P2 REPORT

LINKING PUBLIC LIFE STUDY & MORPHOLOGY TO IMPROVE THE QUALITY OF LIFE FOR CURRENT AND (BY THE MUNICIPALITY DESIRED) FUTURE RESIDENTS OF NIEUWE WESTEN & MIDDELLAND

P2 Report Freke Aalpoel
Student number: 4080467
Research Group: Design of the Urban Fabric
First mentor: Egbert Stolk
Second mentor: Maurice Harteveld
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1. MOTIVATION OF THE STUDY

There are three motivations for this project. The first motivation is on the basis of existing research, the second on the possibility of a better design of public space, and the third on experience in practice.

1. There have been done several attempts to reduce social and ethnical segregation at the scale of neighbourhoods or buildings, to bring people of different groups together. In articles that evaluate these kind of projects, there is often concluded that these projects are unlikely to have a direct positive influence on the socio-economic situation or on the social networks of the original residents. (Eijk, 2010, p. 322; Manley, Ham, & Doherty, 2011, p. 14) Research on this topic might not assign a positive influence to the mixing of a population, but in the current situation the population in many neighbourhoods in the Netherlands is already mixed. And next to the current composition of the population, renewal or expansion projects in neighbourhoods can, although it might not be their main aim, have an influence on the future composition of the population.

2. Although groups of residents might not have a direct positive influence on each other's socio-economic situation, they do anyway interact at public spaces in their neighbourhood. This can show a possible negative effect of a mixed population, because the lifestyles, living standards, norms and values of the different groups might not match with each other. The physical environment can have an influence on how these groups of residents behave and interact. (Ittelson, Rivlin, Proshansky, & Winkel, 1974, pp. 1-16) Therefore the knowledge of the interaction, behaviour and lifestyles of the residents and the physical form can be useful to contribute to a better design of public space. By adapting the physical environment according to the needs, behaviour and preferences of the population their quality of life can be improved.

3. The role of the municipality in development of the city is very complex and they have to deal with many actors and stakeholders. In a project addressing the subjects mentioned above, the municipality would also have to deal with a great amount of actors and stakeholders. Therefore the formation of policy and the establishment and implementation of programs is a complex and interesting topic for this kind of project.

To explore these themes within the time and possibilities of a graduation project, a suitable project location in Rotterdam is selected. The location consists o two mixed districts in Rotterdam, where the municipality is currently executing a program, namely: Nieuwe Westen and Middelland. The municipality of Rotterdam wants to attract more 'promising families'. Therefore they have started the project 'kansrijke wijken' and selected nine 'promising districts'. As a catalyst project they have started this year(2015) with the program in three districts, namely Nieuwe Westen, Middelland and Oude Noorden. The districts will be adapted to make them more attractive for the promising families.

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2. INTRODUCTION TO ROTTERDAM NIEUWE WESTEN AND MIDDELLAND

This chapter will first give a short introduction to the location Nieuwe Westen and Middelland and secondly will give an short overview of the policy of the municipality for this area.

2.1 LOCATION

Nieuwe Westen and Middelland are two districts relatively close to the city center of Rotterdam. The districts are located west to the centre of Rotterdam in the area Delfshaven.

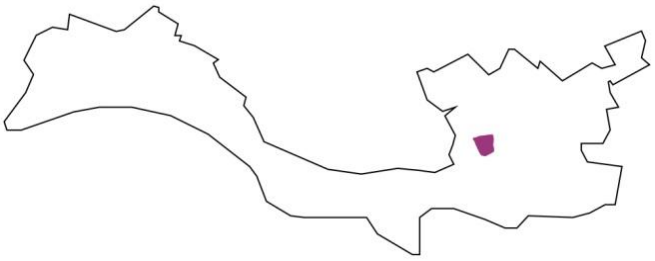

Figure 1: Location of Nieuwe Westen and Middelland in the city of Rotterdam

2.1.1 History

Nieuwe Westen and Middelland are both built before the second world war. The urban plan was made by Gerrit de Jongh around 1900. The houses along the wide boulevards and avenues were built for the leading citizens. The houses at the smaller street were built for the less affluent citizens. The more dense housing along the Nieuwe Binnenweg and the Middellandstraat are built before 1900. (Gemeente Rotterdam, 2014a, 2014c)

2.1.2 Population

In Nieuwe Westen there life 19145 people with a density of 15467 people per square kilometer and in Middelland there life 11555 people with a density of 16981. The density of both districts is way higher than the average density of Rotterdam. The percentage of non-western immigrants of both districts is higher than the average in Rotterdam. (CBS, 2014) Therefore the population of both district is really divers in culture. The biggest part of the population has a low income. In both districts this share is higher than the average of 51% in Rotterdam. (Gemeente Rotterdam, 2014a, 2014c)

2.1.2.1 Life styles

The municipality of Rotterdam uses the four different lifestyles of SmartAgent to get an inside in the lifestyles of its inhabitants. So the lifestyles of the current residents of Nieuwe Westen and Middelland can also be described according to the lifestyles of SmartAgent. In the book 'Leefstijlen: Wonen in de 21ste eeuw' a definition of a lifestyle is given. According to this definition cultural preferences are the result of the social route that somebody followed. That social route results on certain moments in someone life in a relatively fixed pattern whereupon people organize their daily life. This relatively fixed pattern can be called a lifestyle. (Reijndorp & Projektgroep het Oude Westen(Rotterdam), 1997, p. 13) SmartAgent describes a yellow, green, red and a blue lifestyle.

Yellow: In the yellow lifestyle involvement and harmony are key. People with this lifestyle attach high value to social contacts in the neighbourhood and at work. This kind of people are open and concerned about others and are willing to help others.

Green: In the green lifestyle security and certainty are key. People with a green lifestyle live a calm and peaceful life while moving in a small circle of friends, neighbours and family. This group attaches high value to privacy.

Blue: In the blue world ambition, control and performance are key. People with this lifestyle are very ambitious and a successful carrier is an important goal. They attach value to luxury and are sensitive to status.

Red: In the red lifestyle freedom and flexibility are key. People with a red lifestyle are open minded and attach high value to independency. For this kind of people there is more in life than work, family and the neighbourhood. They want to involve in cultural development and travelling the world. In the world of marketing this lifestyle is also described as the early adopter. (SmartAgent)

According to the data of the municipality all the lifestyles are currently represented in Middelland and Nieuwe Westen, but they do not match the average percentages of Rotterdam:

Lifestyle	Nieuwe Westen	Middelland	Rotterdam
Yellow	24%	16%	30%
Green	23%	14%	28%
Blue	17%	20%	19%
Red	36%	50%	24%

(Gemeente Rotterdam, 2014a, 2014c)

Inhabitants with a red lifestyle are clearly dominant at both Nieuwe Westen and Middelland.

2.1.3 Housing

Most of the houses are built before the second world war and they vary from two to five floors. In Middelland the share of social rent housing is 38 %, slightly less than the average of Rotterdam. (Gemeente Rotterdam, 2014c) In Nieuwe Westen the share of social housing is 49%, that is slightly more than the average of 46% in Rotterdam. (Gemeente Rotterdam, 2014a)

2.2 POLICY OF THE MUNICIPALITY : PROGRAM 'PROMISING DISTRICTS'

The municipality wants to make Rotterdam an attractive city to life in with a strong economy. The strong economy is needed to invest in an attractive city for living, working and staying for residents and visitors. And the other way around a high quality of life will contribute to a favourable business climate. To reach this goal the municipality wants, as introduced in chapter 1, to attract more 'promising families'. Therefore they have started the project 'Kansrijke Wijken' and selected nine 'promising neighbourhoods'. They have started with the program in 2015 with a catalyst project in three neighbourhoods, namely Nieuwe Westen, Middelland and Oude Noorden. The goal of the program is to make these districts more attractive for promising families, wherefore the share of promising families in these neighbourhoods will rise with 10%.

Because the program does not give a clear spatial assignment for the three districts it will be discussed more thoroughly in Appendix 1. As a result of this analysis an overview of the program 'Kansrijke Wijken' is given in figure 2.

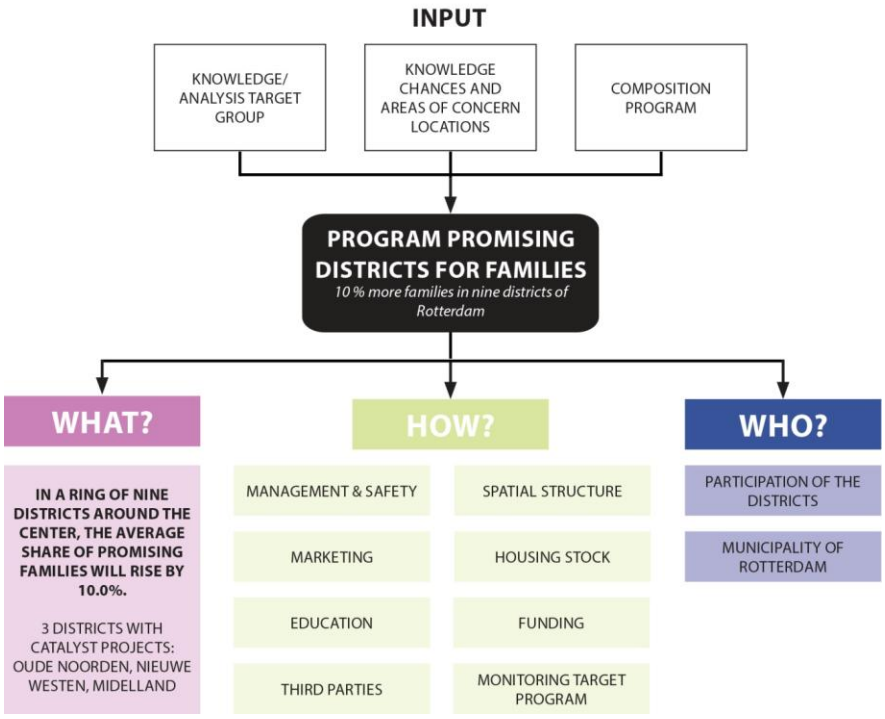

Figure 2: Overview of the program 'Kansrijke Wijken'

2.2.1 Conclusions of the analysis

After the analysis of the program it becomes clear that the program is very complex. With more than 10 programs working at the same moment that will have to contribute to the program 'Kansrijke Wijken' it is not very clear what will exactly need to happen where. There is no clear spatial concept for the neighbourhoods. The spatial interventions that the municipality does address in the program are vague and are therefore further defined in the analysis.

Furthermore the program does not have a different approach for the different neighbourhoods, while the neighbourhoods all have an unique structure and population.

And besides that the municipality mainly focuses on the desired residents, while the program could also have an influence on the current residents and their living environment. The people within the target group of the municipality will also 'fit' one of the SmartAgent lifestyles. Because the people within the target group are families with kids it would be plausible to think that they fit in the yellow or green lifestyle. This could possible not match with the prevalent red life style of the current population in the area.

The last possible problem is that the municipality only gives an target number and some money and the rest will eventually has to be realized with the help of the residents and organizations of the districts. In the field of urban planning and design you can also see this happening: the municipality gets a more facilitating role instead of the role of the client or executor. At the same time there are more and more bottom-up projects. Because of the declining commissions of the past decade it is more usual that residents take the initiative for projects in a neighbourhood. Urban planners and designers in the private sector also take the initiative for starting a project more frequently. These projects are mostly small and temporary. (Luijten, 2011, pp. 50,51) The problem of this kind of implementation of the program could be that the bigger picture of the districts will be lost. There might be structural 'problems' in the urban fabric or with the facilities which make the districts less attractive and not suitable for promising families.

2.3 REFERENCES

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3. PROBLEM DEFINITION

From the conclusion of the last chapter three possible problems can be defined. The first one is that the analysis of the program 'Kansrijke Wijken' made clear that the program does not include a clear concept idea for the different districts. (1) Secondly the program also misses a clear view on a possible spatial intervention. (2) The last point that may cause problems is that the program 'Kansrijke Wijken' mainly focuses on the 'desired' future residents.(3)

1. The fact that the program misses a clear view on an overall concept for the three different districts might ignore that these three districts are not identical. The three districts have a different population, housing stock and physical structure. Because of these unique characteristics the program could need a totally different approach for the three different districts.
2. The lack of a view on the needed spatial intervention kind of ignores the fact that the urban fabric and physical structure of a neighbourhood can have a significant influence on the behaviour of residents. If the physical environment influences people's behaviour it might also influence 'the quality of life', which the municipality wants to improve, in the neighbourhood. Another problem of this defect is that it is hard to implement the program on a spatially structured way. Separate operations in neighbourhoods might not complement, or even counteract, each other.
3. The strict focus on the desired future residents of the municipality does not exclude that the program also can have an influence on the current residents of the districts. If the program does not include the desires of the current residents, the implementation of the program might have a negative influence on the current residents.

3.1 PROBLEM STATEMENT

The municipality of Rotterdam wants to attract promising families towards Nieuwe Westen and Middelland by improving the quality of life of the districts. However the program of the municipality to reach this goal is very complex, not spatial and it does not include the wishes of the current residents. Therefore the current program could create an unclear new situation which does not meet the desires of the current population.

4. RESEARCH APPROACH

Urban design is mostly recognized as an interdisciplinary field. (Moudon ACA 362). To solve the possible problems defined in the last chapter, research at the location will be done on two concentrations of inquiry of this interdisciplinary field: Public Life Studies and Urban (typo)morphology. To find the link between the morphological structure and the public life, these themes need to be explored in both theory and practise. To do this the F(M) O P method of Ali Guney will be used.

By researching the public life and the morphology (and their link) of Nieuwe Westen and Middelland the required information can be gathered to make a spatial design that could improve the quality of life for the current and (by the municipality desired) future residents. This section will discuss this approach and the reasons behind it in more detail which will eventually result in a theoretical framework.

4.1 PUBLIC LIFE STUDIES

To prevent that the program will have a negative influence on the current population, their current use and behaviour can be analysed through public life studies. By observing the current public life in the neighbourhood, the problem/successful areas of the neighbourhood can be determined. During these observations people will be counted and their behaviour will be mapped and analysed. By comparing the current situation with the needs of the future inhabitants the biases and matches can be found.

4.2 URBAN MORPHOLOGY

To understand the structure of the area the urban morphology of the location will be analysed. The urban morphology will be analysed on different scales. The location in its surrounding environment, the location itself, the building blocks, the streets and its squares. To find the link between the morphology and the public life even the smallest physical characteristics can be crucial. Therefore the details of the building blocks, streets and squares will also be analysed when a smaller design location is chosen.

4.3 FORM OPERATION PERFORMANCE

To structure the findings in theory and practise of urban morphology and public life studies a conceptual framework is needed. Ali Guney introduced the following adapted version of the F(M) O P analysis method of Tzonis. (Guney, 2008, p. 108) Guney adapts this scheme in a method for design reversing form, operation and performance. The most important difference with the method of Tzonis is the affordance relation between the form, operation and performance.

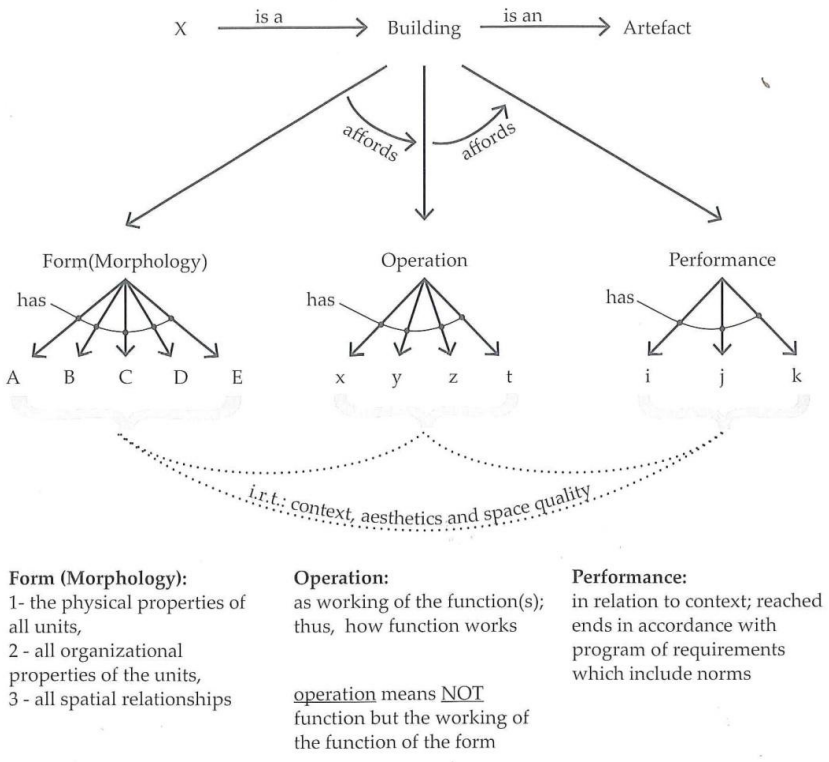

Figure 3: Architectural precedent analysis F(M)OP method (Guney, 2008, p. 108)

This method will be used to frame the research in theory and practise. When you look at the location as one object the understanding of the form can be achieved by the analysis of the (typo)morphology. To understand how the location is currently operating and performing, observation of the public life can help. In this case you would isolate the three components of the method. In reality the form, operation and performance are interrelated. By using this method the focus can be shifted to the interrelation of the form, operation and performance of the location and its elements. By using this scheme during the study it would therefore be easier to find and also the describe the link between public life and urban morphology. Therefore this scheme would be useful to find the link between the urban morphology and the public life.

4.3.1 Theory

With a literature review an overview of the different ideas, theories and schools of both urban morphology and public life studies will be created. With this information the F(M) O P method can be used to describe the different ideas, schools and theories. In this way the comparison of the different views on form, operation and performance can be structured.

4.3.2 Practise

4.3.2.1 PLS

During the execution of public life studies at the location the F(M) O P method will be used to observe the performance, operation and form of every place or object. The operation of an certain object can be observed in reality. The intended function of an object might differ from how it is used in practise. The use of an object or the behaviour of a person can be described at different levels. Any action can be identified from how the action is performed (low-level) to why or whit what effect the action is performed (high-level) (Vallacher & Wegner, p3). According to the identification theory described by Vallacher en Wegner the identification of one's action is ultimately constrained by reality. (Vallacher & Wegner, 1987, p. 4)
This theory is based on three principles:
1. 'Action is maintained with respect to its prepotent identity.' (Vallacher & Wegner, 1987, p. 4)
2. 'When both a lower and a higher level act identity are available, there is a tendency for the higher level identity to become prepotent.' (Vallacher & Wegner, 1987, p. 5)
3. 'When an action cannot be maintained in terms of its prepotent identity, there is a tendency for a lower level identity to become prepotent.'(Vallacher & Wegner, 1987, p. 5)

Translating these principles you could say that:
1. People have a certain idea of what they are doing and use this for implementing, monitoring and reflecting on the attainment of the action.
2. When a person is executing a relatively easy task, he or she is willing to accept an harder task provided by the surrounding context.
3. If something prevents a person to maintain a certain action, that person will go back to a more basic(less abstract) form of the action.

This theory can be related to the observation of public life. When you observe the behaviour of people in public life you can notate their actions on different levels. Counting the people that are walking, standing and cycling provides different information than counting the people that are travelling or recreating. Describing the action on its most abstract level (for example recreating) can also provide information about the performance of an artefact. A totally safe and plane cycling path will probably not interrupt a person that is recreating while cycling. When a path is unsafe and full of holes, a cyclist is probably so concentrated on fulfilling the task of cycling that he or she is not able to go to a more abstract form of the action like recreating. Counting more concrete actions like walking and sitting can be interesting to give an inside in how an object is used (and if this corresponds to the intended use). A bench could for example be used to play on by kids, while its intended function is sitting.

Therefore people's behaviour during the fieldwork will be described at an abstract level (relaxing, travelling etc.) and at a more concrete level (walking, standing, cycling). The action will not be described in its most pure way like lifting and lowering legs while moving forward when one is walking. When you see someone walking, you would probably describe this as a walking person and not as someone that is lifting and lowering his legs while moving forward as someone that is recreating. Describing behaviour on a higher level is more subjective because the observer has to judge whether someone is enjoying walking or just thinking about getting to their work. This should be kept in mind while drawing conclusions from the field work.

4.3.2.2 Urban Morphology

The F(M)OP method is harder to use during the analysis on (typo)morphology of the total location. During site visits it is relatively easy to look at the form, operation and performance of the smaller elements. The performance of an spatial object can directly be read from the use in reality. On the larger scale methods like space syntax can help to see how a network of streets will work and how it will perform. To keep this project within certain boundaries this method will not be implemented. But during the urban morphological analysis the F (M) O P methods can be used to make an estimation of the form, operation and performance and their link. A street pattern that looks like a real maze will possible not perform optimal to transport people effectively from A to B.

4.3.3 Overview

In the scheme below the presumably use of the F(M) O P during this project methods is shown.

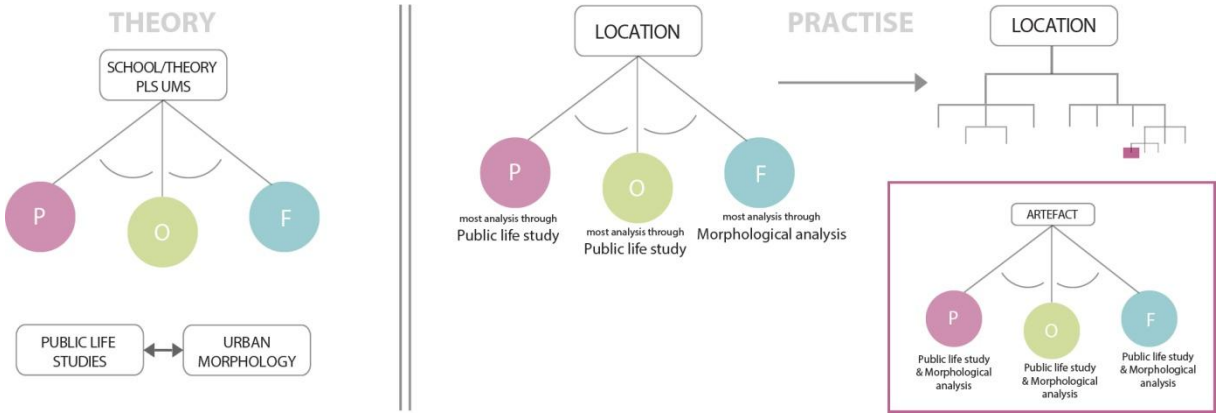

Figure 4: Overview of the presumable use of F(M) O P during the project.

4.3.4 References

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Guney, A. (2008). 7 Architectural precendent analysis: A cognitive Approach to Morphological Analysis of Buildings in relation to design process. In K. Moraes Zarzar & A. Guney (Eds.), *Understanding Meaningful Environments: Architectural Precedents and the Question of Identity in Creative Design*. (Vol. 4). Amsterdam: IOS Press.

4.4 THEORETICAL FRAMEWORK

Combining urban morphology with public life studies will hopefully contribute to a design that has a positive influence on the quality of life of the target group of the municipality and the current residents. Other interesting research topics like lifestyles, design for social safety will not be reviewed in a broader way. These topics will be discussed in the introduction of this project. In the end the results can provide a recommendation for the municipality and their program in Nieuwe Westen and Middelland. The discussed approach results in the following framework:

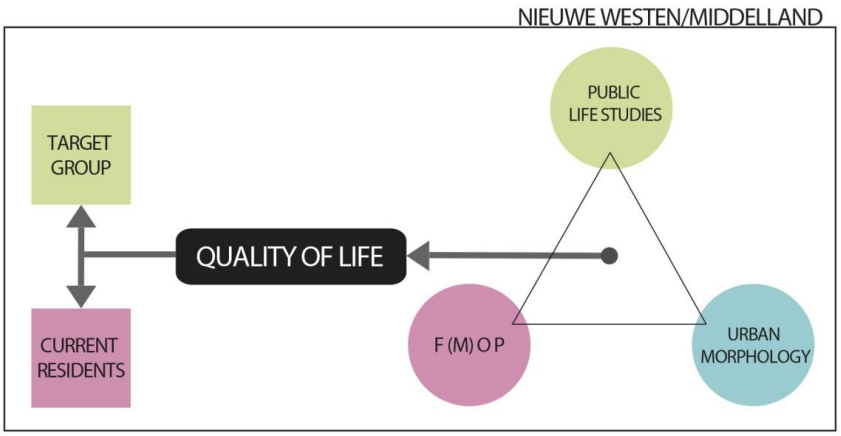

Figure 5: Theoretical Framework

5. RESEARCH QUESTIONS AND METHODS

5.1 RESEARCH QUESTIONS

Main Research Question:
How can combining public life studies and urban morphology studies using F(M)OP improve the quality of life (of current and, by the municipality desired, future) residents of the Nieuwe Westen and Middelland through a design?

1. PUBLIC LIFE
1.1 What are the aims, methods and strands of the field of public life studies?
1.2 How do people use public space in Nieuwe Westen and Middelland?

2. MORPHOLOGY
2.1 What are the aims, methods and strands of the field of urban morphology?
2.2 How is the urban morphology of the location constructed?

3. F (M) O P
3.1 How can the field of urban morphology and the field of public life studies be linked trough the F(M) O P method?

4. POLICY MUNICIPALITY
4.1 What are the plans and the goal of the municipality of Rotterdam for the area Nieuwe Westen and Middelland?
4.2 How can the program 'kanrijke wijken' of the municipality of Rotterdam be succesfully implemented in a spatially structured way?

5.2 METHODS

In figure 6 the research questions and their methods are shown. Most questions can be answered trough a literature study, but to draw conclusions for the location of Middelland en Nieuwe Westen observations, mapping, desk analysis etc. are also necessary.

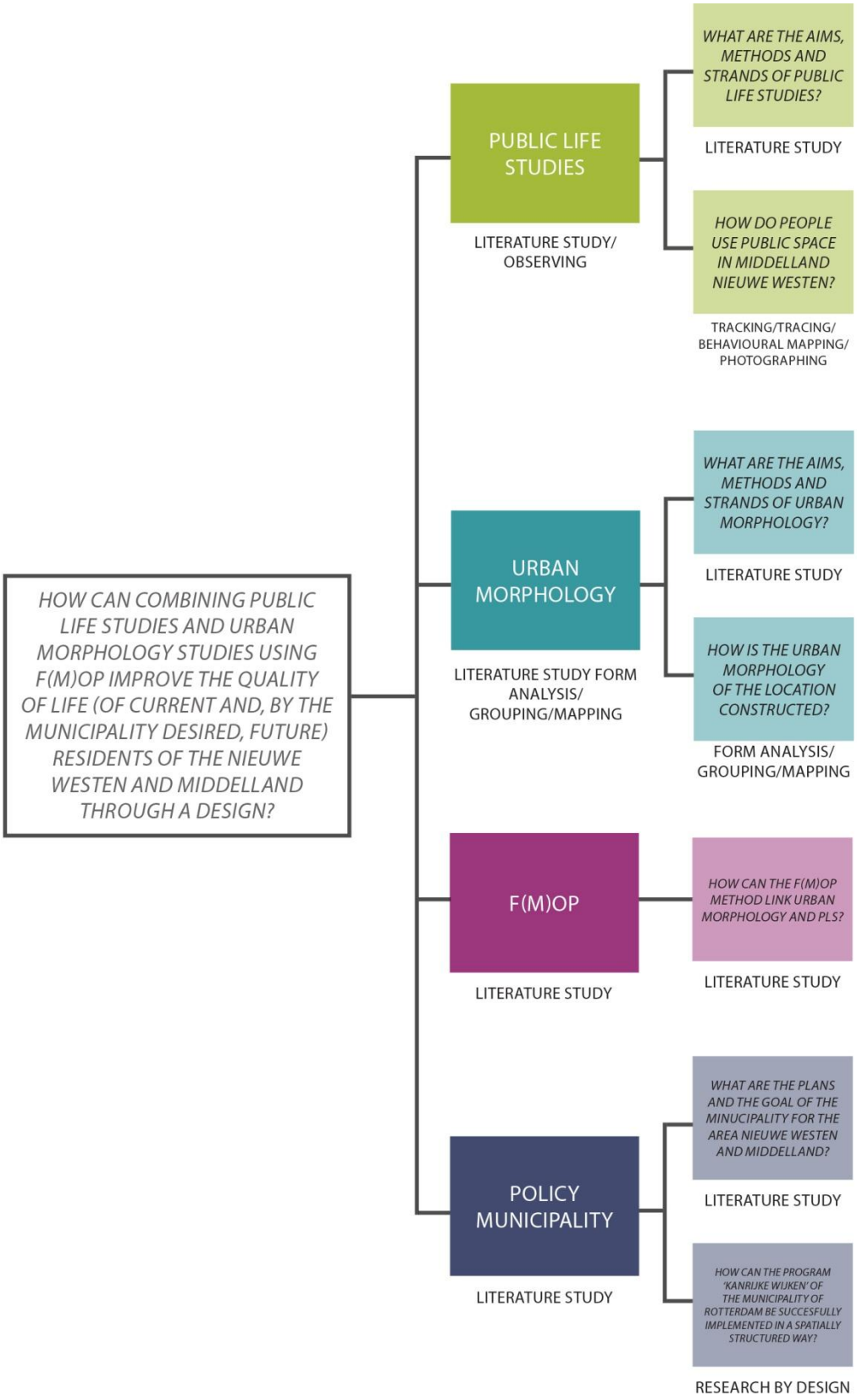

Figure 6: Methods and Research Questions

6. DESIGN GOAL

Main goal: Improve the quality of life for current and (by the municipality desired) future residents of Nieuwe Westen & Middelland by making a design on different scales for public space(specific place to be determined).

This design should be based on the knowledge of the urban morphology and the observations of public life and the policy of the municipality. The design has to link the urban form with the public life in a possible way. Furthermore this design should make it possible to execute the plans of the municipality in a spatially structured way. The products in which the design will be presented will be discussed in chapter 9.

7. SOCIETAL AND SCIENTIFIC RELEVANCE

7.1 SOCIETAL RELEVANCE

Attracting promising families, young adults and other groups with a higher economic capacity is high on the agenda of the municipality of Rotterdam. They want to make Rotterdam an attractive city to life in with a strong economy. Attracting people with a higher economic capacity could mean that the current residents will have to move to other places or that the current residents will have to cope with the living standards and wishes of their future neighbours. In the past urban renewal projects of problematic neighbourhoods attracted new residents with a higher economic capacity, but at the same time there was not enough capacity to house the original residents again. In Nieuwe Westen and Middelland the target group of the municipality would probably life in bigger housing units than the current population. That would mean that, with the current housing stock, residents of the current neighbourhood will have to move out. If this problem could be solved by creating extra housing it is still interesting to see if the needs of the current and future groups meet. Improving the neighbourhood for the target group does not necessarily mean an improvement for the current population.

An other important point is that it is definitely not easy for the municipality of Rotterdam to reach their goal with all the different stakeholders in the neighbourhood. In a recent article there is stated that Woonbron(housing corporation) does not want to co-operate to sell their social renting houses for bigger family houses but sells them to a investor who will make small (rent)apartments of the houses. To complete their goal they have to show other stakeholders the advantages of the program for them. To improve a neighbourhood the municipality and the housing corporations have to work together to create the best possible outcome for the population of Rotterdam.

7.2 SCIENTIFIC RELEVANCE RESEARCH GROUP

The project focuses mainly on the physical urban environments and its psychological and socio-cultural structure. This projects wants to research the relation between the physical urban environment and its psychological and social structure. By linking the observation of public life with the analysis of the urban morphology this projects intends to improve the living environment. Therefore the aim of this project is to gather and link the information about the public life and the urban morphology to design a more vital and socially safe urban environment for the current and future residents in Nieuwe Westen/Middelland.

The research group 'Design of the Urban Fabric' also relates, among other things, to the physical urban environment and to its psychological and socio-cultural structures. They also study the relations between these structures. Their aim is to create a sustainable and vital urban environment. This project partly shares this aim with its goal to create a better living quality for the residents in the area.

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8. INTERIM REPORT OF PROGRESS

8.1 RESEARCH
8.1.1 Theory

ARU022 THEORY PAPER

LINKING PUBLIC LIFE STUDY(PLS) AND URBAN MORPHOLOGY

Abstract
This paper discusses how Public Life Studies(PLS) and Urban Morphology Studies (UMS) can be linked to create a better spatial urban design. The paper gives an short overview of the different groups of both fields. This overview will be used to analyse the different groups through the F(M) O P method of Ali Guney.

The three groups of PLS that are defined in this article are New York, Berkeley and Denmark. From a comparison of the three it becomes clear that performance and operation of the three groups are the same, but the forms and the focus slightly differ.

The five traditions of UMS that are defined are the Muratorian School, the Conzenian School, the Versailles School, the Dutch tradition and the North-American tradition. According to Moudon the different schools on urban morphology have a lot in common. The differences lie mostly in the goals and focuses of the different schools. The performance, operation, form and even the affordance are all slightly different. The different perspectives of the traditions do not necessarily lead to different type of analytical drawings.

With the knowledge of the form and typology of a location of a public life study, conclusions about comparable public spaces or designs can be made. Especially in the microclimates in the cities, urban morphology and PLS directly come together. Observation of the use and behaviour of a certain place combined with the knowledge of the urban (typo)morphology, would probably make it possible to see how physical characteristic of for example a street can affect public life. On a bigger scale like a region, city or district, other techniques like GPS and Space Syntax can help to link PLS and UMS. And if there is knowledge throughout all the scales of the structures and form of a location, the observations on eye-level can possibly be explained trough the form and structure of the location on a bigger scale.

1. INTRODUCTION
Urban design is a relatively young and interdisciplinary field with many different theories and groups of research. Moudon describes nine different concentrations of inquiry in the field of urban design. (Moudon, 2003) Linking all these areas of concentration would be very complex and time consuming. Therefore this paper will look at only two fields, namely Public Life Studies and Urban Morphology.

Public Life Studies became important in the field of urban planning and design in the twentieth century to solve problems in cities. Public Life Studies give insight in the use and working of a place and how people behave in public space. Urban morphology studies study the physical and spatial structures and the development of the city. In his thesis about mapping the urban form Cortes states that in a projective discipline such as urban design, knowledge of the transformations that have produced current conditions and form is necessary to plan and design the future. (2009, p. 45) Thus both knowledge of form and transformations and public life could contribute to a better design for the future.

This paper discusses how Public Life Studies(PLS) and Urban Morphology Studies (UMS) can be linked to create a better spatial urban design. To answer this question, this paper will give an short overview of the different groups of both fields that will be used to analyse the different groups through the F(M) O P method of Ali Guney. The overview including the theories, methods and history of the two fields is a result of a literature review that can be found in the Appendix(Appendix 2: Appendix Theory Paper).

First the field of PLS will be discussed. To start, an adequate definition of PLS will be given. After an overview of the different groups of PLS, their differences and similarities will be pointed out. With this information the different groups will be analysed through the F(M) O P method.

After PLS the field of UMS will be discussed. This part will also start with a definition of Urban Morphology followed up by an overview of the different schools and traditions of UMS. After discussing their differences and similarities the schools will also be analysed trough the F(M) O P method.
Finally there will be a confrontation of both fields to find their (possible) link. This should result in an approach which links to two fields, that can contribute to a better design of the urban fabric.

2. PLS

2.1 Definition

In 'How to study public life' Jan Gehl en Brigitte Svarre give a short description of the goal and principles of Public Life Studies. They describe it as an academic field encompassing public life studies that tries to provide knowledge about human behaviour in the built environment with the goal to recapture public life as an important planning dimension. (2013, p. XII) They describe the basic idea of the methods as observing while walking around and taking a good look. (2013, p. XII) In his writings Gehl uses the term 'Public Life Studies' while other writers do not specifically use this term. For example Moudon does not define a specific field of PLS, but fields of Environment-Behaviour studies and Place Studies. (Moudon, 2003) Her review of Environment-Behaviour studies and Place Studies include some similar methods and contributors as the overview of PLS given by Gehl and Svarre, but in Moudon's work there are much more other contributors and side paths pointed out. In order to keep the literature review within certain boundaries it mainly focuses on the field of Public Life Studies described by Gehl and Svarre.

2.2 History of PLS and the different groups

In 'How to study public life' Gehl and Svarre give an overview of the most important works and the history of Public Life studies. Since PLS is a very young academic field there has been written little about its history compared to for example the field of Urban Morphology. The field of PLS emerged as a reaction to the inhuman modernist cities. Around 1960 writers began to criticize the modern cities and they advocated to bring back pedestrian street life in the car dominated modern cities. It became clear that public space and public life did not work automatically, but that they are influenced by for example population density and physical frameworks. To bring back life on the streets in the modern cities public life was studied. (Gehl & Svarre, 2013, p. 45)

From mid 1980 till now, public life studies were introduced more in practice, because urban planners and local politicians also became more critical of new planned environments like the important writers in the sixties. (Gehl & Svarre, 2013, p. 63) Although incorporating public life in policies and projects has become increasingly widespread in the 21st century, Gehl and Svarre state that this does not mean that the studies or similar forms of systematic planning are carried out before projects are launched. (2013, p. 70)

There are several 'groups' of writers, urban planners and architects who have made a major contribution to the field of public life studies since 1960. As resulted from the literature review three main groups can be defined: New York, Berkeley and Denmark. The group of academics (Appleyard, Bosselman etc.) at the University of Berkeley have created a solid academic field around the study of public life. At the arise of PLS in New York William Whyte and Jane Jacob were very important for creating awareness about the importance of incorporating the knowledge of public life in city planning. Gehl and his colleagues in Denmark are currently spreading the idea behind PLS to a wider public. In the recent film 'Human Scale' Jan Gehl plays together with other architects and planners across the globe an important role. This film explores what happens if we put people first in planning.

There are different methods to study public life. In the literature review it becomes clear that the different groups approximately all use the same kind of methods. Gehl en Svarre give an overview of different methods in 'How to study Public life'. They illustrate GPS, Space Syntax, Behavioural Mapping, Tracking, Tracing, Shadowing, Action research, Diaries and Photo documentation. GPS and Space Syntax are based on technology, but the others are just simple observation methods. Methods like mapping, tracing and tracking can be done by anyone without additional costs.(Gehl & Svarre, 2013)

GPS, Space Syntax, shadowing and tracking can give information over a larger area. Behavioural mapping, tracing and photo documentation can give detailed information of a smaller area. All methods can be executed at eye-level, but counting people at every street in a neighbourhood would be very time consuming when you need information about the whole location. When you need certain information tracking a group of random residents with GPS in the neighbourhood would be more efficient.

From the literature review a summary can be made of the characteristics of the three groups given in the following table:

	MAIN FOCUS	DISCIPLINES	SCALE OF STUDY	IMPORTANT ASPECTS
New York	Create support/ Implementation in design practise	- Architecture - Urban Design & Planning	- Streets - Squares - Parks	- At arise: Protest against modernism - Criticizing modernism - Importance of simple observations
Berkeley	Building theory/ Scientific research/ Education	- Architecture - Social Sciences - Urban Design & Planning	- Streets - Boulevard - Squares - Open Spaces	- Creating theories trough 'scientific' research - Wide interest in research topics
Denmark	Implementation in design practise/ Education/ Spreading ideas	- Architecture - Urban Design & Planning - Psychology	- Streets - Squares - Playgrounds - City Centres	- Bringing PLS in practise - Spreading ideas internationally to a larger audience

2.3 Differences and similarities

When you compare the different groups of PLS there are no groundbreaking differences between the three. They do have a slightly different focus. The focus of the Berkeley group is more on scientific research and the focus of Denmark is for example more on the implementation in practise. When you look at the methods and studies of the three groups there is not a group that uses totally different methods and that has executed totally different studies. You could state that with a young field like PLS, the important contributors built on to each other's findings to get an improved understanding of the human behaviour in the public built environment. Overall Public Life Studies usually focus on the small scale of the city like the streets, squares and other open spaces.

2.4 F(M) O P

Ali Guney introduced an adapted version of the F(M) O P analysis method of Tzonis. (Guney, 2008, p. 108) Guney adapts this scheme in a method for design reversing form, operation and performance. The most important difference with the method of Tzonis is the affordance relation between the form, operation and performance. The scheme has already been used by Stolk to visualize different approaches of urban design. (Stolk, 2015, pp. 256,257).

When the three different groups are analysed with information presented in the previous two paragraphs the following schemes can be made:

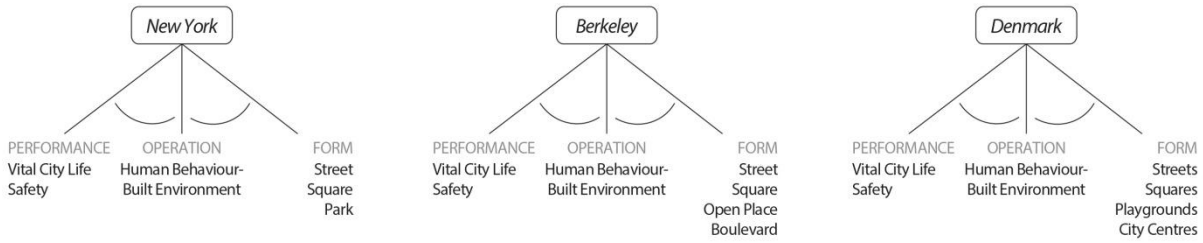

Figure 1: Analysis of the PLS groups of New York, Berkeley and Denmark trough the F(M) O P method.

The performance and operation of the three groups are the same, but the forms slightly differ. The different groups of PLS are approximately the same, but they all have a slightly different focus.

2.5 Preliminary conclusion

The possible link of PLS with Urban Morphology will probably be made most easily on the scale of the street, building block or square. The total structure of a neighbourhood or city can also have an influence on the human behaviour in the built environment, but the direct relation would be harder to trace with observations of public life on eye-level. However, on the larger scale, the analysis of the structure of the physical environment could explain certain behaviour observed on a smaller scale. And on a larger scale methods like GPS and Space Syntax can be used to draw conclusions.

3. URBAN MORPHOLOGY

3.1 Definition

In her paper 'the Urban Morphology as an emerging interdisciplinary field' Anne Vernez Moudon gives a definition of urban morphology. She describes it as the study of the city as a human habitat.(1997) In most studies the term morphology is not used. More common terms are typomorphology or typomorphogenetic. Moudon explains typomorphological studies as follows: 'Typomorphological studies reveal the physical and spatial structure of cities. They are typological and morphological because they describe urban form(morphology) based on detailed classifications of buildings and open space by type.'(L. van den Burg et al., 2004, p. 17) In a shorter definition: 'Typomorphology is the study of urban form derived from studies of typical spaces and structures' (L. van den Burg et al., 2004, p. 17)

3.2 History of Urban Morphology and the different approaches

Moudon describes three different schools of urban morphology, namely the French, English and Italian. In 'the Urban Analysis Guidebook' Leo van den Burg describes the Dutch tradition of analysis of the urban form. Camila Eugenia Pinzon Cortes also includes the studies in the Netherlands in an overview of the urban morphology tradition in his thesis on mapping urban form. Whitehand does not include the Dutch tradition, but he incorporates the North American tradition. In the literature review these five groups are discussed. A short summary of the literature review per tradition is given below.

Italy: The Italians were the first to develop detailed morphological studies. (Cortes, 2009, p. 43) Around 1940 the Italian school of urban morphology was 'established' by Saverio Muratori, one of the pioneers of the study of typomorphology of the urban form. (L. van den Burg et al., 2004, p. 18) In the eyes of Muratori the structure of cities could only be understood historically with building typology as the basis of urban analysis, while modernism was based on intervention of the scale of the master plan and ignored the way cities had been constructed over time.(Cortes, 2009, p. 43; L. van den Burg et al., 2004, p. 19) His most important successor was Gianfranco Caniggia.

Great-Britain: Around the 1930s Conzen developed a British tradition of morphological urban studies. (Cortes, 2009, p. 47) Conzen was originally trained as a geographer which probably lead to his more structured approach. Because his main concern did not lie directly on the future city and its design he could concentrate fully on studying the actual city, the process for building it and on developing methods for analysing it.(L. van den Burg et al., 2004, p. 26)

France: The French school was influenced by the approach of the Italian school. It followed the idea of Muratori that modernism had created an unrecoverable break from the past and that the roots of architecture had to be rediscovered in past traditions. (L. van den Burg et al., 2004, p. 32) In contrast to the Italian school in France various disciplines (sociologist, historians, geographers, architects and planners) worked together to achieve an improved understanding of the city.(L. van den Burg et al., 2004, p. 32)

The Netherlands: Contrary to other cases the Dutch did not develop many detailed typo-morphological studies but they used the approach more in relation to design. (Cortes, 2009, p. 49) The plan analysis for example, which was developed at the TU Delft, focuses on naming and clarifying of essential features in the spatial composition which have to do mainly with the specific position and methods of the designer. (Cortes, 2009, p. 50)

North America: A specific morphological approach of the urban form came relatively late in America. In the beginning there was more interest in the esthetical character and the (economical) development process of cities. Because American cities are relatively young compared to most European cities it is not strange that studies on American cities are more focussed on their initial plan characteristics and underlying social-physical principles and not on its historical character. (Conzen, 2001, p. 3)

The summary given below points out the most important characteristics of the five traditions derived from the literature review.

	MAIN FOCUS	DISCIPLINES	IMPORTANT ASPECTS	MAIN GOAL
MURATORIAN SCHOOL *(ITALY)*	Prescriptive.	- Architecture	- Building typology - History - 'Built objects' - Built environment as organism	Building theory.
CONZENIAN SCHOOL *(GREAT-BRITAIN)*	Descriptive and explanatory.	- Geography	- Town plan (streets, plots and buildings) - 'Individual plot' - 'The townscape'(town plan, building forms & land-use) - 'Plan units' - 'Fringe belt'	Developing methods for analysing the city.
VERSAILLES SCHOOL *(FRANCE)*	Asses the impacts of past design theories on city building.	- Sociology - History - Geography - Architecture - Planning	- Evolution in types, patterns and forms - Relation between reality and theories of urban design and form	Achieve an improved understanding of the city trough combination of disciplines.
DUTCH TRADITION	Morphological analysis in relation to design.	- Architecture - Urbanism	- Layered approach - Plan Analysis - Reduction, Addition and Disassembly - Identification of patterns	Understanding designers interventions or an analysis leading to a design, vision or scenario.
NORTH AMERICAN	Socio-economic and cultural perspective.	- Geography - Sociology - Architecture	- Perception - Important role of the human in the creation of the urban form	Understanding the development of cities and the role of the humans.

3.3 Differences and similarities

Moudon describes the commonalities and the differences between the first three schools(Muratorian, Conzenian, Versailles) in the occasion of the ISUF (International Seminar on Urban Form) in 1996. She describes as the theoretical basis of the three that the city or town can be 'read' and analysed via the medium of its physical form.(Moudon, 1997, p. 7) Further she gives three principles where the morphological analysis is based on at its most elemental level:

1. Urban form is defined by three fundamental physical elements: Buildings and their related op spaces, plots or lots and their streets.
2. Urban form can be understood at different levels of resolution. Commonly four are recognized corresponding to the building/lot, the street/block, the city and the region.
3. Urban form can only be understood historically since the elements of which it is comprised undergo continuous transformation and replacement.(Moudon, 1997, p. 7)

Shortly the three principles are form, resolution and time. The smallest cell in morphological analysis is the combination of the individual parcel of and its buildings and open spaces.(Moudon, 1997, p. 7)

She describes three different intentions in building theory:

1. Study of urban form for descriptive and explanatory purposes, with the aim of developing a theory of city building (How cities are built and why)
2. The study of urban form for prescriptive purposes, with the aim of developing a theory of city design (How cities should be built)
3. The study of urban form to assess the impacts of past design. Theories on city building. (The differences or similarities between what should be built and was has actually been built)(Moudon, 1997, p. 8)

As Moudon points out in her paper the different schools on urban morphology have a lot in common. The differences lie mostly in the goals and focuses of the different schools.

3.4 F(M) O P

When the five different traditions are analysed with information presented in the previous two paragraphs the following schemes can be made:

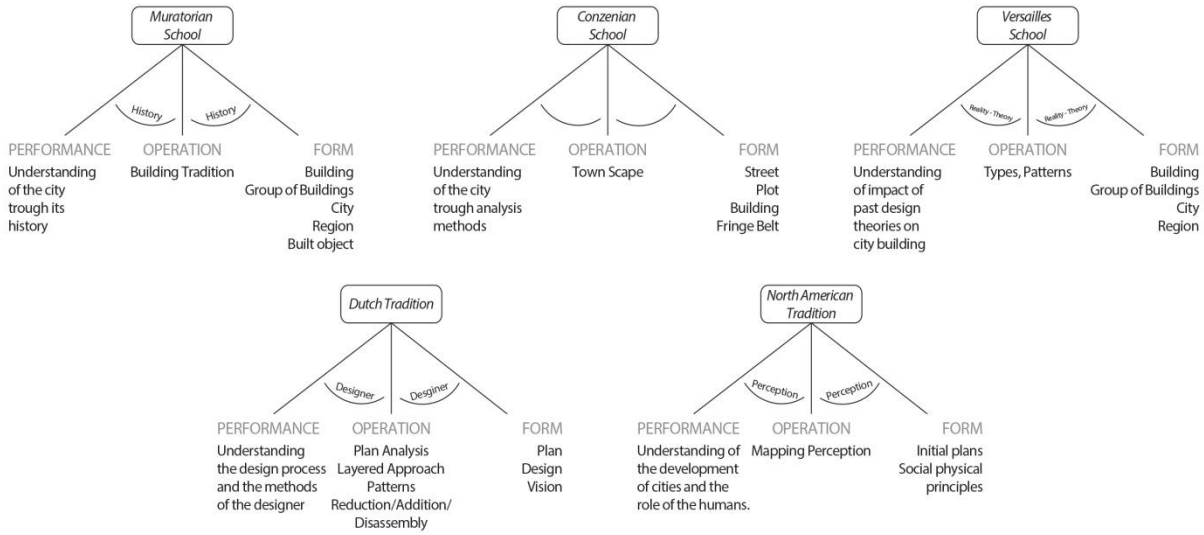

Figure 2: Analysis of the five UMS traditions trough the F(M) O P method.

The resulting schemes of the different traditions look very different. The performance, operation, form and even the affordance all slightly differ. Although the perspectives of the different groups differ the results of an analysis would probably look pretty identical.

4. CONFRONTATION PLS AND UMS

In the historical contexts of both fields there can be found a similar point. In the history of both fields a protest against the modern city can be found. In almost all traditions of UMS the role of the human in the development of the city is important. The role of the human being is of course central in PLS. In the Muratorian School the role of the human can be found in the historical perspective. In the Dutch tradition the role of the human can be found in the role of the designer. In the North American tradition the perception of people and their role in city development are central. Mapping of perception is probably most related to the field of Public Life Studies.

4.1 Comparison F (M) O P

When you compare the F(M) O P analysis of PLS with the F (M) O P it becomes clear that the (typo)morphological studies are more often executed at bigger scales than PLS. The studies of UMS try to understand the development and form of the city, which has been executed by humans in the past. PLS studies try to understand the behaviour of humans in that city.

5. CONCLUSION

Urban Morphology Studies can explain how a form(on different scales) has been established and how these forms can be divided in patterns and types. Public Life Studies observe why a certain form(place) affords certain human behaviour. Knowledge of form and typology can therefore help to explain if a certain form will afford the desired behaviour and thus if a future design will afford desired behaviour. With the knowledge of the form and typology of a location while executing public life study, conclusions about comparable public spaces or designs can probably be made. Because PLS trough direct observation is mostly used on the human scale the link between urban morphology and PLS cannot easily be made on the scale of an region, city or district. Especially the microclimates in the cities is where urban morphology and PLS directly come together. Trough observation of use and behaviour of a certain place combined with the knowledge of the urban (typo)morphology it would be possible to see how physical characteristic of an street, path, building, facade or square can affect public life. On the scale of the region, city or districts other techniques like GPS and Space Syntax can help to link PLS and UMS. Besides that, if there is knowledge about on all scales of the structures and forms of a location the observations on eye-level can possibly be explained with the form and structure with a bigger scale in mind.

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8.1.2 Practise

8.1.2.1 Public Life Study

This paragraph shows the results so far of the fieldwork research of the public life in Middelland/Nieuwe Westen. In this paragraph only an example and the most important preliminary conclusion are shown. The execution of the Public life studies will happen in several sessions shown below.

Field Work 1:
1 day, Goal: Getting to know the location.

Fieldwork 2:
3 days, Goal: Determining the most successful and not successful squares in the area and getting a better impression of the area.

Fieldwork 3:
5 days, Goal: Describing and observing the public life on the/several design location(s).

Fieldwork 4:
5 days, Goal: Observing the public life at the design location(s) to reflect on the made design.

There have been executed two field work studies of the public life so far. These two fieldwork trips are coloured green above. The results of Fieldwork 2 are discussed below.

The second fieldwork research the location was visited during day time on three days. One Wednesday and two times a Friday. During this fieldwork the 12 most important squares were observed and the people and their activity(sitting, walking, standing) were counted and noted. Of each square a table like shown in figure 7 has been made. Combining the results with the size and the facilities a few preliminary conclusions can be drawn.

- The amount of facilities has an influence on the amount of use (Squares that are used as schoolyards are intensively used during day-time)

- A bigger square does not necessarily mean more users.

- A square needs benches or other facilities to sit to make it a place to stay.

- Squares located in the middle of a neighbourhood are usually more used by kids than squares at edges or along busy streets.

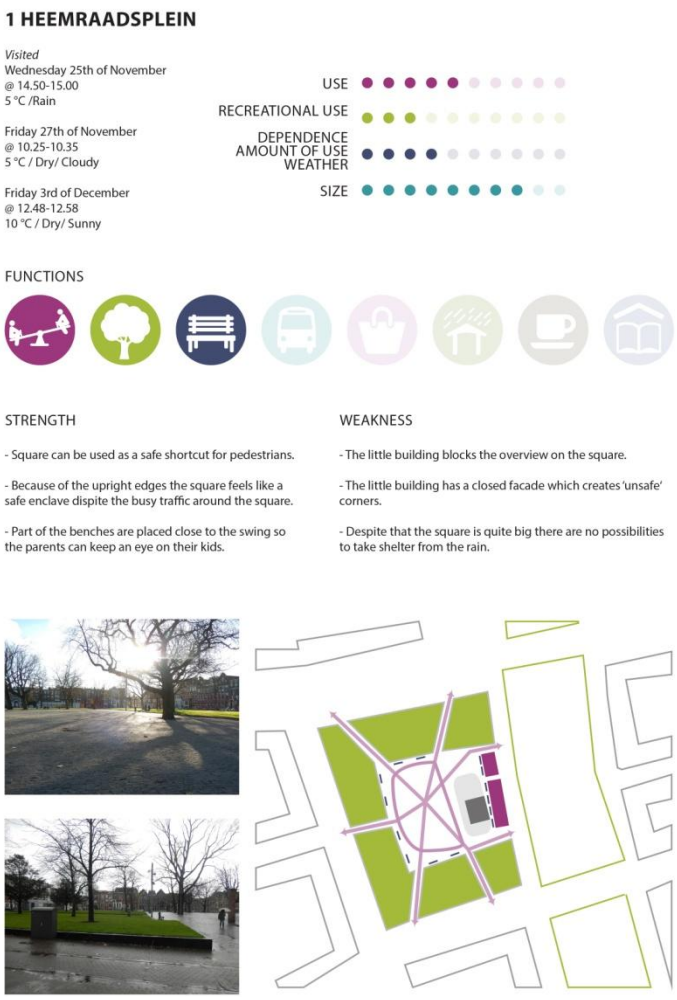


Figure 7: Result of Field Work 2 of the Heemraadsplein.

8.1.2.2 Urban Morphology

In this paragraph the results so far of the study on the urban morphology are discussed. Most drawings can be found in the appendix. Some of the more important drawings are shown here.
The study on the urban morphology focuses and will focus on different scales and themes. The biggest part of the study so far has been done on the scale of the total area in a 2D view. The three scales and the themes that will be studied on this scale are shown below.

<u>Scale 1: The area in a larger perspective</u>
- Connection to the rest of Rotterdam (Water, Roads, Public Transport, Green Structure)
- The area in a historical perspective of Rotterdam
- The building typology in comparison with surrounding areas.
- Facilities/Functions

<u>Scale 2: The total area</u>
- The street structure
- Building Blocks Types (Heights/Open Closed/Form)
- The area in a historical perspective (Construction times/ Past Interventions)
- Streets Sections(Living streets/Bigger connecting roads)
- Types of public spaces
- Facilities/Functions

<u>Scale 3: Smaller parts of the area</u>
- Materialisation
- Facades
- Transition Pedestrian-Cyclist-Car
- Plantation (Trees/Shrubberies)

The research that has been done so far has been colored green. The first three themes can be found in the appendix. The research on the street sections is elaborated in this paragraph. Below there is a map that shows the living areas divided by the bigger roads. These roads are defined by the municipality as a collection road, a district disclosure road or a main road. The research of the street sections focuses on the living streets.

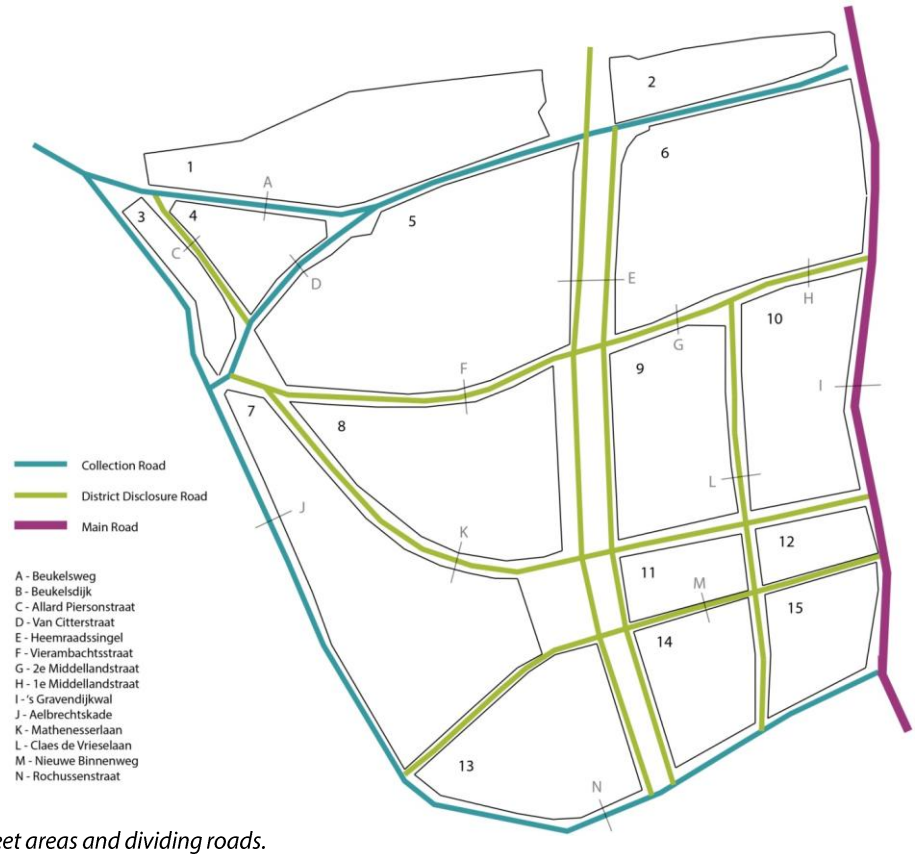


Figure 8: Living street areas and dividing roads.

The sections of all streets were documented. The height of the buildings, the width of the streets, the amount of greens and the amount and form of parking has been drawn in the simplified sections. Then maps have been made that show the parking, green, width and building heights of the streets.

Combining these maps streets with an approximately similar form can be found. These streets are mapped in figure 9. The sections of these similar types of streets can be found in the next figure. These sections can be used during studies of public life. When the life on streets with a similar section is observed, conclusions about a type of section could be made. It could also be possible that smaller details, the materialisation or architectural styles influence the public life. That would make it hard to draw a conclusion about a certain type of section.

Figure 9: Living street with a similar appearance

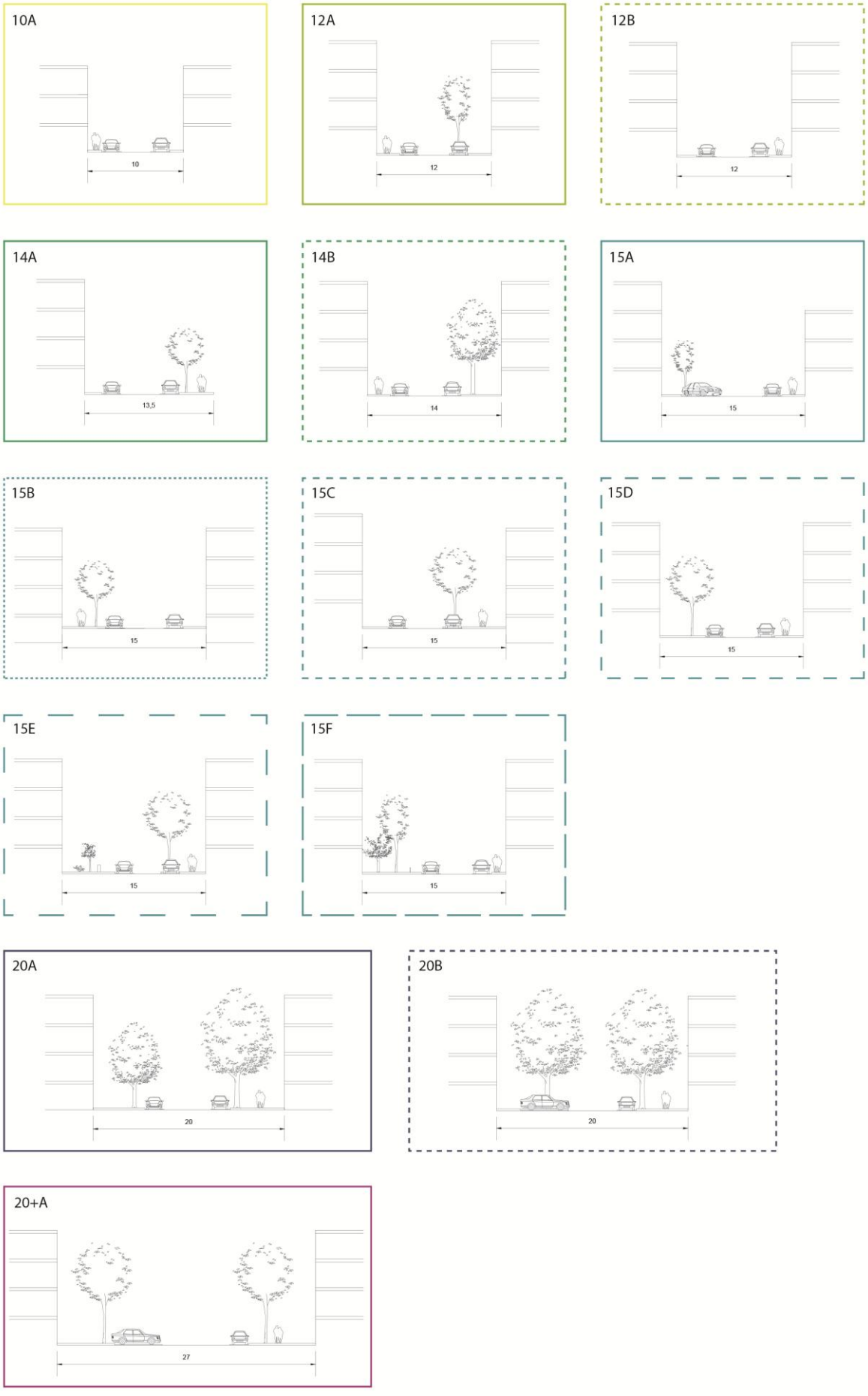


Figure 10: Sections of types of living streets

8.1.2.1 Preliminary conclusion PLS and Urban Morphology

Preliminary conclusions about the public life

With the results of the use and the impressions gathered during the two fieldworks a map can be made. The blue areas in this map shown in figure 11 show the parts where there was very little public life compared to the opportunities available at these areas. The public life in the green areas seemed to meet the intended amount of use. In the green dashed areas there were either no great opportunities for public life or there were squares that were used, but the surrounding area did not contribute to a positive atmosphere of the squares.

Looking at the map there can be concluded that there is room for improvement at the edges and the southern part of the location. Especially the north-western par(except for the northern edge) t of the location seems to perform very well.

Figure 11: Conclusion successful and not successfull areas

Preliminary conclusions about the urban morphology

Combining the maps of the analysed themes points out the clear and unclear areas of Middelland/Nieuwe Westen. In the map in figure 12 the areas that are marked blue are either unclear or quite isolated from surrounding parts in the district. The green areas are areas that have a clear structure and their own identity. What stands out is that in all the green areas the original buildings from the plan of before the second world war still exist. The areas that are delineated with a dashed green line are areas that are clear on some themes, but are not as structured as the green areas. These streets have a quite clear structure of street, but on the other hand they have for example a great diversity of street profiles or building age. From this map there can be concluded that there is room for improvement in the south part or the edges of the area.

Figure 12: Conclusion map clear and unclear areas

On the next page the locations that have potential or that stood out in another way are shown on a map of the area. An explanation of each location is given on the map.

Figure 13: Locations with potential and other interesting locations.(no scale)

8.2 PRELIMINARY DESIGN

With the current results from PLS and the UMS a preliminary design can be made. In this paragraph several potential concepts are shown on three scales. An overview of the given concepts in shown in the following table. Other combinations of the scales would also be possible.

	1	**2**	**3**
Big Scale (B)	Delete key road along the waterside.	Transforming secondary car roads to living streets.	Focus on the green structure trough a horizontal orientation of the location.
Middle Scale(M)	Concept for one neighbourhood.	Concept for three neighbourhoods that are similar or that can be combined.	Concept for a certain type of public space.
Small Scale(S)	Detailed design of several places in the neighbourhood.	Detailed design of three key places or comparable places in the three neighbourhoods.	Detailed design of 10 places of this kind of public space.

8.2.1 Concept 1

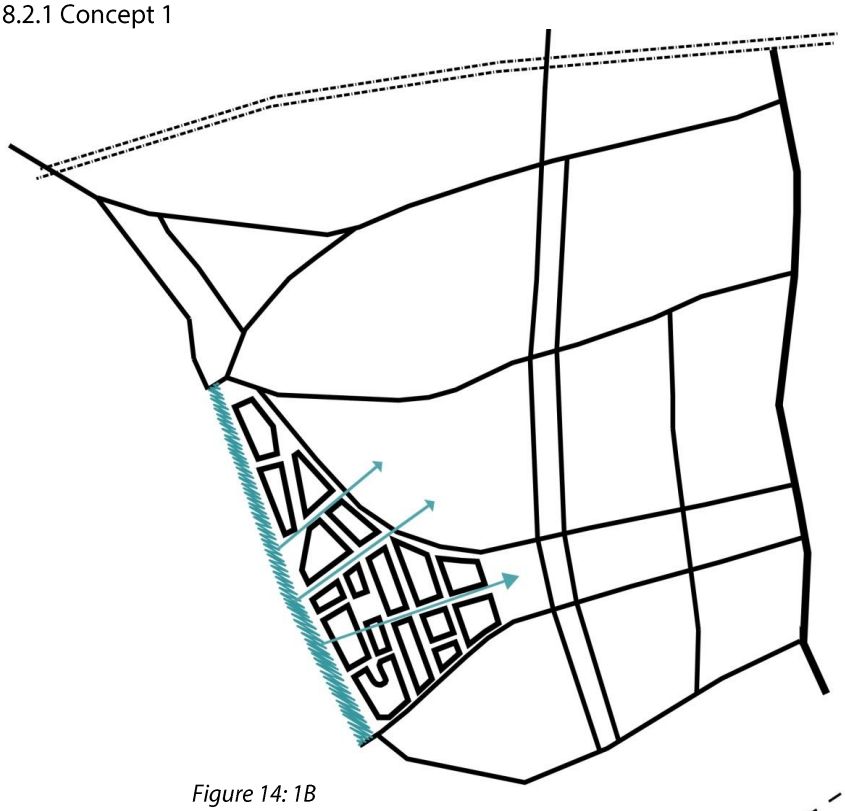


Figure 14: 1B

In figure 14 and 15 the first concept on the big and middle scale are visualised. In this concept a part of the Aelbrechtskade will be transformed in a recreation boulevard along the water. Reducing the car traffic will make it way easier and attractive to reach the waterfront. The horizontal orientated streets will be designed in a similar way to attract people towards the water. Besides that there are some potential locations that will be improved in the area with all a different function. This could result in a high quality neighbourhood attractive for promising families and at the same time improve the living environment for the current residents.

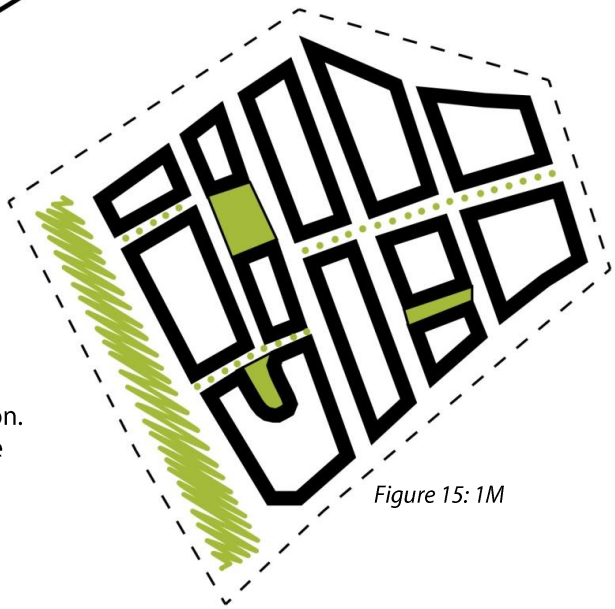


Figure 15: 1M

In figure 16 the concept on a smaller scale is shown. The sketches following on the next page give an example of what the interventions could look like.

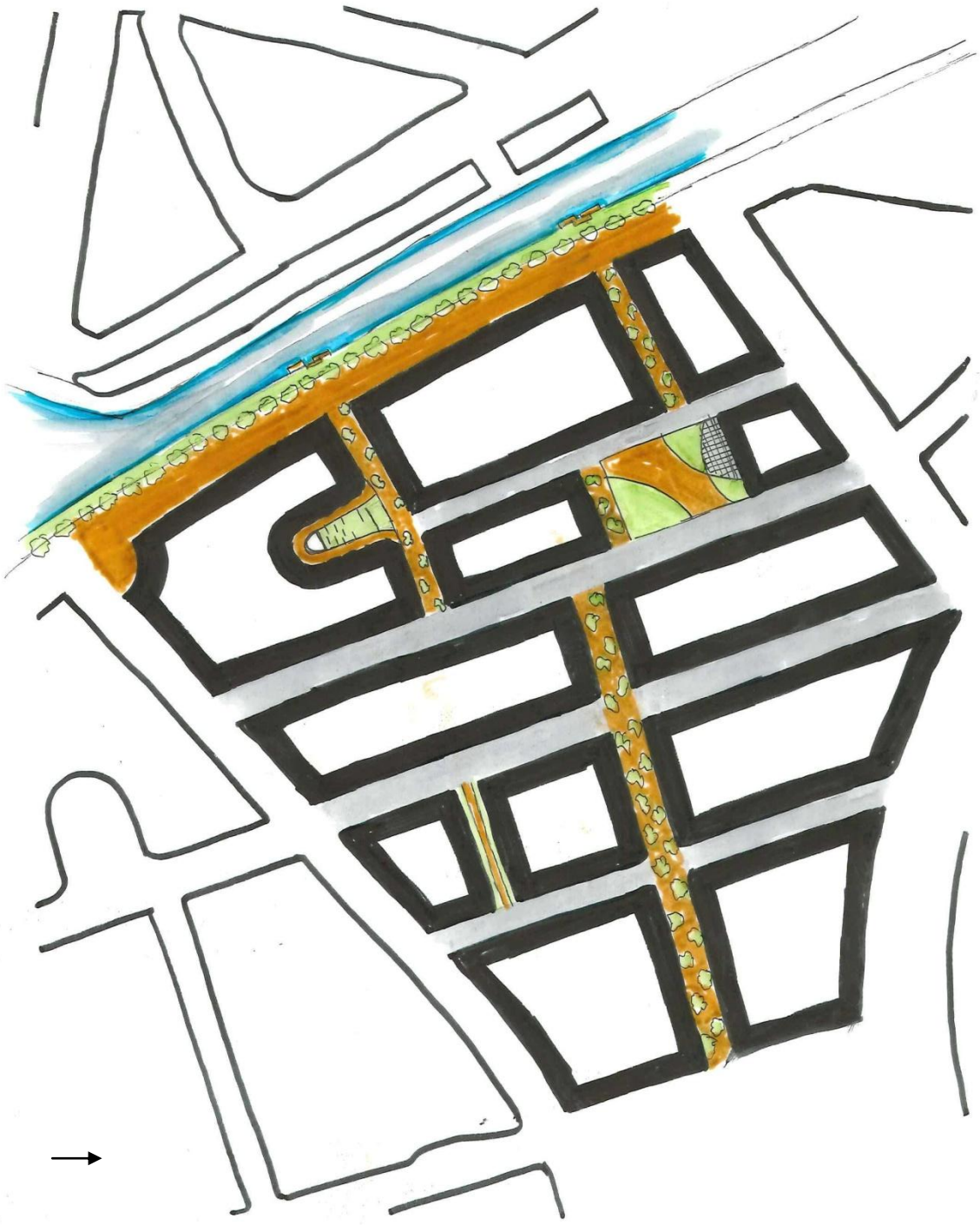


Figure 16: 1S. Scale: 1:3000

Jaap Valkhofplein

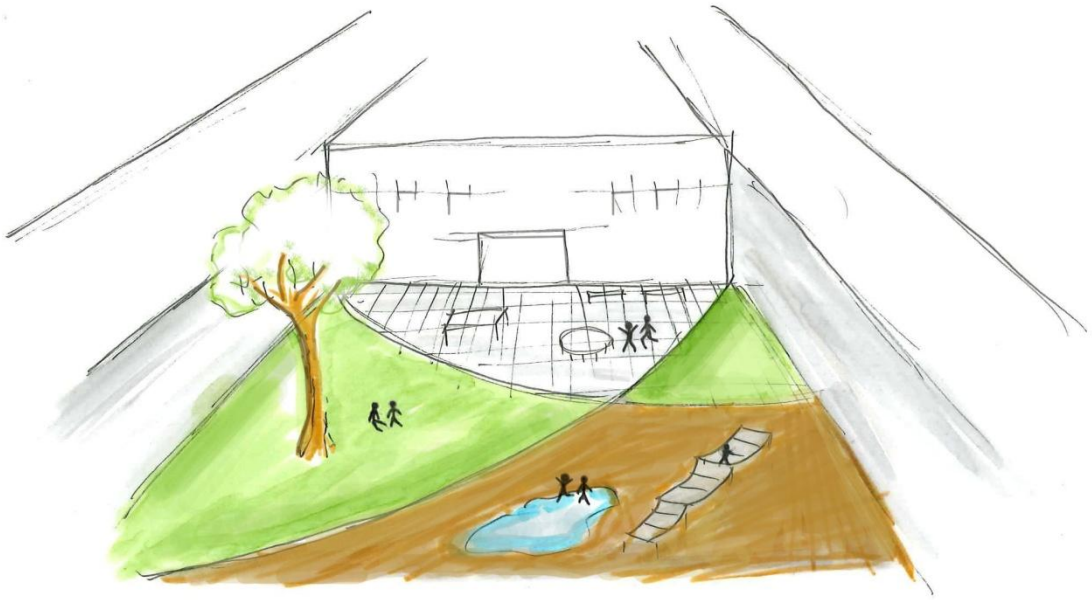


Figure 17: 1SA Possible Intervention

Aelbrechtskade

Figure 18: 1SB Possible Intervention

Aelbrechtsstraat

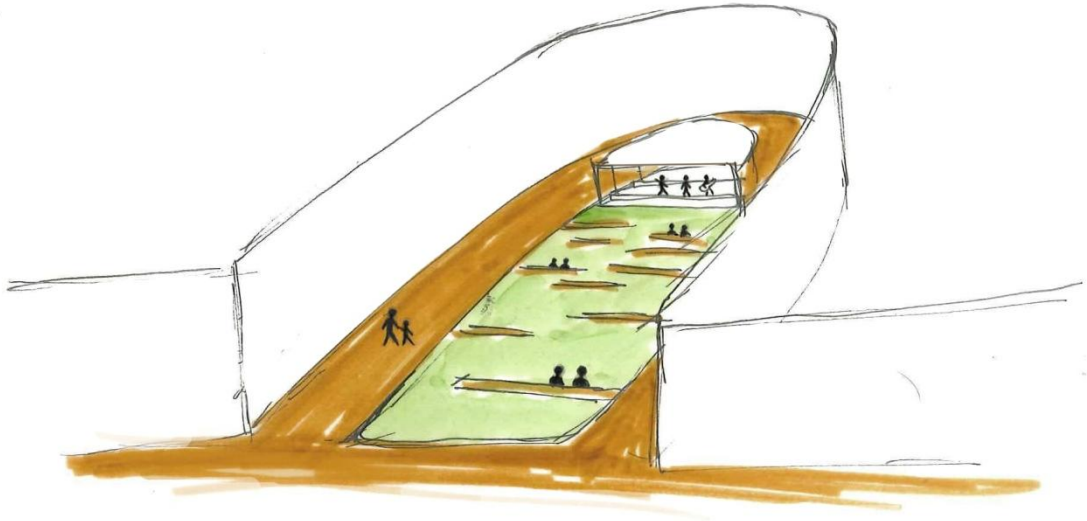


Figure 19: 1SC Possible Intervention

8.2.2 Concept 2

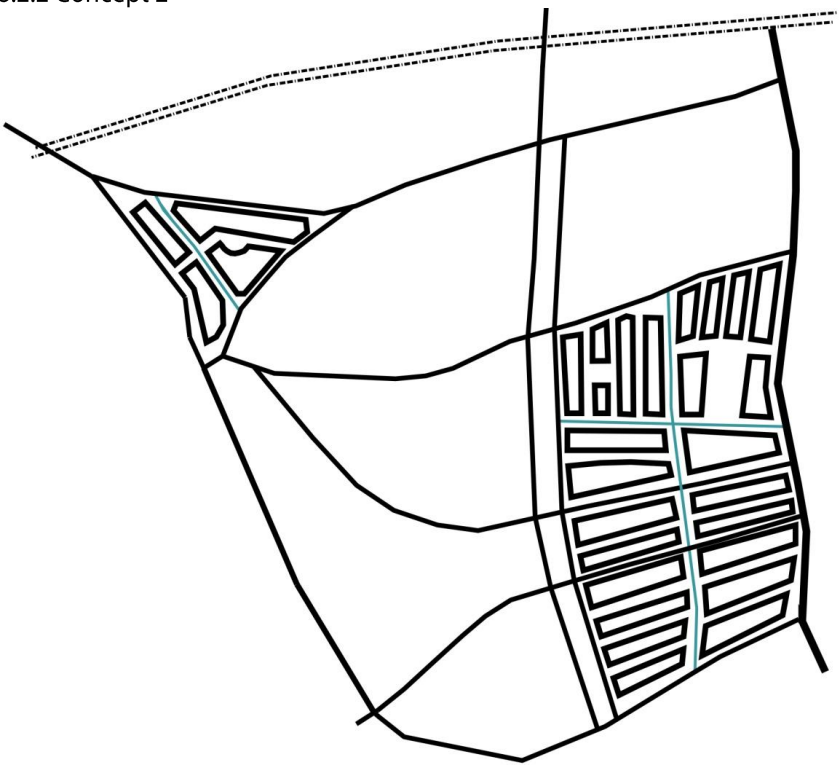


Figure 20: 2B

In figure 20 and 21 the second concept on the big and middle scale are visualised. In this concept two secondary roads will be designed in a more pedestrian friendly way. Therefore the Claes de Vrieselaan can become a connecting instead of dividing road in the area. This also creates the opportunity to create small urban places along this road. Currently the Johannes de Vouplein and the Branco van Dantzigpark have a similar structure. These three similar squares will be elaborated in more detail on the next page.

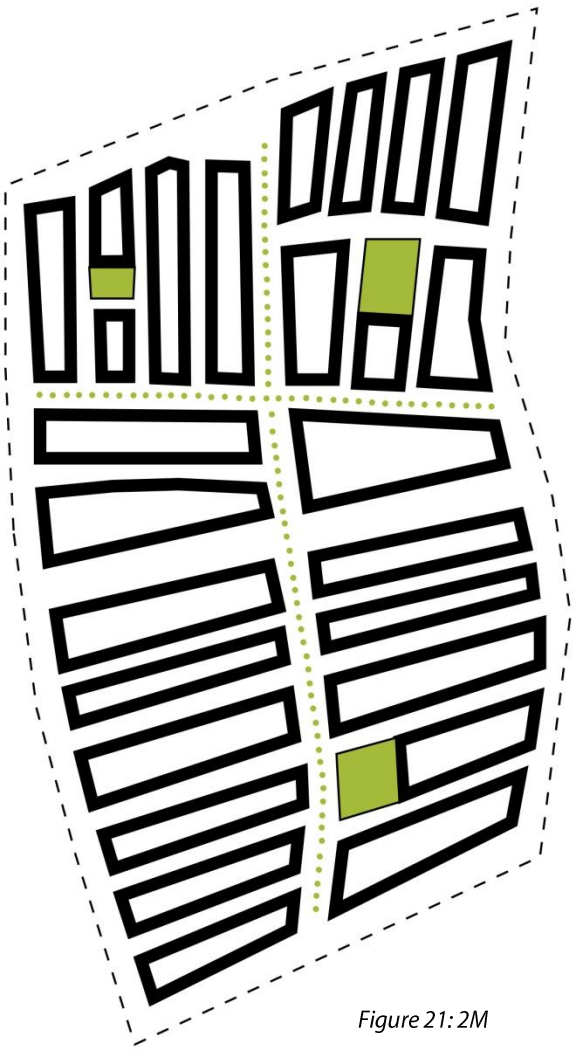


Figure 21: 2M

Johannes de Vouplein

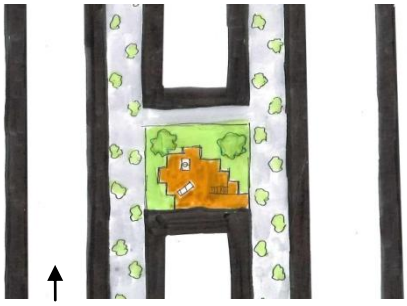
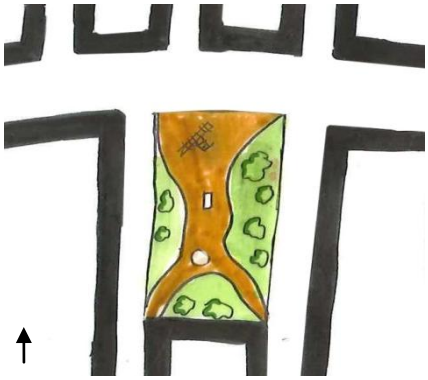


Figure 22: 2SA Possible Intervention

Branco van Dantzigpark



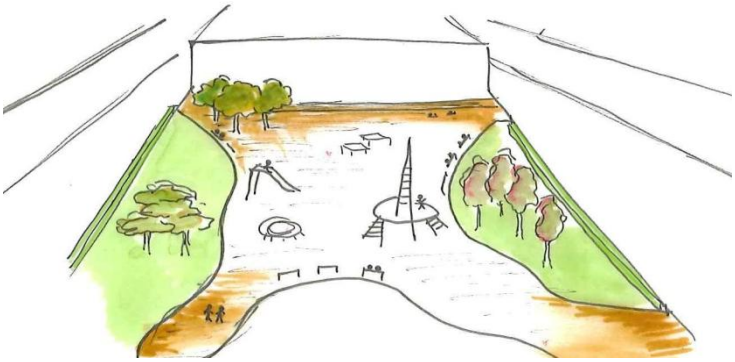
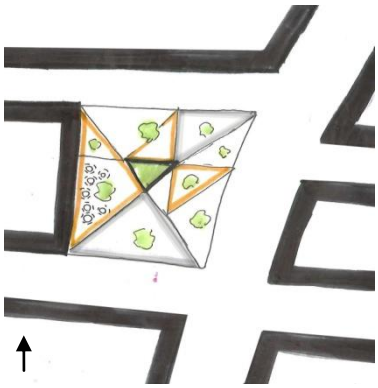


Figure 23: 2SB Possible Intervention

(Possible) Park Claes de Vrieselaan/Zwaerdecroonstraat/Snellinckstraat



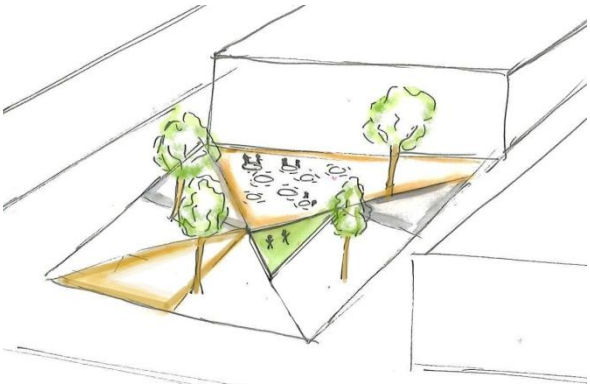


Figure 24: 2SC Possible Intervention

8.2.3 Concept 3

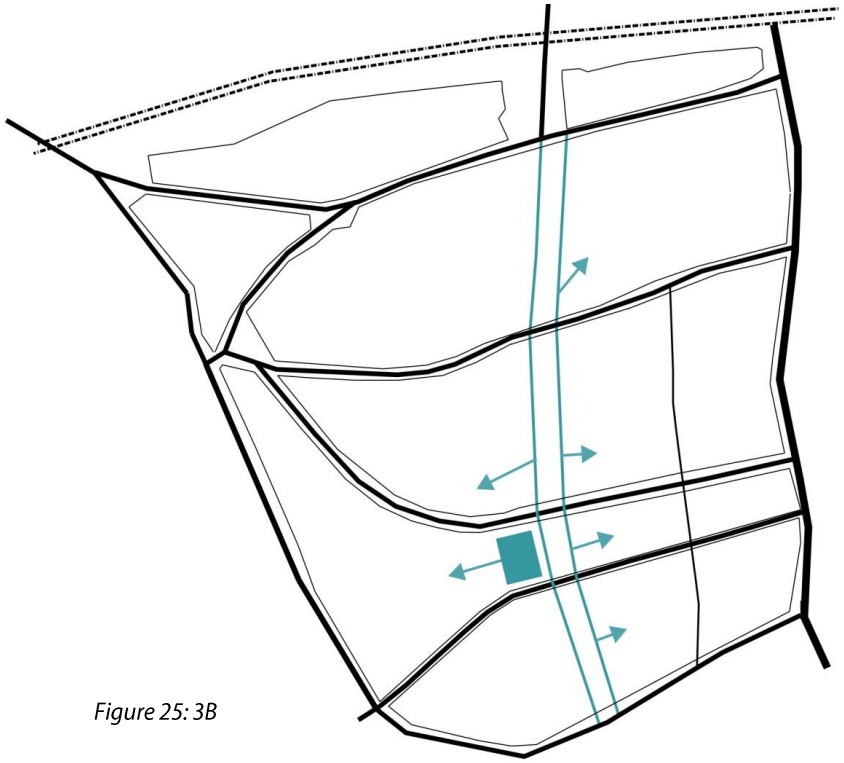


Figure 25: 3B

In figure 24 and 25 the third concept on the big and middle scale are visualised. The Heemraadsingel will be the connecting element between Middelland and Nieuwe Westen. In this concept 10 small public spaces will be redesigned. Currently some of these places are not used or not designed as public spaces. Others have a lack of trees and other plants, and some have a lack of benches etc. By improving all these small spaces the feeling of safety and the living quality will probably be influenced in a positive way.

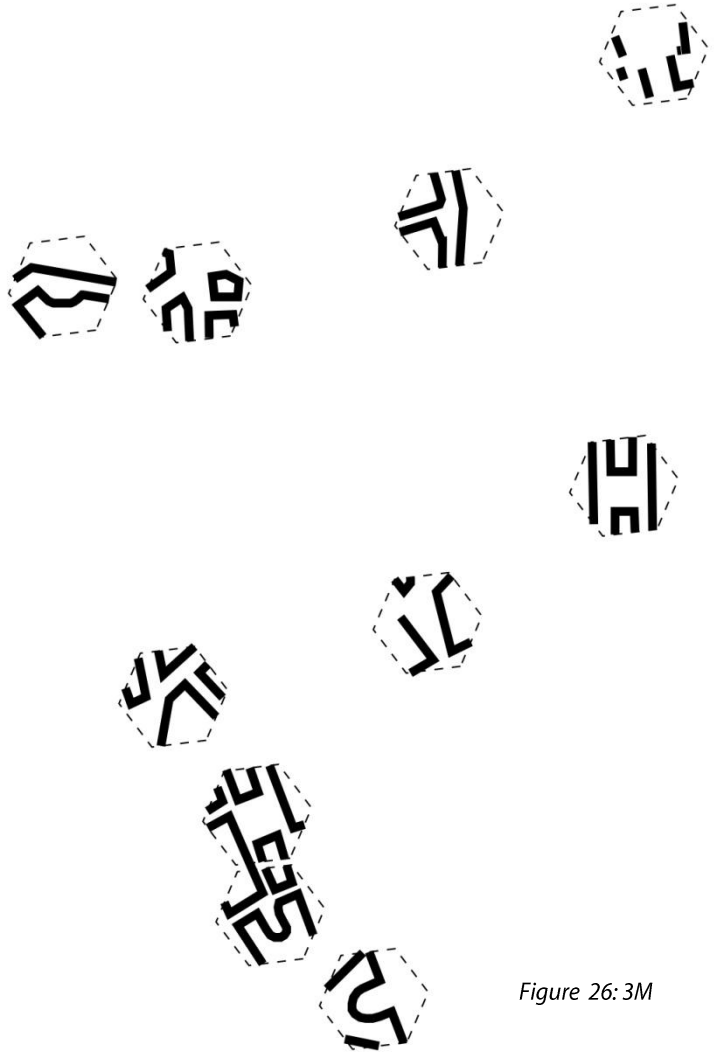


Figure 26: 3M

8.3 PRELIMINARY CONCLUSIONS

The quality of several neighbourhoods of the two districts Middelland an Nieuwe Westen is already very high. In the south and the eastern part of the area there are some unclear structures and situations. Another interesting point is the enclosure of the area. At the western edge there would be potential to make the water(front) a less hard boundary. At the northern edge there is also an opportunity to create quality along the waterside.
Several squares and streets, like shown in the previous paragraph, can definitely be improved to increase safety and opportunities to recreate. Before making a final design more detailed information about the current public life, the (land)use and the morphology is needed.

9. INTENDED END PRODUCTS

With the knowledge that will be gained with the research on public life and the urban morphology of the neighbourhood a design will be made on different scales.

1. The first scale will be the two districts Nieuwe Westen and Middelland. The design will be on the level of street patterns, traffic and pedestrian flows.(1:5000/1:10000/1:25000)
Products:
- Maps
- 3D model

2. With the information of the research a more specific location will be chosen where a design on the scale of several building blocks, few streets or a square can be made. (1:2500/1:1000/1:500)
Products:
- Maps
- 3D model
- Sections
- Impressions

3. At the last scale the public space(squares/streets/playgrounds etc.) and the facades will be designed at eye-level. (1:200/1:100)
Products:
- Maps
- 3D model
- Sections including life
- (Collage) Impressions

The location of the design will be chosen from three concepts that will be elaborated in the coming weeks. The preliminary versions of these three concepts are discussed in the last chapter.

Next to the design recommendations for the policy of the municipality will be made. And finally the research in theory, practise and the design will lead to a final conclusion about the link of Public Life Studies and Urban Morphology.

10. TIME-WORKING SCHEDULE

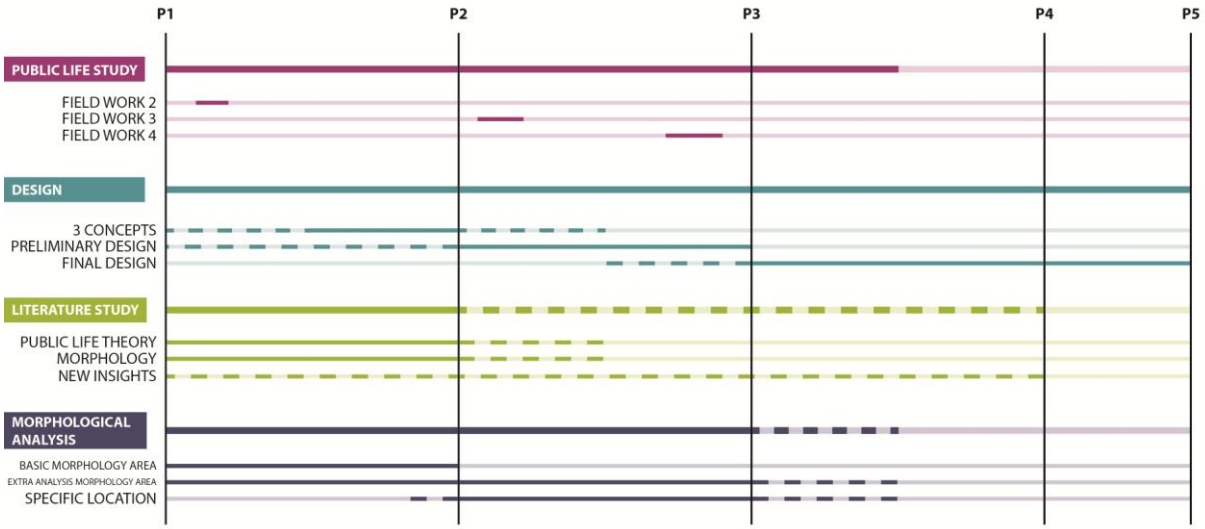


Figure 7: Planning Graduation Project

10.1 PLANNING PER WEEK TILL P3

Week 10
Processing comments
Determine specific location
Morphological analysis specific location

Week 11
Morphological analysis specific location
Preparing PLS FW3

Week 12
Public life study fieldwork 3

Week 13
Processing results public life study
Combining results PLS and UMS in design

Week 14
Combining results PLS and UMS in design

Week 15
Reflecting on literature study; Further research?

Week 16
Elaboration design

Week 17
Preparing PLS FW4

Week 18
Public life study FW4

Week 19
Reflecting on design
Proposals for adaption design till P4

Week 20
Preparing Presentation
Adapting Report

10.2 PLANNING P3 TILL P4

18 weeks (9 weeks summer)
Processing comments
Adaption Design
Reflection on literature research
Recommendation policy municipality
Adapting Report

10.3 PLANNING P4 TILL P5

4 weeks
Processing last comments
Preparing presentation
Adapting Final Report

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12. APPENDIX

Appendix 1:

ANALYSIS OF THE PROGRAM KANSRIJKE WIJKEN OF THE MUNICIPALITY OF ROTTERDAM

The municipality wants to make Rotterdam an attractive city to life in with a strong economy. The strong economy is needed to invest in an attractive city for living, working and staying for residents and visitors. And the other way around a high quality of life will contribute to a favourable business climate. To reach this goal the municipality wants to attract more 'promising families'. Therefore they have started the project 'Kansrijke Wijken' and selected nine 'promising neighbourhoods'. They have started with the program in 2015 with a catalyst project in three neighbourhoods, namely Nieuwe Westen, Middelland and Oude Noorden. The goal of the program is to make these districts more attractive for promising families, wherefore the share of promising families in these neighbourhoods will rise with 10%.

As input the program 'Kansrijke Wijken' the municipality used KIWI(child friendly neighbourhoods), the outdoor playing norm, talks with corporations, intern deliberation within the clusters and talks with the district organisation.

This program will be analysed and discussed in this appendix which will hopefully give a more clear view on what interventions the municipality thinks are necessary in these neighbourhoods. First there will be discussed what the municipality wants , then how they want to reach their goals and at last there will be discussed who is responsible for the program and who will execute the program.

2.2.1 What?

2.2.1.4 Main goal

In a ring of nine districts around the centre, the average share of promising families will rise by 10.0%
1-1-2015: 9,2 %
1-1-2016: 9,4 %
1-1-2017: 9,7 %
1-1-2018 (end) : 10,0%

2.2.1.1 Target group

The target groups that have been appointed by the municipality that can strengthen the city are students, young professionals, promising families and empty nesters. For this program they focus on promising families. They describe the promising families as follows: A promising family is a family with at least one child under 18 years, with no parent that receives social assistance living in a house that has a WOZ-value of at least 160.000 euro. In case one of the parents is subscribed at the UWV this parent has at least an HBO diploma.
The people within this target group will also 'fit' one of the SmartAgent lifestyles. Because the people within the target group are families with kids it would be plausible that they do not fit in the red or the blue lifestyle. The yellow or green lifestyle would be more logical. This would not match with the prevalent red life style in the area.

2.2.1.2 Location

The selected catalyst neighbourhoods are Nieuwe Westen, Middelland, Oude Noorden. According to the municipality the strong points of these three locations are the quiet urban living climate, the amount of pre war housing and that they are located close to city centre.
Weak points of these three locations are the unilateral housing, the waiting lists for popular schools, the insufficient outdoor playgrounds and the stony outdoor space.

2.2.1.3 Ambition

Ambition 'Kansrijke Wijken': To accelerate positive development in realizing an attractive living environment.

2.1.1.5 Assumptions

Assumptions program promising districts: 'The promising districts program will accelerate and strengthen the initiatives of parties and residents. This will make the district more attractive for the target group and will structurally strengthen the investing capital. Besides that the program promising districts will provide a targeted approach.'

2.2.2 How?
The municipality will set up citywide programs which are an combination of collecting needs, ideas and plans from the neighbourhood and the market. They also want effective and integral focusing of the municipal efforts in the nine neighbourhoods. The municipality has made 4,5 million available for this project. A overview of the different programs clustered per project will be given below

Figure 1: Overview of the programs that are included in the program 'Kansrijke Wijken'.

2.2.3 Who?
The administrative client of the municipality of Rotterdam is alderman Schneider. The head of the department City development is responsible for the execution of the project. The daily management will be the responsibility of the project team with representatives of all the clusters.

To organize the participation in the districts, the campaign 'Opzomer mee' and citylab010 are used. 'Opzomer mee' is a campaign that is well known by the target group which makes participation possible without directly contacting the municipality. Through citylab010 residents will come into contact with the program 'Kansrijke Wijken'.

2.2.4 Used Terms
In de program the municipality uses several terms that need more explanation to make clear what the municipality exactly wants to reach with the program. The municipality overall wants to increase the quality of life. Furthermore there can be found a few spatial ambitions. The municipality wants to create a more green outdoor public space and school yards. They want to create dream streets without traffic to create opportunities for the residents to use the street for activities and recreation. To know what the municipality intended by these three terms they have to be defined more clearly.

2.2.4.1 Quality of life

Definition
The municipality describes quality of life as a high quality of living and housing. But without a further description of the term 'quality of life' it is hard to measure the how the program will influence the quality of life. The quality of life of people in a neighbourhood is influenced by many physical, economical and social factors. By measuring quality of life the term livability is often used. Machiel van Dorst describes that the quality of the match between people and their living environment is known as livability. (2012, p. 223) In their urban design manifesto Jacobs and Appleyard describe liveability as follows: 'A city should be a place where everyone can live in relative comfort. Most people want a kind of sanctuary for their living environment, a place where they can bring up children, have privacy, sleep, eat, relax, and restore themselves. This means a well managed environment relatively devoid of nuisance, overcrowding, noise, danger, air pollution, dirt, trash, and other unwelcome intrusions.' (Allan Jacobs & Appleyard, 1987, p. 115) According to this definition area the unwelcome intrusions have to be reduced and the living environment should be more suitable to bring up children, have privacy, eat, relax and restore themselves to increase the quality of life in the area.

Current Situation
In the district profile of Nieuwe Westen people do not seem to be very happy with their living environment. The valuation of the living environment is below the average of Rotterdam. Besides that the amount of residents that experience problems in their neighbourhood is higher than in other neighbourhoods. (Gemeente Rotterdam, 2014b) At last also the amount of vandalism in Nieuwe Westen is higher than average. (Gemeente Rotterdam, 2014b) In Middelland the valuation of the living environment of the

residents is also lower than the average of Rotterdam. The amount of problems the residents have in the neighbourhood is also higher than average. (Gemeente Rotterdam, 2014b) At last many residents experience nuisance of drugs (use). (Gemeente Rotterdam, 2014b)

Future situation
There is room for improvement of the two districts. The causes of the negative valuation of the residents have to be found to improve the future situation.

2.2.4.2 Green outdoor public space

Definition
The municipality wants to make public space more green. To understand what is exactly meant by green outdoor public space a possible definition will be given.

Public space is the open and public space that is needed for the network of roads, streets, squares, parks, watercourses and lakes and for the accessibility of buildings, for traffic, transport, water management and utilities. The size and form, the planting, the amount of water, the materialisation, heights, lights and street furniture are all important factors of public space that play an important role in how some perceives a city. (Meyer, Jong, & Hoekstra, 2006, p. 9) The green outdoor public space will then be the grass, plants and trees in parks, the trees and shrubberies at streets and roads, the lawns along streets and parks, and other plants in public space. To measure if the amount of green outdoor public space will increase we need to know more about the current situation.

Current situation
If you take an average street in the two districts Middelland and Nieuwe Westen it would probably look like the illustration. The public squares in the two districts have completely different amount of green. The Heemraadsingel between the two districts is a completely green park. The Johannes de Vouplein is totally the opposite. There are just a few trees and the rest is of the square is made of stone and has a grey atmosphere.

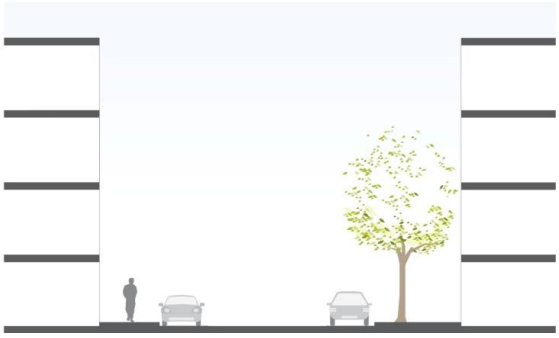

Figure 2: Average street according to morphological analysis

Future situation
A more green public space can be measured by the current and the average situation. If a new design or situation has a greater share of green than both you could say that the goal of a greener outdoor public space is met. But there will always be questions left to be answered like: Is it the ambition of the municipality to create kind of forest streets or do they for example want more trees and green parking places? Or can the green space of a park compensate for a complete street around the corner?

2.2.4.3 Green school yards

Definition
The municipality wants to create more green schoolyards. There have been done several studies about the possible positive influence of nature on children. Agnes van den Berg reviewed a few of these kind of researches, she describes the results in the report 'Kom je buitenspelen'. She concludes that the importance of green in the living environment of children for their motor development, physical (in) activity and the prevalence of overweight is best substantiated in research. (Berg, 2007, p. 5)
The research that has been done therefore gives an argument for the greening of schoolyards. In the Netherlands there are several organisations that contribute to greener schoolyards like Jantje Beton, Fonds 1818, Springzaad, Alterra and Municipalities. Fonds 1818 gives the following definition for a green schoolyard: *'A green schoolyard gives children a chance every day to a nature experience and offers opportunities for nature education. A green schoolyard brings creativity, tranquility, discovery and experience together. Besides that green schoolyards contribute to the biodiversity in the built environment. This variety in plant and animals species is important for the balance of nature.*' (Fonds 1818)

In Rotterdam there has been done a research on the effects of green schoolyards. In the report 'Groene schoolpleinen, wat levert dat op?' they investigated the effects of the greening of four schoolyards in Rotterdam. The most important conclusions from these four schoolyards were that:
- The greening of a schoolyard is not necessarily successful. The greening has to be done careful. Case studies can help to see what does, and what does not work.
- When a schoolyard has been successfully made greener the social climate will also improve.
- It is hard to find empirical evidence of the effect of a greener schoolyard on the well-being of children.
- There has been found no positive effect of the nature attitude of children. (Alterra et al., 2013, p. 2)

Current Situation

The current schoolyards in Nieuwe Westen and Middelland are fully paved with some trees. There is currently no schoolyard that can givessufficient opportunities for nature education. The Heemraadsingel, which does not contain schoolyards, is probably the most green place where children can play in the area. Therefore the schoolyards in the area could definitely become greener to give children a chance to experience nature every day.

Future situation

The design of the future situation can be compared to the current situation. From research it becomes clear that reviewing other similar projects can help to see what will work at a schoolyard and what will not. Simply adding some plants and trees will not necessarily improve the environment for children.

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Appendix 2: Appendix Theory Paper:

A LITERATURE REVIEW ON THE FIELD OF PUBLIC LIFE STUDIES AND URBAN MORPHOLOGY

1. INTRODUCTION

This literature review discusses the history and the different approaches within the field of Public Life Studies and Urban Morphology. Because there has been written little about Public Life Studies(PLS) compared to the field of Urban Morphology the review of Public Life Studies also includes several studies that have been executed in practise to complement the information of the different groups.
The review of PLS is mostly based on the overview given by Jan Gehl and Brigitte Svarre. The review on Urban Morphology is mainly based on Moudon, but also includes other points of view of Cortes, Conzen, van den Burg.

2. PLS

2.1 History of public life studies

In 'How to study public life' Gehl and Svarre give an overview of the most important works and the history of Public Life studies. Since PLS is a very young academic field there has been written little about its history compared to for example the field of urban morphology.
In the nineteenth century cities began to grow rapidly because of the industrialization. Because there was a lot of migration towards the city, cities needed to expand in a very fast pace. The focus of the industrialization on efficiency resulted in more rational approaches to urban building. This modern approach, which focused on rapid urban growth, was the dominant ideology in the mid 1900. One of the influential architects of that time, Le Corbusier, for example argued for a break with the dense traditional city. (Gehl & Svarre, 2013, p. 42)

The rapid economic development also drove the explosive growth of car traffic. The growing importance of the car in the urban fabric also broke with the traditional dense structure of medieval cities. With this growing importance of the car the attention for the pedestrian decreased. The modern architecture was more focused on how you experience the city with the speed of a car than how you experience it walking as a pedestrian. (Gehl & Svarre, 2013, pp. 42,43)

Together with the march of the car the urban density decreased. At the beginning of the 20th century the housing stock was modernized to make an end to the unhealthy overpopulated cities, that were a result of the significant migration towards the cities. The new houses were bigger and the amount of residents per housing unit shrank. Together with the dominance of the car this resulted in cities with a lack of human scale. (Gehl & Svarre, 2013, pp. 42, 43)

Around 1960 writers began to criticize the modern cities and they advocated to bring back pedestrian street life in the car dominated modern cities. It became clear that public space and public life did not work automatically, but that they are influenced by for example population density and physical frameworks. To bring back life on the streets in the modern cities public life was studied. This was the start of public life studies as a specialized field. (Gehl & Svarre, 2013, p. 45)

From mid 1980 till now public life studies were introduced more in practice, because urban planners and local politicians also became more critical of new planned environments like the important writers in the sixties. (Gehl & Svarre, 2013, p. 63) In the 1980s public life studies focused more on security. From 1990 public life studies were also focused on sustainability and from 2000 more on health. Since the last 5 years PLS began to focus on livability. Although incorporating public life in policies and projects has become increasingly widespread in the 21st century, Gehl and Svarre state that this does not mean that the studies or similar forms of systematic planning are carried out before projects are launched. (2013, p. 70)

There are several 'groups' of writers, urban planners and architects who have made a major contribution to the field of public life studies since 1960. These groups and a few of their most important contributors, findings and ideas are mentioned below.

New York

William Whyte and Jane Jacobs, who both played an important role in the field of public life studies, did most of their observations in the city of New York.

William H. Whyte observed people and used time-laps photography to map the paths of pedestrians. He wrote that the quality of life of an individual and the society is influenced by the social life of public spaces. He believed that observing people can gather the knowledge needed to create places that form liveable communities. (Project for Public Spaces) Before Whyte turned to issues of urban revitalization and urban sprawl he already had a big audience as a writer. His book The Organization Man (1956) sold over

two million copies. (Project for Public Spaces) Therefore it is not strange that he played an important role for PLS with his later writings like 'The Social Life of small Urban Spaces'. In 1975 Project for Public spaces, a nonprofit planning, design and educational organization which helps people create and sustain public spaces that build stronger communities, that expanded on his work, was founded. (Project for Public Spaces)

Although Jane Jacobs was not professionally trained as a urban planner, Jane Jacobs has had a great influence as a journalist on the field of urban planning. Jacobs used observations to show how and if a place works and what can be done to improve it. She noted that the policies of governments often do not match the reality of neighbourhoods and argued that a high concentration of people is needed for city life, economic growth and prosperity. She based her writings on her observations and examples. (Project for Public Spaces) In 1961 she presented her observations in 'The Death and Life of Great American Cities'. With this book she challenged the in that time dominant modernist planning. Besides her writings Jacobs is also known as an urban activist. With the Joint Committee she successfully stopped the plans to build a highway trough Manhattan's Washington Square Park and West Village. (Project for Public Spaces)

With the work of Whyte and especially Jacobs the arise of the field of PLS in New York can be seen as a real protest against the modernist top-down planning in New York.

Berkeley

In the early 1960s the University of California at Berkeley created the first College of environmental design.(Moudon, 2003, p. 372) Therefore it is not strange that a lot of important writers for the field of public life studies, like Donald Appleyard, Christopher Alexander and Allan Jacobs, Peter Bosselman, Margeret Crafford and Clare Cooper Marcus were or are engaged to this University.

With his book 'Livable Streets' Donald Appleyard showed the influence of traffic on residential streets. He proved that traffic negatively influences the quality of life on a street. He expanded the scope of urban design with looking at it from the perspective of social sciences. Appleyard was one of the first that used image mapping as a research tool. (Project for Public Spaces)

Christopher Alexander is an architect and professor. He criticizes the modern architecture. In the documentary 'Places for the soul' he shows how modern architecture eliminates emotion. He states that buildings should be shaped by the way people live and that life cannot be produced from a drawing, but that life can only be produced from a process. With his book the pattern language he explores the patterns of people's daily interactions with places. It proposes solutions to common architectural problems. ("Places for the Soul, The architecture of Christopher Alexander," 1990) Christopher Alexander did not only want to learn from the behaviour of people in public space. He wanted to let users design themselves because according to him they know more about buildings and cities than architects and planners. (Gehl & Svarre, 2013, p. 53)

Allan Jacobs uses observations in his research to study what does work and does not work on existing streets. He encourages others to use these public life studies to improve street design. In his book 'Great Streets' he analyses great streets in detail. With this study he identifies the factors that turn streets into successful public places. (Project for Public Spaces)

Peter Bosselman is a professor of Urban Design at the UC Berkeley. He is the director of (environmental) Berkeley laboratory. (UC Regents, 2015b) In this laboratory they build models of city environments to study the impact a planned building might have on the experience of the surroundings. Developing a technique that gives a realistic view on how people experience the city took many years. (Gehl & Svarre, 2013, p. 56) According to Gehl and Svarre, Bosselman's main contribution to the field of public life studies stresses the experience of the city in movement, and how the city can be designed so that the physical frameworks support local climate conditions instead of working against them. (2013, p. 57)

Margeret Crafford is also a professor at the UC Berkeley and she teaches, among other things, urban design and planning focusing on small-scale urbanity and postmodern urbanism. (UC Regents, 2015a) Her work Every day urbanism introduces a concept that encourages the close investigation and empathetic understanding of the specifics of daily life as the basis for urban theory and design. (UC Regents, 2015a)

Clare Cooper Marcus is also a professor at the UC Berkeley. Marcus has conducted many open space studies and evaluations of place design and use, and she is particularly interested in distinguishing elements of public spaces such as the gardens around hospitals, care facilities, and public housing estates. (Project for Public Spaces) As a student in the 1960s, she began studying the public realm and the built environment

with a social science research methodology. Through interviews and observation, she conducted post-occupancy evaluations of several housing schemes. (Project for Public Spaces)

When you look at the amount of important writings and contributors that are linked to the UC Berkeley, you can state that they founded a solid bases for the field of PLS. Studies like in the environmental laboratory have a slightly more technical background then the group of New York, but Crafford for example points out the more elusive side of Public Life Studies with her work 'Every Day Urbanism'.

Denmark
Where the other groups have multiple important contributors the main contributor in Denmark is still Jan Gehl. Jan Gehl is a professor of Urban Design at the School of architecture in Copenhagen, Denmark. His first book, Life between buildings, was published in 1971 and his last in 2010, so he has been an important contributor to the field for over forty years now. In 2000 he founded 'Gehl Architects' together with Helle Søholt. With this bureau he has been involved in many international projects. (Gehl Architects) In studies Gehl worked together with many students and other professionals, but there has not been a person yet who stood up in Denmark to 'compete' with Gehl. Therefore it is hard to call the tradition of PLS in Denmark a real group. But because Gehl and all his students and colleagues is and has been such an important contributor, especially in spreading the idea of PLS, he should be include in this review.

2.2 PLS in practice
Since the mid-twentieth century public life studies became more important in practice. A few examples of executed public life studies of Berkeley, New York and 'Denmark' are discussed below to review their aim and methods. The role of the urban morphology will be addressed were possible.

New York
William H. Whyte (1980)
In his movie 'The social life of small urban spaces' Whyte answers the question: 'Why do some plazas work and others not?'. To answer a part of the question he observes how many people are sitting at fifteen different plazas. He ranks the plazas and combines the sitting data with amount of open space, amount of sittable space, male/female ratio, elevation and more. By combining these data he concludes that People tend to sit where there are places to sit. The observation of the use of the three plazas alone would not be enough to draw a reliable theory on this matter. By comparing the form of the squares the data of the public life studies get a certain value. (Whyte, 1988)

Project for Public Spaces (1981)
Together with Whyte PPS restored the Bryant park in New York. To get grip on the current situation they used interviews, activity mapping and videotaping. With this analysis they got information about the working of the park. They recommended to open the park by removing hedges and opening up the constricted entrances to put an end to the isolated image of the park. They also added food and beverage kiosks. (Project for Public Spaces)

Berkeley
Donald Appleyard (1981)
The increasing amounts of cars in the last century was the reason for Appleyard, together with Mark Lintell to study the effect of car traffic on life in residential streets. They chose three physically similar residential streets with different amounts of traffic. They observed the activity patterns of the street and interviewed residents about their acquaintances in the neighbourhood and where they gather on the street. They marked the results on street maps. The study showed that there was clearly more social life on the streets with the least amount of traffic compared to the street with a great amount of car traffic. In this case, the study itself helps to form an overall prevailing theory about car traffic in residential streets. The difference in physical parameters of the street are not taken into account in this study. (Gehl & Svarre, 2013, p. 115) Therefore the knowledge of morphology is needed to totally exclude it from influencing the results of the study.

Alan Jacobs (1994)
Together with Yodan Rofé and Elizabeth Macdonald, Jacobs studied boulevards to illustrate the physical complexity, richness of the boulevards as a setting for human interaction and the complexity of movement patterns on boulevards. For this study they used different PLS methods. They counted pedestrians and traffic, they mapped the behavior of users and used time-lapse photography and filming. Further they made

measurements of the physical qualities of the boulevards. To draw conclusions from the gathered data they compared the physical characteristic of the boulevards with the behaviour of people on the boulevard. In this research the knowledge of the form plays an important role to help drawing conclusions from the observations. (Jacobs, Rofé, & Macdonald, 1994, pp. 7,13)

Peter Bosselman (1997)

Together with Elizabeth Macdonald, Bosselman researched the environmental quality of multiple roadway boulevards. To test their four hypothesis they use several methods. They studied three streets: A high-traffic residential boulevard, a high-traffic residential street with the same amount of traffic as the center roadway of the boulevard and a low-traffic residential street with the same amount of traffic as the access roads to the boulevard. Besides the use of observations at a block of each street they do multiple case studies to compare the situations. They use these comparisons to see how the traffic interacts with physical variables. (Bosselman & Macdonald, 1997)

Denmark

Jan Gehl (2003)

The studies of Gehl often try to solve a specific problem at a specific place. In his book 'How to study public life' a lot of his own studies are shown. In one of his researches he studies the life in front of open and closed façades. For his study he chose several areas which have open and active facades with further down the street the opposite. The life along the facades was studied by counting the number of pedestrians, their speed, how many stopped or went in or out a door and how long their activities lasted. The time of the year, day and time where also noted to prevent the timing from influencing the results. The study showed that there was more activity in the parts with open facades than in the parts with closed facades. (Gehl & Svarre, 2013, pp. 104,105) In this study the knowledge of the public life in combined with the knowledge of different types of facades.

3. URBAN MORPHOLOGY STUDIES

Moudon describes three different schools of urban morphology, namely the French, English and Italian. In 'the Urban Analysis Guidebook' Leo van den Burg describes the Dutch tradition of analysis of the urban form. Camila Eugenia Pinzon Cortes also includes the studies in the Netherlands in an overview of the urban morphology tradition in his thesis on mapping urban form. Whitehand does not include the Dutch tradition, but he incorporates the North American tradition. In the literature review these five groups are discussed. A literature review per tradition is given below.

Muratorian School (Italian)

The Italians were the first to develop detailed morphological studies. (Cortes, 2009, p. 43) Around 1940 the Italian school of urban morphology was 'established' by Saverio Muratori, one of the pioneers of the study of typomorphology of the urban form. (L. van den Burg et al., 2004, p. 18) Muratori argued the modernist buildings. He saw that the roots of architecture do not lie in the fantastic projections of the modernist, but within the more continuous tradition of city building which prevailed from antiquity until the 1930s.(L. van den Burg et al., 2004, p. 18) In the eyes of Muratori the structure of cities could only be understood historically with building typology as the basis of urban analysis, while modernism was based on intervention of the scale of the master plan and ignored the way cities had been constructed over time.(Cortes, 2009, p. 43; L. van den Burg et al., 2004, p. 19) As an teacher in his architectural design studios, Muratori made the morphological study of existing cities a mandatory step. He was the spiritual father of influential architects like Aldo Rossi and Aymonino, who spread out their ideas and the discussion internationally. (L. van den Burg et al., 2004, pp. 18,19) (Cortes, 2009, p. 43)

His most important successor was Gianfranco Caniggia. Caniggia explains the human environment as made of 'built objects' all related one to the other. These built objects can be identified at four scales: the building, the group of buildings, the city and the region. (L. van den Burg et al., 2004, p. 19) He describes a built objects as a complex entity made of elements, structures, systems and organisms. According to this description he sees the environment as an organism made of components that are also organisms. (L. van den Burg et al., 2004, p. 19) Even though Muratori and Caniggia discussed different scales of the built environment, their observations concentrated on the building type, which is considered the basis for the formation of the urban tissue and of the city. (Cortes, 2009, p. 43)

Although Muratori and Caniggia had a big influence on the architects of their time, they do not completely share the same ideas with these architects about the approach of design theory. Aymonino, Rossi and their colleagues for example thought that in creating a new design, they were free to interpret the historical city as they wished.(L. van den Burg et al., 2004, p. 24) This approach does not agree with the one of Muratori and Caniggia which design theory rested entirely on the history of city building and analysis. (L. van den Burg et al., 2004, p. 24)

Conzenian School (English)

Around the 1930s Conzen developed a British tradition of morphological urban studies. (Cortes, 2009, p. 47) Conzen was originally trained as a geographer which probably lead to his more structured approach. His strict focus on research intended to describe, analyse and explain how urban form is made. Because his main concern did not lie directly on the future city and its design he could concentrate fully on studying the actual city, the process for building it and on developing methods for analysing it.(L. van den Burg et al., 2004, p. 26)

His research focussed primarily on the reading of the town plan, the building fabric and the pattern of land and building utilization.(L. van den Burg et al., 2004, p. 27) Conzen identifies three fundamental elements of the town plan: the streets, the plots and the buildings. (L. van den Burg et al., 2004, pp. 27,28) He uses the individual plot as the fundamental unit of analysis. (L. van den Burg et al., 2004, p. 28) Furthermore Conzen introduced the concept of the compositeness of the town plan. This plan is made of different plan units which describes the variations in the forms, uses and configurations in different parts of the city. (L. van den Burg et al., 2004, p. 28)

Recently the aim of a large amount of studies within the Conzenian School is to examine what Conzen called 'the townscape'. 'The townscape' is a combination of the town plan, building forms and land use. The town plan contains streets and their arrangements in a street system, plots and their aggregation in street blocks, and buildings or more precisely block-plans. (Cortes, 2009, p. 49) The homogeneity of elements in this combination defines what Conzen calls 'plan units'. Thus a 'plan unit' is an individualised combination of street plots and buildings. (Cortes, 2009, p. 49)

Another important concept of Conzen is the fringe belt. This concept explains urban development in relation to cycles. When there is stagnation in the residential expansion of such a cycle, fringe belts appear. Fringe belts are areas located contiguous to previous residential expansion areas that start accommodating different functions that usually require bigger surfaces or are otherwise hard to match with residential areas like industry, universities or hospitals. (Cortes, 2009, p. 49)

Versailles School (France)

The French school was influenced by the approach of the Italian school. It followed the idea of Muratori that modernism had created an unrecoverable break from the past and that the roots of architecture had to be rediscovered in past traditions. (L. van den Burg et al., 2004, p. 32) In contrast to the Italian school in France various disciplines (sociologist, historians, geographers, architects and planners) worked together to achieve an improved understanding of the city.(L. van den Burg et al., 2004, p. 32) They studied urban patterns by looking at the relation between the urban reality and the ideas and theories of urban design and form. (Cortes, 2009, p. 45) Their principal claim is that the understanding of architectural and urban form is an legitimate and effective means to understand a society. (Cortes, 2009, p. 45)

While the Italians focus on the period before the modernist building and planning the French also take a close look at modern cities. In their idea of evolution in patterns, types and forms modernism is also part of one of the lines of this evolution. Thus in this evolution the historical city is not the only homogeneous type of city but it compiles a variation of types and models that evolve in different directions. Therefore they are interested in the development and diffusion of different architectural models. (Cortes, 2009, p. 47)

Dutch tradition

In 'The Urban Analysis Guidebook' van den Burg dicusses the Dutch tradition in urban analysis. Cortes also includes the Dutch tradition in his thesis. In his review he includes the Dutch studies because they incorporate different elements, like the layered approach, that have not been addressed by others. (Cortes, 2009, p. 49) There are several publications that van den Burg considers reflecting a specifically Dutch tradition. One of these publications is the LAS book by Rein Geurtsen, Bernard Leupen and Tjallingii. This book was also the first important publication. The objective of this book is to provide a toolbox for the analysis of spatial objects at all scale levels for the house and building to the city and the region. (Cortes, 2009, p. 50)

Contrary to other cases the Dutch did not develop many detailed typo-morphological studies but they used the approach more in relation to design. (Cortes, 2009, p. 49) Corresponding with this approach the 'plan analysis' was developed at the faculty of architecture of the TU Delft. (Cortes, 2009, p. 50) The plan analysis is a form of research that investigates the design as a result of a process in which particularly the approach and the design method of the designer are central. The plan analysis focuses on naming and clarifying of essential features in the spatial composition which have to do mainly with the specific position and methods of the designer. (Cortes, 2009, p. 50)

As noted before the studies in the Dutch approach have a clear design orientation. Cortes notes two directions in this orientation. The first direction is that most common studies are often an analysis of a specific area which leads to a design, vision or scenario. The second direction in this orientation is that the research does not directly need to deal with design but deals with understanding designers interventions. (Cortes, 2009, p. 50) Techniques like reduction, addition and disassembly are used to extract the essential aspects from the plans or projects in order to reveal certain logic and structure trough the drawing process. (Cortes, 2009, p. 50) The morphological study of an area in the Dutch approach involves also aspects like, townscape, perception, representation of paths and primary elements. These elements are mapped in reduction drawings that attempt to represent the spatial structure of the studied area. (Cortes, 2009, p. 50) The Dutch studies also emphasize the identification of patterns. The recognition of patterns defines 'homogeneous areas' that share the same pattern, historical evolution and formal configuration and therefore can be decomposed geometrically and hierarchically to reveal the spatial structure of such an area. (Cortes, 2009, p. 51)

North American tradition

In his book 'The changing face of cities' Whitehand states that the most research on the field of urban morphology comes from three regions in the world: Central Europe, Great Britain and North America.(1987, pp. 2,3) According to Whitehand the American urban morphology had two strands, a cultural geography strand and a strand with a socio-economic perspective. The socio-economic strand that emphasized land-use studies influenced the British urban morphology. (Whitehand, 1987, p. 8) Cortes also addresses the North American tradition. He mentions that the study of the American city generated an important new theme which was not observed by the morphological studies in Europe, namely that of the perception. (Cortes, 2009, p. 54)

A specific morphological approach of the urban form came relatively late in America. In the beginning there was more interest in the esthetical character and the (economical) development process of cities. In his article about the American urban form Michael P. Conzen, chairman of the committee on geographical studies, mentions that for many decades the American urban form was more the field for social critics than for detailed scientific study. This changed when geographers began the study the American city. He calls James Vance the first American geographer that integrated morphology in his interpretation of American urbanism. (Conzen, 2001, p. 2) After more relevant studies the notion of the built environment got more important to understand its development. (Conzen, 2001, p. 2) Because American cities are relatively young compared to most European cities it is not strange that studies on American cities are more focussed on their initial plan characteristics and underlying social-physical principles and not on its historical character. (Conzen, 2001, p. 3) Like Cortes, Conzen also mentions the perceptual dimension of urban morphology that has become more important in the study of the American form in the last decades. He also states that more 'objective' morphological studies have a tendency to leave human action implicit in the results being studied on the ground. (Conzen, 2001, p. 10)

Because of the rapid change of American cities its study of morphology is different from that of European cities. It is maybe a bit more unstructured but definitely not less imaginative than in Europe.(Conzen, 2001, p. 9)

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Appendix 3: Analysis Urban Morphology

In this appendix the maps that contribute to the conclusions of the urban morphology of Middelland and Nieuwe Westen are shown.

The map in figure 1 shows the different types of building blocks in Middelland/Nieuwe Westen. Most areas have a divers palet of building blocks. The south-east area on the other hand has a more homogenueus structure.

Figure 1: Analysis of the building blocks

In the map in figure 2 the construction years of the buildings are shown. The biggest part of the buidlings date from 1900-1930. This was also the period were the orginal plan was realised. Many buildings around squares date from the 80s or 90s. The building blocks were probably open-up to create new public spaces.

Figure 2: Construction years buildings

In the map in figure 3 the street structures are mapped. From the streetpatterns four different structures can be derived.

Figure 3: Street structures