolitan conception of a city that melded landscape, infrastructure and urbanisation (Meyer et al., 2006; Shannon & Smets, 2016). The parkway was intended for pleasure driving and was carefully integrated in the landscape (Kloos, de Korte & Wendt, 2010). The road was accessible for cars only and provided the driver with a calm feeling of nature. While perceiving the landscape in a new way, the driver could speed ahead uninterrupted. In cities such as Boston and New York, stimulated and carried out by Robert Moses, entire systems of parks and parkways were developed with special attention for the car. These principles were introduced in the spatial structure of Amsterdam as well, known as the green wedges.

New spatial concepts in the AUP (1934)

In the 1930s the spatial structure of Amsterdam was almost a concentric model with several rings, constructed throughout history (Kloos, de Korte & Wendt, 2010). The characteristic spider web shape of Amsterdam came into existence by constructing new city walls and canals each time the city had to expand. Later, neighbourhoods were constructed in the form of a half ring around the city, on the location of the old ramparts, resulting in the 'nineteenth-century ring'. After that, in the first half of the twentieth century, a new ring-like expansion was added to the city: Ring '20-'40. With the development of the green wedges, instead, the city gained a new spatial concept and expanded in western and southern direction.

In 1934 the General Expansion Plan of Amsterdam (AUP), masterminded by the urban planner Cornelis van Eesteren, this new spatial concept was introduced, as well as the first segments of the later ring road A10. The urban plan was supposed to change the fragmented urban planning in and around Amsterdam in to a structured long-term plan (Meyer et al., 2006). The introduction of new spatial concepts in the city led to different mobility patterns as well (de Hoog, 2005). Whereas the compact, centralised city centre became the place for slow traffic and public transport, the Garden Cities followed the spatial concept of the decentralised city, including an increase of cars.

The AUP anticipated on the expected growth of both Amsterdam and car traffic (BNA Onderzoek, 2017). Both the road networks in the existing city centre and the planned neighbourhoods were (re)considered as part of the new urban plan, adding new east-west roads and radials to the city. The road drawn on the western and southern side of the city is the precursor of the current A10 ring road. These segments were designed according to the principles of the American parkways (BNA Onderzoek, 2017). Since it was already visible that the later A10 ring road would be absorbed by the city, Van Eesteren made efforts to integrate the road as much as possible into the urban fabrics along both sides of the road. The original design of the Ceintuurparkweg focused on a rhythm of open and closed spaces. The perception of the driver was at the centre, but the flanking high-rise buildings in the landscape along the road would draw attention to both the ring and the road from a long distance. However, the economic crisis of the 1930s and WOII would decelerated the ideas of reconciliation of the road and the city.

After WOII: the urban ring road as a new phenomenon for the Dutch

In the 1950s, after WOII, ring roads were designed for all large cities in the Netherlands (Meyer *et al.*, 2006). Besides the construction of a network for highways, the accessibility of city centres became a priority for the Dutch Ministry of Infrastructure and the Environment. The goal was to direct through traffic along the city, instead of causing nuisance within the city's borders and so the relationship between city and infrastructure was minimalised again. The first intention was to create symbiosis between the road and the landscape, but gradually this symbiosis became too complicated. In most cases there was a lack of space and roads were already absorbed by cities.

In Amsterdam the ideas of a consistent parkway and harmonious urban integration of the A10 have never been realised (BNA Onderzoek, 2017). Instead, policy makers defined three goals here: creating a route for through traffic around the city, keeping through traffic out of the city centre and improving the connection between city and the national network of highways (Kloos, de Korte & Wendt, 2010). The Ministry of Infrastructure and the Environment regarded the A10 road as part of the national road network. Amsterdam, by contrast, was much more interested in an urban ring road with good links to the city's road network, while distributing traffic over the various radials into the city. Nonetheless, both parties agreed that the ring should be intersection-free and built on an embankment. The Ministry foresaw that the integration of the western part of the ring road would cause problems and suggested to construct the ring road much further out. Amsterdam, however, insisted to build the ring on its current location.

In the AUP, the new expansion areas were separated from the existing city in a certain sense (Kloos, de Korte & Wendt, 2010). Consequently, there was a clear boundary between the old and new city. This unbuilt green zone made it possible to construct the new elevated ring road without too many obstacles. However, at some places the space was already too limited, causing great nuisance for residents. The road was constructed in a number of phases. In 1966 the first segment was opened to public and in 1969 the Ministry of Infrastructure and the Environment decided to unite all segments: the A10 was born (BNA Onderzoek, 2017). The long construction time together with the rapid changes in mobility and the growth of the city resulted into a road consisting of distinguishable segments. Locating the ring on embankments resulted in isolated districts. Where the ring road is sunken, a lack of good cross connections became a problem and air pollution reached its peak. Altogether, the choices made in the construction process resulted into a city and its ring, functioning as two autonomous systems.

The public debate over recent decades

From the 1960s on the new types of ring roads and urban highways led to a large amount of urban studies, searching for new relationships between city and infrastructure (Meyer *et al.*, 2006). As cities and

Figure 4.6. The construction of the A10 – the connection with Osdorp. (Beeldbank Rijkswaterstaat)

Figure 4.7. One of the first traffic jams in the Netherlands in 1955 (Schippers, 2014)

mobility were changing extremely fast, many spatial concepts turned out to be differently than expected when realised. The growth of cities and the mix of local and through traffic made large parts of the highway network transform into urban boulevards.

The new typologies raised questions, resulting in a heated public debate around the globe. Simultaneously, the perception on the relationship between city and infrastructure altered constantly (Shannon & Smets, 2016). This debate still relevant today, as designers are continuously struggling with the relationship between city and infrastructure.

There has been a shift regarding the sense of movement (Shannon & Smets, 2016). Pedestrians and horse-drawn carriages provided romantic images of movement during the nineteenth century and early twentieth century, but with the rise of trains and cars this image was destroyed. In The Highway and The City (1963) Lewis Mumford comments on problems faced by cities, including highway planning (Mumford, 1963). He states that a good transportation system minimizes unnecessary transportation and must offer a change of speed and mode in order to fit a diversity of human purposes. This 'articulated network' ranges from footpaths to expressways.

In Learning from Las Vegas (1972), Robert Venturi, Denise Scott Brown and Steven Izenour stated that the modern road network could lead to entirely new urban programmes and urban morphologies (Venturi, Scott Brown & Izenour, 1972; Meyer et al., 2006). These new effects should be considered as opportunities and cities should respond to these movements: "cars are impatient with stasis and singularity" (Venturi, Scott Brown & Izenour as cited in Shannon & Smets, 2016). This has consequences for the road design as well, as shown by Donald Appleyard, Kevin Lynch and John R. Myer in The View from the Road (Appleyard, Lynch & Myer, 1964; Meyer *et al.,* 2006). The perception of the roadside is the now the starting point, stating that the speed of cars should determine the scenery along the road. This brings forward a new relationship between time and space. They made clear that urban road design is an integrated urban project as well, since this study stresses the need for an understanding of the landscape one passes (Shannon & Smets, 2016). In fact, "the roadside should be a fascinating book to read on the run" (Appleyard, Lynch & Myer as cited in Shannon & Smets, 2016).

Ideas from American urban planners reached Europe as well (Meyer *et al.*, 2006). After studying the ring road of Antwerp, Willem Jan Neutelings invented the concept of 'Ring Culture': the possibility of generating large-scale elements in the large open spaces along the ring road. Together this programme, serving mass culture, could become a necklace encircling the city. The Ring Culture consists of new typologies, styles and structures. Neutelings studied the ring in order to analyse the mechanisms of Ring Culture and to develop a set of planning instruments for these areas (Neutelings, 1986).

Frank van der Hoeven conducted research on the possibilities of sunken ring roads (Van der Hoeven, 2012; Meyer *et al.,* 2006). A sunken road gives opportunities to connect the city on both sides of the ring. By bringing the road on a different level than the city, the two components are still strictly separated.

Nowadays, cities across the globe are searching for their own approach towards the continuously changing relationship between city and infrastructure. Especially ring roads raise questions, as these structures have a significant impact on the quality of the environment as well (Shannon & Smets, 2016). Moreover, infrastructural design gives public authorities a means to reclaim the discipline of urbanism and use infrastructure as a backbone in the rapidly changing city. Infrastructural projects are being turned into major urban renewal projects with many objectives (Kimmelman, 2011). The relationship between city and infrastructure is now linked to a wide range of subjects, including sustainability and quality of life.

STRATEGIC TRANSFORMATIONS

Research on the relation between urban transformation strategies and their impact on the city, comparing Amsterdam to the cases of Antwerp and Barcelona

While each city has its own origins and civic history, many cities face similar challenges (Busquets, 2005). Urban phenomena, such as growth and globalisation, ask for city plans implemented on the basis of a deep understanding of a given reality and commitment in order to resolve the issue (Jessen, Meyer & Schneider, 2008; Busquets, 2005). The complexity of the urban planning mechanisms in Western cities is well-known (Busquets, 2005). All too frequently, these mechanisms are seen as ends in themselves, becoming detached from their actual aims and impact on the city.

Meanwhile, there is a high-level competition between western cities. Hence, public bodies are increasingly heightening their ambitions in urban strategies (Busquets, 2005; Shannon & Smets, 2016). In most cases, they are forced to centre on the relationship between city and infrastructure in order to achieve their objectives for the city (Shannon & Smets, 2016). Given the fact that the discipline of infrastructural design is no longer allowed to act independently of other urban decisions, cities now have to acknowledge infrastructural development as a cross-cutting field (Busquets, 2005; Shannon & Smets, 2016). Recent projects following this urban evolution illustrate how the traffic component has to compete with spatial and environmental variables (Busquets, 2005). These projects often require large investments and are therefore focused on the long-term.

The cities of Amsterdam and Antwerp illustrate this trend with the development of grand transformation strategies, in both cases focusing on their Ringzones (Gemeente Amsterdam, 2011; ORG2 Urbanism, ARUP, Common Ground & Deltares, 2016). In Amsterdam the Ringzone captured the attention of the municipality as a space for new development and densification in order to accommodate the city's population and economic growth (Gemeente Amsterdam, 2011). In Antwerp the starting point is the ring road itself, functioning as barrier between the city centre and the periphery. By covering the entire ring road, the city wants to overcome the dichotomy (ORG2 Urbanism *et al.,* 2016).

In general, the Ringzone is clearly an area where city and infrastructure of different flows meet, or in other words, conflict with each other (Shannon & Smets, 2016). That makes it in itself a complex area to deal with. Moreover, the area is located between centre and periphery and thus has an impact on the coherence in the city. The need for transformation on this scale raises questions as well, mainly on the relation between means, goals and the final outcome. With both public and private parties involved, collaboration and the maintenance of urban quality is challenging as well. Hence, there is a need for cross references with the processes adopted by other cities (Busquets, 2005).

The city of Barcelona, as one of world's most active cities over the last quarter century from the point of view of urban planning, is generally considered as a laboratory of urban projects and planning strategies (Rowe, 2006; Busquets & Perez-Ramos, 2017). In particular hosting the 1992 Olympic Games was an opportunity for concerted urban development action, as the event justified infrastructural projects that the city had been needing since the sixties (Jessen *et al.,* 2008; Busquets, 2005). Barcelona recognised the importance of integration – the interweaving of parts and sectors – and developed projects on different scales (Busquets, 2005). Now the city serves as a point of reference when implementing large-scale infrastructure projects using an integrated design approach (Jessen *et al.,* 2008).

Therefore the intention of this framework is to unveil the strategies of Amsterdam and Antwerp, and reflect on both with the lessons learned in Barcelona. While discussing the story behind the transformation strategies, the aim is to get a better understanding of the impact of these strategies on the development of the city and to what extent the means proposed in strategies lead to the achievement of the desired outcome. A comparison between the initial ideas and the strategy to implement the ideas of each case

gives relevant insight on the actual impact and on how transferable these strategies are.

The case of Amsterdam

Amsterdam already has a long tradition of structural planning (Jessen *et al.,* 2008). During the last centuries the way Amsterdam ran its urban planning has changed radically (Meyer, Westrik & Hoekstra 2014; Gemeente Amsterdam, 2015). Whereas the local authorities did not consider it necessary to control the building process in the 19th century, they were actually obliged to ensure quality of the working class neighbourhoods in the 20th century after experiencing a lack of attention for quality of life. Consequently, the department of Public Works, characterised by their technocratic view and systematic planning programme, was given more control over determining the expansion plans. However, people started to appreciate the flexible, bottom-up style of planning of the 19th century much more. This led to a reorganisation of the local authorities and a new approach for Amsterdam: the emphasis shifted from big plans towards the existing city, the citizens and various stakeholders. As a result, more small-scale projects are being carried out taken the existing city as a starting point. Moreover, a collaboration between private and public parties is necessary, due to economic crisis and thus a lack of financial means (Gemeente Amsterdam, 2013). The city council now follows a market-led approach, where market parties and citizens play a much more active role in the development process (Gemeente Amsterdam, 2015).

Although small-scale projects are dominating, a structural vision for the city was launched in 2011. The creation of the vision was an open process, in which citizens, businesses, organisations and other government bodies participated (Gemeente Amster-

Figure 4.8. Structural vision Amsterdam, 2011 (Gemeente Amsterdam, 2011b)

dam, 2011a). The interconnection of various themes and parties was crucial for the production of the vision. The city council promoted its vision by calling it a "spatial response to social issues". It is stated that:

"The complexity of urban development means it is no longer possible to make do with blueprint planning; 'certainties' that stem from them have long been lacking in credibility. The Amsterdam Structural Vision must seduce and convince with a coherent narrative, a story in which the social benefit of spatial interventions is explained and justified in terms that are as clear as crystal."

(Gemeente Amsterdam, 2011a, p.4)

In fact, the vision is an answer to the phenomenon of growth in the city and the increasingly knowledge-driven economy (Gemeente Amsterdam, 2011a). Amsterdam is expecting an additional 100.000 to 150.000 inhabitants between now and 2040. The city chose to accommodate this growth, resulting in a building challenge of 70.000 new dwellings plus the corresponding amenities. This meant that strategies focus on densification and transformation. Moreover, Amsterdam recognises the importance of urban environments with a high living quality and a strong international and economic position. The vision focuses on the long term and aspires the further development of Amsterdam as "the core city of an internationally competitive and sustainable European metropolis" (Gemeente Amsterdam, 2011b). The main themes are economic development and sustainability, which are increasingly becoming extensions of one another.

The vision identified the Ringzone as the most suitable area to develop as an attractive new part of Amsterdam (Gemeente Amsterdam, 2015). The zone is located between centre and periphery and con-

Figure 4.9. The Ringzone as a continuous urban area. (BNA Onderzoek, 2017)

tains a ring road, which is mostly located on embankments (BNA Onderzoek, 2017). The fact that the zone is characterised by sparsely built-up urban areas and a high proportion of amenities with rather large footprints, means that the zone is oriented towards the ring, causing a discontinuity of street life (Read, Bruyns, van den Hoogen & Plomp, 2007). The city council was familiar with these problems and took initiative to define the missing physical and programmatic links and to research how the zone can be connected with other city parts (Gemeente Amsterdam, 2015).

In line with the past, the city council was searching for suitable approaches (Gemeente Amsterdam, 2013). After conversations with different parties, the city council decided to choose different approaches for the area inside the ring, the Ringzone itself and the area outside of the ring. The city council wanted to play an active role in the Ringzone, by connecting different parties and connect the areas on either side of the ring road. In other city parts the city council plays a rather facilitating or stimulating role. Urban development thus concentrates on locations with a high return on investment, with good accessibility and with possibilities for high densities.

In fact, this means that there are various individual projects, that are well-designed on the project level but do not always link up with other projects or the existing city (Gemeente Amsterdam, 2011a). The real challenge is therefore to explore how all projects can be merged into a continuous urban network.

The case of Antwerp

When looking at the urban layout of Antwerp, it is easy to see that the ring road, once encircling the city, is now completely absorbed by the city (ORG2 Urbanism *et al.,* 2016). Hence, the road is now considered as a barrier between centre and periphery. Whereas the city kept growing, the ring capacity has not increased. The heavy traffic flows, located in the middle of the city, have a measurable negative impact on the liveability on local level. However, ring and city need each other and therefore the relationship between the two had to be recalibrated.

The idea of covering the ring road already existed for several years, but with the citizens movement 'Ringland' the idea was actually born and

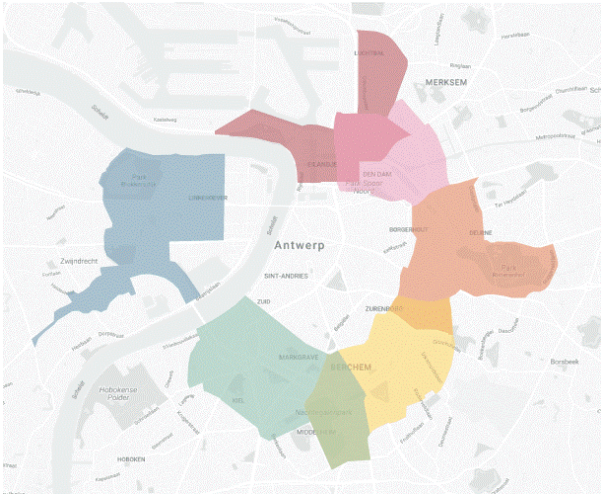


Figure 4.10. The strategy of Antwerp: strategic disconnection where possible. The Ring is divided into six segments. (Ringland, 2017)

received broad support (ORG2 Urbanism, ARUP, Common Ground & Deltares, 2017). The citizens movement exercised a profound impact on political solutions, as they stimulated interaction between the local authorities and citizens (Ringland, 2017). The movement is unique in Europe, since it proves that large-scale, highly complex infrastructure projects can be developed independently by local citizens as well. They managed to demonstrate the technical and financial feasibility of redesigning the urban road system.

Consequently, in 2015 the Flemish government selected an intendant and a team of specialists for the "process management of quality of life projects in the urban zone around the Antwerp ring" (ORG2 Urbanism *et al.,* 2017). Finally, in 2016, the Flemish government, the city of Antwerp and three citizens movements agreed on a close collaboration on the redesign of the ring road. The ideas from citizens movements, including Ringland, served as inspiration. In the ambition statement, created by the intendant's team, the cover of the ring is regarded as a means to guarantee Antwerp's future as a functional and attractive region (ORG2 Urbanism *et al.,* 2016). In total the ambition statement describes seventeen shared ambitions on all different scales, focusing on the themes of mobility and quality of life with coherence between city, periphery and the ring as a starting point.

The process management is inspired on the 'Re-

build by Design' model, which uses collaborative, design-driven problem-solving in order to achieve resilient cities (Rebuild by Design, 2017). Collaboration between designers, researchers, community members, specialists and authorities can help to overcome barriers. The idea behind the model is to combine the talent and expertise of designers with the experiences and insights of local communities. Throughout the entire process all of these groups are involved, in order to create support and a realistic outcome.

Public participation is one of the keys in the strategy and public support is one of the evaluation criteria (ORG2 Urbanism *et al.,* 2016). Since the project requires enormous investments and will last longer than a generation, phasing and a combination of long-term and short-term projects is necessary. Therefore, instead of an abstract general vision, the intendant divided the ring into six segments. Through an international competition five segments were assigned to a multi-disciplinary design team and one segment will be designed by the intendant's team to gain experience and learn. Meanwhile, the intendant's team translated the ambition statement into design rules, in order to assure an overall coherence and continuity (Common Ground, 2017).

Furthermore, resilience is a central concept (ORG2 Urbanism *et al.,* 2016). On the one hand this is achieved by using the 'Design by Rebuild' model; on the other hand this concept is interpreted by choosing for a strategic disconnection where possible. The total vision is subdivided into constructive fragments, within each fragment can be measured in how far mobility and quality of life complement each other. This includes pilot projects for each segment: projects that focus on the short term and contribute in a measurable way to the individual ambitions.

Figure 4.11. Visualisation of the strategy of Antwerp. The ring road is covered with green surfaces (Apen, 2017)

At the moment, the design teams are all working on the cover for the different segments. At the end of 2017 at least five pilot projects will be chosen, according to the highest priority. In the end, all projects should make a structural transformation for the region and give Antwerp the opportunity to distinguish itself from other cities.

The recovery of Barcelona

The history of Barcelona shows how the city has constantly addressed new issues and how historic events brought forward changes in the city (Busquets, 2005). The recovery of Barcelona is the result of a broader-based, collective trend or demand with both public and private initiatives involved. The city managed to transform itself in a very short amount of time from a grey industrial city in the 1980s to an international success story a decade later (Marshall, 2004). According to Busquets (2005), the recovery of Barcelona could be described as "a process that extended to the economic context, to collective ambition, civic pride and the affirmation of identity". Most importantly here, Barcelona's strategy was not accompanied by the neglect of neighbourhoods, geographical segregation or increased social polarisation. In this regard, Barcelona distinguishes itself from other cities.

The recovery of Barcelona is strongly shaped by its unique historical circumstances (Monclús, 2003). To understand Barcelona's governance style of the 1980s and 1990s, it is necessary to go back to the 1970s, the last years of Francoism (Marshall, 2004). The unique cultural, historical and political circumstances of that period gave rise to collective urban social movements and individual progressive planners. Together, these groups would create the conditions for the urban strategies of the 1980s and the 1990s. In particular, the urban social movements started to question the lack of public facilities in their neighbourhoods and became part of the growing political opposition of Franco's regime. During the transitional period to democracy, marked by chaos and uncertainty, the movements became more powerful. Their presence was especially noticeable during the approval of the General Metropolitan Plan of 1976, which covered a territory of 27 municipalities. This plan marked the beginning of planning in the public interest. Due to the movements the plan was defended against the old forces of speculations who wanted to build on lands the plan designated for public use. In the end the General Metropolitan Plan became a framework, enabling qualitative urban planning (Monclús, 2003).

The actual process of urban transformation was set in motion when the socialist Narcís Serra was elected mayor of Barcelona in 1979. He chose the architect Oriol Bohigas as his councilor responsible for town-planning (Ingrosso, 2011). The objective of the Socialist Party was to create "a balanced Barcelona, eliminating segregation and seeking the social and territorial equality of all citizens in access to social facilities" (Maragall in Ingrosso, 2011). The recovery of Barcelona actually started with a phase of direct action, resulting into numerous small-scale projects for squares and parks (Busquets, 2005).

Design was now consciously becoming part of urban policies as a cultural expression of a new freedom and a new urban identity (Degen & García, 2012). When Serra took office, he immediately started with responding to the needs of neighbourhoods. Because of the approval of the General Metropolitan

Figure 4.12. Flow diagram before and after the Ronda ring roads. (Busquets, 2005)

Plan, Bohigas did not have to spend time on a new plan for the city. Instead, he could respond quickly to citizens' demands by creating spaces for civic and political participation (Marshall, 2004; Degen & Marcía, 2012). Moreover, the developing public space was beneficial for social cohesion as well (Degen & Marcía, 2012). Bohigas did not work from masterplan to local project, but focused on where opportunities presented themselves and so the projects were based on the physical context (Marshall, 2004; Ingrosso, 2011). This resulted in the construction of numerous public spaces through the entire city, linking up segregated areas (Degen & Marcía, 2004). The projects could be implemented with limited funds and, in a short amount of time, they gave Barcelona a new image and stimulated the creation of collective identities (Ingrosso, 2011). The urban project was generally considered as a means of social regeneration in both centre and periphery.

While the strategy of small-scale interventions was on its way, the mayor expended his sights to problems at the city-wide level (Marshall, 2004). The 1980s are marked by the attempt to identify solutions capable of triggering a more far-reaching process of recovery, on the economic level as well (Ingrosso, 2011). In 1981, Serra announced Barcelona's candidature as host of the 1992 Olympic Games. The event was supposed to become the catalyst of a broader transformation process, as it would make it possible to obtain the necessary public and private financing. Moreover, the renewal of the image of the city was an objective as well (Monclús, 2003).

With Pasqual Maragall as the new mayor and Joan Busquets as the new director of the department of Urban Planning, a series of projects on a much bigger scale was launched. The Olympic programme created a governance dynamic of seeing the city as an overall context (Degen & García, 2012; Esteban in Marshall, 2004). With that, the Olympics gave impetus to development strategies, centred on the reorganisation of the road network and the development of areas of new centrality (Degen & García, 2012; Busquets, 2005).

The overall objective was to "redress the balance of the whole city by giving centrality to peripheral, abandoned or underused areas, turning them into centres of services and facilities, genuine downtowns linked by new infrastructures" (Ingrosso, 2011). Developing twelve areas of new centrality, including four Olympic areas, was generally conceived as a means of promoting economic growth and restoring balance in the city, in particular during the transitional phase from the industrial to the service economy. Bohigas states that this strategy, in which the city was controlled on the basis of a series of projects instead of a uniform plan, leads towards continuity to the urban character, or in other words, continuity of the centralities. The strategy was thus a means to overcome the social contrasts between centre and periphery (Bohigas in Marshall, 2004).

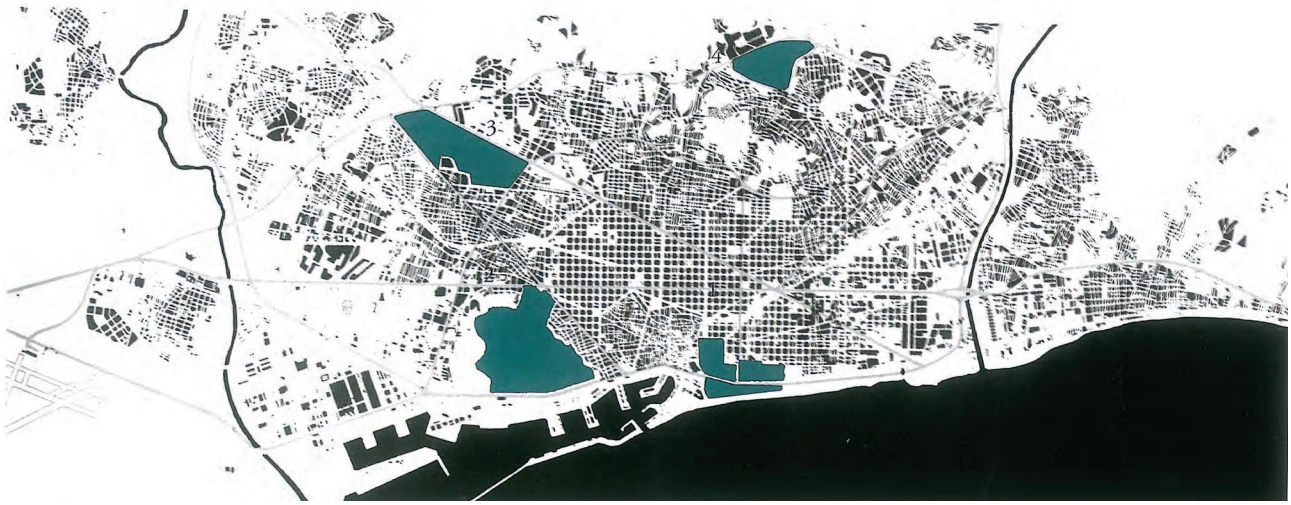


Figure 4.13. The four Olympic areas (blue), belonging to the areas of new centrality (Busquets, 2005)

Additionally, the urban restructuring strategies touched upon the relationship between city and infrastructure as well. The interdependence between the road network and the urban fabric was acknowledged, as the road network played a role in redressing the balance and configuring the image of a compact city (Busquets, 2005). Interventions took place on different levels, from the primary network of ring roads, that functioned as prime distributors, to urban pedestrian spaces. As part of the Olympic programme Barcelona closed the ring of Rondas to form great urban distributors. Now the entire city was encircled by a system of infrastructures (Ingrosso, 2011). Attention was being payed to the mixed character of the ring road traffic, existing of a combination of metropolitan movement and urban flows (Busquets, 2005). The Rondas were entirely designed to fit in the existing urban layout, which meant a great variety of sections and specific solutions (Ingrosso, 2011). For each trajectory separately studies were undertaken to fit the Rondas into the local network (Atelier Rijksbouwmeester, Heesen & West 8, 2013). Metropolitan traffic was segregated by taking it to another level, in order to prevent any interruption in the urban traffic at normal city level (Busquets, 2005). Numerous fragmented routes were now connected again by new roads and bridges and the city was reconnected with the sea and with the mountains (Ingrosso, 2011; Atelier Rijksbouwmeester *et al.,* 2013).

Simultaneously, the interchange with other networks was an essential theme (Busquets, 2005). Decision-making on the location and design of the construction of junctions had a strategic character. In fact, the junctions were regarded as internal gateways and therefore they offered the opportunity to become a representative space with a degree of civic use. Urban parks and meeting places were thus created.

Although the Olympic programme was used as central idea to link all different projects, the event was rather a stimulus within a broader strategy (Busquets, 2005). In other words, Barcelona created an umbrella of a broader-based strategy. After all, the Olympic Games would last a few weeks, but the interventions had a much more structural character distributed over the entire city (Ingrosso, 2011). The strategy itself, as well as Barcelona's success in balancing economic development with the enhancement of quality of life was a clear result of the legacy of the 1970s (Marshall, 2004).

Reflection on the cases of Amsterdam and Antwerp with the lessons learned in Barcelona

The cases of Amsterdam, Antwerp and Barcelona demonstrate the complexity of urban strategies with a structural character. Each city faces the challenge of setting up a strategy that has the right impact on the city. This impact is defined by the main ambition of each strategy: Amsterdam as the core city of a European metropolis, Antwerp as a functional and

Figure 4.14. The ring roads attracted new urban functions (Busquets, 2005)

attractive region and Barcelona as an integrated and balanced city.

First of all, the three cities have in common that they focus on both centre and periphery. Amsterdam expresses the importance of the Ringzone as a continuous urban area in order to connect city with periphery (Gemeente Amsterdam, 2011a). At the moment, however, the emphasis lies on short-term projects, instead of infrastructural projects that require long-term visions. Individual projects are being carried out and the city has no concrete vision yet on how to connect these projects eventually.

Antwerp, on the other hand, focuses its transformation mainly on the Ringzone itself. The ambition statement describes that the success of a city region depends on a number of fundamental characteristics: "ecological corridors, [...] a network of public spaces where citizens and communities can meet, repair of breaks in the urban fabric and [...] a metropolitan identity" (ORG2 Urbanism et al., 2016). This requires both short-term and long-term projects.

Barcelona, on the contrary, has a separate strategy for the dichotomy between centre and periphery: the areas of new centrality (Busquets, 2005). The city does not focus particularly on a Ringzone, but uses the Ringzone, especially the ring roads, to redress balance and configure the image of a compact city. The spaces adjacent to the ring roads actually induced new activities (Busquets, 2005). Moreover, the redefinition of the road system led to a radical change of traffic volumes in Barcelona's centre. With this strategy Barcelona reconnects the different areas of the city. Amsterdam aims to do the same, but focuses on the Ringzone and not the road. The difference here is thus that Barcelona focuses much more on the integration of city and infrastructure.

However, Amsterdam could learn from Barcelona: the city wants to densify and needs the space adjacent to the ring. According to Bohigas (Bohigas in Ingrosso, 2011), there is a difference between the compact city and the dense city: the compact city is about urban continuity. This can also be achieved with the creation of a public space network. In Amsterdam, where the ringzone is functioning as a grey zone due to the lack of continuity of street life, it might be relevant to combine the principles of the compact city with the dense city. Moreover, Antwerp recognises the importance of urban continuity by stating that a successful city region needs a network of public spaces and a continuous urban fabric (ORG2 Urbanism et al., 2016).

The extent to which city and infrastructure are being integrated is strongly related to the planning tradition in each city, the starting point of each strategy and the different levels of ambition. Of all cases Amsterdam has the strongest market-led approach. At the moment, the ring road is not subject to debate, which makes it rather questionable to what extent city and infrastructure are integrated in the Ringzone. Certainly, the interchange with other networks is not being improved. Moreover, the market-led approach focuses on individual projects with a strong focus on the local scale (Gemeente Amsterdam, 2015). Amsterdam as a core city of a metropolis, or in other words: the integration of city and region is not defined in the project scopes. The municipality does recognise the dichotomy in the city, but is dependent on investments of private parties. Consequently, the city should be aware of urban phenomena such as fragmentation and the risk of too much focus on quantity.

The overall planning of Barcelona, on the contrary, was much more determined by public bodies, as a result of the legacy of the 1970s (Marshall, 2004). Especially in the early 1980s it was a public-led urban transformation (Degen & García, 2012). As a result the recovery is characterised by 'quality first, quantity after'. The strategy of areas of new centralities illustrates this: in order to guarantee the correct insertion of private development plans, a process of public initiative was set up as a means of control (Busquets, 2005). The dimensions and content of each central place was thus evaluated.

Especially since the late 1980s, the city council has actively promoted projects that intended to stimulate urban development (Ingrosso, 2011). Projects were subcontracted to private companies, but the city council still had control over all aspects and provided the means for the private party to construct, respecting the public interest (Bohigas in Marshall, 2004). Contrary to Amsterdam, Barcelona's public bodies were less dependent on private parties, since the Olympics brought the necessary public resourc-

Figure 4.15. One of the small-scale projects next to Amsterdam's Ringzone (A2 Studio)

es to finance large-scale urban projects. However, local objectives can simulate the same energy and offer opportunities for an ambitious urban strategy. In order to achieve that, Amsterdam should leave the old plan-project dualism aside and focus on the creation of a more interdisciplinary field with an overlap op small-scale and large-scale projects.

In the post-Olympic phase, the private sector and flexible planning and globalisation gained importance (Monclús, 2003). Nonetheless, negative consequences that appeared in other Olympic cities, such as polarisation and social exclusion, did not appear in Barcelona. City marketing has not hampered the pursuit of a social agenda, due to coherent political leadership and the circumstances of the 1970s (Marshall, 2004). Barcelona took care of the neighbourhoods first and made important steps towards reaching the overall goal of homogenization of the city. After that, the city focused on more extensive and structured interventions.

In fact, Antwerp uses this strategy as well. The city recognises the difficulties of implementing a long-term strategy, leading towards the idea of pilot projects. These projects are also a quick response to the needs of local communities. However, the 'Rebuild by Design' model requires much more public participation than the Barcelona governance style. Antwerp believes in the combination of experts and locals, which was completely lacking in Barcelona (Marshall, 2004). Especially in the early 1980s the urban transformation process of Barcelona was much more a private affair between the mayor and the architects and engineers. On the other hand, with a more participatory process it would have been challenging to complete all Olympic facilities in time.

Amsterdam believes in the interconnection of various parties and themes as well, which is demonstrated by the broadly supported structural vision (Gemeente Amsterdam, 2011a). The city could, however, learn from the combination of short-term and long-term projects, and the 'Rebuild by Design' model as used in Antwerp. The structural vision of Amsterdam is rather abstract and with the implementation of projects integrated on various scales and in various phases, coherence might be within reach.

Regarding the integration of city and infrastructure, Barcelona is the only case where the ring roads were entirely (re)designed to fit into the existing urban fabric. Since Amsterdam takes the existing city as a starting point and does not touch upon the road itself, the city could learn from Barcelona. Moreover, Antwerp and Amsterdam could inspire each other with projects that focus on the balance between mobility and quality of life, since these themes are relevant for both cities.

Conclusions

The cases of Amsterdam, Antwerp and Barcelona illustrate the complexity of urban planning mechanisms and, perhaps even more, the impact of the chosen mechanisms. Especially when focusing on the integration of city and infrastructure, it becomes clear that large-scale projects require certain planning mechanisms.

Mainly because of its small-scale projects, as well as the large-scale developments, Barcelona became a model for other cities (Ingrosso, 2011). The Catalan city received many awards for being the leading city in architecture and urban development. During the last decades, cities adopted Barcelona's strategy of using a major event as a catalyst for urban regeneration. Barcelona's strategy might have been the legacy of the historic, political and cultural events of the 1970s, the strategy appears to be adoptable.

The post-Olympic period, however already brought changes to the governance style of Barcelona: the city now depends on private funding for most implementation, instead of the public funded schemes of the 1980s (Marshall, 2000). Whereas Barcelona's coherent political leadership was capable of reducing fragmentation in the city, it is rather questionable if this governance style would still be applicable. Moreover, there is a general need of wider participation of citizens in strategic planning, which is why Antwerp adopted the 'Rebuild by Design'- model and Amsterdam created its structural vision in an open process.

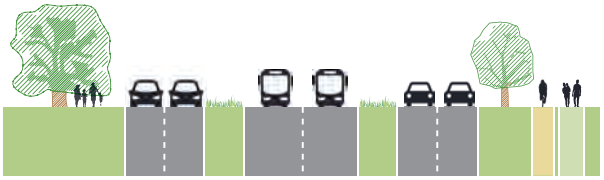
Nevertheless, the cities of Amsterdam and Antwerp can still learn from Barcelona. The planning mechanisms did lead towards the intended outcome and had a great impact on the city. Especially Amsterdam, with the lack of a clear connection between means and goals, can learn from Barcelona's strategies. At the moment, there is a gap between the initial ideas of the ringzone transformation and the current market-led approach. Barcelona, which managed to integrate city and infrastructure and to create urban continuity, could inspire Amsterdam.

Last but not least, Barcelona showed how the focus on quality, rather than quantity first, can actually lead towards the desired outcome. With that approach it is still possible to adapt strategies towards specific circumstances. The three cities can use each other as point of references, but the strategies clearly demonstrate how each city has its own legacy and that it is no option to ignore this reality.

> Figure 4.16. Ring Amsterdam (Swart, 2015)
> Figure 4.17. Ring Antwerpen (Knudsen, 2016)
> Figure 4.18. Ring Barcelona (Fowler, 2018)

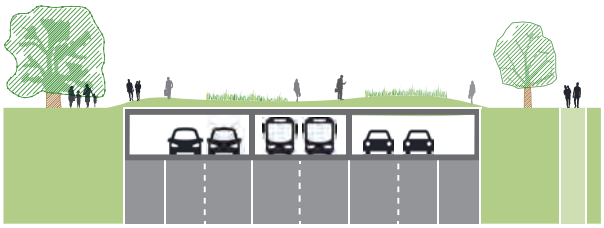

HERTSENS

SIX SPATIAL STRATEGIES



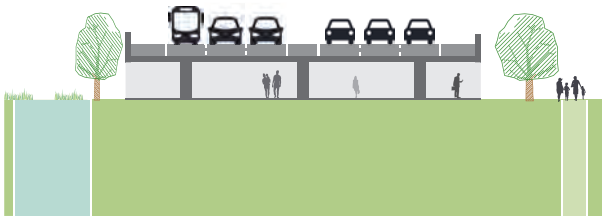
REPLACING AND INTERLACING

Most ring roads are monofunctional and developed to facilitate local and through traffic. Often the capacity of the roads is even increased by adding more lanes and thus increasing the barrier in the city. The strategy of ´replacing and interlacing´ focuses on the development of a ring road that can accommodate different types of traffic. Ring roads often have a central location in the city, bringing opportunities to connect the roads to public transport lines and slow traffic routes.



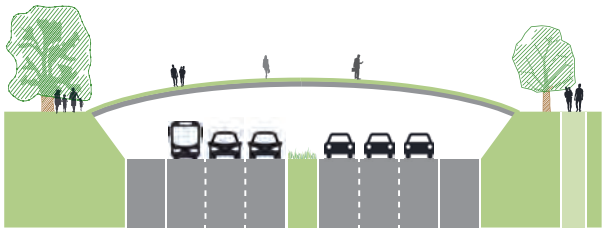
COVERING AND TUNNELING

Large parts of the A10 ring road are in an entrenched position, which gives opportunities to cover the road without extremely high costs. The entrenched position is already an advantage: the visual pollution is much more limited. However, a sunken road also raises barriers in the city and therefore it makes sense to consider a cover. Cities like Madrid and Boston show how this strategy can improve the liveability in a city significantly.



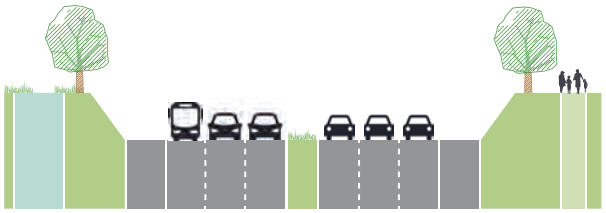
URBAN DEVELOPMENT AND RING ROAD ARCHITECTURE

In many cities ring zones are characterised by facilities with large footprints, focused on facilitating the mass culture. Exposition halls, stadiums, office parks, etc. can be found near ring roads. Willem Jan Neutelings called this 'ring culture' (Neutelings, 1985). He states that Ringzones are the ideal location for these facilities, as the zones are located in between the city centre and the suburbs, and the zone is easily accessible by car. This strategy tries to combine large-scale functions with local functions in order to let the Ringzone function as a backbone of the metropolis.



(MICRO) PASSAGES

The strategy of covering and tunneling often requires a lot of time and money. The strategy of (micro) passages shows that it is still possible to reconnect isolated districts in cities by providing people more places to cross. Both bridges and tunnels can connect areas, become public places and landmarks in the city when designed with care.



GREEN-BLUE NETWORKS

Large parts of the A10 ring road are in an entrenched position, which gives opportunities to cover the road without extremely high costs. The entrenched position is already an advantage: the visual pollution is much more limited. However, a sunken road also raises barriers in the city and therefore it makes sense to consider a cover. Cities like Madrid and Boston show how this strategy can improve the liveability in a city significantly.

AIR AND SOUND

In many cities the air quality and noise pollution are problems citizens have to deal with each day. This has severe consequences people's health, especially for the people living close to the ring road. Transforming the ring road can lead to a significant improvement of the liveability in cities. Both large-scale and small-scale interventions are beneficial: elevated shoulders and sound walls are already effective.

Note: attention to green-blue networks, air quality and noise pollution is always necessary. These two strategies are supposed to be combined with the previous four strategies.

WHY (NOT) TRANSFORM THE RING

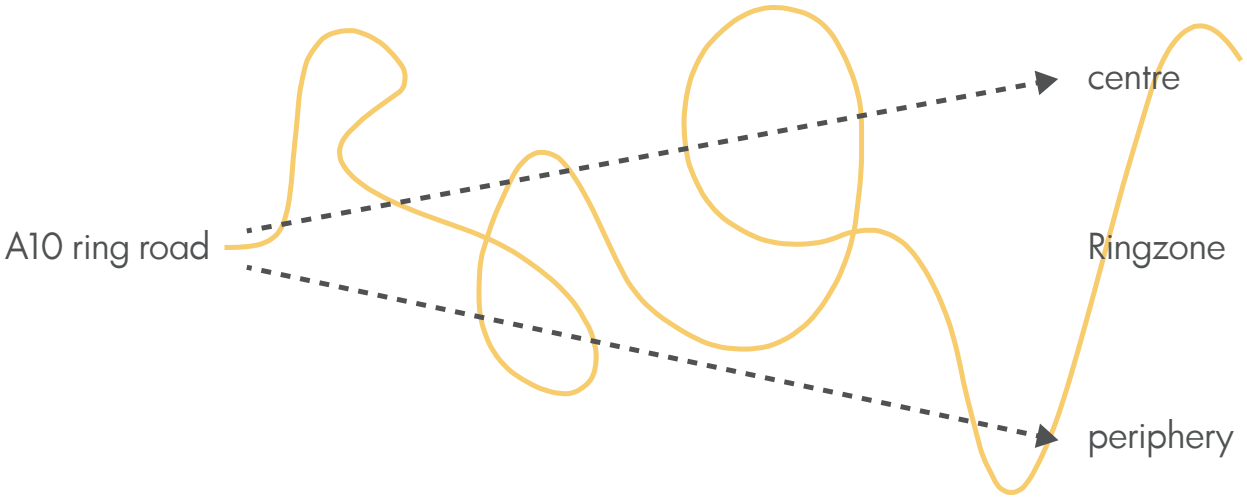
The A10 ring road of Amsterdam puts pressure on the city and has consequences for the health and environmental conditions in the city. Moreover, ring roads are often considered as barriers. Several cities, including Madrid and Maastricht, therefore made the decision to cover their ring road. This could be an option for Amsterdam as well.

This thesis started with the hypothesis that the ring road is causing a barrier and thus splitting the city in two parts. This is also how most projects on ring roads begin and with this scope one would expect one of the spatial strategies on the previous pages as a logic answer. However, with only a few analytical drawings it became clear that the entire zone dominated by the ring road is the barrier, instead of the ring road. This discovery led to a new hypothesis: the Ringzone, which is a grey zone at the moment, functions as a barrier between centre and periphery and causes a dichotomy in the city. This dichotomy is caused by more than only the grey zone: it is actually the discontinuity between centre and periphery that causes the gap between centre and periphery. The grey zone in between has a significant impact on the dichotomy, as the area is not bringing centre and periphery together. The discontinuity is caused by the fact that centre and periphery follow different spatial concepts, but the grey zone marks the boundaries of the spatial concepts.
The scope of this project therefore changed according to new discoveries: from integration between city and infrastructure in the Ringzone towards the creation of continuity between centre and periphery Amsterdam. Whereas the project started with a focus on the Ringzone, it turned out to be a project for Amsterdam as a whole.

Regarding the Ringzone as a barrier means that Amsterdam is dealing with a physical and mental barrier of a kilometer wide. It seemed therefore more effective to minimalise the grey zone, instead of touching the ring road. That does not mean, however, that applying one of the strategies on the previous pages would not be suitable for the ring road of Amsterdam. It is only, at the moment, not the most effective strategy.

Besides this, it can be argued that technology is changing extremely fast and it is therefore hard to say if a large-scale intervention would still be necessary in the next decades. The other option would be to not focus on the ring road, but on all other networks in the city, such as the public transport network and the parallel roads next to the ring for pedestrians and cyclists. In the end, the vision and strategy have a time span of 30 years and in 2050 the modal split of Amsterdam could be completely different. There is a bigger chance, however, that the Ringzone will then still be a barrier if nothing changes.

When regarding the transferability of projects results, the project becomes more relevant when focusing on the continuity between centre and periphery instead the Ringzone only. Other cities in the Netherlands, such as Utrecht and Rotterdam, are dealing with dichotomies as well, but this does not always have to do with an infrastructural barrier. It does, however, always have to do with continuity.


A10 ring road
centre
Ringzone
periphery

CHAPTER V

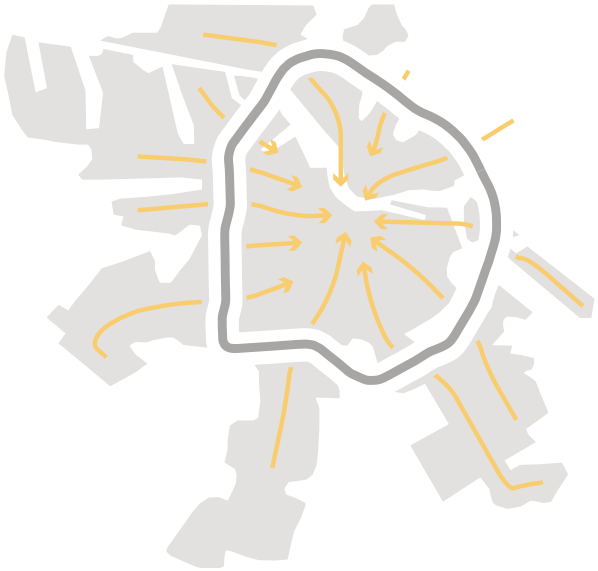
SPATIAL VISION

- Time to take a stand
- A City in Balance
- A City in Balance: first set of guiding principles
- From vision towards strategy: spatial scope
- A City in Balance: second set of guiding principles
- Depth of radials
- A City in Balance: third set of guiding principles


HOTEL

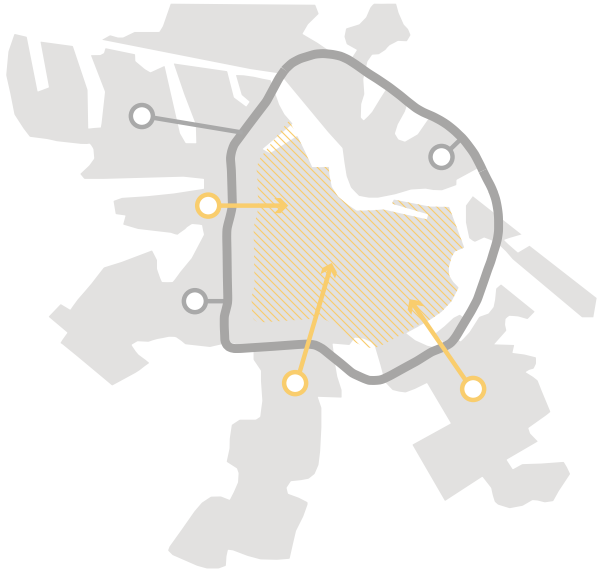
A GENTRIFIED CENTRE

The centre, follwing the concept of centralisation, is subject to gentrification. That causes a very strong orientation towards the cente. The uneven distribution and direction of flows has consequences for the balance between growth and quality of life.



A GREY (RING) ZONE

The Ringzone is dominated by the metropolitan scale, because of the presence of the Ring. That causes a grey zone of sometimes more than a kilometer wide. The grids are disintegrated and there is a discontinuity of vital urban life. Not the Ring, but the grey zone functions as a mental and physical barrier and does contribute to coherence in the city.



A DISADVANTAGED PERIPHERY

The periphery, following the concept of decentralisation, is dealing with the growing dichotomy between centre and periphery, demonstrated by the spatial footprint of rising inequality. The urban developments in the periphery show the consequences of socio-economic trends, such as gentrification. The projects, designed as inward-oriented islands with exclusive public spaces, make the periphery even more dependent on the centre.

AMSTERDAM IS OUT OF BALANCE

it is time to take a stand

When starting a research on the Ring in Amsterdam, one would expect that it will become a research on a mental and physical barrier. The challenge will focus on how to get rid of this barrier in order to make sure people will cross.

It turns out, however, that this is not the case in Amsterdam. As a matter of fact, it is more comprehensive. It is not so much about the barrier itself, but about what happens on both sides of the barrier. Moreover, when speaking of a barrier, one must speak of the Ringzone as a barrier, instead of the Ring.

Imbalance: the impact on various scales

Given that, it can be stated that the diagnosis of Amsterdam changes when analysing the city as whole. The imbalance of Amsterdam is clearly visible when looking at the city as a whole. This is not yet acknowledged in the municipal vision and strategy, because these documents make a quick translation to the lower-scale levels. Even now, when the municipality starts to acknowledge the flip side of success, they still mainly focus on specific city parts instead of the city as a whole.

That is a blind spot, as the problem changes when taking all scale-levels into account. In particular trends become then subject to change. During the past years the trend of gentrification, for example, has transformed from a small-scale, rare trend to a widely spread-out trend that is happening in many cities (Hochstenbach, 2017).

Simultaneously, trends can have a different impact on different scale-levels. In the case of the trend of gentrification, this can lead towards isola-

ted, homogeneous areas on the scale of the neighbourhood, but on the scale of the city it can reproduce polarisation between the different areas in the city. In the case of Amsterdam this would be the cleavage between centre and periphery.

Because of this, and because of the fact that the diagnosis of an imbalanced Amsterdam incorporates both the tangible and intangible structures, it is crucial to start with the bigger picture and explore the definition of balance on the scale of the entire city.

Imbalance: the lack of awareness

Besides of the lack of attention for the bigger picture, there is a general lack of awareness of the problems Amsterdam is dealing with. Amsterdam still considers itself mistakenly as an urban village. The city is, however, dealing with the same issues as other metropolitan cities such as London or Paris. When looking at the Dutch context, Amsterdam is ahead of the other cities. The city is growing ever faster and the spatial footprint of trends is more obvious in Amsterdam than other cities. Nonetheless, other Dutch cities are dealing with dichotomies as well: in Rotterdam there is a cleavage between the northern and southern parts and in Utrecht there are great differences between the eastern and western part. The cities are subject to the same trends as Amsterdam as should therefore be aware of future problems.

Imbalance: the tangible structures

The imbalance of the tangible structures actually begins with the introduction of a new spatial concept in 1934: the concept of decentralisation. As explained in the problem definition, the centre follows the concept of centralisation and the periphery follows the concept of decentralisation. Moreover, the current spatial layout of the Ringzone is not bringing the two city parts together.

The imbalance is caused by the fact that the decentralised, peripheral parts still strongly depend on the centre. In other words: there is a strong orientation towards the centre. Meanwhile, the periphery is dealing with the disadvantages of growth, including fragmentation.

The periphery, with a population of 334.489 residents (OIS Amsterdam, 2017) does not have a sufficient amount of jobs and amenities to serve all people. That means that people living in peripheral areas still have to go to the centre. Moreover, the idea behind centres in the decentralised areas show sa striking contrast with the centre of Amsterdam:

The city centre of Amsterdam has the highest density of restaurants and cafes, shops and cultural amenities. It is a lively area with 80.000+ residents (OIS, 2017). There is a lot of street activity and plinths are occupied by public facilities. Moreover, the area is popular by tourists. All mobility networks are focused on the city centre, in particular the radials.

The peripheral area Nieuw-West, designed by Van Eesteren (AUP), is located outside the Ring and has more residents than the city centre: more than 150.000 people (OIS, 2017). However, the centre of this post-war city district is the Sloterplas water: it had to be empty, inaccessibile and non-monumental. The public space entirely neutral and does not represent any political or cultural values (Meyer *et al.*, 2014).

It is, however, not just a matter of large centres that need to attract people, but the organisation of centrality on smaller scales has an impact on the orientation in the city as well. The periphery does have small centres, but these are rather small clusters of facilities. Moreover, these clusters are not aiming for any continuity with the organisation of centrality in the city centre.

One of the lessons learned from the problem definition is that the organisation of centrality is for a large part determined by the integration of the three different scaled grids. Therefore, infrastructure forms the basis for the strong orientation towards the centre and a weak periphery. In other words: infrastructure forms the basis for the imbalance as well.

Imbalance: the intangible structures

The conclusion of the imbalance caused by tangible structures is closely linked to the imbalance caused by intangible structures, because the discontinuity of centrality and the weak organisation of centrality in the periphery means there is a discontinuity of vital urban life as well. In other words: the spatial conditions in the periphery do lead towards the spontaneous emergence of vital urban life, whereas this is not the case in the Ringzone and the periphery.

That is dangerous, because the periphery was already weak and is now dealing with trends like fragmentation. Therefore, the periphery actually needs centres where people from different groups of society can meet each other. Whereas streets in the centre are characterised by a co-presence of immediate neighbours and people from outside the neighbourhoods, the streets in the periphery are traffic arteries in between socially and culturally homogeneous neighbourhoods. The periphery will become even more fragmented when no attempt is being made to create a continuity of vital urban life.

Imbalance: the answer from the municipality

The municipality aims to maintain the welfare and prosperity of all residents and therefore acknowledges the social and economic importance of public space. However. in the spatial interventions carried out by the municipality the social benefits are hardly recognisable. With a main focus on the economic importance of public space, it becomes impossible to use public space as a means to bring centre and periphery together or in other words: to restore the balance in Amsterdam. On top of that, the municipality stimulates trends like gentrification leading towards a rising inequality. That actually causes a further imbalance of the city.

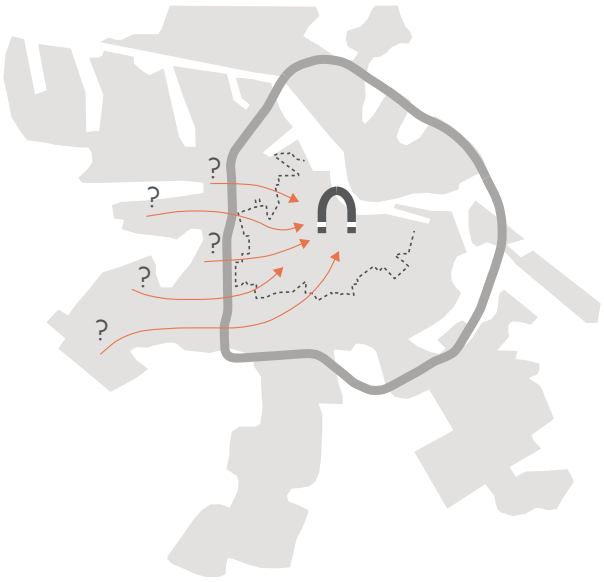
The current spatial interventions show a disconnection between the municipal aims, whereas it is possible to reconnect the aims. Both aims can benefit from a new approach towards public space: an approach in which the continuity of vital urban life takes a central place.

Conclusion

What we see here, is that the current relationship between the gentrified centre, and the disadvantaged periphery does not work. In particular when looking at trends it seems to become even more problematic in the future. The grey (Ring) zone plays a key role in this situation.

Amsterdam cannot regard itself as an urban village anymore and Amsterdam cannot take the current situation in combination with the expected future ahead of us for granted. Instead, Amsterdam must respond and take a stand: Amsterdam must restore the balance between centre and periphery.

Figure 5.7. The strong orientation towards the centre and the lack of orientation towards the decentralised periphery.



THE STORY: TOWARDS A CITY IN BALANCE

The (im)balance in Amsterdam refers to the relationship between centre and periphery in Amsterdam. The Ringzone, now functioning as a grey zone, plays a key role in this relationship, as the zone is located in between centre and periphery.

A 'City in Balance' therefore means a city with a more equal relationship between centre and periphery. It is a city where people orient themselves to both centre and periphery, and where the Ringzone functions as a liminal space. In order to start this reorientation process, people do not only have to be convinced to cross the mental and physical barrier of the grey zone, but they also need to have destinations in the Ringzone or the periphery. In other words: the prerequisite of a more equal relationship between centre and periphery is continuity between centre and periphery.

Continuity of vital urban life as a prerequisite

The destinations can appear on both smaller and larger scales. In the peripheral area Nieuw-West the Sloterplas could be redeveloped into a metropolitan park and the Station Lelylaan can be developed into a real transport hub. On smaller scales clusters of facilities or neighbourhood parks could become attractive enough for people to reorient themselves.

What matters most is that there is a continuity of vital urban life between the centralised centre and the decentralised periphery and a continuity of vital urban life between decentralised areas in the periphery in order to form bridges between the socially and culturally homogeneous and segregated neighbourhoods.

In both cases it is necessary to focus on both movement continuity and experiential continuity. It is, after all, important to combine the thinking about 'lines and dots' or routes and destinations. Especially with the long distances towards the periphery it is essential that people actually get pulled towards their destination without noticing the long distance or the fact that they crossed the Ring.

It is important to notice that both centre and periphery need each other at the moment and during the coming decades. The centre is overcrowded and needs the space in the periphery to accommodate growth. On the other hand, the disadvantaged periphery should make use of the fact that people now have to cross the Ring. The periphery therefore has a chance to reorient the city.

Vital urban life vs the existing policy documents

Before explaining how a continuity of vital urban life can be created, the vision will be viewed in a larger framework. The vision is meant for the existing city and for a city that already has a Structural Vision until 2040 and a strategy until 2025. Therefore it makes sense to connect this vision with the existing policy documents.

As mentioned before, the municipality aims to maintain the welfare of all residents and the prosperity of all residents, which is mentioned in the Structural Vision 2040 and repeated in the Koers 2025 Strategy (Gemeente Amsterdam 2011b; Gemeente Amsterdam, 2016). The municipal strategy of following a market-led approach and stimulating trends like gentrification does not contribute to both aims. However, the municipality does acknowledge the fact that public space has a social and economic importance, but in particular the social importance of public space is not recognisable in the spatial interventions. Moreover, the small-scale projects carried out by investors focus almost entirely on public space exclusively developed for the projects own residents.

Social and economic importance of public space

By taking the continuity of vital urban life as a prerequisite, it is possible to link the social and economic importance of public space and thus the two aims. According to the Structural Vision (Gemeente Amsterdam, 2011b), there is an economic importance of public space, because the knowledge economy is all about interaction and exchange. In particular the alpha and gamma sectors of the economy benefit from high quality public spaces. That is where small-scale businesses - typical for the knowledge economy - can take advantage of the agglomeration and can exchange innovative ideas and knowledge. Public space should therefore be inviting for pedestrians, which means the public space should be vivid.

Secondly, public space can have a social importance especially when it is functioning as a public domain: places where exchange between various groups of society takes place (Hajer & Reijndorp, 2001). These places can offer people new experiences and make a shift of perspectives possible. In particular in a dichotomised city this is valuable. There is a need of public domains in order to overcome the socio-spatial segregation. In the periphery, where gentrification leads to diversity on the scale of entire peripheral districts, but fragmentation on the scale of neighbourhoods, this is even more relevant.

Besides, especially for the fragmented city and the grey zone it is relevant to mention that public domains often develop in and around the in-between spaces surrounded by homogeneous and specialised 'islands' (Hajer & Reijndorp, 2001). These places are called 'liminal spaces': spaces where the different worlds of residents touch each other. According to Zukin (1991), these places can be dominated by a certain forceful function, but still allow or stimulate other activities. Sennett (1990), however, emphasises that liminal places are located between spheres marked by 'weak borders'. Whereas the location of the Ringzone is now often described as strategically in terms of centrality and accessibility (Gemeente Amsterdam, 2011b), it also has a strategic location in terms of liminality.

Public space and vital urban life

Hence, there is a difference between public space and a public domain: a public domain needs to be used by people with different backgrounds and interests and gives people the feeling of 'sharing an experience' (Hajer & Reijndorp). Public domains are therefore strongly related to diversity, which is one of the core values of economic and social vitality (Jacobs in Meyer *et al.,* 2014). Jacobs even states that:

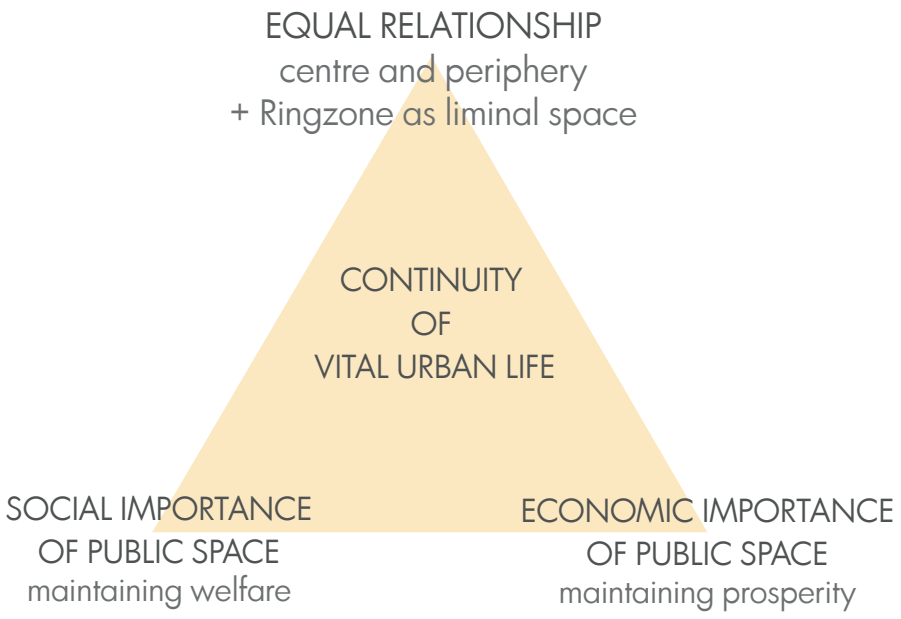
"The real vitality of cities [..] lies in their diversity, architectural variety, teeming street life and human scale. It is only when we appreciate such fundamental realities that we can hope to create cities that are safe, interesting and economically viable, as well as places that people want to live in."

Jacobs (1961, p.4)

Montgomery (1998, p. 97) takes it one step further and argues that "vitality distinguishes successful urban areas from others." Vitality is then described as a mix of activities, transactions and diversity (Montgomery, 1995). A successful urban area in this context is defined as a socially and economically viable area (Meyer, Westrik & Hoekstra, 2014).

Vital urban life and the balanced city

Given the above, it can be concluded that there is a strong link between an equal relationship between centre and periphery, the existing policy documents emphasising the social and economic importance of public space and the need for a continuity of vital urban life.



CONTINUITY OF VITAL URBAN LIFE

Four major conclusions can be drawn from the first section of this vision:

1. a 'City in Balance' means a city with a more equal relationship between centre and periphery and a Ringzone as liminal space.

2. in order to create a more equal relationship between centre and periphery, there is a need to reorient people towards the grey (Ring) zone and the disadvantaged periphery

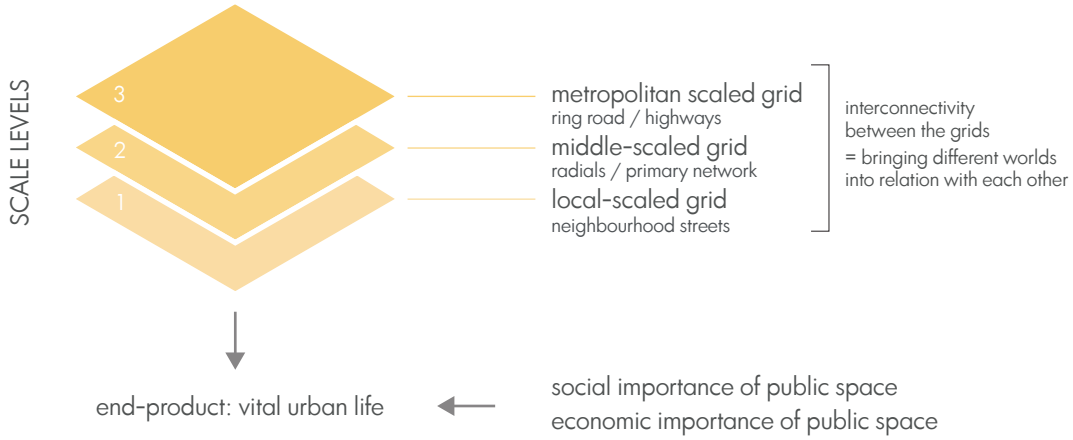
3. a continuity of vital urban life is a prerequisite for the reorientation of the city and thus a more equal relationship between centre and periphery

4. the creation of continuity of vital urban life is beneficial for both the social and economic importance of public space in Amsterdam

While knowing the necessity of creating continuity of vital urban life, we can take it one step further by answering the question: how to create a continuity of vital urban life?

Therefore, we make use of the lessons learned as mentioned in the problem definition. The first important conclusion from the problem definition is that the spontaneous emergence of vital urban life is actually the end-product of the integration of the metropolitan-scaled, middle-scaled and local-scaled grid. In other words: creating a continuity of vital urban life starts at the layer of infrastructural networks.
Meanwhile, the co-relations with other patterns, such as the co-relation between movement patterns and functional patterns, need to be taken into account. The concept of centralisation (centre) and the concept of decentralisation (periphery) both have different patterns and these patterns need to be linked or changed in a such way that vital urban life will emerge wherever it is not present yet.

Creating a continuity of vital urban life actually begins with setting up the required co-relations between the different 'worlds' of residents and the different scale levels. Therefore the first set of guiding principles consists of general principles regarding the basic rules for the generation of vital urban life, according to the Space Syntax method and other research.



MOVING FROM CENTRE TOWARDS PERIPHERY

Before looking at the first set of guiding principles for the grey (Ring) zone and the disadvantaged periphery. we will have a look at what happens with the co-relations between the scales when moving from centre towards periphery and what happens with presence or potential of vital urban life. In this case, we follow the urban fabric when moving from the centre towards the peripheral area Nieuw-West, located west of the city centre. This means we start in a centralised area, whereafter we enter the Ringzone. Last but not least, we enter the decentralised periphery. The grids, as well as the co-relations between the grids, change each time we enter a new zone.
The following page shows the principle behind the organisation of centrality in 1) the centre 2) the area close to the Ringzone 3) the Ringzone and 4) the periphery. Moreover, the pictures show the design of the middle-scaled grid and the design of the local-scaled grid. When moving from centre towards periphery there is a loss of urban vitality when moving towards the Ringzone and in the periphery the entire organisation of centrality changes.

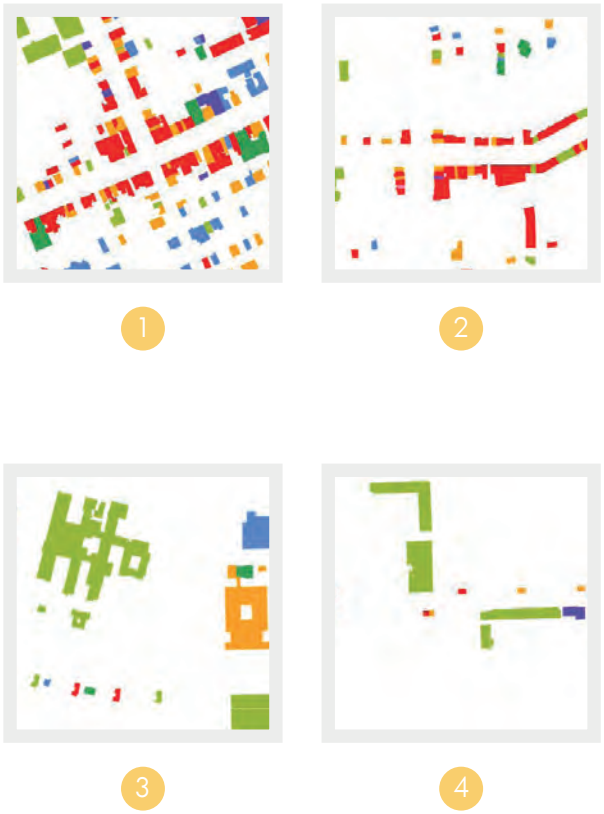
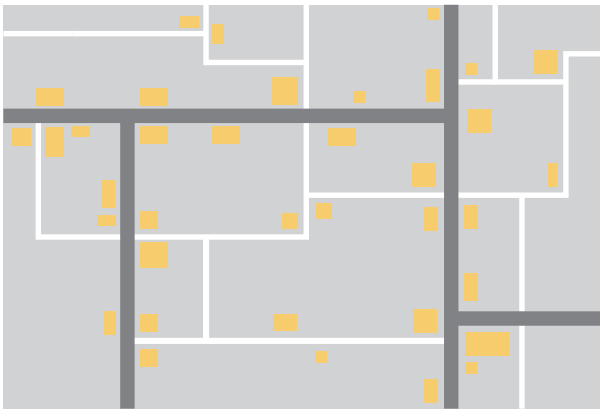


Figure 5.16 - 5.19: location of non-residential functions (Gemeente Amsterdam, 2018)

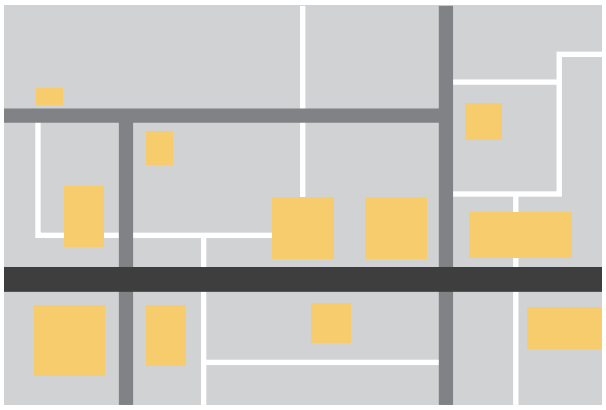
1) VITAL URBAN LIFE IN THE CENTRE

The city centre of Amsterdam is known for strong structure of vital urban life along radials and local streets. There is a strong overlap between the middle-scaled and local-scaled grids and functions establish themselves where these grids meet each other and they can benefit from a 'doubling of scales'.



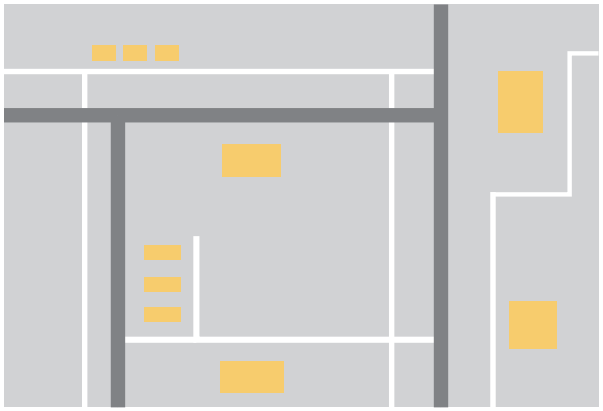
2) TOWARDS THE RINGZONE

The transparency of the overlap between the middle-scaled and local-scaled grid gets reduced, which means there is a decrease of vital urban life.



3) THE RINGZONE AS GREY ZONE

Eventually, when entering the Ringzone there is a sudden change in the urban fabric. The middle-scaled grid and local-scaled grid start to disengage from each other, resulting in a reduction of overlap between these grid. The Ring itself attracts metropolitan-scaled functions with large footprints. These functions are oriented towards the Ring and destroy any continuity of vital urban life.



4) IN THE PERIPHERY

The periphery shows a strong reduction of connections between the middle-scaled and the local-scaled grid. Moreover, there is a strong hierarchy, which means that the middle-scaled grid streets change into traffic arteries with inward-oriented islands as hidden destinations along the streets. Flows make use of parallel streets and so the middle scale cannot make use of the generation of flows. Moreover, buildings are not oriented towards the streets.

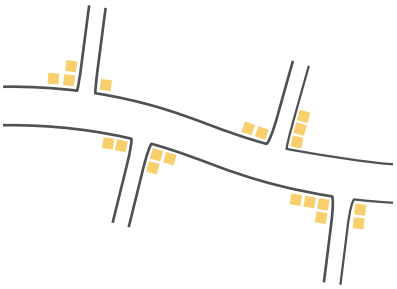
THE FIRST SET OF GUIDING PRINCIPLES

the link between vital urban life and organisation of centrality

The first set of guiding principles focuses on structuring the co-relations between the different scaled grids - and thus the organisation of centrality - in order to create vital urban life. It is therefore not so much about how streets belonging to each grid are designed, but rather the necessity of integrating all three grids. This set of guiding principles is therefore more a general set of guiding principles on the relationship between vital urban life and the layer of infrastructural networks, applicable to every city, regardless the cleavage between centre and periphery. It reflects the lessons learned in the problem definition and translates this into principles that can be used during the design process. The first set of guiding principles does not depend on any spatial scope, but actually aims to create awareness. The principles can be used when designing small-scale projects, but also when creating a masterplan for a larger site. It is, however, important to keep the big-

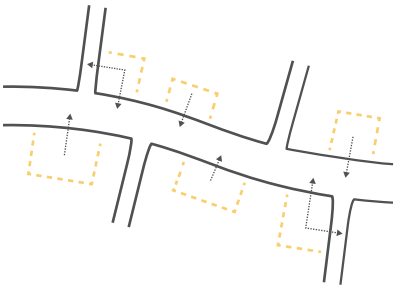
TOWARDS A HIGH AREA INTEGRATION

Middle-scaled functions, such as specialised shops, employment agencies and clusters of shops, tend to establish themselves on the middle-scaled grid with high densities, when these functions can ground themselves on the local scale at the same time (Read & Bruyns, 2007). The lowest-scaled grid is therefore important for the quality of public space, but it is the middle-scaled grid that is actually critical for the production of urban place-quality. (Read *et al.,* 2007). High area integration therefore has a strong relation with 'simultaneous centrality' or a 'doubling of scales' (Read *et al.*, 2007).



TOWARDS LOCAL x GLOBAL

"Urban centrality is constructed on movement flows and activity patterns with the urban spatial matrix" (Read, 2001, p.17). Urban structures have the ability to connect the outside world with local places, but there is a need to reconnect the separated 'inside' and 'outside' of neighbourhoods. In particular new projects, often designed as inward-oriented islands, need to be 'flipped'.

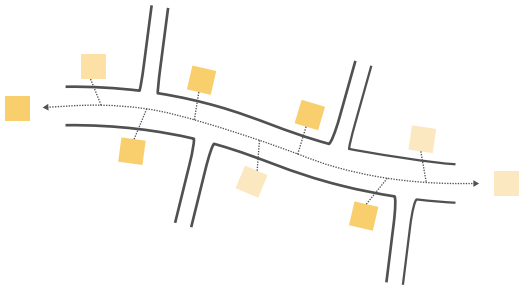


ger picture in mind and think of what you are actually connecting and the existing spatial concepts, such as centralisation and decentralisation.The guiding principles are all related to each other, so it is no option to pick only one guiding principle.

In short the guiding principles prescribe to be aware of the fact that 1) functions ground themselves where the local- and middle-scaled grid meet each other, 2) inward-oriented islands need to be flipped in order to connect the global and local world, 3) flows can be generated by the presence and connections between complementary and same-function nodes (destinations) and 4) when integrating the scales, the inside and outside world and destinations, the streets will be characterised by a co-presence of people from different groups of society and from different parts of the city.

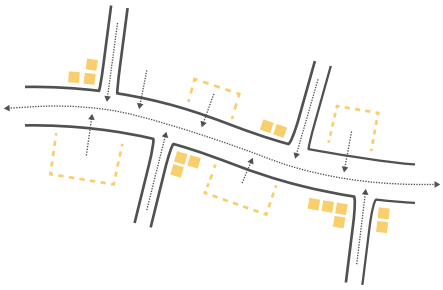
TOWARDS A GENERATION OF FLOWS

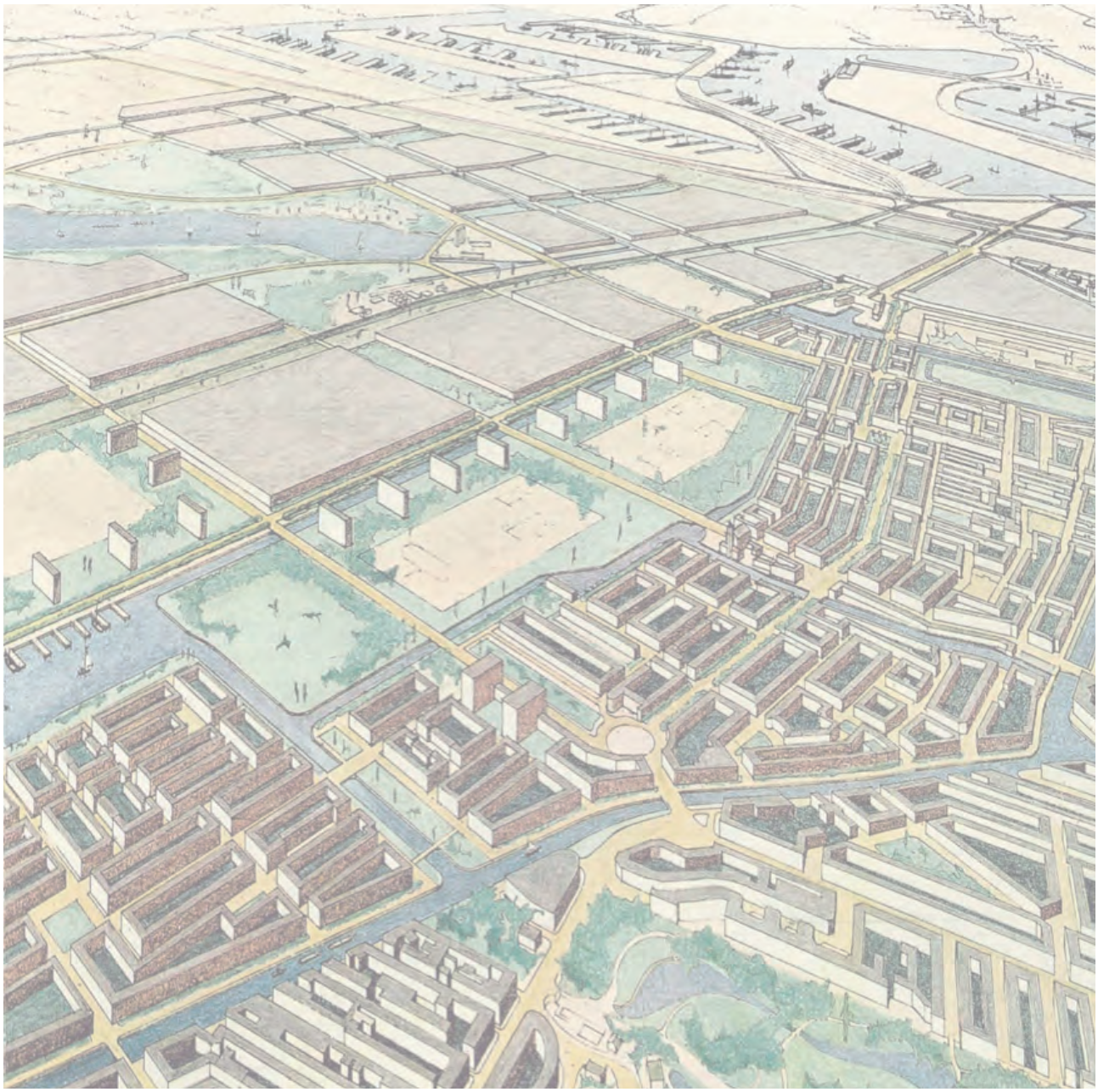
Christopher emphasises the value of "overlap" in creating urban life, referring to a large degree of redundancy and a mixture of programs (Christopher in Zhou, 2012). According to Lynch and Gehl, destinations generate flows (Lynch & Gehl in Zhou, 2012). Vital urban life therefore depends on the presence of complementary and same-function nodes and the more these nodes are interconnected, the more chance that vital urban life will emerge (Zhou, 2012). It is thus important to connect lines (connections) with dots (destinations).



TOWARDS A MULTIPLICITY OF USE

Openness and transparency at the local scale, in combination with a simple but dense overlap with the middle scale, leads towards the necessary spatial conditions for a well-functioning, central public space (Read, 2001). Higher concentrations of street activity will appear in these places (Read & Bruyns, 2007). Moreover, these public spaces are characterised by a structured overlap and diversity. The vital urban life will then be structured around the scales of the local and wider city and is underpinned by a rich overlap of different groups of society.

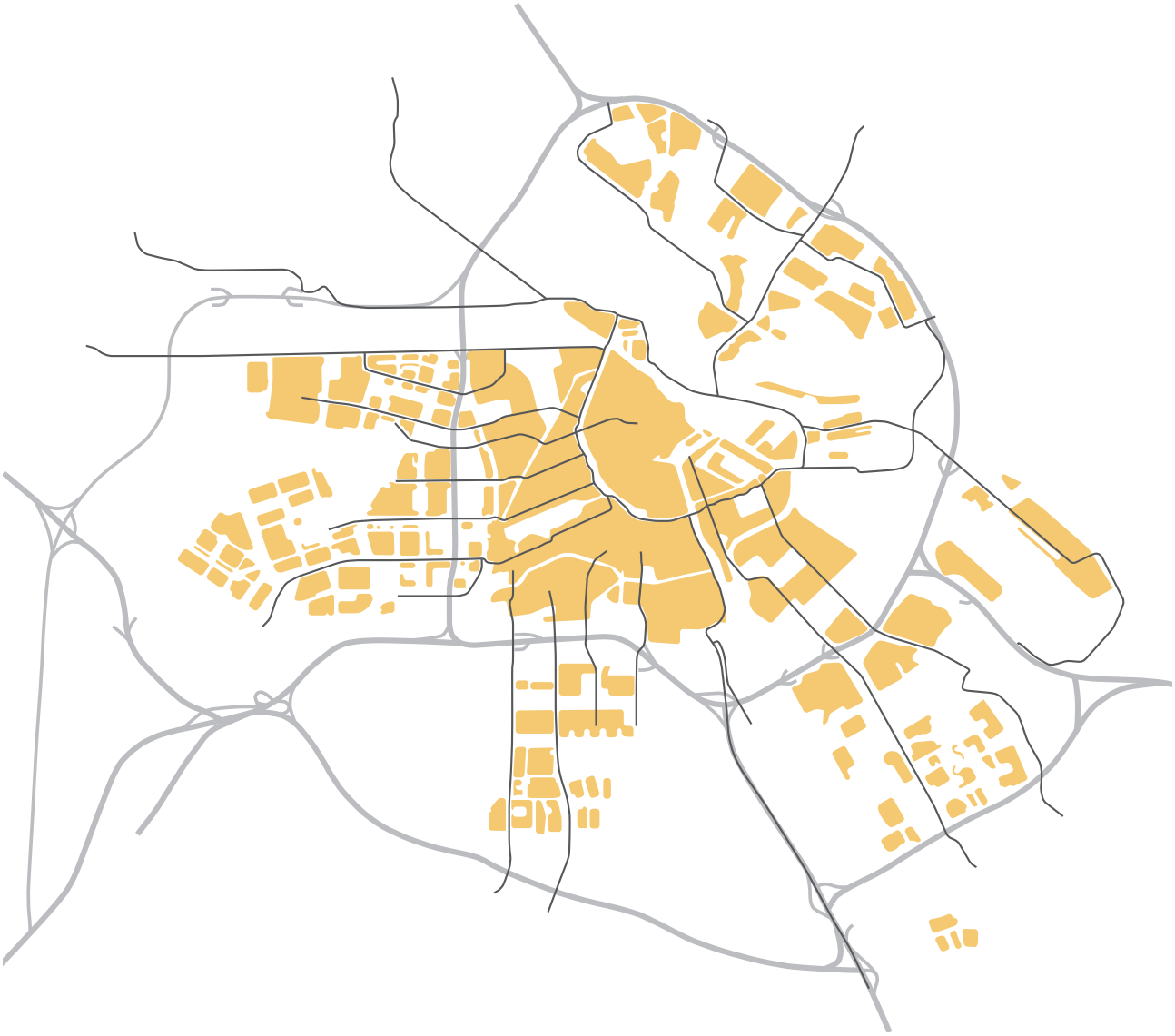




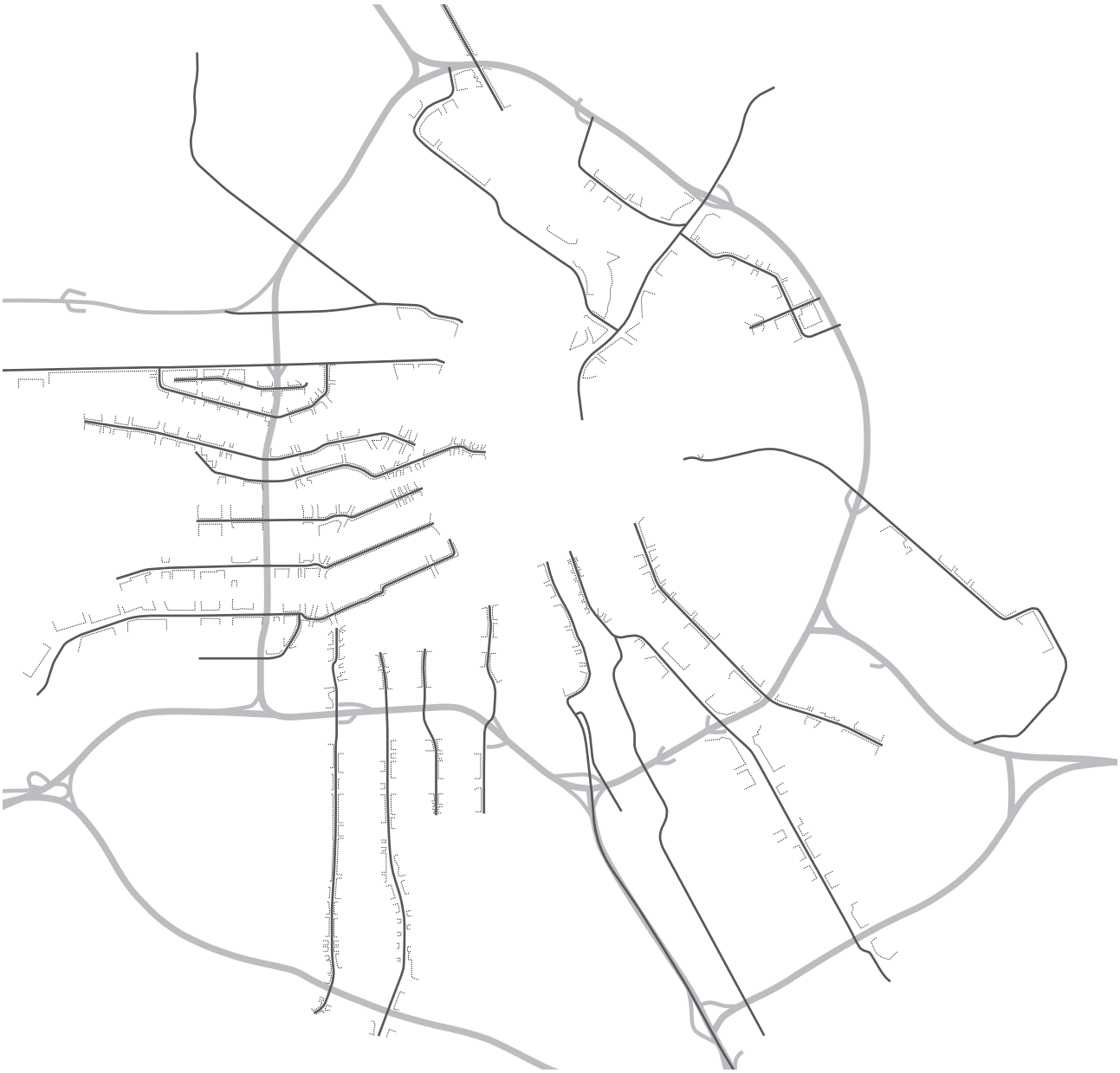
THE SPATIAL SCOPE: RADIALS AS ARTERIES OF PUBLIC LIFE

After defining the aim of this vision (creating a continuity of vital urban life), the next step is to define the spatial scope. Since the municipal strategy mainly focuses on small-scale projects, it makes sense to look at the bigger picture and consider the potentials on larger scales.

Combining the aim of this vision (creating a continuity of vital urban life) with the first set of guiding principles - and thus the lessons learned derived from the problem definition - it appears that there is a strong link between the infrastructural networks and the continuity of vital urban life, because of the way centrality is organised. The spatial scope of this project should therefore focus not just on the bigger picture, but the bigger picture of the layer of infrastructural networks in particular. Moreover, for this thesis it is not feasible to design an entire city, so there is a need for a focus or a guiding theme, which is also recommended by Van Dooren *et al. (*2013).



In the case of Amsterdam, the radials could be a guiding theme. These radials already provide movement continuity and belong to the primary network of the city: the middle-scaled grid, which is critical for the production of urban place-quality. Moreover, new projects (dots) are connected to the radials, because the radials connect the Rings and thus connect the projects with the metropolitan grid. According to Read *et al.,* 2007, p.6), "they are always well connected at the metropolitan scale, this being the scale that is understood as being facilitating and productive, and they then asume that 'local space' is a problem that will be solved by the way of 'architectural quality." It is now a challenge to integrate the middle- and local-scaled grid and to create experiential continuity. The radials are present in all parts of Amsterdam, which makes this scope relevant for all parts of Amsterdam as well. The next pages include an analysis of the radials in order to explore their potential as arteries of public life. .



EXPLORING THE POTENTIAL OF RADIALS

When radials are functioning as arteries of public life, they provide both movement and experiential continuity. In order to find out to what extent they are already arteries of public life and, if not, where they are not functioning as arteries of public life, we need to explore the radials. The first map shows the radials of Amsterdam with the building lines of all buildings people are living in or are used by people in their daily lives (such as supermarkets). In other words, the buildings are part of the middle and local scale of the city. It is remarkable to see what happens when entering the Ringzone. All radials show a sudden change, caused by the dominance of the metropolitan scale in the Ringzone. There are almost no people living in the Ringzone and there are not many local- or middle-scaled functions to be found. In other words, the Ringzone raises challenges when it comes to radials as arteries of public life, because right now there is no continuity of vital urban life between centre and periphery in Amsterdam.

Figure 5.34. A radial inside the Ring: van Woustraat (Diva, 2018)

Figure 5.35. The same radial after crossing the Ring: S111 (Maarsen Groep, 2018)

EXPLORING THE POTENTIAL OF RADIALS: PUBLIC TRANSPORT

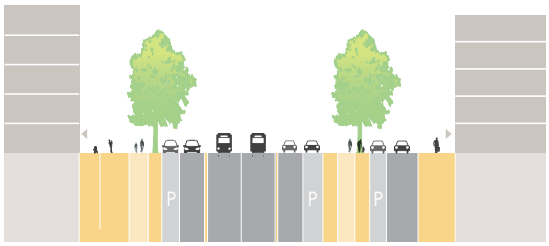
Radials provide movement continuity, but not always for pedestrians and cyclists. Some of the radials are only accessible by cars and others are used by cars and public transport, such as parts of the Cornelis Lelylaan. The map above shows the relationship between the radials and public transport. Especially the radials towards Nieuw-West are important for the public transport network. This because the tram network follows the radials when crossing the Ring. Moreover, some of the train and metro stations are located on radials as well. The combination of the train, metro, bus, car and slow traffic gives these places a real potential as public transport hub when making use of theories regarding place / node value. These hubs can attract people towards the periphery and can thus contribute to a more equal relationship between centre and periphery. Moreover, these hubs are characterised by a co-presence of people from the surrounding neighbourhoods, other city parts and even the region.

Figure 5.37. Station Lelylaan as a transport hub (AT5, 2015)

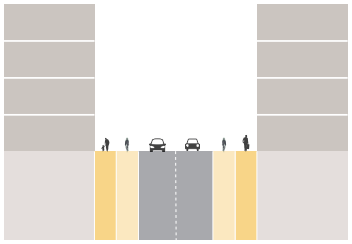
Figure 5.38. The Zuidas as a transport hub directly connected to the Ring (Bewonersplatform Zuidas, 2013)

RADIALS INSIDE THE RING

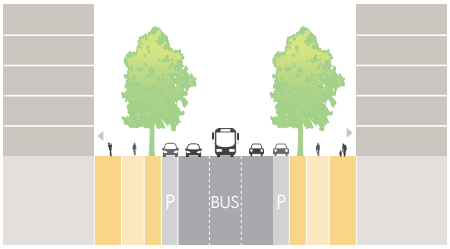
Witzanghlaan



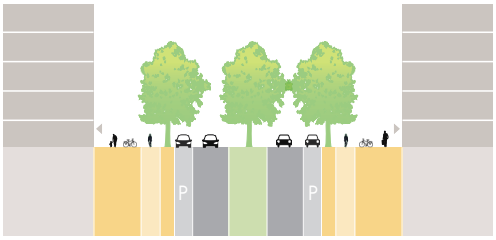
Bos en Lommerweg (S104)



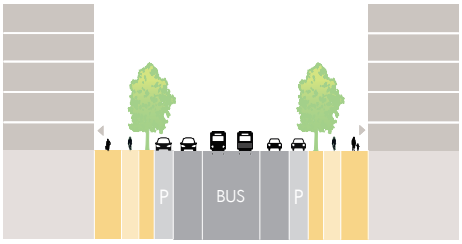
Jan van Galenstraat (S105)



Jan Evertsenstraat

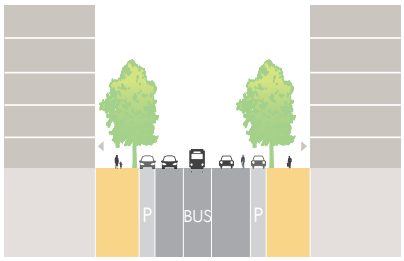


Postjesweg

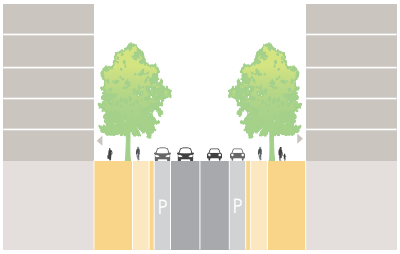


Cornelis Lelylaan (S106)

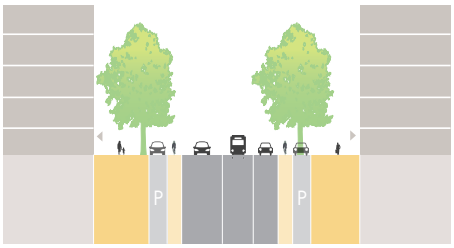
RADIALS INSIDE THE RING



Heemstedestraat

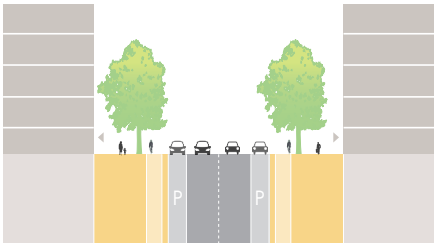


Henk Sneevlietweg (S107)

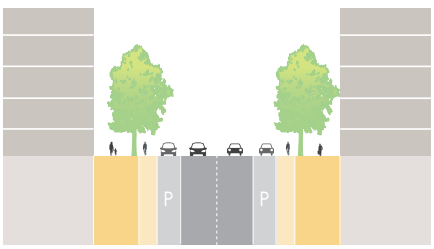


Amstelveenseweg (S108)

Parnassusweg

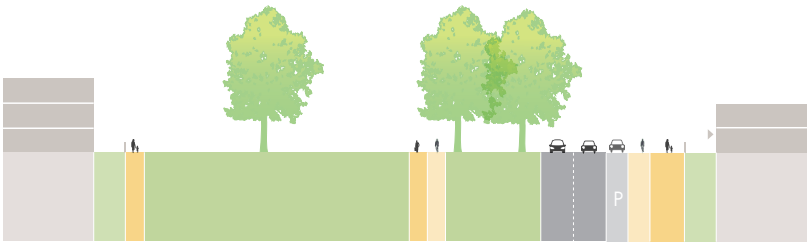


Europaboulevard (S109)



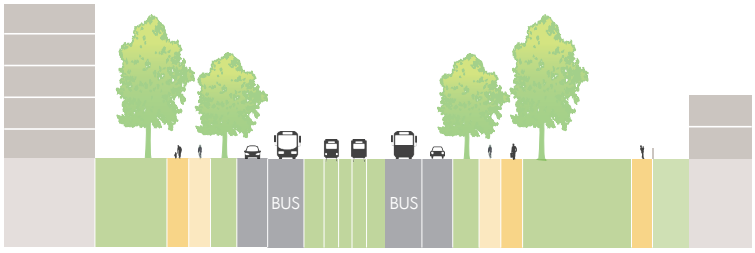
A2 / S110

RADIALS OUTSIDE THE RING

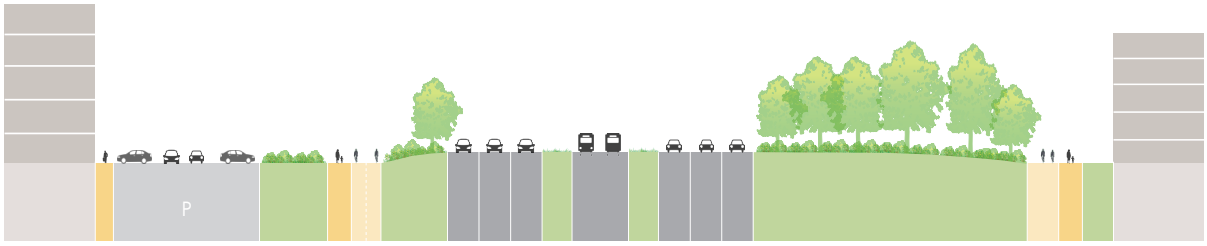


Witzanghlaan

Bos en Lommerweg (S104)

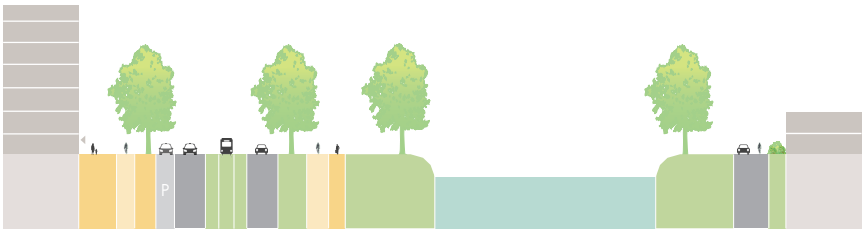


Jan van Galenstraat



Cornelis Lelylaan (S106)

RADIALS OUTSIDE THE RING

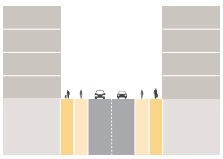


Heemstedestraat

Parnassusweg

Beethovenstraat

A2 / S110



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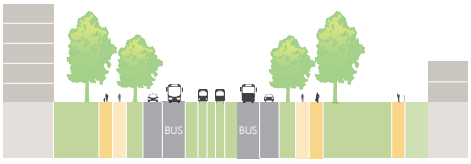

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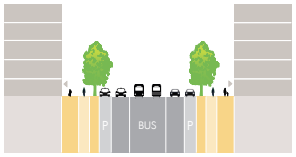


Cornelis Lelylaan (S106)

Cornelis Lelylaan (S106)

Henk Sneevlietweg (S107)

Henk Sneevlietweg (S107)

inside the Ring: centre (centralisation)

outside the Ring: periphery (decentralisation)

MOVING FROM CENTRE TOWARDS PERIPHERY

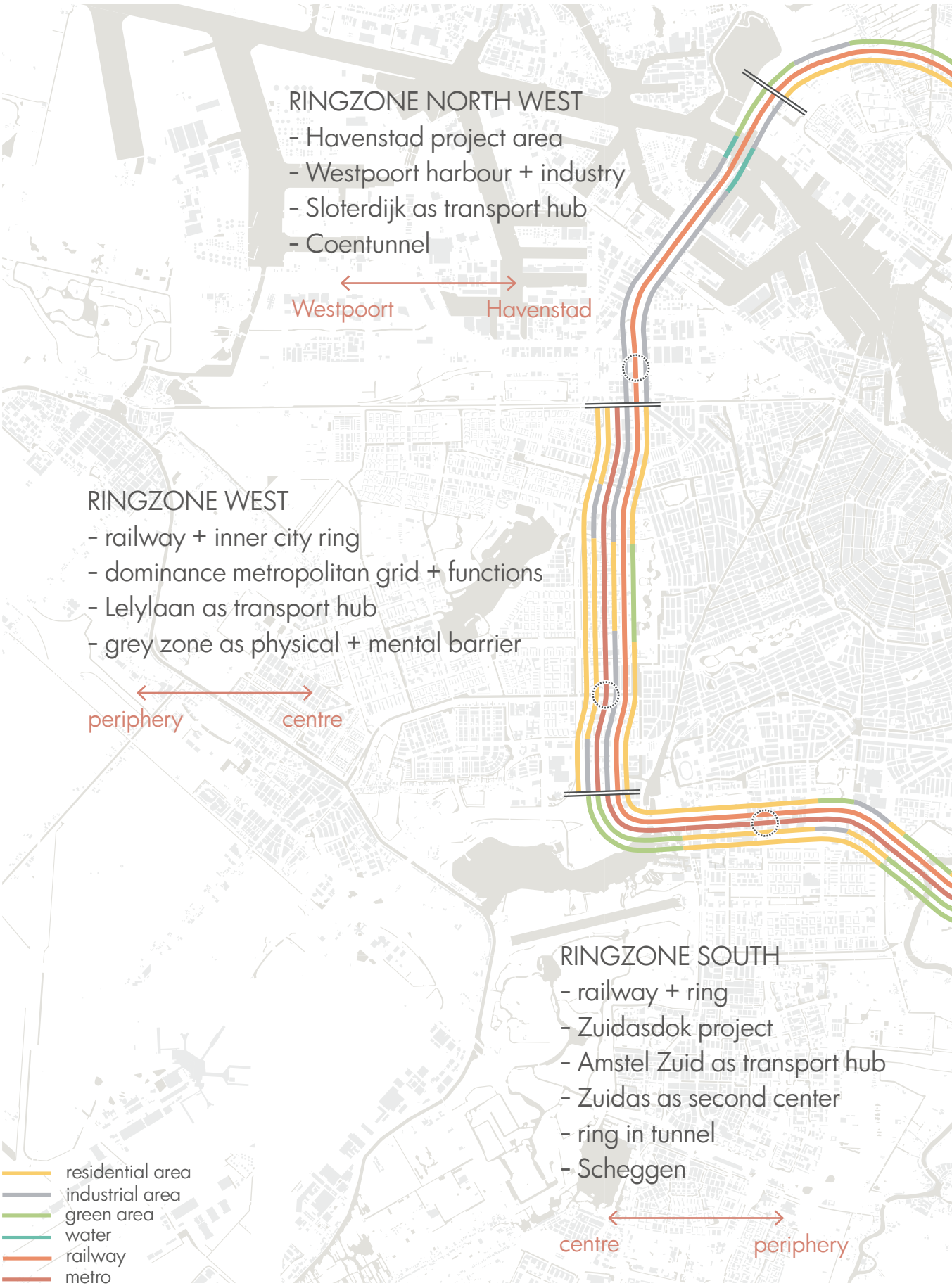
The sections on the previous pages show that there is an enormous difference between the layout of the radials inside the Ring (centre) and the layout of the radials outside the Ring (periphery). This is even more clearly demonstrated by the sections above.

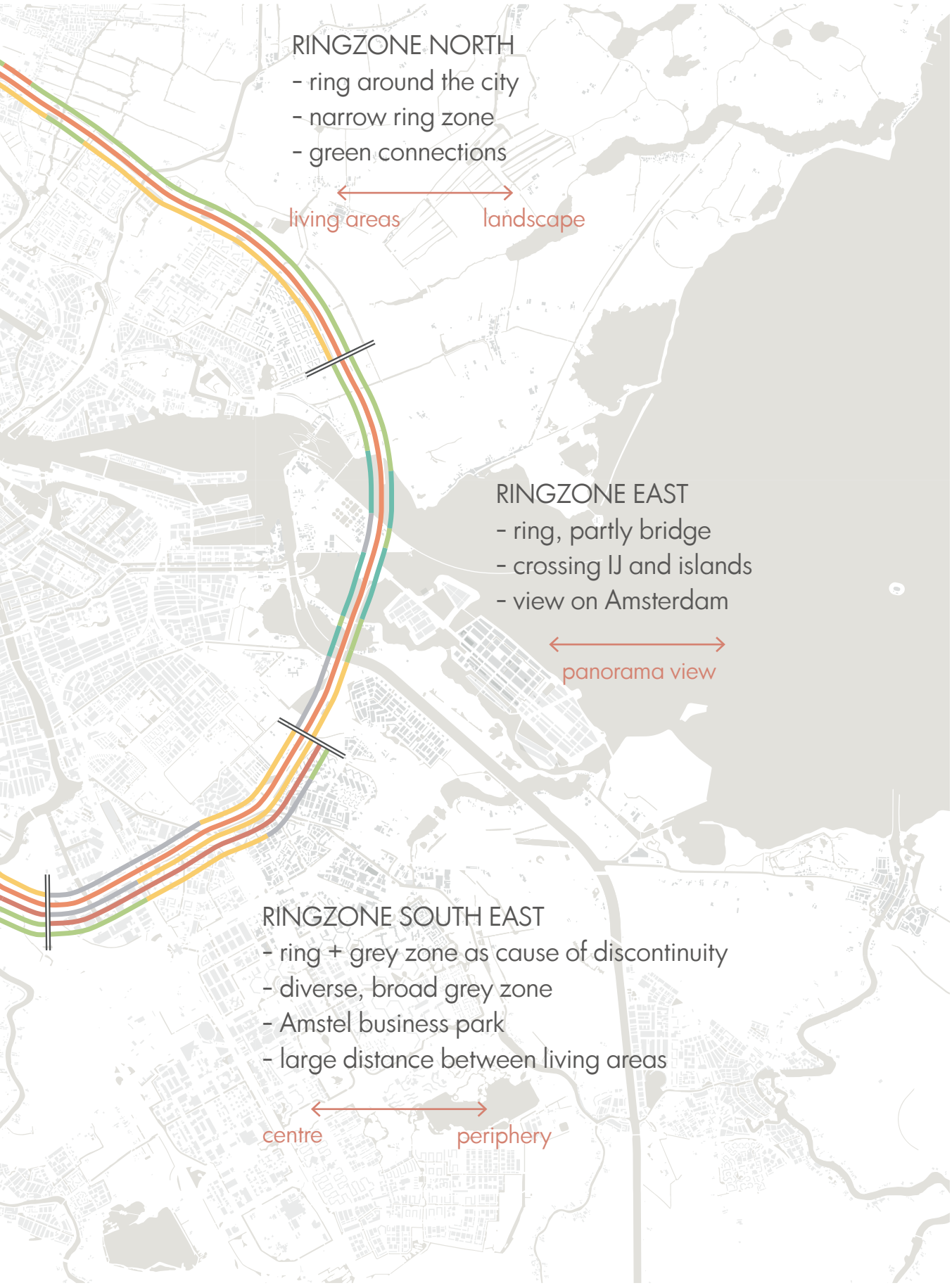
It is clear that there is a difference between the radials in the periphery and in the centre, causing a lack of (in some cases) movement continuity and experiential continuity. What we do not know yet, is where this exactly changes. It therefore makes sense to have a closer look at the Ringzone and what the radials actually have to cross in order to reach the periphery.

Secondly, it is relevant to look at the potential to define typologies for the radials. With these typologies it would then be possible to come up with a strategy for each typology, resulting in a new set of guidelines. If it turns out not to be possible, it will also result in a new set of guidelines. Perhaps this set of guidelines will have a different spatial scope.

Figure 5.44. inside the Ring: radials functioning as high streets (Meteorry, 2012)

Figure 5.44. outside the Ring: radials functioning as traffic arteries (Rijkswaterstaat, 2015)


RINGZONE NORTH WEST
- Havenstad project area
- Westpoort harbour + industry
- Sloterdijk as transport hub
- Coentunnel
Westpoort
Havenstad
RINGZONE WEST
- railway + inner city ring
- dominance metropolitan grid + functions
- Lelylaan as transport hub
- grey zone as physical + mental barrier
periphery
centre
RINGZONE SOUTH
- railway + ring
- Zuidasdok project
- Amstel Zuid as transport hub
- Zuidas as second center
- ring in tunnel
- Scheggen
centre
periphery
residential area
industrial area
green area
water
railway
metro


RINGZONE NORTH
- ring around the city
- narrow ring zone
- green connections
living areas
landscape
RINGZONE EAST
- ring, partly bridge
- crossing IJ and islands
- view on Amsterdam
panorama view
RINGZONE SOUTH EAST
- ring + grey zone as cause of discontinuity
- diverse, broad grey zone
- Amstel business park
- large distance between living areas
centre
periphery

TYPOLOGIES OF THE RADIALS

In the centre almost all radials have a similar street profile and so these radials have the same typology. However, when crossing the Ring it becomes more complicated. The typologies change when entering the Ringzone, but do not change in a similar typology. Some streets change into residential streets, with a reduction of vital urban life. Other streets change into urban highways or 'real' highways, causing a loss of interaction with the buildings. In the end, most radials become quiet residential streets or urban highways. Only a few roads, such as the A2, have a real highway character. Others are less important as connections, but function mainly as public domains.

What makes it even more complicated, is that roads change from typology several times and so it is hard to find any logic to work with for the spatial strategy. In fact, we can conclude here that it is impossible to work with the radials on this scale, since they are too different. The radials depend on their context and the co-relations with other grids. Radials do not change without a reason, the context makes them change.

HIGHWAY

> no crossings on the same level
> often located on embankments
> no interaction with plinth
> greenery along the road

URBAN HIGHWAY

> few crossings on the same level
> often located on embankments
> little interaction with plinth
> greenery along the road

CITY STREET

> crossings on the same level
> some interaction with plinth
> broad street (multiple lanes for cars)
> often unsymmetric street profile
> almost no greenery

RESIDENTIAL / SHOPPING STREET

> crossings on the same level
> lots of interaction with plinth on both sides
> narrow street (multiple lanes for cars)
> often symmetric street profile
> almost no greenery

TOWARDS A NEW SPATIAL SCOPE: LENGTH x DEPTH

The analysis of all radials shows that it is not possible to come up with a few typologies and thus a strategy for all radials. Radials are subject to change and contain multiple typologies per radial. Moreover, radials have to cross various barriers, such as the ring road, the railway, industrial areas and water. Since this is not the same everywhere along the Ring, it would not be correct to have one strategy for all radials without having a closer look at the context surrounding each radial.

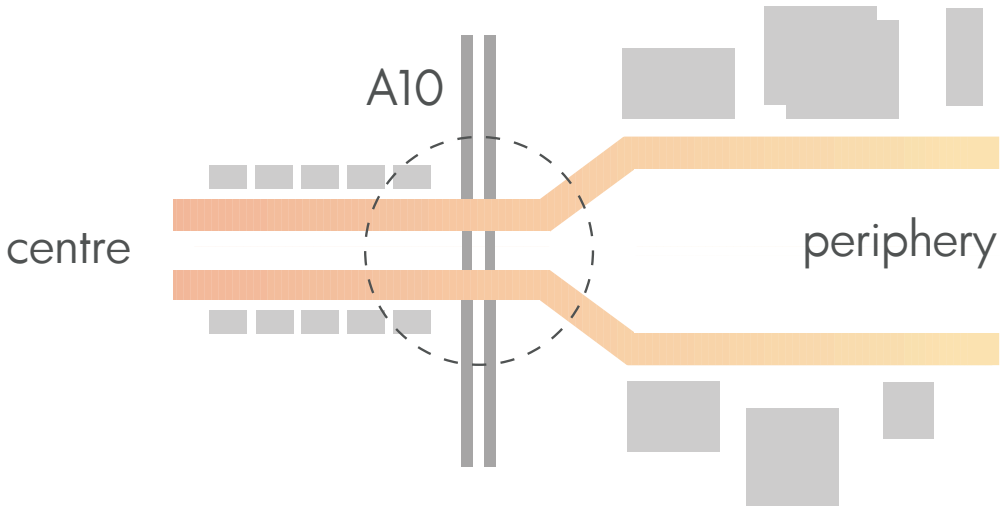
So the context causes the radials to change. The drawings on the right page illustrate this one more time by showing that when the middle-scaled grid (radial) meets the metropolitan-scaled grid (ring road), the radial becomes wider and gets a new typology. However, some radials already change before crossing the Ring. After crossing the Ring, these radials split into two separate roads with two different typologies.

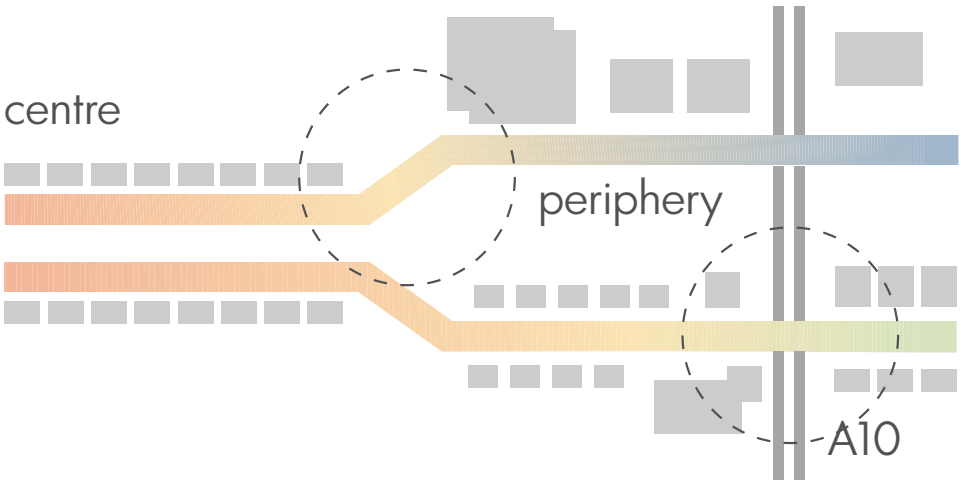
The large impact of the context on the radials has consequences for the spatial scope of this vision. It is still necessary to aim a continuity of vital urban life and it still makes sense to focus on the radials as arteries of public life. It is, however, not possible to do this without taking the context into account and so the spatial scope changes from all radials towards radials in a specific context. In other words: in order to create arteries of public life, it is crucial to look at:

1 the length of radials: this includes the street itself and includes everything belonging to the public realm of the street. In particular the presence or absence of the human scale in the street profile, the amount of places that invite people to stay, the interaction with the plinth, the dominance by cars or the amount of space reserved for slow traffic and destinations are important for the length of radials.

2 The depth of radials: this includes everything that happens in the surroundings of the radials or actually in between radials. It includes the integration with the other scale levels, in particular when there is a strong hierarchy. It is actually mainly about the connection between dots (segregated small-scale islands) and the lines (the connections).

This results into a second and third set of guidelines: the second set focuses on the length of the radials and can be used for all radials in Amsterdam. The third set focuses on the depth of the radials and depends on a specific context of one part of Amsterdam. This means the spatial scope of the project changed from all creating vital urban life along all radials towards radials in a specific part of Amsterdam, without losing the bigger picture. Two sets of guidelines are applicable to all parts of Amsterdam, the third set is only applicable to decentralised areas.


A10
centre
periphery


centre
periphery
A10

THE SECOND SET OF GUIDING PRINCIPLES

the length of radials as arteries of public life

The second set of guiding principles is a general set of guiding principles that can be used for all radials in Amsterdam and probably other cities that are dealing with the continuity between centralised and decentralised areas.

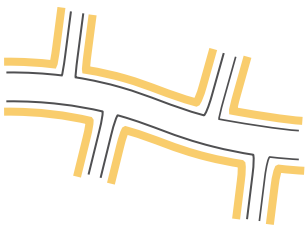
The guiding principles focus on the length of the radials and aim to transform the radials in the Ringzone and periphery into arteries of public life. The length of the radial is about what happens in the public realm of the radial. This is defined by Karssenberg, Laven, Glaser and Van 't Hoff (2016, p.15) as "everything that can be seen at eye level, including the façades". It therefore has a broader meaning than only the public space along the radials.

The guiding principles focus on the street profile of the radials, but also on the plinths and orientation of buildings. This has a significant impact on the experience and attractiveness of the city in both commercial and residential areas and thus the experiential continuity as well (Karssenberg *et al.*, 2016).

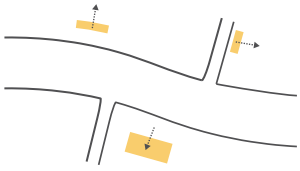
Karssenberg *et al.* (2016, p.15) even states that:

"Research shows that if the destination is safe, clean, relaxed and easily understood, and if visitors can wander around with their expectation met or exceeded, these visitors will remain three times longer and spend more money than in an unfriendly and confusing structure".

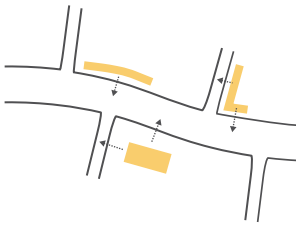
That means that the length of radials has a strong link with the social and economic importance of public space. The radial should be a place to meet and interact, in particular because of the fact that the knowledge economy requires these kind of spaces with character and for the intangible structures it is important to bring the different 'worlds' of people together in their daily life system.



centre



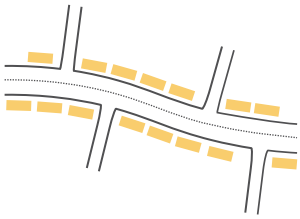
periphery



vision

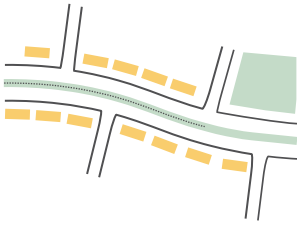
THE PLINTHS OF THE RADIALS

Ground floors have a significant impact on the public life and the general attractiveness of the city (Gehl, Kaefer & Reigstad (2006). That means there is a strong dialogue between city and building. The radials in the centre express this with a continuity of active plinths. The plinths are explicitly important for the link between the 'inside ' and 'outside' world: the edges and transition zones between buildings and public space can become natural places for various activities that link buildings with streetlife. In the periphery, however, there are less active plinths and buildings are often not oriented towards the streets. It is important though to let buildings orient towards the streets and to create a continuity of active plinths.



centre

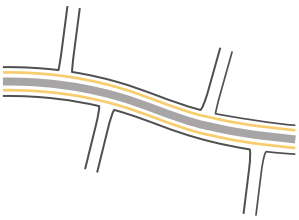
periphery



vision

THE SYMMETRY OF THE RADIALS

In the centre the radials are symmetrical with similar buildings on both sides of the street. Moreover, the street section is symmetrical. In the periphery, the ambivalence of being close to the landscape and close to the city is reflected by the streets. That means that one side of the street is 'dedicated' to the city and here we can find buildings. The other side of the street, however, is 'dedicated to the landscape and here we find large bodies of water and greenery. Because of the width of the street, there is a loss of human scale is lost. By adding buildings along the streets and by combining city and landscape in the street profile. By doing so, the buildings can interact with each other and with the greenery.



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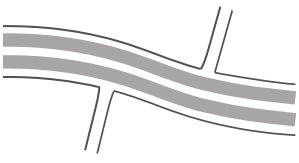
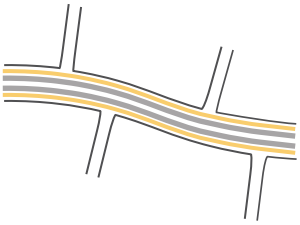


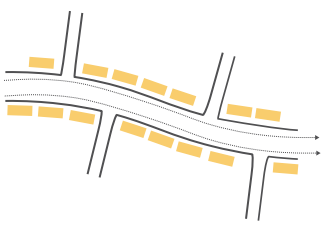
periphery



vision

THE CAR DOMINANCE OF THE RADIALS

The radials in the city centre do not contain a lot of greenery and a large part of the street is occupied by cars. However, the streets are more narrow than in the periphery and the lanes of traffic are compact. Besides, there is space for pedestrians and wherever people walk they can interact with the plinths on both sides of the road. In the periphery however, we can speak of car dominance as there are multiple lanes for cars and lots of parking space on the streets. The space for pedestrians is scattered and that has consequences for both movement and experiential continuity. The street profile needs to be transformed in order to get rid of the car dominance and to give pedestrians more space along the plinths.



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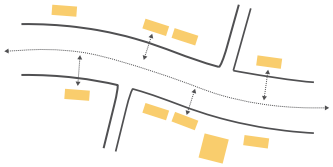

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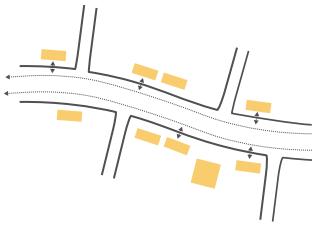
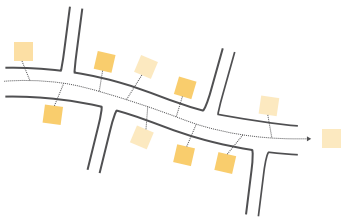


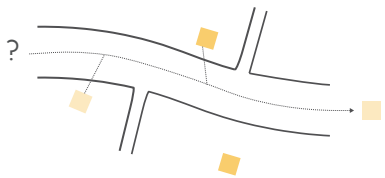
vision

THE FLOWS ALONG THE RADIALS

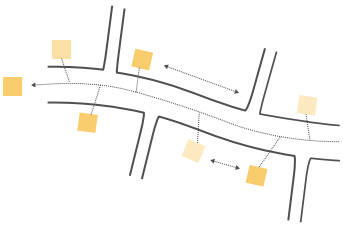
The radials in the centre are compact, which means that all the generated flows are located directly alongside each other. Additionally, the flows of pedestrians or cyclists are located directly next to the buildings. When entering the Ringzone or any of the peripheral areas, this changes. There is a much larger distance between flows and plinths and there is much more space between each flow as well. Slow traffic is often separated from cars and public transport and buildings are not always oriented towards the streets. That means there is less social control and a loss of vital urban life. The wide traffic arteries need to be transformed in such a way that flows will follow the buildings and with enough space for each flow.



centre



periphery



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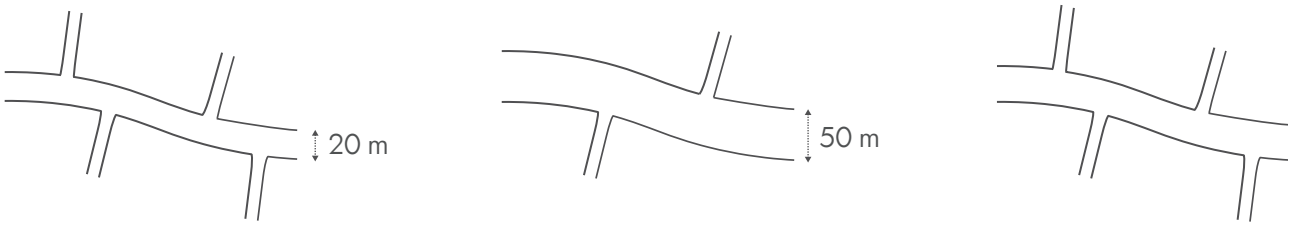
THE DESTINATIONS OF THE RADIALS

At the moment, all radials are oriented towards the centre and therefore have a clear destination. The Jan Evertsenstraat for example leads people all the way to the Dam in the centre. Moreover, along the streets there are many destinations and so the distances seem to be shorter as well. In the Ringzone and periphery this is not the case. There is a disconnection between lines and dots and so there are only a few destinations along the radials and there is no final destination. Simultaneously, the distances are even longer and at least feel much longer because there happens so little along the streets. By connecting lines and dots and by adding more activity and a clear orientation the distances will become shorter.



THE WIDTH OF THE RADIALS

In the centre the radials have a width of 20-25 meters. The streets are symmetrical and on both sides of the road there is space for cars, parking, cyclists and pedestrians. Moreover, a distance of 22-25 meters makes it possible to look at the other side of the street and read facial expression and dominant emotions (Gehl, 2010). Gehl (2010, p. 35) even states that: "very little happens at distances from 100 to about 25 meters […], after which richness of detail and communication intensify dramatically meter by meter". The roads in the periphery are much wider, which means the human scale is lost. Urban elements or a more rigorous transformation can make the street less wide or at least feel less wide.

DEPTH OF RADIALS: CENTRALISATION vs DECENTRALISATION

creating continuity of vital urban life perpendicular to the Ring

Before giving the third set of guiding principles regarding the depth of radials, it is essential to realise that a City in Balance has two directions in which a continuity of vital urban life can be realised: the direction perpendicular to the Ring and the direction parallel to the Ring. In the first case, it is a matter of following the radials towards a peripheral area and by doing that, one will automatically cross the Ringzone. Creating continuity of vital urban life is then a matter of connecting a centralised area (the centre) with a decentralised area (the periphery) and the role of the Ringzone as a liminal space in between.

It is, however, not only about the radials, but also about the local-scaled grid and the advantages or disadvantages of the discontinuity caused by the presence of the Ring. The Ring belongs to the metropolitan-scaled grid and therefore brings the regional scale in connection with the lower scales. A City in Balance is also about orienting people coming off the Ring towards the periphery. On the other hand, the periphery can benefit from these people when the periphery is able to attract these people. Therefore the periphery needs continuity and destinations.

DEPTH OF RADIALS: DECENTRALISATION vs DECENTRALISATION

creating continuity of vital urban life parallel to the Ring

The radials all cross the Ring and therefore take care of the continuity between centralisation and decentralisation. This is thus about the relationship between centre and periphery. The other kind of continuity completely focuses on decentralisation. This is therefore about continuity between peripheral areas and is relevant for both the grey (Ring) zone and the disadvantaged periphery.

Nevertheless, the centre can benefit from this type of continuity as well, because it reduces the pressure on the overcrowded city centre. People who want to go from the western peripheral areas towards the south-eastern peripheral areas no longer have to travel via the centre. They can follow the Ring when the missing links are created. Even further away from the Ring it is possible to create these missing links.

These missing links can take care of neighbourhoods that are now cut off by radials. Moreover, missing links could be designed as liminal spaces bringing segregated neighbourhoods together and lead them to other parts of the city.

TOWARDS THE THIRD SET OF GUIDING PRINCIPLES

the depth of radials as arteries of public life in Nieuw-West

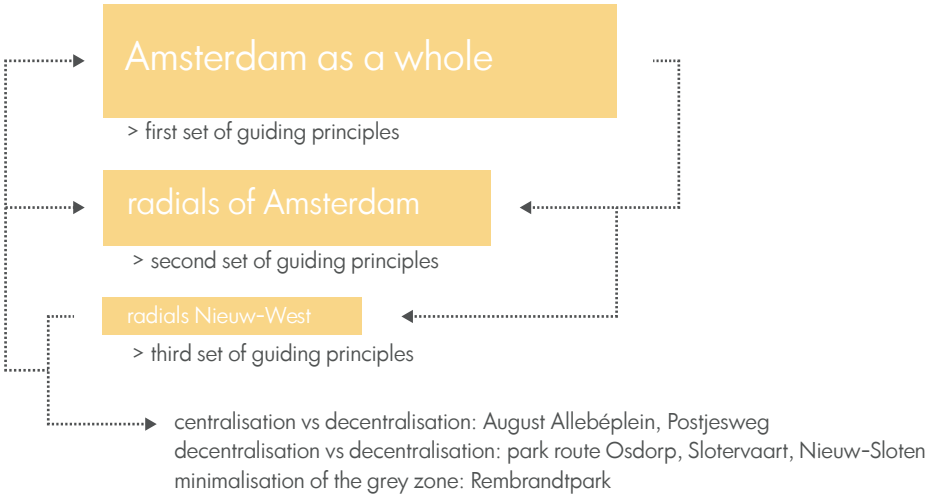
The third set of guiding principles focuses on the depth of radials. In other words: the set focuses on the relationship between the radials and the context with an emphasis on the integration between the three scale levels. This set of guiding principles is specifically made for the radials in Nieuw-West, which is the spatial scope of this vision.

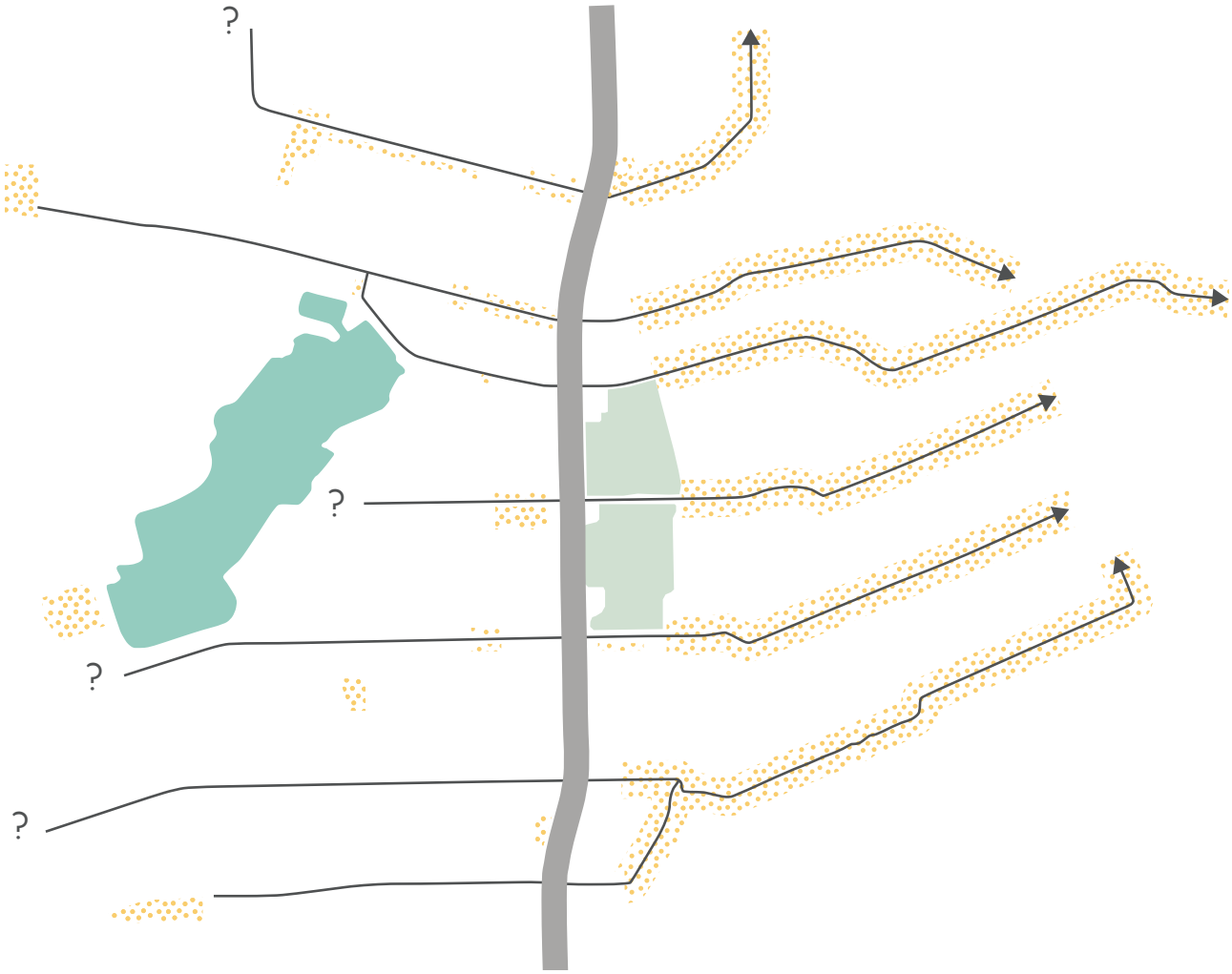
Nieuw-West is located at a close distance from the centre, which means there are opportunities to connect the concepts of centralisation and decentralisation. Moreover, a minimalisation of the Ringzone will have a significant impact on the continuity of vital urban life as well.

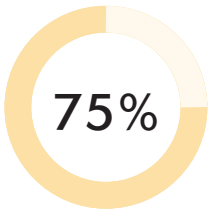
The radials in Nieuw-West all play different roles, varying from public domains to traffic arteries that are important for the movement continuity with the centre. The role of the radial depends on both the length and depth of the radial. For example, radials that are located on embankments (length) automatically have a weak relationship with the surrounding context (depth). Besides, the current relationship between the tangible and intangible structures asks for a fundamental change.

Furthermore, the radials in Nieuw-West have a significant impact on coherence of the tangible as well as the intangible structures. 75% of the people living in Nieuw-West lives within a five minutes walking distance from a radial. 92% of the people are living within a ten minutes walking distance from a radial. That means that the radials play a key role in people's daily life system, as they use the radials to reach their destination or they regard the radials themselves as destinations. There is potential to change the orientation in the city, whenever the length and depth of radials is better connected. In particular with all the planned projects in Nieuw-West, it is important to intervene.

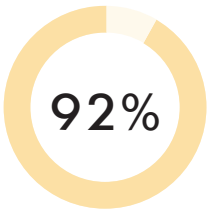
The set of guiding principles includes principles for the minimalisation of the grey zone, the continuity between centralised and decentralised areas and the continuity between decentralised areas. All principles can be used in Nieuw-West and in areas with a similar urban structure and dichotomy as well.







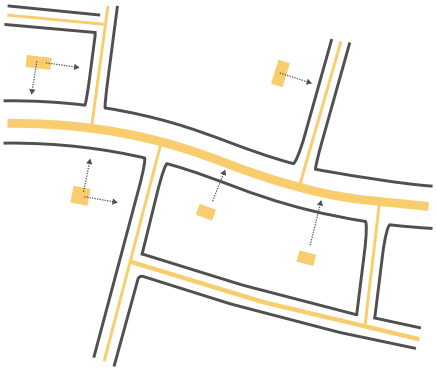
of the people living in Nieuw-West lives within a 5 minutes walking distance from a radial



of the people living in Nieuw-West lives within a 10 minutes walking distance from a radial

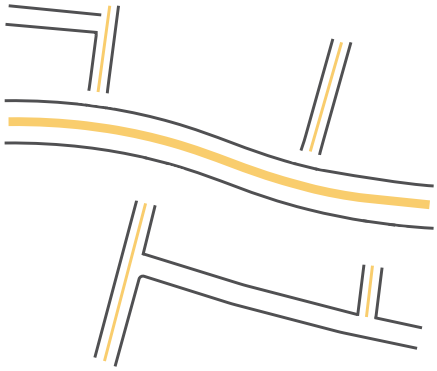
THE THIRD SET OF GUIDING PRINCIPLES

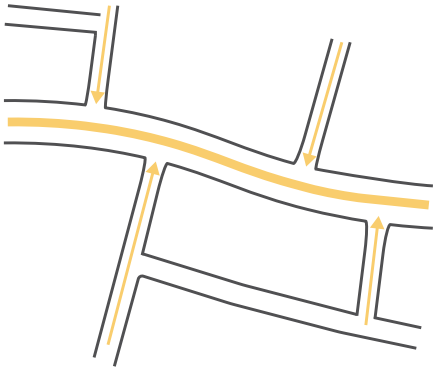
the depth of radials as arteries of public life



CONTINUITY OF PUBLIC SPACE

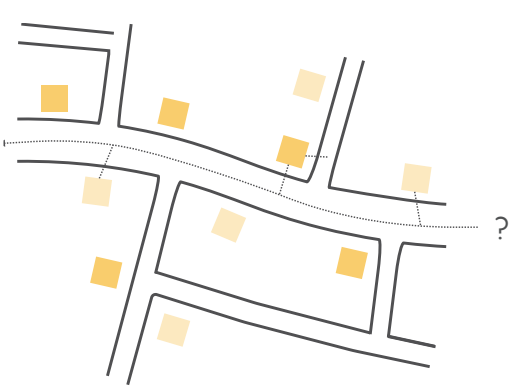
The periphery, as well as various parts of the Ringzone, are characterised by inward-oriented islands. These islands are not oriented towards the street, but do contain public space. However, this public space is intended to serve the island's own residents. Even though some of the 'islands' claim that there public space are meant for interaction and meetings, the public spaces are almost hidden for outsiders. In fact, the public space belongs to a exclusive patchwork of public space. A continuity of vital life, however, means a continuity of public space and therefore both lines (streets) and dots (segregated projects) need to be integrated. The islands need to be oriented towards the middle- and local-scaled grid.

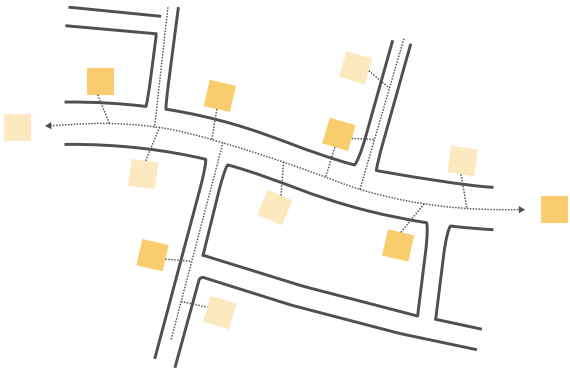




CONTINUITY OF THE MIDDLE- AND LOCAL-SCALED GRID

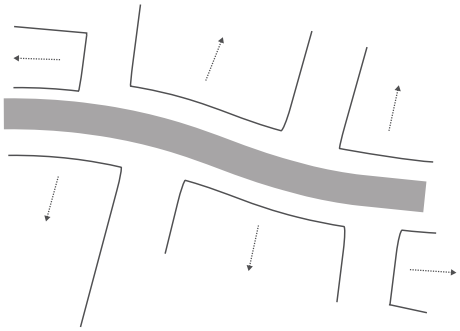
Whereas the city centre of Amsterdam is known for a high interconnectivity between the middle-scaled and local-scaled grid, the interconnectivity diminishes drastically when entering the Ringzone. Nevertheless, it is important to connect the local-scaled and middle-scaled grid, as functions tend to establish themselves wherever there is a doubling of scales and thus where the middle- and local-scaled grid touch each other. Moreover, both grids are essential for the quality of public space. The periphery should therefore pay attention to the reduction of connections between the two grids and aim for a larger degree of redundancy. Additionally, it is important to think of a logic street network with clear destinations.

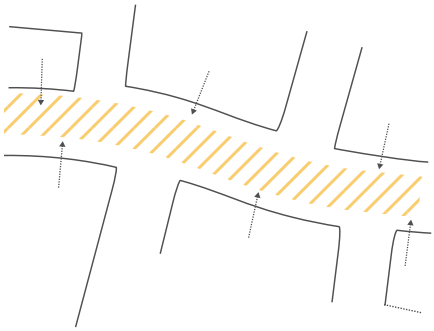




CONTINUITY OF LINES AND DOTS

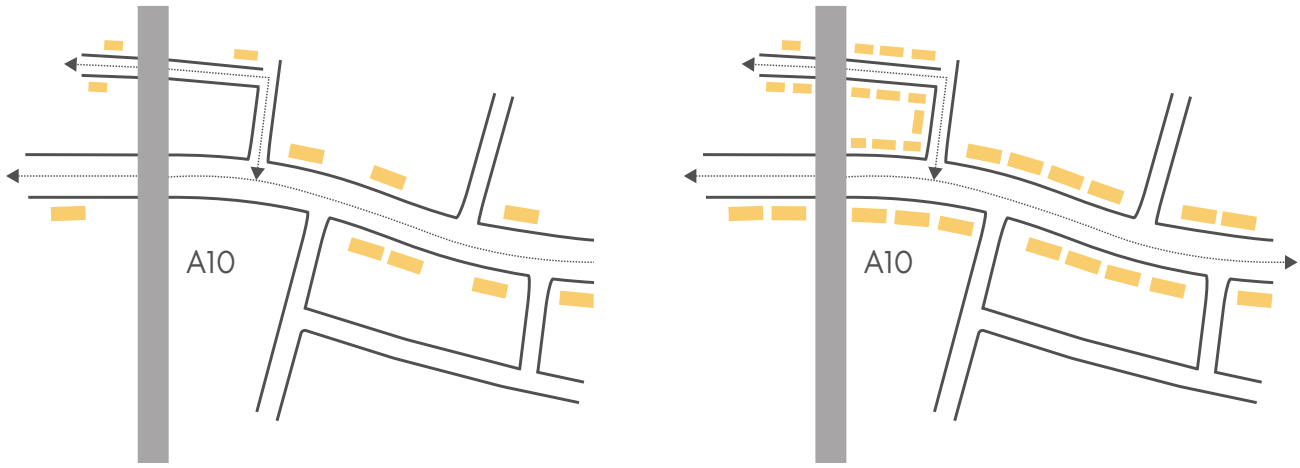
First of all, in order to let people reorient themselves towards the periphery it is necessary that radials have destinations at both ends. For most of the radials in Nieuw-West the Sloterplas, the original centre, will function as a valuable destination. This lake is unique in the city and can thus attract people from the centre. However, the distance between the Sloterplas and the centre is large and therefore lines (streets) and dots (clusters) have to be connected in order to create a continuity of vital urban life along the route. Streets in horizontal and vertical direction play a key role in this. By starting with connecting the existing public domains, the entire structure of Nieuw-West will become stronger and more vital.





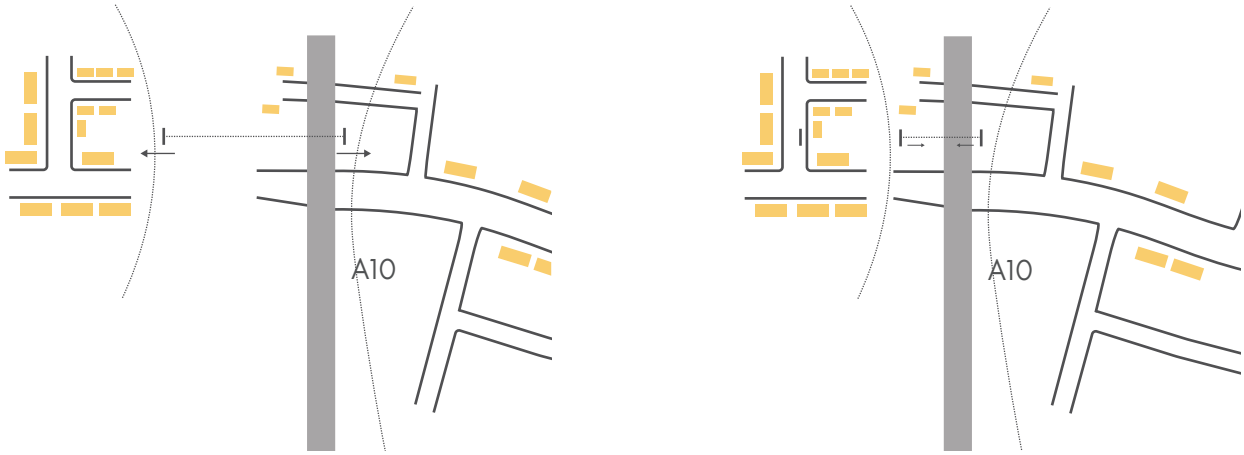
CONTINUITY OF DECENTRALISED NEIGHBOURHOODS

On the scale of entire neighbourhoods there are challenges as well. Entire neighbourhoods are segregated and the connections between neighbourhoods are unattractive, especially for slow traffic. The in-between space is not functioning as a liminal space and therefore not bringing people from different neighbourhoods together. In particular with the current problems regarding the link between the tangible and intangible structures, it makes sense to focus on the in-between areas in order to let them function as liminal spaces. Moreover, these in-between areas need to have a clear destination, such as an existing public domain, a transport hub or the Sloterplas, so people have a reason to go there.



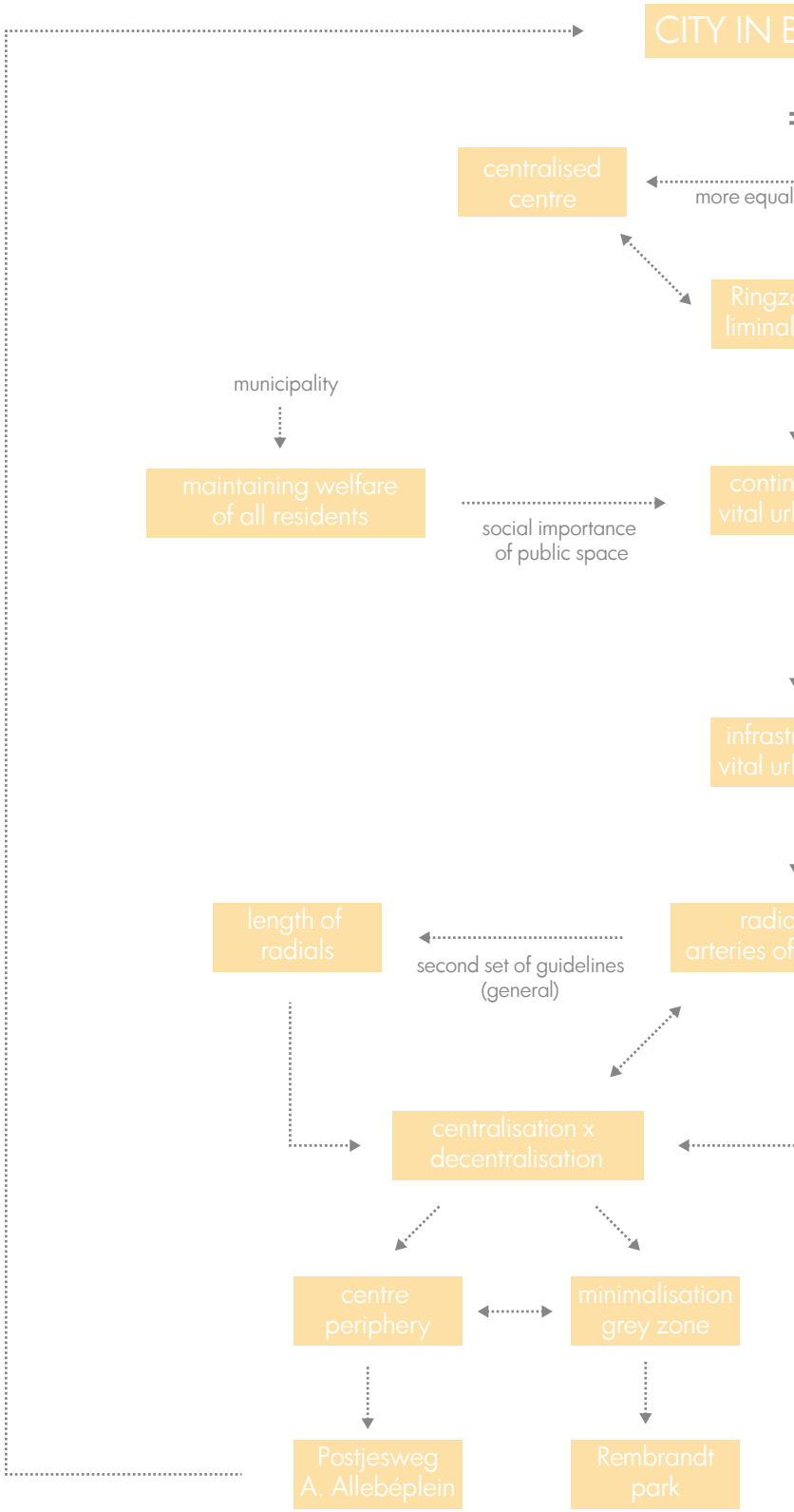
MOVEMENT CONTINUITY BETWEEN CENTRE AND PERIPHERY

At the moment the Ringzone functions as a grey zone, which has consequences for the movement and experiential continuity between centre and periphery. In the end, that obviously has consequences for the continuity of vital urban life. When looking at the Ringzone in front of Nieuw-West, there are continuous routes for cars, but there is a lack of continuous routes for slow traffic and public transport. The tram does not reach the core of Nieuw-West and pedestrians and cyclists need to take a detour in order to reach the same destinations as cars Moreover, the routes are hard to find and not linked to the middle-scaled grid. By creating more straight, continuous routes, the movement continuity will improve.



EXPERIENTIAL CONTINUITY BETWEEN CENTRE AND PERIPHERY

The Ringzone is often more than a kilometer wide. This is also the case for Nieuw-West. With such a distance it certainly matters what is happening in the Ringzone in order to convince people to cross. Right now, there is an enormous park located in between centre and periphery, but due to a lack of direct connections, social control and activities, people do not use the park as a liminal space. A minimalisation of the grey zone would increase the potential for these places as a liminal space and will thus contribute to experiential continuity. Therefore, the park needs to be transformed into a metropolitan park that will be used by people living in the centre and the periphery.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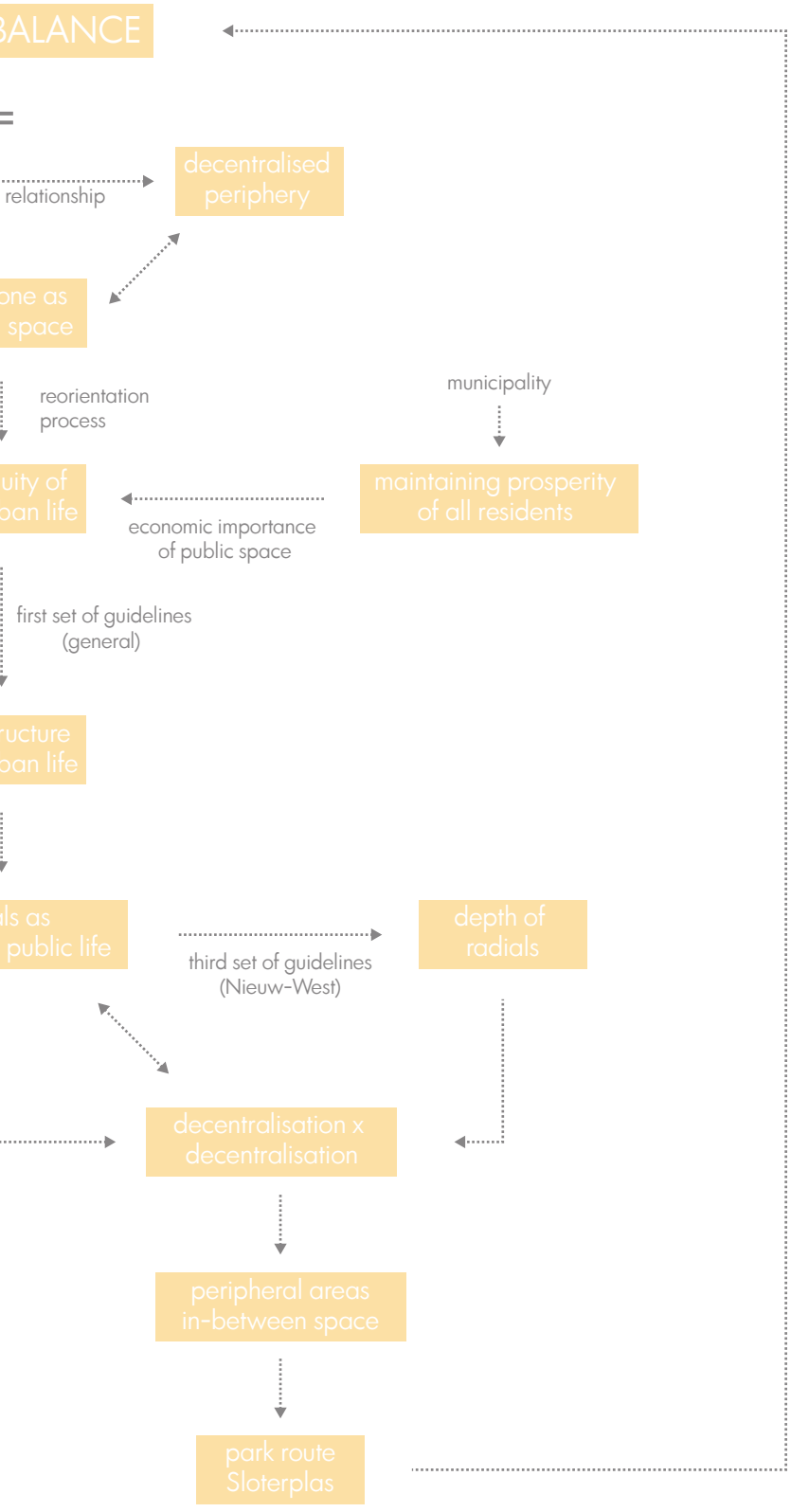
Postjesweg A. Allebéplein
Rembrandt park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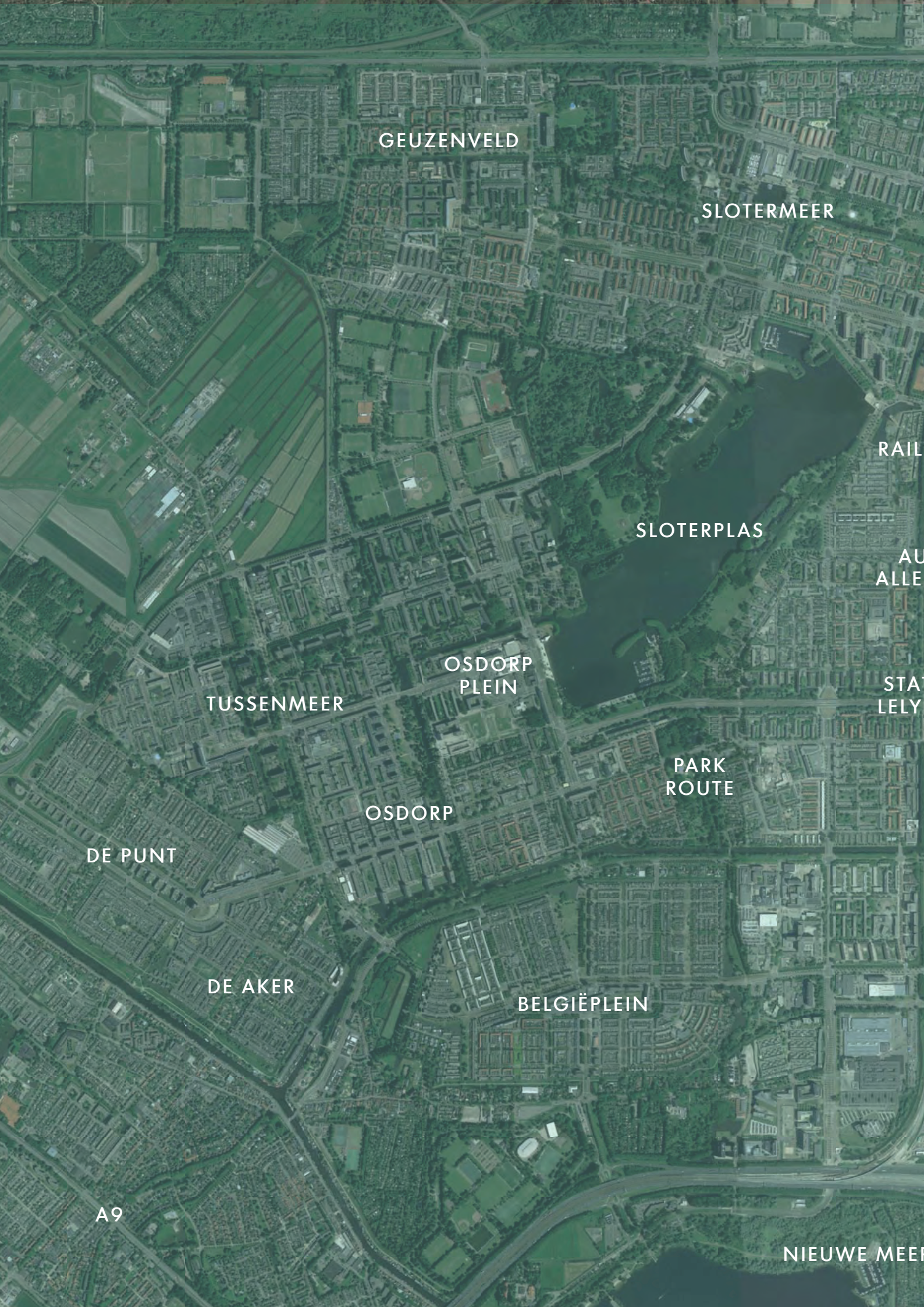
third set of guidelines (Nieuw-West)
depth of radials
decentralisation x decentralisation
peripheral areas in-between space
park route Sloterplas

CHAPTER VI

SPATIAL STRATEGY

- Introduction to Nieuw-West
- Analysis of the tangible structures
- Organisation of centrality
- Strategic intervention: Rembrandtpark
- Strategic intervention: August Allebéplein
- Strategic interventions: Parkroute
- Future research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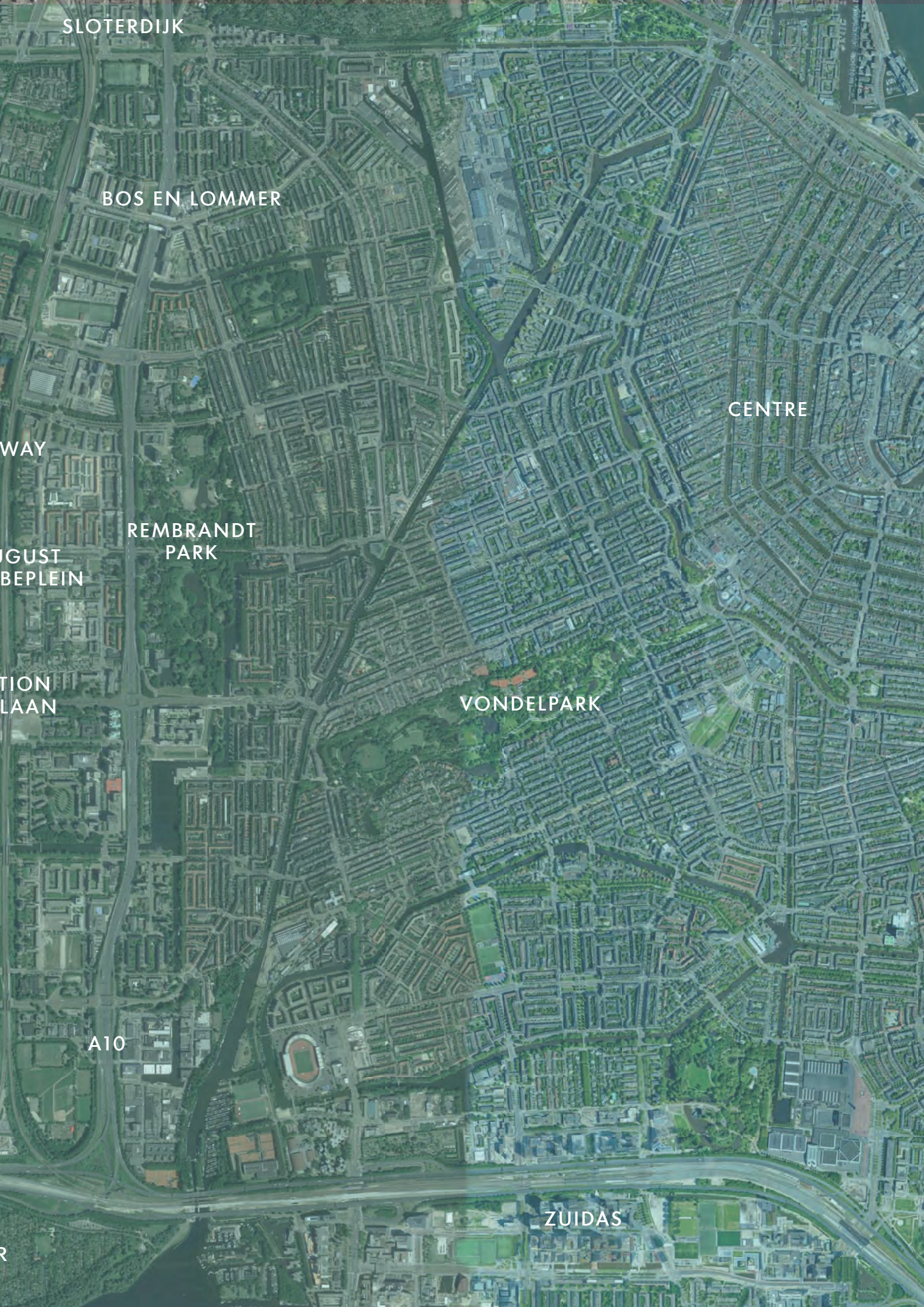
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AMSTERDAM NIEUW-WEST

The peripheral area Nieuw-West is located west of the centre and contains 151.677 residents (OIS Amsterdam, 2017). With this amount of people, Nieuw-West is as large as the average Dutch city. The post-war housing area was designed as part of the General Expansion Plan in 1934 by van Eesteren (Meyer *et al.,* 2006). The area is famous for the legacy of modernist 'rational planning' (Read *et al.,* 2007). After World War II, there was an enormous shortage of housing in the Netherlands and so the municipality of Amsterdam decided to realise Nieuw-West according to the plan proposed by van Eesteren. Already at that time, there were modernist planners who came up with an alternative, based on a concentric expansion of the canals in the city centre. Nonetheless, the urban design of the General Expansion Plan was still carried out (Nio, Reijndorp, Veldhuis, Blom & Coumou, 2016).

In the first decades after the construction of Nieuw-West, the area was inhabited by residents from similar groups of society (Nio, Reijndorp & Veldhuis, 2009). Most residents were young families who used to live in the pre-war neighbourhoods in Amsterdam. These people mainly used the same facilties and public spaces in the city. In other words: their daily life system overlapped to a large extent.

During the 1980s the relationship between the residents, the facilities and the urban layout of Nieuw-West changed drastically (Nio *et al.,* 2009). This can be explained by the fact that the orientation of people changed towards the larger scale levels together with the fact that new residents and new kinds of facilities came to Nieuw-West. The local-scaled shops were being replaced by much larger ones or by shops oriented towards a new target group: the new residents of Nieuw-West from Moroccan and Turkish descent. The group original inhabitants of Nieuw-West - the young families - decreased. Consequently, the different groups living in Nieuw-West started to collect their own facilities and public spaces without searching for any overlap with other groups. That is in conflict with the urban layout of Nieuw-West, which was designed for a homogeneous group of society. In the designs of public spaces or facilities the possibility that different groups of society might use these has not been taken into account. In other words: the concept of decentralisation did not work anymore. Places turned into non-places as a consequence.

Over the decades, the area has been subject to various regeneration schemes, due to the many problems in the area regarding the changed socio-spatial structure. The regeneration schemes therefore aim to change both the tangibles and intangibles, while respecting the legacy of the General Expansion Plan.

The hierarchical structure of Nieuw-West

Nieuw-West was actually designed as 8 separate , independent Garden Cities: Bos en Lommer, Slotermeer, Geuzenveld, Overtoomse Veld, Westlandgracht, Slotervaart, Osdorp en De Punt (De Hoog, 2007; Nio *et al.,* 2016). Each of these Garden Cities has a central square, which characterises the organisation of centrality in this part of Amsterdam. These squares are often not located along the middle-scaled grid, but next to the grid.

In general, Nieuw-West is characterised by a strong hierarchy between the infrastructural networks, the green-blue networks and the network of buildings (Gemeente Amsterdam, 2013). The streets range from real traffic arteries with almost a highway character to small streets inside the neighbourhoods; the green-blue networks range from the Sloterplas to green courtyards in between buildings; the network of buildings ranges from facilities with a large footprint to small dwellings for families.

Each of the Garden Cities has been constructed according to a different development, based on the General Expansion Plan (Nio *et al.*, 2016). Drawings belonging to the General Expansion Plan show how the Garden Cities are connected by the infrastructural networks and the green-blue networks (Meyer *et al.,* 2006). These drawings do not show, however, what happens in between the networks. In other words: there is a lack of integration between city and infrastructure, whereas there are strong co-relations between the different planning layers of the city.

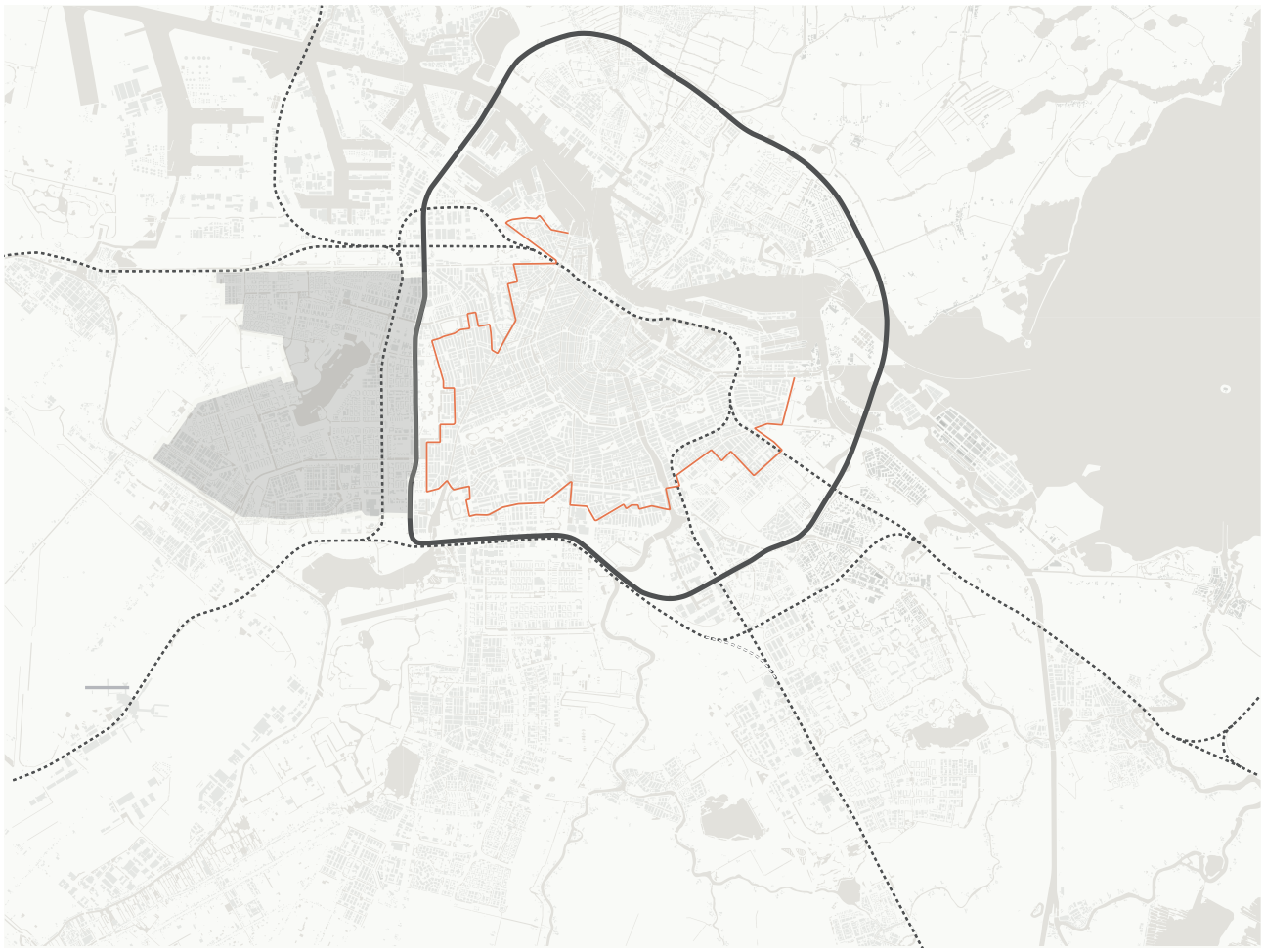


Figure 6.3. The location of Nieuw-West. The area is located close to the centre, but with a wide grey zone in between. The red line indicates the 1930s line of the city centre and this is where the grey zone begins. Moreover, the railway and ring cause extra barriers.

In between the Garden Cities is space for greenery, often designed as parks. However, due to low maintenance, low attractivity and a lack of connections these parks are not functioning as liminal spaces and segregate the neighbourhood even more.

Besides the large amount of open space in between the Garden Cities, the traffic arteries also cause barriers between the neighbourhoods. Most buildings are not oriented towards these streets and so there is no integration of city and infrastructure. Moreover, most streets do not have a clear destination.

The lack of destinations is also caused by the fact that the Sloterplas is the actual centre of Nieuw-West. The idea behind this was that the centre should be an open, neutral place (Meyer *et al.,* 2006). Moreover, the Sloterplas cannot represent any cultural or political values. Besides the Sloterplas there are only small centres spread-out over the various Garden Cities.

Nieuw-West's location in between landscape and city is one of strengths of the area. The entire area shows an ambivalence of being close to the city and to the landscape simultaneously. This means the experience of Nieuw-West also differs from vivid urban areas to quiet, peaceful green areas. Whereas this combination offers great potential, most areas now have an anonymous character and are not bringing people from Nieuw-West together or bringing people from other city or regional parts to Nieuw-West. Moreover, Nieuw-West is one of the peripheral areas that heavily depends on the centre, because the amount of facilities and jobs in the area is not enough for the more than 150.000 people living there. Therefore, the concept of decentralisation plays a determining role in the success of Nieuw-West.

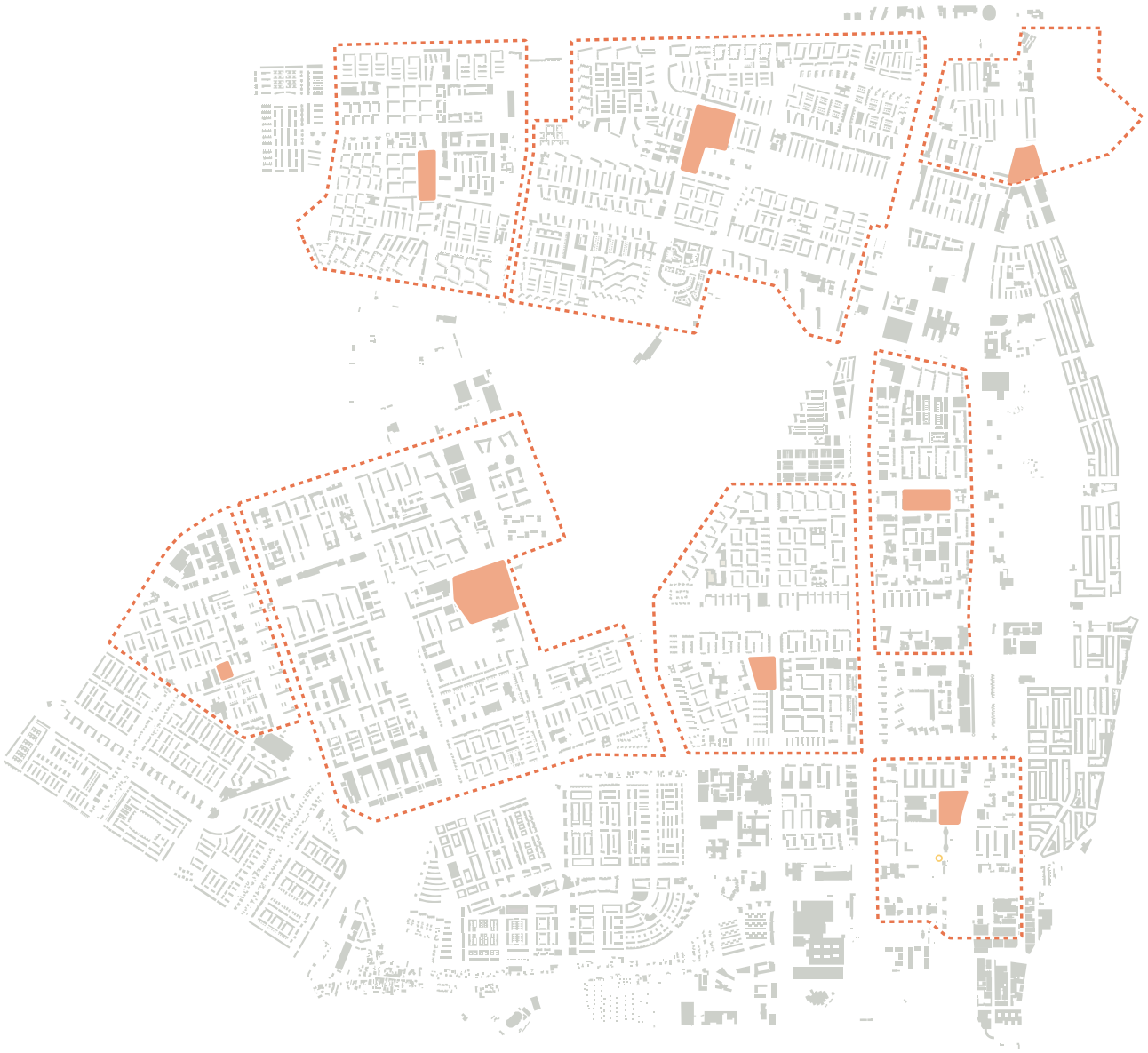


Figure 6.4. 8 Garden Cities with 8 central squares. Osdorpplein is the largest square with the most facilities.

The map (figure 7.4.) shows the different Garden Cities with their central squares. It is clearly visible that all squares are located in the middle of each Garden City. Therefore, most of these squares are not characterised by a co-presence of people from various peripheral areas or central areas. Even the squares located close to the Ring and thus close to the centre are now not able to seduce people to cross the Ring.

This is strongly related to the fact that most squares are not located along the main streets of Nieuw-West and therefore it is much harder to find the squares and the squares cannot benefit from existing flows of people. The squares that are located along streets show that is possible to become a public domain, for example Plein 40-45 (Nio *et al.*, 2009). Other squares, such as the Sierplein or Staalmanplein, are also located along streets, but the design of the streets and squares still makes it difficult to function as a public domain. The third category consists of squares that are not located along one of the main streets and for these squares it is much harder to function as a public domain.

Nevertheless, it is an important challenge for Nieuw-West to create public domains. With the current trends of fragmentation and socio-spatial segregation in the disadvantaged periphery it is even more crucial to pay attention to the places where groups of society do meet each other and shift perspectives.

Figure 6.5. August Allebéplein (Google Earth)

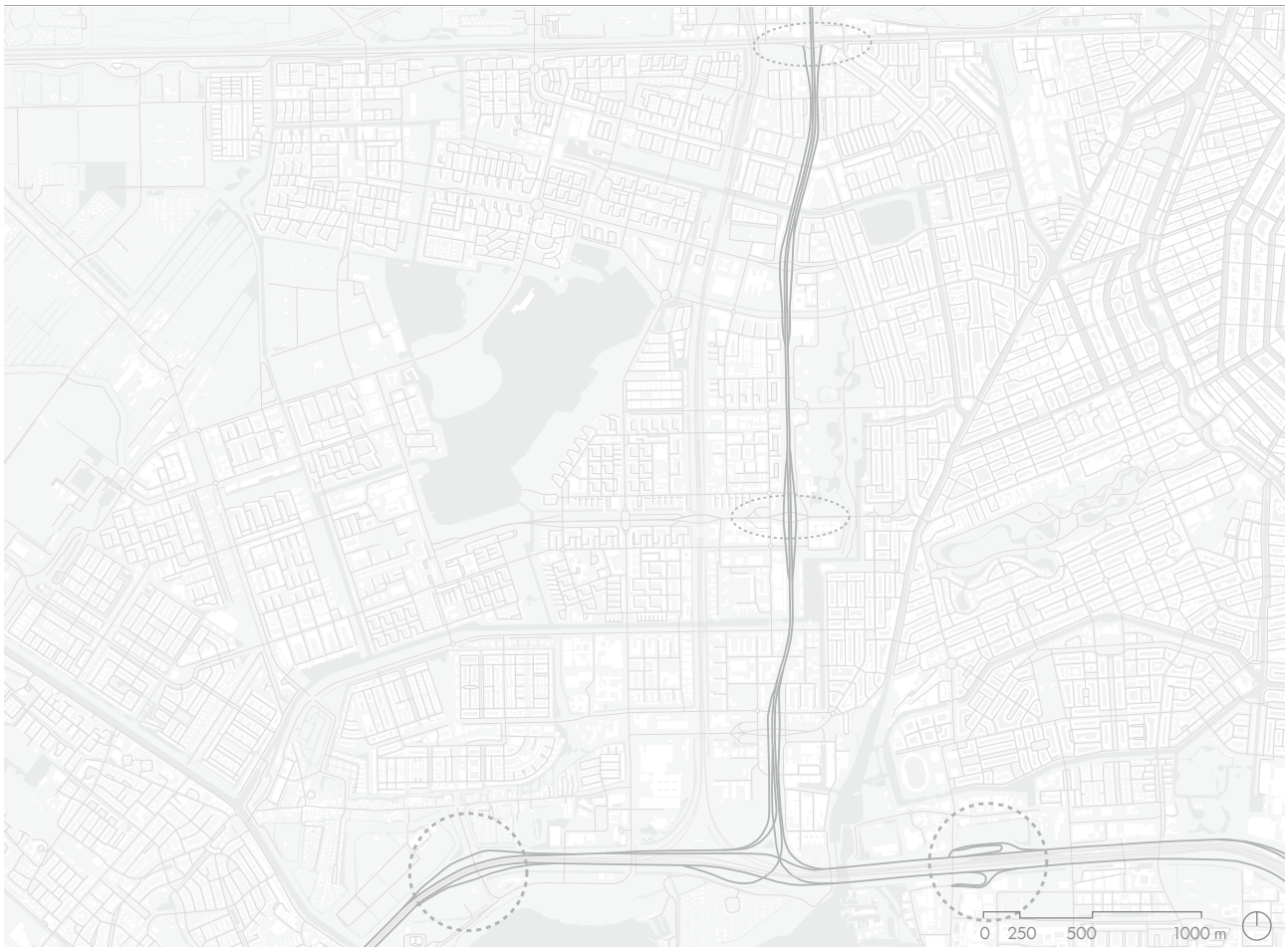
Figure 6.6. Lambertus Zijlplein (Van Zijp, 2008)

Figure 6.7. Delflandplein (WoudT Amsterdam, 2018)

Figure 6.8. Plein 40-45 (Amsterdam heeft het)

Figure 6.9. Sierplein (Koning, 2015)

Figure 6.10. Osdorpplein (Koning, 2015)



RING AND RINGZONE

The dominance of the metropolitan-scaled grid is clearly visible in this part of Amsterdam. The Ring is located on embankments and so the Ring is visible from larger distances as well. Moreover, when moving from centre to periphery one has to use tunnels in order to cross the Ring. Only two radials cross the Ring by making use of bridges: the Cornelis Lelylaan and the Jan van Galenstraat. However, the Cornelis Lelylaan is not accessible for pedestrians and cyclists.

There are a few exits, of which the exit near the Cornelis Lelylaan is most important. Here the middle-scaled grid and metropolitan-scaled grid meet each other. There is however, a weak connection with the local-scaled grid.

The Ringzone begins where the city stopped expanding in the 1930s. The edges of the centre and the periphery are indicated on the map. The Ringzone itself is dominated by the Rembrandtpark. The park is larger than the Vondelpark, but has less entrances, routes and activities. Moreover, the park is cut in separate parts by the radials crossing the park.

The park now causes the Ringzone to be a mental and physical barrier, because there is a lack of social control and most users of the park are coming from the surrounding neighbourhoods in the centre. People living close to the park in the peripheral areas do not use the park as often as they could.

The dominance of the metropolitan-scaled grid is also recognisable in the periphery: the presence of metropolitan-scaled functions causes a greater distance between the living areas in the centre and the periphery.

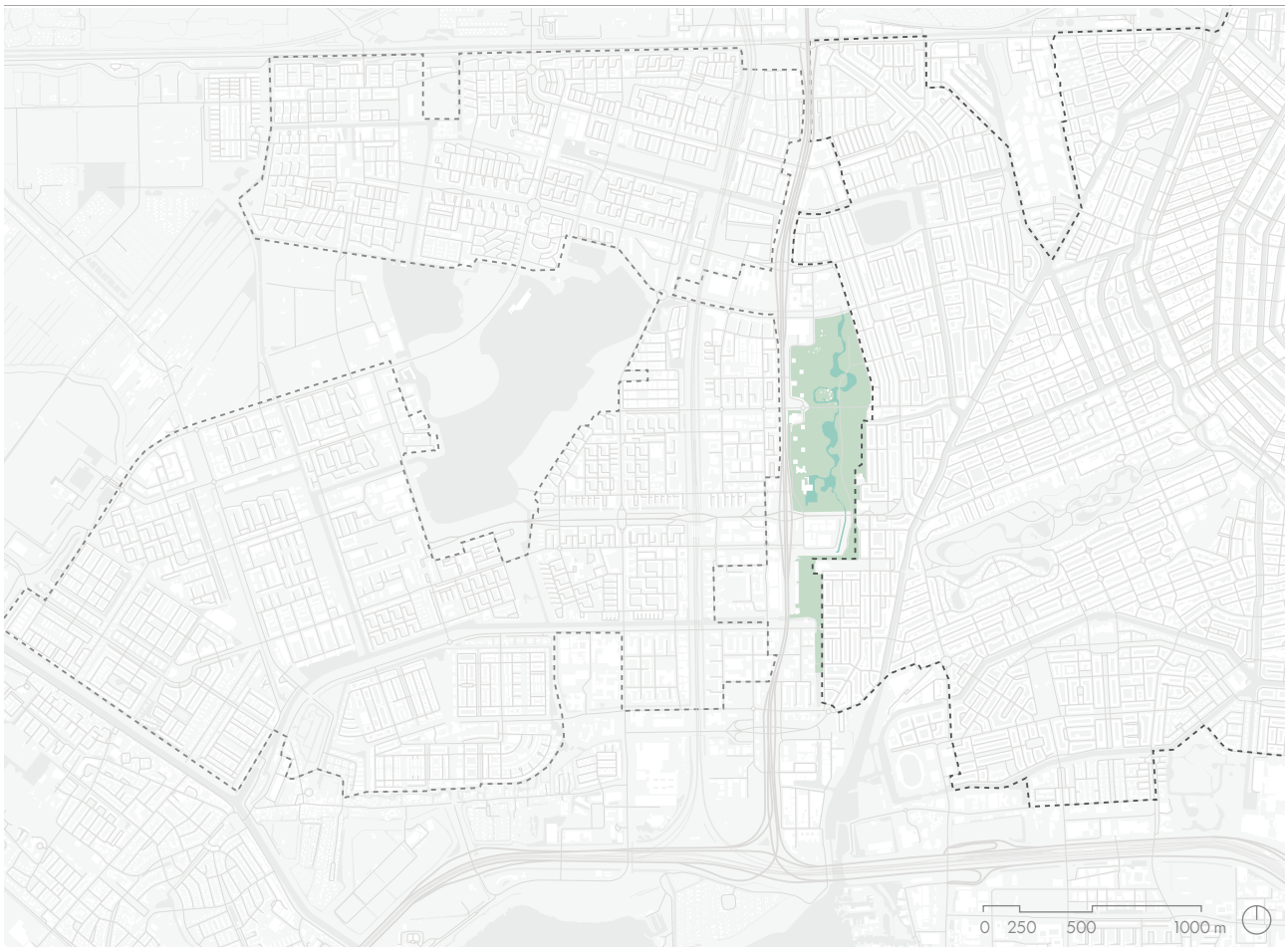
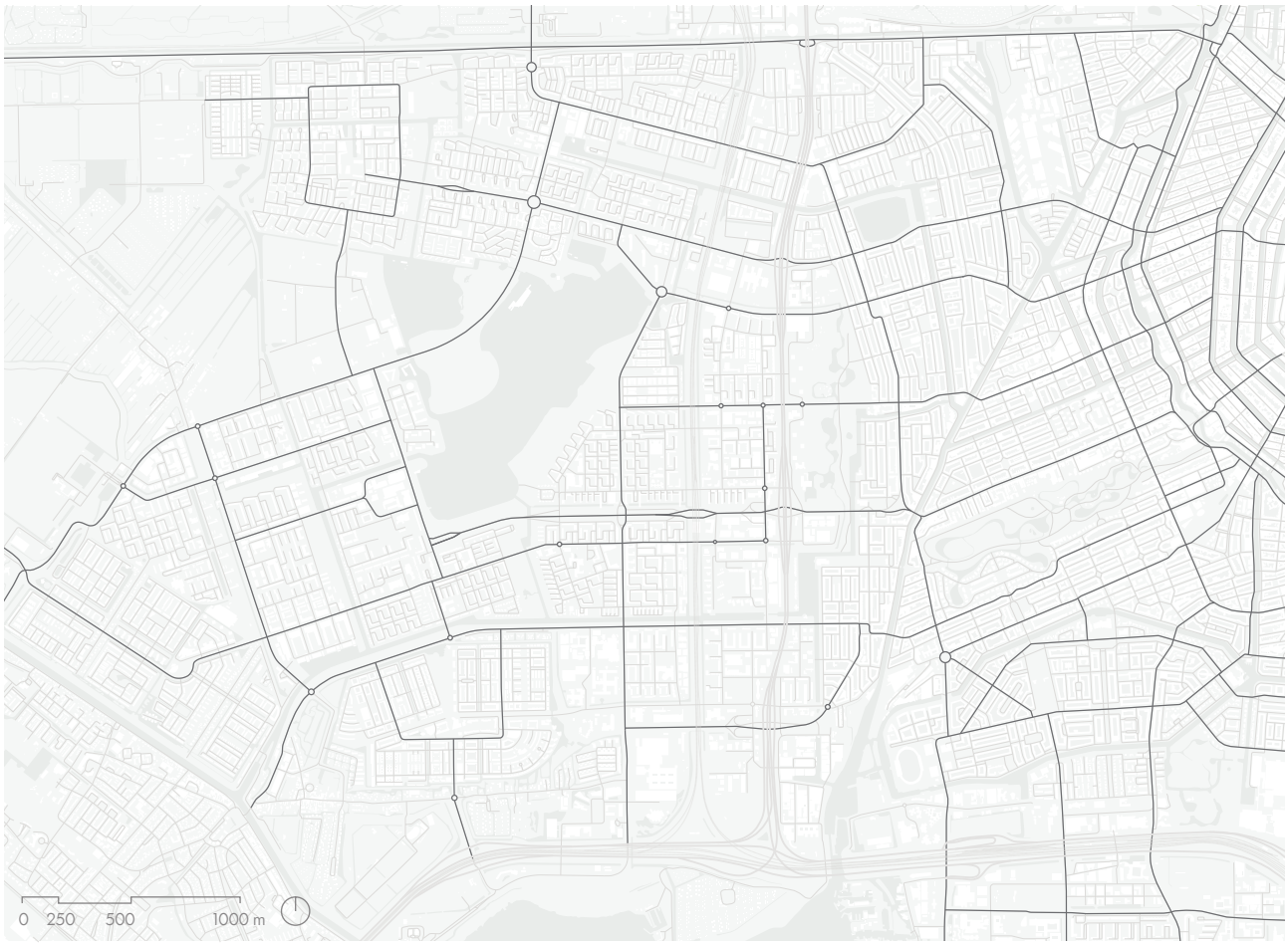


Figure 6.13. The Rembrandtpark in between centre and periphery (The Lime Tree, 2018)



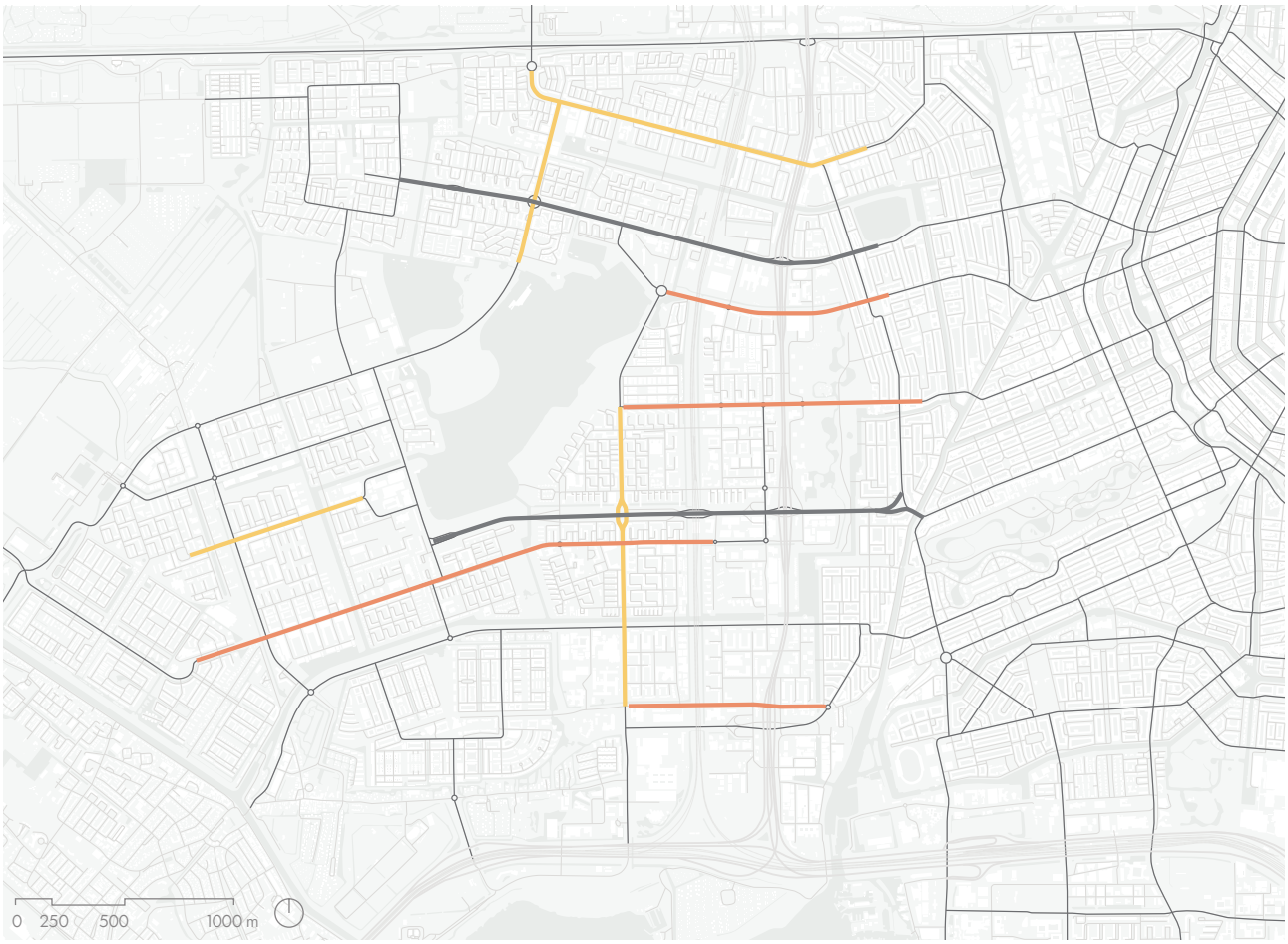
RADIALS AS PART OF THE MIDDLE-SCALED GRID

The map above shows the middle-scaled grid. It is clear to see how the grid becomes more distinctive when moving from centre towards periphery. The distances become larger and the amount of connections with the local-scaled grid is reduced.

The middle-scaled grid plays an important role in Nieuw-West. At first sight, one would say that - because of the concept of decentralisation - the streets are traffic arteries without any strong connections with the urban blocks. When taking a closer look, however, there are differences between the streets belonging to the middle-scaled grid (Nio, Reijndorp, Veldhuis, Blom & Coumou, 2016).

The map on the next page shows the roles of the radials. There are a few radials functioning as traffic arteries: the Cornelis Lelylaan and the Burgemeester Roëllstraat. These roads are located on embankments as well, which makes it challenging to integrate the middle-scaled grid with the local-scaled grid. Other streets are important connections between centre and periphery, but these streets do not function as public domains yet. The streets belonging to that group are the Pieter Calandlaan (a parallel street of the Cornelis Lelylaan), the Jan Evertsenstraat, the Vlaardingenlaan and the Postjesweg. These streets have potential though, because they have clear destinations (the Sloterplas and Osdorpplein) and can play a key role in the reorientation process of the city.

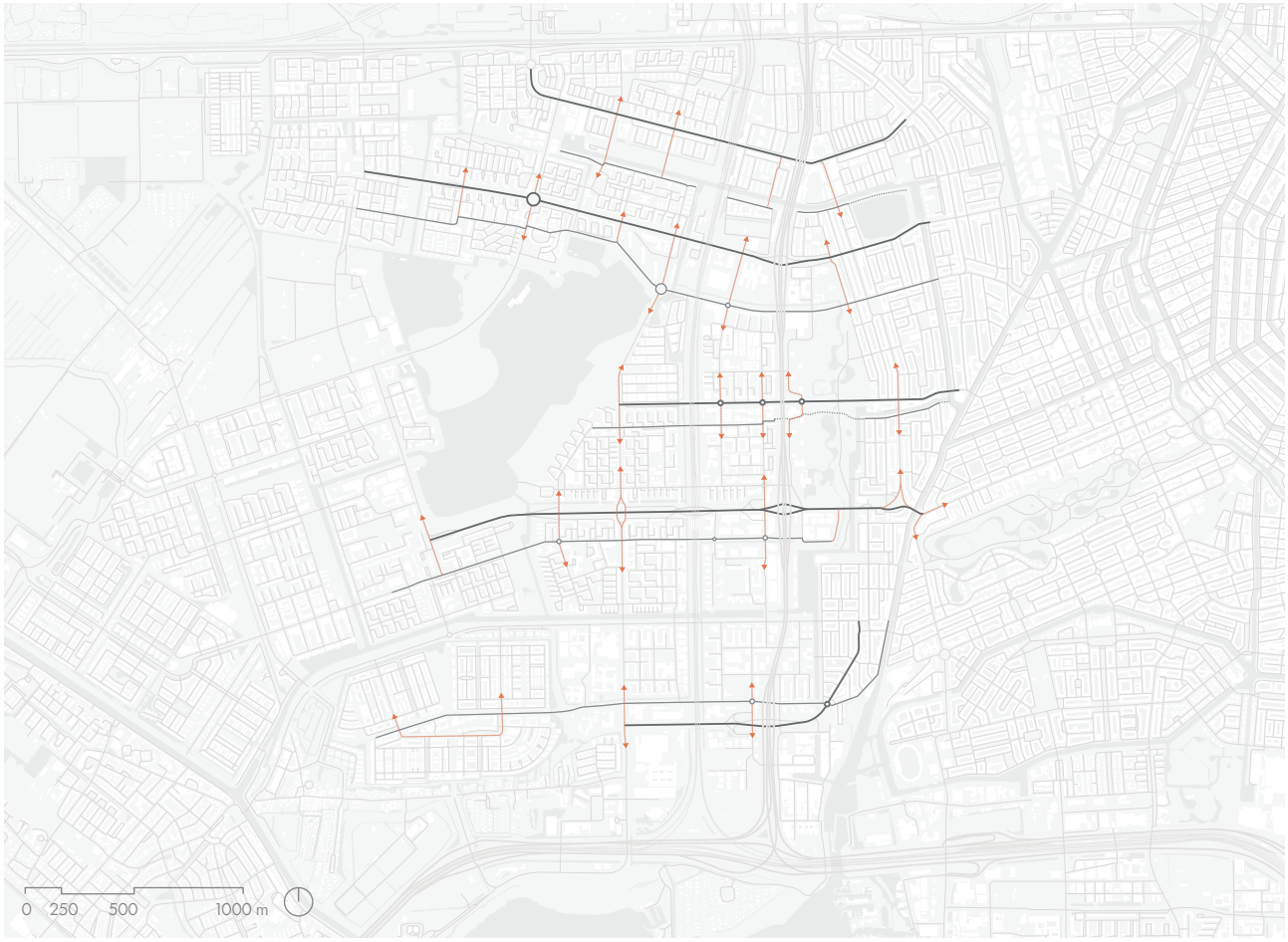
The last group of radials are city streets that are already functioning as public domains on multiple scales. The Burgemeester de Vlughtlaan, where many Turkish and Moroccan shops are located is a good example, as well as the Slotermeerlaan, the Tussenmeer and the Johan Huizingalaan.



main corridors, no direct access to buildings
Cornelis Lelylaan, Burgemeester Roëllstraat

important connection between centre and periphery, no public domain yet
Pieter Calandlaan, Jan Evertsenstraat, Vlaardingenlaan, Postjesweg

city streets that function as public domains on multiple scales
Burgemeester de Vlugtlaan, Slotermeerlaan, Tussenmeer, Johan Huizingalaan



THE PARALLEL SYSTEM OF THE MIDDLE-SCALED GRID

Nieuw-West is characterised by a strong hierachy in all networks (De Hoog, 2007). In the infrastructural networks, as well as in the green-blue networks and the network of buildings, the is clearly visible. Moreover, it has a large impact on the experiential continuity. The layer of infrastructural networks will be used to explain this.

There are several elevated main roads belonging to the middle-scaled grid, such as the Cornelis Lelylaan, the Burgemeester Roëllstraat and the Sneevlietweg. These radials play a key role in connecting the centre with the periphery, but are not at all attractive for local traffic and sometimes not even accessible for cyclists and pedestrians. Hence, these roads do not play an important role in the local network.

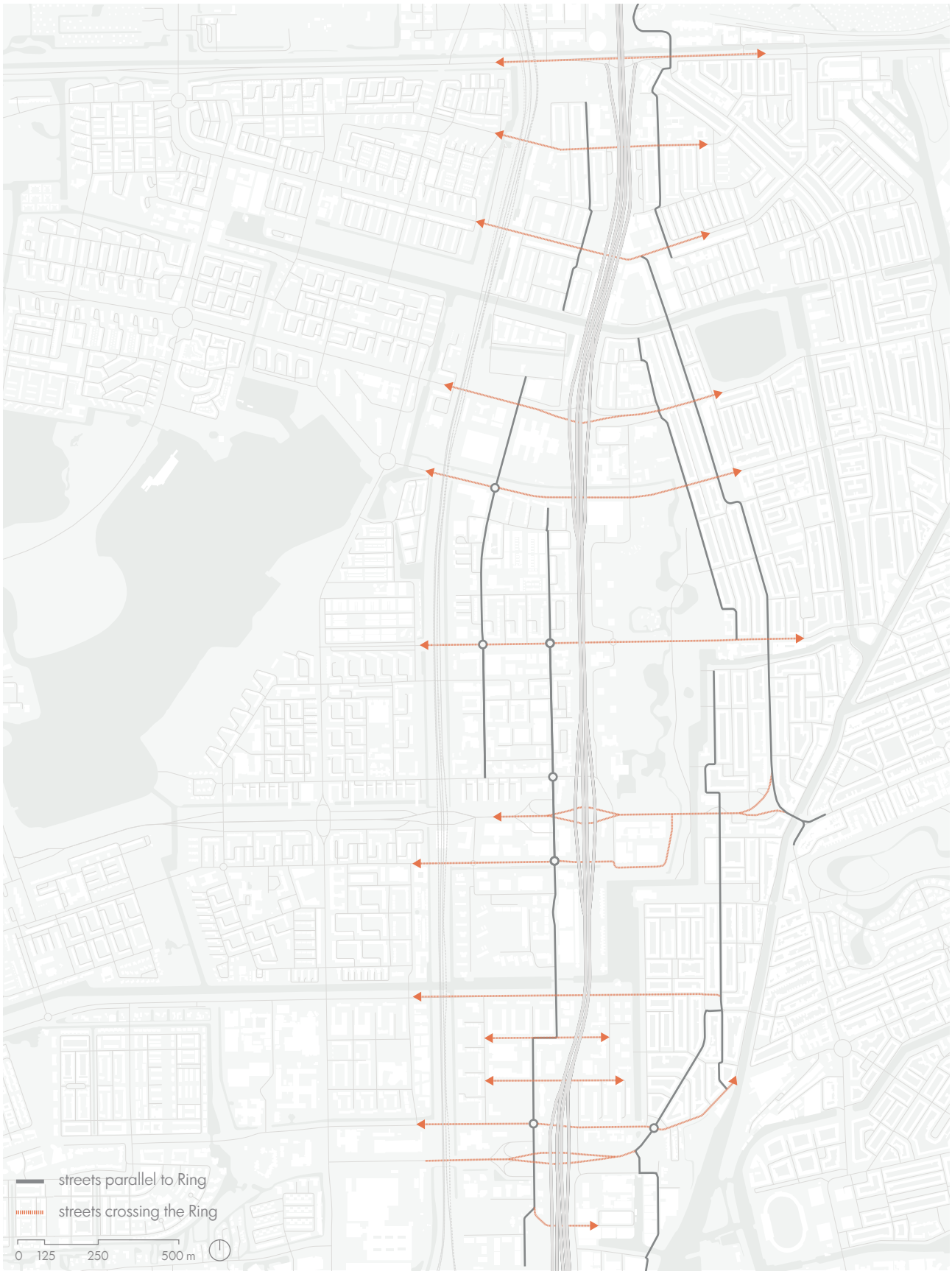
Each of these radials has a parallel street, which can be seen on the map above. These streets follow the radials, but have a completely different character. One can actually speak of a human scale when looking at these streets: they are less wide, flows are combined and buildings are located directly along the streets and are oriented towards the streets as well. Most local traffic uses these streets to move around. which actually demonstrates the importance of the local grid in Nieuw-West. Moreover, the parallel streets have more identity and reflect the ethnic diversity in Nieuw-West. Even though the network is not entirely continuous, several local streets play an important role in the continuity of vital urban life.

- radial (traffic artery)
- parallel street (local street)
- connections between parallel streets

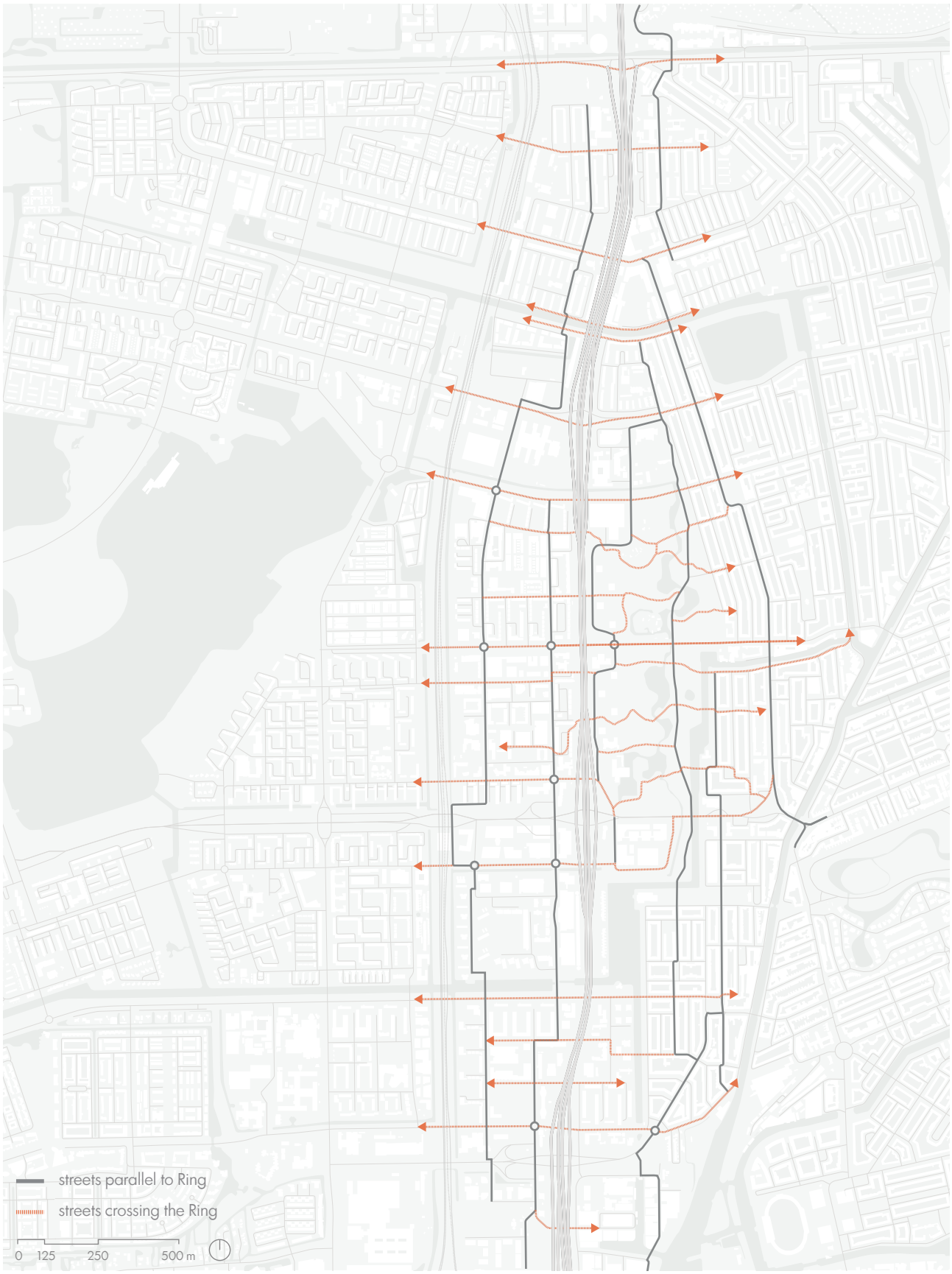
Figure 6.18. Street belonging to the middle-scaled grid

Figure 6.19. Street belonging to the network of parallel streets

CONTINUITY OF THE MIDDLE-SCALED GRID



CONTINUITY OF THE LOCAL-SCALED GRID



LOCAL- AND MIDDLE-SCALED GRID: MISSING LINKS

The middle- and local-scaled network connect centre with periphery, but near the Ring there are a few remarkable links missing. The maps on the previous pages show both the middle- and local-scaled grid running parallel and perpendicular to the Ring. When looking at the middle-scaled grid there are quite some radials crossing the Ring and so there are not many lacking connections. However, when looking at the middle-scaled grid running parallel to the Ring there are a few crucial links missing. These connections are especially important when thinking of the continuity between peripheral areas.

When looking at the local-scaled grid, there are quite some options when moving from centre towards periphery. However, local traffic often has to take a detour in order to cross the Ring and Ringzone. Moreover, the lack of connections between the middle- and local-scaled network causes a lack of vital urban life and good public space. The indirect connections of the local-scaled grid are often routes through the Rembrandtpark.

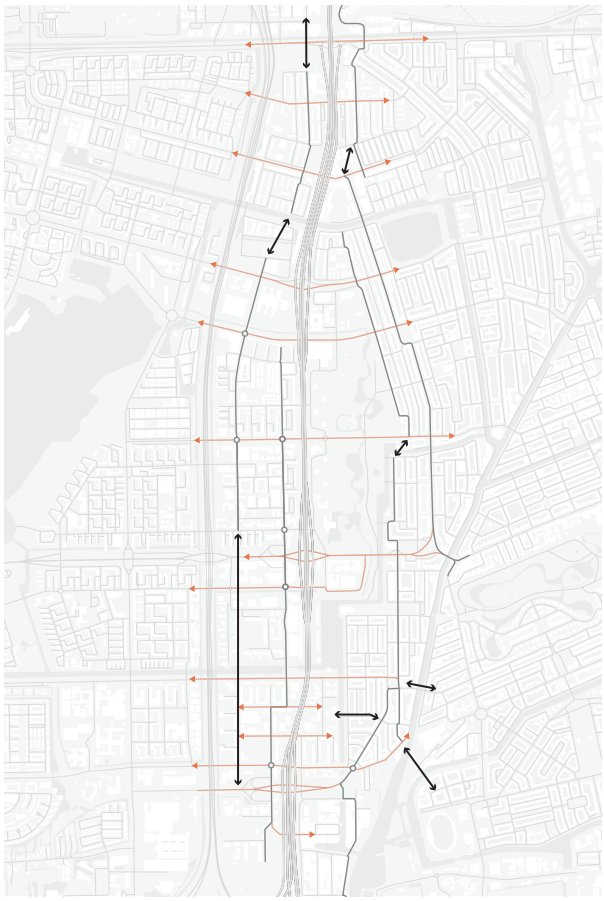
The map on the next page shows a proposal for the local-scaled network. The proposal focuses specifically on the interconnectivity between the middle-scaled grid and the local-scaled grid. By introducing several new connections and improving the orientation for local traffic, the interconnectivity between the middle- and local-scaled grid will increase and that means the continuity in perpendicular to the Ring and parallel to the Ring will improve as well, which has a positive impact on the emergence of vital urban life in the area.

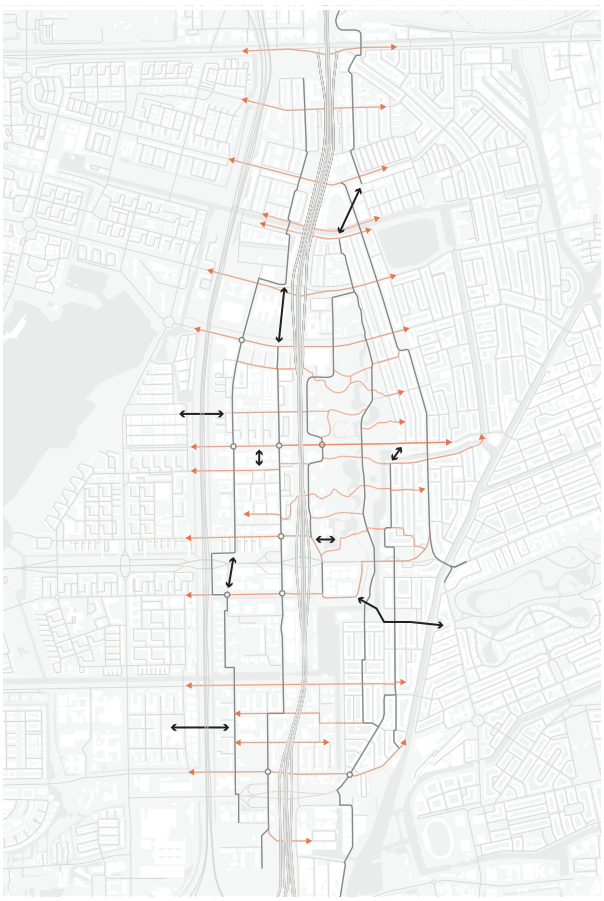
new links in local-scaled grid

local-scaled grid

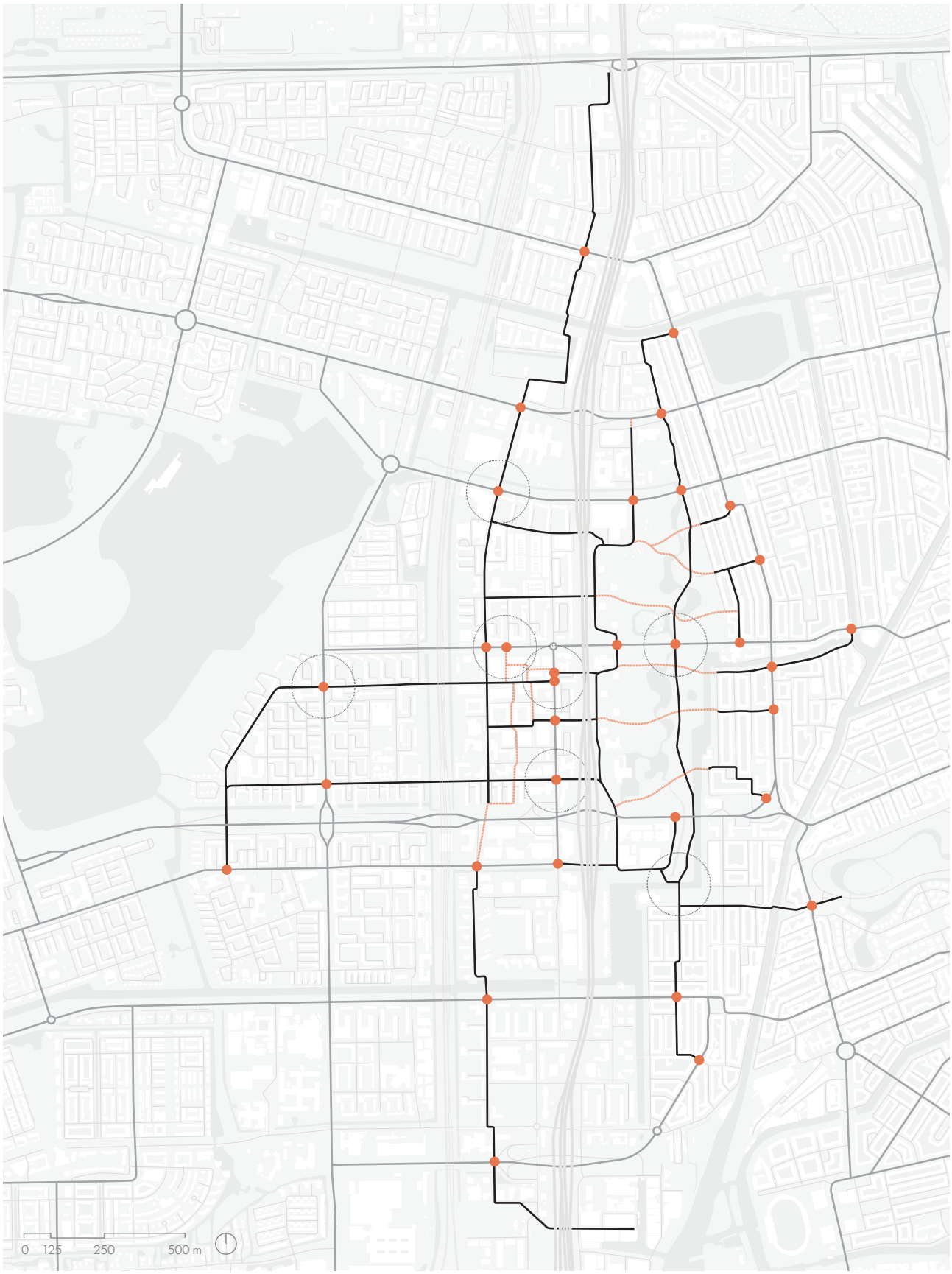
middle-scaled grid

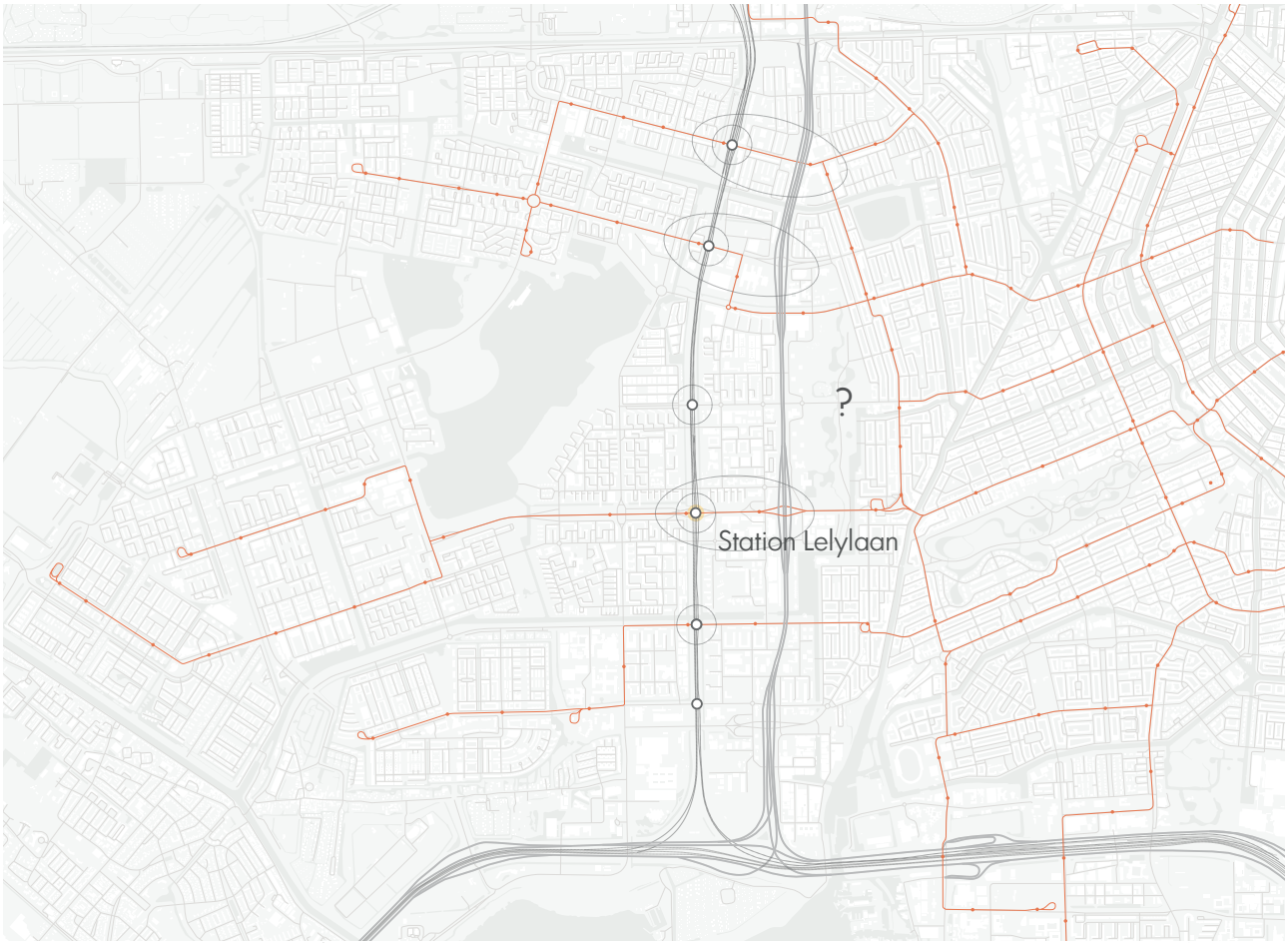
connection middle- and local-scaled grid





LOCAL-SCALED GRID - PROPOSAL



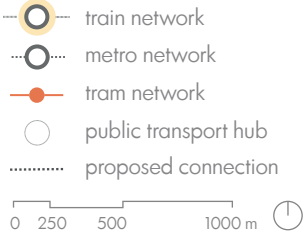


CONTINUITY OF THE PUBLIC TRANSPORT NETWORK

The public transport network consists of the tram network, the metro network and the train network. Station Lelylaan is the only train station and is a real transport hub. The station is located close to the Ring and the bus, metro and train stop at the station. However, the station is not easy to find and not easy to access by local traffic. When coming from the city centre, people need to take a detour through the park or via one of the inward-oriented islands along the Cornelis Lelylaan.

The metro stations are all located on radials and runs parallel to the ring road. The metro network connects Nieuw-West with the southern and south-eastern parts of Amsterdam. However, both the metro and train stations are not designed as inviting places.

The tram network follows the radials. Nieuw-West is actually the only peripheral part in Amsterdam that is connected to the centre by tram. However, there is one important link missing. One of the radials, the Postjesweg, runs through the Rembrandtpark and is the most direct connection from the centre towards the Sloterplas. The tram follows the Postjesweg in the centre, but before entering the Ringzone the tram line changes from direction and does not enter the Ringzone. That means there is no good public transport connection towards the Sloterplas. By adding this connection, which includes an extension of the network, the Postjesweg has potential to become the main axis towards the Sloterplas.



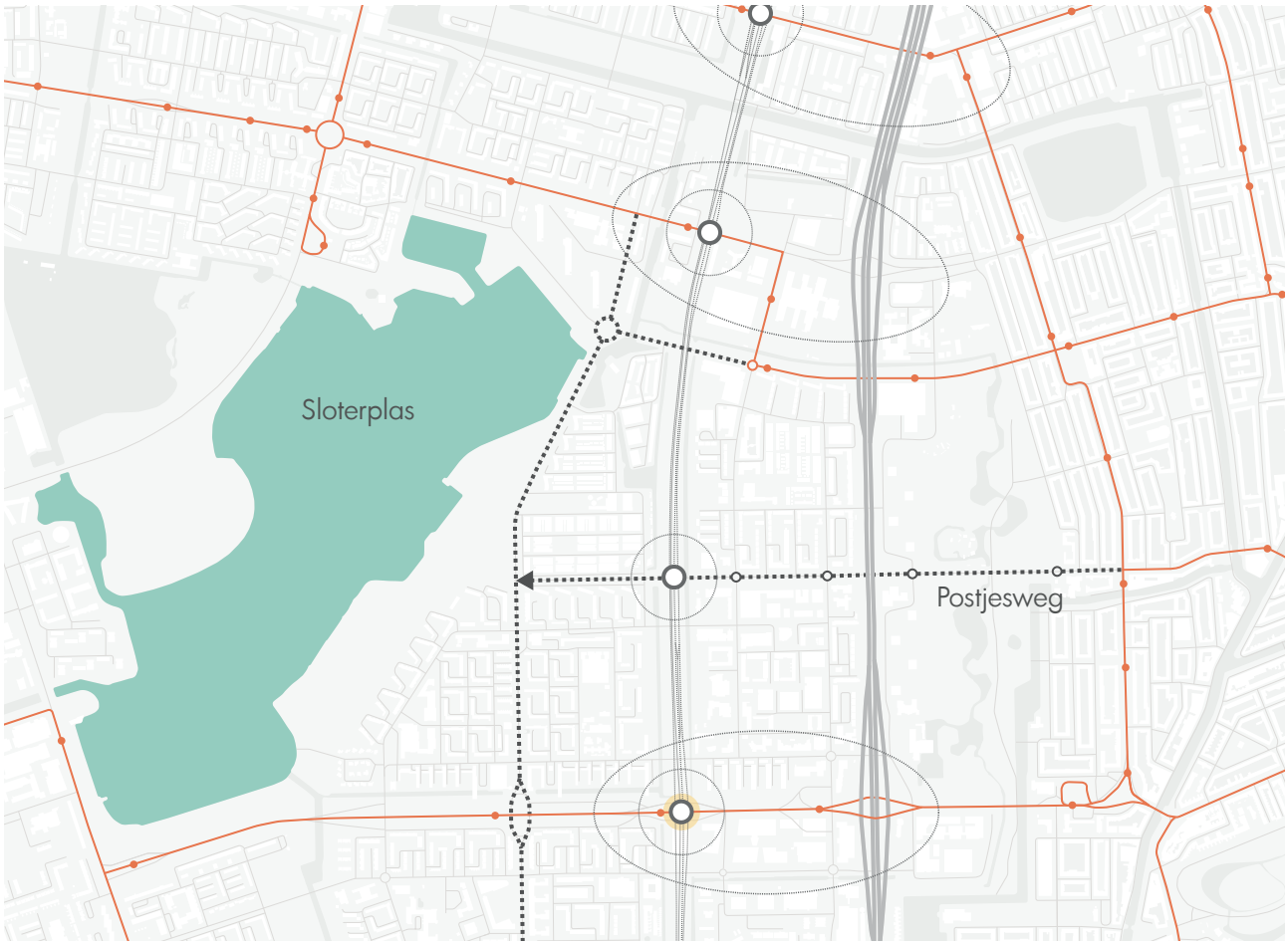
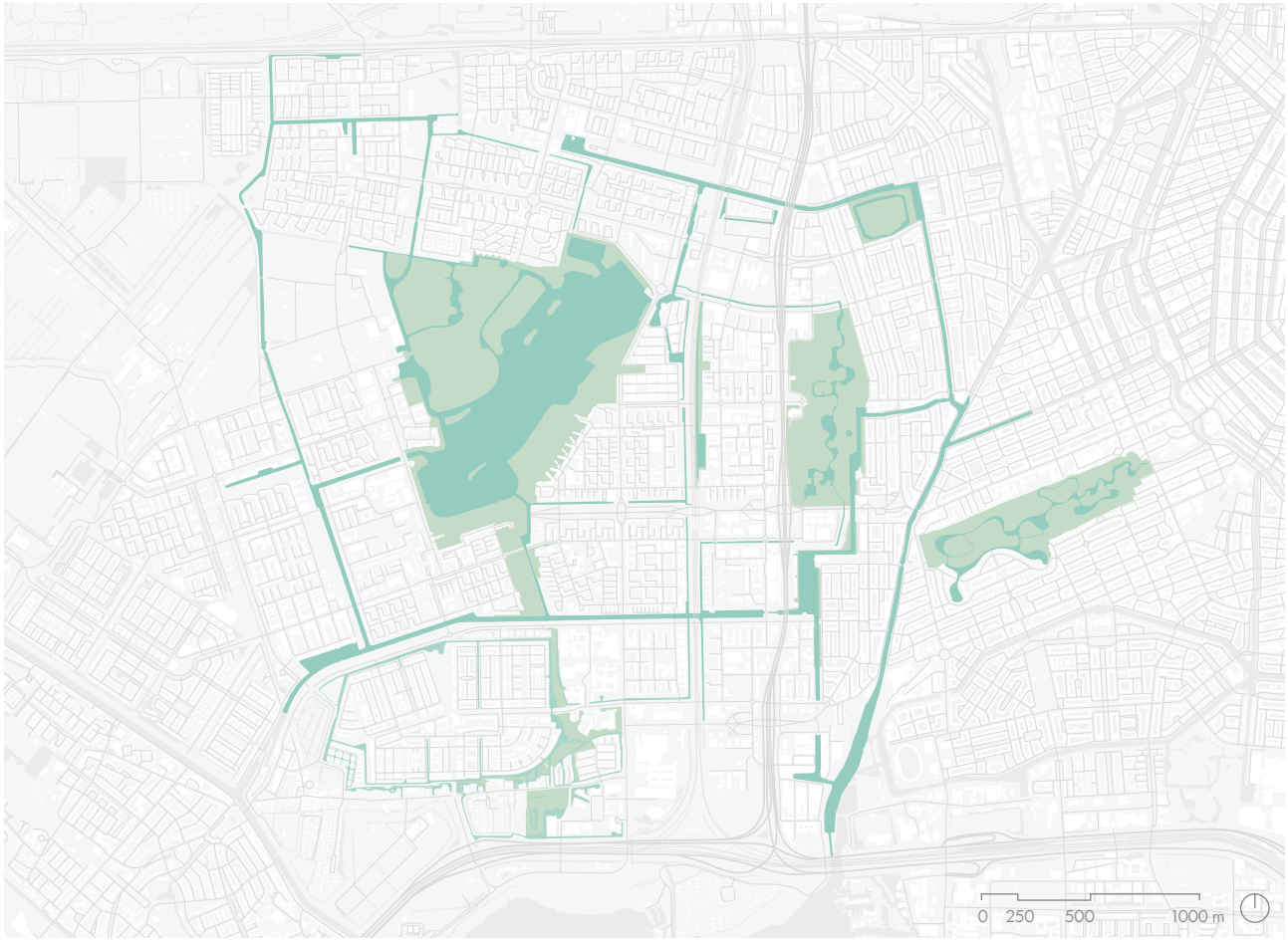


Figure 6.27. In order to reach Station Lelylaan, local traffic needs to take a detour



GREEN-BLUE NETWORKS: SLOTERPLAS AND REMBRANDTPARK

Nieuw-West is known for the great amount of greenery and water. In particular the Rembrandtpark and the Sloterpark, including the Sloterplas, are well known.

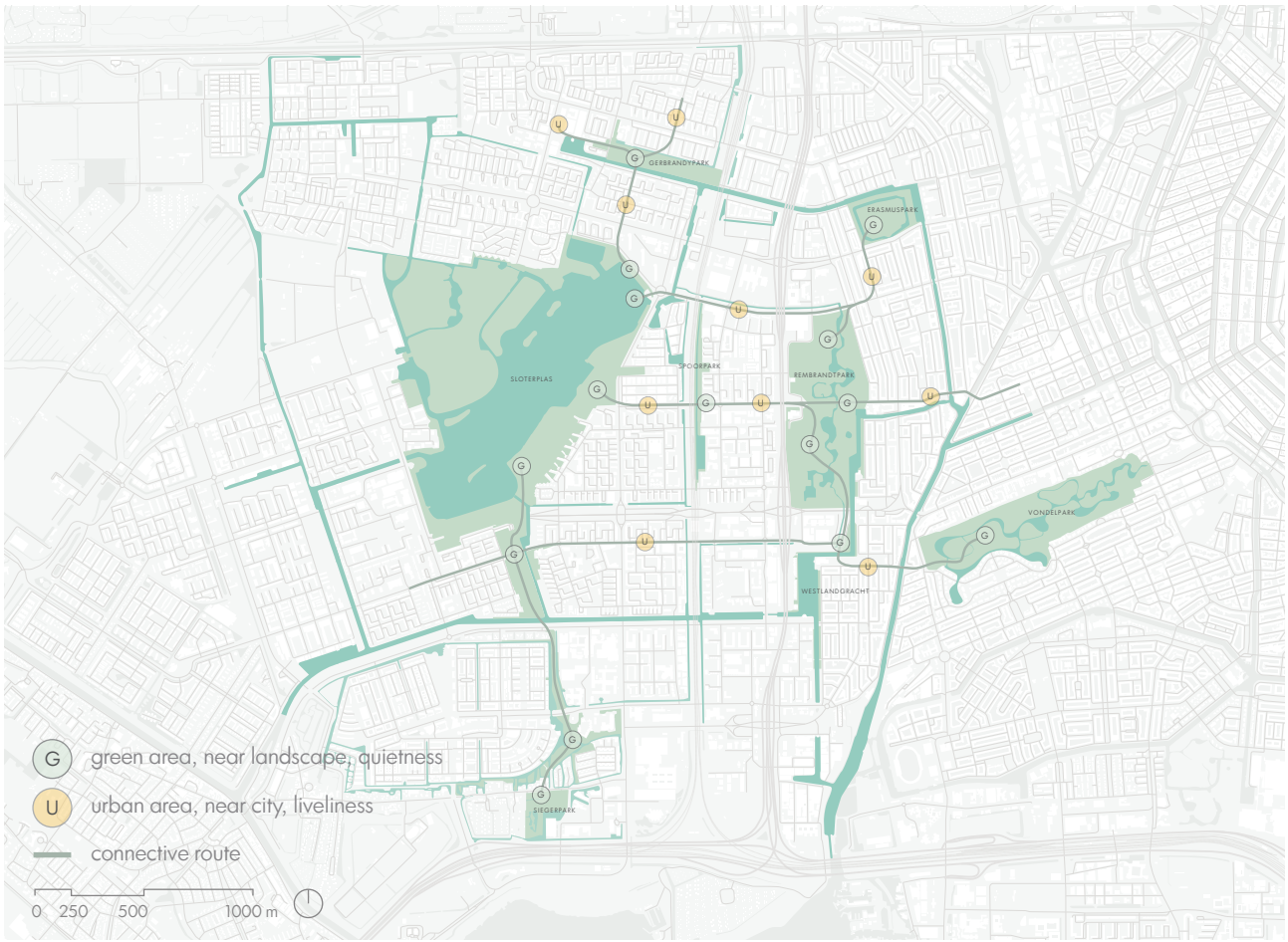
Nieuw-West is located in between city and landscape and was supposed two reflect the qualities of both areas. The ambivalence of Nieuw-West is easy to understand: the design aims to represent the liveliness of the city and the quietness of the landscape.

However, the spatial translation of the ambivalence is now causing problems. The great amount of greenery would be a quality, but there is a lack of maintenance and therefore most areas do not look attractive or inviting in any way. Moreover, most green areas cause a feeling of unsafety, because the limited amount of activities does not create any social contol. Moreover, the neighbourhoods are segregated by green in-between areas. These areas do not function as liminal spaces, but actually create barriers between the neighbourhoods.

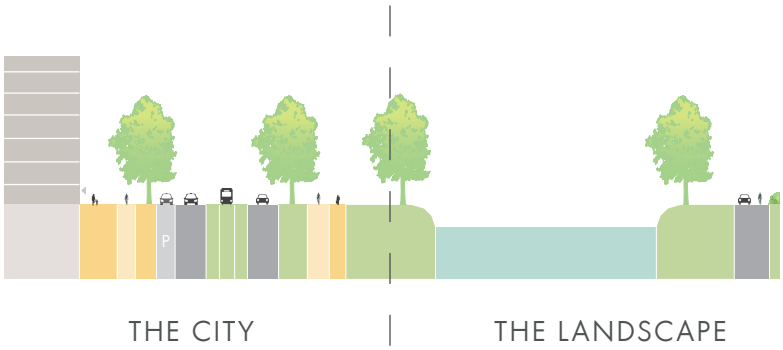
Nevertheless, the amount of parks and water has potential. Landscape is becoming more and more important as a necessary precondition for economical growth (Vereniging Deltametropool 2017). In particular highly skilled workers are looking for a living environment with a high quality. The green-blue networks of Nieuw-West therefore have a social and economic importance: bringing groups together as liminal spaces and attracting highly-skilled workers. In order to realise that ambition, attention needs to be paid to the accessibility, identity and quality of the landscape.

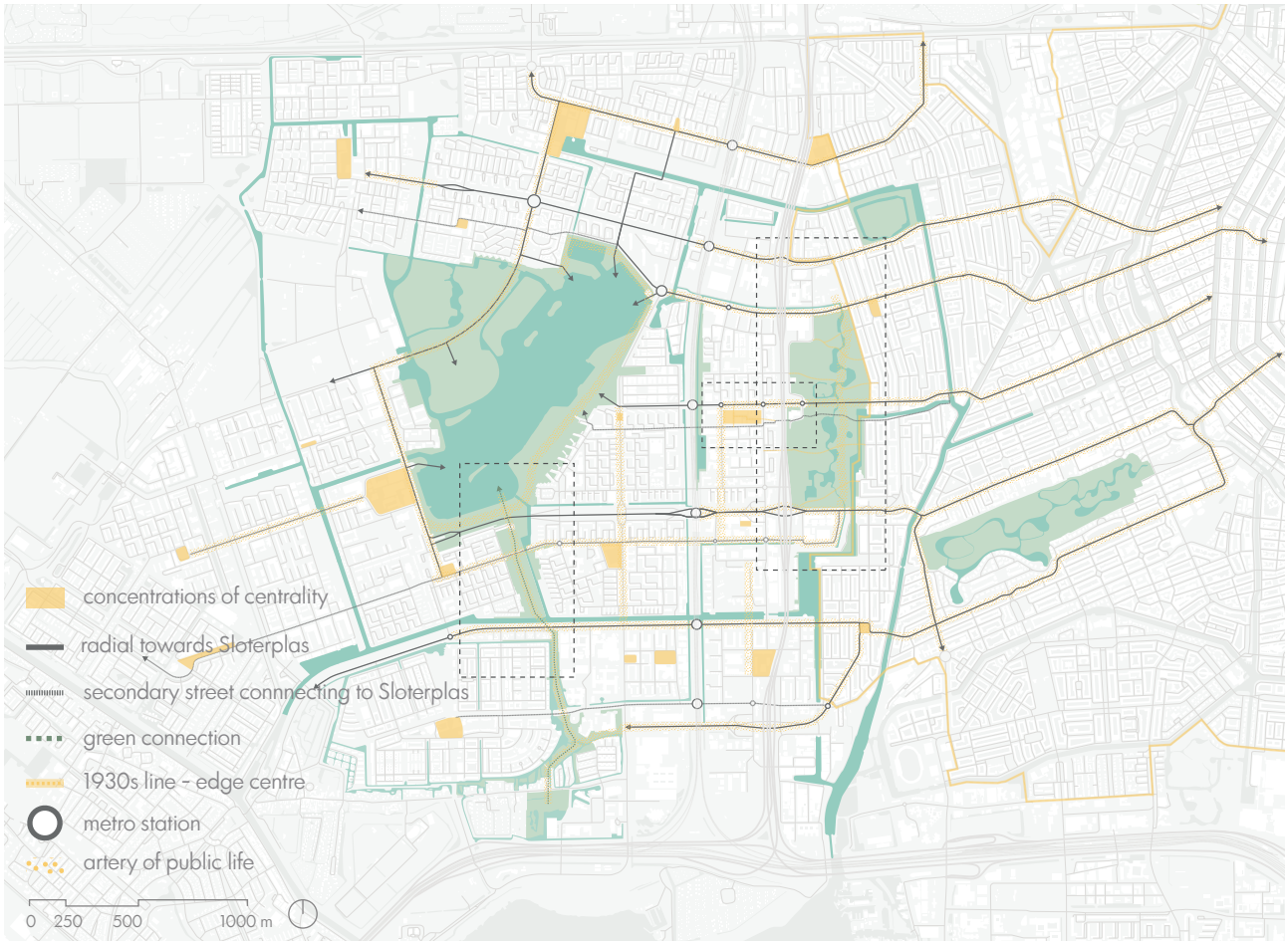
Figure 6.29. Sloterplas (Van Eesteren Museum)

Figure 6.30. Rembrandtpark (Bakker, 2017)



AMBIVALENCE OF NIEUW-WEST





STRATEGY FOR NIEUW-WEST

The map on the previous page shows how ambivalence in Nieuw-West works on both larger and smaller scales. On the larger scale it gives the area an extra quality, but right now there is a strict separation between green areas and urban areas: one suddenly enters a park and one suddenly enters an urban street. In other words: there is a lack of movement continuity at some places and a lack of experiential continuity at most places. That makes it hard for people to orient themselves and, besides that, there is nothing visible for people to orient themselves to.

The ambivalence of Nieuw-West is visible in the street profiles as well: one side of the street represents the city and the other side represents the landscape. That makes it difficult for streets to become a public domain and often only one side of the street functions as a public domain. The strategy focuses on the creation of continuity of vital urban life and therefore focuses on 1) minimalisation of the Ringzone 2) continuity between centralised and a decentralised areas and 3) continuity between decentralised areas. For each situation the ambivalence of Nieuw-West will be used as a starting point. That means that the qualities of being close to city and landscape will be combined, but in such a way that they contribute to the continuity of vital urban life. The Rembrandtpark and Sloterplas play a dominant role in the reorientation process towards Nieuw-West, also because these two parks have very strategic locations. The Rembrandtpark is located in the Ringzone and crossed by radials, whereas the Sloterplas connects all the radials and public domains. The strategy aims to strengthen this network, but that requires phasing of all projects instead of tackling all areas at once. Hence, the strategy starts with the locations with the most potential and aims to transform the radials at these locations into arteries of public life.


A DIVERSE CITY ...
... OR A SEGREGATED CITY?

THE ORGANISATION OF CENTRALITY IN NIEUW-WEST

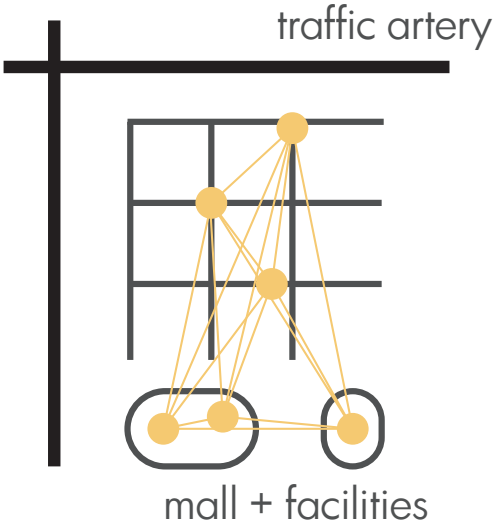
The tangible structures of Nieuw-West have a great impact on the intangible structures. This has already been demonstrated by the past: because Nieuw-West was designed for a homogeneous group of society, the area is now dealing with problems because there are multiple groups of society with their own specific life styles living there.

In general, the structure of eight Garden Cities with their own central elements in combination with the concept of decentralisation (including the strong hierarchy) has a significant impact on the intangible structures as well. People from different neighbourhoods do not tend to go to central elements further away and so there is no or little interaction between the different groups living there. In other words, the organisation of centrality in Nieuw-West is in line with the previous findings of the problem definition. Streets (including the radials) are functioning as traffic arteries and do not bring people together. Moreover, the central elements are segregated and are not connected to each other, which means there is no or little continuity of vital urban life.

The following pages give an overview of the intangible structures of Nieuw-West, when looking at several group specifically. The maps show where the facilities used by these groups are located. By overlaying all the maps, it is possible to define the public domains in Nieuw-West: the public spaces that are used by all groups and are actually the moest important locations of vital urban life in Nieuw-West.

These spaces are therefore characterised by a co-presence of people and give people the opportunity to shift their perspectives. Moreover, these places offer space to interact and exchange. Hence, these public spaces have an economic and social importance already.

When following the radials of Nieuw-West, it is clear that all radials go towards the Sloterplas, which is the original centre of Nieuw-West. However, the current state of the Sloterplas is not inviting for people and is definitely not bringing the different neighbourhoods together.



> centrality in self-contained pockets
> no / less street-level activity visible on most middle-scaled streets
> middle-scaled streets function as traffic arteries
> culturally and socially homogeneous neighbourhoods
> segregated facilities

Figure 6.35. Drawing based on Read, 2001

NATIVE DUTCH RESIDENTS

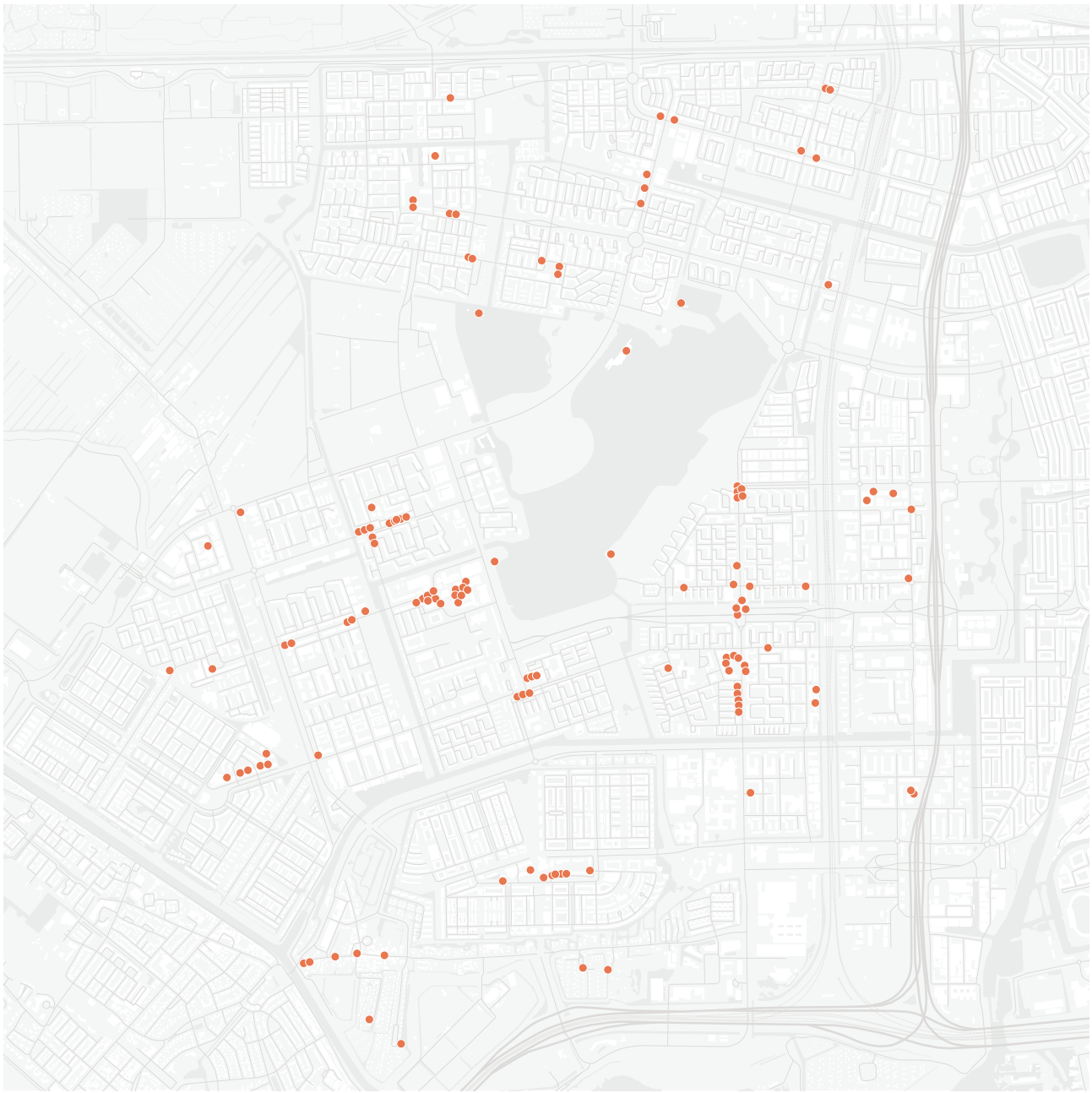


Figure 7.13. Based on fieldwork analyses and maps from Nio *et al.*, 2016

This group refers to the people, often young families, who came to Nieuw-West after World War II (Nio *et al.,* 2016). This group is now 65 years or older. Since the 1980s the group is getting smaller and many people left Nieuw-West. The map shows where the facilities used by this group of society are located. This is, of course, subject to change. Trends like fragmentation and socio-spatial segregation have an impact on the pattern recognisable on the map. We can, however, still recognise some streets, such as the Johan Huizingalaan located east of the Sloterplas and the Tussenmeer located west of the Sloterplas. The Sierplein and Osdorpplein are two important squares. This group is still entirely oriented towards Nieuw-West. Most people live in the western parts of Nieuw-West, such as De Aker, Nieuw-Sloten and Geuzenveld-West. In particular the areas surrounding the Sloterplas show a decrease of this group of society living there.

DUTCH RESIDENTS OF MOROCCAN DESCENT

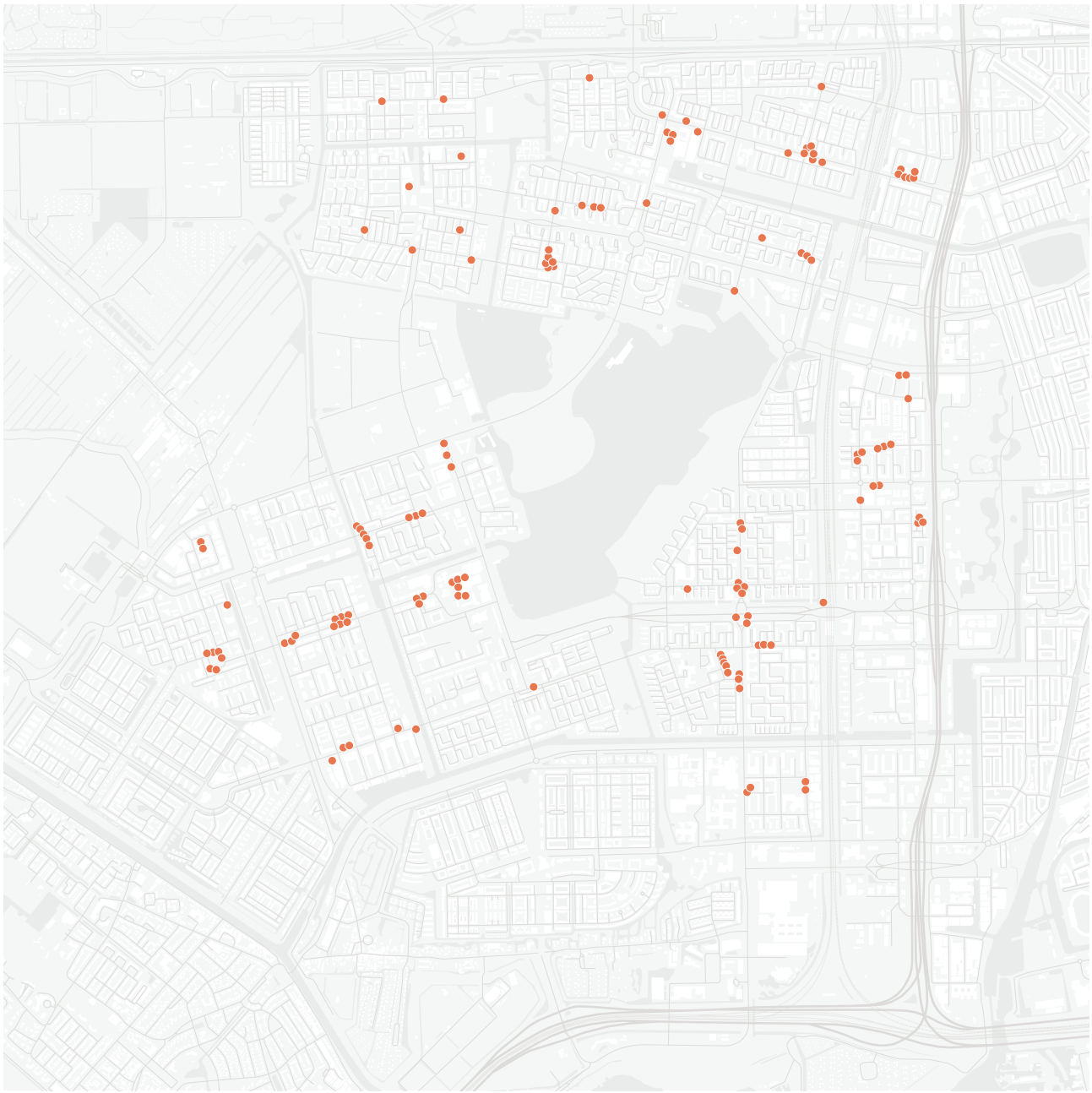


Figure 7.14. Based on fieldwork analyses and maps from Nio *et al.*, 2016

Together with the people from Turkish descent this is the largest group of migrants living in Nieuw-West (Nio *et al.,* 2016). During the past decades, the amount of facilities - and therefore their 'worlds' - got extended. Meanwhile these people are already living in Nieuw-West for decades. The facilities used by this group are quite evenly spread in Nieuw-West. However, mot facilities are located in the areas where this group is also living. During the last years especially Slotervaart got more facilities used by this group. Compared to people from Turkish descent, there are more Moroccan people but less facilities. Most facilities are located along streets, instead of the squares. These streets demonstrate how important entrepreneurship is for this group. Compared to the Turkish facilities, the Moroccan facilities have a smaller footprint and are located along the less important streets in Nieuw-West. In particular the mosques and grillrooms are places where this group meets each other.

DUTCH RESIDENTS OF TURKISH DESCENT

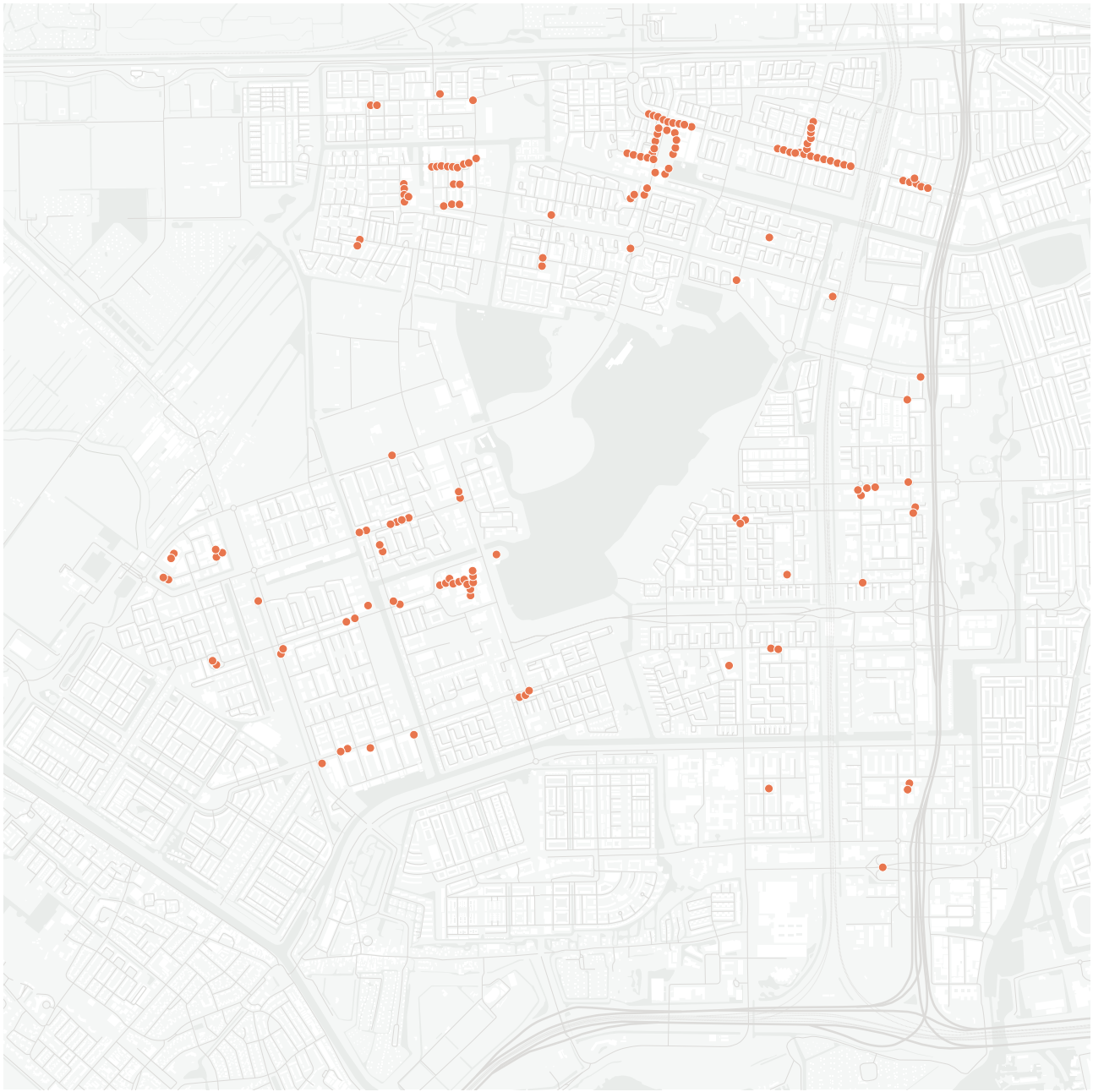


Figure 7.15. Based on fieldwork analyses and maps from Nio *et al.*, 2016

Together with the people from Moroccan descent this is the largest group of migrants living in Nieuw-West (Nio *et al.,* 2016). During the past decades, the amount of facilities - and therefore their 'worlds' - got extended. Meanwhile these people are already living in Nieuw-West for decades. Just like the Moroccan facilities, the map shows that the facilities are quite evenly spread in Nieuw-West. There is, however, a clear difference: the map shows that some streets have been transformed into 'Turkish streets'. The streets Tussenmeer, Burgemeester de Vlughtlaan and Slotermeerlaan show a high density of Turkish facilities and this is also where most Turkish people live. Consequently, the identity of these streets and the surrounding neighbourhoods changed as well. There is actually a network visible of Turkish facilities and - even more important - there are a lot of Turkish meeting places in Nieuw-West located in former supermarkets, schools or shops along the streets.

NEW RESIDENTS

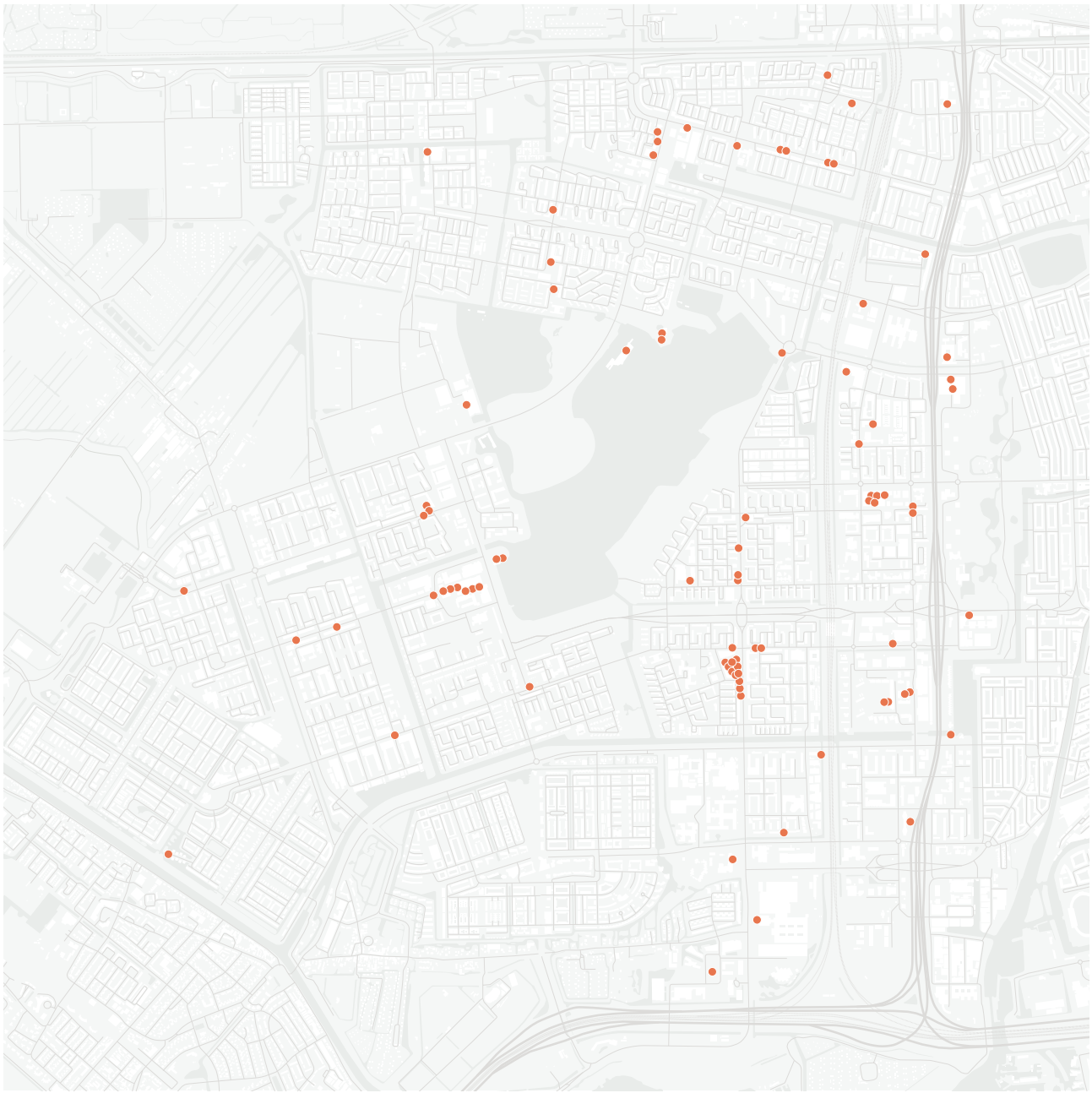


Figure 7.16. Based on fieldwork analyses and maps from Nio *et al.*, 2016

The new residents are highly educated people oriented towards the city (Nio *et al.,* 2016). This group of society often came to Amsterdam to study and used to live in the neighbourhoods inside the Ring. Nieuw-West offered them the possibility to buy a first house or apartment and so these people crossed the Ring. Most of them live in the eastern neighbourhoods of Nieuw-West, where they can profit from the ambivalance of being close to the city and the landscape. That is also where the facilities are located they make use of and some locations are located on the other side of the Ring. This group does not feel at home in Nieuw-West yet, because of a lack of their own facilities and places to meet. However, during the past year the trend of gentrification is visible and new coffee bars, restaurants and cultural amenities came to Nieuw-West. This is also related to the fact that the centre is getting more and more busy and full with tourists and so people actually appreciate the ambivalance of Nieuw-West.

LOCATIONS OF VITAL URBAN LIFE IN NIEUW-WEST

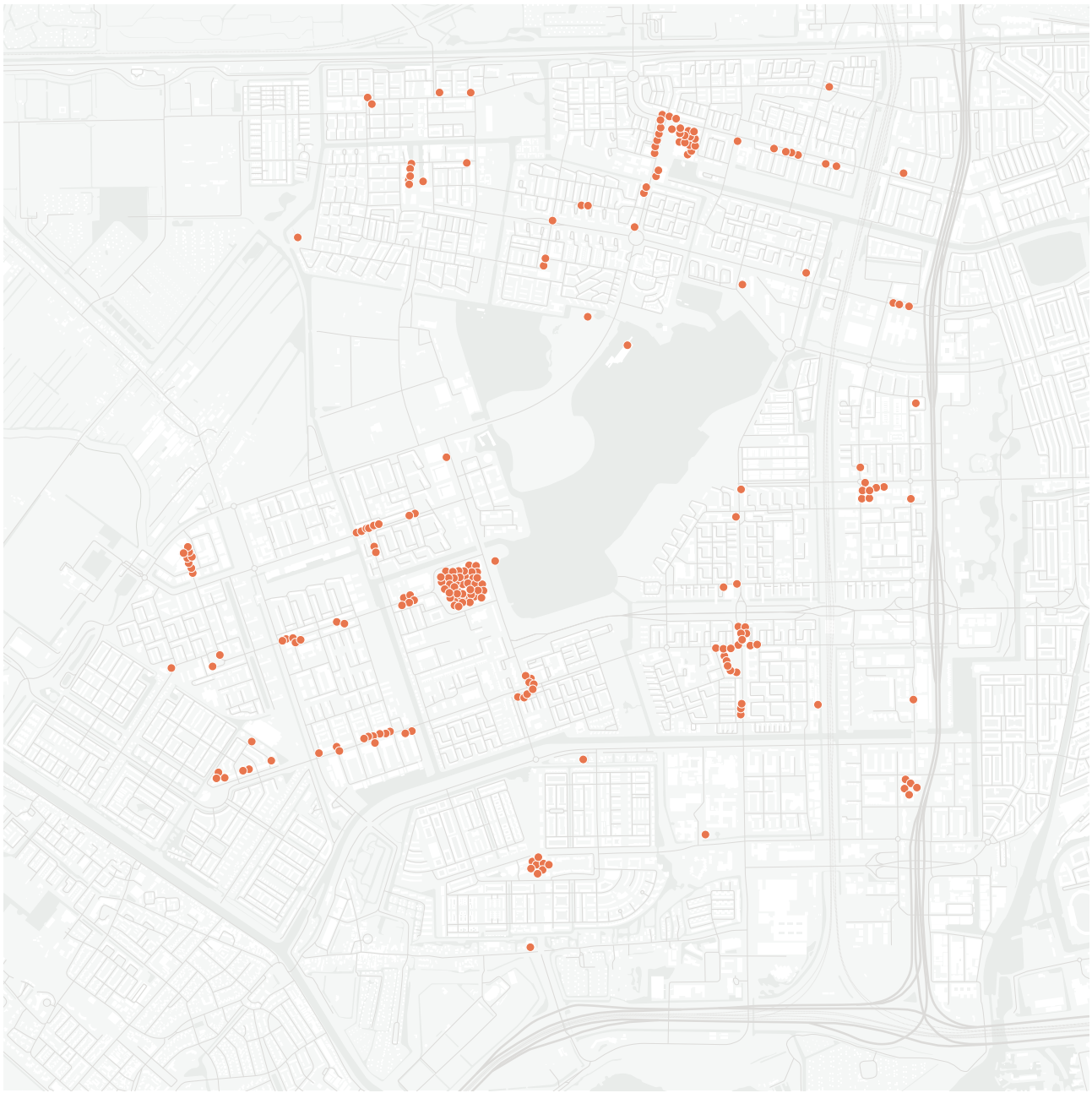
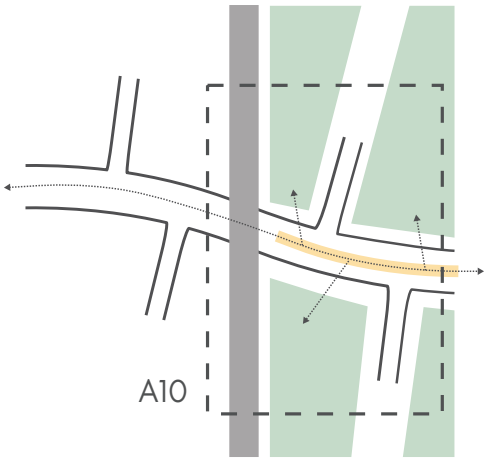


Figure 7.17. Based on fieldwork analyses and maps from Nio *et al.*, 2016

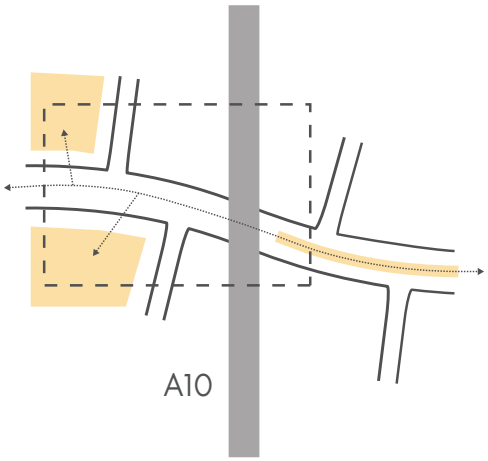
When overlaying all the maps on previous pages, this is the result. The map only shows where all groups come in their daily lives and so these places are actually characterised by a co-presence of different groups from various neighbourhoods. In other words, these places are already functioning as public domains or have a high potential to become one.
When looking at a map, both squares and streets appear to be public domains. The most important squares are Osdorpplein, August Allebeplein, Plein 40-45, Lambertus Zijlplein and Belgiëplein. The most important streets are Tussenmeer, Johan Huizingalaan, Burgemeester de Vlughtlaan, Slotermeerlaan and a part of the Pieter Calandlaan.
However, we also see a clear discontinuity with the centre. Most public domains are not located along the Ring or in the Ringzone and so there is a 'gap' between centre and periphery when it comes to the continuity of vital urban life in Nieuw-West. Moreover, the large distances raise a challenge.



MINIMALISATION OF THE GREY ZONE

case: Rembrandtpark (located in Ringzone)

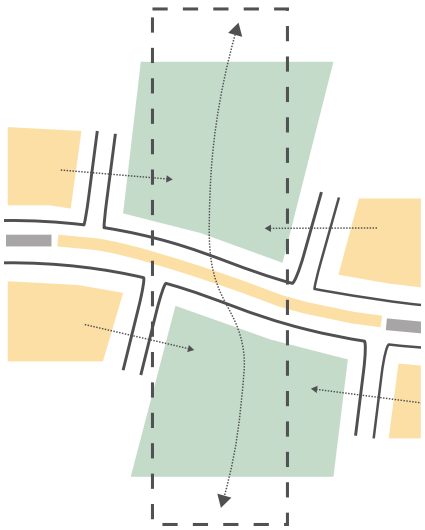
The Rembrandtpark is now causing the reputation of the Ringzone as a mental and physical barrier, whereas the park actually has potential to function as a liminal place where the middle- and local-scaled are integrated. The park can function as a destination, but also as an attractive area to cycle or walk through on your way to the centre or periphery. Therefore, thee minimalisation of the grey zone contributes to a continuity of vital urban life.



CENTRALISATION - DECENTRALISATION

case: Postjesweg / August Allebeplein

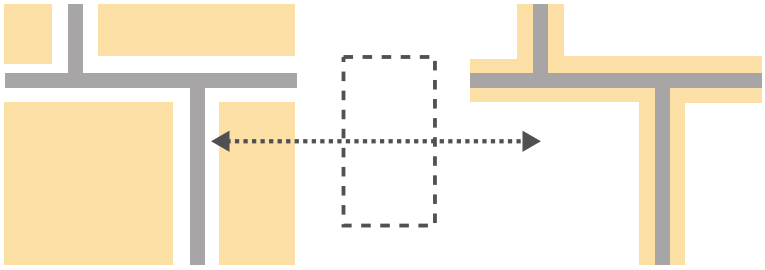
The combination of the Postjesweg (radial) and the August Allebeplein (inward-oriented island) is actually a matter of reconnecting lines and dots. The organisation of centrality has to change in order to provide a continuity of vital urban life when coming from the centre. In this case it is necessary to redesign both the length and depth of the radial in order to improve. It is actually a matter of 'flipping' the square in order to improve the length and depth of the radial.

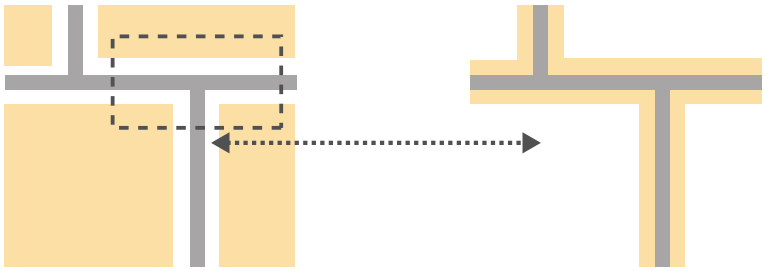


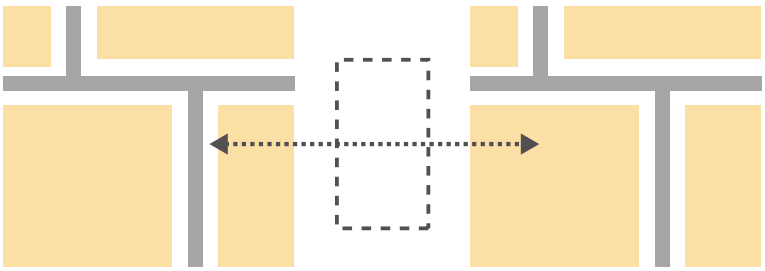
IN BETWEEN DECENTRALISATION

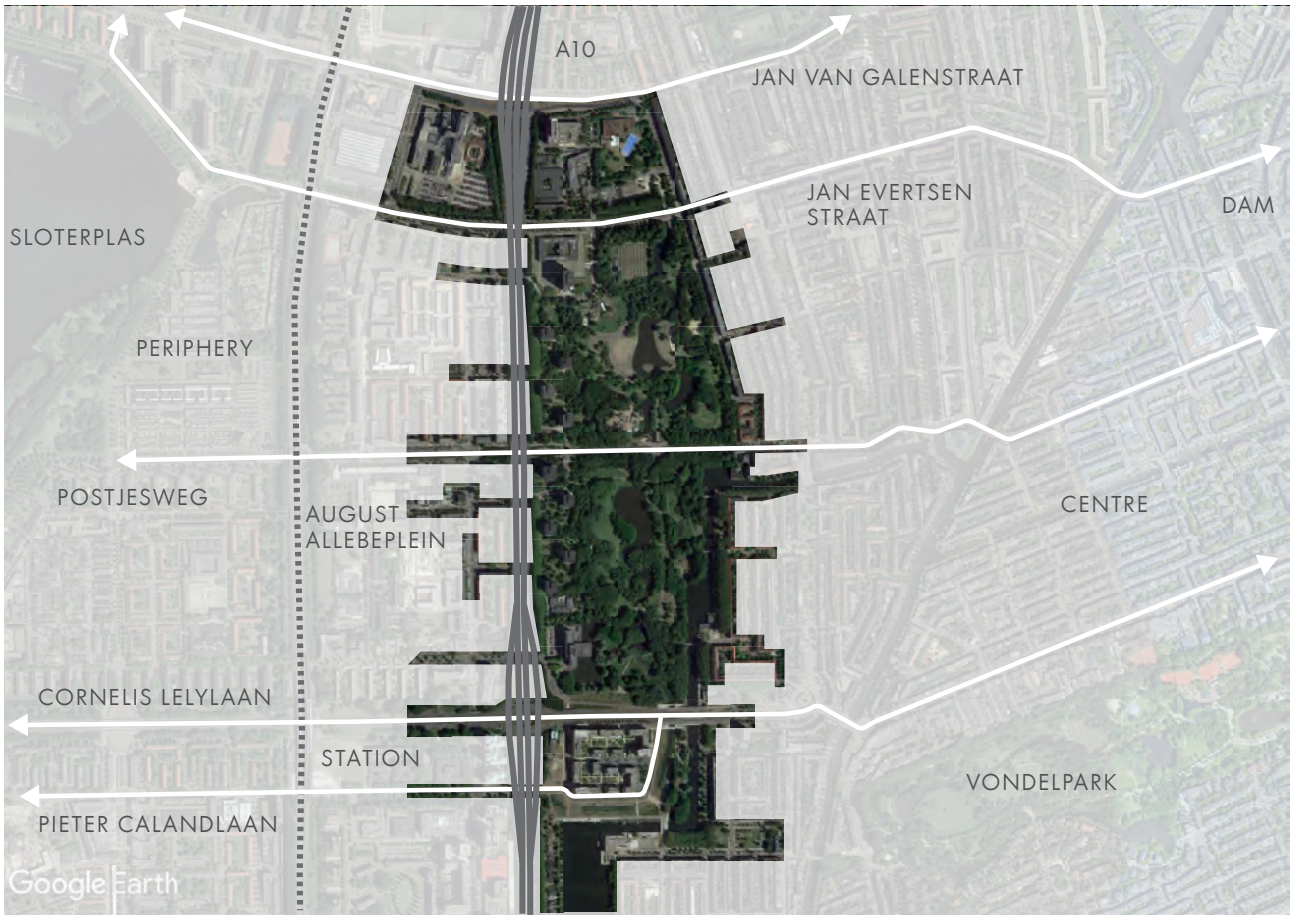
case: park route Sloterplas

The third case focuses on the connections between decentralised areas in the periphery. The different neighbourhoods sometimes contain almost 4000 residents, but these neighbourhoods are not brought together yet. The challenge is to transform the in-between green space into a liminal space where neighbourhoods can interact. The case is linked to the trend of socio-spatial segregation and aims to strengthen the intangible structures of Nieuw-West by restructuring the tangible structures. Again it is about reorientation, but this time it is only about peripheral areas.









MINIMALISATION OF THE GREY ZONE: REMBRANDTPARK

When walking down the Jan Evertsenstraat, the Postjesweg or the Cornelis Lelylaan, it is almost impossible to see that there is a park of 53 acres behind the trees. This park, called the Rembrandtpark, is located in the Ringzone, between the pre- and post-war city. It was designed as part of the General Expansion Plan (Gadet & Smit, 2018). On early drawings the park is already visible as part of the proposed green structure. The park was meant for the surrounding neighbourhoods with a shortage of greenery.

However, it took several decades before the plans for the park were actually executed (Gadet & Smit, 2018). In the sixties there were a lot of complaints and in the nineties new plans were made to improve the social control in the park. Nevertheless, there were always problems with the maintenance and thus attractiveness of the park.

The Rembrandtpark is located next to the ring road, which gives it a very strategic location in between the gentrified centre and the disadvantaged periphery. Moreover, the park is more than 500 meters wide and therefore covers almost the entire grey zone.

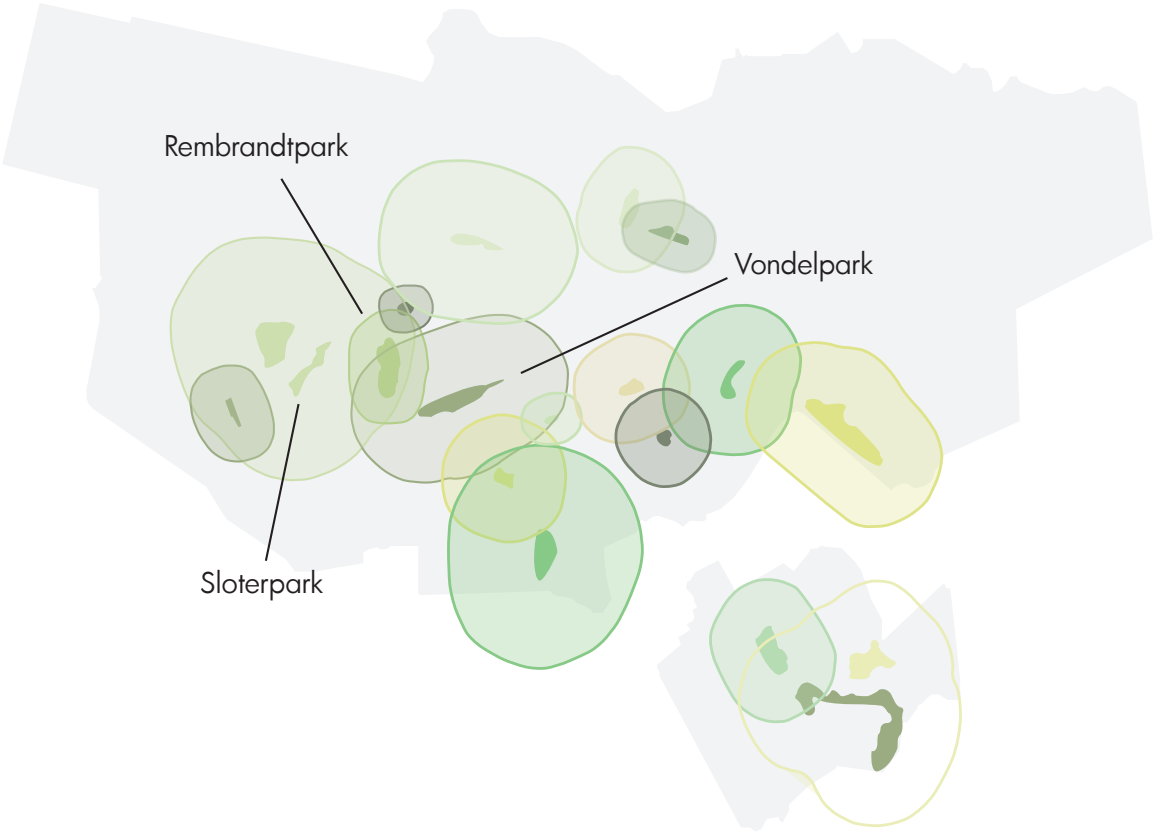
Most people walk or cycle through the park to reach the centre of periphery. However, only 11% of the people coming to the park uses the park to meet people. In the Vondelpark, a smaller but more popular park nearby, 53% of the people comes to the park to meet others.

Of all people that make use of the park, 32% of the people is living in West and 11% is living in Nieuw-West. That is remarkable, because the park is located in Nieuw-West. The park is therefore not bringing centre and periphery together.

The analysis of the park, in combination with a comparison with the Vondelpark, will lead to a strong foundation for the new design of the park with the intention to minimalise the grey zone.

Figure 6.48. The Rembrandtpark (Brink, 2018)

Figure 6.49. The Rembrandtpark (Mandersloot, 2002)



COMPARISON BETWEEN THE REMBRANDTPARK AND VONDELPARK

Despite the high density in the city centre of Amsterdam, there are still many parks to be found. The Vondelpark and the Rembrandtpark are both located inside the ring, but the Vondelpark is located in the middle of the city centre and the Rembrandtpark belongs to the grey zone. Although there is a only a distance of 500 meters between the parks, there are many differences.

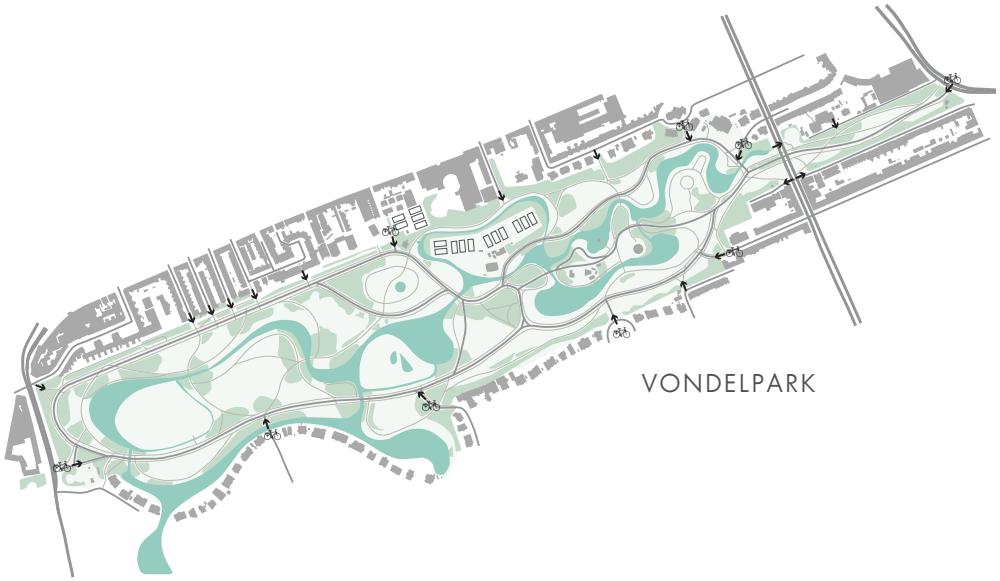
The Vondelpark encompasses almost 40 acres (Gemeente Amsterdam, 2018). Each year 10 million people visit the Vondelpark, which means there are 21 people per square meter. To give a sense of reference: the Central Park is New York knows an average of 5 people per square meter. That means the Vondelpark is not just popular by residents and tourists in Amsterdam for different reasons, but the park is overcrowded as well.

The Rembrandtpark is one of the less popular parks in Amsterdam and has therefore potential to bring back the balance in the city. The park encompasses almost 53 acres and is thus larger than the Vondelpark. The Rembrandtpark should attract people not only from the adjacent streets, but from the city districts inside and outside the ring. Moreover, the Rembrandtpark plays an important role in the grey zone in Amsterdam as people, in particular cyclists and pedestrians, need to cross the park in order to reach Nieuw-West.

Figure 6.50. The extended use of the park, based on Gadet & Smit, 2018

Figure 6.51. The Rembrandtpark (DoggyDating, 2017)

Figure 6.52. The Vondelpark (Vökel, 2018)



REMBRANDTPARK AND VONDELPARK: ENTRANCES

The parks have entrances for both cyclists and pedestrians. One of the major differences is the fact that the Rembrandtpark is crossed by several roads for cars. In north - south direction the Nachwachtlaan along the ring road crosses the park. In east - west direction the Jan Evertsenstraat, the Postjesweg and the Cornelis Lelylaan cross the park. Only the Cornelis Lelylaan is elevated, just like the Eerste Constantijn Huygensstraat in the Vondelpark.

The Vondelpark knows two kinds of networks: one network exist of broad roads for cyclists and pedestrians. These roads are mainly meant for through traffic and can be accessed on 9 locations. People who visit the park to stroll around can make use of the smaller paths. These paths can be accessed on 13 locations. In total, the park has 22 entrances.

The Rembrandtpark has cycling paths and pedestrians paths, but these are often combined. Moreover, there are no seperate paths for through traffic. The park has 20 entrances for cyclists. Pedestrians can make use of another 12 entrances. It is remarkable that entrances are not always directly connected to paths that bring visitors to the heart of the park or to one of the amenities in the park. Besides, on the west side people need to cross the ring by using one of the tunnels. On the east side people depend on the few bridges.


REMBRANDTPARK

REMBRANDTPARK AND VONDELPARK: AMENITIES

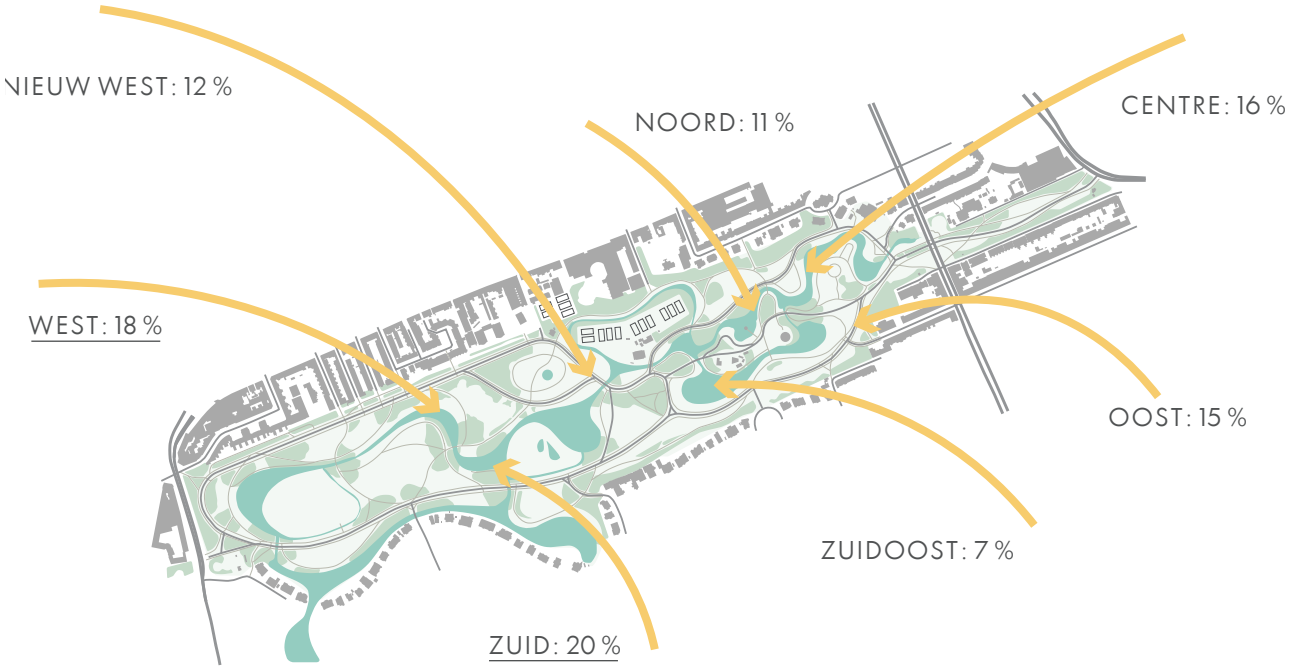
Although the Rembrandtpark is larger than the Vondelpark, the Vondelpark has much more to offer. Besides the amenities indicated on the map the Vondelpark contains multiple statues and other art objects. Moreover the Vondelpark is more diverse in terms of ecology.
Almost all amenities are located directly along paths or close to the entrances of the park.

The Rembrandtpark only has a few amenities in the northern part of the park. The southern part is even more quiet and empty. The amenities and the open space in the park both show a lack of maintenance, which has consequences for the entire appearance of the park.

The municipality of Amsterdam did a survey in order to find out what people would like to have in the Rembrandtpark. It appears that people would appreciate more cafes; more activitities; more attention to cleaning, safety and maintenance; a swimming pool; more playgrounds; more facilities such as a barbecue and benches.

At the moment 51% of the people who visit the Rembrandtpark primarily pass the park in order to reach another destination. Moreover, only 38% of the people indicated that they come to the park to get some activity, whereas 70% of the people uses this reason to go to the Vondelpark. What is even more striking is that 53% comes to the Vondelpark in order to meet friends, whereas this is only true for 11% of the visitors of the Rembrandtpark.


School gardens
Children's farm
Playground

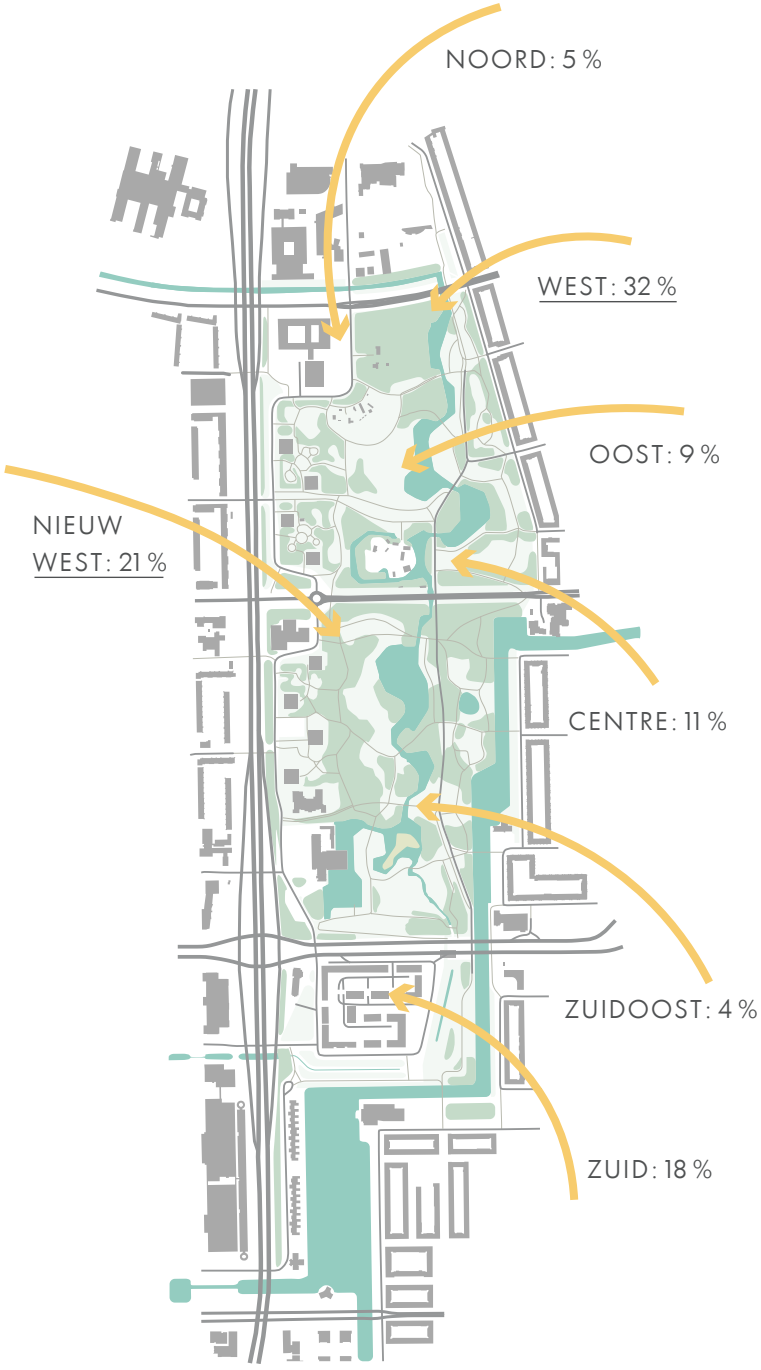


REMBRANDTPARK AND VONDELPARK: VISITORS

The Vondelpark is known by all residents of Amsterdam and thus also more visited by residents from the different city parts. The park has a central location in Amsterdam and can be reached by roads belonging to the middle-scaled grid and the local-scaled grid.

The Rembrandtpark might not be located in the middle of the city centre, but does have a strategic location in terms of centrality and accessibility. In particular the radials provide access to the park. The ring road, on the other hand, is a barrier. Although the park belongs to Nieuw West, more people from West visit the park. That also has to do with the fact that gentrification is happening in this part of Amsterdam and higher educated people visit parks more often than low educated people. The trend of gentrification is thus reflected in the visitor profiles.

The fact that most visitors of the Rembrandtpark are living in the adjacent areas (West and Nieuw West) indicates that the Rembrandtpark is a neighbourhood park. The Vondelpark, however, can be described as a metropolitan park. The park is visited and known by people from all parts of Amsterdam.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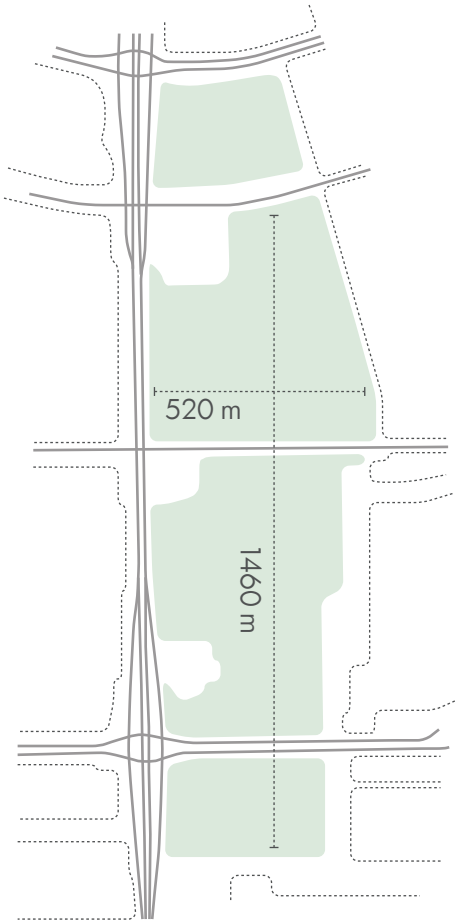
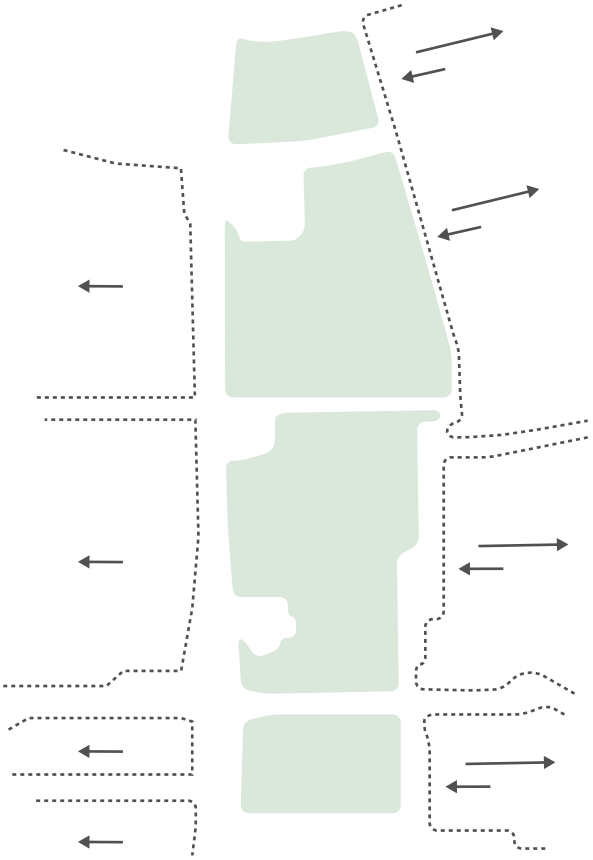


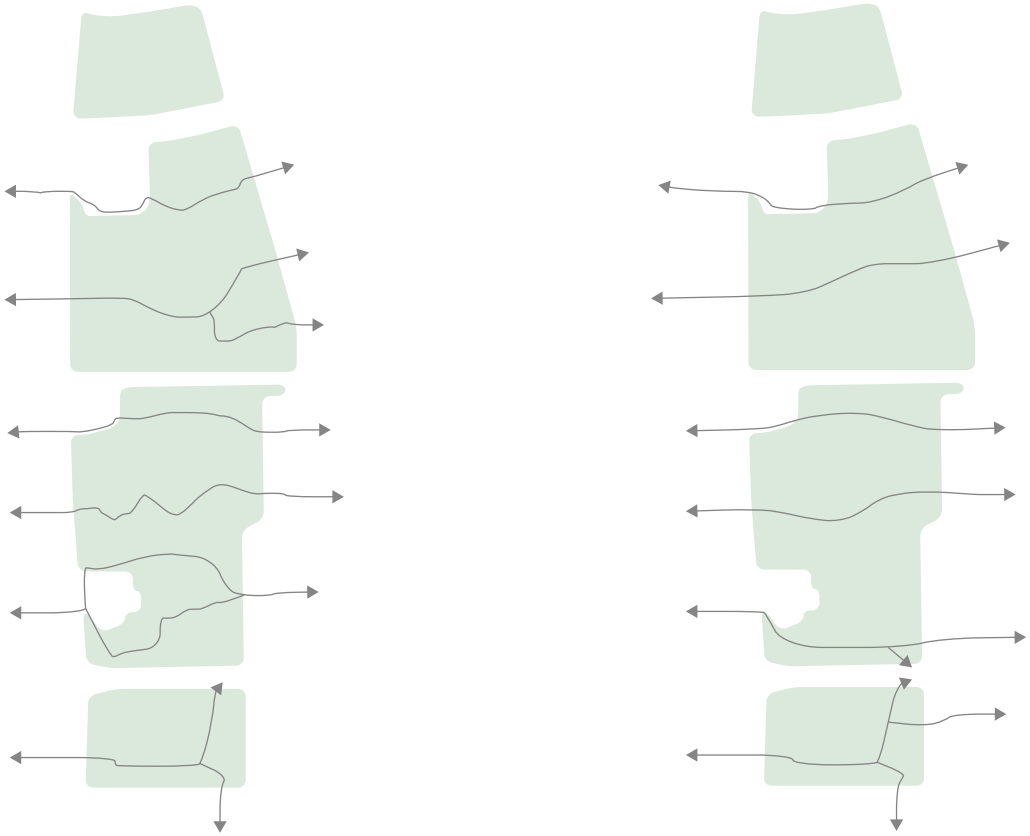


THE REMBRANDTPARK - TOWARDS EXPERIENTIAL CONTINUITY

the connection with the surrounding neighbourhoods

The minimalisation of the Ringzone asks for a continuity of vital urban life, which is strongly related to experiential continuity and movement continuity. For the experiential continuity it makes sense to have an idea of the size and edges of the park. The Rembrandtpark is 53 acres large, which makes it a big park compared to the other parks in Amsterdam. On the west side the Ring creates a clear boundary, also because the road is located on embankments. The Rembrandtpark was part of the green structure of the General Expansion Plan, but this is not very obvious.

If the Ring did become a parkway, which was the original idea of Van Eesteren, it would have been more obvious. The neighbourhoods on the other side of the Ring are now not at all oriented to the park.
On the east side there are neighbourhoods along the park. Although the blocks do face the park, there is not a strong connection with the park. This mainly has to do with the entrances of the park and the edges of the park. By changing the edges of the park, the park will be more inviting and more accessible. This has a large impact on the overall experience in the park.



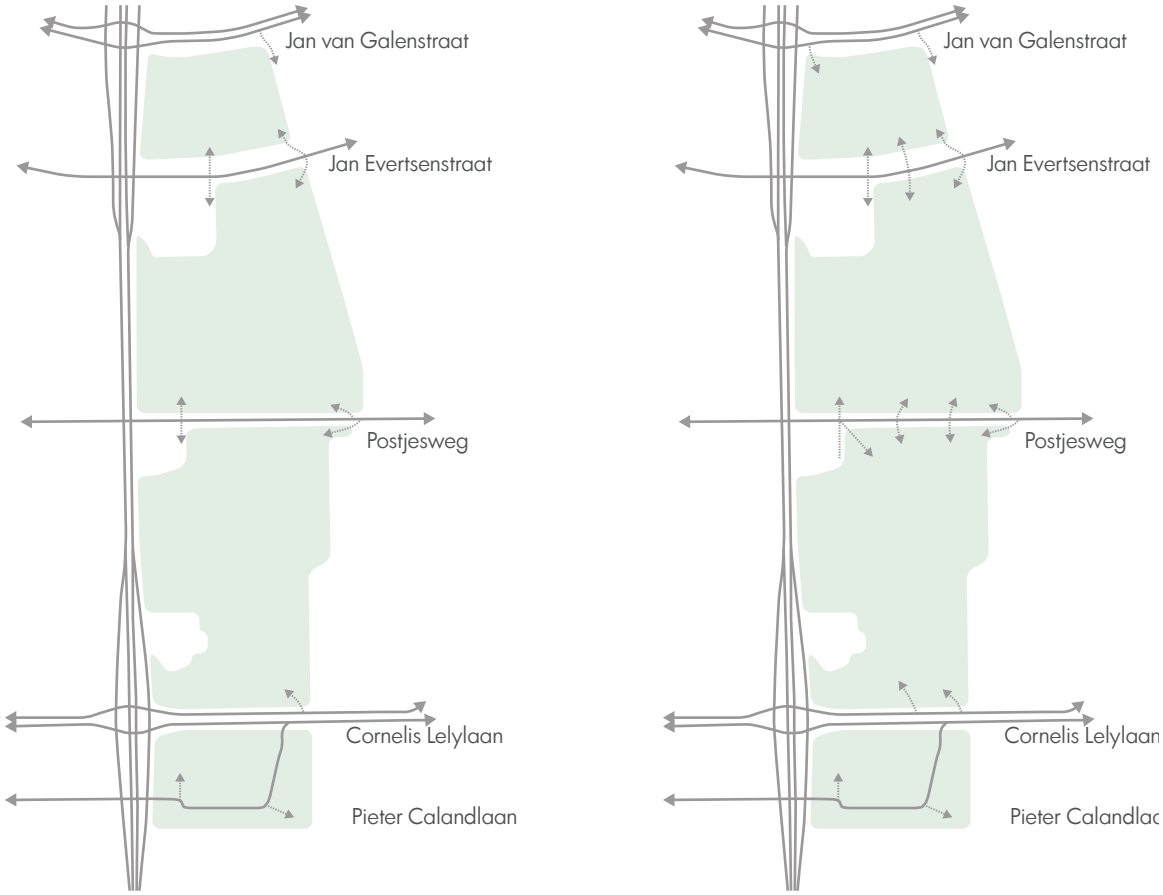
THE REMBRANDTPARK - TOWARDS MOVEMENT CONTINUITY

a park to go through and a park to go to

The Rembrandtpark is now for most people a park to go through. Few people from surrounding neighbourhoods actually use the park to go to. That can be explained by the lack of amenities in the park and the attractiveness in the park.

For both groups of users movement continuity is important and so we have to look at the continuity of the local-scaled grid when crossing the park. It turns out that most paths take a large detour. That makes it confusing for people to know that this path is actually leading towards centre or periphery. By changing the width and direction of the paths, the movement continuity will improve. When starting with a few more direct paths, other smaller paths can be added so people can make a nice walk in the park as well.

Secondly, it is important to think of the destination of these paths and if it is necessary to add a few more bridges in order to improve the connection with the centre. Some of the existing bridges do not have a strategic location when looking at the continuity between centre and periphery.

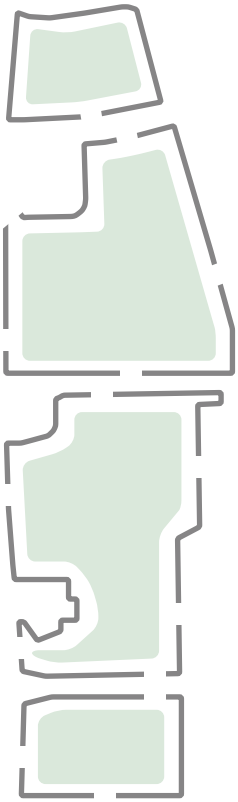


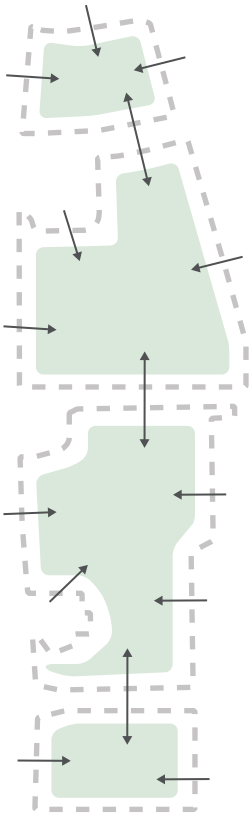
THE REMBRANDTPARK - TOWARDS MOVEMENT CONTINUITY

the interconnectivity between the middle-scaled and local-scaled grid

At the moment there are several radials running through the park, but these radials are not well integrated with the local-scaled grid: the paths in the park. There are only a few connections with the paths. The Pieter Calandlaan, parallel street of the Cornelis Lelylaan, is an important road in the periphery, but changes in a street with a local character when crossing the Ring. The Cornelis Lelylaan is partly located on embankments and can be described as a traffic artery. The Postjesweg is actually cutting the park in two parts and looks like a park lane. However, the road does not provide much space for cyclists and pedestrians. Moreover, there are not many entrances of the park located along this road. Moving in northern direction, one will find the Jan Evertsenstraat. This is a broad street almost without any connection with the park. The street is dominated by metropolitan-scaled functions.

By adding more connections, changing/adding the buildings along the streets and by changing the street profile, a better integration is possible.





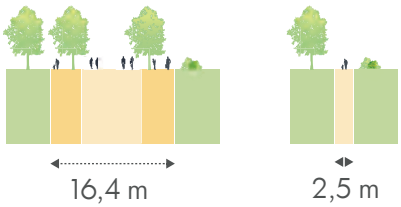
THE REMBRANDTPARK - TOWARDS AN INVITING PARK

the character of the edges of the park

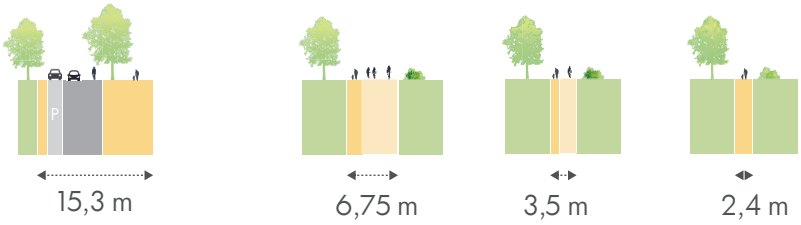
The edges of the park are crucial for both the movement and experiential continuity. At the moment there is a lot of greenery near the edges, which limits the sight lines. Moreover, there are only a few entrances and these entrances are small. Moreover, when standing in front of one of these entrances, one would not think that there is an entire park behind the tress and that it is an important route for locals towards the periphery. When standing in the middle of the park, there is much more open space. The park has several lawns and bodies of water.

By opening up the edges, the park becomes more inviting and accessible. That means that attention has to be paid to the entrances of the park, as well as the amount of greenery and trees along the edges. Adding buildings is also a possibility. That would give the opportunity to make a transit zone between the centre, where there is almost no greenery, and the park, where there is 53 acres of greenery.

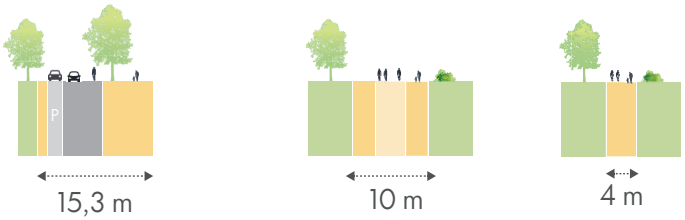
Vondelpark - hierarchy of paths:



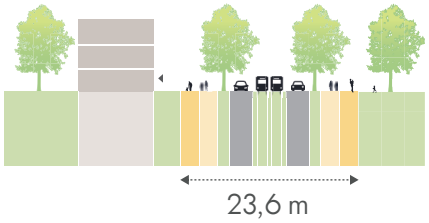
Rembrandtpark - hierarchy of paths:



Rembrandtpark - proposed hierarchy of paths:



Postjesweg - proposed street profile:



REMBRANDTPARK - THE PROPOSAL

The proposal for the Rembrandtpark begins with introducing a hierarchy in the infrastructural grids. The park is still crossed by the radials, but by changing the street profile of the Jan Evertsenstraat and the Postjesweg, the radials will be more integrated in the park. Secondly, there are some roads in the park that are accessible for cars: the road parallel to the Ring and the road parallel to the Cornelis Lelylaan. These road will have a minimum width for cars and enough space for cyclists and pedestrians. Thirdly, there are direct routes perpendicular and parallel to the Ring crossing the park and these routes are the main connections between centre and periphery for pedestrians and cyclists. These paths will have enough space for all flows of people. The last category of paths consists of smaller paths that are only meant for people who want to enjoy the park and walk around.

In between the paths there is enough space for all kinds of activities. More activities will be added in order to stimulate the emergence of vital urban life. These activities consist of urban farming, playgrounds, terraces, picknick spots, etc. Moreover, there are various places where people can sit down and enjoy the waterfront and the greenery.

Several residential buildings will be added to the park, in order to make the park a bit smaller and in order to have more social control. These buildings create a transition zone between the city and the park. Moreover, these buildings help Amsterdam to accommodate growth. In the end, it will become a park where centre and periphery meet each other.

CENTRALISATION - DECENTRALISATION: AUGUST ALLEBÉPLEIN

When moving from centre towards the Sloterplas, one makes use of the Postjesweg. This is one of the main radials between centre and periphery. The radial crosses the Rembrandtpark, crosses the Ring with a tunnel and then goes straight towards the Sloterplas. Although the radial seems to have a strategic position, there is no continuity of vital urban life.

That has mainly to do with the transition between the centre, following the concept of centralisation, and the periphery, following the concept of decentralisation. Moreover, when entering the park, the Postjesweg changes into a parkway without any strong connections to the park.

Nevertheless, there are opportunities to create a continuity of vital urban life. First of all, the Postjesweg can be better integrated in the park. That is already visible in the design of the Rembrandtpark. Secondly, The length and depth of the radial need attention and therefore we can make use of all three sets of guiding principles.

When crossing the Ring, one has the opportunity to enter the August Allebéplein. This is the main public domain of the neighbourhood Overtoomse Veld. However, the square is not easy to find due to a lack of movement and experiential continuity. In other words: the line (radial) and dot (square) are disconnected. The different scales of grids are not integrated, which is a missed opportunity.

The challenge is therefore to flip both the radial and the square. The radial should not be dominated by cars anymore and needs to offer space for a vital urban life. The square should not be an inward-oriented island, but a well-connected node in the neighbourhood.

Figure 6.66. August Allebéplein (Live Residential, 2018)

Figure 6.67. Postjesweg (Bens Makelaars, 2018)

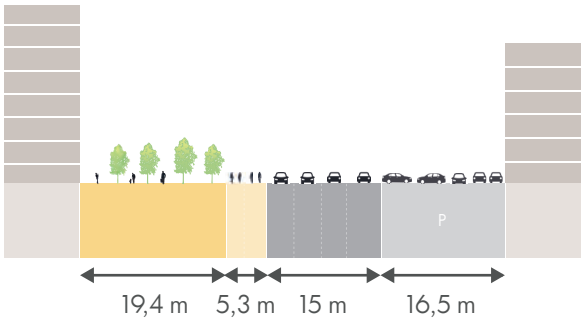
THE LENGTH OF THE POSTJESWEG

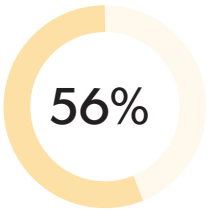
The Postjesweg is the radial connecting the centre with the Sloterplas. Although the radial seems to be very important for the reorientation - and thus the balance - of the city, there is no public transport conenction. The first proposal would therefore be to add a tram line following this radial.

The Postjesweg consists of different parts. In the Rembrandtpark the Postjesweg is a parkway, but the street is not integrated with the park. After crossing the Ring the radial becomes a real traffic artery. The street is disconnected from the dots along the streets. The analysis on the next page shows the car dominance of this street and how the street could be reorganised. It is essential to be aware of the width of the street. The street is extremely wide and so it will be too challenging to let both sides of the street interact. However, with clustering the space for each flow, the street profile will be more attractive.

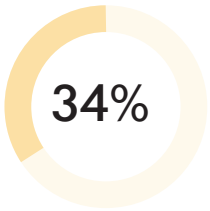
width of arteries in other cities:

- Oxford Street, London: 24,8 m
- Regent Street, London: 35,3 m
- Unter den Linden, Berlin: 54,21 m
- 5th Avenue, New York: 30,16 m
- Times Square, New York: 58,3 m
- Champs Elysées, Paris: 67,3 m
- Wibautstraat, Amsterdam: 49,2 m

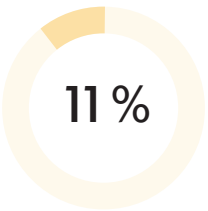




is occupied by cars

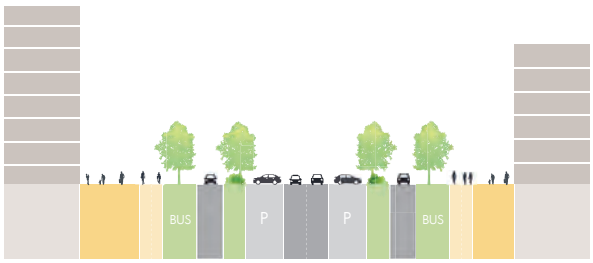


is reserved for pedestrians

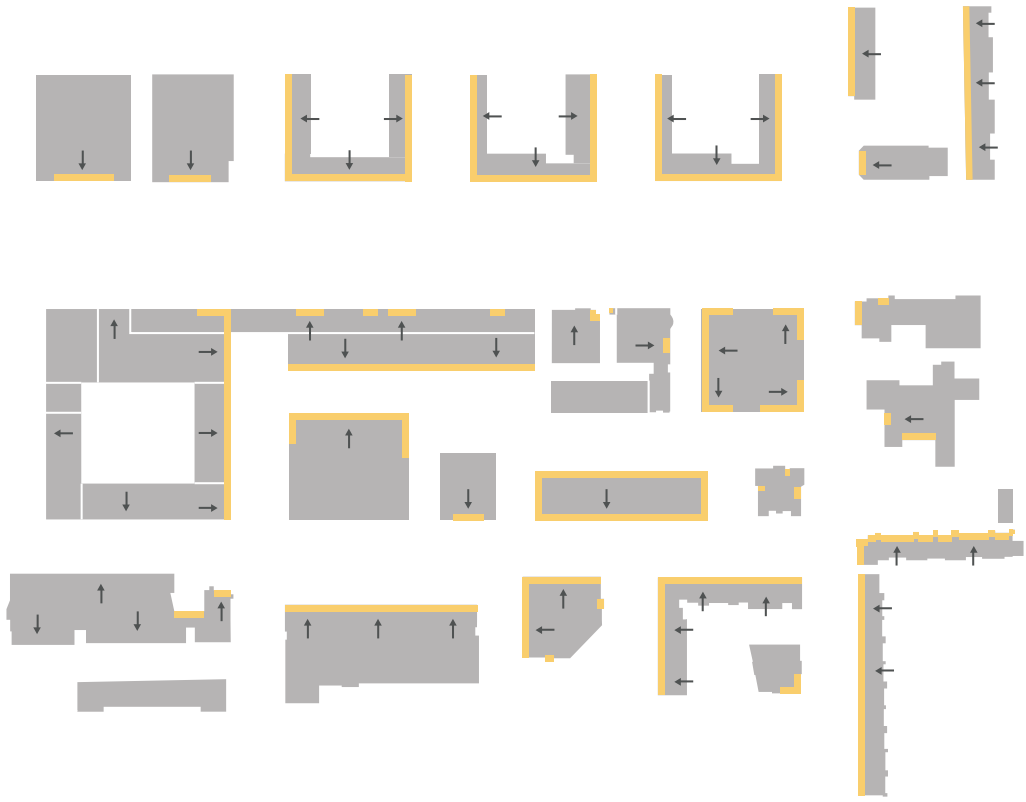


of pedestrian flows are located next to plinths

most active plinth + close to square



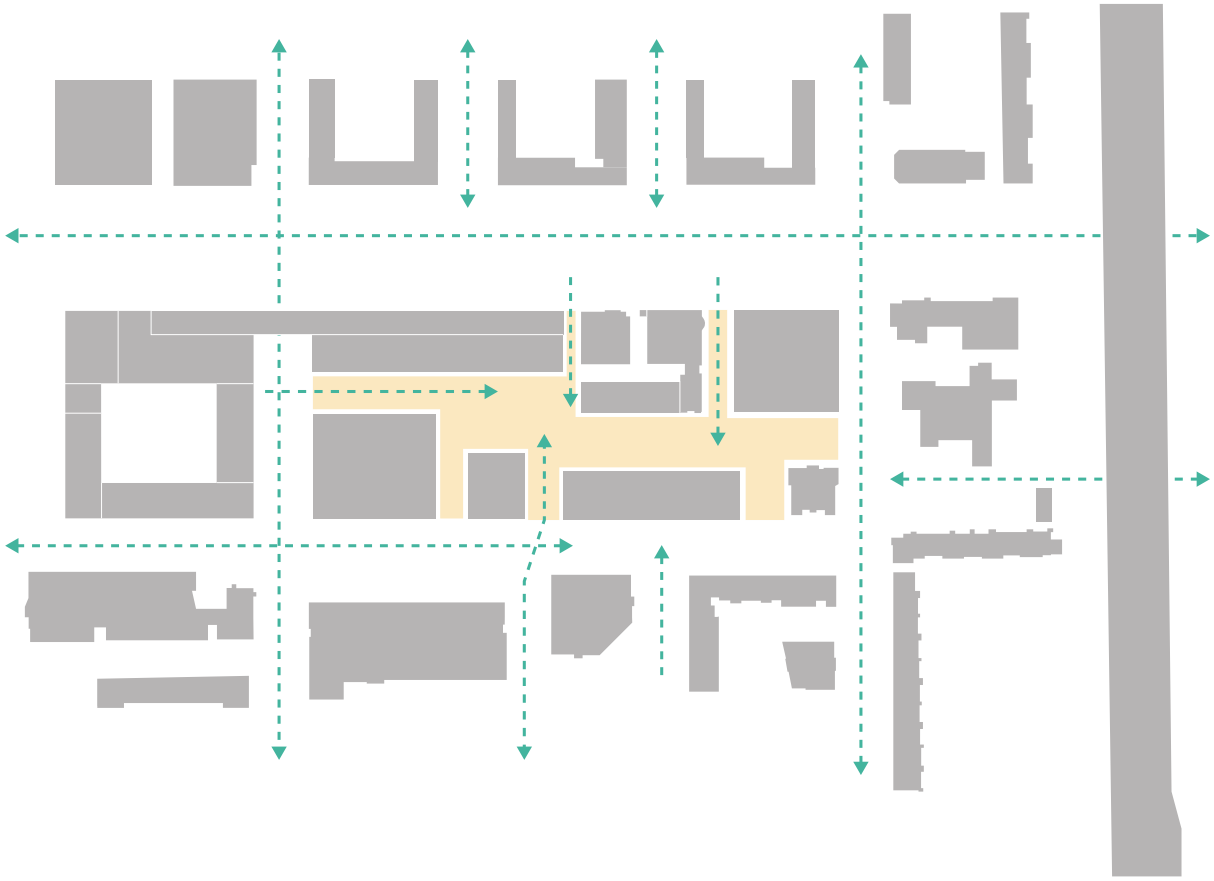
new proposal: flipping the street



THE DEPTH OF THE POSTJESWEG

a square or a left-over space?

The square contains several buildings with all different kinds of functions. There is a mosque, a police office, a school, two supermarkets, several residential buildings and a community building. From a theoretical perspective these functions are related to each other. However, the problem of the August Allebéplein is that all buildings are oriented towards different directions and all buildings have a different footprint with only small space in between to enter the square. That makes it questionable if the square is actually a square or rather a left-over space. That also changes the way we can look at the square. When regarding the square as left-over space, the square can be turned into several 'connected streets' where there is only space for pedestrians. The challenge is then to connect the square to the surrounding streets and thus the surrounding grids.

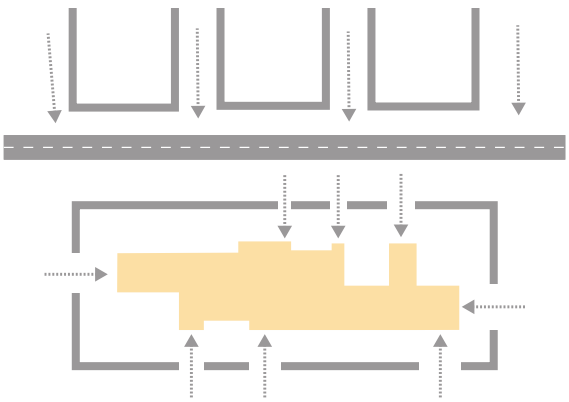


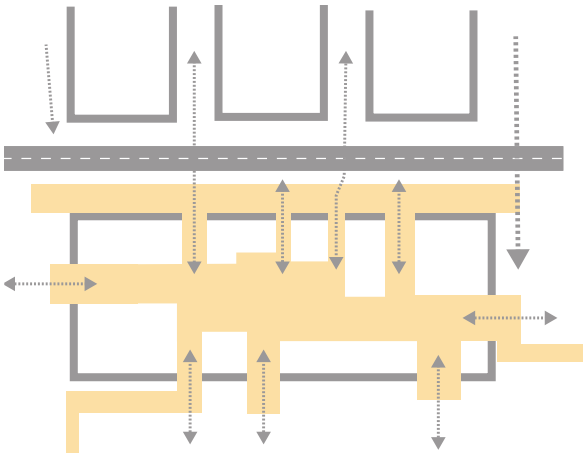
THE DEPTH OF THE POSTJESWEG

an inward-oriented island?

Although the August Allebéplein is the central element in this part of Nieuw-West, it is still an inward-oriented island when looking at the edges of the square and the sight lines. The square is disconnected from the radial and also when coming from the centre or station Lelylaan as a pedestrian or cyclist, it is hard to find the square. The buildings have a large footprint and they are high, which makes it difficult to guess that there is a whole square behind this.

The sight lines clearly show the disconnection between the middle-scaled and local-scaled grid and also the disconnection between the length and depth of the radial. The streets are not continuous, which is actually necessary if we want to create vital urban life. Especially the middle-scaled and local-scaled grid should be integrated in order to create the required spatial conditions according to the three sets of guiding principles.





AUGUST ALLEBÉPLEIN AND POSTJESWEG - THE PROPOSAL

The diagram above shows the 'flip' of the Postjesweg and the August Allebéplein. The radial will be flipped in order to generate flows along the plinths. Parking will be moved to the middle of the street and the amount of parking spaces will be reduced, because at the moment only 67% of the parking spaces is used during the afternoon and only 65% of the parking spaces is used during the evening. That means that at least 30% of the parking spaces is not used at the moment. Since cars already dominate the streets, a reduction of parking spaces would make the entire network of streets more attractive.

Along the plinths there will be more space for pedestrians and cyclists, which makes the street more inviting. That will contribute to a continuity of vital urban life.

The square will be flipped by changing the inward-oriented island into an outward-oriented island. By doing so, the dot (square) and line (radial) will be reconnected. By creating more entrances for the square and by improving the visibility of the square, people from other parts of Nieuw-West will also be able to find the square. The green carpet will be used to guide the flows of people towards the square.

Moreover, the roof of the shops will be used to make an urban balcony. People living in the apartments are now connected to the square again and it offers people even more public space. Additionally, the stairs to access the roof can be used to sit and look around.

IN BETWEEN DECENTRALISATION: PARK ROUTE SLOTERPLAS

The third case focuses on the in-between areas in Nieuw-West. These areas are located in between the segregated neighbourhoods. Most of them are rather functioning as mental and physical barriers instead of liminal spaces that can bring the neighbourhoods together.

Nevertheless, these spaces play an important role when thinking of the interconnectivity between the middle-scaled and local-scaled grid and the organisation of centrality. By transforming these areas into liminal spaces, the neighbourhoods will be 'flipped' from inward-oriented islands to outward-oriented islands. Suddenly, the in-between space becomes an important node in the local network and can contribute to the network of public domains.

In this case, the Piet Wiedijkpark is located in between several neighbourhoods and crossed by the Cornelis Lelylaan (located on embankments), the Pieter Calandlaan and the Plesmanlaan. These radials are now not well connected to the park, because there are only a few entrances. Moreover, these entrances are hard to find and look unattractive.

On the larger scales, the Piet Wiedijkpark has a strategic location in between several large green areas in the city: the Nieuwe Meer and the Sloterplas. At the moment, however, this is not an attractive route and for people living in the neighbourhoods adjacent to the Piet Wiedijkpark, there is no good connection towards the Sloterplas. Especially when the Sloterplas should become the centre of Amsterdam again, people should be able to reach the park, even when they have to cross several radials.

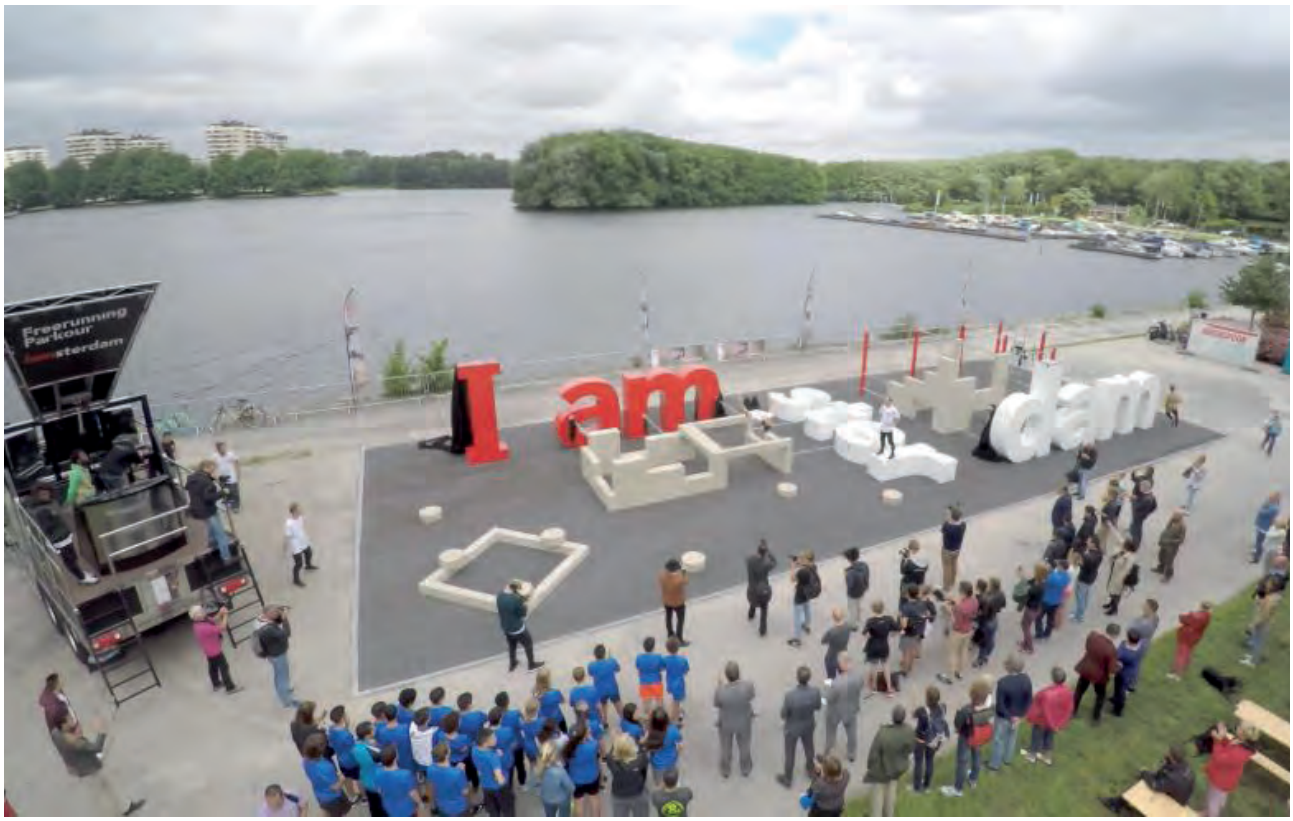
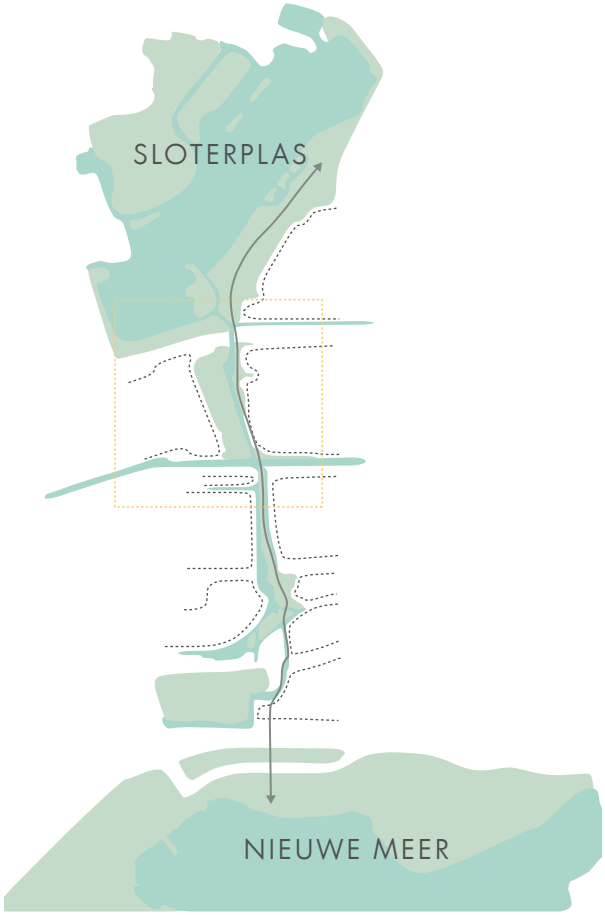
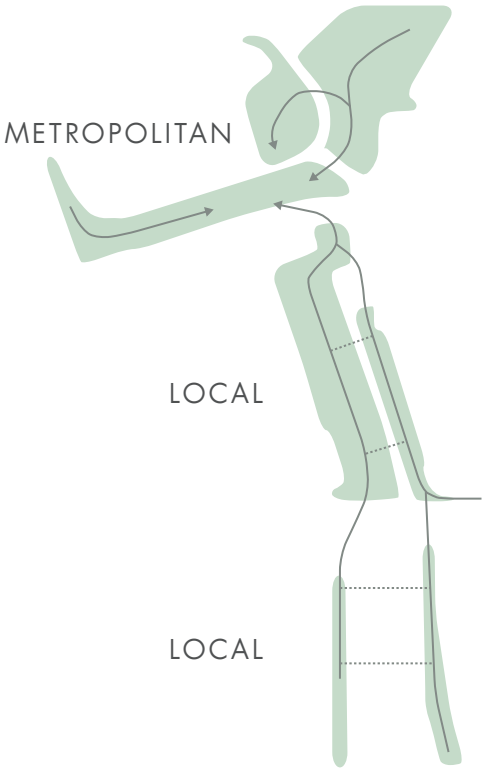


Figure 6.75. I amsterdam parkour along the Sloterplas waterfront (Gemeente Amsterdam, 2017)

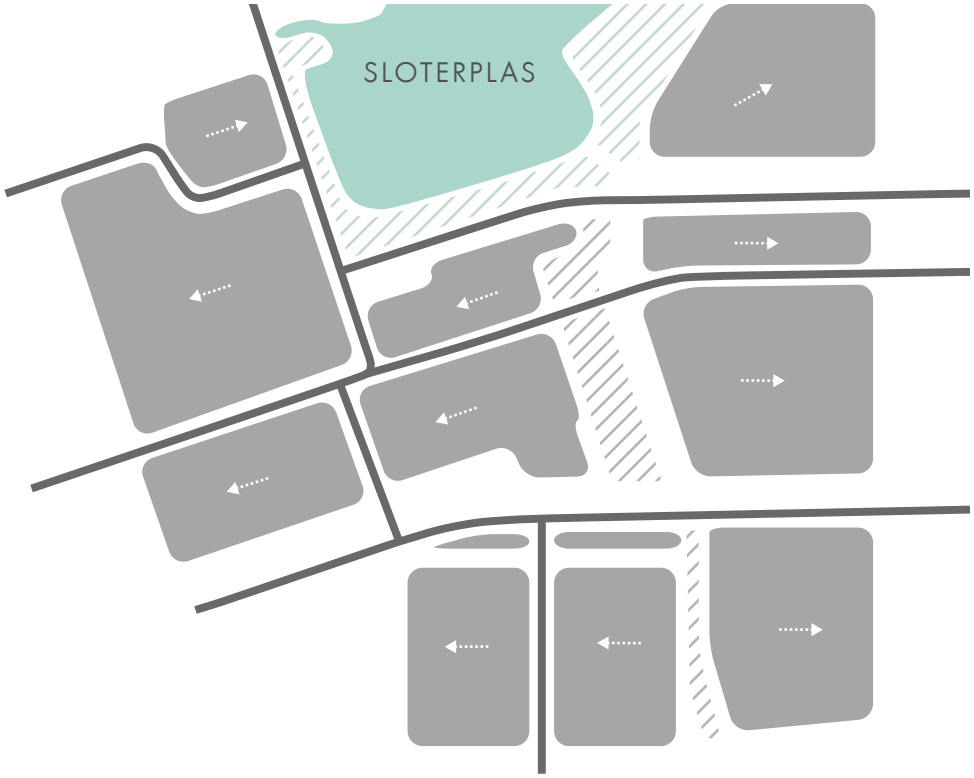
Figure 6.76. Public spaces in the Piet Wiedijkpark (Severein, 2016)

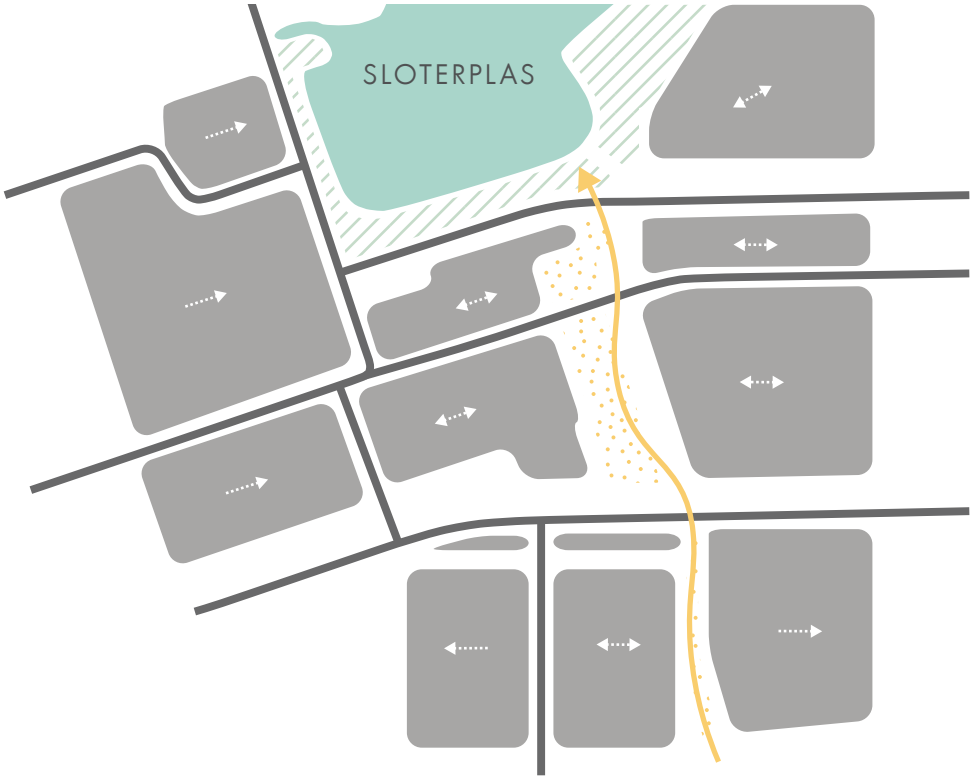


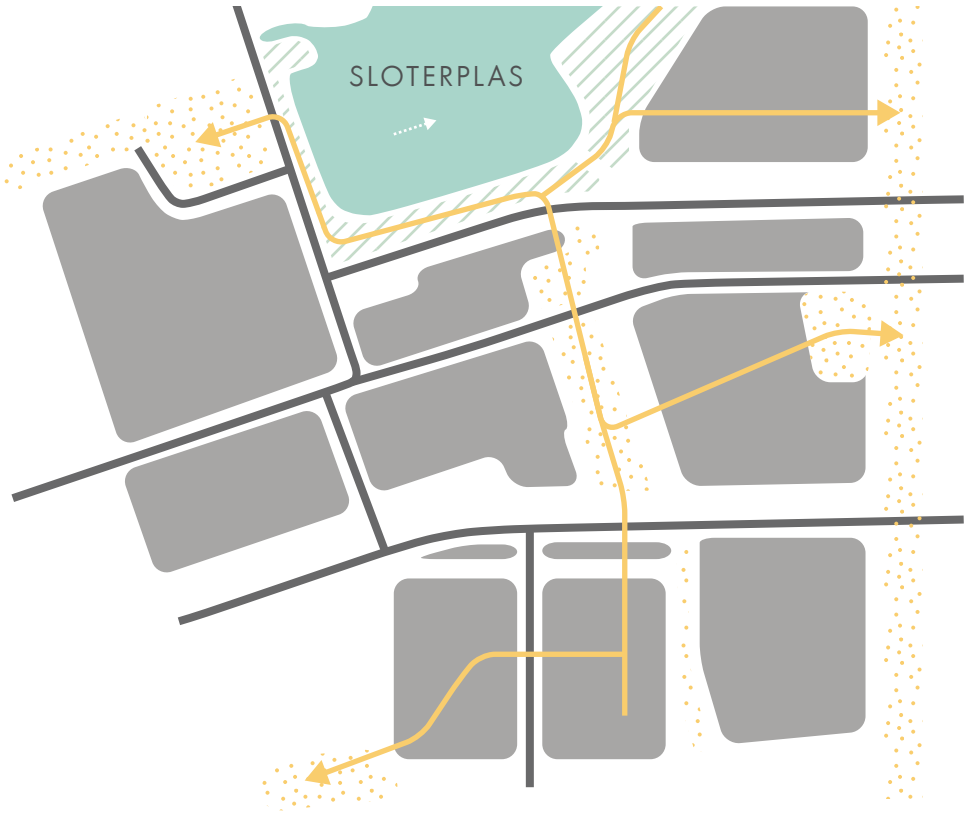


Besides the fact that the design follows the three sets of guiding principles, there are a few case-specific aims. The design aims to connect the green areas on the larger scales. There is already a route for slow traffic from the Nieuwe Meer towards the Sloterplas, so it is mainly a matter of making this route more attractive in order to connect the southern neighbourhoods of Nieuw-West to the Sloterplas. That means the design needs to take several scales in mind: the Sloterplas and the Nieuwe Meer are large enough to play an important role on the metropolitan scale, whereas the Piet Wiedijkpark is more a local park connecting the metropolitan parks. The connections need to be restored in both horizontal and vertical directions.

Secondly, the decentralised neighbourhoods are now not oriented towards each other. Instead, they are oriented inwards. Because of the lack of connections, people need to make use of the middle-scaled grid in order to reach the different public domains, such as the Osdorpplein and the Sierplein. If Nieuw-West wants to be more attractive and make use of the social and economic function of public space, it is important to focus on the places where local life already exists and how to connect these places. For example, the Piet Wiedijkpark plays a key role in connecting the Osdorpplein, Belgiëplein and Sierplein. Moreover, the park is on the route towards Station Lelylaan. By creating a better integration of the middle- and local-scaled grid, these streets can profit from the liminal space as well. The Cornelis Lelylaan is the biggest challenge, because this streets is partly located on embankments and can be characterised as a real traffic artery. The parallel road, the Pieter Calandlaan, however, has much more potential. The combination of the continuous routes belonging to various grids with different directions and existing public domains as destinations will contribute to a continuity of vital urban life between decentralised areas.


SLOTERPLAS


SLOTERPLAS



PARK ROUTE SLOTERPLAS - THE PROPOSAL

The diagram above shows the principle behind the design and the next page shows the design itself. The entire park and waterfront of the Sloterplas will be transformed. This all begins with changing the existing infrastructural networks and adding new connections. Paths for pedestrians and slow traffic need to be more direct, more wide and more easy to find. The paths in the park need to connect the different neighbourhoods. Moreover, there are several new connections with the Cornelis Lelylaan and the neighbourhoods on the east side of the Sloterplas.

The entire park is designed for different groups of society. There are playgrounds for children, quiet places along the water, areas for urban farming, multifunctional sport fields and lots of places to sit down, take a rest and enjoy the greenery. The park is, however, not only a place to go to but also a place to go through and so there are direct routes between the neighbourhoods with enough space for a good flow.

The design proposes to make some extra connections by constructing bridges. In particular near the Plesmanlaan this is important, because then the local area of the neighbourhood will be directly connected to the park instead of only via a detour. Also near the Sloterplas there are different bridges proposed to connect the different islands.

The waterfront of the Sloterplas will be a mix of an urban feeling and a landscape feeling. People can enjoy the view and the boats and sit on the hills, but they can also go to more busy areas along the water where more people will gather. The waterfront needs to connect the eastern neighbourhoods of the Sloterplas with Osdorpplein. Therefore the design of the waterfront is integrated with a direct route.

CHAPTER VII

CONCLUDING REMARKS

- Conclusion
- Recommendations / future research
- Reflection

CONCLUSION

1934, the year when the General Expansion Plan was published, initiated the dichotomy between centre and periphery in Amsterdam. Whereas the centre of Amsterdam followed the concept of centralisation, the newly planned expansion areas were intended to follow the concept of decentralisation. With a wide unbuilt green zone in between, all ingredients for a dichotomy between centre and periphery were present.

The presence of two contrary spatial concepts in one city caused me to study the continuity of the tangible and intangible city in the case of Amsterdam. Starting with the layer of infrastructure, it appeared that this layer is actually determinative for all other structures in the city. The level of integration of the three scaled grids that can be distinguished in the city – the metropolitan-scaled grid, the middle-scaled grid and the local-scaled grid – has an impact on the organisation of centrality in the city and thus the opportunity to let vital urban life emerge spontaneously. With a comprehensive analysis of the tangible and intangible city, this study actually revealed the hidden importance of infrastructure for the continuity and creation of vital urban life in the city.

Today, we see a city that is growing ever faster. What we also see is that the dichotomy between centre and periphery is growing ever faster due to rising inequality. Trends like gentrification have a spatial footprint and so phenomena such as exclusion are not rare anymore. Parts of the city are already financially unaffordable for certain groups of society and thus Amsterdam needs to realise that it is not an urban village anymore, but a metropolitan city dealing with global trends. As a matter of fact, the city is coping with a gentrified centre, a disadvantaged periphery and a grey (Ring) zone, dominated by the metropolitan scale, in between. The municipality aims to maintain the welfare and prosperity of all residents, but, meanwhile, the municipal strategy actually reproduces the spatial and social hierarchies it sets out to address.

The conclusion is that Amsterdam is out of balance. If Amsterdam states that it wants to be a good city for everyone, the city can no longer take this for granted. Therefore, the vision starts with the statement that Amsterdam needs a more equal relationship between centre and periphery. Continuity of vital urban life between centre and periphery is a prerequisite, in particular if the municipality argues that public space in the city has a social and economic importance. Moreover, a continuity of vital urban life gives the opportunity to fight the social-spatial segregation of the city by creating new public domains or by extending existing public domains.

Since infrastructure is at the basis of the organisation of centrality and thus the emergence of vital urban life, it makes sense to focus on the integration of the three infrastructural grids. The link between vital urban life and infrastructure is explained by the first set of guiding principles. This set, which is relevant for all cities, can be used in Amsterdam by every project being developed in the city, because it gives a fundamental understanding of how to create the basic, but necessary spatial conditions for vital urban life and a reorientation towards the periphery.

When searching for a spatial scope, it appears that especially the radials can have a significant impact on the restoration of balance in the city when these radials are functioning as arteries of public life. It is, however, not an option to look at all radials without taking the context into account. Instead, it is necessary to look at the specific role of each radial. This includes the integration of radials – as part of the middle-scaled grid – with the other grids. The second and third set of guidelines therefore focus on the length and depth of the radials, while switching towards Nieuw-West as a case for the spatial strategy.

The strategy deals with two issues: 1) creating continuity of vital urban life between a centralised area and a decentralised area, which is in fact the continuity between the centre and periphery while crossing the Ringzone, and 2) creating continuity of vital urban life between two decentralised areas, separated by radials as barriers and uninviting greenery. The first case incorporates a design for the Ringzone and

the length and depth of a radial. The second case shows how Amsterdam can take care of segregated neighbourhoods and use in-between space to create public space characterised by a co-presence of people from various neighbourhoods. Even though these are location-specific designs for Nieuw-West, they display how the guiding principles can be translated into urban designs for the existing city and how to deal with the concepts of centralisation and decentralisation. The vision, as well as the strategy, emphasises that a City in Balance is a matter of phasing. Nevertheless, it is time for Amsterdam to take steps towards a more balanced city.

Transferability of project results

Often projects focus on the impact of infrastructural barriers and how to get rid of this barrier. This is a blind spot, because this thesis shows what is actually happening in the city: it is not about the barrier, but about a discontinuity of cities. That also changes the task of the designer. It becomes a matter of how to link spatial concepts and therefore a vision and strategy on a larger scale is required.

Secondly, whereas Amsterdam is dealing with a dichotomy between centre and periphery with a grey zone in between, other cities are dealing with dichotomies as well. When looking at other Dutch cities, for example, it soon becomes clear that Utrecht is dealing with a dichotomy between the eastern and western parts of the city and Rotterdam is dealing with a dichotomy between the north and south parts. Hence, the approach of this thesis could be relevant for other cities as well. Even though the discontinuity is not caused by the combination of centralisation and decentralisation, the hidden importance of infrastructure is probably an eye opener for most municipalities. In particular the link between the tangibles and intangibles is relevant for other cities.

Thirdly, the municipality needs to be aware of the consequences of the own strategy. Even though it acknowledges problems and includes meaningful quotes in the vision, they do not act alike. The municipality has to take a stand and answer fundamental questions. Without a clear vision and strategy, the objective of maintaining the welfare and prosperity of all residents seems to be far away. In particular with large projects in the near future, such as Haven City, the municipality can no longer ignore the problems occurring in the city.

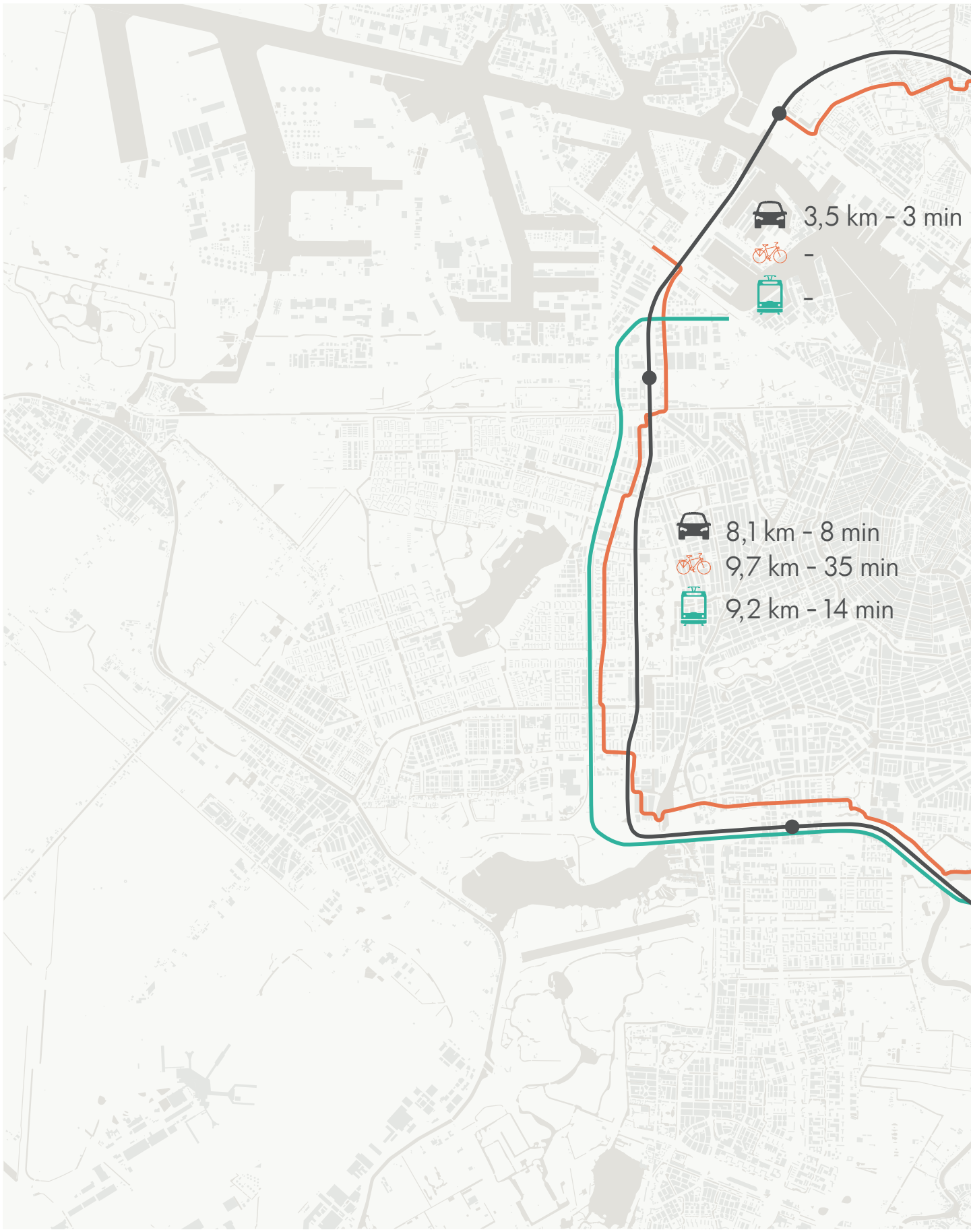
Recommendations and future research

Creating continuity of vital urban life should play a key role in future visions and strategies for the city. It is the essence of the city and the most important prerequisite for a City in Balance. Future research can be a continuation of this thesis, as there are many more locations in the periphery that can contribute to the City in Balance. These locations can be found in Nieuw-West, but in other parts of Amsterdam and even other cities as well. For each location it is important to follow the three sets of guidelines. During the design process and after construction it is essential to reflect and evaluate the outcome. These outcomes have to be taken into account for other studies and designs, in order to make sure that the same lessons are not learnt twice.

Furthermore, future research can focus on the continuity parallel to the Ring. At the moment it is only possible to follow the Ring by car, whereas there are opportunities to create a complete Ring for slow traffic and public transport as well. This could reduce the pressure on the city centre, because it makes the periphery more independent.

Continuity in both parallel and perpendicular directions to the Ring depend on the ring road itself. With several technological developments on its way, the ring road might become an urban boulevard in the future. Right now it could be an option for future research to study a possible transformation of the ring road itself as well, but it is questionable if it is worth the investments. After all, the largest barrier is the grey zone and not the road itself.

In order to create balance between centre and periphery, the periphery need to gain more amenities and jobs for the people living there. Therefore, it might be necessary to create an entire new centre in the periphery. This would reduce the pressure on the city centre as well, because people will then be reoriented towards the periphery. However, it is always important to keep the bigger picture in mind, since the relationship between city and periphery asks for a bigger picture as well.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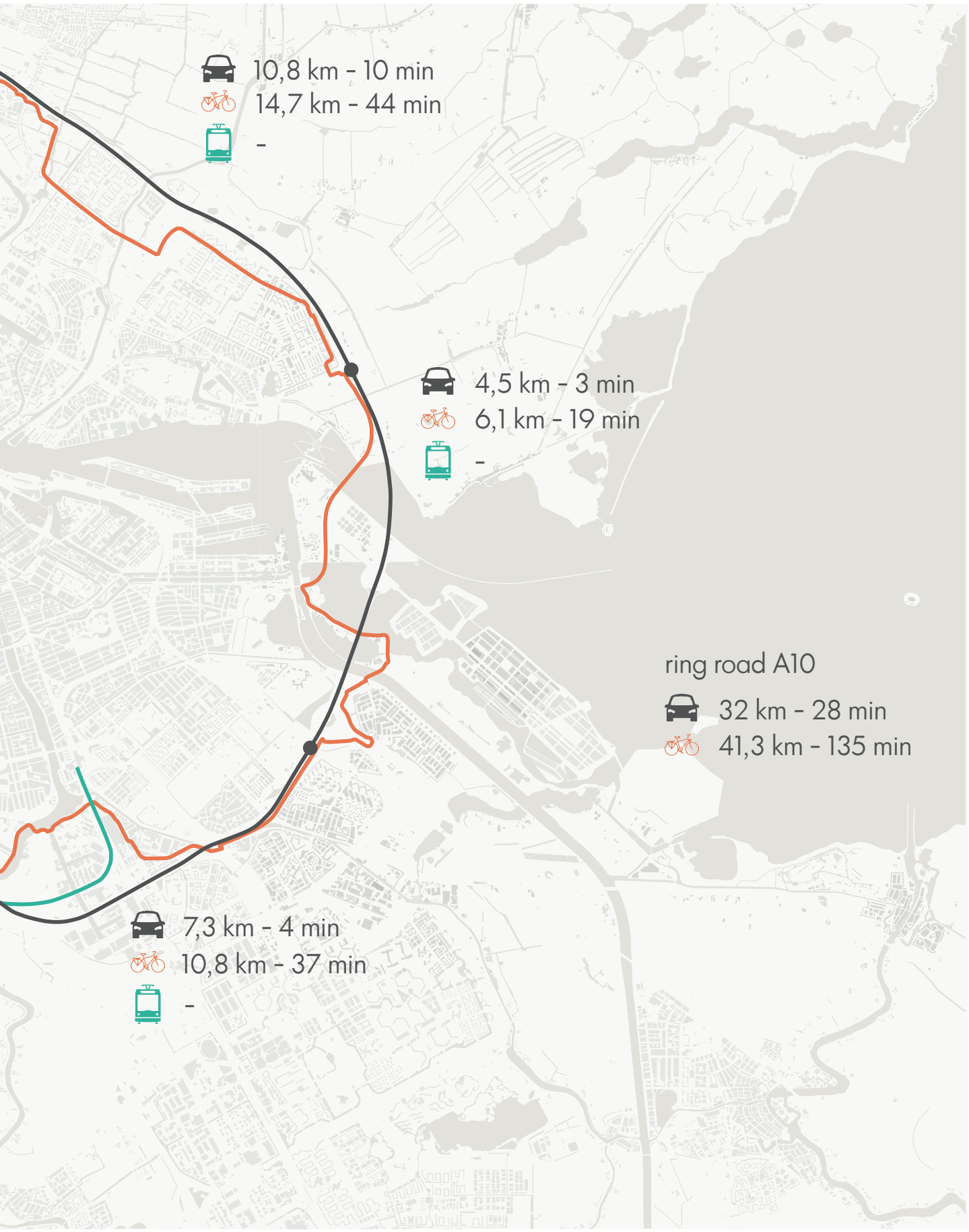
10,8 km - 10 min
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4,5 km - 3 min
6,1 km - 19 min
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ring road A10
32 km - 28 min
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7,3 km - 4 min
10,8 km - 37 min
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REFLECTION

This thesis addresses the continuity of vital urban life between centre and periphery in Amsterdam. The thesis demonstrates the consequences of a discontinuity of these structures, caused by the disintegration between city and infrastructure, on the balance of Amsterdam. The city is already dealing with a dichotomy between centre and periphery, which is now being reinforced by trends such as gentrification.
The thesis aims to rebalance Amsterdam by reorienting the city more equally towards both centre and periphery. After a profound analysis of the city of Amsterdam, in which the tangible and intangible structures on all different layers of the urban landscape are being researched, a spatial vision and development strategy are being proposed. The vision focuses on the bigger picture and describes the desired future for Amsterdam as a whole, whereas the strategy shows how the vision can be translated spatially.

Relation graduation topic, studio and MSc track

Since its establishment in 1948 the Department of Urbanism at TU Delft draws on the general Dutch approach of Urbanism: "an interdisciplinary approach that focuses on the urban landscape as a scale continuum, uses design research and research through design as important teaching and research strategies, and regards mapping and drawing as important tools for thinking" (Hoekstra, Nijhuis & Stolk, 2016, p.96). In other words, the urban landscape is being considered as a system of layers (Read, Bruyns, van den Hoogen & Plomp, 2007) and the creativity of design methods needs to be combined with the rationality of academic research (TU Delft, 2018). The Dutch approach can therefore be summarised as 'integral urbanism'.

Moreover, the Department of Urbanism aims to create more sustainable, resilient and fair societies (TU Delft, 2018). Therefore, it is necessary to work on different scales, to be able to respond to both local and global trends and to integrate social, cultural, economic and political perspectives with all the conditions of a specific area. The Department emphasises the importance of high qualitative urban environments for societies and the well-being of people.

The chosen research group 'Design of the Urban Fabric' is actually grounded in the Dutch tradition of Urbanism and shows strong overlaps with this idea of 'integral urbanism'. First of all, the research group studies both the tangible and intangible structures of the city (Research Group Design of the Urban Fabric, 2016). In other words, studying the urban fabric refers to the physical urban environment, as well as socio-economic, psychological and managerial structures for example. Secondly, the research group acknowledges the valuable combination of research and design by defining the goal of the research group as "to understand through research how urbanism can contribute to making sustainable, attractive and vital urban design" (Research Group Design of the Urban Fabric, 2016). Urban design is being considered as a technical scientific discipline and therefore two complementary approaches are being promoted: design driven by science and design driven by practice. In the first case, design is used to explore the urban impact of new technologies and developments; in the other case design is used to cope with questions arising from the socio-technical trends in society (TU Delft, 2017; Research Group Design of the Urban Fabric, 2016). Additionally, in order to get insight in the urban fabric itself, a combination of the actual interventions and the spatial impact on human activities and the dynamics of the design processes has to be studied properly.

For the year 2017-2018 three themes have been proposed by the research group: Cities and Technology, Cities and Growth, and Cities and Health (Research Group Design of the Urban Fabric, 2017). The technology theme focuses on the possible transitions in mobility systems; the growth theme focuses on the drivers for growth and the arising questions about the built layout of the city in order to accommodate the expected growth; the health theme focuses on contemporary challenges European and African cities are facing and the required new solutions in order to deal with these (often climate change related) challenges.
The thesis is related to the theme 'Cities and Growth' by taking the city of Amsterdam as a case study and the relationship between city and infrastructure as a

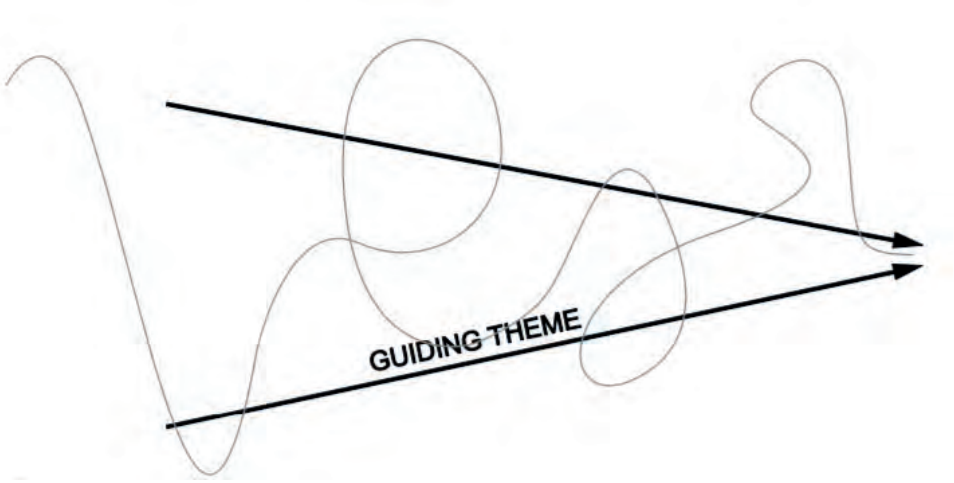


Figure 7.1. "Designing is developing a guiding theme" (Van Dooren *et al.*, 2013)

starting point. Amsterdam is subject to different drives for growth and is looking for places to accommodate the expected population growth. The Ringzone is one of these locations and for this area and for its current strategy the statement of the research group is extremely relevant: "all drivers ask for questioning the built layout of the city when looking for spaces to accommodate the growth and its distribution/density of people" (Research Group Design of the Urban Fabric, 2017). Moreover, the Ringzone is where city and infrastructure come into conflict with each other.

The relationship between city and infrastructure is strongly related to the field of urbanism, as there is a recent trend of infrastructural design moving back to the field of urbanism. The exploration of the relationship between city and infrastructure asks for an approach in which the different layers of the city, as well as different scales are incorporated. Moreover, the graduation topic asks for an exploration of both the tangible and intangible city. That is in line with the approach of the Department of Urbanism and the approach of the selected research group.

Moreover, both the Department of Urbanism and the research group are looking for high qualitative, vital urban environments. This is a rather general ambition and therefore the ambition of thesis as well.

The thesis especially focuses on the bigger picture, since this is now lacking the strategy of the municipality. Moreover, the thesis focuses on the tangible and intangible city, while proposing a vision and strategy. Therefore, the thesis pays attention to the dynamics of the urban fabric and what the desirable future for Amsterdam looks like. By doing so, the thesis is linked to several research questions of the research group as well:

- How can (re)designing the urban fabric contribute to improving the sustainability and vitality of the urban environment for our and future generations?
- How do the physical environment and the intan gible structures interact?
- What are the dynamics of the urban fabric and how does this relate to different design strategies?
- How can patterns and scenarios provide a way to transform desirable future images into concrete design interventions?

Relationship research and design

From the beginning the integration between research and design played a key role in this thesis. This clearly enriched the thesis and made the entire analysis and design more convincing, as both are evidence-informed. Moreover, several methods and theories have been used that are linked to the research group as well, such as space syntax. This thesis was therefore actually an opportunity to exercise the use of certain new methods. In the first semester the integration of research and design was mainly visible by the spa-

tial translation of general knowledge or theories into a more specific analysis for Amsterdam. The relation between research and design in this phase can be described as research for design and research through design. Research was thus being used to feed the design process and to study existing designs in order to get a basis for the future design (Nijhuis, 2017). Research in this phase existed mainly of fieldwork, literature, mapping and data. Choosing Amsterdam as a case study made it easy to do research, as there is a great amount of research available. On the other hand, it makes it more difficult to choose a 'guiding theme', as Van Dooren *et al.,* (2013) calls this. She describes the design process as follows:

"Designing is exploring and deciding within a potentially endless number of possibilities, to come up, in the end, with an internally coherent whole. To be able to create a coherent whole, a designer needs an inspiring direction or order. Using a guiding theme or qualities not only gives the design its character and identity in the complex and open design process, it also helps in making choices (see Fig. 4). The guiding theme is the way in which the designer sees or frames the design situation at hand. Designing is a process of naming and framing, of attending to matters and of making a context to work with them." (Van Dooren *et al.,* 2013, p.8)

When reflecting on my own approach I can conclude that in the end the thesis is a coherent whole, due to the fact that the layer-approach has been used during the entire process. However, the thesis started with a rather straight-forward focus on the Ringzone and the ring road itself, but evolved in an attempt to unravel the hidden importance of the relationship between city and infrastructure. That means that the mapping process actually started with lots of maps of the infrastructural networks, but was being transformed in a series of maps of all layers that show how infrastructure has an impact on other layers. Along the process I tried to educate myself to be open, which led to a broad research on the tangible and intangible structures of Amsterdam as a whole. This actually led to a 'train of thoughts' (Lawson, 2005) that started with one image and was transformed during the entire year. As a consequence, the guiding theme changed several times during the graduation year as well and ended up with a stronger focus on the relationship between city and periphery instead of the a main focus on the Ringzone. It would have made the process more efficient if the guiding theme would have stayed the same and the train of thoughts would have been limited a bit more. In a new process I would be more careful with using the context as a source for the guiding theme, since the context is pretty much unlimited.

This is also the reason why the combination of research and design did not only enrich the process, but brought some challenges well. Research can feed the train of thoughts endlessly and when design and research are not integrated in different ways at all times, it can be harder to switch from research to design or the other way around. During my process I could state that during the first semester there was perhaps a lack of 'research through design', whereas it would have been helpful to have more design exercises during the first semester. When evaluating with fellow students, this appeared to be a problem for many. P2 was actually the moment when the switch to design had to be made in most cases and it was more difficult than expected to bring the phase of analysis to an end.

Moreover, the value of fieldwork should not be underestimated. Especially when you are an outsider of the case city, it is important to spend time in the city in order to get a good impression. Being an outsider also has advantages, as there are less prejudices. Fieldwork is not only valuable when it comes to drawing conclusions, but also when it comes to 'getting the train of thoughts for the end-products rolling'. In the end, however, I can conclude that the thesis is still a strong combination of research and design and that every conclusion drawn in this thesis is based on research. The 'how' part of the approach was perhaps not always efficient, but the end result shows that the approach did lead to a coherent whole and to a surprising story. I therefore do not regret the fact that the guiding theme changed and led to a broad research. I would say that the project does entail a combination of a critical analysis (A), an integrated design (D) and a structured presentation (P) (Design of the Urban Fabric, 2017). The research group 'Design of the Urban Fabric' prescribed this approach and states that these three elements need to be mixed constantly. I would say that my thesis mixed A and P at all times, but that D was underrepresented

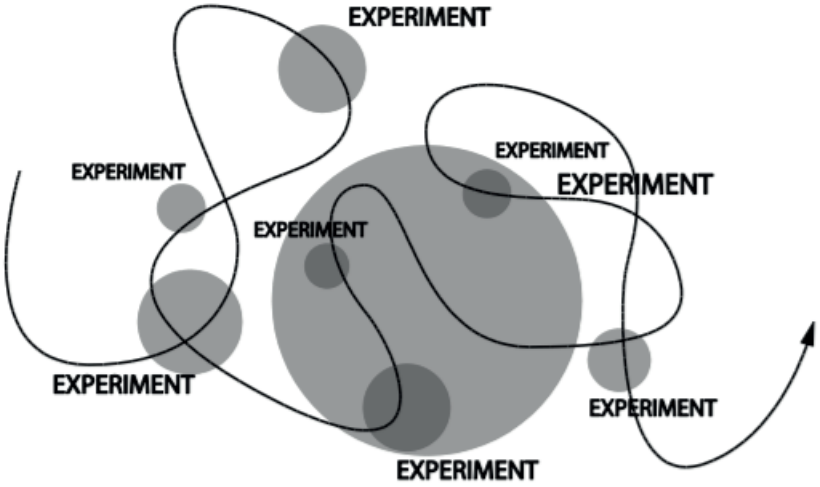


Figure 7.2. "Designing is experimenting: a process of exploring and deciding, of trial-and-error" (Van Dooren *et al.*, 2013, p.7)

in the first semester.

The thesis also represents the response to feedback of both mentors. Whereas one mentor is more into the academic approach of analysing the city; the other is more interested in the design approach. Therefore the feedback from both mentors was quite different. In general, meetings were very valuable and led to a new train of thoughts. During the meetings the thesis got new input that made the entire story more convincing and coherent each time. I learned to give myself some time to process the feedback and to come up with my own interpretation of the feedback. Besides being open along the process, I tried myself to be critical and to respond to the feedback each time. It therefore led to interesting conversations with both mentors as well, which was helpful in order to get a good understanding of their ideas on the subject. Especially after each presentation there was more than enough time saved for the evaluation with mentors and with peers. This brought forward new insights and new inspiration.

Elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of project results.

As mentioned before, this thesis takes into account the different layers of the urban landscape, the tangible and intangible city and uses several methods during the analysis. The topic of the thesis is not unique, as Ringzones, including the Ringzone of Amsterdam, have been studied before. However, the profound analysis with the integration of a wide variety of aspects gives new insights on the problem. In fact, most studies with similar topics start with the relation between city and infrastructure and focus mainly on infrastructure. This thesis has a reversed order: whereas the relationship between city and infrastructure was proposed as a starting point, the analysis of all the layers of the tangible and intangible city was actually used to unravel the hidden importance of infrastructure. In other words, this thesis shows the impact of the layer of infrastructure on all other layers of the city. In most regular design assignments on ring roads there is not enough awareness of the links between all layers and scales. This thesis combines many aspects and makes the layers and link between layers and scales understandable, which is the reason why this thesis could function as an eye opener.

The analysis led to a vision and strategy for Amsterdam with the bigger picture as a second starting point, which could also be inspiring. Whereas most studies on infrastructural barriers or the redesign of a Ringzone focus primarily on the zone itself and on the ring road, this thesis focuses on the continuity of structures and therefore on the city as a whole. Axes pointing in both directions are part of research as well as the design. The research deals with the di-

chotomy between Amsterdam inside the Ring and Amsterdam outside the Ring. In fact, almost all cities are dealing with a dichotomy: in Rotterdam there is a constrast between the northern part and the southern part, Utrecht knows a contrast between the eastern part and the western part, etc. The research should thus not focus on barriers itself, but on what actually causes the discontinuity.

Additionally, the thesis does not regard the elevated ring road as barrier, but the Ringzone that is functioning as a grey zone. That is the case in many other cities as well, which makes the project results transferable. In short, the thesis is not a standard research on an infrastructural barrier, but a broad research on the impact of this barrier on the entire city. At the moment, the strategy focuses on one city part of Amsterdam, but in the end all city parts need to follow this strategy and so the project results are transferable to other city parts of Amsterdam as well.

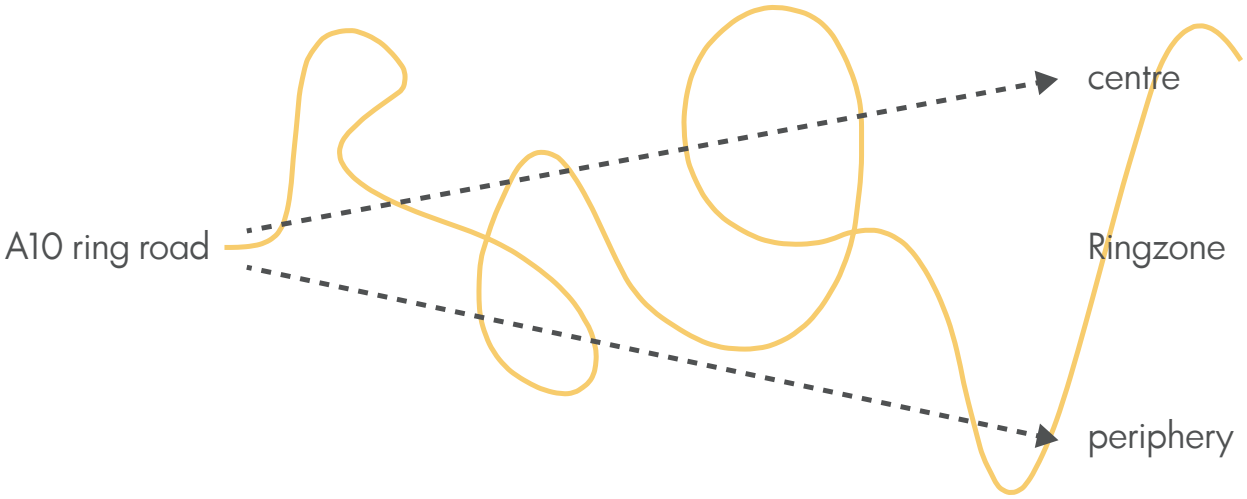
My personal goal for this year was to develop myself as an urban designer in the Dutch context. A conversation during the orientation phase led to the decision to focus on redesigning the urban fabric without covering the ring road. The idea behind this was that it would be more challenging to deal with such a barrier than with an 'ordinary' urban design assignment of connecting two areas with an empty zone in between. On top of that, I soon came to the conclusion that not the ring road, but the Ringzone was the actual barrier. The combination of these two events led to a stronger focus on the Ringzone and the contrasts between centre and periphery and less attention for the ring road. The next step would be to incorporate the road and to develop scenarios for the road as well. Especially when concerning the health and environmental conditions in Amsterdam, it is necessary to think of solutions or alternatives for the ring road. In general it could be concluded that the broad approach resulted in a relevant research and a relevant outcome, but it is necessary to keep sight on certain aspects that need to be involved.

Ethical issues and dilemmas encountered in 1) doing the research 2) elaborating the design 3) potential applications of results

As mentioned before, the Department of Urbanism emphasises the importance of high qualitative urban environments for societies and the well-being of people (TU Delft, 2018). Moreover, the thesis focuses on the tangible and intangible structures in Amsterdam and especially that combination brought ethical issues and dilemmas. To give an example, the thesis describes the impact of gentrification on the dichotomy in Amsterdam and the spatial footprint of this trend. Exclusion of certain groups of society is already happening in Amsterdam, while the municipality claims that Amsterdam should be a city for everyone. Nevertheless, the municipality does not have clear answers to the arising ethical issues and dilemmas yet and even seems to stimulate this trend. For me it was thus an opportunity to take a stand and to show how Amsterdam could respond to these trends. These issues and dilemmas were therefore part of the research, the design and the results as well. It is, though, hard to predict If the vision and strategy would have the desired impact on these trends. That is why during the process case studies have been looked at in order to find out what means would have the desired outcome. That is also in line with my personal goal of using research as a solid foundation for the design process.

Another ethical issue is the ring road of Amsterdam. The air pollution caused by the road is similar to smoking ten cigarettes per day (GGD, 2017), which means the road raises ethical health and environmental issues. Covering the ring road would improve the health and environmental conditions, but requires large investments as well. Simultaneously, technology is evolving fast and so it is questionable if we still need a covered ring road in thirty years. This brings forward dilemmas when thinking of the potential applications of results. That is also the risk of focusing on the larger scale (the metropolitan city of Amsterdam) and the longer term (until 2050: there are many uncertainties and new issues might come up. It is thus more difficult to predict and to control.

> Figure 7.3. The evolvement of this thesis


A10 ring road
centre
Ringzone
periphery

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INTERVIEW WITH THE MUNICIPALITY OF AMSTERDAM

Name
Esther Reith, senior urban planner at the Department of Physical Planning and Sustainability, Municipality of Amsterdam.

Specialisation
Esther was involved in the Ringzone project from the beginning and knows all the challenges the municipality is dealing with. She followed the entire decision-making process and the story behind this process. Moreover, Esther was involved in the BNA research 'Highway x City', in which the relationship between cities and their inner ring roads is being studied.

Main aim / expectations
The relationship between city and infrastructure is the starting point of my thesis. Since ring roads are most subject to this changing relationship and simultaneously cities are absorbing their ring roads, it is an on-topic design issue for designers. This phenomenon is happening in many cities around the globe, including Amsterdam. The Dutch capital is a fascinating case in this context, because Amsterdam is growing with 11.000 people per year and needs to densify its Ringzone in order to accommodate the expected population growth. Therefore, Amsterdam is struggling with the transformation of the Ringzone, or in other words: with the relationship between city and infrastructure in 21st century metropolitan Amsterdam.
For the transformation of the Ringzone the municipality of Amsterdam chose a market-led approach and so the public parties are now depending heavily on private parties. The municipality created a vision and a strategy for the Ringzone, but it is questionable if the current developments are actually following the strategy and contributing to the main aim of Amsterdam: becoming the core city of an internationally competitive and sustainable European metropolis. The website of the municipality, including all the published articles and documents, carries out a story with a positive tense. It is, however, difficult to find out to what extent politics influence the decision-making process.
The Department Physical Planning and Sustainability is responsible for the creation of the spatial vision of Amsterdam on every scale. Esther Reith is a senior urban planner and works for the department. She was involved in the Ringzone project from the beginning and knows all the challenges of this area. Hopefully the interview with Esther will clarify the decision-making process of the municipality and the current thoughts of the municipality on the developments in this area. Moreover, the vision and strategy do not take the ring road itself into account, but focus mainly on the transformation of the adjacent areas. For my thesis it is necessary to find out why the municipality chose not to transform the road itself.

The interview: topics and questions
>> The relationship between city and infrastructure

- How would you describe the relationship between the city and the ring in Amsterdam?

- Would you suggest that the Ring A10 is perceived as a barrier in the city? Or as a limiting factor to growth? And is it only the road that is functioning as a barrier or the road in combination with the grey zone? Do city and ring have each other in a hold?

>> Ringzone: attention for the A10
Although Amsterdam is speaking of the Ringzone, the strategy for this area is different than strategies for ring zones in other countries. If we look at Madrid, Boston and Antwerp, in all cases the ring road was the starting point and much more a central element in the discussion.

Amsterdam, however, only mentions the ring in order to describe the location of the zone, but does not touch upon the conditions of the ring road in the policy documents. Most projects of Koers 2025 are located near the ring.

In the book Highway x City it is stated that policy makers increasingly see the functioning of ring roads in the context of municipal traffic systems, urbanisation tasks and the accompanying environmental preconditions. Moreover the book focuses very much on the ring road and its consequences.

- Why is the Ring A10 not subject to debate, except near the Zuidas?

- What does this mean for the interweaving of mobility and space? And the collaboration between the municipality and Rijkswaterstaat?

- What about the different mobility patterns in Amsterdam? Inside the ring slow traffic and public transport are dominating, whereas outside of the ring the car is still dominant. Is the ring still not subject to debate, even when it is about the accessibility of neighbourhoods outside of the ring?

- Rients Dijkstra states that urban ring roads are important links to sustainable development of Dutch cities – what view does the municipality have on this matter?

- How is the ring road being involved in strategies or the projects near the road?

- Moreover, for the Highway x City book you gave a presentation in which you introduced the city concept of an adaptive and connective city.

- What is happening now with this concept? Are the building blocks guidelines? Or is the adaptive and connective city an overall goal?

- How does this city concept take into account the future, including self-driving cars and the ring road as a city boulevard?

- What about the A11?

>> Grand urbanism
If we take Antwerp as a case study: this city is planning to cover almost the entire ring road and thus takes the ring road as a starting point, instead of the ring zone. The cover of the ring is actually a means in order to guarantee the future of the Antwerp region and they even state in their vision that they want to transform the Antwerp region into a crown jewel and this all starts with the cover of the ring. Other cities, like Maastricht and Madrid, also create visions and strategies on the scale of the city.

- Amsterdam wants to become the core of a sustainable European metropolis. Would you say that there is any relation between the transformation of the Ringzone as a means and this ultimate goal? Or is the transformation of the Ringzone already a goal?

- While reading the policy documents, Amsterdam seems to be more modest, or reserved, and does not use these 'big words'. What is Amsterdam's vision on grand urbanism? (or would you say that grand urbanism does not really belong to the Dutch planning style?)

- Amsterdam follows a market-led strategy for the transformation of the Ringzone: what are the advantages and disadvantages when having all separate projects? Is it dangerous that there will be too much focus on quantity instead of quality?

- Is Koers 2025 working as an umbrella for all the different projects? Or the Werkprogramma with studies like 'the sustainable city', 'the densified city'?

- What about the ring road and Ringzone as an urban structure – what does this market-led approach mean for the coherence of the city?

- Does Amsterdam use references for this transformation?

>> London as a nightmare scenario
In my last presentation I started with the question: are you living inside or outside the Ring? This is a frequently asked question in Amsterdam. I suggest that this actually means that Amsterdam has to deal with:
- the ring as a barrier and the urban layout of Amsterdam
- growing gaps in the city (literal and figurative)

- Would you agree that Amsterdam is a strong city with a growing dichotomy?

- Do you think the transformation of the Ringzone can play a role in this situation? Can this transformation protect Amsterdam's diversity, which is one of the strengths of the city?

- Are public domains being created with this market-led strategy?

- What are the current main challenges for Amsterdam, regarding the development of the Ringzone?

- How are the municipality and Rijkswaterstaat working together? Both parties have different interests, but how are these interests being integrated in visions and projects?

Reflection: knowledge gained after the interview

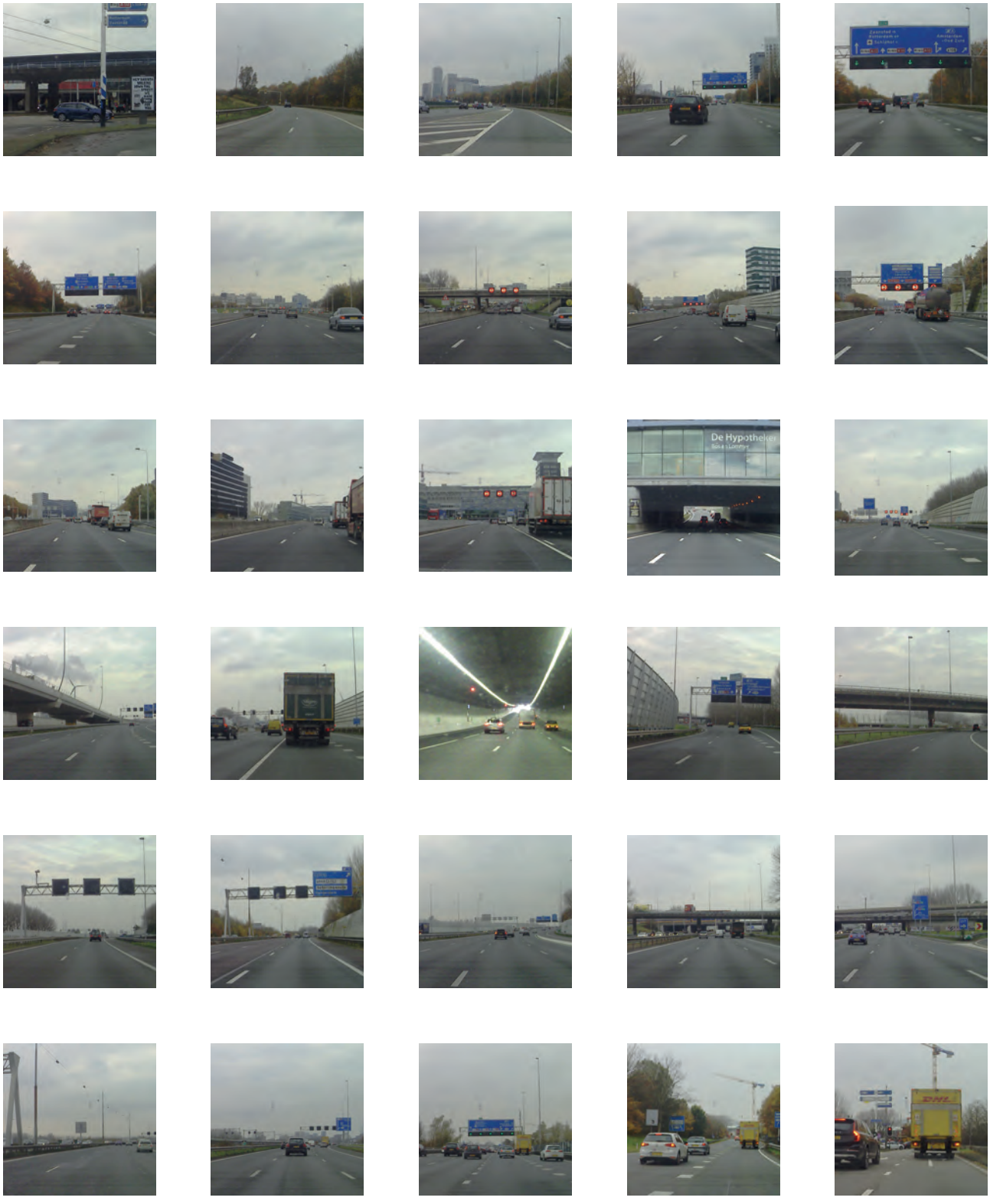
The interview started with an introduction by Esther. She explained the first ambition of the Ringzone studio: the Ringzone as an area with an own identity, while taking the existing city as an starting point. The existing city includes all the important/special buildings, the urban structures and the green amenities and public space. The municipality regards the Ringzone as the 21st century area for expansion. The transformation of the Ringzone meant an opportunity to improve the connections between city areas on either sides of the A10 and IJ and an opportunity to create one continuous urban area. The Ringzone Studio, a hub for parties to come together, aims to merge the various individual projects in the Ringzone into one continuous urban network.

This introduction already included answers to several questions. The ambitions of the municipality made sense. However, Esther did not touch upon the relationship between city and infrastructure and the role of the ring. She explained that, according to the municipality, the city and ring just have to deal with each other and so the ring road itself is not subject to debate. This statement has consequences for the interweaving of mobility and space, especially since there is a contrast in spatial structures.

When reading the vision and strategy, it is hard to find out the link between means and goals. Esther admitted that there is actually no link between the transformation of the Ringzone as a means and the main objective of Amsterdam as described in the Structural Vision. At the moment there is too much focus on quantity, since the municipality follows a market-led strategy. Esther explained that Amsterdam is very much organised in projects. According to her, this is all about politics and has almost nothing to do with the main design goals of the municipality. She pointed out that there is no overall strategy, which is actually a missed opportunity. The market-led strategy has several advantages though, because it is more compact, it is easier to control, there is a short-term impact and smaller investments are needed. Although Amsterdam notices the developments in other cities, for example the transformations in Antwerp and Madrid, the Dutch city is not thinking of a long-term, large-scale transformation of the Ringzone.

The entire conversation with Esther demonstrated the influence of politics on spatial strategies. Although there was not enough time to ask all the questions, her answers did specify the remaining challenges. The fact that Amsterdam is organised in projects is caused by politics. The first ambitions of the Ringzone Studio made sense, but with the market-led approach there is no link anymore between means and goals. Esther clarified the decisions taken by the municipality and indicated that there are opportunities for my thesis: what could the transformation of the Ringzone look like if there is a link between means and goals and if the bigger picture is actually taken into account?

FIELDWORK: A VIEW FROM THE RING



FIELDWORK: A VIEW FROM THE CITY