

The background features several large, semi-transparent geometric shapes in shades of orange, yellow, and purple, arranged in a scattered pattern. The shapes include diamonds and rectangles, some of which are partially cut off by the edges of the page.

DEVELOPING SUSTAINABLE URBAN AREAS

Recommendations on urban form and development approach based on theory and top-down & bottom-up planning examples Overhoeks and Buiksloterham

Kris Steen

Graduation thesis:

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KRIS Y. G. STEEN

AR3R040 - Urban Area Development Laboratory
Master Management in the Built environment
Delft University of Technology

First Mentor: **Yawei Chen**

Second Mentor: **Birgit Hausleitner**

Cover art: Compositie No. 8, Bart van Leck

SUMMARY

In recent years the concept of mixed-use has emerged as a popular planning tool for urban planners to develop sustainable urban areas. With reason, because a clear positive relationship between function mix and urban sustainability in social, environmental and economic sense can be established from research.

In practice however, we see that the physical interpretation of the concept of mixed-use and the urban area development process employed for mixed-use areas, although pursued enthusiastically in projects all over the world, varies greatly from project to project. The effect is that some (re) developed areas are not achieving the full sustainability benefits they aimed at with implementing mixed-use.

A problem in practice is indicated that there is uncertainty in the field of urban area development on how to develop sustainable mixed-use urban areas, both in terms of product (what to develop) and process (how to develop it). This is subscribed by, although extensive research is done on both topics, a lack of formulated physical specifics in literature on the sustainable urban form of mixed-use, as well as lack of a clear answer on what development approach is best for developing mixed-use areas from the perspective of sustainability of the end-result.

To enhance the success of this kind of developments, this paper will formulate a clear answer on the main research question 'how can long term urban sustainability be achieved in urban area developments' by determining the product (urban form) and process (development approach)-aspects that are important in the context of achieving sustainable mixed-use urban areas. This will be done by synthesizing the existing, dispersed knowledge on sustainable urbanism and urban area development along a well-substantiated perspective of 'optimal' sustainability and by studying two development approaches in practice. From this, a cohesive framework of aligned recommendations on urban form and development approach focused on achieving sustainable mixed-use areas will be made, providing actors in the urban area development process with the possibility to actively steer on these aspects and ensure better sustainable performances of the development result.

Based on the findings from theory and empiry, the urban form that offers most potential for achieving long term urban sustainability in urban area developments can be defined as mixed-use neighbourhoods with specific physical features that foster walkability, vibrancy, diversity, freedom for the end-user to shape his own environment, and a sense of identity. Each of these features are substantiated by multiple researches.

The concept of mixed-use development is appointed by practice as well as theory as the urban form that offers most potential of achieving long term urban sustainability. Long term urban sustainability is in this research defined as holistic long term economical, environmental and social viability of urban areas. Thorough reflection on the topic by contemporary theories on

sustainable urbanism as well as long term successful examples from practice indicate that a high level of function mix is a critical component for urban sustainability, positively impacting urban sustainability in the social field and in the fields of transport, environment, and economy.

The 'optimal' features from the perspective of long term urban sustainability have been defined as the features that achieve the most sustainable long-term end-user behaviour, since for endurance and viability it is essential for sustainable systems to be utilized and therefore to undertake a sustainable behaviour that will continue to exist. It overarches the different aspects of sustainability and brings them back to their initial driver. To do this, first the maximum sustainable benefits of mixed-use are translated into concrete goals for mixed-use. Theory on mixed-use offers solutions through which mixed-use development can achieve these goals. These solutions all presuppose a certain end-user behaviour. Finally, these end-user behaviours pose certain requirements to the urban form to induce and support this end-user behaviour, which are determined with the help of recommendations from literature, observation of practice and input of experts in the form of relevant physical variables.

The exact physical characteristics of the urban form that are significant for the degree of urban sustainability of the area have been summarized in a list of variables, which are supplemented with their desired values from the perspective of urban sustainability.

This list can serve as a guideline for achieving sustainability when designing mixed-use urban areas, by using it during the development process to oversee the impact on urban sustainability of proposed interventions and guard sustainable decision-making.

To answer the question on the process dimension of which development approach offers most potential for achieving urban sustainability in mixed-use areas, literature on the urban area development process and possible development approaches has been reviewed with sustainable product-aspect of the previous part in mind. Furthermore, the two extremes of the possible development approaches have been studied in detail in practice through case studies of a bottom-up and top-down development approach in the Netherlands, giving a clear insight in the difficulties and threats to sustainability in the development process in practice, verifying and assessing recommendations from theory, and leading to specific recommendations from practice.

The development approach determined as offering the most potential for achieving long term urban sustainability in the development result, is a combination of top-down and bottom-up planning in which the municipality sets out and guards a broad strategic course, focused on sustainability, and the developed is led by private parties (including housing associations) who develop the area in plots on own initiative according to their own ideas. In this development approach, private parties should be encouraged to take on responsibilities that go beyond the scale and term of the development of a single building, leading to larger scopes and longer term commitments and engagement in the development of the area as a whole. Plan development in this field is formed through participatory and collaborative decision-making processes in a setting of horizontal inter-actor relationships, in which the actors combine their means and knowledge to come to mutually

beneficial, integrated solutions. End-users of the area should get a large influence over the shaping of their own environment, both through close inclusion in the development process or provided opportunities to build their own homes or business spaces through (collective) private commissioning formulas.

The role of the public authorities and ultimately the municipality is to facilitate these private development initiatives, while at the same time keeping a strong direction over the process from a long term, wide-scope, public interest-oriented strategic planning basis. For this, an appropriate institutional framework has to be employed that finds a balance between the regulations necessary for the protection of the aims of the development and the qualities of the area, and a maximum degree of freedom for the development of valuable private initiatives.

Finally, all of this should happen with a focus of long term urban sustainability in mind. This should be incorporated in the strategic plan and steering of the municipality, but should also be instated in the minds of the private actors participating in the urban area development, and guarded throughout the development process. Development of knowledge on the topic, corresponding actor education and employment of a pragmatic, and a sustainability-oriented working method that provides handles for the inclusion, operationalisation, guarding and monitoring of sustainable principles in the development process, all explained in the recommendations section of this research, should secure the integral consideration of this sustainable dimension in the urban area development process.

FOREWORD

Ever since starting my Bachelor of Architecture at the Delft University of Technology in 2010, I have been filled with the belief that architecture and urbanism are about so much more than just aesthetics and are a reflection of as well as a tool to shape the behaviour of people and societal processes. The rational side of architecture and urbanism, in which the design is first and foremost an adequate solution to a set task, has therefore always been central in my focus.

In my opinion, the complex task facing architecture and urbanism today, is the challenge of finding a way to implement the necessary dimension of sustainability in buildings and urban areas. Particularly the strategic planning for sustainability on the larger scale, in the form of urban area (re)developments, seems very relevant to me. Over the course of my master studies at the track Management in the Built Environment, I have tried to follow this motivation and focus on sustainable development by actively choosing for the assignments, topics and courses that learned my more about urban planning and sustainability, including a programme on sustainable urban planning at the Royal Institute of Technology (KTH) in Stockholm. The choice for the graduation laboratory of Urban Area Development and direction Urban Adaptation Strategies had long been made; allowing me to choose a graduation topic in which my interest in urban area development and sustainability could be combined.

This report is the result of one year of this research and represents my graduation thesis for the Master Management in the Built Environment. Before wishing you as much enjoyment in reading it as I had while working on it, I would like to thank a few persons without whom this graduation thesis would not have been possible, or at least wouldn't be what it is today. Firstly I want to thank my graduation laboratory coordinator Erwin Heurkens and my mentors Yawei Chen and Birgit Hausleitner, for their expertise and guidance in choosing my graduation topic and for making my research that much stronger. Furthermore I want to express my sincere thanks to projectmanagers Annegien Krugers Dagneaux, Pascal van der Velde, Els Daems and Sanne Bouwman, assistant-projectmanagers Thijs Koolmees and Sabina Baarsma and the rest of the project team of Overhoeks and Buiksloterham, for offering me an interesting internship at the municipality of Amsterdam that allowed me to add a new dimension to my research and myself. Last but not least, I would like to thank my friends and parents for understanding and supporting me during what was, as a result, one of the busiest periods of my life so far.

Enjoy your reading,

Kris Steen

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I. BACKGROUND



1. INTRODUCTION

Urban space is constantly changing. Urban (re)development is therefore vital to a city's existence (Asbeek Brusse, Van Dalen & Wissink, 2002). At the same time, humanity is becoming increasingly conscious of the need for 'creating and maintaining conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations': Sustainability (National Research Council (U.S.), 2011). In the present era with the imminent climate change and the approaching end of the fossil-fuel period, this sense of sustainability is often compromised, especially in cities, as the sites of the largest conglomerations of people and resources. A transition towards more sustainable cities is therefore of great importance to our future and the main challenge facing the urban (re)development practice today.

In order for cities to be sustainable, urban areas should be designed in such a way that they can accommodate the socio-economical and functional developments of the city in the future with the minimal amount of necessary structural interventions (Reijndorp, Bijlsma & Nio, 2012). This calls for a structured planning method. There are many existing theories and visions on how this 'sustainable urban area' can allegedly be planned, of which the famous models of the smart city, the eco-city, the green city, the compact city and urban placemaking are only a few examples.

A planning tool that has emerged from these theories as a key component in creating sustainable urban areas, is mixed-use development (Hausleitner, 2014). The concept of mixed-use comprises a high level of diversity in functional land-uses within a certain geographical area (such as residential, commercial, industrial, institutional, functions related to transportation, and many more), also referred to as 'function mix' or 'land-use integration' (Jabareen, 2006; Miller & Miller, 2003). Since the 1960's the concept of diversity as a requirement for a viable urban area emerged in urban planning literature, and from research and examples from practice it has been established that mixed-use development has a clear positive relationship with urban sustainability for numerous reasons, in terms of health, quality of life for the residents, transport, and ecological footprint (Coupland, 1997; Gentin, 2009; Grant, 2007 ; Lehmann, 2010 ; Kenworthy, 2006).

The physical form of implementation of the concept of mixed use in terms of urban form is important for the success or failure of mixed-use developments. The exact way functions are mixed is of great influence on the physical (energy efficiency, transport efficiency, environmental impact...) as well as on the social sustainability of an urban area (Adams & Tiesdell, 2012). In urban redevelopments, this urban form is the result of a complex urban area development process in which numerous actors influence the development result in a context of diverging interests, urgencies and objectives. In order to maximize the sustainability of urban areas, well-planned mixed-use areas are necessary, and adequate guidelines regarding the physical implementation of the concept of mixed-use as well as a adequate development approaches that facilitate this sustainable development, are crucial.

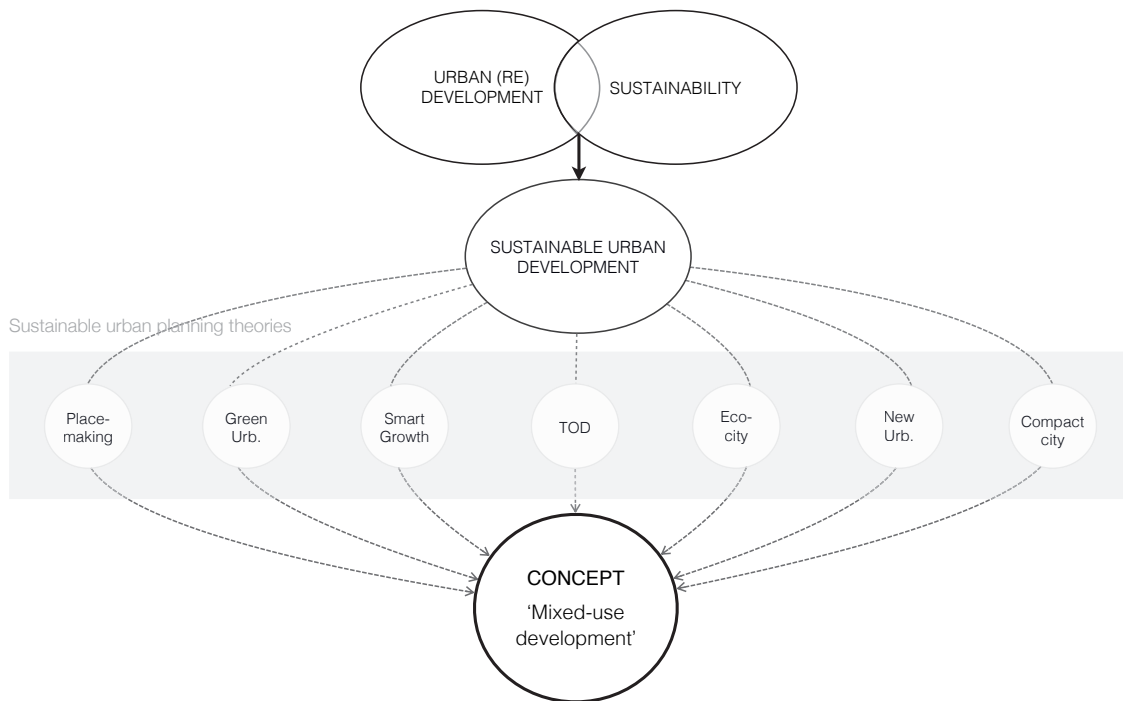


Figure 1.1.1. Research context (own illustration)

A. PROBLEM DEFINITION

The need for sustainable urban development and sustainable urban areas is clear. Mixed-use development has been part of sustainable urbanism theories for years and has become widely accepted in the practical urban planning field as a formula for achieving sustainable urban areas. For this reason it has been adopted in urban (re)development projects all over the world, including in the Netherlands, as is being illustrated by projects like De Nieuwe Binckhorst in The Hague, Amsterdam South Axis, Kop van Zuid in Rotterdam and many more.

In practice however, we see that the concept of mixed-use, although pursued enthusiastically in projects all over the world and often to positive effect, does not always induce the sustainable effects in practice that theory subscribes.

The physical interpretation of how the concept of mixed-use should be adopted in urban context varies greatly from project to project, in terms of the chosen functions (and the resulting compatibility), form (i.e. vertical mixed-use, horizontal mixed-use on street level, etc) and scale of function mix. (i.e. function differentiation on building level, on street level, on neighbourhood level, on district level etc.) (Grant, 2002; Rowley, 1996; Department for Communities and Local Government, 2006) (later explained in theoretical framework chapter II.1). Also the development strategies employed for mixed-use urban area developments differ, with different hierarchical

relations and role divisions between public and private parties, different collaboration and decision-making processes, and different institutional frameworks and working methods (Herndon, 2011; Hoppenbrouwer & Louw, 2005; Rombouts, 2006).

Both the urban area development process through which mixed-use areas are developed and the physical development result, which are interrelated, are determinative for the future degree of urban sustainability of the area. The inconsistency in the approach to mixed-use development leads to inconsistent results in the field of sustainability. The effect is that some (re)developed areas are not achieving the full potential of sustainability benefits of mixed-use development (Rombouts, 2006; Grant, 2002). The underlying problem in practice is that there is uncertainty in the field of urban area development on how to develop sustainable mixed-use urban areas, both in terms of product (what to develop) and process (how to develop it).

When looking at theory, it becomes clear that, although the concept of mixed-use and its sustainable benefits are widely researched and recommended, almost no physical specifics on the sustainable form of implementation of mixed-use in practice are formulated in literature. In the field of the development approach, likewise, many theories are formulated on the allegedly most promising methods of urban area development in the present time, but no clear answer has been provided on what development approach is best from the perspective of achieving sustainable mixed-use areas. This leads to a knowledge gap between, on the one hand, the theory known on sustainable urban planning and successful urban area development, and on the other hand the lack of concrete and intelligible information in practice on how these concepts can be applied in practice.

The main problem to be solved is thus to take away these uncertainties and provide a clear answer on the product and process aspects that are important in the context of achieving sustainable mixed-use urban areas. By deducing these factors from theoretical and empirical research along a well-substantiated perspective of 'optimal' sustainability, actors in the urban area development process will be provided with the possibility to actively steer on these aspects, ensuring better sustainable performances of the development result.

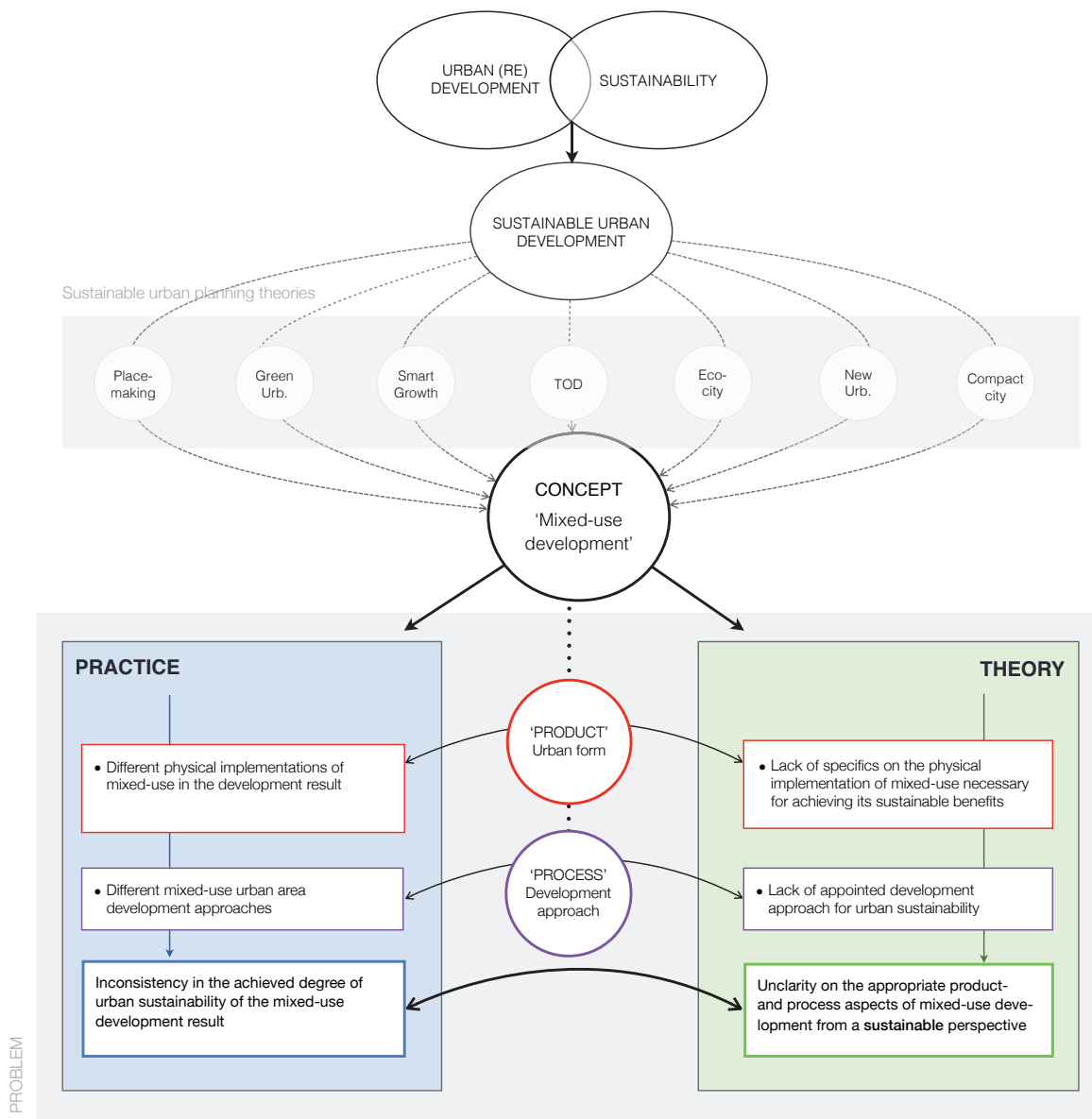


Figure I.1.2. Research context + research problem (own illustration)

B. QUESTION STATEMENT

In order to make the topic researchable, the problem to be solved and goal that is aimed to be achieved is formulated in a research question and -goal.

RESEARCH QUESTIONS

Main research questions

Following this problem analysis, the main research question that this study will attempt to answer is: *'How can long term urban sustainability be achieved in urban area developments?'*

The main research question is twofold, referring to both the product aspect (what to develop) as the process aspect (how to develop it) of the research problem. The main research question can therefore be split up in two detailed research questions, focussing on these two dimensions:

A. 'What urban form offers most potential for achieving long term sustainable urban areas?'

B. 'Which development approach offers best opportunities for achieving long term sustainable mixed-use urban area developments?'

Background questions

In the light of answering these questions some background questions will be posed, forming the red line throughout the thesis. These background questions are:

I. Urban sustainability & the sustainable mixed-use area

- What is (optimal) urban sustainability?
- What is the relationship between mixed-use and urban sustainability?
- How can the optimal urban form for achieving sustainable mixed-use areas be determined?

II. The (sustainability) mixed-use urban area development process

- How does the mixed-use urban area development process work and what are the typical difficulties in mixed-use urban area development?
- What development approaches are employed in mixed-use urban area developments and what are their characteristics?
- What are the threats and opportunities for implementing sustainability in the urban area development process?

The questions will, along with the detailed research questions, be answered through research of theory and practice, and will ultimately lead to an answer of the main research question at the end of the research.

QUESTION DELIMITATION

This research question focuses on several points.

Mixed-use area developments - Firstly, this research will focus on mixed-use development. Mixed-use area developments are urban area (re)developments that employ a mix of urban functions within the designated development area as part of the development goals. It is an extremely interesting aspect of urban areas to research, as it bridges the different scale levels of urban planning (going from the small scale of streets and neighbourhoods to the large scale of the city as a whole) and is an overarching aspect that has repercussions in many fields (urban form, mobility, filling in of real estate, social sustainability...). Also, it is an aspect that can be influenced and thus provide opportunities for enhancing sustainability both in new and existing urban areas.

This paper will focus specifically on mixed-use areas that include a residential function amongst the urban function mix. This excludes all mixed-use industrial areas, business areas and other purely supportive areas and also excludes the relative geographical requirement of for example 'inner-city' areas. This is because many of the sustainability benefits of mixed-use development are dependent on the presence of permanent residential users of the area, such as the use of transport and existence of social cohesion. Next to that, residence is the main function of the city and thus one of the most important ones to be optimized.

Product - This research focuses on both the product and the process aspect of achieving long term urban sustainability in mixed-use urban area developments. With 'product', the physical result of the development is indicated, referring to the actual, physical form in which the concept of mixed-use is implemented in practice in terms of type, scale, urban texture, dimension and design (See theoretical framework chapter 1). In other words: Urban form.

While the process side of how to successfully develop the aimed at development result is interesting, knowledge of the product-aspect is crucial, in order to know what to work towards. This product or urban form is therefore one of the aspects to be optimized in this research.

Process - Next to the product aspect, the research focuses on the process aspect of achieving long term urban sustainability in mixed-use urban area developments; Answering the question how to develop the aimed at (sustainable and mixed-use, in this case) development product. This process refers to the employed urban area development process, better referred to as development approach.

Just as specific characteristics of the urban form can influence the future degree of sustainability of an urban area, certain features of the process can do this as well, as will be further explained in the theoretical framework, chapter 2. Therefore, the process or development approach is the second aspect to be optimized in this research.

Urban sustainability - One thing this research does not delimitate is the definition of urban sustainability. The aim of this research is to optimize the planning of mixed-use area developments with the objective of achieving optimal urban sustainability. The full scope of urban sustainability is addressed, in order to come to a fully balanced assessment of options. This includes all environmental, economic, social and other considerations. In order to define what the true 'optimization' of the urban sustainability of a mixed-use development implies, a theoretical definition of the sustainable mixed-use area will be defined and thoroughly researched from the perspective of all angles of sustainable development, including people, planet and profit, in the first chapter of the theoretical framework.

Whole lifecycle approach - As urban sustainability is a long-term concept, this research will dive into the full lifecycle of mixed-use development projects, in order to understand how the degree of urban sustainability is influenced during the lifecycle, and where potential mismatches between theory and practice take place. This means that all phases of the development process will be addressed, including the general planning phase on policy level, the initiation of a project, the development phase and the operation phase.

As always in scientific research, the terms referred to in this paper sound very similar but are definitely quite distinct. For this reason section 'Terminology' is added at the end of this report dedicated to the specification of the used terminology in this paper, in order to make an abstract terminology more concrete and clarify the exact definitions and links of the various concepts.

C. RESEARCH GOAL

Finally, this leads us to the goal statement of this research.

The goal of this research is to investigate how the development of urban areas can be perfected in order to achieve long term sustainable urban areas.

There is a sea of theories and models on sustainable urbanism and urban area development, but there is no model that integrates the separately known elements into a holistic urban planning product and process that is applicable in practice and made from an objective of achieving urban sustainability. With this research I want to contribute to closing this knowledge gap, by relying on the different theories that are known and making meaningful connections from that point on.

To do this, established concepts from theory in the field of the development product and -process will be taken as a guideline for analysis: Mixed-use development for the product side, and top-down (public-lead) and bottom-up (private lead) urban area development approaches for the process. These concepts result from previous research conducted over the course of the studies of the researcher, in which they have proven to be core factors in the context of successful urban

areas and urban area developments. Drawing on strong theoretical research in combination with empirical study on two urban area development cases in the Netherlands in practice, existing theories and concepts on urban planning and urban area development approaches will be re-evaluated from a new, specific perspective of evaluation in literature; that of achieving long term urban sustainability.

The aimed at result of this research is to, based on these findings, synthesize the existing, dispersed knowledge on the topic into a cohesive framework of aligned recommendations that makes it applicable in the practice of urban area development. These concrete recommendations on product and process can serve as hands-on directives that can be employed by planning parties in mixed-use area (re)developments to optimize the urban sustainability of the area. Ideally, these guidelines are widely applicable to help transition to long term sustainable urban area developments.

For the conceptual model, see the next page.

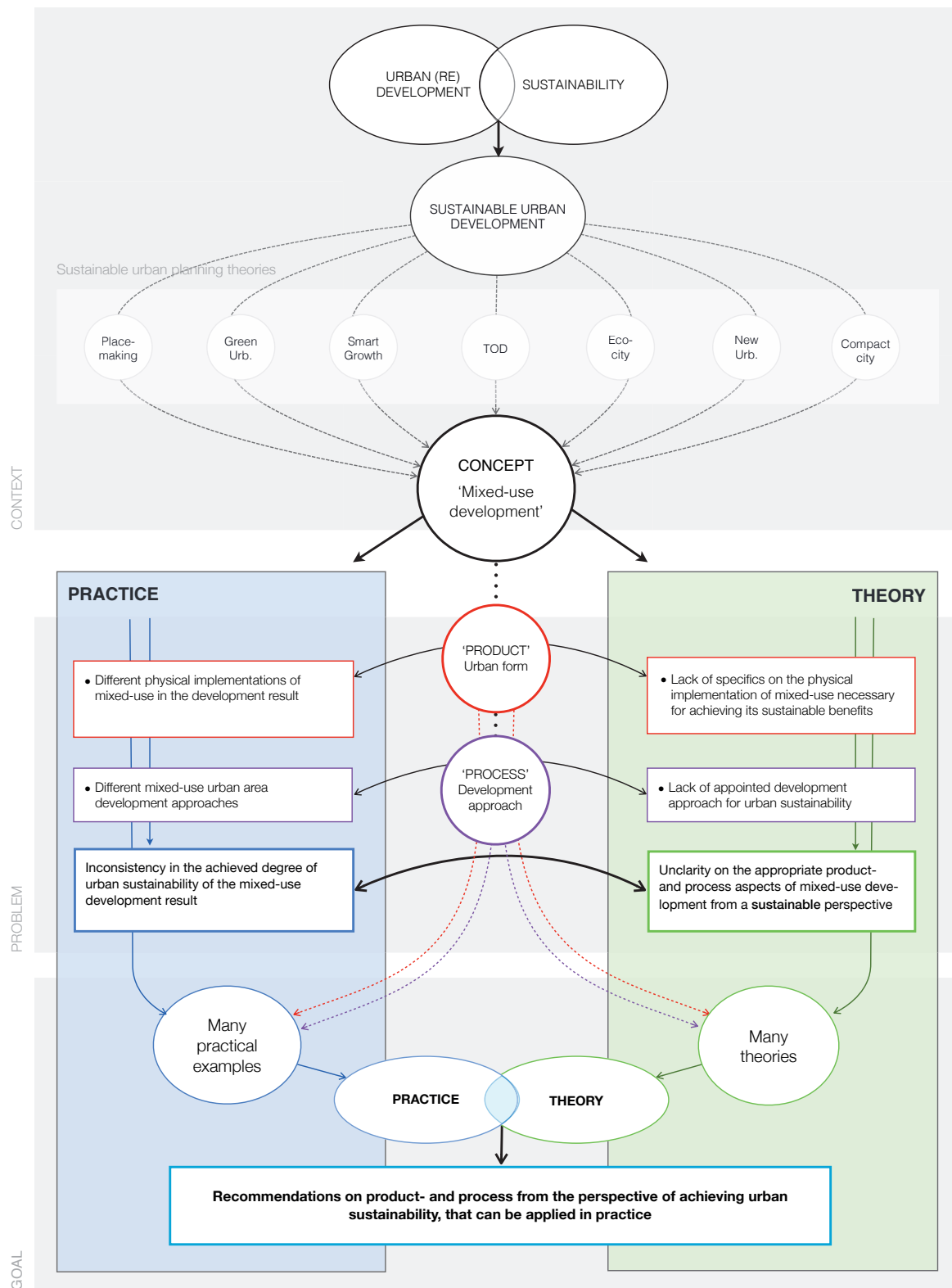


Figure 1.1.3. Conceptual model (own illustration)

2. RESEARCH APPROACH

This part presents the research approach employed to conduct the research explained in the previous chapter. The proposed research design, strategy, methods, and the chosen cases will be presented while addressing their generalizability and validity. The paragraph research organization, finally, will explain the specifics of the practical organization of the research project, such as the coaching from the Delft University of Technology, the internship at the municipality of Amsterdam and the research planning.

A. RESEARCH STRATEGY AND DESIGN

Mixed-methods strategy

The research strategy used for this research is a qualitatively driven mixed methods strategy.

At the core, the research study is a qualitative study, focused on causal relationships between proces, urban form and urban sustainability and determination of relevant variables in the field through strong logical reasoning based on theoretical and practical evidence. This qualitative research is supplemented with quantitative data in the empirical part of the research, to supply the qualitative research with more concrete and objective data from practice. This mixed strategy permits triangulation between theory and practice and quantitative and qualitative methods, which can verify and confirm research findings and can provide a deeper, wider, and better substantiated answer to research questions. These two components of mixed-methods research are also complementary, as one method can be used to fill in the gaps of the other one and they can lie relevant links, promoting mutual understanding. (Johnson, Onwuegbuzie, & Turner, 2007).

The qualitative research will be used to establish the theoretical framework and to perform the qualitative interviews and data analysis in the empirical part of the research, and finally for the synthesis of the findings from the theoretical and empirical research into relevant conclusions and recommendations. The quantitative research will be used in the form of quantitative observation on the amount of times the variables resulting from qualitative research are included in planning documents and development deliberations and the way they are influenced, and to compare the quantitative data from the two case studies to one-another.

Descriptive case-study design

The research design is a descriptive case study design. Descriptive designs aim to observe and describe, and help provide answers to the questions of 'who', 'what', 'when', 'where', and 'how' associated with a particular research problem; in this case, the features of the development approaches and sustainability of the development outcomes of two case studies in practice. The objective findings on these two aspects from the descriptive case study design will be interpreted along the lines of the research questions through systematic literature review, aimed at explaining the found observations and their interrelations.

The case study design is employed to narrow down a very broad field of research into one or a few easily researchable examples. A case study is an in-depth study of the research problem and can bring an understanding of a complex issue through detailed analysis of a limited number of events or conditions and their relationships (Lynn & Lynn, 2015): In this case, two diverging development approaches and their development outcomes in a furthermore similar context.

The exact research design, supplemented with the research questions, research methods and outputs along with the logical sequence of how is moved from one subject to the next, is visualized in the following figure. This approach coincides with the structure of the final parts and chapters of the graduation report.

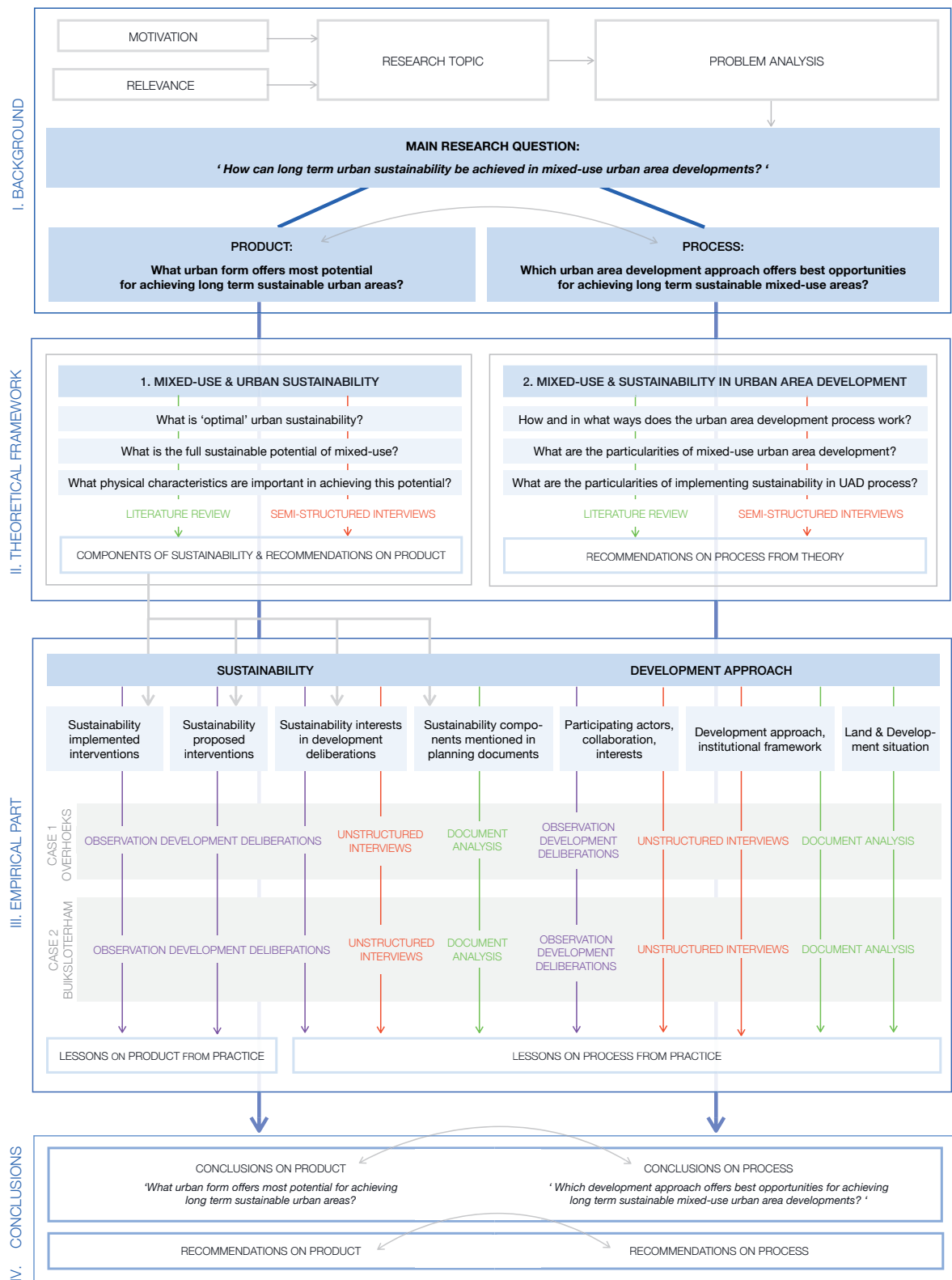


Figure I.2.1. Visualization of research approach (own illustration)

B. CASE STUDIES

This research partly consists of an empirical part that studies mixed-use urban area development processes in practice, through document analysis, actor interviews and observation. This makes the study of certain specific projects (cases) unavoidable. Therefore a selection of urban area development projects will have to be made.

Case selection

The cases will be selected according to a number of selection criteria that the cases will have to conform to in order to be suitable to use for this particular research.

Mixed-use urban area development projects - First requirement is that the cases are mixed-use urban area development projects, as this research focuses specifically on mixed-use urban area developments (see chapter I.1.B, Question delimitation).

Development approach - The main aim of the case studies in this research is thus to study the urban area development process. Therefore, this will be the second selection criterion for the cases.

From literature review, a number of development approaches have come forward as means of addressing urban area development tasks at present. The most important differences between these approaches do in fact come down to a single linear variable: the degree of governmental control in the urban area development project, ranging from top-down to bottom-up developments (see Theoretical Framework, chapter 2). In order to observe the implications of a larger or lesser value of this variable in the urban area development process, it makes sense to study two extremes, so that the differences in certain specifically studied aspects can most clearly be seen. For this reason, cases have been selected with an opposite development approach; one very top-down, one very bottom-up.

Comparable context - To be able to relate the found differences in the case studies to the development approach and not to other factors with a certain level of certainty, it is easiest if the other external variables in terms of context or aim of the cases are kept as similar as possible. We are thus looking for projects with a similar development goal and urban planning problem, but also a comparable urban context and history.

Amount of cases - Since case study design is a flexible design, the amount of cases is not decisive for the research. It has already been established (see development approach) that a minimum of two cases is to be studied in order to observe the extremes of the studied variable; the development approach. One could choose for studying multiple cases from each of these extremes, but on the other hand the universal structure of the urban area development process with private and public actors and inherent interests, as studied thoroughly through literature review, means that the effects of these extremes in the different cases should be very similar.

Therefore, as the timespan available to perform the research is limited, there has been chosen to stick to two cases as providing a good balance between workload and generalizability.,

Location - Furthermore, in order for the researcher to be able to travel to the urban area development projects often to observe actor deliberations, accessibility of the locations of the projects for the researcher is a criterion. It is therefore expected that there is chosen for two cases in the Netherlands. Although the research question is focused on achieving sustainable mixed-use area in general, it is legitimate to study this with the help of two Dutch cases because these cases are selected based on their development approaches. These development approaches are completely different and thus not typical for the Netherlands, and are argued by theory to be representative for the development approaches employed all over the world (see Theoretical Framework, chapter 2).

Cases: Overhoeks & Buiksloterham

Given these selection criteria, there has been chosen for two mixed-use urban area development projects in Amsterdam: Overhoeks and Buiksloterham.

Mixed-use urban area development projects - Lying at the opposite side of the water (the IJ) of the central station of Amsterdam in relative close proximity of the historic city centre, the authorities have recognised Overhoeks and Buiksloterham as promising, accessible areas to replicate a dynamic, inner city environment with the help of mixed-use development aimed at a high degree of mix of living, working and recreation.

Comparable context - The areas lie adjacent to each other in a formerly industrial area of Amsterdam Noord and their plans for redevelopment have originated in about the same timeframe; Buiksloterham (2005) two years later than Overhoeks (2003). This means that the urban problematic and political context were similar, just as the geographical characteristics and location-specific urgencies and urban area development tasks are very comparable. Furthermore they have a similar historical background, both being formerly industrial areas, leading to similar physical starting points, with the difference that the area of Overhoeks was owned by one big industrial company, while in Buiksloterham many different companies owned land. This difference is however not contaminating for the research findings on the urban area development process, since these land situations are expected variable components of the respective development approaches.

Development approach - While the context of the cases thus is very comparable, the development approaches of the two adjacent areas are completely opposite. Overhoeks is a typical example of a top-down development approach in which the municipality owns the land, formulates a top-down, pre-defined plan and a small amount of developers develop the real estate along this plan under strong control of the municipality. Buiksloterham, in contrast, employs a bottom-up approach, in which the area is developed incrementally in plots based on private initiatives and investment, and the municipality takes a facilitating role with only limited investments in mainly infrastructure and

public space. These cases thus provide excellent basis for analysis of the top-down and bottom-up development process.

A detailed description of the cases, their particularities and their development approach will be provided in the first chapter of the empirical part: *III.1. Case description*.

C. RESEARCH METHODS

METHODS

The research methods that will be used in this research are literature review, document analysis, semi- and unstructured interviews, and observation of development deliberations (as can be seen in the visualization of the research approach on page 14).

Literature review

First method is systematic literature review. This method will be used to critically analyze, in-depth, the relevant literature on previous research on different topics of the theoretical part of the research, and formulate the theoretical framework while answering the theoretical background questions.

The literature approach relies on scientific sources such as Dutch and international books, scientific reports, dissertations, theses and articles from scientific magazines.

Urban sustainability & the sustainable mixed-use area - The literature review approach for the first chapter of the theoretical framework, in which the relation between mixed use and urban sustainability will be established and the sustainable mixed-use area will be defined, is as follows:

First of all, a reliable source was sought that gives an overview of the currently most important theories and concepts in the field of sustainable urbanism, in order to explain why mixed-use is such an important concept in current sustainable urbanism theory. These sources were used to identify the closer-to-look-into theories and concepts for the rest of the literature review, which turned out to be seven: Compact city, Transit Oriented Development, Placemaking, Eco-city, Green Urbanism, Smart Growth, and New Urbanism.

Next, literature has been sought on each theory or concept, in order to better understand it and explore what they say about mixed-use in relation to urban sustainability. Mostly the founders or leading experts of the concept are the authors that are reviewed as a primary source, such as Newman & Kenworthy for the compact city, Cervero for Transit Oriented Development, Jane Jacobs and William Whyte for Placemaking, Kenworthy for the Eco-city, Beatley and Newman for Green Urbanism, the Smart Growth Network for Smart Growth, and Haas for New Urbanism. Where

relevant these are supplemented with very interesting, well substantiated, more recent sources, which give additional background information or have further developed the concept or theory / put it into perspective.

Also a part of literature research has been done specifically focusing on the literature on Mixed-use development, which is the most important source of knowledge regarding urban function mix in relation to urban sustainability. The information from these sources referred to and could be linked to the concepts that emerged from the general literature review. These sources were used to give a further specification on the relationship of function mix with urban sustainability as well as on the implementation of the mixed-use concept in practice, and also to give room to a (very important) critical review of the concept of mixed-use. For this, the most relevant and underpinned studies have been chosen.

Finally, a last set of sources has been used that focuses on specific elements that have been mentioned in the previous literature, such as the relationship between mixed-use and walkability and numerous other aspects. These sources have been used to better position and specify the statements on the sustainable benefits of mixed-use. Again, the most relevant and underpinned studies have been chosen, based on their findings and research design.

Urban area development process - For the literature on the urban area development process aspects, a similar literature review approach was employed.

First literature has been searched on urban area development and mixed-use development in general. DeLisle & Grissom, Rabiński & Clements, Bernton, Grant, Miller and Dutch authors Asbeek Brusse et al., Franzen et al. and Van 't Verlaat give a good systematic literature review of these fields, and are thus used as input for the theoretical framework. Also the situation specific for the Netherlands has been researched, with the help of the just mentioned Dutch authors and some other studies on Dutch urban area development by universities from the Netherlands. Furthermore a few mini case studies on mixed-use projects all over the world have been employed to substantiate statements on the practice mixed-use development, using some good case studies by various authors. Also some literature has been reviewed on the (organizational) characteristics of the industries and sectors involved in urban area development, using scientific articles.

Next to this, literature has been searched on the various development approaches. First, the relevant development approaches have been distilled from the general literature on (mixed-use) urban area development mentioned in the previous paragraph. Furthermore literature on the development approaches in particular has been analyzed, of which Heurkens, Daamen, Pol and Louwaars provide good analyses of the Dutch as well as the international situation in the field. Information on the actors participating in the urban area development process and their roles has been gathered through publications of the KEI knowledge centre urban renewal in the Hague and specific publications on the subject by Heurkens, Louw, Helleman, Wolting, Putman, Van der Flier, Gruis, Deloitte and Nieboer, which are compared. Again, mini case-studies have been performed on practical examples of the development approaches in Amsterdam, The Hague and Rotterdam,

in order to give an insight in the aims, role divisions and planning instruments involved in practice in various development approaches. For these cases, official notes and laws as well as planning documents and procedures of the Dutch Government and respective municipalities have been reviewed.

The various components of the urban area development process such as collaboration, decision-making and management have been subjected to literature review as well. As usual, first the big theories of possible methods of collaborating have been distinguished by reviewing general literature, such as Adams & Tiesdell and Klijn & Koppenjan. In order to provide a deeper analysis of these found schools, some leading authors in the field have been reviewed, such as Lustick, Scott, Powell & Dimaggio and Healey for the (new) institutionalist approach, and March, Klijn & Koppenjan and Bruijn & Ten Heuvelhof for the network approach. Furthermore a wide range of Dutch and international scientific articles presenting contemporary views on collaboration, decision-making and management in the urban area development process have been reviewed, in order to distill recommendations from them.

Last but not least, literature has been sought that is specifically evaluating the urban area development process from a sustainability perspective. Of this little theory is available, but some of the very best is written by Van Bueren. Also international authors such as Williams & Dair, Buckingham-Hathfield and Grant, who give well underpinned recommendations on sustainable (mixed-use) development, have been reviewed in this light.

Interviews

Next to literature reviews, interviews will be employed as a method of research.

Firstly, semi-structured interviews will be conducted for the sake of the theoretical framework, to explore the knowledge, vision, opinions and methods of professionals from the urban area development field on mixed-use development and urban sustainability. Semi-structured interviews are discussions, usually one-on-one between an interviewer and an individual, meant to gather information on a specific set of topics which the interviewer has generally mapped out in a framework of themes beforehand. Where surveys has a rigorous set of questions which does not allow one to divert, a semi-structured interview is open, allowing new ideas to be brought up during the interview. This permits the interviewer to explore what are relevant topics in the context of the research in the eyes of the respondent which might not have come forward from theory. Interviews have been conducted with eight urban planners from the municipality of Haarlem, Amsterdam, Leiden, The Hague, Delft and Rotterdam (see Appendix I.1; List of interviews). The data collected from these semi-structured interviews has provided input for the theoretical framework on mixed-use development, sustainable development and the employed development approaches in practice.

Secondly, unstructured interviews have been conducted in the context of the case studies and the empirical part of the research, to interview participating actors in the urban area development process on their interests and motives underlying their behaviour in the observed development

deliberations. These interviews are unstructured because, although the researcher has a clear plan in mind regarding the focus and goal of the interview, there is not a structured interview guide as the understanding of the interviewer is still evolving, open questions and answers are aimed at, and the interview is often ad-hoc, reacting on just-happened events in the development deliberations. The relevant information from these interviews will be combined with the observations of the development deliberations and used as data on the interests and strategies of the respective actors in the urban area development process, and included in the quantitative analysis of the presence, power and sustainability of actor interests in the development process.

Document analysis

For the empirical part of the research in which the formal decision-making process of the urban area development projects is investigated, document analysis will be applied as a research method. All formal planning documents in which decisions are recorded on the urban area development project of the case study, from the level of the city to the level of the plot, will be analyzed on the topic of the actors formulating the planning documents, their decisions on the development content, urban form, the mentioned goals and interests for motivating these decisions and the sequence in which decisions are made.

Observation of development deliberations

Final research method is the observation of development deliberations. This research method is employed for the analysis of the informal decision-making process, in which the actors deliberate in conversations that will eventually lead up to the decisions formulated in the formal planning documents. During this part of the research, the researcher will observe the actual development deliberations of the two urban area development projects and will, without interfering, record what has been said by which actors. This transcript will subsequently objectively be analysed on the topic of the interests that are defended or contended and the physical interventions / development decisions that are proposed or opposed. Next, these interests and interventions will qualitatively be analyzed as being sustainable or not sustainable based on the variables and values of sustainability derived from theory in the theoretical framework. Finally, this information will be input for a quantitative analysis of the mentioned interests and interventions and the nature of the interests and interventions in terms of sustainability, in relation to the urban area development project, the land-situation in the specific sub-project (who own the land), the development situation of the specific project (selection and type of developer), and the actors defending or opposing them.

SAMPLE SELECTION FOR DEVELOPMENT DELIBERATIONS AND DOCUMENT ANALYSIS

As mentioned, the data of the empirical part of the research will be gathered through interviews, analysis of planning documents and observation of development deliberations. Of course, within

the two cases, which are urban area development projects, multiple separate development projects of sub-areas or plots are included. Although these sub-projects fall under the same overarching development approach, their specific circumstances can differ.

The main differences between the subprojects are composed by the specific land- and development situation (referring to who owns the land, who commissions the project and who develops the project) and the phase the projects are in. In order to give an objective and complete review of (the development approach of) the two cases, a sample of planning documents and development deliberations will be chosen that covers sub-projects from all types of land- and development situation present in the urban area development, and every phase.

Land- and development situation

Detailed explanation on the land and development situations will be provided in the empirical part of the research. For now however, the possible situations will shortly be explained for the sake of selecting a sample of projects.

Regarding the land-situation, the ownership of the land in Overhoeks and Buiksloterham is distributed over three different forms of ownership. Either the land is:

1. of the municipality and to be used by the municipality (municipal land)
2. of the municipality and leased by other parties (leasehold)
3. of someone else (private ownership)

The projects can be commissioned by public parties or private parties, or be a combination of public and private commissioning when the development of the plot is commissioned by the municipality but the following real estate development project is commissioned by a private party (such as a public tender). This development situation is referred to in this research as public-private commissioning.

The development, referring to the actual act of developing and building the project, can on its turn be performed through various methods; either being developed by a public party (the municipality itself), a commercial developer of some sort or through (collective) private commissioning methods.

All possible combinations of these factors are summarized in the table on the next page. For each combination, a sample project of Overhoeks (OH) and Buiksloterham (BSH) has been chosen. It will be made sure that at least one project of every situation is included in the empirical analysis of planning documents and development deliberations. Outside of these projects, many more projects are included in the analysis and observation process.

LAND	COMMISSIONING	DEVELOPMENT METHOD	PROJECTS
Public	Public	Public	- Oeverpark OH - Papaverpark BSH
	Public-private	Commercial developer	- Kavel 5 OH - Docklands BSH
	Private	Commercial developer	- Campus phase 1 OH - Vrije kade BSH
		CPC	- Kavel 21 BSH
		PC	- Kavel 5 BSH
Private	Private	Commercial developer / private individual	- Kavel 14 BSH

Table I.2.1 Combinations land, commissioning and development situation with selected sample projects

Phases

As for the phases, it is made sure that development deliberations and planning documents are analysed from projects in all development stadia, ranging from the early plan development phase (area-level based)(for instance urban masterplans) until the completion and operation phase of sub-projects.

Generalizability

A result of the rather large amount of sample units is that of some sample units, only one or two sample projects are investigated. This is especially true for some land- and development situation combinations. This does not offer enough basis to state that the findings found in these examples have a statistical certainty of occurring in projects of this type. These example projects do however allow the researcher to observe trends, on which can be speculated and which are, when in line with theoretical hypotheses, likely to be true. In order to be statistically valid however, many more projects of each sample unit would have to be investigated. The aim of this part of the research is therefore not at all to establish statistically certain relationships between certain observations and land-or development situations, but purely to give an insight in the findings associated with certain land- and development situations in these particular examples, to use these findings to research potential causes for these findings, and to indicate directions and generate hypotheses for further research.

PROCESSING

The information gathered through the different research methods will have to be processed to make it possible for it to be structured, analyzed and finally interpreted.

Literature review - The information coming from the analysis of literature will be processed in an academic literature review, in which the different theories and recommendations are summarized, linked, and synthesised into concluding statements on the researched topic.

Semi-structured interviews - The semi-structured interviews are prepared by the means of an interview schedule that will serve as a guideline during the interview. These interviews are recorded and subsequently transcribed. The information gathered through the interviews will be incorporated in the theoretical framework.

Unstructured interviews - The unstructured interviews performed in the case studies, mostly in the context of development deliberations, are not recorded as they often originate in the moment. Instead, the researcher takes notes and summarizes the interview immediately after. If possible, the relevant information provided by the respondent will be incorporated in the quantitative analysis of the development deliberations.

Observed development deliberations - The development deliberations will be transcribed, after which the made statements on interests and development decisions / interventions will be extracted from the transcript. These statements will be categorised as far as possible and qualitatively analyzed as being sustainable or not sustainable based on the variables and values of sustainability derived from theory in the theoretical framework. Finally, the gathered data from the development deliberation will be coded into variables of the to be researched factors and values, as illustrated in appendix III.4.2 and III.4.3, and be subject to quantitative analysis.

SPSS - The quantitative analysis will be performed with the help of the program IBM SPSS Statistics, a software package for statistical analysis. Since valid statistical analysis is not at all the aim of this research, SPSS will solely be used as an aid for analysis for the researcher, helping to provide insight in the quantitative relationships between the variables in the researched projects and allowing the researcher to observe trends and position findings.

D. RESEARCH ORGANIZATION

Coaching

This research project has been executed under the supervision and guidance of two mentors of the Delft university of Technology. The first mentor is Yawei Chen, part of the staff of the department of Management in the Built Environment and expert in urban adaptation strategies. Second mentor is Birgit Hausleitner from the department of Urbanism, providing expertise on mixed-use development and function mix resulting from her PhD research on the topic. Because of the multidisciplinary nature of the research project, aiming to connect the product and process of urban area development, there has specifically been chosen for a mentor of the Urbanism department and the department Management in the Built environment.

Internship

In the context of the research project, the researcher has done an internship at a municipality. A graduation internship was an ambition of the student since the very start of the graduation process, because it would provide added value for the research as well as for the researcher personally, aiming at obtaining practical experience and getting to know urban area developing processes up-close and from within. An internship with a municipality was preferred, because the municipality is an important actor in these urban area development processes and represents the large scope and strategic point of view that the researcher is particularly interested in.

In June an internship at the municipality of Amsterdam was arranged, implying the employment of the researcher for 3 days a week as a member of the project teams of the case study projects Overhoeks and Buiksloterham from September to February 2016. Although the research itself was performed next to this internship, the internship of course provided excellent opportunities for studying the cases and also allowed the observation of development deliberations.

Research planning

The graduation process of the master track Management in the Built Environment of the Faculty of Architecture and the Built Environment from the Delft University of Technology formally takes a year. The first half year, in the case of this student spanning from February to June 2015, is focused on the preparation of the research and the formulation of the research proposal, first presented in a preliminary version (P1-report) and second in a definitive version (P2-report). The second half year (September 2015- January 2016) is about the actual execution and finalisation of the research, tested with a P3-test to test the progress of the research (in October), a P4-test when the research is finished (in December) and the final presentation and graduation (P5) in January. When the research turned out to be conducted next to, and not during, the internship, it was decided at the P3-presentation to postpone the P4-test to the next opportunity at the end of February, in order to provide the researcher with time to process and analyze the gathered data for one month after the end of the internship.

The detailed research planning is illustrated in figure 1.2.2.

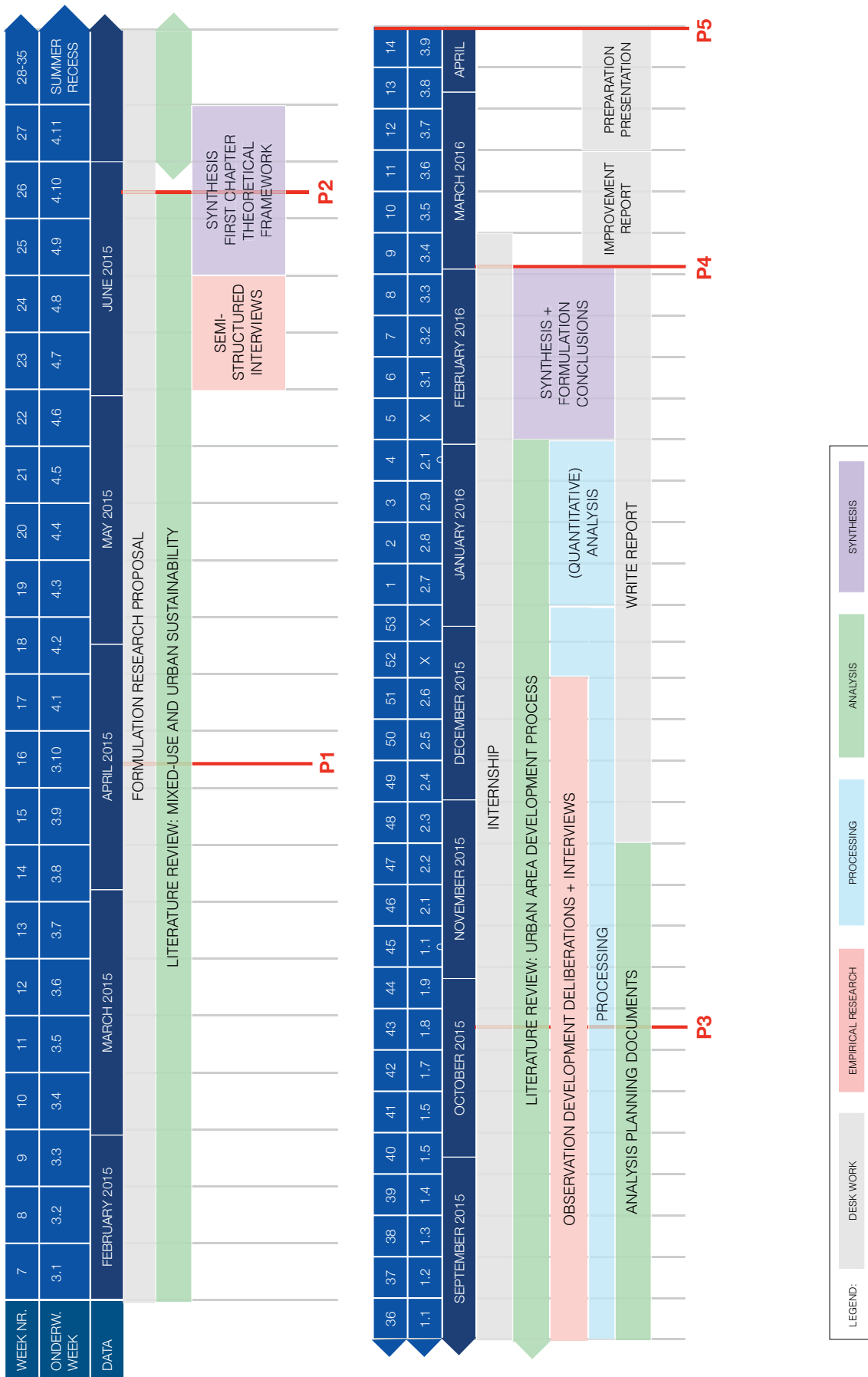


Figure I.2.2. Research planning (own illustration)

3. READERS' GUIDE

The main body of this research consists of two parts: A theoretical framework and an empirical part.

The theoretical framework presents the relevant context, concepts and variables concerning the two dimensions of the research problem, based on the analysis of existing literature and conducted interviews with professionals from the urban area development field. This theoretical framework exists of two chapters, the first focusing on urban sustainability and the sustainable mixed-use area, and the second directed towards the sustainable mixed-use urban area development process.

The first chapter (*Urban sustainability & the sustainable mixed-use area*) addresses the theoretical background questions on the product-dimension of the research. It will go into the definition of 'optimal' urban sustainability that will be aimed at in this research, the relationship of mixed-use with this urban sustainability, and will furthermore focus on the translation of this concept of 'sustainable' mixed-use into physical characteristics of urban form. The result of this chapter will be a list of the components of urban sustainability derived from theory, as well as a list of variables in terms of urban form significant for the future degree of urban sustainability of the area supplemented with their sustainable values, representing the recommendations on the product resulting from theory. This list of variables of urban form composes the largest part of the answer to the sub-question 'which urban form offers most potential for achieving long term sustainable urban areas'; which will be supplemented with product-recommendations found in practice for the final answer. Together with the components of urban sustainability, they also provide input for the second part of the research on the process-side, by indicating aspects and goals that are important in the urban area development process. Furthermore, the established sustainability components and values will be used as reference when evaluating the sustainability of development decisions, interests and proposed interventions during the empirical research.

The second chapter (*The (sustainable) mixed-use urban area development process*) analyzes the particularities of urban area development and mixed-use development, including the participating actors and their roles and the main existing theories regarding collaboration and development approaches. In each of these fields, recommendations for the urban area development process will be distilled, with the sustainable product-aspects of the development result from the first chapter of the theoretical framework in mind. Also the theory focused on the implementation of sustainability in the urban area development process will be analyzed. Together, these subjects will lead to process recommendations, which will be tested and supplemented by the empirical research on the urban area development case studies in practice.

The empirical part describes the research of the practice of urban area development through the two case study urban area development projects Overhoeks and Buiksloterham.

The empirical part is divided into four chapters, according to the topic analyzed in the chapter. First chapter presents an objective description of the relevant information on the two projects, explaining the history and context of the project, the land-situation, the plans and the chosen development approach. In the next chapter, the actors participating in the development projects are identified and analysed. The third chapter accounts for the analysis of the formal decision-making processes, through analysis of the planning documents. First, the relevant planning documents will be identified, which will subsequently be analyzed on the topic of their significance, the level upon which decisions are made in them, their sequence and their content in terms of each of the sustainability components from theory. From these findings, lessons will be drawn on the extent to which sustainability is included or enforced in the development process and -result by the planning documents in both urban area development projects, and possible barriers for this originating from the structure of the formal plan-development process will be identified. This will lead to a first set of process recommendations from practice in the field of the formal decision-making- and plan-development process.

In the fourth chapter, the analysis of the informal decision-making process underlying these formal plan decisions is explained. From the more than 20 analyzed development deliberations for each case, the interests manifested by the actors, the interventions proposed and opposed by the actors and the eventual decisions made are consecutively addressed. These aspects are analyzed on the topic of their impact on mixed-use and the urban sustainability of the area following the sustainability components and values from theory, and subsequently related to the urban area development project (and thus development approach) in which they have occurred, the land- and development situation of the sub-project, the phase at the moment of occurring, the actor defending or opposing them and, ultimately, their implementation. Based on these findings, conclusions can be drawn on the sustainable orientation of the actors and the position of sustainability in the decision-making balance in relation to these aspects, from which, once again, recommendations can be derived, this time in the field of the unrecorded development process. All recommendations derived from the empirical research will be summarized in the last chapter of the part, the conclusions.

The results of the research project will be presented in a final part - Conclusions and Recommendations. In this part, the conclusions and recommendations from the theoretical and empirical part will be synthesized in an aligned set of recommendations in the field of product and process focused on achieving long term sustainable mixed-use areas. In the conclusions, the research questions lying at the foundation of this research project will be recalled and answered. In the recommendations, more detailed recommendations in the field of the proposed urban form and development approach will be laid out, including a step-by-step guideline set up by the researcher to guarding the implementation of sustainability in urban area developments. Finally, this thesis will close off with recommendations on research, appointing topics related to the

research project that should to be developed further in the light of the made recommendations or deserve to be investigated more closely.



A large, semi-transparent yellow geometric shape, resembling a stylized arrow or a large 'L' rotated 45 degrees, is positioned in the upper right corner of the page. It has a soft, blurred edge.

II. THEORETICAL FRAMEWORK

1. URBAN SUSTAINABILITY & THE SUSTAINABLE MIXED-USE AREA

The first chapter of the theoretical framework addresses the theoretical background questions on the **product**-dimension of this research on how to achieve long term urban sustainability in urban area developments:

- *What is (optimal) urban sustainability?*
- *What is the relationship between mixed-use and urban sustainability?*
- *How can the optimal urban form for achieving sustainable mixed-use areas be determined?*

And finally:

- *What urban form offers most potential for achieving long term sustainable urban areas?*

First, the definition of 'optimal' urban sustainability that this research aims at and the rationale of defining the physical features of urban form or development approach that offer 'most' potential for achieving this long term urban sustainability will be explained.

Secondly, the relationship between mixed-use and this sense of urban sustainability will be demonstrated through of a review of recent urban planning history and the leading contemporary sustainable urbanism movements and experiences of mixed-use development in practice,

Thirdly, this established sustainable potential of mixed-use will be translated into specific physical features that are necessary to achieve this sustainable potential, according to the rationale of optimization previously explained. The found physical features will be formulated in a conclusion, presenting the product recommendations from theory.

The definition of all of these subjects is not necessarily the same in practice as it is in theory. In fact, theory and practice often give different answers to these questions. Therefore, this chapter will be split up in two sub-chapters, one answering these questions from the perspective of theory and the other answering the questions from the perspective of practice. This will both provide a complete answer to the questions, and potentially reveal relevant differences between theory and the reality in practice.

The findings from theory and practice will be synthesized in the final conclusion of this chapter, giving the definite answers to the questions and recommendations in the field of the product of mixed-use urban area development from this theoretical framework.

A. URBAN SUSTAINABILITY & THE SUSTAINABLE MIXED-USE AREA IN THEORY

First the situation according to theory will be researched.

WHAT IS (OPTIMAL) URBAN SUSTAINABILITY IN THEORY?

In line with the promotion of sustainable urban planning, international institutions and governments at different levels are seeking the optimum urban sustainability value. To understand the state of, or changes to, urban areas in relation to better urban sustainability performance, a definition has to be made of what urban sustainability and optimal urban sustainability is (Shen, Ochoa, Shah & Zhang, 2011).

Multiple perspectives

There are multiple perspectives from which the definition of the 'optimal' urban sustainability can be approached.

Sustainability is a broad notion that can be used in different fields. In general terms, sustainability is the endurance of systems and processes (Vreeker, Deakin & Curwell, 2008). It indicates the capability of something to be sustained on the long term, requiring a long term viability and independency of finite resources (Merriam-Webster Inc, 2004). With 'urban sustainability', this paper means to refer to the level of sustainability of an urban area.

The concept of sustainability assessment is inherently interdisciplinary. Famous are the three pillars of sustainable development; economic development, social development and environmental protection, also indicated as 'people', 'planet', and 'prosperity'. This social, economic and ecological or environmental/ecological dimension are widely regarded in theory as the basic elements of sustainability and sustainable development (Munier 2005, Koglin, 2009, Shen et al, 2011).

Environmental dimension - Environmental sustainability, often also referred to as ecological sustainability, focuses on the environment and can generally be described as 'environmental protection' (Munier, 2005). This perspective relies on the measurement of the negative

environmental impacts of interventions as a means of assessing sustainability, often implying in-field measurements of for example pollution (MacKerron & Mourato, 2008; Ness, Urbel-Piirsalu, Anderberg & Olsson, 2007). One could therefore say that ecological sustainability builds on scientific evidence of environmental problems and the analysis of those problems (Ekins, Dresner & Dahlström, 2008; Koglin, 2009). This makes the environmental dimension of sustainability measurable and noticeable, making it the most emphasized and addressed dimension of sustainability.

Economic dimension - Economic sustainability is often referred to as economic growth and economic progress. This should finally lead to the so called Trickle Down effect, which means that in the end even the poorer parts of the society, will gain from economic growth, through for example the creation of jobs and more taxes for welfare. The economic aspect of sustainability is often analyzed with theories from classical economics (Koglin, 2009). It is focused on fostering welfare and therefore sustainability of economic system (Giddings, Hopwood & O'Brien, 2002)

Social dimension - Social sustainability can be defined as maintenance and improvement of well-being of current and future generations (Chan and Lee, 2008). It is often related to problems such as poverty, social exclusion, unemployment (although this has also to do with economic sustainability), inequalities, (Ekins et al. 2008), but there are little scientific models and conceptual frameworks for analyzing social sustainability (Partridge, 2005). Social sustainability often underexposed in the debate of sustainability as its effects are mostly long-term and silent, therefore often not directly showing their sustainable impact (Kramer, Maas & De Vries, 2009). It is however a meaningful component in the large-scale and long-term scope of sustainability; a readily available, supportive and dependable social structure satisfies diverse needs of users and contributes to a high quality of life (Anquetil, 2009)



Figure II.1.1. The dimensions of urban sustainability (own illustration)

Integration

In order for an area to be truly sustainable, it is necessary that all of these dimensions of sustainability are sustained. To achieve a true, long term sense of urban sustainability, urban areas have to be both economically, environmentally, and socially viable and sustainable. This necessarily implies taking into account behavioral, social, cultural and economic aspects, and requires integrated thinking across a range of urban systems, topics, issues and perspectives that are traditionally considered separately (Dawson, Wyckmans, Heidrich, Köhler, Dobson & Feliu, 2014). Taking an integrated assessment approach enables us to take a long term view and re-frame the questions that are asked so as to link global, regional and local scales and their interactions in the context of urban planning. This provides a more complete picture about how issues may evolve than is possible when taking a more conventional, sectoral view of problems. Therefore, in order to give a complete view and a balanced assessment of options, the full scope of sustainability must be addressed.

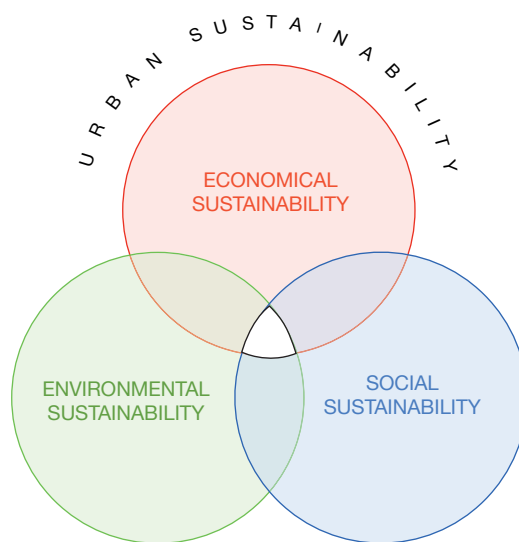


Figure II.1.2. An integrated conception of urban sustainability (own illustration)

End-user perspective for optimization

An objective assessment of this full scope of urban sustainability requires a complete range of indicators that cover the sustainability aspects in all fields: environmental, economic and social. The urban sustainability would subsequently be assessed by attributing a score on these indicators on the basis of measurements of the output in practice. By this objective means of measuring tangible outputs to assess the physical forms that optimize urban sustainability however, the connection with the intervening factors that cause this output is lost. Often, it is forgotten what is at the root of these outputs. Levels of CO₂ emission are not a direct consequence of the urban form; they are a consequence of the way the end-user interacts with this.

Cities are built for the people and their success therefore always strongly relies on the behaviour of the people. In the same way, the sustainability of an urban area is inherently dependent of

the way the users interact with it: user behaviour (Landry, 2006; Frank, 1994; Grant, 2002). In the context of mixed-use it becomes especially clear how much sustainability benefits are attributable to end-user behaviour. Users are not only the full determinators of the social aspect of sustainability. When looking at the precise link between mixed-use and urban sustainability as studied by the leading contemporary sustainable urbanism movements, we see that mixed-use impacts urban sustainability in through field of transport, environment, economy and the social field (Grant, 2007; Haas, 2007; Kenworthy, 2006; Newman, 1998). From the exact impacts that can be detected, presented later in this chapter and in appendix II.1.2, we see that many of them are a direct consequence of a certain end-user choice or -behaviour (i.e. decreased usage of the car, increased walking and cycling, enhanced social control and a strengthened sense of responsibility and commitment). Endless interventions can be done to streamline city processes and enhance urban sustainability, but if in practice the users don't use them in the way that is anticipated, no effect will be achieved. Furthermore, the end-users assessment of urban environmental quality and the communicative and sociocultural processes involved are an important factor in driving environmentally committed behaviors (Bonaiuto, Fornara & Bonnes, 2003; Uzzell, 2000).

When we go back to the original definition of sustainability, we see that sustainability is the endurance of systems and processes, requiring the object to be capable of being sustained on the long term and of having a long term viability (Merriam-Webster Inc, 2004, Vreeker, Deakin & Curwell, 2009). For this endurance and viability, it is essential for sustainable systems to be used and therefore to undertake a sustainable behaviour that will continue to exist. End-user behaviour is therefore an essential driver of sustainable urban development. For this reason, the little researched but valid end-user perspective of optimization of urban sustainability is employed in this research, defining the most sustainable urban area as the urban area undertaking the most sustainable end-user behaviour on the long term.

The optimal urban form

As a result of the chosen end-user perspective for optimization of urban sustainability, the most sustainable urban form is also the urban form fostering the most sustainable end-user behaviour.

This urban form will be deduced in a number of steps. In this research, we focus on mixed-use areas. The most sustainable end-user behaviour is therefore the end-user behaviour that achieves the full sustainability benefits of mixed-use development. First, these full sustainable benefits of mixed-use will be distilled from theoretical literature and practical evidence. These full sustainable benefits are regarded as the sustainable goals mixed-use development aims to achieve. Next, the solutions that mixed-use poses for all of these aims according to theory are added. These solutions all presuppose a certain end-user behaviour that can logically be deduced. Finally, this end-user behaviour poses certain requirements to the urban form that can be deduced from theory and practice. These variables of urban form along with their desired value from the perspective of sustainability will compose the final product recommendations on the urban form that offers most potential for achieving long term urban sustainability.

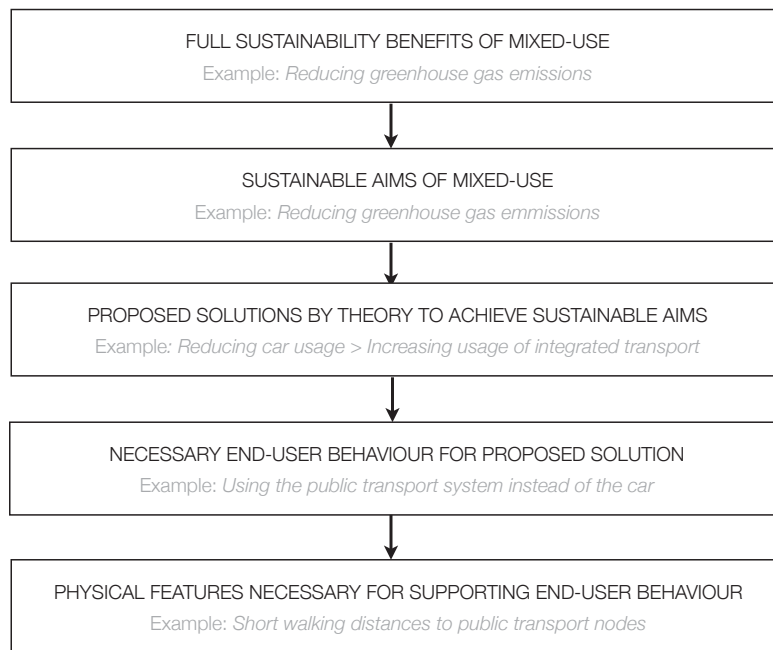


Figure II.1.3. Rationale of determining the physical features of the urban form that offers most potential for achieving long term sustainable mixed-use areas

The optimal development approach

Separate of what is defined as the most sustainable urban form, a question is formulated on the optimal 'process' that goes along with this, by questioning two development approaches used in mixed-use developments. The successfulness of the development approaches in achieving long term urban sustainability will be determined by the extent to which these development approaches succeed in facilitating the emergence of the particular product features, mentioned in the previous paragraph. This will lead to recommendations in the field of the process on how (through which development approach) the emergence of the theoretically desired outcome can best be facilitated.

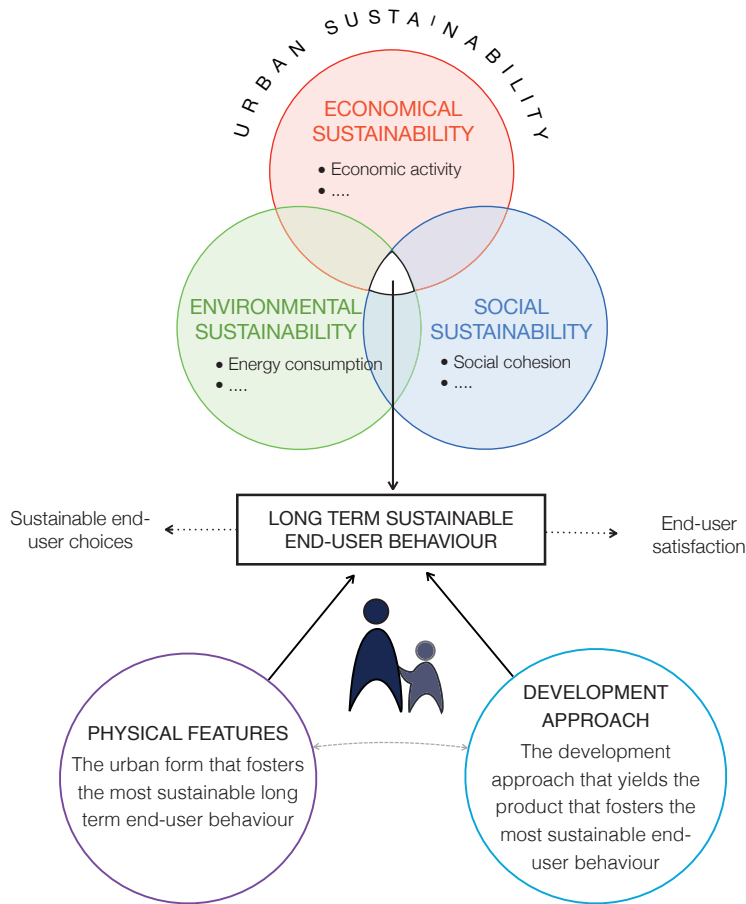


Figure II.1.4. The end-user perspective of optimization of urban sustainability (own illustration)

THE RELATIONSHIP BETWEEN MIXED-USE AND URBAN SUSTAINABILITY IN THEORY

Now that urban sustainability is defined, the relationship between mixed-use and this sense of urban sustainability will be established. In order to do this, the concept of mixed-use will first be introduced.

The origins of the concept of mixed-use

The concepts behind mixed-use originated in the 1960s, when writers like Jane Jacobs and William H. Whyte offered groundbreaking ideas about designing cities that catered to people. Jane Jacobs (1961) popularized the diversity dimension of urban sustainability, subsequently adopted and widely accepted by many planning approaches, such as new urbanism, smart growth, and the compact city, in the shape of 'mixed-use'.

The leading sustainable planning theories have been studied on their visions and theories on mixed-use (summarized in appendix II.1.1.). The conclusions will shortly be explained:

Placemaking - The work of Jacobs and Whyte focused on the importance of lively neighborhoods and inviting public spaces for sustainable urban areas: 'placemaking'. Placemaking is a multi-faceted approach to the planning, design and management of public spaces, that tries to strengthen the connection between people and the places they share, thus enhancing social sustainability. According to Jacobs, placemaking is essential to the sustainability of cities and diversity is a vital requirement for placemaking. Adams and Tiesdell offer a more recent vision of placemaking and took the placemaking of White and Jacobs to the next level. In their book *Shaping Places* (2012), they show how the quality of places can influence economic prosperity, social cohesion and environmental sustainability. Mixed-use is propagated as a crucial component of creating sustainable 'places meant for people' by fostering more diverse and complex activities, creating well connected and permeable places at an attractive human scale that promote walking and cycling, thus stimulating the urban vitality and a more active street life which enhances social sustainability.

Eco City & Green Urbanism - In the 1970's and 80's the concept of 'mixed' use occurred in multiple important sustainable urbanism theories, amongst which the Eco-city and Green Urbanism Movement. The group "Urban Ecology" from which the concept Eco City was born, was founded by Richard Register in the USA in 1975, and was founded with the idea of reconstructing cities to be in balance with nature (Coupland, 1997). The ultimate goal of eco-cities is to eliminate all carbon waste, to produce energy entirely through renewable sources, and to incorporate the environment into the city; however, eco-cities also have the intentions of stimulating economic growth, reducing poverty, organizing cities to have higher population densities and therefore higher efficiency, and improving health (Spirn & Say, 2012). Green Urbanism is a conceptual model for zero-emission and zero-waste urban design, promoting compact energy-efficient urban development. Its principles are quite similar to those of the Eco City. In these movements a mixed-use is adopted primarily because a compact, mixed-use urban form uses land efficiently, thus minimizing the city's ecological footprint. This protects the natural environment, biodiversity and food-producing areas. Furthermore urban density and mixed-use areas are found to have a very strong relationship with transport patterns, especially the level of car dependence and the effectiveness of public transport. Both higher densities and a higher level of function mix support a greater role for sustainable modes of transport (both public and clean).

Compact City & Transit Oriented Development - These sustainable effects of mixed-use related to compactness were important in all sustainable urbanism theories to follow. In the Compact City movement and Transit Oriented development (TOD), big in the 1990's, these principles were leading. The 'Compact City' is an urban planning and urban design concept that stands for spatially compact, high density cities with a mix of uses and clear (i.e., non-sprawling) boundaries (Dieleman & Wegener, 2004). Transit-oriented development (TOD) is a planning concept where infrastructure and spatial planning are addressed in an integrative way in terms of policy-making, financing and operation (Cervero, 1998). As the name says, this concept is oriented towards transit,

and is centered around a public transportation infrastructure that encourages transit ridership. In order to maximize access to public transport, a transit-oriented development relies on a walkable mixed-use residential and commercial area that makes it possible to live a higher quality life without complete dependence on a car for mobility and survival (Frank, 1994). These movements however also stress the economic benefits of mixed-use. The function mix increases foot traffic for local businesses and would increase property values, lease revenues and rents while ultimately lowering the costs of transportation (which is a high part of household expenditure), all resulting in a higher personal welfare and a stronger economy viability (Rabianski, Gilber, Clements & Tidwell, 2009). Infrastructure, such as roads and street lighting, can be provided cost-effectively per capita. Furthermore the high-density, mixed-use development enhances the walkability of an area, which on its turn promotes the accessibility and usage of services, stimulating the economy (Jabareen, 2006).

Smart Growth and New Urbanism - The two last leading contemporary sustainable urbanism theories, Smart Growth and New Urbanism, adopt the same principles along with a strong additional focus on the benefits of mixed-use in social terms. New Urbanism is an urban design movement that arose in the United States in the early 1980s and has materialized in the Charter of the New Urbanism, issued by the organizing body: the Congress for the New Urbanism, founded in 1993 (Kaufman, 2006). New urbanism promotes the creation and restoration of diverse, walkable, compact, vibrant, mixed-use communities composed of the same components as conventional development, but assembled in a more integrated fashion, in the form of complete communities. Smart Growth is a model that concentrates growth in compact walkable mixed-use urban centers to avoid sprawl. It advocates compact, transit-oriented, walkable, bicycle-friendly land use. It supports mixed land uses as a critical component of achieving better places to live. By putting residential, commercial and recreational uses in close proximity to one another, alternatives to driving, such as walking or biking, become viable. Furthermore, mixed-use can enhance the vitality and perceived security of an area by increasing the number and activity of people on the street. It attracts pedestrians and helps revitalize community life by making streets, public spaces and pedestrian-oriented retail become places where people meet (Morris, 2006).

The link between mixed-use and the urban sustainability of an area

When looking at the literature, a clear relationship between urban sustainability and the mixing of urban functions can be seen. Mixed-use development is part of all the current sustainable urbanism movements, be it to a larger or lesser extent. The leading theories and concepts in the field refer to a high level of function mix as a critical component for urban sustainability. They recognize a number of positive impacts of the mixing of urban function on the urban sustainability of an area, ranging over different fields.

The mentioned impacts of function mix on urban sustainability have been summarized in a table, attached in Appendix II.1.2. This table classifies the mentioned impacts according to the theory / concept in which it is mentioned and the field in which the impact occurs, so that a cross-relationship can be studied. From this table, we see that urban sustainability is impacted by the

degree of urban function mix through the field of transport, environment, social sociology, and economy. We see that numerous alleged sustainable impacts that are mentioned in one theory are backed up by other theories and concepts. They are also backed up by more specific studies on the topic.

When generalizing the findings from the literature, we see that, in the field of transport, a high level of function mix supports faster, more efficient and more sustainable modes of transport. In the field of environment, a high level of function mix propagates compactness which reduces the city footprint and thus protects natural resources, and leads to a lower CO2 emission by the reduction of car-usage and the switch to more sustainable ways of transport, with also a better air quality as result. In the social field, urban function mix increases social interaction, -inclusion and -cohesion and therefore social sustainability, yields to a higher quality of life, a healthier lifestyle and a safer environment in which people have more freedom because of the increased safety and accessibility of the functions. Last but not least, function mix has economic benefits because infrastructure can be provided cost-effectively per capita, there is an increased land- and property value which yields higher revenues, the population density is large enough to support local services and businesses, there is an increased economic activity in these local services and businesses due to the low-threshold accessibility through usage of slow modes of transport (walking and cycling), and there is a better accessibility of jobs and lower costs of transportation, which leads to greater personal welfare.

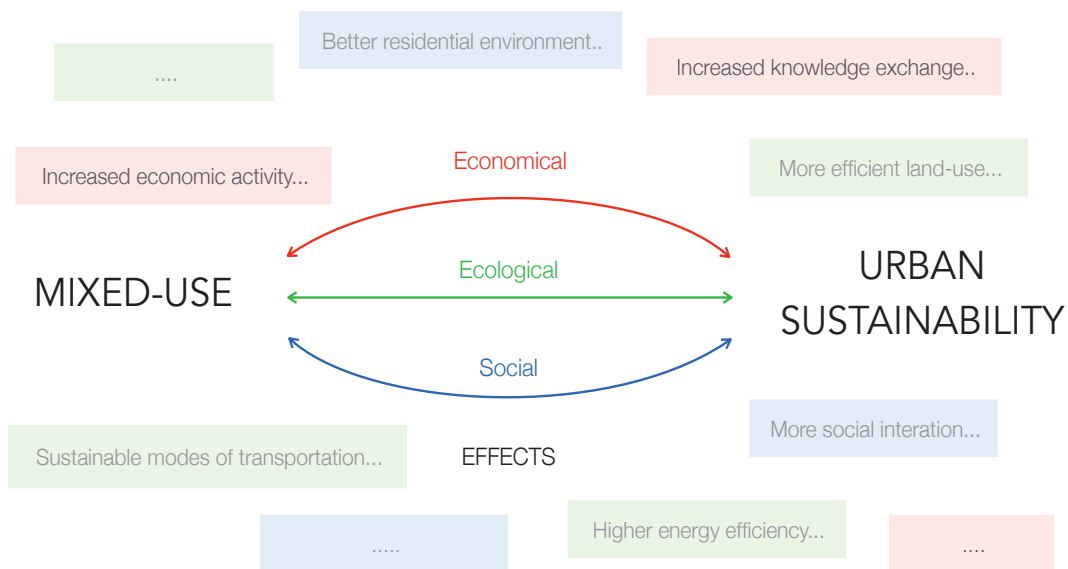


Figure II.1.5. Influence of function mix on urban sustainability of an area (own illustration)

AIMS AND PHYSICAL FEATURES OF SUSTAINABLE MIXED-USE AREAS IN THEORY

Aims

Mixed-use development can be seen as an urban planning tool to achieve certain results in urban areas. In order to understand the adequacy of certain urban forms, development approaches or user behaviours in the context of mixed-use development, it is necessary to understand what exactly it is that mixed-use development aims to achieve.

When looking at the literature on mixed-use as mentioned in the leading contemporary urbanism theories as well as in evaluative research on mixed-use specifically, we come to an inventory of recurrent potentials that can be reduced to the same overall aims. In theory, the relationship between mixed-use development and the objective of urban sustainability is very clear. Ultimate aims of mixed-use are increasing economic growth, increasing the overall efficiency of the city, minimizing the city's environmental impact, creating more safe and attractive urban environments, and increasing public health and wellbeing. All these elements contribute highly to the long term success and sustainability of the area.

Concrete goals that can be deduced from literature are preserving natural land, increasing mobility, reducing fuel and energy consumption and CO2 emission by transport, increasing public health, enforcing social cohesion, increasing attractiveness, increasing safety, and creating an economically viable city.

From detailed literature we can find a number of believed solutions in which mixed-use could help to achieve these overarching aims (summarized in appendix II.1.3, second column). In summary, these can be reduced to:

- accommodating growth within the existing boundaries of the city
- reducing transportation
- splitting traveling streams by encouraging walking and cycling
- switching to clean modes of transport
- propagating a healthier lifestyle
- increasing social interaction
- increasing urban vitality
- inducing social control
- creating cost-effective infrastructure
- fostering economic activity

Because these are the objectives that mixed-use should help to achieve, these solutions can be defined as sub-goals. All these sub-goals are directly related to the aforementioned larger theoretical goals of mixed-use development and therefore sustainability.

Physical features

The physical features of mixed-use are the specific physical characteristics that the physical implementation of mixed-use in practice should foster meet to achieve these sustainable aims.

Ways in which the physical implementation of mixed-use can differ - Although mixed-use seems like a straightforward concept, it can be implemented in a variety of physical forms. Looking at all scientific literature in the field in which a definition of mixed-use is drawn up, five conceptual levels can be distinguished to describe in which ways the physical form of implementation of mixed-use can differ: Type, scale, urban texture, dimension and design (based on Hoppenbrouwer & Louw (2005), Grant (2002), Rowley (1996), Miller (2003) and Jabareen (2006)). 'Type' refers to the type of functions that are included in the mix.



Figure II.1.6. First conceptual level of function mix: 'Type' (own illustration)

The 'dimension' refers to the different spatial typologies of the concept of mixed-use, consisting of (I) the shared premise dimension (different functions within a premise), (II) the horizontal dimension (different functions within an area distributed over adjacent premises), (III) the vertical dimension (different functions within an area distributed over stacked premises) and (IV) the time dimension (different functions within the same premise during the course of the day).

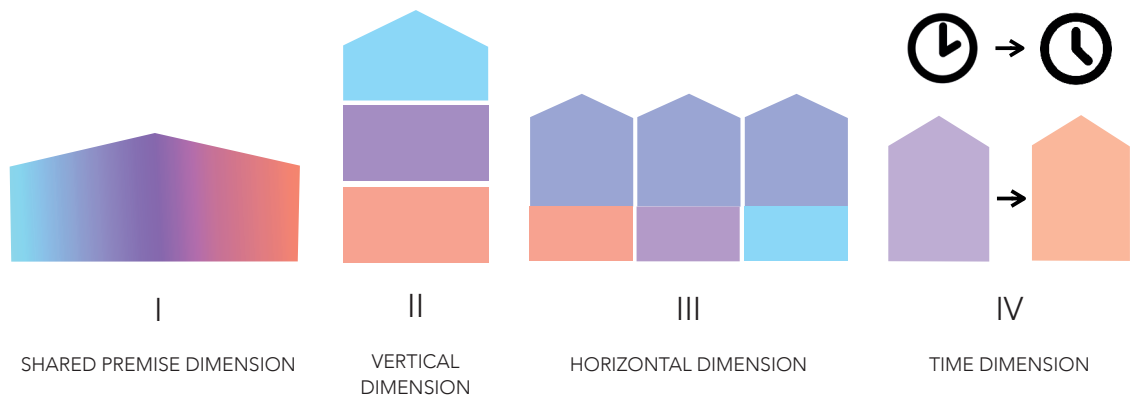


Figure II.1.7. Second conceptual level of function mix: 'Dimension' (own illustration)

Next to this 'urban scale' is included, going from mixing functions at the scale of the building, to the scale of the block, the scale of the district or the scale of the city.

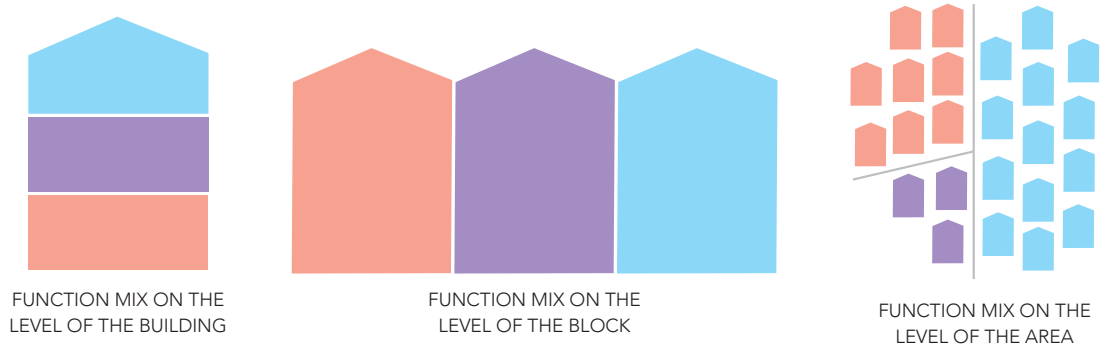


Figure II.1.8. Third conceptual level of function mix: 'Scale' (own illustration)

Also the urban texture is a conceptual level on which the physical urban form of implementation of the concept of mixed-use can differ, with grain, density and the interweaving of functions as main components.

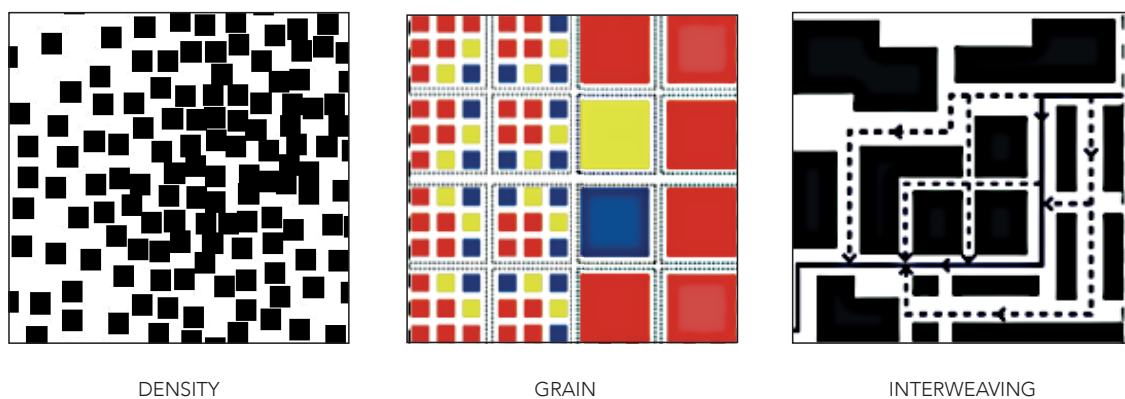


Figure II.1.9. Fourth conceptual level of function mix: 'Urban texture' (Gentin, 2009)

Finally, design refers to the way that the space and elements in the area are given shape, influencing their look and the way they can be used. (Grant, 2002; Gentin, 2009; Hoppenbrouwer & Louw, 2005; Jabareen 2006; Miller, 2003; Rowley, 1996).

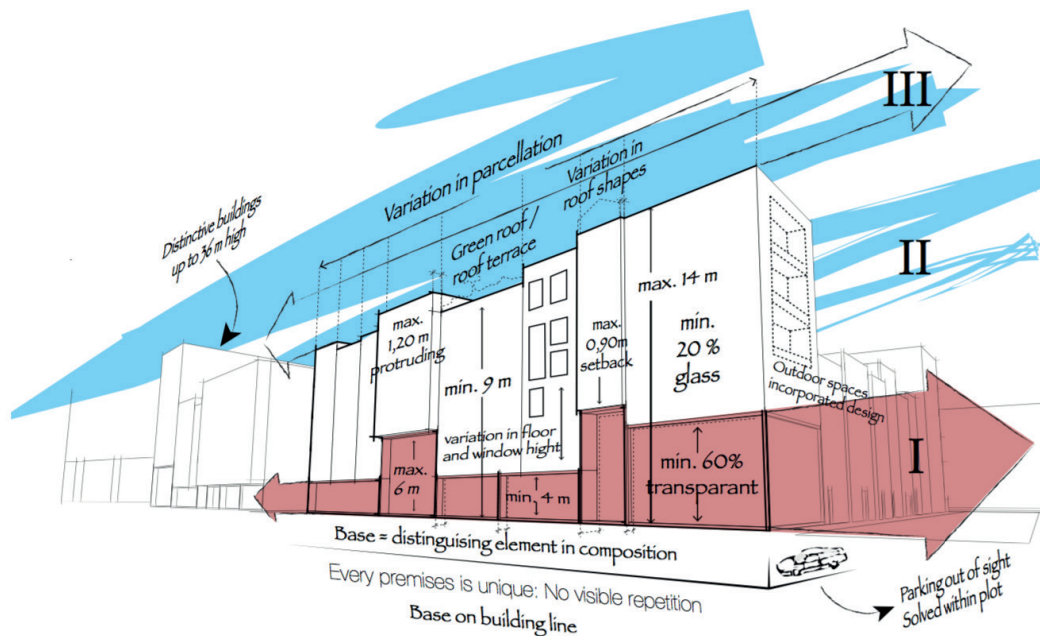


Figure II.1.10. Fifth conceptual level of function mix: 'Design' (Own illustration)

Lack of physical specifics from literature - When looking at the physical specifics of these conceptual levels that the implementation of the concept of mixed-use should respect in order to provide its sustainable benefits however, it is remarkable that almost no specifics on this are mentioned in literature. That is including the literature that focuses specifically on mixed-use development and its implementation in practice. When discussing mixed-use development and recommending it as a sustainable urban form, the notions used to describe the physical appearance of this concept remain very vague, as can be seen in table II.1.1., which summarizes the used notions according to theory / concept.

COMPACT CITY	TOD	PLACEMAKING	NEW URBANISM
'intensification of functions per area' 'closer together' 'compact' 'walkable'	'walkable' 'compact' 'location-efficient' 'TODs generally are located within a radius of one-quarter to one-half mile (400 to 800 m) from a transit stop, as this is considered to be an appropriate scale for pedestrians'	'human scale' 'walkable' 'permeable' 'diverse'	walkable' 'connected' 'diverse' 'increased density' Andres Duany and Elizabeth Plater-Zyberk observed some patterns concerning the scale of function mix. Unfortunately these are still very vague ('functions concentrated at the edge of the neighbourhood', 'close...') and hardly usable because they are very incomplete and rely solely on observations of a single area (Katz Scully & Bressi, 1994).
ECO CITY	GREEN URBANISM	SMART GROWTH	
'efficient' 'compact' 'walkable' 'people-scale'	'connected' 'compact'	'compact' 'walkable' 'bicycle friendly' 'close' / 'in close proximity'	

Table II.1.1 Used notions to describe the physical specifics of urban function mix according to theory / concept (own illustration)

While some specifics can be found, '400-800 meter to a transit stop', functions concentrated at the 'edge of the neighbourhood', these are incomplete and still quite undefined. Most authors describe the desired function mix in mixed-use areas as functions being 'close together', 'diverse' and 'connected', while describing the corresponding urban form as 'compact', 'permeable', 'walkable', 'bicycle friendly' and 'human scaled'. In the case of theory, the mentioned specifics are basically the aims for mixed-use development. No statements are made on how these goals are defined in terms of physical features, by saying HOW close together, HOW diverse and HOW connected these functions ought to be, and what 'compact', 'permeable' and 'human scale' is.

Associated end-user behaviour

What can be done, is translating these adjectives used to describe the ideal implementation of mixed-use according to theory to the end-user behaviour they aim to achieve, since all of them have a clear link with the end-user behaviour.

When looking closely at the aims that are mentioned in theory and the adjectives that are used in literature to describe the physical appearance of mixed-use, implicit aims can be deduced on what the is actually being attempted to achieve. These goals can be related to the end-user because they imply a certain behaviour, such as 'walking to the tram to use public transport' instead of 'using the car' or 'walking to the supermarket around the corner' instead of 'taking the car to go to a supermarket on the other side of town'. The specific goals in terms of end-user behaviour can be seen in Appendix II.1.3 in the third column. These end-user behaviours pose certain requirements to the urban form, such as an urban form that induces walking and cycling.

PRODUCT RECOMMENDATIONS ON THE PHYSICAL IMPLEMENTATION OF MIXED-USE FROM THEORY

Although not concrete, some recommendations are described in theory on how these attractive urban forms that induce urban vitality and induce walking and cycling can be achieved.

Jane Jacobs identifies four indispensable conditions that great urban environments must possess. Her preconditions are:

- The district, and indeed as many of its internal parts as possible, must serve more than one primary function; preferably more than two. These must ensure the presence of people who go outdoors on different schedules and are in the place for different purposes, but who are able to use many facilities in common.
- Most blocks must be short; that is, streets and opportunities to turn corners must be frequent.
- The district must mingle buildings that vary in age and condition, including a good proportion of old ones so that they vary in the economic yield that they produce. This mingling must be fairly close grained.
- There must be a sufficiently dense concentration of people for whatever purposes they may be there. This includes dense concentration of residence. (Jacobs, 1961).

Other physical elements that have according to theory proven to be crucial to the success of a mixed-use project area public spaces and streetscapes, the integration and interrelationship of elements, pedestrian circulation and connectivity, and creating a sense of place.

- Firstly, there should be an attractive and engaging public realm, whether the public spaces consist of urban plazas, squares, town greens, parks, gardens, promenades, courtyards, or streetscapes. The reason for the increased importance of the public realm in mixed-use projects is its ability to shape the interrelationship of uses within the project, solidify the development's incorporation into the surrounding area, and amplify the visual connections between spaces (Adams & Tiesdell, 2012).
- Secondly the urban design should think carefully about the proper integration, alignment and placement of the various components of the plan. The different operating and activity cycles of each function must be accommodated and potential conflicts avoided through forethought and proactive design (Schwanke, 2003). That includes providing efficiently functioning infrastructure, including parking, utilities, services, and effective mechanical, electrical, and structural systems, that are capable of servicing each component's differing demands. Moreover, the potential of mixed-use development to create synergies from the various uses can only be capitalized on if the project components are properly aligned. The design and position of each use must be thought out so that the uses perform as a whole and benefit from one another. This is often accomplished by situating complementary uses around common areas and public space, separating the uses that draw the largest numbers of people to encourage a consistent flow of pedestrians throughout the entire development, ensuring

there are coffee shops and restaurants that serve lunch close to the office buildings, and placing everyday service providers are located next to the residential components (Adams & Tiesdell, 2012).

- Fourthly, the pedestrian orientation of mixed-use projects is a stark contrast to the automobile orientation of most other types of real estate development and requires significant thought to be put into the arrangement and design of the buildings and open spaces. The goal should be to ensure easy and effective pedestrian access to each of the project components and to and from the relevant adjacent areas (Schwanke, 2003).
- Lastly, mixed-use development is ultimately an exercise in place making, not just real estate development. As mentioned earlier, place making can be described as “the creation of vibrant, distinctive, pedestrian-friendly urban environments through the effective design and integration of a mix of uses” (Macmillan, 2006). The challenge for mixed-use projects today is to instantaneously create unique places that feel authentic and possess a variety of distinctive characteristics that draw pedestrians back again and again. This requires a thorough understanding of the local culture and built environment, as well as a common vision that combines the unique aspects of the local environment and community with principles of good urban and architectural form (Macmillan, 2006).

From these recommendations, significant variables for the achievement of attractive mixed-use areas that induce the end-user behaviour of appendix II.1.3. can be distilled. The further variables of urban form that are of influence on this end-user behaviour have been determined by observation and records of end-user behaviour, end-user interviews and review of specialised literature on the inducement of certain specific end-user behaviours / conditions for certain specific functions, such as done by Hausleitner (2012) (exploring the conditions in terms of urban form for the settlement of micro businesses). These variables will be supplemented with product recommendations on the physical implementation of mixed-use for achieving sustainable end-user behaviour from practice, which will be presented in the next chapter.

B. URBAN SUSTAINABILITY & THE SUSTAINABLE MIXED-USE AREA IN PRACTICE

Now, the definition of 'optimal' sustainability, and the aims, specifics, associated end-user behaviour and product recommendations for the implementation of mixed-use will be discussed according to the way they are perceived and handled in practice. This is researched through literature- and document analysis and semi-structured interviews with professionals from the field.

WHAT IS 'OPTIMAL' URBAN SUSTAINABILITY IN PRACTICE?

Firstly, the definition of 'optimal' urban sustainability from the perspective of the practice of urban area development will be addressed.

When looking at the implementation of urban area (re)developments in practice, we see different examples of how (urban) sustainability is defined. Both social, economic and ecological/environmental perspectives on sustainability come forward in practice. Recently, also the need for integration of these aspects is increasingly recognized (Hong Kong special administrative region government, 2007; Gemeente Amsterdam, 2011). In urban redevelopment practice however, the main focus still lies on the environmental 'physical' side of sustainability. In this approach, optimal sustainability is determined by the smallest environmental impact, by for example the smallest possible usage of finite resources, the lowest rates of pollution and CO₂ emission, and the longest lifespan of constructions.

With the rise of the concepts of placemaking and mixed-use development however, the awareness of the social/economic perspective of sustainability has increased. From this perspective, the 'optimal' sustainable area is the area that is socially and economically stable. End-user behaviour is a clear component of this in theory, but in practice the significance of end-user behaviour in achieving the optimal urban sustainability is still underexposed. This is for a large part attributable to the definition of 'optimal' sustainability in practice still being determined by the measurability of their result.

The end-user perspective for optimization of urban sustainability is thus completely legitimized by theory, but convincing planners and developers in practice of this still requires quite some effort.

THE RELATIONSHIP BETWEEN MIXED-USE AND URBAN SUSTAINABILITY IN PRACTICE

The concept of mixed-use originating from theory of sustainable urbanism has been adopted in urban (re)development projects all over the world with the aim of creating successful urban areas; from Toronto to Amsterdam and from Atlanta to Hong Kong. However, practice has shown that simply combining a variety of different uses within individual development projects will not automatically lead to the achievement of these goals (Herndon, 2011).

Case studies from practice show that the benefits of mixed-use development which are not guaranteed to occur include safer, vibrant neighborhoods, less traffic, reduced air pollution, improved public health, and increased economic activity, amongst many other things. While each of these is certainly a possible benefit of mixed-use development, they can not be assured because each is reliant upon factors external to the mere presence of a mixed-use development such as end-user behaviour. For example, having numerous uses within a close distance creates a situation where it is reasonable for people to walk or ride a bicycle to their desired destination. This reduces people's need to rely solely on their automobiles for transportation, and assuming that they choose to take advantage of that opportunity, has the ability to reduce the amount of cars on the road. Fewer automobiles on the road will likely lead to less traffic congestion and lower volumes of air pollutants entering the atmosphere. This in turn has the potential to improve air quality and benefit public health. However, each of these benefits is predicated by the fact that the people must actually decide to walk or bike to their destination instead of drive (Herndon, 2011).

Examples of mixed-use developments performed in practice illustrate this, such as the mixed-use development project of Atlantic Station in the city of Atlanta in the US State of Georgia. Because



Figure II.1.11. Example of a mixed-use area as imagined vs. a mixed-use area in practice: Rotterdam schouwburgplein (Left: West8, 1996) (Right: Epicurus, 2015)

of the could-have-been-anywhere retail and the monotonous and uninspiring architecture, the envisioned unique in-town neighborhood of Atlantic Station doesn't attract people the way it intended. Instead, the mixed-use development has resulted in a night time atmosphere that encourages cruising and loitering that negatively impacted the development and safety of the area (Herndon, 2011). In other mixed-use projects such as in Toronto, you see that incompatibility of combined functions by for example noise, deters people from buying residential units (Miller, 2006). These are only a few examples of how an inadequate translation of the concept of mixed-use to an appropriate physical urban form that encourages the right end-user behaviour can cause mixed-use urban area developments to fall short of their sustainable potential.

AIMS AND PHYSICAL FEATURES OF SUSTAINABLE MIXED-USE AREAS IN PRACTICE

Aims

Looking at the aims of mixed-use urban area development in practice, a number of different goal statements and strategies for employing mixed-use development can be identified (Hoppenbrouwer & Louw, 2005).

Solving problems from Euclidean zoning and accommodating growth at minimal cost -

When speaking with the urban planners that formulate the area development strategies at the municipality, it becomes apparent that the direct link between mixed-use development and urban sustainability is not always seen by these planners. They view mixed-use generally as a tool to respond to existing problems. The problems mentioned in this context are, amongst others, urban sprawl, long transport lines with pollution and congestion, unsafety due to derelict places and absence of a sense of place and community. These problems are undesirable effects from a practice of segregating land uses through Euclidian zoning policies, practiced all over the world from the industrialisation until round and about the 1990's (Berton, 2002). Primary goals of mixed-use development that live in the heads of the planners thus revolve around the desire to alter the results of past patterns of urban growth and rectify the detrimental effects that Euclidian zoning and sprawl have had on the urban area, as is substantiated by Grant (2002) and Herndon (2011). Furthermore, Emiel Arends, urban planner from the municipality of Rotterdam, explains how mixed-use development in Rotterdam originated when the intensification of land-use and redevelopment of brownfields proved to be a cheaper way of urban expansion than the development of green fields from scratch; illustrating an economic motive of minimizing expenditure.

Sustainable aims in structural visions - When looking at so-called structural visions in which the authorities formulate and motivate their strategic goals and ambitions for the area on the long term, we however do see that mixed-use is being linked with a sustainability objective. All over the world we see the same core goals being emphasized.

The City of Atlanta (2002) cites the reasons for the implementation of its Mixed Residential Commercial Zoning District as increasing safety, increasing attractiveness, giving the area a sense of identity,

inducing walking and cycling, improving air quality and encourage public transport (Herndon, 2011). Also in Hong Kong mixed-use is incorporated in the Planning Vision and Strategy 2030 as a means to achieve the ultimate ambitions of creating more attractive living environments, creating a sense of place, minimizing traveling and shortening commuting trips, stimulating a healthy lifestyle and promoting environmentally friendly modes of transport through better planning of pedestrian environments (Hong Kong special administrative region government, 2007).

Amsterdam expresses its objectives with mixed-use in its Structural Vision 2040 as accommodating the demand for certain functions by intensifying land use, minimizing the impact on natural land, handling energy and transport more efficiently, stimulating economic development, reducing car dependency, increasing the quality of the urban environment for its users, increasing the sense of identity and inducing social interaction and cohesion (Gemeente Amsterdam, 2011). These are supplemented in the Vision Document for the mixed-use development project of Amsterdam South Axis with a dimension of increasing safety, reducing pollution and enhancing health by stimulating a more active lifestyle through walking and cycling (DRO & Arup London, 2009).

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Finally, Rotterdam in its vision report 'Mixed-use as a challenge for the city-region Rotterdam', mentions enhancing intensity and efficiency of the usage of space, revitalizing of urban areas, reducing auto-mobility, congestion and pollution, and enhancing attractiveness and safety as aims of mixed-use development (Bureau Stedelijke Planning, 2009).

The aims of mixed-use cited in municipal / regional structural visions can be related to the overarching aims of mixed-use mentioned in theory (preserving natural land, increasing mobility, reducing pollution and energy consumption by transport, increasing public health, enforcing social cohesion, creating an attractive urban area, enhancing safety, and enhancing economic activity (see Appendix II.1.4). However, not all of these sustainable potentials are distinguished by all municipalities.

What we see from practice is that mixed-use area development both forms part of a strategy for sustainable development by municipalities through the mentioned aims, as well as being a self-evident component of 'good urban form' in the eyes of the urban planners.

Physical features

Yet, here again, there is the question whether the specific features of the implementation of mixed-use that are needed to actually achieve these aims in practice, are known.

No guidelines on implementation mixed-use - From interviews with urban planners, it becomes very clear that there are no widely applied guidelines or conventions on the physical form in which mixed-use should best be implemented. There are certain norms in the built environment that can influence it, which are controlled nationally by the government. An example of this is the handbook of the Association of Dutch Municipalities in which minimal distances between certain functions are established from the perspective of nuisance (VNG, 2009). This is not decisive for the implementation of mixed-use, but it can however influence it by putting a constraint on how close functions can be together. This could potentially affect the (positive) interaction between these functions. The same goes for the norms on the established requirements per function (for instance accessibility for trucks for companies, the presence of good outdoor space for dwellings, etc). What can be said about these national norms on physical aspects of functions or combinations of functions is that they are researched from the perspective of sub-aspects such as nuisance or required equipment, but not from a sustainability perspective. Furthermore, these guidelines are already a few years old. The currently employed book of nuisance according to function and associated distances to other functions dates from 2009 and there are no plans in prospect to update this research. Technology however develops at an incredible pace and is able to change business-, manufacturing and other processes as well as certain products and materials. This could heavily diminish the nuisance associated with a function, allowing functions to be closer together than they did before, or change function- and user requirements. In conclusion, these norms do not include a component of sustainability in the equation and can be aged.

Physical specifics determined by various actors - Excluding the occasional national norm however, the physical specifics of the implementation of mixed-use differ from project to project. In these projects, these specifics on the physical form of implementation of mixed-use can be determined on different levels, from the authority up to the individual. In case of the authorities, specifics follow from research on the functions and real estate supply that are needed in the city, fixed plans for green-, water- and infrastructure, location-specific or function-specific criteria or from a certain 'quality vision' envisioned for the area (Idsinga & Oosterheerd, 2009; Stolte, 2015; Gemeente Amsterdam, 2011). In the case of the developer, the physical specifics are further elaborated on the basis of market research, personal (commercial) ambitions and preferences, and an interpretation of this quality vision by an (urban) designer. Finally, room can be given on the level of the individual to implement their own function and to shape their own property according to their personal preference. In this way, all aspects of the physical form of implementation of the concept of mixed-use are eventually filled in (Kersten et al, 2011).

Associated end-user behaviour

When looking back at the aims of mixed-use developments in practice, a clear link with the end-user behaviour can be found. At the same time, different considerations can be at the root of the

drafting of these specifics by respectively authorities, developing parties and individuals. These considerations in the formulation of the specifics of mixed-use can be traced back to two broad approaches, being either strategically-driven or market-driven.

Incorporation of end-user perspective in strategically driven approaches of determining physical characteristics

- Amongst these approaches, the way and extent of incorporating the end-user differs. When strategically driven, the specifics of the form of implementation of mixed-use come forth from the overall strategic aims and ambitions of the municipality. In this case, the end-user is important to that extent that he can contribute or counteract in achieving these strategic aims. This is recognized by the municipality (Stolte, 2015; Arends, 2015; Wanders, 2015; Van Zanen, 2015). An explicit link between the physical specifications and the end-user behaviour however, is not stated in planning documents. End-user requirements and preferences are mentioned, to summarize what is needed to perform a certain function (according to the municipality according to research), or mentioned in the context of giving people the possibility to design their own house (Gemeente Amsterdam, 2011; VNG, 2009). End-user behaviour is however still only addressed in the form of implicit suppositions and not explicitly defined, neither in terms of goals nor requirements (Gerardts, 2015; Van Mensvoort, 2015; Arends, 2015). From the stated overall (indirect) sustainable goals for the development, certain expectations on end-user behaviour can be deducted, such as an intensive use of the public space as a platform for interaction ((Physical planning department & Arup London vervangen door Idsinga & Oosterheerd, 2009 2009; Bureau Stedelijke Planning, 2009; Herndon, 2011), attraction of people from inside and outside of the neighbourhood (Bureau Stedelijke Planning, 2009), usage and expenditure by people inside the neighbourhood of and at locally offered services and products (Hong Kong special administrative region government, 2007; Herndon, 2011, Gemeente Amsterdam, 2011), and occurrence of social interaction and a sense of community. However, the specifics of what this behaviour should actually be in order to achieve these goals and most certainly the requirements for this behaviour remain unaddressed.

Incorporation of end-user perspective in market driven approaches of determining physical characteristics

- When market-driven, the specifics of the form of implementation of mixed-use are determined by what is thought to provide good economic opportunities in the current and future market on the basis of market research (Kersten et al, 2011). Functions and physical properties are chosen based on the functions and characteristics that are or will be in demand in the market. This approach is employed by developing parties with a commercial interest, whose strategy is founded on a customer need together with awareness of competitors, an understanding of the market and an ability to adequately respond to market trends (Helleman, 2005). Through the inherent customer-focus of market-driven organizations, the end-user perspective is automatically included in the considerations in shaping the physical implementation of mixed-use. Developing parties familiarize themselves with the needs and preferences of the target group of their development in order to shape an environment that is as attractive as possible for these particular land-uses and end-user. End-user behaviour is included in the sense that the current (based on analysis of past behaviour) and preferred end-user behaviour of a particular type of user is investigated in order to be facilitated (Barlow & Ozaki, 2003). Market-driven development

practices however, are not strategically driven development practices. Whereas strategic resolutions address a broader scope in terms geography, time and integration of disciplines and aspects, market-directed organizations naturally act more out of self-interest and look at a more short term scope of profit generation. This implies that in market-driven developments, there is no element of desire to change existing end-user behaviour in order to be for example more sustainable, if this does not yield profit within the area and time span that is relevant for the developer. The connection between this more sustainable user behaviour and noticeable positive effects for the developer, is almost never made by developers (Van Hinte, 2011; Hoogenboom, 2015). Conclusion is that in market-driven shaping of the concept of mixed-use the end-user perspective is definitely taken into consideration and end-user behaviour is researched, but not from the perspective of what is the 'most sustainable' end-user behaviour or increasing urban sustainability.

PRODUCT RECOMMENDATIONS ON THE PHYSICAL IMPLEMENTATION OF MIXED-USE FROM PRACTICE

Although the form of implementation of the concept of mixed-use differs from project to project and no general guidelines on its physical specifics are used in practice, there are some recurring recommendations on this subject that are stated in planning documents.

As mentioned the aims of mixed-use that are stated into mixed-use development plans and strategies both form a part of a strategy for sustainable development as well as being a self-evident component of 'good urban form'. From the analysis of structural visions and zoning- and development plans on mixed use developments, a pattern can be found of recurring physical recommendations for implementing mixed-use, that fit into these two categories.

Overall, the physical recommendations range from recommendations in the field of infrastructure and urban layout, housing supply, functions, character and flexibility (For a full overview, see Appendix II.1.5.). These recommendations come down to:

- A good urban infrastructure, including a pedestrian oriented traffic network, adequate bicycle storage and parking, a good public transportation system, high quality public space (squares, neighbourhood squares, parks) and sufficient community facilities such as sports fields and communal gardens ((Physical planning department & Arup London vervangen door Idsinga & Oosterheerd, 2009; Hong Kong special administrative region government, 2007; Herndon, 2011; Gemeente Amsterdam, 2011; Bureau Stedelijke Planning, 2009)
- An urban layout that permits a safe, attractive and convenient pedestrian circulation and offers enough open and green spaces, fosters a lively streetscape in which the buildings interact with the public space through a plinth that houses public functions, and a set of special functions (icons) on strategic locations, which also make a connection with the public space (Physical planning department & Arup London vervangen door Idsinga & Oosterheerd,

2009; Hong Kong special administrative region government, 2007; Herndon, 2011; Gemeente Amsterdam, 2011; Bureau Stedelijke Planning, 2009).

- A well balanced mix of housing which offers dwellings are suitable for and attractive to a multitude of social groups ((Physical planning department & Arup London vervangen door Idsinga & Oosterheerd, 2009; Hong Kong special administrative region government, 2007; Herndon, 2011; Gemeente Amsterdam, 2011; Bureau Stedelijke Planning, 2009).
- A diverse and rich provision of urban functions and amenities, offering a mixed program in terms services, products and opening hours, including a significant concentration of (small-scale) businesses and sufficient cultural, community, hospitality and leisure facilities ((Physical planning department & Arup London vervangen door Idsinga & Oosterheerd, 2009; Hong Kong special administrative region government, 2007; Herndon, 2011; Gemeente Amsterdam, 2011; Bureau Stedelijke Planning, 2009).
- A highly attractive environment that fosters a sense of identity and alternates high-activity locations with quiet, high quality dwelling areas and an attractive public space, emphasizing the sense of identity and uniqueness of the place by protecting and exploiting the unique qualities of the location in terms of existing characteristics, traditions and monumental buildings, creating icons, and by letting the end-user put their stamp on the area through private / communal initiatives and (collective) private commissioning ((Physical planning department & Arup London vervangen door Idsinga & Oosterheerd, 2009; Hong Kong special administrative region government, 2007; Herndon, 2011; Gemeente Amsterdam, 2011; Bureau Stedelijke Planning, 2009).
- And last but not least, a flexible design. Mixed-use can also imply changing functions and changing requirements over time. Yet, this can not mean that real estate and infrastructure must constantly be demolished and rebuilt. By developing flexible real estate and urban layouts, a range of different functions can be supported, increasing the lifetime and long term relevance of the constructions ((Physical planning department & Arup London vervangen door Idsinga & Oosterheerd, 2009; Hong Kong special administrative region government, 2007; Herndon, 2011; Gemeente Amsterdam, 2011; Bureau Stedelijke Planning, 2009).

These elements largely coincide with the elements mentioned from theory, although not all recommendations from theory are included in development plans and visions in practice, and at the same time also factors are added that theory doesn't speak about, such as flexibility. Again, relevant variables of urban form for the future degree of urban sustainability from the area can be deduced.

C. CONCLUSION

From the analysis of the interpretation of the concept of urban sustainability and mixed-use and the formulation of specifics on the physical implementation of these concepts in theory and practice, a number of conclusions can be drawn.

FINDINGS

The link between mixed-use and urban sustainability - When looking at literature, a clear relationship between urban sustainability and the mixing of urban functions can be seen. The leading theories and concepts in the field refer to a high level of function mix as a critical component for urban sustainability. A number of positive impacts of the mixing of urban function on the urban sustainability of an area can be found, ranging over fields of transport, environment, social sociology, and economy (summarized in appendix II.1.2).

When speaking with people from the practical field of urban area development, it however becomes apparent that the direct link between mixed-use development and urban sustainability is not always seen. We see that in practice mixed-use is sometimes viewed more as a tool to respond to existing problems, and that mixed-use area development can form part of a strategy for sustainable development by municipalities, but is also often just a self-evident component of 'good urban form'.

Definition of 'optimal' sustainability - In formulating the sustainability aims and ambitions in different urban area development projects over the world, the definition of the 'optimal' sustainability of an urban area is important. In theory, the concept of sustainability assessment is inherently interdisciplinary. The term sustainable development and sustainability implies today three different aspects or dimensions of sustainability, namely social, economic and ecological or environmental/ecological sustainability. To achieve a true, long term sense of urban sustainability, urban areas however have to be both economically, environmentally, and socially viable and sustainable and an integration of these principles is important. The definition of the 'optimal' sustainable area as the area that achieves the most sustainable long-term end-user behaviour is a legitimate one, because for the endurance and viability, it is essential for sustainable systems to be used and therefore to undertake a sustainable behaviour that will continue to exist. It overarches the different aspects of sustainability but brings them back to their initial driver, giving a more important assessment of urban sustainability than indicators that measure measurable outputs.

In practice, both social, economic and ecological/environmental perspectives on sustainability come forward. Although the need for integration is increasingly being recognized, the main focus in urban redevelopment context often still lies on the environmental 'physical' side of sustainability. With the rise of the concepts of placemaking and mixed-use development however, the awareness of the social/economic perspective of sustainability has increased, redefining the 'optimal'

sustainable area from the area that has the least environmental impact to the area that is long term socially and economically stable. End-user behaviour is a clear component of this in theory, but in practice the significance of end-user behaviour in achieving the optimal urban sustainability is still underexposed. This is for a large part attributable to the definition of 'optimal' sustainability in practice still being determined by the measurability of their result.

Theoretical and practical aims of mixed-use - When looking at the structural visions in which the authorities formulate and motivate their strategic goals and ambitions for the area on the long term however, we do see that mixed-use is being linked with a sustainability objective. All over the world we see the same core goals being emphasized .

These goals mentioned in practice can be related to the sustainable aims of mixed-use mentioned in theory. Ultimate aims of mixed-use in theory are increasing economic growth, increasing the overall efficiency of the city, minimizing the city's environmental impact, creating more safe and attractive urban environments, and increasing public health and wellbeing/ Concrete goals that can be deducted from literature are preserving natural land, increasing mobility, reducing fuel and energy consumption and CO2 emission by transport, Increasing public health, enforcing social cohesion, increasing attractiveness, increasing safety, and creating an economically viable city (see Appendix II.1.3). However, not all of these sustainable potentials are always distinguished by all municipalities in practice.

Physical features of mixed-use - When looking at the physical specifics of this sustainable urban function mix for implementation in practice, it is remarkable that almost no specifics on this are mentioned in literature. Also from interviews with urban planners in practice, it becomes very clear that there are no widely applied guidelines or conventions on the physical form of implementation of mixed-use in practice.

There are certain norms controlled by the government on the built environment that can the physical implementation of mixed-use, but these norms do not include a component of sustainability in the equation and can be aged. For the rest the physical specifics of the implementation of mixed-use are determined per project. In these projects, these specifics on the physical form of implementation of mixed-use can be determined on different levels, from the authority up to the individual. In case of the authorities, specifics follow from research on the demand and strategic requirements of the city. In the case of the developer, the physical specifics are further elaborated on the basis of market research, personal (commercial) ambitions and preferences. Finally, room can be given on the level of the individual to implement their own function and to shape their own property according to their personal preference.

End-user behaviour associated with the sustainable aims of mixed-use - In theory, the actual 'specifics' that area mentioned on the physical implementation of mixed-use are actually goals that can be related to end-user behaviour. Also the aims can be translated to certain end-user

behaviour they aim to achieve which are summarized in appendix II.1.3. These end-user behaviours do however pose certain specific requirements to the urban form.

In practice, the way and extent in which the end-user is incorporated in determining the physical implementation of the concept of mixed-use differs. When strategically driven, the specifics of the form of implementation of mixed-use come forth from the overall strategic aims and ambitions of the municipality, and the end-user is recognized to that extent that he can contribute or counteract in achieving these strategic aims. An explicit link between the physical specifications and the end-user behaviour however, is not stated in planning documents. When market driven, the end-user perspective is definitely taken into consideration and end-user behaviour is researched, but not from the perspective of what is the 'most sustainable' end-user behaviour or increasing urban sustainability.

PRODUCT RECOMMENDATIONS

Although true specifics on the physical form of implementation of mixed-use are omitted in practice and theory, various recommendations are made on how the sustainable potential of mixed-use can be achieved. These recommendations originate from theory and experiences in practice. From these recommendations on how the sustainable mixed-use area could be achieved as well as from specific literature on how certain behaviours can be influenced by urban form aspects, concrete variables can be distilled. These variables represent product-aspects that are relevant in the achievement of sustainable urban areas according to theory and practice.

The 'most sustainable' urban form variables and -values are determined based on the end-user behaviour that is necessary for the achievement of the full sustainability benefits of mixed-use development. From thorough review of theoretical literature and mini case studies of mixed-use projects in practice, the full sustainability benefits that mixed-use development can provide are determined. These benefits presuppose a certain end-user behaviour, that on its turn points to concrete components that are necessary for urban sustainability (for instance: social cohesion or permeability), further often referred to as the 'sustainability components from theory'.

Following these end-user behaviours and sustainability components, physical variables that are of influence on the achievement of these end-user behaviours and sustainability components are deduced from specialised literature, end-user interviews and interviews with experts from the urban area development practice. In cohesion with these sources, the desired direction of the values of these variables from a sustainable point of view can also be attributed to these variables. This way, actors know which side of the variable is favourable from the perspective of urban sustainability and can strive for these values to the extent that is possible in the particular project. These values have been adjusted continuously over the course of the research and re-evaluated and confirmed by a group of experts from the urban area development practice at the end of the research project.

In order to make the list of physical variables and values relevant for achieving urban sustainability comprehensible and applicable in the development process, the variables, values and sustainability components have been traced back to categories (function mix, urban form, real estate, public space, infrastructure, resource management and environment) and to the physical elements that can actually be changed in the development process (such as the type of function in a specific location). In this way, when discussing development decisions, the element that is under discussion can easily be looked up, and be related to the sustainability components and physical variables it influences as well as being compared to the desired value of these variables from a sustainability perspective. By giving them with an overview of elements influenced by their choices as well as providing them with a reference of the direction in which the sustainable value of these variables would lie, actors can be guided in a more aware and informed decision-making process regarding urban sustainability, achieving more sustainable development results.

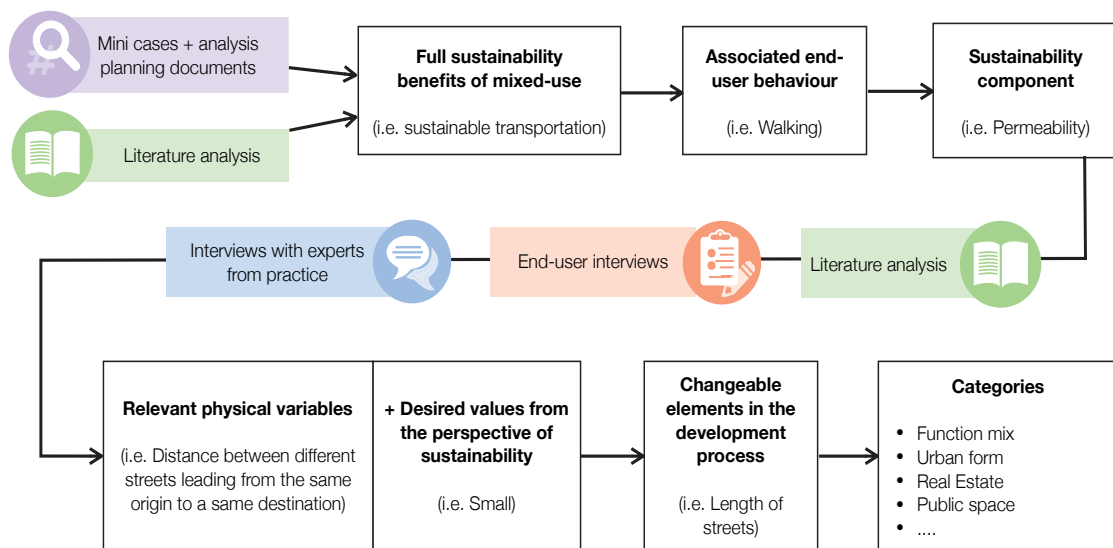

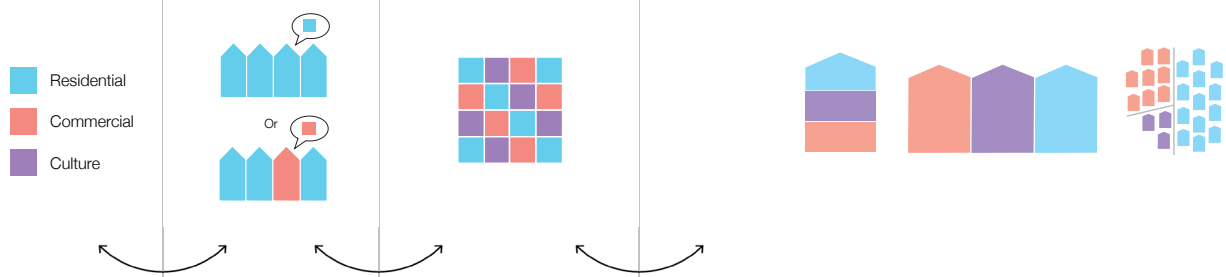
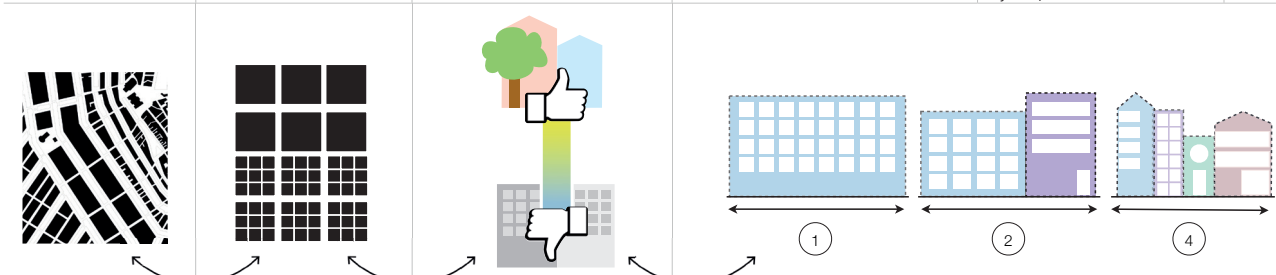


Figure II.1.12. Set up of the list of product recommendations for sustainable mixed-use urban areas (Own illustration)

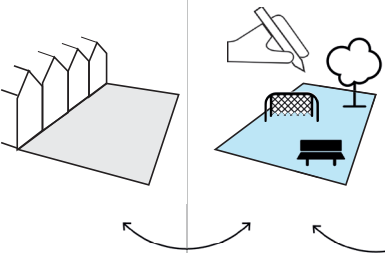
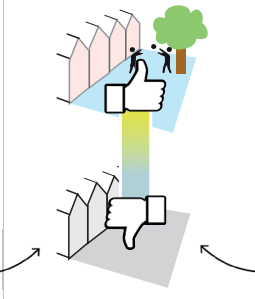
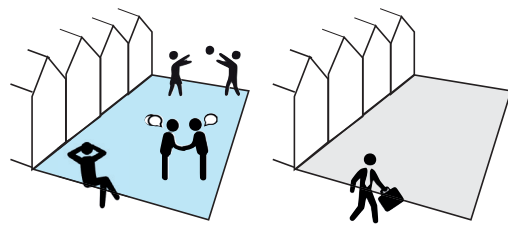
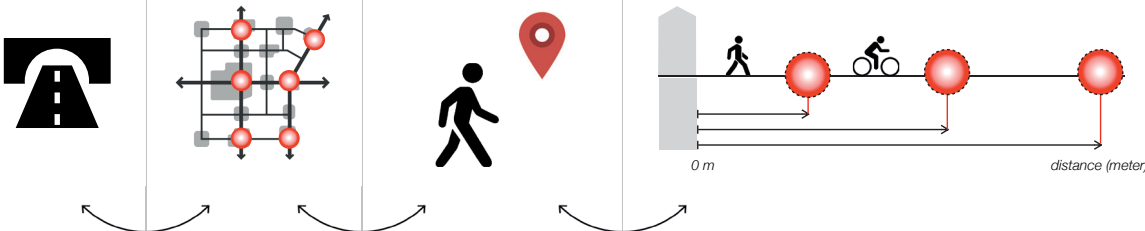
The complete list of product variables considered significant for the future urban sustainability of an area and their values as deduced from theory, is illustrated in table II.1.2:

*  = One real estate development (can be small (house) or large (large building / plot))

CATEGORY	CHANGEABLE ELEMENT	INFLUENCED SUSTAINABILITY COMPONENT	INFLUENCED VARIABLES	POSSIBLE VALUE	DIRECTION DESIRED VALUE FROM SUSTAINABILITY PERSPECTIVE			
Function mix	Type of function (on a certain location)	Coverage & diversity of functions in relation to required activities, services and products by the end-user	Adequacy of functions (for a diversity of social groups (age, income, ethnicity...))	# functions provided / # functions required	High			
			Amount of community facilities available (for a diversity of social groups (age, income, ethnicity...))	# m2 community facilities / person	High			
			Employment opportunities for different social groups (for a diversity of social groups (age, income, ethnicity...))	# employment opportunities / resident	High			
			Diversity of functions (for a diversity of social groups (age, income, ethnicity...))	# different functions (/ social group)	High			
			Attractiveness of functions	Number of visitors of the area	# visitors	High		
			Economic activity	# money spent	High			
			Distinctiveness of area	Unique, very distinctive, distinctive, not distinctive, generic	High			
			Market conformity	Vacancy rate	# m2 vacancy per function	Low		
			Compatibility of functions	Type of nuisance	Sound, smell...	-		
			Amount of nuisance	Light, medium, heavy	Light			
			Radius of notable nuisance	Meters	Small			
			Service traffic requirements	Light, medium, heavy	Light			
			Minimum & maximum user density in building during times of the day	# of users / m2	Diverse			
			Minimum & maximum user density in area during times of the day	# of users / m2	Diverse			
			Interweaving of functions	Scale of function mix	1 (On the level of the building), 2 (On the level of the block), 3 (On the level of the district), 4 (On the level of the city)	Small		
								
						Function-to-function distances	Meters	Small
						Distribution of function-types over area	Concentrated, locally distributed, highly distributed	High
						Distribution of functions for various social groups over area	Concentrated, locally distributed, highly distributed	High
		Attractiveness & distinctiveness of area (through liveliness public space)	Attractiveness of area	# of people in the public space / m2 of public space over the course of the day	High			
			Distinctiveness of area	# of different functions	High			
Urban Form	Grain (size of plots)	Potential for proprietary, functional and visual diversity	Proprietary diversity	# of owners per square meter in arel	High			
			Diversity of functions	# different functions in area	High			

		Attractiveness of area	Visual diversity	# of distinguishable visual entities / architectural styles / meter of facade	High
					
	Length of streets	Permeability	Distance between different streets leading from the same origin to a same destination	Meters	Small
		Mobility	Amount of alternative routes to reach a destination	# of routes	High
		Degree of pedestrian orientation	Amount of public space attributed to pedestrians / bicycles / automobiles in comparison to other transport modes	# m2 public space attributed to pedestrians / total # m2 public space	High
	Preservation of historic characteristics in the area	Attractiveness & distinctiveness of area	Attractiveness of area	Amount of historic characteristics in the area	High
			Distinctiveness of area	Amount of historic characteristics in the area	High
	Embedding of historic characteristics in the area	Attractiveness & distinctiveness of area	Attractiveness of area	Notability of historic characteristics in the area	High
			Distinctiveness of area	Notability of historic characteristics in the area	High
	Density	User viability of functions	User viability of functions	# Users / function	High
		Ressource efficiency	Ressource efficiency	Investment / user	Low
	Urban layout	Attractiveness of area	Visual connection between spaces	Good, Mediocre, bad, non-existent	Good
			Residential quality public space	Shadow, wind, noise...	High
			Diversity in density / open spaces	Low, medium, high	High
		Accessibility	Function-to-function distances	Meters	Small
Real Estate	Size of blocks	Attractiveness & distinctiveness of area	Visual diversity in real estate	# of different styles / m2 facade	High
	Presence of distinctive (including historic) real estate	Attractiveness & distinctiveness of area	Number of visitors of the area	# visitors	High
			Economic activity	# money spent	High
			Visual attractiveness of public space	Unattractive, lowly attractive, attractive, highly attractive	High
			Distinctiveness of area	Unique, very distinctive, distinctive, not distinctive, generic	High
	Design exterior	Attractiveness & distinctiveness of area	Visual attractiveness of real estate	Unattractive, lowly attractive, attractive, highly attractive	High
			Visual distinctiveness of real estate	Unique, very distinctive, distinctive, not distinctive, generic	High
			Visual attractiveness of real estate adjacent public space on eye level	Unattractive, lowly attractive, attractive, highly attractive	High
			Interaction of real estate with the public space	Integrated, much interaction, some interception, no interaction...	Intensive
		Comfort & user quality public space	Amount of wind nuisance surrounding areas	No wind, little wind, wind, much wind, problematic wind	Low

			Amount of sound nuisance surrounding areas	no sound nuisance, little sound nuisance, a lot of sound nuisance, problematic sound nuisance	Low
			Amount of shading/sun surrounding areas	% Coverage by shade over the day and seasons	Diverse
	Design interior	Fitness and attractiveness of real estate to support function	Fitness of real estate to support function	Perfect, good, medium, bad...	High
			Comfort of real estate for function	High, medium, low	High
			Visual attractiveness real estate (interior)	High, medium, low	High
		Flexibility in usage	Amount and type of different functions it can support with limited transformations	Specific, limited flexibility, medium flexibility high flexibility	High
	Parking facilities	Degree of car orientation	Amount of parking spaces	# parking spaces / total area	Low
			Parking norm for residents	# parking spaces / resident	Low
			Parking norm for visitors	# visitor parking spaces / resident	Low
	User-control	Attractiveness & distinctiveness of area / real estate	Degree of control users have in the shaping of their own environment and property	Full control, a lot of control, average control, little control, no control	High
Public Space	Amount of public space	Attractiveness of area	Amount of public space	m2 public space / user	High
	Type of public space	Coverage & diversity of public space in relation to required activities	Adequacy public space	# of functions public space provided / # functions public space required	High
			Diversity of public space (for a diversity of social groups (age, income, ethnicity...))	# different types of public spaces (/ social group)	High
		Interweaving of public space	Distribution of public space over area	Concentrated, locally distributed, highly distributed	High
	Design of public space	Attractiveness & distinctiveness of area	Amount of green / water	m2 water or green / m2 total area	High
			Visual attractiveness of public space	Unattractive, lowly attractive, attractive, highly attractive	High
			Distinctiveness of public space	Unique, very distinctive, distinctive, not distinctive, generic	High
			User quality public space	Low, medium, high	High
	Visibility of historic elements in public space	Attractiveness & distinctiveness of area	Number of visitors of the area	# visitors	High
			Economic activity	# money spent	High
			Visual attractiveness of public space	Unattractive, lowly attractive, attractive, highly attractive	High
			Distinctiveness of area	Unique, very distinctive, distinctive, not distinctive, generic	High

	Equipment of public space	Attractiveness of area	Comfort & user quality public space	Low, medium, high	High
					
	Parking facilities	Degree of car orientation	Amount of parking spaces in the public space	# parking spaces / total area public space	Low
			Parking norm for visitors	# visitor parking spaces / resident	Low
	Materialisation of public space	Attractiveness of area	Visual attractiveness public space	Low, medium, high	High
			Robustness of material (high sustainability & low maintenance)	Very robust, medium, low	High
	User-control	Attractiveness & distinctiveness of area / real estate	Degree of control users have in the shaping of their own environment and property	Full control, a lot of control, average control, little control, no control	High
Infrastructure	Placement public transport nodes	Accessibility	Distance to public transport node	Meters	low
					
	Placement bicycle storage	Accessibility	Distance to bicycle storage	Meters	low
	Placement car parking	Accessibility	Distance to car parking	Meters	higher than bike or public transport
	Design car parking	Attractiveness of area	Visual attractiveness car parking	Unattractive, lowly attractive, attractive, highly attractive	High
	Design bicycle storage	Attractiveness of area	Visual attractiveness bicycle storage	Unattractive, lowly attractive, attractive, highly attractive	High
	Creation of infrastructure for pedestrians / bicycles / automobiles	Degree of pedestrian orientation	Ratio of infrastructure attributed to pedestrians / bicycles / automobiles in comparison to other transport modes	# m2 infrastructure attributed to pedestrians / total # m2 public space	High
		Degree of car orientation	Amount of public space attributed to pedestrians / bicycles / automobiles in comparison to other transport modes	# m2 public space attributed to cars / total # m2 public space	Low
		Degree of bicycle orientation	Amount of public space attributed to pedestrians / bicycles / automobiles in comparison to other transport modes	# m2 public space attributed to cyclists / total # m2 public space	High
	Traffic-design	Attractiveness of area	Connectivity of core-locations of interest in the area	Number: length in minutes and ease in getting from one location to the other according to modes of available transport	High
			Amount of pedestrian route intersections	# of intersections / meter of street	High
		Accessibility	Connectivity of core-locations of interest in the area	Simplicity of route (high) + commuting time (low)	High

			Accessibility of functions	Commuting time function-to-function (low)	High
		Permeability	Distance between different streets leading from the same origin to a same destination	Meters	Small
		Mobility	Amount of alternative routes to reach a destination	# of routes	High
		Safety of traffic situation	Safety of traffic situation	Very safe, safe, sometimes unsafe, often unsafe, always unsafe	High
Resource management	Time development / building process	Time efficiency	Adequacy of development process	No mistakes, little mistakes, some mistakes, a lot of mistakes	High
			Duration of undeveloped area, building period	# days	Low
		Attractiveness of area	Duration of undeveloped area, building period	# days	Low
	Material and service procurement	Local procurement & transport minimization	Transport necessity	# of km total distance	low
			Environmental impact during transport	Positive impact, no impact, little negative impact, big negative impact	
	Choice of materialisation	Eco-friendliness materials	Environmental impact during production process	Positive impact, no impact, little negative impact, big negative impact	low
			Transport necessity	# of km total distance	low
			Environmental impact during transport	Positive impact, no impact, little negative impact, big negative impact	None-positive
			Maintenance necessity	# maintenance moments per year	low
			Environmental impact during maintenance	Positive impact, no impact, little negative impact, big negative impact	None-positive
			Lifetime of material	# years until replacement is needed	Long
	Waste handling	Recyclage of energy, constructions and materials	Amount of recyclage	# recycled waste / total waste	High
		Pollution	Amount of emission of pollutive substances	# pollution / person	Low
	Choice of energy-using systems	Energy efficiency	Amount of energy consumed	# energy consumed / person	Low
	Energy provision / generation method	Fossil fuel consumption	Amount of fossil fuel consumption	# consumption / person	Low
		Pollution	Amount of emission of pollutive substances	# pollution / person	Low
		Renewable energy consumption	Ratio of energy consumption that is of renewable energy origin	# renewable energy consumption / total energy consumption	High
		Renewable energy generation	Amount of renewable energy generation	# renewable energy generated / m2	High
	Transport choice	Fossil fuel consumption	Ratio of energy consumption that is of fossil origin	# fossil fuel consumption / total energy consumption	Low
		Pollution	Amount of emission of pollutive substances	# pollution / person	Low
		Renewable energy consumption	Ratio of energy consumption for transport that is of renewable energy origin	# renewable energy consumption / total energy consumption	High
Environment	Water management measures	Water retention	Amount of water that can be retained in the area	# liters / m2	High
		Flood-resistance	Amount of measures taken to prevent flooding	No measures taken, basic measures taken, additional measures taken, all necessary measures taken	High
		Drinking water provision	Amount of drinking water available	# liters / m2	High
	Energy provision / generation methods	Fossil fuel consumption	Amount of fossil fuel consumption	# consumption / person	Low
		Pollution	Amount of emission of pollutive substances	# pollution / person	Low

	Transport choice	Fossil fuel consumption	Amount of fossil fuel consumption	# consumption / person	Low
		Pollution	Amount of emission of pollutive substances	# pollution / person	Low
	Amount of green / water	CO2-absorption	Ratio amount of CO2 absorbed in the area vs. amount of CO2 emitted in the area	# CO2 absorbed / # CO2 emitted in area	High
		Heat-absorption	Amount of heat absorbed	Heat absorbed / heat generated	High
		Water retention	Amount of water that can be retained in the area	# liters / m2	High

Table II.1.2 List of urban form variables, values and sustainability components relevant for achieving sustainable urban areas including illustrations (own illustrations)

Next to representing the product-recommendations from this research, the gathered variables will be used further in the research as a guideline to research and assess the way the components of urban sustainability is included are influenced in the researched planning documents, development deliberation and development results.

2. THE (SUSTAINABLE) MIXED-USE URBAN AREA DEVELOPMENT PROCESS

After having gone into the product-side of sustainable mixed-use areas in the previous chapter, this second chapter of the theoretical framework focusses on the process-side.

The urban area development process is responsible for the complete creation of the development result and is therefore determinative for the future degree of urban sustainability of the developed urban area. Not only can the actors in the urban area development process directly influence the content of the development and thus determine the adequacy with which the development result achieves in addressing the posed development task, they can also determine what level of quality and which ambitions are pursued (DeLisle & Grissom, 2013; Franzen et al, 2011). The urban area development approach decides which actors are in charge and which interests are prioritized when formulating the development plan, which considerations are included as decision making criteria, and the inclusion of stakeholders and way of collaborating in the development process is of direct influence on the future degree of stakeholder satisfaction with the development result (Rombouts, 2006; Mayer, Van Bueren, Bots, Van der Voort & Seijdel, 2005; Fischer, 2000). It is therefore vital that the urban area development process is designed in such a way that it facilitates the incorporation of the physical sustainability components as defined in the previous chapter (such as a high degree of function integration and a high degree of end-user influence on the shaping of their own environment) in the development result.

In order to do this and make recommendations on which development approach offers best opportunities for achieving long term sustainable mixed-use urban area developments, the theoretical background questions:

- *How does the mixed-use urban area development process work and what are the typical difficulties in mixed-use urban area development?*
- *What development approaches are employed in mixed-use urban area developments and what are their characteristics?*
- *What are the threats and opportunities for implementing sustainability in the urban area development process?*

will be answered by analyzing the context, theories and particularities of mixed-use development (Chapter A) and the implementation of sustainability in urban area development (Chapter B).

A. MIXED-USE URBAN AREA DEVELOPMENT

First, the context, theories and particularities of mixed-use urban area development will be reviewed. The aim of this chapter is not to provide an extensive in depth-analysis of institutions or the current decision-making processes, management processes, developers or other actors in urban area development, because this is not the main focus of my research and other authors are better in this than I am. Instead, the intention is to conduct a 'light' analysis of these components of the process of (mixed-use) urban area development, for the purpose of offering an understanding of the elements that are important in urban area development processes and of being able to place the findings of the empirical framework into context. This will be done by first discussing the mixed-use area development process, second the different urban area development approaches through the evolution of urban planning practice in the Netherlands, third the actors, fourth their collaboration, and finally the way these components are synthesised in currently employed urban area development approaches, using the example of the Netherlands.

THE MIXED-USE URBAN AREA DEVELOPMENT PROCESS

Mixed-use urban area development processes are inherently complex processes.

Complexities of urban area development - Firstly, urban area (re)development is already complex by itself. The essence of urban area development goes beyond the boundaries of a single building and entails a whole geographic area that will become the setting of many different real-estate development projects, functions, activities, and target groups. This naturally entails an intricate network of numerous parties and stakeholders with diverse objectives and ambitions and various forms of expertise (Mayer et al, 2005). Considerable interests are often at stake, varying from the interests of the users or residents of the area in question to socio-economic and political interests, as well as major financial interests. Furthermore there is the complexity stemming from

operating amidst an existing urban environment, with existing buildings and constructions, green structures, infrastructures, and residents accompanied by the many interdependent physical and social variables, which pose conditions for and constraints on (re)development (Mayer et al, 2005). The circumstance of the development process enrolling itself in an existing urban environment also means that the conditions for the urban space constantly change as a result of the spatial effects of shifts in the field of economics , politics , technology and culture. (Asbeek Brusse et al, 2002). Due to the long-term nature of urban (re)developments, with the new spatial structures and buildings being erected influencing the use to which the area can be put, the way it is perceived by residents and others and its economic potential for decades (Franzen et al, 2011), these changes can be many and have to be anticipated long in advance, making urban area development all the more complex.

Complexities of mixed-use development - Mixed-use development even further complicates the urban area development processes. Because of the many different land-uses in mixed-use development, a larger amount of different (types of) developers and end-users is involved, resulting in even more actors being included in the development process (DeLisle, 2013). This complicates dialogue, negotiation and therefore the decision making process (Williams & Dair, 2007). Furthermore the very essence of mixed-use development, the mixing of various functions, can cause difficulties in the development process. The differing environmental requirements for various land-uses can be difficult to reconcile within a mixed-use development scheme, just as the possibly conflicting activity patterns of different users within a building or neighbourhood (Williams & Dair, 2007). For this reasons mixed-use developments are notorious for their complex planning approval processes, as well as their high chance on community resistance to certain uses being co-located. Mixed-use development can also composes technical issues related to the different technical requirements to real estate for specific functions, which come to a summit when different functions exist within the same structure (Williams & Dair, 2007). Also intricate arrangements of (multiple) ownership, land assembly and responsibilities for maintenance, often also concerning the public realm, are associated with mixed-use development (Rabianski & Clements, 2007).

Mixed-use urban area development thus implies complex decision-making, design- and planning approval processes, which, along with the scale associated with mixed-use projects, pose managerial challenges (DeLisle, 2013). The added financial and physical complexity of a mixed-use development heightens the uncertainty associated with the project and thereby increases the level of risk, according to some developers (Rabianski & Clements, 2007).

URBAN AREA DEVELOPMENT APPROACHES

The complexity of urban redevelopment and especially of mixed-use urban redevelopment calls for a structured planning approach.

Various development approaches have appeared through time, attempting to provide a solution to this problem. When reviewing literature on urban area development approaches (such as Heurkens, 2012; Adams & Tiesdell, 2012; DeLisle & Grissom, 2013 and Rombouts, 2006), most important differences between the different urban area development approaches in fact come down to a single linear variable: the degree of governmental control in the urban area development project, ranging from so-called 'top-down' to 'bottom-up' developments. These differences in development approaches can be well illustrated by the history of the Dutch urban planning practice.

'Restrictive planning' - Before the 1980's, the Dutch government was lord and master over spatial planning in the Netherlands. The authorities were responsible for sectoral planning and it was up to the provincial and municipal governments to make each geographical area a coherent entity. The municipality was owner of the land and therefore had a lot of control over the content of urban area (re)developments. Firm steering by the government through strong guidelines and hard requirements was a matter of course. This planning approach has become known as the 'permitting', or better said 'restrictive' planning (Dutch: toelatingsplanologie) (Franzen, Hobma, De Jonge & Wigmans, 2011).

'Integrated development policy' - After the 1980's, however, a strong resistance emerged against this belief of 'makeability' (the belief that a desired society or behaviour of human beings can be pre-shaped and pre-planned) and the inflexible processes and masterplans issued by the government. Also, the budgets of the public sector came to stand under pressure. As a consequence, a slow change was set off in the nineties that distanced the government from urban area development and moved to a more integrated policies in the field of spatial planning. Provinces were given a stronger coordinating role as a link between the government and the municipality, and where large conurbations existed, the city regions came to play a similar role as the province did elsewhere (Zeeuw, 2007).

'Development planning' - The integrated development policy was however soon overtaken by The National Spatial Planning Policy's emphasis on a new method: 'Development planning' (Dutch: ontwikkelingsplanologie) concept – in planning literature also referred to as communicative planning, interactive planning and consensus planning – instead of the formerly used restrictive planning (Heurkens, 2012). The 'development planning' approach was designed to create less top-down and instead more bottom-up opportunities for development on regional level. Each spatial task had to be addressed at the appropriate scale. Market players were invited by the governments to take land positions in area developments. In those areas, these market parties became partially or wholly responsible for the exploitation of the land and were co-clients of urban plans, making the development more demand-driven and leaving room for more an organic development in which suitable initiatives 'emerge' instead of being pre-planned. (Huijbers, 2011).

'Urban area development' - During the drafting of the 'Nota Ruimte' in 2004, the term 'urban area development' (Dutch: gebiedsontwikkeling) was born in the Netherlands. Daamen (2010) defines this term as "a way of working in which government bodies, private parties, and other actors involved reach an integration of planning activities and spatial investment, eventually

resulting in the implementation of spatial projects". This definition emphasizes the role of different actors in developing urban areas. Daamen (2010) argues that governments have found themselves not above but in between the other actors concerned, signifying a definite shift in their power to enforce and regulate particular land uses and planning activities. In urban development practice, we most profoundly notice this shift in the way plans are made. Land-use plans that have been unilaterally drawn up by the public sector do not guarantee anymore that development takes place in the manner intended; private sector investments and -involvement is needed. The actors are interdependent in realizing public and private development interests and objectives. A certain degree of settlement always takes place, established through negotiation (Heurkens, 2012). Urban area development (gebiedsontwikkeling) searches for solutions that combine the fulfilling of policy urgencies and of urgencies playing in an area. (Heurkens, 2012).

In this way, the relative simplicity of spatial planning policy under government leadership is being replaced by pluriformity and changeableness, with more different actors involved and less fixed relationships (Heurkens, 2012). The Dutch National Spatial Planning Act (VROM, 2006) refers to this as a shift from *government* towards *governance*; "Collaboration between public actors, societal organizations, citizens and companies is needed to effectively handle problems and to seize opportunities." This is in line with a transition of a high degree of public parties (top-down) to a low degree of governmental control in urban area development projects and more private-led development (bottom-up).

The rise of development planning can be attributed to dissatisfaction with the visible shortcomings of the classical permitted planning. The awareness emerged that area developments tasks are by definition multiple, are felt on different scales, and should not be approached purely from a government perspective (Hobma, 2005). In terms of mixed-use developments, the friction between these two approaches is especially noticeable. The inherent increased complexity of mixed-use urban area developments and the large number of stakeholders involved make the planning and execution of mixed-use development tasks and especially the division of responsibilities thereof, particularly complex.

ACTORS

Before explaining the development approaches that are currently being used in the Netherlands and that will be investigated in this research in detail, some background information will be given on the general actors participating in the practice of urban area development and the existing theories on their (possibilities for) collaboration.

The actors involved in the urban area development process can be divided into public parties, private parties and combinations of public and private parties. The information on the participation, roles, interests and collaboration of these actors specific for Amsterdam, Overhoeks and Buiksloterham, will be presented in detail in the empirical research on these case studies, in part III.



Figure II.2.1. Actor categories in the urban area development process (own illustration)

Public Parties

The public sector is the collective term for all governmental organizations. The public sector is the counterpart of the private sector.

Structure - Public parties are authorities, such as the Dutch national government (Dutch: Rijksoverheid, het Rijk), province, and municipality. The municipality is the lowest political administrative layer of the Netherlands. A municipality functions below the province, national government and European Union, and is obliged to follow the laws and regulations of these higher authorities. Because of the principle of subsidiarity and the progressing decentralisation, municipalities have, within their boundaries and remits, relatively much freedom to conduct own policies, in increasing amount also in the field of urban area development (KEI, 2010).

Role - As explained in the previous paragraph, municipalities traditionally had a rather dominant position in urban area development in the Netherlands, exercising extensive control on the preparation, establishment and implementation of spatial planning (Louw, Van der Krabben & Priemus, 2003). Partly because of the growing remit of the municipality, independence of housing corporations and complexity of the social and urban assignments, this position has evolved more and more to an admittedly central, but equal party in a broad network of other involved parties.

The interests of these parties are not always in agreement and this requires a steering role of the municipality. In deliberation with the other parties, such as the national government and project developers, municipalities have to formulate visions, establish frameworks and record arrangements on urban development and renewal. In this process of urban area development, the municipality may stand for multiple interests. Wolting (2006) states that the principal role of the local authority as a public institution is to implement self-formulated societal policy objectives. However, while this is one of the roles of the municipality, in practice we see local authorities also increasingly operating as market actors (Adams & Tiesdell, 2012), particularly when involved in the execution of the urban area development plans. In this, the municipalities often also play a central part, particularly on the level of the city and neighbourhood, operating as market actors

by investing in public space, infrastructure and servicing, taking risks and obtaining revenues from urban development projects (such as Public-Private Partnerships) (Heurkens, 2012).

This hybrid, simultaneously legislative public role and executive private role of local authorities in the Netherlands can blur objectives and possibly result in a less active public role in land-use policy and development in the Netherlands, and thus potentially less influence to manage urban development projects (Heurkens, 2012). This approach will be investigated as one of the two development approaches studied in this research, through the urban area development of Buiksloterham.

Private Parties

The private sector stands for the part of economic life that produces, trades etc. for own risk and on own account (Van Dale, 2005); activities that are sustained by non-public parties. Private parties taking part in economic traffic from a commercial (profit-)interest such as companies or private organizations, are also called commercial or market parties.

The main private parties involved in urban redevelopment process are active parties participating through their core business of advising, developing, building, leasing or selling development results with the objective of achieving a rate of return on their investment of labour or money (Helleman, 2005). There are large differences between the private parties participating in the urban area development process. Some limit themselves purely to the act of developing, others also account for the realisation or maintenance. Some parties choose exclusively for sale of the acquired or developed real estate, others for (often free sector) lease.

Structure - Based on the categorization of private actors in the urban area development process made by Heurkens in his dissertation *Private sector-led Urban Development Projects* (2012) and by the types distinguished by the KEI kennisbank on urban renewal (2010), an own typification is made on the basis of which the private actors participating in the urban development process will be explained. This typification consists of developers (project developers, building developers, investing developers), investors (institutional investors, investing developers, developing investors) and constructors.

A project developer develops market conform real estate concepts for own account and risk (Van der Flier & Gruis, 2004). The project developers business model is to make profit by developing the real estate and extends to the moment of divestiture of the real estate after completion. This indicates a rather short-term involvement of Dutch developers, as it is not common for them to own and maintain real estate objects or public spaces after project realization (Heurkens, 2012). The profit over the development labor goes to the private company and thus does not automatically stay within the area in question. (Examples of project developers are the project developers AM, Blauwhoed and Timpaan).

Building project developers unite the qualities of the project developer and the constructor. In contradiction with the project developer their capacity to pre-invest is generally limited and

they can set a profit margin over the construction as well as the development (Helleman, 2005). (Examples of building project developers are BAM Woningbouw, Dura Vermeer, and ERA Bouw).

Institutional investors are institutions that commercially invest the premiums they get to their disposal to, in return, be able to pay allowances to pensioners or shareholders later. (Examples of institutional investors are Achmea Vastgoed, Nieuwe Steen Investment, and Corio). Institutional investors have a stake in a maximised but also stable flow of revenues, in the shape of direct (revenues from lease) or indirect return (revenues from increase in value). Investing in real estate is interesting for institutional investors because real estate and housing have a lower (direct) rate of return, but because of the longer investment duration also a lower risk than other investments. The investor thus clearly has a longer commitment to the real estate than project developers (Helleman, 2005; KEI, 2010, Heurkens, 2012). This also leads to a larger interest in the success of the area as a whole (Helleman 2005).

More and more investors are also active as a project developer. By developing real estate and housing oneself, influence can be exerted on the housing types and quality of the dwellings and residential environment. (Examples of investing developers are AMVEST, Vesteda, BPF Bouwinvest,).

Constructors are purely focused on the construction production in the execution phase. Except when combining this core business with other business models (such as the building project developer), constructors does not work on own account and risk and works for a client, such as a project developer (Helleman, 2005). (Examples of constructors are Heddes bouw, Vink Bouw and Waal Bouw).

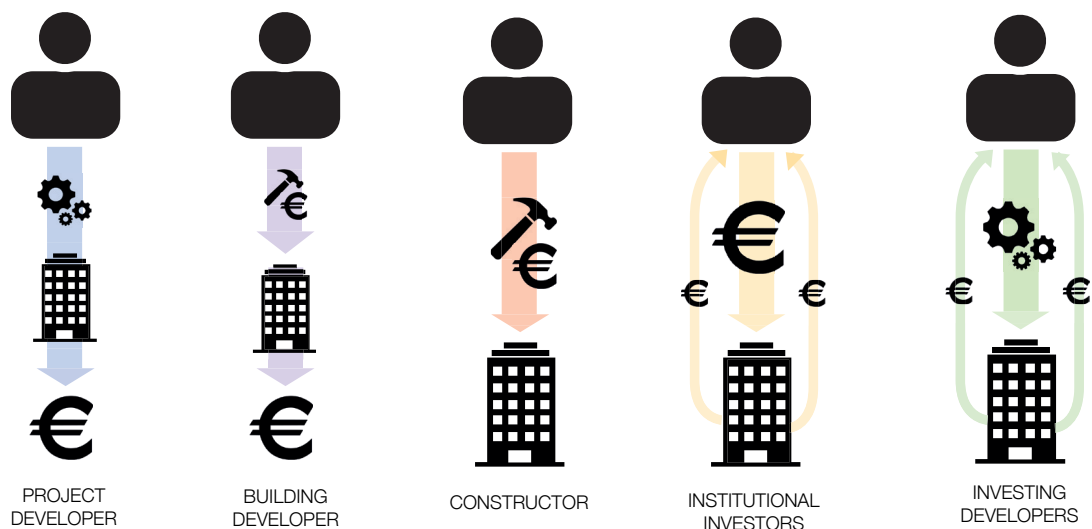


Figure II.2.2. Important private actors in the urban area development process (own illustration)

Role - The characteristics of the various types of market parties taken together are determinative for the position that the party can and wants to take in the urban area development process. This role of the market parties is related to the formal function in the development process; as developer, investor, constructor or a combinations thereof.

Developers (which can be project developers, building developers, investing developers), participate in the urban area development process by advising by offering their vision on the real estate market, supplying development capacity through project- and process management and by participating risk-bearing in the land- and/or construction exploitation. Building project developers can equally be involved in the execution phase, performing the construction. Investors (which can be institutional investors, investing developers, developing investors) can play a part in the urban area development process by funding and thus taking responsibility and risk in the development, realisation and operation of the development (Putman, 2010). Although they are crucial for the purchase of real estate objects and thus the viability of urban development schemes and projects, the participating role of investors in urban development projects remains mainly passive (Heurkens, 2012). The influence of the constructor on the content on the development is limited. On the level of the real estate they can be consulted as advisor, but mostly the programme of requirements and definitive plans have already been fixed.

Based on the general role of private parties as risk taking parties who create and realize projects for the market as defined by Van 't Verlaat (2008) however, the private sector play a very important part in the development process. The development and realization of real estate and other projects within the urban area developments is dependent of investment and labour of the private sector, certainly as the investing capacity of municipalities is declining. Furthermore, market parties are trusted with bringing expertise to the table in the field of market demand, entrepreneurship and execution / construction and are the link between the demand and supply of real estate and the connection between end user and design (Helleman, 2005).

Nevertheless, as explained at the beginning of this chapter, mixed-use urban area developments are complicated, the pre-investments can be high, and the process is complex and long. This results in a large share of the market parties considering the risks to step into urban area developments too high and the profits too low (KEI, 2010). Participation of the private sector in urban area development projects is thus not unconditional and self-evident.

Public-private parties

There can also be a combination of public and private parties.

Structure - One way the public and private sector can be combined in the urban area development process is through a literal contractual partnership: Public private partnerships (PPP). A PPP involves a contract between a public sector authority and a private party, in which the private party provides a public service or project and assumes substantial financial, technical and operational risk in the project.

However, there are also semi-public parties in urban area development processes such as schools and healthcare organizations.

Furthermore one important actor in the mixed-use urban area development processes in the Netherlands falls in a category in between public and private parties: housing associations. Housing associations are social enterprises and are also often regarded as semi-public parties, because they are private organizations, traditionally without a commercial interest, performing a public task (Heurkens, 2012; Helleman, 2005). This task is providing affordable housing for target groups with an income up to €33.000 or target groups with specific housing requirements such as elderly, handicapped and students (KEI, 2010). Since the privatisation action of housing associations in 1995 (commonly known in Dutch as the 'bruteringsoperatie'), housing corporations no longer receive subsidies to perform this public task and have increasingly begun to behave as market parties (Helleman 2005; Gruis & Nieboer, 2006). "As a consequence, Dutch housing associations are often typified as 'hybrid' organizations, which carry out public tasks, but are independent, private organizations, having market-driven objectives as well" (Priemus, 2001, p. 247).

Role of housing associations - Housing associations play an important role in urban area development processes. As mentioned they fulfill a public role, defending the interests of providing suitable homes for the target group, maintaining qualitative homeownership, involving residents in policy and management, insuring financial continuity, promoting neighbourhood liveability, and contributing to the combination of housing and care (KEI, 2010). But, with this building, managing and leasing of affordable housing and investment in liveability measures and social real estate, they also play an essential role in the development of the urban area. (KEI, 2010).

Housing associations are almost always involved in the mixed-use urban area development processes because a large part of the housing supply in the area is or will be in ownership of these associations. Next to their long term managing role in the operation phase of the development, housing associations can also fulfill a development role. Furthermore housing associations provide large capital (indispensable in urban area development) and knowledge in the urban area redevelopment process; not only about the maintenance costs and rental arrears, but often also on the social situation and history of neighbourhoods (KEI, 2010; Helleman, 2005).

Users

Next to public parties and private parties actively participating by providing capital and services in the development process, there is another important actor in the urban area development process: the ultimate user of the development result.

In literature, actors relevant in the urban area development process are often limited to the first mentioned category: Public parties and private parties actively participating by providing capital and/or services in the development process. End-users are therefore often forgotten. Wrongly, because the theoretical review of sustainable urban areas has shown that end-users and are most definitely stakeholders in the urban area development process and are core actors

in the determination of the future degree of urban sustainability of the development result (see theoretical framework chapter 1.A).

While in theory on urban area development private parties are regarded as the private parties with a commercial interest and a core business related to the development of the building, private parties are in reality not limited to this. Private parties can also be all other commercial parties (from small to large) or private individuals, whom can also take part in national economic traffic on own risk and account without having a commercial interest (Daamen, Heurkens & Pol, 2015). The large majority of end-users fall in this category, including transients and visitors, operators such restaurants or hotels, employees, small entrepreneurs using the real estate as business space, residents, as well as all other types of users.

Role - End-users play an important role in urban area development as the being actors that will physically be using the development result during it's operation phase. They can do this for private commercial uses or for personal use (DeLisle & Grissom, 2013).

Although citizen participation in the development process is increasingly being recognised as positive for the development result in the field of urban area development, the end-user is often not directly included in the urban area development process, which is why they are not always part of the participating actors mentioned in literature. Their role in the development process therefore generally stays limited (Fischer, 2000). The end-user is traditionally represented by other actors in the urban area development process, such as the client, developer or housing association. They can be consulted in the development process as advisor. In the case that powerful parties (such as the municipality, housing associations, developer) consciously choose to include the end-users in the formation and/or execution of the plan (citizen participation), the role of the end-user can be larger. In special cases the end-users have a choice to privately develop, design and construct real estate by themselves, such as private or collective-private commissioning of self-build homes. In this case the end-users are simultaneously acts and thus are included as a developer in the urban area development process. This is an expanding phenomenon in the field of urban area development in the Netherlands (De Ridder, 2014). It is however a prerequisite that the planning actors allow this.

The end-user in general however especially plays a part during the operation phase of urban area developments. When dissatisfied they can take action in private or organized way with the aim and potential of bringing about changes in the initial development result. Furthermore the users can deploy own initiatives. Again, degree in which this role can be executed by end-users depends on the degree that the planning authorities allow it.

COLLABORATION IN THE MIXED-USE URBAN AREA DEVELOPMENT PROCESS

As the overview of mixed-use development has shown, various actors are involved in the game of urban area development of which the most important ones have been explained in the previous paragraph. In order to formulate plans and ultimately come to development results, these actors will have to collaborate in one way or another.

In this paragraph, the structure of collaborations as they can occur in the urban area development process will be explained through the concepts of institutionalism and government and network structures and governance. Furthermore some basic principles of collaboration in the currently applicable network structure in urban area redevelopment will be distilled from theory and the lessons drawn from this will be summarised in process recommendations for collaboration in contemporary mixed-use urban area development processes.

Institutionalism, Hierarchies, Government

First kind of construction of collaboration between actors in the urban area development process can be attributed to the theory of institutionalism. Institutionalism is the study of institutions and their interactions and is a complicated concept that stems from sociology and has been a particular focus of academic research in political science, anthropology, economics, and sociology for many years.

Definition - The term "institution" applies to a custom or behavior pattern important to a society, and to particular formal organizations of the government and public services (Merriam Webster Inc., 2004). As structures or mechanisms of social order, they govern the behaviour of a set of individuals within a given community. Institutions are identified with a social purpose, transcending individuals and intentions by mediating the rules that govern living behavior (Zalta, 2003). In the context of urban area development, the relevant institutions are the large organizations, establishments, foundations, societies devoted to the promotion of a particular cause or program. With this, the institutions are also a central concern for law, the formal mechanism for political rulemaking and enforcement. Institutions are therefore often referred to as 'the rules of the game' (March and Olsen, 1989; Weimer, 1995).

The term "institutionalization" is widely used in social theory to refer to the process of embedding something (for example a concept, a social role, a particular value or mode of behavior) within an organization, social system, or society as a whole. In the case of urban area development, it is relevant in political sense, applying to the creation or organization of governmental institutions or particular bodies responsible for overseeing or implementing policies (Zalta, 2003).

Government - The role of the public sector in urban planning can be regarded as highly institutionalized (Heurkens, 2012), meaning that the institutions in the public sector are highly responsible for overseeing and implementing policies and mediating the rules that govern behavior in the urban area development process. This structure of collaboration is also appointed

as government in the urban area development process; in the field of urban area development research referring to a hierarchical and prescriptive ('top-down') control over the collaboration in the development process by public institutions.

The Dutch planning system allows for different roles of national, regional and local public institutions, but the emphasis of decision-making and mandate of different public bodies has changed over time (Heurkens, 2012). This is in line with the evolution of institutional theory over the years.

Traditional institutionalism - Traditional theories held that institutions are autonomous social constructs that can influence individuals to act in one of two ways: they can cause individuals to act according to a rational choice to maximize their benefits (Rational Choice Institutionalism) or to act out of duty or an awareness of what one is "supposed" to do (Historical Institutionalism) (Lustick, Nettle, Wilson, Kokko & Thayer, 2011). Translated to urban area development, this theory is embodied by a collaboration in the urban development process in which the actors act under rules (posed 'regulative' institutions, represented by the public institutions) or based on obligation (posed by normative institutions). The restrictive planning method of the Netherlands up to the 1980's as explained in the second paragraph of this chapter, is a representative of this approach.

New institutionalism - In the 1970's a new perspective on institutionalism came to light: New institutionalism. In addition to the two types of influence on actor behaviour provided by the traditional institutionalism, new institutionalism adds a third type influence on the behaviour of actors: a cognitive type. This cognitive element of new institutionalism suggests that individuals also make choices based on what they know, complying with familiar routines because they are "the way we do these things" or because the actors can conceive of no alternative (Dacin, Goodstein & Scott, 2001).

Patsy Healey has contributed highly to the translation of this institutional perspective to the field of urban planning. New institutionalism recognizes that institutions do not operate autonomously but operate in and are influenced by a broader environment. In this perspective the world is not constructed of autonomous individuals that all pursue personal gain, but the conceptions and actions of the actors in the game are influenced by their social relationships with others (Healey, 1997). In addition, these social relations take place within a certain context, surrounded by powerful constraints of various kinds (Healey, 1997; Powell & Dimaggio, 2012).

Although this perspective on institutionalism still assumes a great influence on actor behaviour coming from the socio-political environment ('institutionalism') (Howlett, 2009), it is now widely understood in the urban planning field that urban area development is an interactive process, undertaken in a social context rather than a purely technical process of design analysis and management." (Healey, 1997), in line with the more recent urban area development approaches in the Netherlands of 'development planning' and 'urban area development (gebiedsontwikkeling' (see paragraph 2).

Institutional rigidity - Through the rules and procedures they establish for interaction and decision-making, institutions offer relative stability compared to the fluctuations of circumstances

and preferences (Lustick et al., 2011). On the one hand, this is what makes it possible for human groups to take effective action. On the other hand however, this very structure also marks institutions with rigidity.

Because institutions are large organizations with large scopes, the implementation of a change in all branches of the institution and in all institutional processes requires a lot of time through preparation, instruction, development, habituation, and bureaucracy. This leads to an inability of institutions to fluidly change with changing needs and changing insights. As circumstances change however, the effectiveness of strategies can be degraded. Institutions do change, but they change slower than life changes (Roland, 2004). Therefore, the very stability of institutions means that the decisions they enable are almost inevitably suboptimal (Lustick et al., 2011).

In this way, institutionalization of urban area development processes, next to providing structure and systematic methods for decision-making and collaboration, also composes a threat to successful urban area developments in terms of adequacy of the development process and result for the addressing of posed problems. This should be taken into account in the determination of the roles of the actors in the urban area development process by choosing a development approach.

Interdependencies, Network Systems, Governance

The theory of new institutionalism connects to the current situation and prevailing conception of collaboration in urban area development projects.

Through increased specialization and dynamics in knowledge and product development, greater dependencies are created between organizations over the past decades (Koppenjan & Klijn, 2004). Problems can no longer be solved by organizations on their own, actors not being able to achieve their goals without the means possessed by other actors. For this reason, companies increasingly engage in strategic alliances in order to share costs and knowledge and to spread risks (Koppenjan & Klijn, 2004). Governments are also increasingly dependent upon the knowledge, authority and resources of other parties - inside and outside the government - for the achievement of their policy goals, as new institutionalism acknowledges.

Because of this mutual influence and dependencies of different actors on and of each other, hierarchy as an organizing principle has lost its meaning. Loyalties and authoritative relations are replaced by horizontal relationships in which the actors are equal: networks (Koppenjan & Klijn, 2004). The relationships between actors in these networked environments are characterized by interdependencies, and the actors need to cooperate to achieve their goals (De Bruijn, Ten Heuvelhof, In't Veld & Prins, 2002).

This new relationship between actors in the urban area development process calls for cooperative processes of governing, policymaking, and decisionmaking, different from the old hierarchical model in which state authorities exert sovereign control over the groups and citizens that make up civil society (as in the institutionalist approach) (Mayntz, 2006).

The new way of collaboration this promotes in urban area development processes is also referred to as 'governance': Collaboration between public actors, societal organizations, citizens and companies, needed to effectively handle problems and to seize opportunities in the context of urban area development (Heurkens, 2012).

Collaboration in network systems

But how do you reach agreement in network systems where all actors interests have to be heard?

Especially in mixed-use urban area development processes where many actors are involved and interests are many and divergent, collaboration can be difficult.

Many authors have conducted research and made statements on the topic of the optimal division of responsibilities and roles between public and private parties and collaboration of actors in the urban area development process, of which Heurkens (2012) and Healey (1997) bring forward some very interesting models. For the sake of this exploration however, we take a step back and focus on the core ingredients of successful development processes; the basics on collaboration in the network approach.

Decision-making as main challenge - Theoreticians agree that the main challenge in urban area development processes lies in coordinating an appropriate decision-making process. Making decisions is a prerequisite for a constructive development process. Inadequate decision-making processes can cause development processes to yield unsatisfactory results or stagnate the development process (De Bruijn et al, 2002). It is however also one of the hardest assignments in the mixed-use urban area development process, where the actors are many, highly dependent of and influenced by each other (possibly even developing or operating in the same building), and representing a large variety of potentially conflicting interests.

Based on a review of theory, two of ways of cooperating to come to a joint solution while dealing with diverging objectives can be distinguished: Actors can either align their interests, or align their solutions.

Option 1: Aligning interests - The first is the form of collaboration in which the actors attempt to align their interests. This form of cooperation presupposes learning between actors, each stakeholder sharing their objectives and explaining the importance of these objectives to the other actors (Koppenjan & Klijn, 2004). In this way, other actors can be convinced to adopt each other's interest. When alignment is achieved, solutions are easily found and the decision making process is quickly enrolled. In complex projects where many actors are involved, such alignment of interests are however often not possible (Koppenjan & Klijn, 2004).

Option 2: Aligning solutions - The other approach is the form of cooperation in which the actors attempt to align their solutions. According to Franzen et al, 2011), it is not necessary that the parties strive for the same goals in order to jointly develop and realize an urban project. Instead, they accept the points of view and interests of the other stakeholders and focus on finding solutions that meet several of these interests in one. The foundation of such an approach is that

parties understand that cooperation can be mutually beneficial (selective urban goals can be reached), without ever having to work towards common interests or shared goals (Franzen et al, 2011).

Integrated approach - In their book 'Management of urban development processes in The Netherlands' Franzen, Hobma, De Jonge and Wigmans conclude that an integrated approach in which these two methods are combined is most beneficial for the urban area development process. In the integrated approach, the actors of all disciplines combine their knowledge and work together to form an integrated vision that results from a single, shared perspective among the various actors about the direction in which the urban area or project should develop. Fundamental to this course of action is that it happens in such a way that participants will be able to view this vision as their own vision, thereby committing themselves to its realisation (Franzen et al, 2011). Many conflicts and problems of more self-oriented approaches are in this way avoided. By starting with the alignment of interests as far as possible and subsequently aligning solutions, both the chance of achieving consensus in the decision-making process as the chance on the best development results are highest, because actors can combine their knowledge and capital to work towards mutual benefits.

A precondition that is stated by theoreticians on successful urban area development processes in general (amongst whom Koppenjan & Klijn (2004), Heurkens (2012), Adams & Tiesdell (2004), Healey (1997)) and for the integrated approach by Franzen et al. (2011) in particular, is integrated participation and involvement of all stakeholders in the development process. Especially in the light of the future degree of end-user satisfaction (important factor in the urban sustainability of an area, see chapter II.1), involvement of end-users in urban (re)development is important, because the process and the result can be influenced by their cooperation and initiative.

A communicative and transparent attitude of the actors in the development process concerning their interests, objectives and expectations seems is an important factor for good collaboration between actors in the urban area development process (KEI, 2010; Heurkens, 2012; Healey, 1997). This requires a change in culture for some parties that are used to conceal their objectives for strategic reasons.

Management - The enrollment of the process as outlined requires strong management of the actors, the communication, the information and the establishment of made decisions during the development process (Klijn, 2008) (Louwaars, 2011). Adequate leadership to coördinate the development process is therefore crucial. Klijn (2008) argues that this management can also steer the development process and influence the development outcome. As actors will always be influenced by their own interests, this asks for a careful consideration of which actor to put in this leadership role. Some make the point that national governments should guide society towards a sustainable built environment by the application of visionary long-term policies (Van Bueren & De Jong, 2007). At the level of municipal urban area development projects, choosing for an independent project manager is an option. Some theoreticians however appoint the public development authority (municipality) as the most suitable candidate for this position, as representing the public interest (Louwaars, 2011), and argue that the municipality could put

sustainability on the agenda by hiring project managers who have an understanding of sustainable building and who are capable of creating a momentum for sustainable decisions (Bossink, 1998; Van Hal, 2000).

Process recommendations in the field of collaboration

Some process recommendations in the field of collaboration in the mixed-use urban area development process can be retrieved from the theoretical analysis.

Firstly, an institutionalist approach in which the public institutions sets rules and norms to the collaboration of the actors in the urban area development process can provide systematic methods for decision-making and collaboration in the development process and can offer structure and efficiency. Furthermore this high control of public parties over the development process can ensure a well incorporation of the public interest in the development result. At the same time however, due to the inertia of institutions to adapt to changing circumstances, these institutional methods risk being aged and inadequate for the urgencies and conditions of the moment, leading to a suboptimal development result.

The current ideal of the urban area development process relies more on a network structure, in which the hierarchical position of the public authority is replaced by horizontal relationships with the other actors in the field and government of the public parties is replaced by governance; an approach in which public actors, societal organizations, citizens and companies collaborate closely, needed to effectively handle problems and seize opportunities in the context of urban area development.

To facilitate this horizontal collaboration an integrative approach is suggested, in which all stakeholders are participating in the development process and adopt an open and communicative attitude with the aim of coming to a shared vision in which interests and solutions are aligned and the knowledge of different disciplines is integrated.

Adequate management of the development process is crucial. As this management position gives the manager possibilities to steer the development result, an independent party or a public party are suggested to fulfill this managing role.

MIXED-USE AREA DEVELOPMENT APPROACHES TODAY

Now that we're familiar with the relevant background information on the origin, complexity, actors and collaboration in mixed-use urban area developments, it will be investigated how current urban area development processes cope with these elements in practice.

As told, from the history of urban planning practice in the Netherlands we can distinguish two extremes in terms of how urban areas can be planned and developed: the first, the 'restrictive' or 'permitting' top-down planning where the government has control and plans the area along the lines of strategic policy making, and second the bottom-up 'development planning', where the

private sector leads and the market parties drive the development while the government takes a more facilitating role.

Today in practice, we see a cohesion between the development- and restrictive planning in the Netherlands, in which urgent policy matters of the government are linked with investment opportunities of market players, projected onto areas (Franzen & Zeeuw, 2009; Arends, 2015; Stolte, 2015). From explorative interviews with urban planners from municipalities in the Randstad, we see however that the planning approaches that municipalities in the Netherlands employ for developing mixed-use urban area developments differ from municipality to municipality, dependent of where the municipality chooses to lie the center of gravity between these two approaches (Arends, 2015; Wanders, 2015, Gerardts, 2015; Hoogenboom, 2015).

With the help of case studies, the diverging shapes this choice can take in terms of development approaches currently used in the Netherlands in practice will be explained.

A. Public and private development within a well-defined strategic framework of the municipality - Example: Amsterdam

First approach we see is the public and private development within a well-defined strategic framework by the municipality, that is manifested in for example Amsterdam.

In Amsterdam we still see a strong direction by the municipality in urban area development. The municipality controls the goals, content and quality of urban development projects by means of the Plaberum, permits, the structural vision and the following strategy resolution and policy instrumentation that contains criteria to ensure compliance with the structural vision (De Rijk, 2009).

Planning instruments: Plaberum - The spatial decision making process in Amsterdam is described in the 'Plan-en Besluitvormingsproces Ruimtelijke Maatregelen (Plaberum) (Literally translated: Plan- and decision-making Process Spatial Measures). The Plaberum describes the various stages a plan should go through in development and the actions that are to be carried in these different phases. Through this method the council has a handle to control and steer the spatial plans. In this, the city of Amsterdam employs an active land policy as a basis for development, in which through strategic procurement at key locations a strong position is built up by the municipality (Gemeente Amsterdam, 2011). In this way Amsterdam itself is often the initiator of drafting plans under the Plaberum or PBI (planning and decision-making process infrastructure), and thus steering (Huijbers, 2011).

Planning instruments: Structural vision - The structural vision (Dutch: structuurvisie) is a second means through which the municipality can exercise control. The structural vision is a mandatory component for all municipalities, established by the Spatial Planning Act (Dutch: Wet Ruimtelijke Ordening; WRO) from July 1, 2008 (De Rijk, 2009). The structural vision is self-binding for the municipalities and identifies the developments that are desirable and will be stimulated in the region the vision is about. In the vision, the ambitions of the city are filed along with the policy

that will be deployed in the coming years to realize those ambitions. Mixed-use development can be one of those desirable developments or ambitions. The structural vision forms the basis of all spatial plans coming into development in the coming years. Hence, legal planning plans (such as zoning plans) and masterplans of the city and city districts will be tested with the structural vision (De Rijk, 2009).

How far this structural vision goes in terms of planning of urban area developments depends of the municipality in question. In the municipality of Amsterdam the Structural vision has a lot of power. The city of Amsterdam finds it necessary to control developments and curb powers, without wanting to restrict, obstruct or slow down. Hence, conditions have to be imposed from long-term strategic considerations to, for example, guard the accessibility of the core of the area, keep control over sustainability, ensure that spatial problems are not solved at the cost of green, etc. However, the municipality of Amsterdam it as their primary role to 'create conditions that make developments possible' (Gemeente Amsterdam, 2011).

Within this, however, the municipality takes on a major planning task. The structural vision of Amsterdam is divided into implementation-sections in which the prioritization and phasing of projects that are needed to realize these ambitions are addressed. In clusters of projects, the coherence between location development, infrastructure, green and blue is made explicit. With this, the structural vision gives direction to the Plaberum.

Planning instruments: Strategy resolutions - Firstly, the municipality makes elaborations of the structural vision in which spatial claims coming from the different sectors are inventoried and weighed against each. On the basis of this analysis the municipality makes a statement on the realistic program for each sector, the relevant locations and the required financial conditions: Strategy resolutions (Gemeente Amsterdam , 2011). These resolutions can imply an office strategy, a water vision, an elaboration on a certain part or function of the city, a vision on underground developments, the usual 5-annual policy notes (Dutch: beleidsnota's) on a specific function such as retail, an ecological vision and many more. On the basis of these sectoral strategy resolutions a supply strategy can be made for specific types of real-estate and infrastructure, giving the municipality influence on the functional program within developments (Gemeente Amsterdam , 2012).

Planning instruments: Instrumentation - Furthermore, a corresponding set of planning instruments (Dutch: Instrumentarium) can be provided with the structural vision, by the means of which the central municipality can guard, stimulate or even enforce the compliance of new (zoning / development) plans with the principles and policy objectives of the Structural vision (Vreeswijk, Van Zanen & Combé, 2007).

Not every municipality has such an instrumental toolbox. The municipality of Amsterdam has. Shortly summarized, the set of planning instruments can include criteria for working areas, spatial structure (high-rise), green and water, transport, energy, and many more. Within these planning instruments, strategic limitations can be placed on building height in certain areas, a zoning can

be made of the for the green structure, location and spatial reservations for principal infrastructure can be fixed, etc.

Furthermore, the so-called 'Location policy' (Dutch: Locatiebeleid) is a planning document that forms part of the instrumentarium of Amsterdam, and provides establishment criteria for companies and office, in which for example accessibility and reducing car mobility play an important role. This location policy also distinguishes between certain strictly defined types of areas (metropolitan core area, large-scale industrial estate, inner-city city-nurturing business, work-residential area, residential-work area, and mixed area outside the A10-ring line), and indicates for each area what types of activity can be established there, in which maximum and minimum rates, and under what conditions. This provides specific guidelines in the field of the type functions, the specific objectives of the area, the accessibility, the mix of functions, density, parking requirements and the design (i.e. 'visually engaging', 'safe' 'fit for intensive use of public space', 'squares', 'parks', 'respect for the historic structure', 'meeting places'. etc) (Gemeente Amsterdam, 2011).

Planning instruments: Zoning plans and Masterplans - Just as elaborations can be made according to sector in the strategy resolutions, there are also elaborations of the specific content of a development according to location: Zoning plans (Dutch: Bestemmingsplan). Zoning plans are legally binding plans separate of the structural vision, specifying how the land may be used and what the building possibilities are in a certain area. The zoning plan serves as an evaluation framework for building plans and gives an idea of the expected spatial developments envisioned for the area (Heijkers, Van der Velden & Wassenberg, 2012).

The municipality is obliged to have a zoning plan for all its land. A zoning plan exists of three parts: visualization, rules and explanation. These parts entail respectively a map of the plan with the possible functions for the land and buildings in the area designated in zones, rules on what may or may not be built within each zone (for example how high and how wide residential buildings can be), and an explanation and justification of the different zones and elements of the plan (De Rijk, 2009).

Masterplans are the design drawing of the precise future implementation of an area. The masterplan is a concrete elaboration of a vision for an area as designated in the zoning plan. Municipalities are not obliged to make a masterplan themselves. Just as in the structural vision, the specificity of zoning plans and masterplans can differ from plan to plan, depending on the freedom the municipality wants to leave to the market parties. While some zoning plans work towards a complete top-down drawn up masterplan in which the content and shape of every single aspect of the development is planned (such as the first phase of the Eastern Docklands in Amsterdam by municipal urbanist Ton Schaap) (Hunt, 2015), there are even masterplans that deliberately leave blank spots to leave freedom for private initiatives (See masterplan Spoorzone Delft, Municipality of Delft) (Hoogenboom, 2015).

Private parties - Although these rules seem kind of strict, even the structural vision of Amsterdam implies the intention that not only the government is investing for the purpose of the realization

of the structural vision, and that other parties are of crucial importance as well (Gemeente Amsterdam, 2011). This implies that the investments / investment strategies of the separate parties need to be coordinated.

The execution of the area developments is aligned with private parties and offers insight in the priorities and objectives of the municipality, on which the private parties can respond (with own initiatives). The process is designed in such a way that private parties are facilitated and supported in the realization of their own ambitions. A lot of room is left in the structural visions for private initiatives and for (collective) private commissioning. According to the municipality of Amsterdam, cooperation between public and private parties should contribute to a better, more aligned programmatic steering with which oversupply and associated inefficiencies are avoided (Gemeente Amsterdam, 2011).

B. A facilitating municipal strategy to support private-led development - Example: Rotterdam & The Hague

Second approach we see is a development strategy where the municipality deliberately takes a facilitating role to stimulate private-led development, as can be seen in for example Rotterdam. The obligatory planning documents are the same (Structural vision and zoning plans), but these documents are much less specific in order to leave as much open as possible for private-led development (De Rijk, 2009; Huijbers, 2011; Arends, 2015).

The shift towards this strategy can probably best be perceived in the of the mixed use development project 'De Binckhorst' in The Hague.

De Binckhorst is one of the nine areas that were designated as special development projects in the structural vision of the Hague of 2005. The goal was to transform the Binckhorst in a relatively short amount of time into a sustainable high-quality mixed-use living and working area (Beckx, 2011).

Where before 2008 the municipality took a strong active and directing role in the development of the area, after 2008 a shift was made towards a more facilitating and reactive role where the realization and phasing of a strictly defined final picture (masterplan) was replaced by an approach that aimed at the foreseeable future. It was at the private initiators to take it from here and to come up with plans for revitalization, redevelopment or temporary use of existing real estate or the development of new real estate. These private parties determine the pace and also partly the direction in which the Binckhorst will develop (Beckx, 2011).

In the new approach, the municipality is only fulfilling a small part of the actual development task, in the form of the construction of certain vital infrastructure and certain demolishments to free up the plots. The rest of the role of the municipality is to facilitate the initiators who present themselves with plans and ideas by the means of various forms of municipal support. To give impulse, direction and clarity to private initiative the only thing the municipality does is to clarify the bandwidth within which developments and new ideas are possible. This bandwidth is an

integrative translation of all the relevant policy documents that are applicable on the area, that indicates the freedom of movement that there is within the existing policy framework. No new rules are added. This bandwidth helps to give a location-specific mindset and appoint attractive development opportunities, and is an invitation for all potential initiators to come join in shaping the area and with that its future (Beckx, 2011).

Stimulating instruments - The municipality of Rotterdam shares the same vision and has adopted a same approach in urban-area development. The municipality sees their primary task as creating the conditions in which the market players can do their job (Bureau Stedelijke Planning, 2009). In the case of mixed-use, the region could for example facilitate by issuing a guideline describing the conditions needed to give mixed-use more space, its goals, where and which forms of mixed-use should preferably be established and with what instruments this could be facilitated (Arends, 2015). The facilitating task of the municipality mostly comprises the organization, coordination and facilitation of private initiatives. Next to that, there is a need for financial means to give development a push in the back. The municipality might provide these in the means of an own investment in the development of vital infrastructure, or external subsidies to make desirable but so far unaffordable solutions possible. In this context one can think of investments needed for double land-use, pre-investments (such as the buying up of unsalable real estate) or supporting transformations. The municipality also attempts to stimulate good private-led developments by advocating a value- instead of cost-approach. This promotes tendering on the basis of a 'fixed-price, best solution' principle in case the municipality is owner of the land. (Bureau Stedelijke Planning, 2009)

By allocating these aids appropriately, the municipality can stimulate strategically desirable developments, plans and initiatives while leaving room for the creative and private sector-led solutions that fulfill the requirements and the demands from the market-side.

Planning instruments - Of course there are still some rules applied by the municipality in these urban area developments. Guidelines exist on different levels. Firstly there is an assembly of general guidelines of the municipality that are applied to every initiative in the area to test their compliance with the applicable municipal visions. These are general requirements that could be a translation of the ambitions stated in the structural vision, such as the requirement for the initiative to lead to an intensification of the usage of space, to contribute to the climate-neutrality of the city, or to not cause additional pressure on the existing parking infrastructure (Stolte, 2015). Next to these, there may be some specific guidelines in relation to the functional program, such as including or excluding certain functions and setting requirements to the nuisance and the compatibility of the functions (VNG, 2009). Finally, there may be a number of location-based rules that oblige the incorporation of certain unique chances provided by the area of prevent important existing qualities from being lost. These can be guidelines on the of presence of certain functions in certain locations or expectations in terms of visual quality (Stolte, 2015; Bureau Stedelijke Planning, 2009).

Together this forms a conceptual framework that gives direction for potential private initiators. However, in the urban area development approach that is adopted in The Hague and Rotterdam,

municipalities will refrain from making these guidelines too leading or too many (Bekx, 2011; Gerardts, 2015; Arends, 2015; Stolte, 2015).

Strategies like the latter where development is privately-led with public authorities taking a facilitating role are commonly increasingly considered in the theoretical field as the way forward for the practice of urban area development in the Netherlands (Heurkens, 2012; Daamen et al, 2015; Louwaars, 2011; Franzen et al, 2011). The facilitating role of the municipality in this context can be described as the “exploration of area potential with private parties and individuals, to support investment decisions” (Daamen, Heurkens & Pol, 2015, p. 31). In this development approach, private parties really have to be ‘seduced’ to invest in the area as Daamen, Heurkens and Pol describe so well. In this context, an initiating role of the municipality through for example investments in infrastructure or the provision of financial arrangements is also of importance, stimulating the mobilisation of private capital in the area. (Heurkens, Daamen & Pol, 2015) The facilitating role of the municipality however does not mean that public actors can no longer influence the development outcome. Local authorities have management possibilities to secure a comprehensive development without running development risks themselves (Heurkens & Louwaars, 2011). A private leadership role seems to become effective once it is accompanied by a long-term economic, social and physical commitment with strategic projects (Heurkens & Louwaars, 2011). Private parties should be aware that the notion of more freedom also creates more responsibilities, which should be adopted intrinsically in developers’ attitudes. A crucial issue here is the ability of local authorities to provide enough flexibility and at the same time certainty for developers, giving them enough freedom to act (Heurkens & Louwaars, 2011).

B. IMPLEMENTATION OF SUSTAINABILITY IN THE URBAN AREA DEVELOPMENT PROCESS

After having described the origins, potential structure, participants and shapes of the urban area development process, this chapter will go into the implementation of sustainable considerations in this very process.

Rather than formulating specific policies or action plans for sustainable urban development, as many scientific papers do, this chapter will go into the particularities and difficulties that are at the core of the implementation of sustainable considerations in the urban area development process as just described. The aim is use theoretical research to provide an understanding of the problems that are involved with this in the processes of urban area development and to find preliminary recommendations on how to cope with these problems, all in the context of evaluating and formulating adequate development approaches later on in this research.

A WICKED PROBLEM

The implementation of sustainability in urban area development processes is considered by many theoreticians as a so-called wicked problem; complex and contested problems that are persistent despite considerable efforts to solve them (Rittel and Webber 1973; Radford 1977; Mason and Mitroff 1981). The problem is wicked, because it is marked by complexity and contextual uncertainty (Van Bueren & De Jong, 2007).

As explained in the problem analysis of this research and the previous chapter, various factors stemming from multiple dimensions (spatial, economic, technical, political, time dimensions, etc) pose conditions for and constraints on urban area development, making it a complex process. This complexity can be divided into two types: System complexity and political complexity .

System complexity - In the context of this research, 'system complexity' refers to the complexity of the system of urban development and sustainable development, in physical sense. This refers to the physical aspects, operation and dependencies between aspects of these systems, such as finances, programme, social structure, mobility behaviour, energy efficiency etc, classifiable in the 'product' definition of this research (see Terminology: product). This complexity stems from the large scope of urban area development and sustainable development in terms of time, space, goals, impacts etc, with generally thousands of minor and major choices to be made and strong interrelations between aspects; each decision affecting the values of multiple variables relevant for sustainable development (Mayer et al, 2005).

Political complexity - Next to this already large complexity of the system, the implementation of sustainability in urban area development is beset by political complexity, related to the 'process' definition of this research (see Terminology: process). Urban area development processes are complex in political sense because they typically involve an extensive network of stakeholders, each pursuing their personal ambitions and interests, and each representing various forms of expertise (Marin and Mayntz, 1991; Marsh, 1998). Furthermore urban area development takes place in a highly political environment that is influenced by social, economical and political dynamics on national and regional scale (Marin and Mayntz, 1991; Marsh, 1998).

This complexity is increased by existing uncertainties in both system and political complexity.

Cognitive uncertainty - Cognitive uncertainty refers to the uncertainty resulting from a lack of knowledge about the nature of the issues involved and/or their solutions (Van Bueren, Klijn & Koppenjan, 2003) . This is especially relevant in the context of system complexity; Often it is not clear how things precisely work and often the best solution to solve a problem or achieve a certain aim (for example sustainability) is unknown. This is what the first part of the theoretical framework of this paper hopes to resolve.

Strategic uncertainty - Strategic uncertainty contributes to the political complexity and is related to the many actors are involved. Because each of their strategies to handle the problem are based

on their perceptions of the problem and its solutions, they may differ from the views of other actors and can be unpredictable (Van Bueren, Klijn & Koppenjan, 2003).

Institutional uncertainty - Institutional uncertainty is also part of the political complexity of the problem and refers to the fragmented institutional setting of the design, construction, management and maintenance of the built environment in which urban area development is set. The process takes place in various policy networks in which the networks participate and various policy arenas (such as the internal arena of the organization, the municipal arena, the arena of the national government, European Union, etc). These different networks and arenas often focus on different aspects and impose different norms and regulations to the actors in the development, which often are only loosely coupled and sometimes not at all (Van Bueren, Klijn & Koppenjan, 2003).

These complexities and uncertainties involved with implementing sustainability considerations in the process of urban area development, creates uncertainty in both the decision of *what* to implement as in *how* to implement it. These are also the questions that this research attempts to answer, with recommendations from theory and practice on respectively *product* and *process*.

CONCRETE DIFFICULTIES

Now there will be gone into the concrete difficulties that emerge when sustainable objectives are attempted to be implemented in the urban area development process. Based on the mentioned barriers and bottlenecks in this context that could be found in theory, a synthesis has been made into the most important inherent difficulties related to the implementation of sustainability in urban area development processes. These have been divided into four categories: Difficulties related to coping with change, difficulties related to coping with existing system characteristics, difficulties related to coping with fragmented interests and benefits, and difficulties related to coping with prevailing conceptions. For each of these categories, main difficulties and causes for these difficulties will shortly be explained.

Coping with change

First of all, difficulties stem from a difficulty of coping with change.

The policy concept of sustainable development has a profound impact on the building and construction sector and requires an entirely different approach compared to the ways in which these sectors were traditionally used to function. It requires a switch from linear thinking to systems thinking, in which environmental problems are modelled as dynamic systems with thresholds feedback loops (Van Bueren & De Jong, 2007). The adoption of a systems perspective also implies a necessary shift in focus, from staged decision-making to life-cycle approaches, from the scale of the individual building to the scale of the whole area and city, from a focus on new buildings to a focus on existing ones and from desktop planning to participatory processes (Van Bueren & De Jong, 2007). This changed paradigm of sustainable urban development can

confront actors with new scopes, problems and ways of working, in/of which they potentially have little experience and/or knowledge.

Coping with system characteristics

Change, amongst others, is difficult in the context of sustainable urban development because urban area development is a practice of existing sectors and systems with inherent characteristics.

Building sector characteristics - Many difficulties in the implementation of sustainability in the urban area development process are posed by characteristic inherent to the building sector. Building and construction firms, both large and small, share a conservative outlook that is averse to risk-taking. This has resulted in a sector that is very resistant to change, to innovation and to government interventions. (Van Bueren & De Jong, 2007). Their customers (home owners or organizations that own or rent real estate) are usually also averse to risk taking (Van Bueren & De Jong, 2007). Furthermore, consumers generally know little about sustainability and sustainable benefits and solutions, and are generally not thought to be willing to pay for sustainability (Van Bueren & De Jong, 2007). This awareness and knowledge amongst end-users and consumers however, can be seen to be increasing.

For these reasons, conglomerates show little inclination to innovate, although they (especially large ones) have many opportunities to do so (Vermeulen & Büch, 2005). This also results in little of the budget of companies of the building sector being allocated to research, technology of development, with only 0.5% in the Netherlands and 0,3% in Europe as a whole, compared to an average of 2.0% in other industries (Bremer & Kok, 2000).

Product and supply chain characteristics - Also the inherent organization of product and supply chains can be a barrier to implementation of sustainable principles in the development process. Other than many other products and supply chains, elements of urban areas, such as buildings or infrastructure, have long life spans. These lifespans are split up into various stages (planning, design, construction, use, refurbishment, re-use, demolition, reuse and recycling), with different actors responsible in each of these phases. This fragmentation of actors and thus perceptions can threaten the alignment and continuity of implemented sustainable principles, that are however determinative for their success (Van Bueren & De Jong, 2007).

Political and institutional systems - Furthermore, contrary to what one might expect given their focus on the public interest, characteristics of the system of politics and institutions can pose barriers to implementation of sustainability in the urban area development processes .

As far as the political system is concerned, short time horizons and a preoccupation with votes in decision-making are often blamed for failure of the implementation of sustainable policies (Van Bueren & De Jong, 2007). Furthermore, political and particularly economic and financial institutions still often have a short-minded business model and fail to take account of environmental and social costs. For example, as long as labour is more heavily taxed than the use of materials, it is cheaper to demolish and replace buildings than to renovate and refurbish them. Similarly, as long as agricultural land is cheaper than urban sites, an urban sprawl model is a cheaper way to

accommodate the growth of towns and cities than a compact city model (Van Bueren & De Jong, 2007).

Coping with fragmented interests and benefits

Second category of difficulties is related to the difficulties in decision-making and reaching consensus in a context of a fragmentation of interests and allocation of benefits, stemming from the large number of actors and stakeholders involved in the practice urban area development.

Conflicts of interests - As explained many times before in this research, the many actors involved in the mixed-use urban area development process lead to a wide range of diverging interests that have to be weighed in order to make decisions and achieve a development result. Many of these interests are in conflict with each other, making reaching consensus a difficult task.

Furthermore, the interest of sustainability is in real-world situations not the only and often not even the dominating interest in area (re)developments, although it is approached in this way in many theories on sustainable planning. In reality, the development is subject to constraints in terms of budget, properties of the area and external factors, and to requirements originating from a demand that has to be met, problems that have to be resolved, and an economic return that has to be yielded. This makes the content and implementation of the development dependent of the available possibilities and means.

Asymmetrical allocation of benefits - Second difficulty is caused by asymmetrical allocations amongst actors of knowledge, costs and benefits of, in this case, sustainability (Jensen & Meckling, 1976; Barlow & Ozaki, 2003). Because of the many actors involved over the lifecycle of building project, the benefits of implemented measures, as for example cost reduction in energy bills as a result of heavy insulation, often befall other actors than the ones bearing the costs for implementation (Van Bueren & De Jong, 2007). This does not encourage actors to invest in sustainability. Projects in which the financiers and builder are the eventual end-users of the projects, such as people building their own homes or companies building their own offices, are usually once-in-a-lifetime experiences. (Van Bueren & De Jong, 2007) In most cases, buildings are developed for stock, before anything is known about the buyers, and risk avoidance causes developers to construct real estate that meets the demands of an average user or home owner (Barlow and Ozaki, 2003).

Coping with conceptions

An issue that even further complicates the implementation of sustainability in the urban area development process in general, is that in the context of all the aforementioned difficulties, there also has to be coped with different conceptions of urban sustainability and implementation of sustainable urban development.

III structured concept - Although significant efforts are made in theory to make the concept of urban sustainability and sustainable development concrete, in practice we see still that the perceptions of what urban sustainability is and how it can be achieved differ (see chapter II.1.B).

This reason for this is that the concept of urban sustainability is ill structured, consisting of multiple dimensions and cause-and-effect chains which are complex and difficult to determine unambiguously (Van Bueren & De Jong, 2007). When concrete decisions have to be made, this concept alone is not enough to convince other actors to conform their interests, and different conceptions of the concept can obstruct decision-making. Furthermore the concept is almost never operationalized into concrete goals, and on the few occasions that it is, criteria for evaluation and assessment are lacking. As a result, it is impossible to establish whether the goals have been met, which provides the actors with an easy get-out (Buckingham-Hatfield & Evans, 1996).

No sense of urgency - Following the different views on urban sustainability and the imprecision of the concept, there exist also different perspectives on the urgency the matter. Due to a lack of tangible, direct and short term negative or positive effects of (not) implementing sustainable principles in urban area development plan formation, sustainability is often misconceived as not being urgent, and subordinated to other, more direct interests in the decision-making process. Next to an overall lack of effort and persistence to incorporate sustainability in the development result, this can lead to late agenda setting of sustainable topics by the actors. Many projects only putting sustainability on the agenda once decision-making is well under way, which means that it may no longer be possible to incorporate sustainability measures (Van Hal, 2000; Van bueren & De Jong, 2007)

PROCESS RECOMMENDATIONS

In literature on sustainable urban area development and implementation of sustainability in urban area development processes, also some recommendations are made on how to cope with these difficulties. These recommendations are synthesized into specific recommendations, that can be summarized in:

- Integration of conceptions
- Alignment of process and product
- Customization of strategies
- Participatory processes
- Prioritisation of sustainability
- Concretization of sustainability
- Offering of incentives
- Increasing of awareness

Integration of conceptions

All authors advocate an integration of all aspects of urban sustainability and the urban area development process. This integration refers to integration on and of various levels.

Integration of scales - Firstly there should be an integration of scales, with plans for the details to individual real estate projects to the entire urban area development project to the district and the city as a whole being formed in an integrated way (Van Bueren & De Jong, 2007).

Whole lifecycle approaches - Secondly there should be an integration of the time-scopes ruling in the development process, with a shift from thinking within boundaries of certain phases or periods to integrated, whole lifecycle approaches. Also all actors of this lifecycle should be integrated and aligned, in order to ensure consistent policy and management that allows implemented sustainable measures to be most meaningful. (Van Bueren & De Jong, 2007)

Integrated conceptions - Furthermore, there should be an integration of conceptions of the involved actors, both on the issue of urban sustainability (Expert Group on the Urban Environment, 1996; Lombardi & Brandon, 2002) as on their conceptions of the problems and urgencies and the main task of the urban area development (Monno & Conte, 2015).

Integrated vision - This should lead to an integrated vision for the direction of development of the area, in which interests of actors and solutions are integrated and aligned. (Franzen et al, 2011)

Integration of disciplines and knowledge - In order to establish these integrated conceptions and formulate this integrated vision, an integration of disciplines and knowledge is crucial. (Monno & Conte, 2015, Mazer, 1988; De Bruijn et al., 2002).

Integration of research and practice - Also the development of this knowledge in the urban area development process through an integration of research and practice is important. It is important for researchers to be sure that their ideas and models address practitioners' actual needs, and it is equally important that those who play a role in practice are familiar with the facts and stance of research on the issues at hand (Barlow and Ozaki, 2003; Van Bueren & De Jong, 2007). Likewise, the knowledge, interests, and experiences of practitioners and end- users can be used as input for researchers (Fischer, 2000; Van Bueren & De Jong, 2007).

Alignment of process and product

Second set of recommendations from literature on the implementation of sustainability in the urban area development process refers to the alignment of the process with the 'product' of the urban area development. In the urban area development process, an overemphasis on interaction and communication sometimes results in a separation of processes and procedures from the content or substance of a problem (Van Bueren & De Jong, 2007). This can result in decision-making processes in which participation, interaction, communication and agreements become ends by themselves, rather than methods of solving a given problem (Van Bueren & De Jong, 2007). It is therefore important that the design of the process always stays in touch and is aligned with the physical result ('product') that is aimed to be achieved, and is adjusted to the desired level of integration of functions, degree of end-user initiative, and other product-aspects.

Participatory processes

In order to achieve the necessary degree of integration of all these aspects, participatory processes are an utter precondition. The integrated approach requires collaborative decision-making processes among actors from different spatial scales, different parts of the value chain, and different life-cycle stages.

Decisions in the field of product (the physical development result) as well as process should be accepted by the actors who will be affected by the decisions in question. (Van Bueren & De Jong, 2007). Also the upkeep of made decisions throughout the lifecycle of the development requires education, coordination and commitment of actors, to ensure adequate handling and continuity needed for optimal success of implemented measures (Van Bueren & De Jong, 200).

In order to facilitate the formation of an appropriate and integrated vision for the area, it is important that all perceptions and interests, shared and heard. This requires an open approach, in which the actors are transparent, communicative. Furthermore, in order to achieve the highest quality results, the actors should be collaborative, combining their efforts and knowledge (Healey, 2010; Mayer et al, 2005).

To ensure that all interests and perceptions are represented, all stakeholders in the area should be reached in the planning process (referred to by Healey as the 'distributional principle') (Healey, 1997). The participation of the relevant actors and stakeholders, including the end-users, throughout the entire development process is crucial. Without it, it is impossible to come to a common understanding of the policy problem involved and to build the commitment and support needed for long-term sustainable results (Van Bueren & De Jong, 2007; Glasbergen, 1995; Koppenjan & Klijn, 2004).

Customization of strategies

Just as the design of the process should be adjusted to the product that is aimed to be achieved, it should also be adjusted to the specific geographical, social and economical circumstances and urgencies of the urban area development project. General blueprint plans and procedures due to institutionalization are a threat to this. Instead, strategies should be customized to fit the specific environment in order to achieve the optimal results and get the best match with the existing threats and opportunities. This adjustment requires a certain degree of flexibility in the institutional framework of the urban area development. Furthermore, the possibility to tune the employed strategies to the local circumstances provides the actors with the opportunity to couple the policy goals to their own goals and interests, increasing their alignment and the potential quality of the end result (Van Bueren & Ten Heuvelhof, 2005).

Prioritisation and inclusion from the start

Some authors recommend, in order to catalyze the implementation of sustainability in urban area development processes and increase the performance of the results, a prioritisation of sustainability over other interests in the development process (Van Bueren & De Jong, 2007). It is clear that this prioritisation should come from the public domain. National and even european institutions could formulate stricter policies on sustainable development and put it higher on the political agenda (Van Bueren & De Jong, 2007).

Moreover, sustainable interests should be prioritized by including them earlier in the development process. Often, sustainable considerations only come to the table late in the development process,

when the plan development is already in such a far stage that the the potential impact as well as the chance of implementation of sustainable interventions is small. Therefore, the quality and implementation of sustainability in the development result is most secured when it is included as a decision-making criterion from the very start of the urban area development process. (Van Bueren & De Jong, 2007)

Concretization of sustainability

An important recommendation from theory is that the concept of urban sustainability and sustainable should be made concrete and explicit for implementation in the practice of urban area development.

As mentioned in the previous paragraph, one of the difficulties in the implementation of sustainable principles in the urban area development process was that the concept of sustainability was vague and that, even when it has been incorporated into the decision-making, implementation was hard due to the lack of translation of abstract sustainable ambition into tangible goals. (Van Bueren & De Jong, 2007)

It is therefore important that the concept of sustainability is operationalized in the development process, into tangible, specific and concrete aims and criteria for evaluation and assessment (Healey, 1997). Ideally, this establishment of goals and requirements is based on integrated knowledge and done in close cohesion with research (Van Bueren & De Jong 2007).

Offering of Incentives

Practice shows that implementation of sustainability in the urban area development process doesn't necessarily occur by itself. Many actors, especially market parties and end-users but sometimes even public institutions, fail to see the urgency and direct benefits of sustainable development and therefore do not initiate its inclusion in the urban area development process (Laffont & Martimort, 2001).

This inclusion of sustainable principles in the urban area development process by actors can be increased by offering incentives. Prioritisation of sustainability by public parties and associated stricter institutional policies and requirements can force actors to incorporate a certain degree of sustainable measures in the development process, but incentives can stimulate actors to pursue sustainability themselves (Grant, 2007).

The core of these incentives should be to provide tangible benefits (and for many actors tangible benefits mean short-term and direct benefits) connected to the implementation of (certain) sustainable interventions (Van Bueren & De Jong, 2007). These incentives can be for example receiving financial benefits through subsidies or obtaining an advantageous position compared to other market parties.

Market parties should be seduced to take more risk and stimulate innovation and research and development. The municipality can do this by offering, in return, more certainty to the market parties in terms of higher profits and a better competitive position (Mayer et al., 2005).

Furthermore, it should be attempted to provide inherent incentives to private parties and users to implement sustainable principles by letting the benefits resulting from, which often befall other actors later in the lifecycle of the development, flow back to the financiers (Van Bueren & De Jong, 2007).

Last but not least market parties can be induced to pursue sustainability by sustainable expectations from the end-user. Market-oriented parties are driven by the demand of their consumers and in this way, consumers would pose a sustainable demand (Van Bueren & De Jong, 2007).

Increasing awareness and knowledge

A recommendation that can be deduced from all these elements and is also occasionally mentioned explicitly in literature, is increasing awareness of the need for urban sustainability. Sustainability can not be pursued, prioritised, stimulated or demanded by actors in the urban area development process if the actors are not aware of its meaning and its urgencies. Therefore, the importance of urban sustainability should be emphasized and educated to all relevant actors and the practice of urban area development should accept and incorporate it as being an inherent requirement (Van Bueren & Ten Heuvelhof, 2005).

This also includes a dimension of knowledge, of actors to understand what the benefits of urban sustainability are for them (offering them incentives to demand and pursue it themselves), and also to be familiar with sustainable innovations and solutions and appreciate the inherent worth of these solutions (Barlow and Ozaki, 2003; Van Bueren & De Jong, 2007).

C. CONCLUSION

From this second chapter of the theoretical framework, relevant findings of the general structure and background of (mixed-use) urban area development processes (in the Netherlands) can be distilled, as well as theoretical recommendation on the design of the process of urban area development with the eye on achieving long term sustainable urban areas as defined in chapter II.1.

FINDINGS

First, the relevant findings, in terms of factors in urban development that are significant for the design of the process and the choice of a development approach, and their contextual origins, will shortly be presented.

High complexity of mixed-use, urban area- and sustainable development processes - To start, urban area development processes are complex because of their large scopes in every sense. Mixed-use development in practice is submerged in complexity and risk at nearly every stage of the development process, because of the many actors involved and interests and high requirements for alignment and integration. This makes also the implementation of sustainability in the mixed-use area development process complex, because it is only one of the many high stakes and interests involved, and is often subordinated to other, more direct interests.

Actors - The actors involved in the urban area development consist of public parties, private (market) parties, public-private parties and end-users. The structure, sub-actors and roles of these actor types have been explained. The public parties are public institutions from European to local level, which are head representatives of the public interest but also have a financial interest in mind. Private parties are commercially driven and generally have a short-term horizon, although this can differ according to the specific actors and their business model. Public-private parties are for example housing associations, who generally play important parts in urban area developments and fulfill a hybrid role of being charged with a public task of providing affordable housing while being private associations with a profit-objective. The end-users are rarely actively participating in urban area development processes, while their stakes are high and the long term success of the development result largely depends on their behaviour and satisfaction.

Collaboration - The structure of collaboration between the actors can be shaped in different ways. It can be following the principle of institutionalism, in which public institutions determine the process and set rules and norms to the actors in the developments process: a top-down, hierarchical, government approach. On the one hand this can provide a good implementation of the public interest as well as systematic methods for decision-making and collaboration in the development process which offer structure and efficiency. On the other hand, the inertia of

institutions to adapt to changing circumstances poses the threat of institutional methods being aged and inadequate for the urgencies and conditions of the moment, leading to a suboptimal development result.

The collaboration can also take the shape of a network structure, in which the public domain gives up its authoritative position and the actors are equal. This requires an approach of governance, in which public actors, societal organizations, citizens and companies collaborate to effectively handle problems and seize opportunities in the context of urban area development. To facilitate this, an integrative approach is suggested, in which all stakeholders are participating in the development process and adopt an open and communicative attitude with the aim of coming to a shared vision in which interests and solutions are aligned and the knowledge of different disciplines is integrated. Adequate management of the development process is crucial, but as this management position gives possibilities to steer the development result, it should be well argued which party to appoint for this function.

Gradual shift from top-down to bottom-up planning the Netherlands - In the history of urban development approaches in the Netherlands, we see that the Netherlands as a whole has made a gradual shift from a top-down 'restrictive' planning method before the 1980's in where the government has control and plans the area along the lines of strategic policy making, to the bottom-up 'development planning', where the private sector leads and the market parties drive the development while the government takes a more facilitating role.

Development approaches in the Netherlands today - Today in practice, we see a cohesion between the development- and restrictive planning in the Netherlands, in which the planning approaches that different municipalities in the Netherlands employ for developing mixed-use urban area developments depend of where the municipality chooses to lie the center of gravity between these two extremes.

First approach we see is the public and private development within a well-defined strategic framework by the municipality, that is manifested in for example Amsterdam. In this approach we still see a strong direction by the municipality in urban area development, controlling the goals, content and quality of urban development projects by means of the Plaberum, the structural vision and the following strategy resolution and policy instrumentation that contains criteria to ensure compliance with the structural vision. Yet, although these rules seem strict, the need for collaboration between public and private parties for the purpose of the realization of the structural vision is recognized.

Second approach we see is a development strategy where the municipality deliberately takes a facilitating role to stimulate private-led development, as can be seen in for example Rotterdam. The obligatory planning documents are the same (Structural vision and zoning plans), but these documents are much less specific in order to leave as much open as possible for private-led development. Instead, the municipality chooses to focus on stimulative and supportive instruments, to encourage and facilitate valuable developments.

The debate of makeability and the conflict between market-driven and strategic considerations in the practice of urban area development -

The different urban area planning approaches that have evolved over the past decades in the Netherlands reflect an ongoing debate on the 'makeability' of a society: the extent to which a desired society or behaviour of human beings can be pre-shaped and pre-planned.

Some believe that this behaviour can be steered and planned into detail, substantiating the institutional top-down approach, while others put limits on belief of the makeability of the society and take the position that the most fruitful initiatives emerge organically, substantiating a private-led urban development.

Whereas in the first approach the municipality has a profound influence on the specific planning of the area from a strategic perspective by means of planning instruments such as structural visions, zoning plan, strategy resolutions and a toolbox of certain specific requirements, the latter development approach keeps the strategic vision of the municipality much more open in order to leave as much room as possible for private initiatives, and focuses more on instruments that can facilitate certain private developments.

However, by doing this, the municipality largely gives up control over the goals, content and quality of the development. This raises questions and risks in relation to the representation of the strategic considerations in the development plan, when all is left in the hands of private parties who inherently represent a more commercial and short term interest and scope. At the same time, when the municipality keeps control and plans the area from a strategic perspective, it limits the chances for innovation and emergence potentially better alternatives and has the risk of lacking market-conformity.

This permanent friction between the strategic and the market-perspective makes the development of a sustainable mixed-use area a balancing act between sufficient constraints to guard strategic requirements and sufficient freedom of movement to facilitate valuable private initiatives.

Difficulties in the implementation of sustainability in urban area development processes -

The implementation of sustainable principles in the development process poses some additional specific difficulties in the mixed-use urban area development process. These difficulties are related to coping with change, coping with existing system characteristics, coping with fragmented interests and benefits and coping with diverging conceptions. Implementation of sustainability in the development equation requires a paradigm shift on urban area development results and processes compared to the traditional conceptions. This confronts actors with new scopes, problems and ways of working, in/of which they potentially have little experience and/or knowledge.

Furthermore implementation of sustainability and change in the context of sustainable urban area development is difficult because urban area development is a practice of existing sectors and systems with inherent characteristics. Often these inherent characteristics are in conflict with

sustainable principles, such as the inherent aversion of risk and thus innovation and research and development in the building sector, the fragmented nature of the supply chain and production processes with resulting asymmetrical allocation of benefits of implemented measures, and barriers posed by institutionalization and politics.

Also coping with the fragmented interests and allocation of benefits resulting from the many actors and stakeholders involved and the dispersion of actors and responsibilities over the lifecycle of the development remains hard. Different conceptions on urban sustainability amongst the actors, stemming from the abstract and ill structuration of the concept, further complicate the implementation of sustainability in the urban area development process and lead to a lack of a sense of urgency to do so.

PROCESS RECOMMENDATIONS

Next to and from these findings on mixed-use urban area development in general and the implementation of sustainability in urban area developments specifically, some relevant recommendations from theory can be distilled in terms of process-characteristics that would best facilitate the implementation of sustainability in the urban area development process and offer the best opportunities for high results in the field (given the specific context).

a. A holistic and integrated approach of urban sustainability and urban area development

First recommendation addresses the fundamental way in which the problems posed in sustainable mixed-use urban area development should be treated in the development process in order to come to optimal results.

It emphasizes that urban sustainability and urban area development should be approached in a holistic and integrated way, including all its dimensions and addressing the full scopes of the issue to come to a balanced assessment and well substantiated decision of what solutions are best from the perspective of long term urban sustainability.

This means, amongst others, that the environmental, economic and social dimensions of urban sustainability should be taken into account, that problems and solutions should be evaluated from a long term scope and a whole lifecycle approach, that plan formation over the various scales (from the level of building details to regional planning) should be aligned and integrated and that all disciplines and expertise should be included in the decision-making process.

An coupling of research and practice in which information is exchanged and triangulated can help ensure that the knowledge and conclusions drawn from these holistic approaches are valid.

b. Awareness, inclusion, operationalisation and prioritisation of sustainability

Second recommendation sketches a precondition for the incorporation of sustainability in urban area development processes.

Awareness - If actors are not aware of the need for, meaning of, benefits of, determinative factors of and possible solutions for urban sustainability, it can not be taken into account in the formulation of the development task of the urban area development and in the decision-making process. Therefore, creating an awareness and a base of knowledge on the importance and structure of the system of urban sustainability amongst all actors, is the first step.

Inclusion - Once this awareness and knowledge is established, the second condition for the implementation of sustainable principles in the urban area development process is that urban sustainability is included in the goal statement of the project. Also this is not self-evident. It is however a requirement in order to be able to constructively work and steer on it. The inclusion of sustainability as a decision-making criterion from the very start of the development process is determinative for the degree of urban sustainability of the development result, since the potential impact as well as the chance of implementation of sustainable interventions decreases as the plan development progresses.

Operationalisation - When the sustainable ambition set and included in the development assignment, it is crucial that the abstract concept of sustainability is made specific and that these ambitions are operationalized into explicit aims and requirements, ideally with criteria for evaluation and assessment. This is one of the most made mistakes in current mixed-use and other urban area development processes, leading to bad results in the field or urban sustainability even when it had been included in the development process due to the lack of tangible goals and requirements.

Prioritisation - Furthermore, some authors recommend a prioritisation of sustainability over other interests in the development process, to strengthen its incorporation and increase the aimed-at performance of the development results. This prioritisation should be established by the public domain, with local to european institutions formulating stricter policies on sustainable development and putting it higher on the political agenda.

c. Providing incentives for pursuing sustainability

Although prioritisation of sustainability by public parties and associated stricter institutional policies and requirements can force actors to incorporate a certain degree of sustainable measures in the development process, private parties often do not pursue sustainability themselves. Market parties should be seduced to take more risk and invest more in sustainable interventions and innovation. Therefore they should be provided with incentives.

The core of these incentives should be to provide tangible benefits (and for many actors tangible benefits mean short-term and direct benefits) connected to the implementation of (certain) sustainable interventions.

The municipality can provide incentives by offering financial benefits or more certainty in terms of higher profits and a better competitive position to the market party. Furthermore, incentives can be provided by letting the (financial) benefits from implemented measures flow back to the initial financiers. Last but not least, the end-user can provide incentives to market parties to increase sustainable performance by posing a sustainable demand (which should be nurtured by education on the urgency and benefits of sustainable interventions amongst end-users).

d. Participatory, collaborative processes focused on alignment (of perceptions, interests and solutions)

Fourth recommendation applies to the characteristics of the process of actor collaboration that provides the best chances of achieving the aforementioned necessary degree of integration and high performance results in the field of urban sustainability.

Network system - Public authorities should no longer dominate the decision-making and plan formation of urban area developments projects because this leads to a hierarchic relationship of their interests with the interests of other actors. This while it is just as important that the interests of the market parties, end-users and other actors are met in the context of creating adequate and successful urban area developments. This is especially true from the perspective of urban sustainability, because long term economic and social viability of an urban area is impossible when certain interests of market parties and end-users are not met. Therefore, the urban area development process should be marked by a network structure in which all interests of all parties are equally represented.

Actor collaboration - In order to reach consensus amidst these many, juxtaposed and diverging interests of the various stakeholders, actors will actively have to participate and collaborate in the development process. Decisions in the field of product as well as process should be accepted by the actors who will be affected by the decisions in question. Also the upkeep of made decisions throughout the lifecycle of the development requires collaboration and commitment of actors, to ensure adequate handling and continuity needed for optimal success of implemented measures. Therefore, sustainable urban area development requires collaborative decision-making processes among actors from all spatial scales, different parts of the value chain, and different life-cycle stages.

Alignment of conceptions, interests and solutions: Nurturing a shared vision - The best chance to reach agreement and make optimal use of the means and strengths of the various actors, is created when both interests and solutions are aligned in the development plan. Solutions that succeed in serving more goals at the same time will invariably be the ones with the greatest chance of success. Therefore, parties should jointly form an integrated vision (also in the field of sustainability) for the direction of development of the area. This shared vision fosters satisfaction and commitment of the parties, as being an integrated result of all parties.

Transparent and communicative attitudes - In order to facilitate the formation of an appropriate and integrated vision for the area, it is important that all perceptions and interests, shared and heard. This requires an open approach, in which the actors are transparent and communicative.

Furthermore, in order to achieve the highest quality results, the actors should combining their efforts and knowledge.

Actor participation and end-user inclusion - To ensure that all interests and perceptions are represented in this plan formation process and the later decision-making process, all stakeholders in the area should be reached in the planning process. When this is not respected, it is impossible to come to a common understanding of the policy problem involved and to build the commitment and support needed for long-term sustainable results (Van Bueren & De Jong, 2007; Glasbergen, 1995; Klijn & Koppenjan, 2004). The participation of the relevant actors and stakeholders throughout the entire development process is crucial. Inclusion of the end-user is particularly important, because the ultimate end-user behaviour in the development result and the satisfaction of the end-user are decisive factors for the future degree of urban sustainability of the area (see theoretical framework chapter 1.A). It is important that their interests and input are shared in the development process from first hand, because the representation of the end-user by other actors (such as the developer) (as is often the case in urban area developments) can lead to speculation and a mismatch of the alleged wishes of the end-user and the actual ones, resulting in inadequate development results and following undesirable effects, such as vacancy.

Appropriate management by independent or public party - The enrollment of the process as outlined requires strong and adequate management to coördinate and facilitate the development process. Visionary leadership with an understanding of sustainable development can also create a momentum for sustainable decisions.

As this management can also steer the development outcome, it should be carefully considered which actor to put in this leadership role. Independent manager or public parties are recommended.

e. Customization of processes and strategies (to the specific project and aimed at product)

Fifth recommendation refers to the need of urban area development processes and strategies to be adjusted to the specific geographical, social and economical circumstances and urgencies of the urban area development project. General blueprint plans and procedures due to institutionalization are a threat to this. Instead, strategies should be customized to fit the specific environment in order to achieve the optimal results, get the best match with the existing threats and opportunities, and provide the actors with the opportunity to tune them to their own goals and interests.

Furthermore, the design of the process should always stay in touch and be aligned with the physical result ('product') that is aimed to be achieved, adjusted to the desired level of integration of functions, degree of end-user initiative, and other product-aspects.

f. Private-led urban development within a flexible institutional framework

The final recommendation synthesizes all the aforementioned elements into a specifically recommended development approach that would provide the best possibilities for achieving long term sustainable mixed-use areas according to theory.

Private-led development - Because of limits to the belief of makeability and an increased awareness of the indispensable knowledge and interests market parties and end-users provide for successful urban area developments, private-led development is increasingly being regarded as being suitable for contemporary urban area developments, demonstrating a capacity to fit to location specific circumstances and offer long term socially and economically viable solutions.

Facilitating municipal role - Public authorities are recommended to replace their active development role with a facilitating role in this context, in which the main task of the municipality is to explore the potential of the area with private parties and individuals and to support investment decisions. This can include an initiating role of the municipality through for example investments in infrastructure or the provision of financial arrangements to stimulate the mobilisation of private capital in the area (Daamen et al, 2015).

Flexible institutional framework - The facilitating role of the municipality however does not mean that public actors can no longer influence the development outcome (Daamen et al, 2015). The public parties can ensure alignment with regional strategies and provide direction to the development through broad, yet well substantiated and directional planning instruments such as for example the structural vision of Amsterdam. It is however crucial that the institutional framework offers enough certainty to the developers, but is at the same time flexible enough to give the private developers freedom to act and allow their initiatives to flourish.

Business models that foster long term commitment - The private parties should be aware that the notion of more freedom also creates more responsibilities, which should be adopted intrinsically in developers' attitudes (Heurkens, 2012). A private leadership role seems to become effective once it is accompanied by a long-term economic, social and physical commitment with strategic projects. This should thus absolutely be stimulated (Heurkens, 2012). This can be done by tying the actors to the development result for a longer period of time or even for the whole lifecycle, by encouraging longer term exploitation- or leasecontracts, developers with longer term business models (such as investing developers, developing investors and housing associations), and (individual) developers developing projects of which they will also be the end-user (as in collective private or private commissioning). This also allows benefits of implemented (sustainable) development choices to flow back to the financing of the intervention, increasing the incentive to develop consciously and sustainably.





III. EMPIRICAL PART



1. CASE DESCRIPTION

The empirical part of the research project is centered around case studies. These cases are the two Amsterdam areas Overhoeks and Buiksloterham, as selected according to the selection criteria presented in chapter I.2.

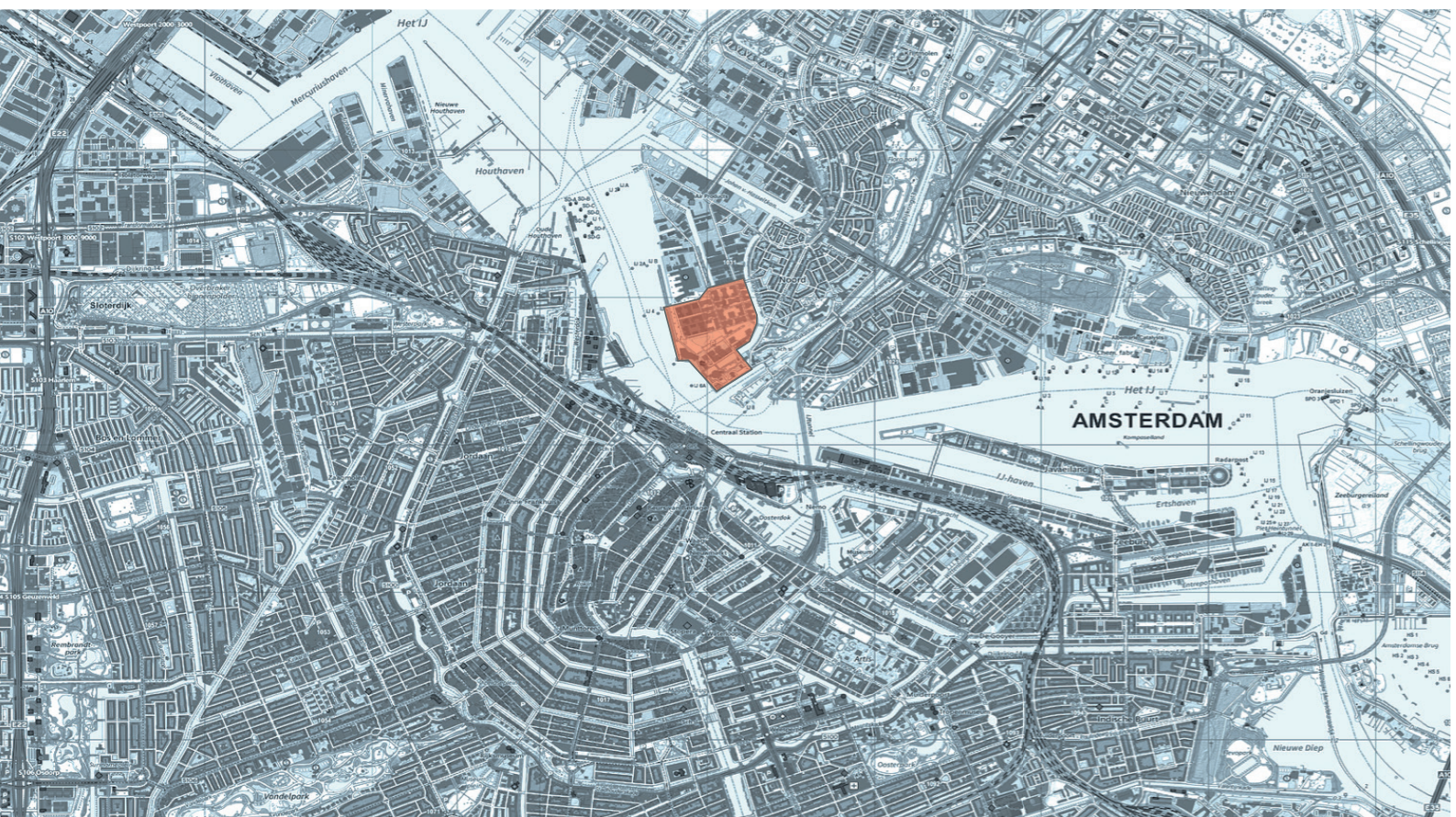
In this chapter, these cases will be described on the topic of their history and context, the urban area development plan, the chosen development approach and the land-situation.

A. OVERHOEKS

HISTORY + CONTEXT

Amsterdam is a growing city. In the past years Amsterdam Noord has become a core development-location to accommodate this growth because of the large availability (previously industrial, now obsolete) land, its promising residential qualities thanks to being 'on the sunny side of the IJ' and its relative proximity to the Amsterdam city centre. On the Northern banks of the IJ seven redevelopment projects are programmed, amongst which Overhoeks and Buiksloterham.

Figure III.1.1. Location case Overhoeks



Overhoeks is an in 1848 poldered area on the Northern banks of the IJ in Amsterdam, that has been the research area of the company Shell since 1913. It's the closest area of Amsterdam Noord in relation to the centre, located right across the train station. The total area consists of 27 hectares. Technological developments have led to a decrease of space required for Shell's research activities (Atelier Shell, 2004). This is why Shell has decided in 2003 to withdraw itself to 7 hectares for the Shell Technology Centre Amsterdam (STCA) (KEI, 2010). The freed 20 hectares Shell put up for sale in a tender, in which ING Real Estate Development (RED) came out as the winner for bringing forward the best bid for the land. As mentioned however, the municipality of Amsterdam saw development potential for the area. This is why in 2003 the municipality set up a project decree (Projectbesluit Shellterrein, 2003) with Shell as land-owner, the municipality as land-developer and ING RED as real-estate developer. On the basis of this project decree the masterplan 'Stedenbouwkundig plan Shell-terrein' was adopted by the city council in 2004, in which the to-be-executed developments were laid out.

PLAN

The masterplan along with its specifications over the years envision Overhoeks as a compact mixed-use urban area in which will be worked, lived and recreated.

A total amount of 437.000 m² GFO will be developed (excluding parking), in a ratio of about 70% living and 30% working + facilities. In the field of housing this comes down to about 2.200 apartments (a density of 150 dwellings / hectare). Amongst these, 20% is attributed to social housing and 80% to market rent and -sale in a variety of price-classes and sizes (Atelier Shell, 2004).

Figure III.1.2. Plan Overhoeks with sub-areas (Based on Projectbureau Noordwaarts, 2013)



The housing will largely be realised in a large dwelling area in the north of the area: the Campus, referring to the chosen typology of large, freely spaced apartment blocks. The Campus is delimited at the banks of the IJ by a park called the 'Oeverpark', and will be separated from the southern edge of the area by a large wedge-shaped park called the 'Schegpark'. These parks will offer room for recreation, as will the inner courts in the Campus (Atelier Shell, 2004).

Amongst the maximum of 70.000 m² for the function working, small-scale business spaces for private entrepreneurs are included. Furthermore there is a lot of space reserved for facilities in the area, such as retail, daily shops, restaurants and cafés, hotels, a school, daycare and a kindergarten. Most of the working and commercial functions will be accommodated in the 'Strip': a strip with high-rise towers on a plinth along the southern edge of the area (Projectbureau Noordwaarts, 2013). Part of this Strip are the distinctive Overhoeks-tower and the old laboratory, both built by Shell, as well as the newly built EYE film institute.

The project will be realised in three phases, as shown below.

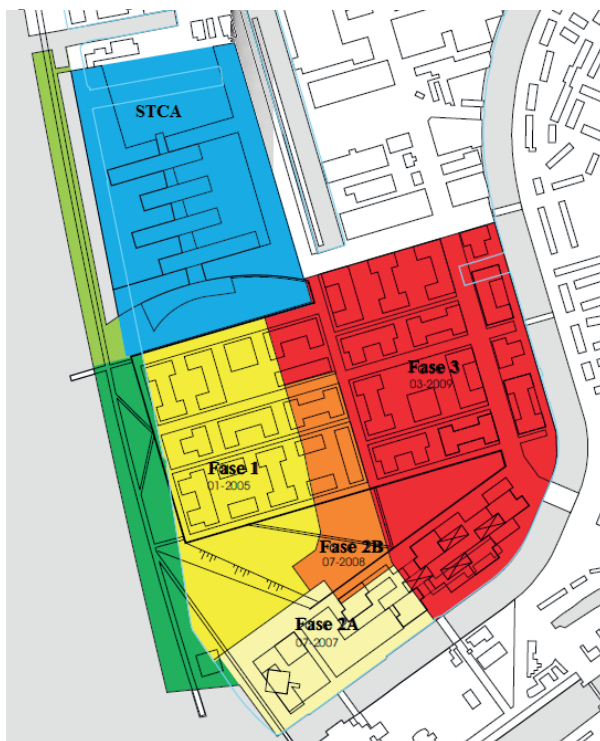


Figure III.1.3. Plan Overhoeks with phasing (Atelier Shell, 2004)

LAND SITUATION

The ownership of the land in Overhoeks and Buiksloterham is distributed over three different forms of ownership. Either the land is:

- a. Of the municipality and to be used by the municipality (municipal land)
- b. Of the municipality and to be used by other parties (leasehold)
- c. Of someone else (private ownership)

In the first case, the municipality has all the rights and full control over the land. In the second scenario, this means in these areas that the land is under leasehold. Amsterdam is a leasehold municipality. Leasehold is a form of ownership in which the leaseholder gets full user rights of the land for the period of the lease (per year / 10 years / 25 years / 50 years). In turn for this the leaseholder pays a compensation (canon). The municipality however keeps legal ownership of the land. This means that as long as the lease contract is valid the municipality has no right to use or do anything with the land, but when the lease contract ends, the land falls back in the hands of the municipality and the municipality regains the freedom to do with it as it deems right. In the third case, the land belongs to a private owner. In this case, the municipality has no control over the land, until the land would voluntarily be hired (short term), leased (medium term) or sold (long term) back to the municipality (Vonck, 2013).

Overhoeks consists of 18 separately developed plots (see appendix III.1.1). These plots can be very large, but are all developed by a specific single developer or development combination. Of these plots, everything but the Shell technology centre is in land-ownership by the municipality.

- Total: 18 plots
 - 1 plot private ownership (STCA) (7 hectares)
 - 17 plots municipal land (20 hectares)
 - 13 to be issued in leasehold
 - 1 to be rented out to temporary school

This means that in Overhoeks 74% of the land is in full control of municipality during the development. This gives the municipality a very large control over the development.

DEVELOPMENT APPROACH

The original development approach as decided in 2004 with the project decree was that Shell was the land-owner, the municipality was the land-developer and ING RED was the real-estate developer; a traditional top-down strategy in which a large area with a diverse programme is developed by a single developer, under strong supervision by the municipality who controls the land.

In 2010 it became clear that ING RED would not perform according to the contract, despite having entered a development coalition in 2008 with housing association Ymere to split the real estate development task between social housing, schools and medical facilities for Ymere, and

commercial dwellings and facilities for ING RED. In the crisis the agreed upon plan turned out not to be feasible for ING RED. ING RED wanted to exit the development (Boer & Croon, 2011).

After months of negotiations the agreement between Shell, the municipality and ING was renewed in 2011. The municipality took over the development from the Strip and the Scheg (fase 2) from ING, along with the leasehold of the land. In 2013 an alternative development strategy for the Strip and the Scheg was set up by the municipality. The land will be issued per plot to various partners who will develop them. ING was obliged to stick to its development of the campus (phase 1 & 3), in collaboration with Ymere (Projectbureau Noordwaarts, 2013). In 2015 the position of ING in phase 3 was integrally replaced by the entrance of a new party, Amvest: a fund manager and developer in the Dutch housing market, who saw this as an opportunity to strengthen its position in Amsterdam. The exit of ING also suited ING's strategy to disinvest in its real estate development business. Amvest entered a development coalition with ING's old partner Ymere under the name of 'Ontwikkelcombinatie Overhoeks' (OCO), to jointly develop entire phase 3 in a ratio of 70-30 (70% Amvest, 30% Ymere) (Amvest, 2015).

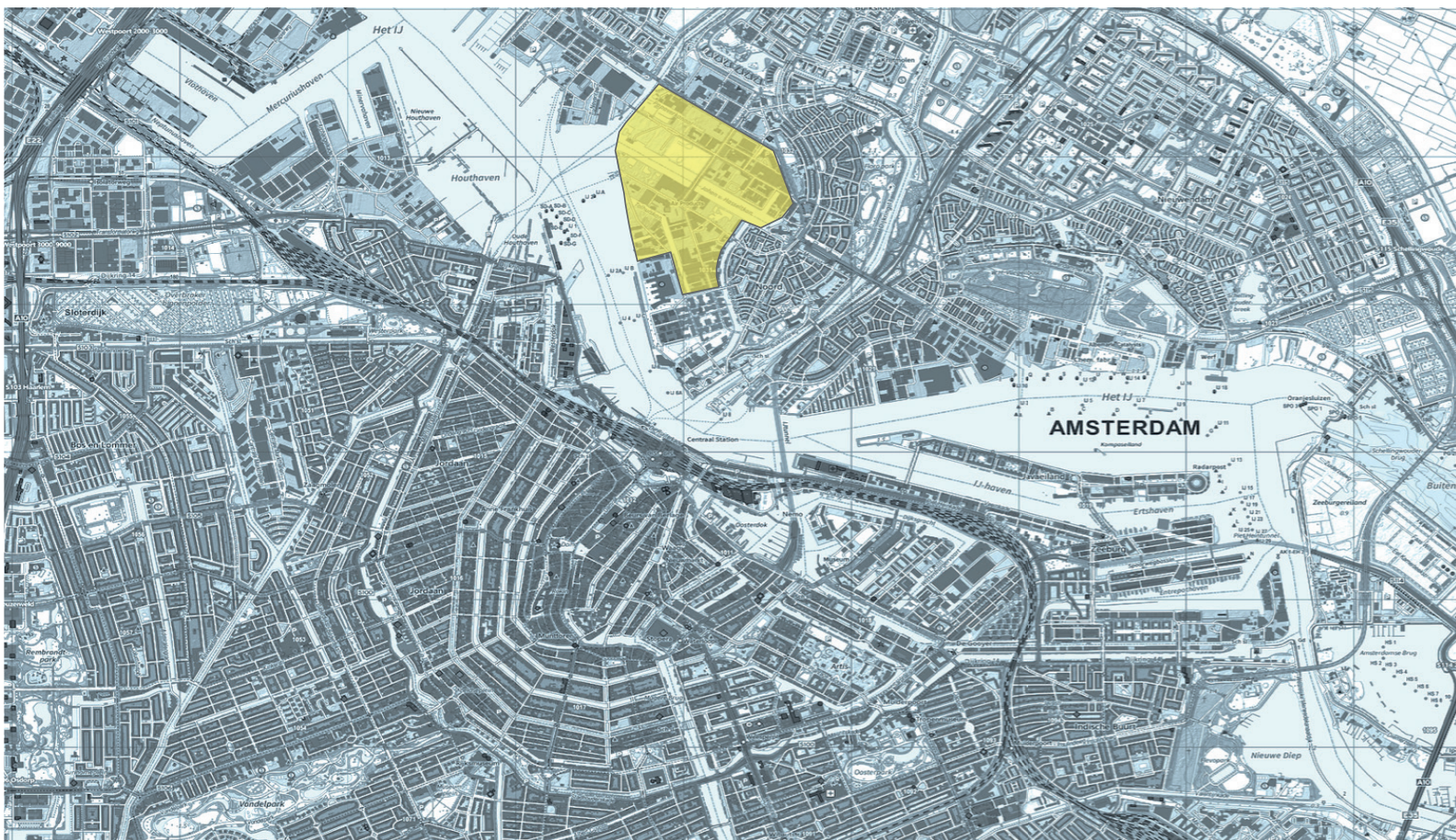
The traditional top-down development approach in which the municipality controls the land and designs a specific end-vision according to plans that can subsequently be developed via mapped out steps by a large developer(combination), was maintained.

B. BUIKSLOTERHAM

HISTORY + CONTEXT

Buiksloterham lies adjacent to Overhoeks and is very similar in terms of location. Just like Overhoeks, Buiksloterham is one of the locations of interest in the Amsterdam city development strategy. Buiksloterham is a former site of heavy industry, like many of the currently obsolete areas in Amsterdam Noord. Due to a change of market and technologies, the heavy industrial functions accommodated in Buiksloterham have become unnecessary and the area had fallen into disuse (De Ridder, 2014). Unlike Overhoeks, which has had single owner and developer for decades, the land in Buiksloterham is divided over a multitude of different owners, with different business models and functions in mind. Because of this private say in their plots, the originally large industrial companies have gradually made room for small-scale enterprises, amongst which many in the creative industry sector. New entrepreneurs use the existing industrial buildings as collective business complexes or build modern, future-proof company buildings. The municipality chose to work with this emerging identity. With the expansion of the city on the Northern IJ-oever in mind, the municipality issued an Investment decree in 2006, deciding to add more than 2000 dwellings and other functions to the existing corporate functions (Projectbureau Noordwaarts, 2006).

Figure III.1.4. Location case Buiksloterham



PLAN

In the investment decree of 2006, the municipality brought forward its vision to transform Buiksloterham into a high-density, mixed-use urban district where dwelling and large and small scale entrepreneurship go hand in hand.



Figure III.1.5. Plan Buiksloterham (Investeringsbesluit, Projectbureau Noordwaarts, 2006)

With the transformation of the private ownership included, a total programme of 4000 dwellings and 500.000 m² of workfunction is possible in Buiksloterham. The idea is not that the municipality develops the whole area, but that the separate owners and leaseholders redevelop on their own initiative. For every newly developed plot a mix of living and other functions is required. To ensure that the total programme doesn't compromise the capacity of the surrounding and future infrastructure, a maximum density is established. Furthermore, the municipality invests in the infrastructure and public space to create the conditions for an intensively used district with a large

function mix and create chances for development for private parties (Projectbureau Noordwaarts, 2006).

The municipality chose to bind all these private developments by an overarching theme: a collective ambition for sustainability. Not only had the city of Amsterdam decided that it wanted all new buildings to be climate-neutral from 2015 on and set other sustainable ambitions, the emergence of new the new forms of entrepreneurship in the former industrial buildings in Buiksloterham had proven that the loosely regulated area created good conditions for private initiative. The creative enterprises attract each other and a culture of pioneering emerges . This made Buiksloterham the perfect incubator to experiment with sustainable development initiatives. Furthermore, it offered the area a unique identity, which could potentially work to its advantage (De Ridder, 2014).

This vision for a sustainable Buiksloterham had been explored with important development parties in the area and on the 5th of March 2015 the 'Manifest Circulair Buiksloterham' was signed by more than 20 organisations, expressing their commitment to contribute to the ambition of making Buiksloterham an example in sustainable area development. The circular city, in which environmental resources, energy and waste are handled smarter and more efficiently to ultimately create a self-regulating and sustainable relation with the biosphere, is the aspiration of the manifest.

Sustainability is implemented on area-level by the municipality by guarding a sustainable design of the public space and the construction of a district heating system (Dutch: Stadswarmte net) that can be connected to sustainable heat sources, such as geothermy. On the level of the plot, the implementation of sustainability is in the private developers hands. Developers are stimulated to develop in the most sustainable way by setting out tenders with sustainability as main selection criterion and/or by subsidizing certain desirable interventions.

LAND SITUATION

Buiksloterham consists of 82 separately developed plots (mostly small and limited to a single building) (see appendix III.1.2). The amount of plots of more than 4,5 times as many as Overhoeks makes the development- and coordinative task very complex.

77% Of the land (in m²) is currently out of hands of the municipality (either privately owned or in leasehold) and is dispersed over 18 different private owners and 52 contract holders.

- **Total: 82 plots**
 - 18 plots private ownership
 - 68 plots municipal land
 - 48 plots issued in leasehold
 - 4 plots rented out

This leaves the municipality with one third of the land to develop itself, of which much land will be used for public works such as infrastructure and public space. For the rest of the area, the municipality will have to buy or disown the land, or wait until the lease period expires. Buying /

disowning costs a lot of money and may not be financially feasible, waiting for expiration costs a lot of time. Stimulating the owners and contract-holders to develop by themselves is a method that dodges these obstacles. As mentioned however, the effective control of the municipality over the content and moment of the development is limited.

DEVELOPMENT APPROACH

The development approach chosen in the Investment Decree of Buiksloterham was different from the normal urban area development plans of the municipality. Contrary to the traditional top-down developments and Overhoeks, the investment decree did not include an urban masterplan that set a fixed end-picture to work towards. Instead it outlined 'rules of play' that applied to all parties in the area, in order to steer the organic transformation of the area in the coming decades in the desired direction (Projectbureau Noordwaarts, 2006).

A thorough analysis of the existing and aimed at characteristics and qualities of the area has lead to a number of overarching urban design criteria, such as public spaces, building heights, functions, sightlines and a minimal and maximal programme in certain locations. All these criteria are translated to 'rules of play' for the individual plots, meant to guard the larger functionality and cohesion of the area. The rest of the development is for (numerous) private developers to decide upon. In Buiksloterham, the municipality is only actively transforming one third of the area. For the largest part of the transformation, the development approach relies on private investment and development. This was and still is untraditional in Amsterdam urban area development projects (Dembski, 2013). It leaves room for potentially valuable initiatives and fosters market conformity, but at the same time the municipality gives up a large part of its control (See theoretical framework chapter 2.A).

In Buiksloterham the multitude of functions and appearances that will inevitably result from this freedom and diversity in commissioning is embraced as a quality instead of a threat. The municipality has explicitly chosen not to feed premeditated outcomes to developers, but to challenge developers to come up with their own innovative plans. The same goes for the implementation of sustainability.

Since the start of the transformation of Buiksloterham and the years of operation of the area so far, many owners and leaseholders have come up with own development initiatives. Additionally external developers are attracted: private individuals for the DIY-plots, but also professional developers and corporations who see chances in the specific characteristics of the area area and take over land or leasehold from previous owners. Customer demand, mix, flexibility and gradual, tailor-made developments are central in the bottom-up development of Buiksloterham (De Ridder, 2014).

2. ACTOR ANALYSIS

In the context of answering the process-oriented research question 'Which development approach offers best opportunities for achieving long term sustainable mixed-use urban area developments?', some theoretical background questions on the (sustainable) mixed-use urban area development process are posed. These are:

- *How does the mixed-use urban area development process work and what are the typical difficulties in mixed-use urban area development?*
- *What development approaches are employed in mixed-use urban area developments and what are their characteristics?*
- *What are the threats and opportunities for implementing sustainability in the urban area development process?*

These questions have been answered according to theory in the second chapter from the theoretical framework. This empirical part will answer these questions based on the practice of urban area development, using the two case studies.

To do this, the various components of the urban area development process of the two cases will be analyzed. Theory has shown that the actors participating in the urban area development process have the possibility to exercise influence on the development result. They do this according to their own interests and the power they in the development process in line with their role in the development process (see theoretical framework chapter 2.A). Furthermore the inclusion or exclusion of certain stakeholders in the development process affects the stakeholder satisfaction with the development result (see theoretical framework chapter 2.A). The actors participating in the development process are therefore of influence on the future degree of the urban sustainability of the development result.

This is why in this chapter, the actors participating in the urban area developments of Overhoeks and Buiksloterham will be identified (Chapter A). From all the participating actors in both projects, the main types of actors in the urban area development processes will be distilled and the profiles of these actor types in terms of their general interests and roles in the development will be established (Chapter B). This gives an impression of the direction (according to their interests) and the degree (according to their role) in which the actors could influence the development result, and will serve as a reference for the actual behaviour, power and manifested interests of the actors in the analysis of the formal and the informal decision-making process in following chapters of this empirical part.

The findings in these field will where relevant be compared (Overhoeks vs. Buiksloterham) and will be related to theory. These conclusions will be reflected upon from the perspective of urban sustainability and mixed-use development.

A. INVENTARISATION ACTORS

Multiple actors are participating the urban area development in Overhoeks and Buiksloterham. In this chapter, they have all been identified.

OVERHOEKS

Over the course of the empirical research the actors participating in the overarching and sub-developments of the urban area development of Overhoeks and Buiksloterham have been identified through observation of the development deliberations and interviews with members from the project team who have followed the development over a larger period of time.

The complete list of actors in the urban area development of Overhoeks can be viewed in appendix III.2.1. Striked actors are actors that have been part of the development, but are not anymore.

BUIKSLOTERHAM

The complete list of identified actors in the urban area development of Buiksloterham can be viewed in appendix III.2.2.

B. ACTOR TYPES

From the inventarisation of identified actors participating in both urban area developments, a number of actor-types can be recognised in the two mixed-use urban area development projects. These types are distinguished according to own insight of the researcher, based on the discipline, professional function or role in the development that the actors of the type have in common.

The actor types that can be distinguished as participating in the urban area developments of Overhoeks and Buiksloterham are:

- Municipality
- Client
- Initiator

- Investor
- Developer
- Advisor
- Operator
- End-user

PROFILES

Through interviews with the actors from the actor type in question and analysis of general information about the methods and procedures of urban area development in Amsterdam, the profile of the different types of actors in the urban area developments in terms of general motives, role and interests is roughly sketched. This will allow to place the project-specific motives and interests of the actors in relation to mixed-use which will be thoroughly analysed in the next chapters of this empirical part, into context.

Municipality

First actor type is the municipality. The municipality is a complex organisation that includes various actors and disciplines. The exact structure of the municipality and the clusters, departments, teams and actors relevant for the urban area developments of Overhoeks and Buiksloterham is provided in appendix III.2.3.

In summary, the municipality is the public institution responsible for the implementation of the governmental policy on the level of and the management of an agglomeration and its surrounding areas. With this, the municipality represents the public interest in terms of social welfare, health, safety, protection of culture and natural heritage, etc. Fostering adequate and attractive urban areas is part of this (VNG, 2009).

In this context, the municipality plays a role in urban area development in the Netherlands. In Amsterdam this takes shape in the formulation of spatial policies on the level of the city, setting out a course for the future development of the city in certain fields and geographical area, and an active participation in the individual urban development processes. Furthermore the municipality in Amsterdam owns a large part of the land, giving it full control over its exploitation (Vreeswijk et al, 2007). As mentioned, the interests of the municipality are the public interests, but the municipality also has a financial interest, not of making profit, but certainly of protecting its own capital to the extent that the own organization (= the municipality) can continue to be financially viable (Boer & Croon, 2011).

The main role in the urban area development process of the municipality is to steer and supervise the developers in the area to ensure that the development plans match the municipal and national policies. The municipality is at least an independent actor types in the urban area development process, having power over the permits and potentially the land, defending its own (public, but also financial) interests and functioning as a coach and supervisor of the development process, but can also fulfill other roles in the urban area development process. Many times the municipality

is also the initiator of an urban area- or real estate (re)development. Furthermore the municipality can be client when commissioning developments, investor when funding it, or operator and end-user when it will be using the development result for its own functions. The municipality can also fulfill a development role, in which it is responsible for the development of the land in terms of design and execution itself (Hemel, 2013; PMB, 2013).

Clients

The client is the actor that commissions the development. The client commissions a development project to a developer that will subsequently develop the project for the client (KEI, 2010).

The here defined actor type of client can be a public or a private party and can either be an organization/company or an individual. The client is responsible for the funding of the project. In return, his requirements have to be satisfied. Of course client can also choose to develop the project himself. He can invest his own capital in the project, but it is common to look for other investors who are willing to invest in the project (PMB, 2013).

The reasons for commissioning a project can be personal, for the sake of the public interest, or to generate profit (by selling, leasing or operating the development in the future). The official client for an urban area development project or for developments by the municipality in Amsterdam is one of the three managers Urban area development from the municipality (J. Wildbret, personal communication, January 10, 2016). Furthermore the role of the client can be fulfilled by anyone, going from the governments, schools, institutions, to (development) companies, housing corporations, and individuals. In Buiksloterham and Overhoeks the client often also has other roles in the development process, for example simultaneously functioning as the developer, operator or end-user of the development. Furthermore, actors can be client together (M. Muijsers, personal communication, October 7, 2015). All of this makes the role of client nowadays harder to define than in the traditional development process with a strict separation between client, financier (investor) and developer .

Initiators

The initiator is the actor that takes the initiative for a certain development. In many cases, this is the municipality. This can however also be any other public or private party with any motive: again personal, public or commercial. Just like the client, it is therefore a role that is often combined with other actor roles.

Unlike the client, the initiator is not responsible for the funding of the project and is not required to perform any other particular role in the development process, except for convincing a party to commission the project (M. Muijsers, personal communication, October 7, 2015). For this reason, the initiator often doesn't have any further power in the development. Of course he can choose to commission or invest in his idea himself and become client or investor. In the same way the initiator can become the developer, operator or end-user of the project.

Investor

Investors are public or private individuals or organizations/companies who are contributing financially to a project. This can be for any reason, be it for own usage, for own exploitation or for personal reasons. In return for its investment the investor receives direct or indirect yields, through for instance returns from the rent or growth of the real estate value (Heurkens, 2012). This generates a long-term interest for the investor, spanning from the start of the investment to the moment that the commitment of the investor to the project is ended, often comprising several decades, many times more than 60 years in Overhoeks and Buiksloterham (P. Van der Velde, personal communication, September 24, 2015) (A. Vos, personal communication, October 15, 2015).

Next to investing, the role of the investor in the development process is passive (Heurkens, 2012), unless of course it is combined with other roles in the development process, as is often the case. Often investors are also owner of the development and with that responsible for its maintenance, such as housing corporations (P. Van der Velde, personal communication, September 24, 2015). Sometimes they are users of the development, such as residents or hotel companies. It can also be that the investor also develops the project.

Developers

The developer as defined in as actor type in this research is the actor that develops the project, meaning that he prepares and realizes the development project on own account and risk (Heurkens, 2012). This can be both a public or a private party and can indicate both an organization/company or a private individual performing the just outlined roles. This last type composes a difference with the developer as defined in theory, in which private individuals are often not included in the definition of developer.

The developer is either hired by a client, or is client himself (M. Muijsers, personal communication, October 7, 2015). The three types of developers that can be distinguished in Overhoeks and Buiksloterham are the developers developing for own use, developers developing for the public interest or commercial developers.

The developers developing out of public interest are in the Netherlands the municipality or national government. This type of developer has a (and an increasingly) long-term horizon in mind of many decades which is substantiated by research and strategic thinking (Gemeente Amsterdam, 2011).

The commercial developers are the developers whose core business is to make profit with through action of developing (preparing, building & completing a development project). The commercial developers are bigger or smaller developing companies. The main objective of the developer is to realize a maximum profit against a manageable risk level (Van der Flier & Gruis, 2004). They therefore often have a strong internal focus (Putman, 2010). They are often hired by a client to develop a building or they commission a project themselves and sell the development with profit immediately after completion. As it is not common for them to own and maintain real estate objects or public spaces after project realization (Heurkens, 2012), their involvement and therefore scope

is (very) short-term. There are however developers involved in Overhoeks and Buiksloterham that also invest (such as Hurks), meaning that they keep the development result in their own portfolio and attempt to secure and increase yield over the development- but also operation period. This results in this type of developer having a medium/long-term perspective of several decades. Also, it is observed that this developer includes the end-users of the development more closely in the development process to guard satisfactory operation of the real estate.

A hybrid type of developer that is participating in Buiksloterham and Overhoeks is the housing association. The housing association is a type of developer that carries out public tasks and has to conform to the requirements of the authorities in this field, but is an independent, private organization. This means its objective is to make profit, within the framework that is provided by the government (see theoretical framework chapter 2.A). They are still commercial and market driven-organizations with an aim of profit over the development period, but they are often also investing developers, prolonging their scope to a generally long-term horizon.

Developers developing for own use are private individuals developing their own dwelling or big or small organizations/companies developing their own organizational/corporate real estate. Although the organizations / companies can make profit through the development, they are not classified as commercial developers in this research because their core business is not to make profit through the action of developing. Instead, they make profit by using the development, be it for other commercial purposes, and are therefore regarded as end-user developers. This type of developer is focused on its own usage of the development, resulting in a short/medium-term scope composed by the length of their professional or residential period of usage (1~50 years) (S. Van den Aakster, personal communication, September 28, 2015). If these developers are large organizations such as the municipality itself or long-term existing companies, their objective can be medium to long term. In Buiksloterham the first type of end-user developers composed by private individuals or small companies is often present. In Overhoeks this category is not present.

Advisors, architects and constructors

Advisors are professionals that are hired or asked by the developer or client to give advice on a certain aspect of the development. These can be advisors in all fields, including design, construction, environmental engineering, etc. Also (a representative) of the end-user can be included in the development process as advisor. The advisors provide a service to the developer or client and don't invest capital or bear risk in the development process (Helleman, 2005).

Architects can be seen as advisors of the developer in the field of the design and constructors can be seen as advisors on the construction. These two actors types however also fulfill an additional role in the development process, the architect being responsible for the design and the constructor responsible for constructing the project on site. With this the constructor can be at the head of a chain of potential subcontractors, suppliers and workers needed for the construction of the project.

Operators

Operators (Dutch: exploitanten) are the actors that will be operating the development after its completion. They can do this from a distance, such as housing corporations or investing developers, but they can also simultaneously be end-user of the building, such as hotels chains, restaurants, bar-owners or shops. Often however the operator of the building is a third party (P. Van der Velde, personal communication, January 20, 2016).

The operator's core objective is to make profit, either by actively using the building and offering a service to other people itself, or by ensuring comfort and functionality of the building to external end-users that pay rent. Next to this and a potential role as advisor, the operator has no role in the development process. There is not always an operator in the development equation of a development project. When the development is sold to individuals who will be the sole users, such as residents, the building is not operated (Helleman, 2005).

End-users

The end-users are the actors that will physically be using the development in its operation phase. Next to a potential role as advisor in the development process, this is their sole role. The end-users of the development can be transients, residents, entrepreneurs, employees, visitors etcetera. The satisfaction of the end-users decide for a large part the successfulness of the development in its operation phase.

C. CONCLUSION

The inventarisation and typification of actors participating in the urban area developments of Buiksloterham and Overhoeks have lead to a number of findings. As a conclusion of this chapter, these findings will be compared (Overhoeks vs. Buiksloterham), related to theory, and reflected upon from the perspective of urban sustainability and mixed-use development.

More and emerging actors in Buiksloterham

First observation that can be made is that the amount of actors participating in the urban area development process is higher in Buiksloterham than in Overhoeks. This can be ascribed to the chosen development approach in Buiksloterham, with more individual plots and thus development projects than in Overhoeks. A result of this approach with these characteristics is also that in Buiksloterham new actors related to new plot developments emerge as the development progresses. In Overhoeks, all developers in the area and all development conditions are known from the start of the urban area development project, except those of the five tendered plots in the Strip. This provides a lot of certainty for the developer. In Buiksloterham however, more actors have to be informed, heard, taken into account and satisfied with the development-process and product.

Perspective of mixed-use & urban sustainability - The effect of orientation on mixed-use development is reflected in the actors participating in the urban area developments of Overhoeks and Buiksloterham to the extent that the actors in Overhoeks and Buiksloterham are numerous and diverse.

The splitting up of the area in many separate plots and individual development projects, as in Buiksloterham, can be seen as a basis for mixed-use and diversity, as almost each plot is developed according to the insight of a different developer .

Overarching actor types

In both urban area developments, developers, initiators, clients, advisors, designers, constructors, operators and end-users can be seen. Naturally the companies and specific persons functioning as these actors differ in Overhoeks and Buiksloterham. The actor types participating in Overhoeks and Buiksloterham however, are the same.

On the basis of interviews with and general information on these actors, a general profile of these actors in terms of their definition, interests and role in the development process is outlined. The behaviour of the actors in the development deliberations should theoretically be in line with these traits, with the municipality representing the public interest, the developer and operator defending a commercial interest with investing developers manifesting a more long-term commercial interest, and end-users representing their personal interest of functionality and comfort.

Developers - The observed profiles match the profiles of the actors as outlined in theory. Also the types of developers found by Dutch theoreticians in the field, as described by Heurkens (2012), coincide with the observed developer types observed in practice in Overhoeks and Buiksloterham. A kind of developer that is not included in theory but is observed in practice, is the type of developer that does not develop with a commercial objective but develops for own use. This type of developer is represented by the private commissioners and collective private commissioners, that are present in Buiksloterham. This type of developer is generally smaller, with less advisors and less expertise and experience in the practice of developing, and often leads to a development situation in which the end-users of the development are directly involved in the development process (E. Daems, personal communication, September 31, 2015). This is never the case in Overhoeks.

Perspective of mixed-use & urban sustainability - With this actor analysis, the presence of these actors in the urban area development is determined, but the extent of their involvement is not. This will become clear during the observation of the development deliberations (chapter III.4).

From the perspective of urban sustainability, this inclusion of the end-user is desirable, because a precondition that is stated by theoreticians on successful urban area development processes in general (amongst whom Klijn & Koppenjan (2004), Heurkens (2012), Adams & Tiesdell (2004), Healey (1997)) and Franzen et al. (2011)), is integrated participation and involvement of all stakeholders in the development process. Furthermore the ultimate end-user behaviour in the development result and the satisfaction of the end-user are decisive factors for the future degree

of urban sustainability of the area, and the degree of freedom end-users have in shaping their own environment (and thus in participating in the development process) is one of the components of sustainability deduced from theory (see theoretical framework chapter 1.A).

Regarding mixed-use, the actor types are not different from what you would expect in other urban area developments (see theoretical framework chapter 2.A). However, because of the mixed-use dimension of the urban area developments, there are more types of future end-users and operators in the game and more (representatives) of these are playing a part in the development process compared to monofunctional developments (where one type of end-user is targeted). Furthermore, because of the variety of functions in the development, the background of the person's functioning as certain actor-types in the development is very diverse, with initiators, developers, operators and end-users coming from for example the creative sector, hotel business, music industry, cultural institutes, and many more. The multidisciplinary which makes mixed-use development projects complex (see theoretical framework chapter 2.A) thus is manifested in the actors in Overhoeks and Bukslooterham.

Merged roles

What also becomes clear is that in practice the roles in the urban area development process are not as distinct as in the traditional situation before the crisis which is often described in theory (see theoretical framework chapter 2.A). As is often the case in the post-crisis urban area development processes (PMB, 2013), the roles of the actors get blended, with certain organizations or individuals taking on multiple of these roles.

Perspective of mixed-use & urban sustainability - This merging of development roles is in fact a positive aspect for sustainability. By binding the companies and their interests to the project on different levels, economic sustainability and feasibility from multiple perspectives is ensured (Heurkens, 2012; Van Bueren & De Jong, 2007; Putman, 2010). Bij connecting the development companies to investing roles, a longer-term and wider scope perspective is installed in their minds, as is already found by Heurkens (2012) and Putman (2010). Also, by making developers and clients also the future users of the building, the market-conformity and the chance that the development results meets the requirements of the end-user is increased (Barlow & Ozaki, 2003). Long term-commitments to the development result leads to a more long term interest in terms of quality, functionality and economic sustainability of the development project. In the case this also leads to long-term official commitments (contracts), this also offers security for the developers and the municipality in the urban area development process, which can help the urban area development (P. Van der Velde, personal communication, January 20, 2016). These type of long term commitments are thus positive for urban sustainability and should be pursued in urban area development projects.

Different disciplines in project team

The participators from the side municipality are the same in terms of the overarching bodies such as the board of the mayor and aldermen and city council, area manager, funds manager and the

actors coming from the city district (area coördinator, manager permits, advisor management public space, etc). There are differences however in the actors that are included in the municipal project team of Overhoeks and Buiksloterham.

More legal experts in Buiksloterham - Firstly, the amount of actors in the field of project management and legal support is higher in Buiksloterham than in Overhoeks. Because the area is split into many plots with many separate developers, there simply are more individual projects in Buiksloterham which all require negotiations and sometimes custom (legislative) approaches. This is one of the difficulties of the development approach of Buiksloterham and is reflected in the needed capacity of (assistant) project managers and legal experts.

No urbanist in Overhoeks - At the same time, there are disciplines that are included in the project team of one of the urban area developments which are not included in the other project team at all. In Buiksloterham, for example, two urbanists are part of the project team, while in Overhoeks this actor is no longer part of the project team. This is ascribable to the chosen development approach in Overhoeks and Buiksloterham in which in Buiksloterham the development of the urban plan is ongoing, while in Overhoeks the urban plan has been determined in advance of the further development of the area, in 2004.

Architectural supervision in Overhoeks - While in Buiksloterham there only is a team of supervisor for the urban design, in Overhoeks there is also a team of supervisors appointed to coach the architectural designs of the individual developments by private developers. This does illustrate the tight control the municipality chooses to have over the visual appearance of the plans and the top-down stance of the municipality in the urban area development of Overhoeks.

Sustainability expert in Buiksloterham - Another actor that is included in the project team of Buiksloterham is a sustainability-expert, who is not only doing research on the sustainability and possibility for implementation of certain sustainable interventions in the area, but is also coördinating the process and the collaboration between the stakeholders concerning sustainability and guarding the progress in field of sustainability. This discipline is not included in or consulted by the municipal project team of Overhoeks.

Neighbourhood manager in Overhoeks - An actor that is part of the project team of Overhoeks but not in the project team of Buiksloterham is a neighbourhood manager (Dutch: Omgevingsmanager). The neighbourhood manager is an assistant project manager that is focused on maintaining the liveability for and good relations with actors in the surrounding environment of the development such as residents, entrepreneurs and visitors. Various actors who know the situation from before the neighbourhood manager was put into function (P. Van der Velde, personal communication, September 22, 2015) (J. Wildbret, personal communication, November 20, 2015), confirm that this has helped in streamlining the development process by reducing resistance from actors from the surrounding environment. Although Buiksloterham doesn't have a neighbourhood manager yet, steps have been made to add one to the project team.

Perspective of mixed-use & urban sustainability - Some differences in actors between Overhoeks and Buiksloterham can be explained by the different development approaches (such as

the inclusion of architectural supervision, urbanists, and more legal experts), but some differences manifest a difference in focus between the two urban area development projects, such as the inclusion of a neighbourhood manager in Overhoeks and a sustainability expert in Buiksloterham. Of these functions, the latter is especially important in the light of guarding the urban sustainability of the end-result. Yet, also neighbourhood-management is useful from this perspective, because it increases end-user satisfaction in an urban area, which is a component of urban sustainability.

3. ANALYSIS PLANNING DOCUMENTS

The purpose of the empirical framework focused on the case studies Overhoeks and Buiksloterham is to study the two opposing urban area development approaches and evaluate them from the perspective of which one offers the best opportunities for achieving long term sustainable mixed-use urban area development results.

To do this, the various components of the urban area development process of the two cases will be analyzed. After the analysis of the actors participating in the urban area development process done in the previous chapter, this chapter will focus on the formal collaboration-, plan development- and decision-making process by analyzing the formal planning documents of the two urban area developments.

'Planning documents' in this research indicate the officially by the municipality adopted documents that include decisions applicable to the development of the area. This can range from national decrees such as building regulations, to the accepted definitive designs of individual real estate developments in the area. The planning documents manifest the formal urban area development process of the urban area development projects as they illustrate which formal decisions have been made, when, with which arguments, and by which (combinations of) actors.

First, the relevant planning documents used in the cases of Buiksloterham and Overhoeks will be identified. The list of planning documents of the two cases will be compared and the differences will be explained. Secondly, the significance of the individual planning documents in the urban area development process of respectively Overhoeks and Buiksloterham will be explained along with the level of the decisions made in the particular planning documents. This is important for understanding to what degree the urban sustainability can be influenced. Finally, the content of the planning documents in terms of each of the sustainability components from theory will be analyzed and it will be identified what decisions relevant to urban sustainability are actually made in the individual planning documents. These decisions will be evaluated in the light of the sustainable choices as outlined by the theoretical framework. From these findings, lessons will be drawn on the extent to which sustainability is included or enforced in the development process and -result by the planning documents in both urban area development projects, and possible barriers for this originating from the structure of the formal plan-development process will be identified. From this, process recommendations from practice in the field of the formal decision-

making- and plan-development process can be deduced which will be used in the final process-recommendations of this research.

A. IDENTIFICATION PLANNING DOCUMENTS

For the inventarisation of the planning documents there has been looked at which planning documents were used in the cases of Buiksloterham and Overhoeks. All relevant planning documents applicable to the two cases are gathered. The overview of all relevant planning documents can be found in appendix III.3.1.

INVENTARISATION

The planning documents relevant for the urban area developments of Overhoeks and Buiksloterham can be divided into four categories.

1. General planning documents

Firstly there are general planning documents that are issued by the government.

These documents are either nation-wide (bouwbesluit) or set up by the municipality and setting general standards applicable to the whole of Amsterdam. Therefore these planning documents are the same for Overhoeks and Buiksloterham.

artikel	energieprestatiecoëfficiënt							thermische isolatie								luchtvolumestroom		onverwarmde gebruiksfunctie					tijdelijk bouwwerk					energieprestatiecoëfficiënt			thermische isolatie								
	5.2							5.3								5.4		5.5					5.6					5.7					5.2			5.3			
	lid	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	1	2	*	1	2	3	4	5	*	1	2	3	4	5	*	1, 2 en 3	1 en 5	2	3 en 4				
																															[-]	[m ² .KW]							
1	Woonfunctie																																						
a	woonwag																																						
b	andere woonfunctie																																						
2	Bijeenkomstfunctie																																						
3	Celfunctie																																						
a	in een cellengebouw																																						
b	andere celfunctie																																						
4	Gezondheidszorgfunctie																																						
a	met bedgebied																																						
b	andere gezondheidszorgfunctie																																						
5	Industriefunctie																																						
6	Kantoorfunctie																																						
7	Logiesfunctie																																						

Figure III.3.1. Example general planning document: *Bouwbesluit 2012, tabel 5.1. on energy efficiency in new buildings (Rijksoverheid, 2012)*

2. Planning documents containing plan-development on city-level

Secondly there are planning documents describing the plan development on the level of (parts of) the city as a whole. This includes regional planning documents such as city masterplans (masterplan Noordelijke IJ-oever), large researches or structural visions (Structuurplan Amsterdam 2003-2010 and Structuurvisie Amsterdam 2040). The specific form of the planning documents on this level that are established by the municipality differ over the course of time.

Just as the previous category, these planning documents are the same for Buiksloterham and Overhoeks.

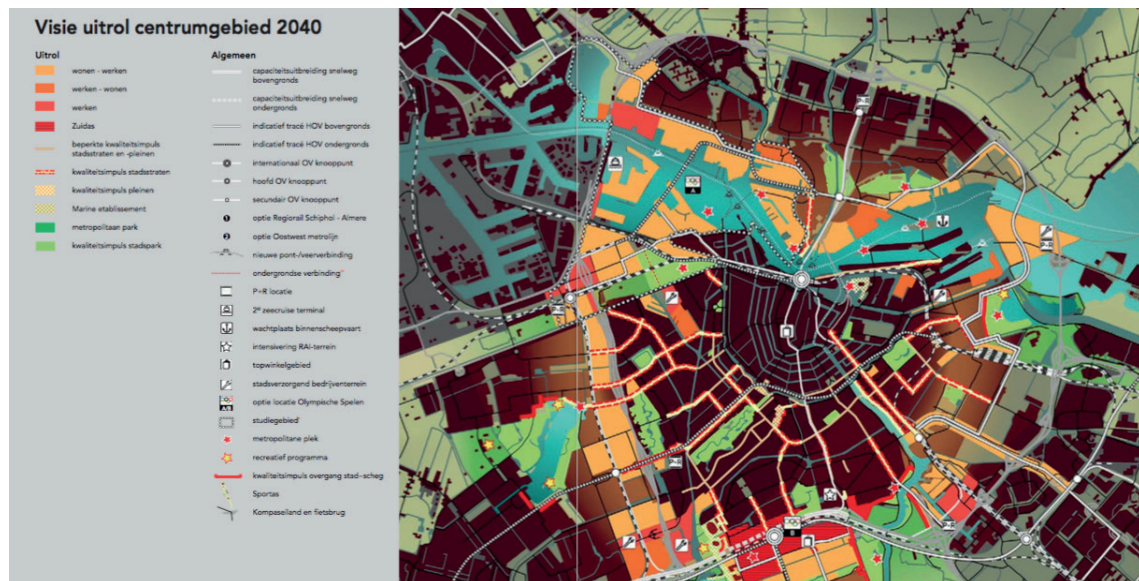


Figure III.3.2. Example of planning document on city-level: *Structuurvisie Amsterdam 2040*, map page 34 on the vision of rolling out of the city centre (Gemeente Amsterdam, 2011)

3. Planning documents containing plan-development on project area-level

After the two categories of planning documents on city level or even higher, we come down to the category of planning documents focused specifically on the development of the project area. These planning documents differ for Overhoeks and Buiksloterham.

In the context of urban development in Amsterdam some standard planning documents are used for urban area development, described by the 'Plan-en Besluitvormingsproces Ruimtelijke Maatregelen' (Plaberum) (Literally translated: Plan- and decision-making Process Spatial Measures). The Plaberum describes the various stages a plan should go through in development and the actions that are to be carried in these different phases. The very first Plaberum dates from 1984. Overhoeks and Buiksloterham have seen two renewals of the Plaberum: one in 2005 and one currently in progress. The standard Plaberum 2005 planning documents that are used for each project are:

Strategy phase:

- 1. Strategy decree

Research phase:

- 2. Zoning plan
- 3. Project decree

Programme- and urban design phase:

- 4. Investment decree (including programme, urban masterplan, land exploitation, building envelope(s))

Realisation phase:

- 5. Execution decree (including building envelope convention(s), preliminary and definitive design public space).

We see that in Overhoeks the Plaberum-process and documents as they were at the time are largely followed, but that in Buiksloterham the important step of urban masterplan is skipped. Also the execution decree for the area as a whole is not applied in Buiksloterham, which was decided in the project decree in Overhoeks. Instead, planning documents for the design and realisation of specific sub-areas are being produced as the development advances.

Furthermore there are additional area-level planning documents for Overhoeks and Buiksloterham, not being part of the Plaberum, such as revisions of the zoning-or masterplans, contextual policy documents influencing the developments, and additional area-level documents such as the Manifest Circulair Buiksloterham (2015) and Ontwikkelstrategie Strip / Scheg Overhoeks (2013).

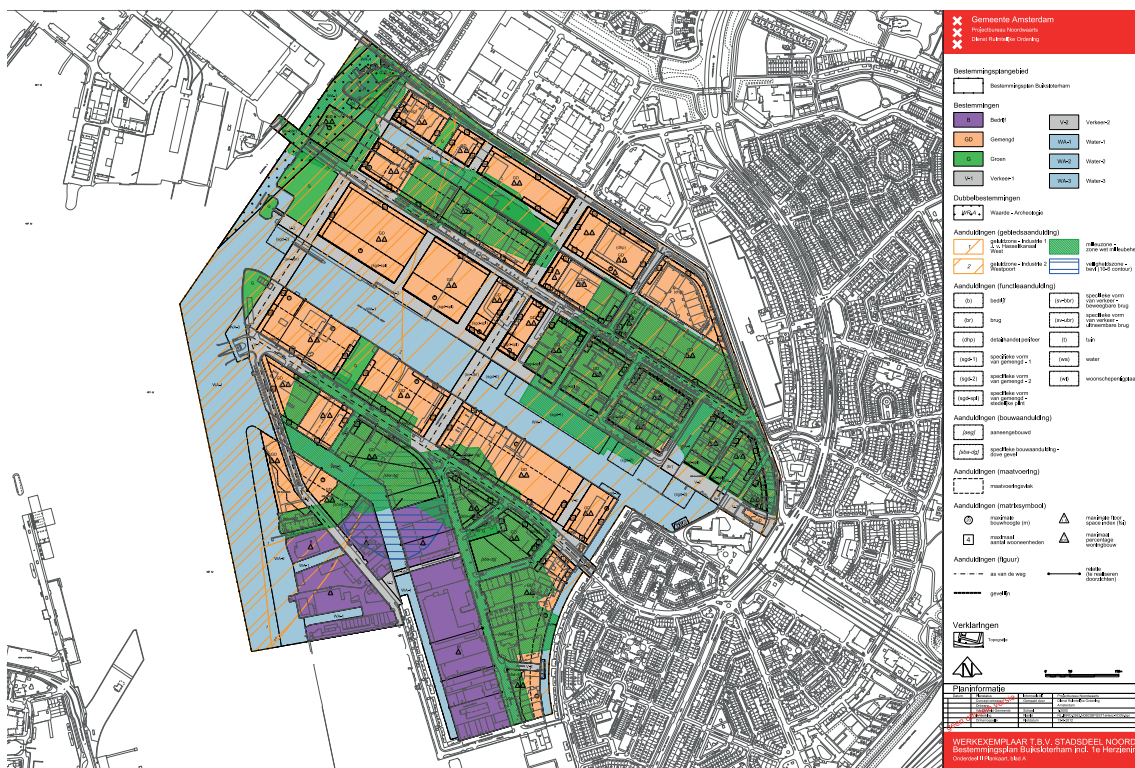


Figure III.3.3. Example of planning document on area-level: Zoning plan Buiksloterham 2009, bestemmingsplankaart (Gemeente Amsterdam, 2009)

4. Planning documents containing plan-development on subarea-level

The final category of planning documents consists of those planning documents that describe the plan development on a specific sub-area of the urban area development project.

In general, certain standard phases and planning documents are maintained in the design of specific sub-areas. These planning documents generally coincide with:

- Sketch design
- Preliminary design (Dutch: Voorlopig ontwerp (VO))
- Definitive design (Dutch: Definitief ontwerp (DO))
- Building specifications and drawings (Dutch: Bestek en bouwtekeningen)
- Realisation plan (Dutch: Uitvoeringsplan)

In Buiksloterham there are many more of these planning documents because in Buiksloterham the area is split up into developments per plot, while in Overhoeks the total area is developed according to larger sub-areas. Therefore a selection of planning documents is made according to the sample described in paragraph C of the research approach.

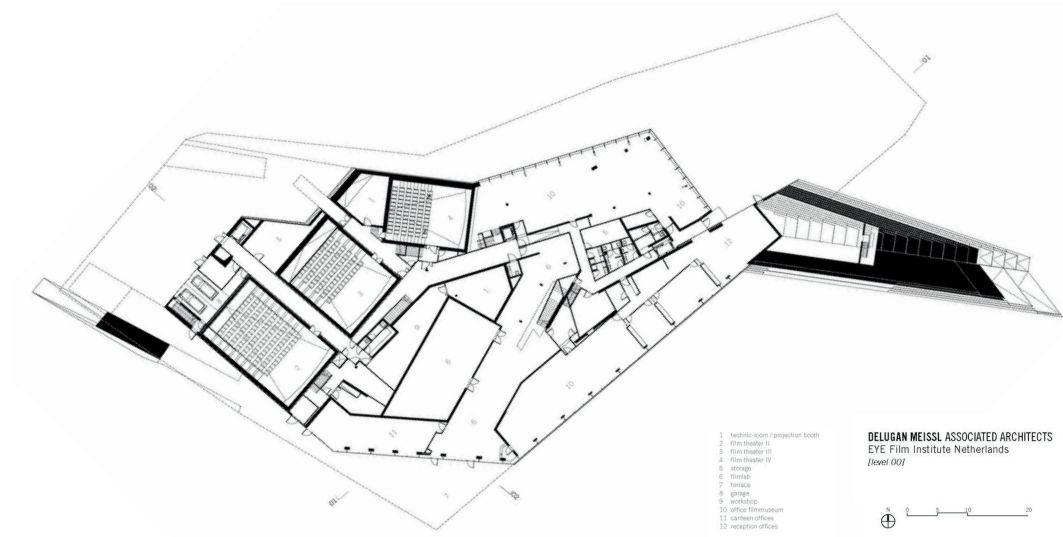


Figure III.3.4. Example of planning document on subarea-level: Architectural drawing EYE film institute (Delugan Meissl Associated Architects, 2009)

The specific planning documents falling under each of these categories for Overhoeks and Buiksloterham are presented in appendix III.3.2.

FINDINGS

Some conclusions can be drawn based on the purely objective types of employed planning documents. The significance, relations and contents of the documents will be analyzed in the further chapters.

Same overarching planning documents in Buiksloterham and Overhoeks

Both urban area developments have to conform to the same overarching regulations on national or urban level, such as the building decree and the relevant notes issued by the municipality, although in Buiksloterham it happens that certain plots are exempt from the note of aesthetics (see BSH plot 5 & plot 21). Also the plan-development on regional or city-level is the same for the two projects, consisting of a structural plan for the whole city for the period 2003-2010, a structural vision for the whole city from 2011 to 2040, a masterplan for the Northern banks of the IJ and a multiannual investment decree for social accommodations for district North. Furthermore two researches for the further plan development have been done (a culture-historic and environmental effects report).

Strategic substantiation in Buiksloterham and Overhoeks

What is good to see is that there is an intention to substantiate the content of the urban area redevelopment plans with a regional structural plan of the city as a whole. This ensures integration and coordination of developments on city-level and also installs a more long-term scope. What must be said however is that the strategic, wide scope vision that the first plans for the area are based upon only reaches from 2003 to 2010. That is not that long term at all. The masterplan Noordelijke IJoevers does have an acceptably long term vision, but has only been set up after the project-decree of Overhoeks and conforms to the the plan for Overhoeks as resulting from the opportunities offered by Shell in 2003.

Varying planning documents on area level in Buiksloterham and Overhoeks

The planning documents on project-area level naturally differ. For both projects a new, separate zoning plan is set up. We however see that the plannings documents of Buiksloterham and Overhoeks already differ where they should formally still be the same, because they ought to follow the Plaberum-framework set up by the municipality of Amsterdam to develop urban area plans in a structural decision-making sequence. While Overhoeks more or less respects the Plaberum-process and documents as they were at the time, Buiksloterham skips some important steps such as the urban masterplan and the execution decree for the area as a whole. Instead, a set of preconditions and playing rules is formulated to which private developers have to abide and planning documents for the design and realisation of specific sub-areas are being produced as the development advances. The choice of not deciding certain plan components that should be decided according to the Plaberum was a deliberate decision made by the board in 2006 to permit a more flexible and incremental development and offer more room to private initiatives (Projectbureau Noordwaarts, 2006).

This pursuit of flexibility is illustrated by the three partial revisions of the zoning plan in Buiksloterham since 2009, with a fourth partial revision and a structural revision of the land exploitation plan in prospect for 2016. In Overhoeks there has been one partial revision as a result of a single revision of the urban masterplan (ten years later), and it is expected to remain this way.

Overhoeks offers three other planning documents on area level, relating to the municipal budget (Baak-besluit 2010) and the change of the development contract with ING in 2011 as a result of the financial crisis. Buiksloterham also has a planning document that outlines a new course for the urban area development project as a result of the crisis (Nieuw Buiksloterham, 2010), following the budget cuts for the area development as decided in the Baak-decree (2010). The final differences in planning documents on area-level consist of additional planning documents in Buiksloterham focusing specifically on the sustainable development of the area, namely a geothermal energy plan for the area and the manifest 'Circulair Buiksloterham'.

Different planning documents on plot-level in Buiksloterham and Overhoeks

The planning documents on sub-area / plot-level are very different voor Overhoeks and Buiksloterham. In Overhoeks all developments follow the usual preliminary design -definitive design - building specification and execution plan phases. In Buiksloterham the developments also follow these phases, but we see additional planning documents manifesting a more experimental design process with more room for private participation, such as the 'programme of wishes' for the publically developed Papaverpark, the 'design proposal' submitted by a private developer for a development on private land for plot 14, and of course the presence of self-build opportunities for (collective-)private commissioners as such. Lastly, the tender documents in Overhoeks for the public selection of a private developer of a plot in the Strip consists of a selection brochure and a building envelope. In Buiksloterham however, these selection documents for tenders and (collective-)private commissioners are supplemented with documents with specific requirements and information on sustainability.

B. SIGNIFICANCE OF AND LEVEL OF DECISIONS MADE IN PLANNING DOCUMENTS

Now that the planning documents have been identified, they will all shortly be presented in terms of who wrote them, what they entail, on what level they make plan decisions and what their significance has been over the course of the urban area development project. This will be done in chronological order, so that the sequence and relations between the different documents is well illustrated. This description of all planning documents can be found in appendix III.3.3.

From the analysis, it can be seen that the level of decisions made in the planning documents as well as the significance of the planning documents can vary a lot.

Differences in the level of decisions made in the planning documents in Buiksloterham and

Overhoeks - The different types of planning documents (for instance structural visions, project decrees, zoning plans) do not necessarily make decisions on the same levels. Decisions made in the project decrees and zoning plans of Overhoeks and Buiksloterham are completely different, with the project decree of Buiksloterham sticking to a rough outline of the envisioned character, function and development strategy of the area, while the project decree of Overhoeks goes as far as defining the urban layout, specific programme and a plan for infrastructure. In the same way, the zoning plan of Overhoeks is very detailed and is an almost exact translation of the previously set up urban masterplan into legal frameworks, while the zoning plan of Buiksloterham is much more general and flexible in nature and does not go into the same kind of specifications. Also the content of the tender documents in Overhoeks are completely different in nature (the tender documents in Overhoeks for example define a programme of requirements, while this is left open in the tender documents of plot 12 in Buiksloterham).

Differences in the order of decisions made in the planning documents in Buiksloterham and

Overhoeks - The second point is that, as the level of decisions made in the planning documents differs, the order in which these decisions are made differ as well. This is important from the perspective of achieving urban sustainability.

According to the substantiated plan-formation supported by the municipality (the Plaberum etc.), the planning development process should start with a strategy- and research phase (represented by the structural visions, regional plans and research reports) leading to a project decree, to be followed by a definition of a programme of requirements and urban features (MIPSA and zoning plans) and later the further specification of the individual plot-developments (Gemeente Amsterdam, 2005). Theory subscribes this: in order to achieve long term successfulness, decisions should be thoroughly researched and come from a strategic background (see theoretical framework chapter 1.A).

In this analysis we see however, that levels of decisions that have proven to be very influential on the final degree of urban sustainability according to theory (see conclusions theoretical framework chapter 1), such as the future functions and urban layout, are decided very early on in the plan development process. This poses questions on whether these decisions have been motivated in the right way from the perspective of sustainability, as has just been described. While researches (environmental and culture-historic effects report) and long term, regional plans have been developed over the course of the urban area development processes, they have not always been there at the right moment for implementation for the urban area development projects of Overhoeks and Buiksloterham. The first substantial structural vision for example only comes after the project decree of Overhoeks.

Differences in the actors deciding in the planning documents in Buiksloterham and

Overhoeks - The third point is that, as it differs in which planning documents which decisions are made, the actors that decide on these levels differ as well. It has just been repeated that, according to theory, the important plan components should, when aiming at achieving optimal

urban sustainability, be made on the basis of a strategic phase with a long-term and wide-scope vision made with the public interest in mind. In Overhoeks, many of these components are decided in the project decree, and the project decree is set up by the municipality together with two big commercial parties: Shell and ING. In this stage the main urban layout of the final development result (with the Campus, Scheg and Strip) is already determined, which is for instance decisive for the future interweaving or separation of the functions and the scale of the urban fabric, which are very important in creating lively mixed-use districts (see theoretical framework chapter 1).

In the plan development processes differences can thus be observed in the actor that has the power of decision on certain plan components. The programme, for instance, is sometimes decided by the municipality (based on city-level or district-level expectations of demand), and sometimes in the hands of the developer (based on commercial considerations). The same goes for the exterior design of the buildings. It is all a matter of whom to put in control: the municipality, deciding from a long-term, strategic, public interest, or the private parties, deciding from a more short term interest of private gain; the conflict between strategically driven or market driven approaches as described in the conclusion of the theoretical framework chapter 2.

Difference in significance of planning documents in Buiksloterham and Overhoeks - Finally, some planning documents have been more significant than others. The significance of certain new city-level plans has stayed limited because of its timing and the resulting inability to implement them in the development process of Overhoeks and Buiksloterham in the stage it was currently in (for example the masterplan Noordelijke IJ Oevers voor Overhoeks and the Structural vision 2040 for both projects). Documents, on the other hand, that are not part of the usual plan development process but that have been of particular influence on the urban area developments of Overhoeks and Buiksloterham, are the resolutions resulting from the financial crisis. The decree of the municipal BAAK-meetings which prescribed a budget cut of 20% for the urban area developments in Amsterdam-North and the changed contract with ING, have lead to a new course in both projects (outlined in the documents 'Nieuw Buiksloterham' (2010) and 'Ontwikkelstrategie Strip/Scheg Overhoeks' (2013)), with adjustments on the level of ambitions, development strategy, phasing, functional programme and urban requirements.

C. DECISIONS ON SUSTAINABILITY COMPONENTS FROM THEORY IN PLANNING DOCUMENTS

As a last step in the analysis of the planning documents, the content of the planning documents will be analyzed on the topic of the components that are relevant for urban sustainability according to theory.

For each document the found specifics on components relevant for urban sustainability (as defined by theory) will be inventoried. Because this is much more technical information the findings will be summed up bulletwise. A distinction will be made between specifications of sustainability components specifically related to mixed-use (as in: directly influencing the degree and/or composition of function mix) (underlined) and other specifications related to sustainability (normal text), to give an insight in the (non-)existing focus of the planning documents on mixed-use. Note however that this does not mean that these components are more important than the others, and that all mentioned components are relevant in the context of creating sustainable mixed-use districts.

Once again, the results of this analysis can be found in the appendix: Appendix III.3.4.

To illustrate the changes on the level of mixed-use throughout the plan development process in particular, the decisions on the level of function mix in the various planning documents are mapped and tracked through time. Mixed-use is sometimes indicated in the documents as just 'mixed-use' (a purple plane), and sometimes elaborated in more detail as a function mix with certain ratios or function types (striped planes). By examining the maps in chronological order, the evolution of the degree of mixed-use can be followed, with functions (each indicated with a unique colour) disappearing or being added, changing localisations of functions, and a higher or lower degree of detail and specification on the function mix being added in the planning documents.

Figure III.3.5. Function-mix as indicated in Structural plan Amsterdam 2003-2010 (2003):

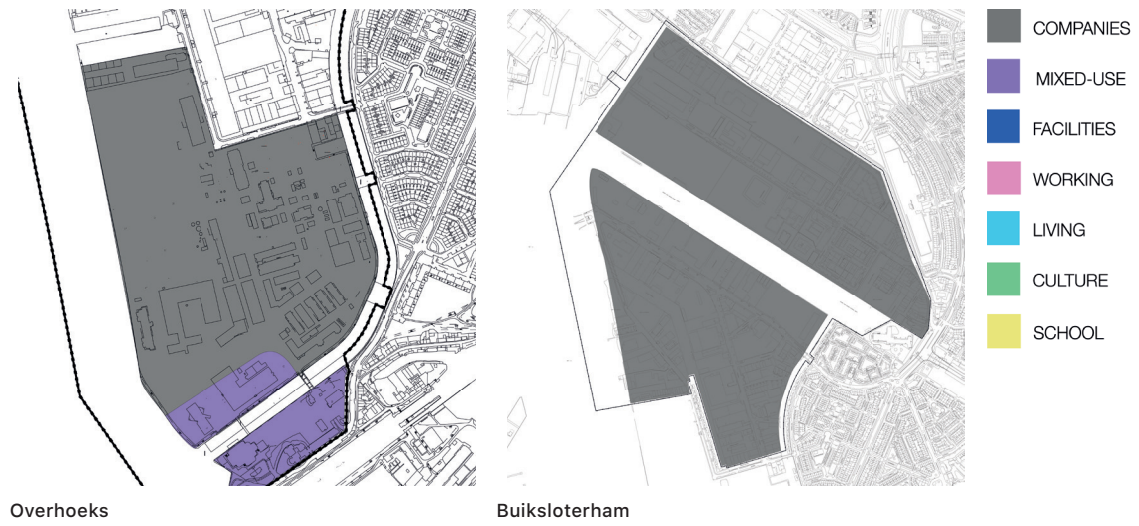


Figure III.3.6. Function-mix as indicated in Masterplan Northern banks of the IJ (2003):

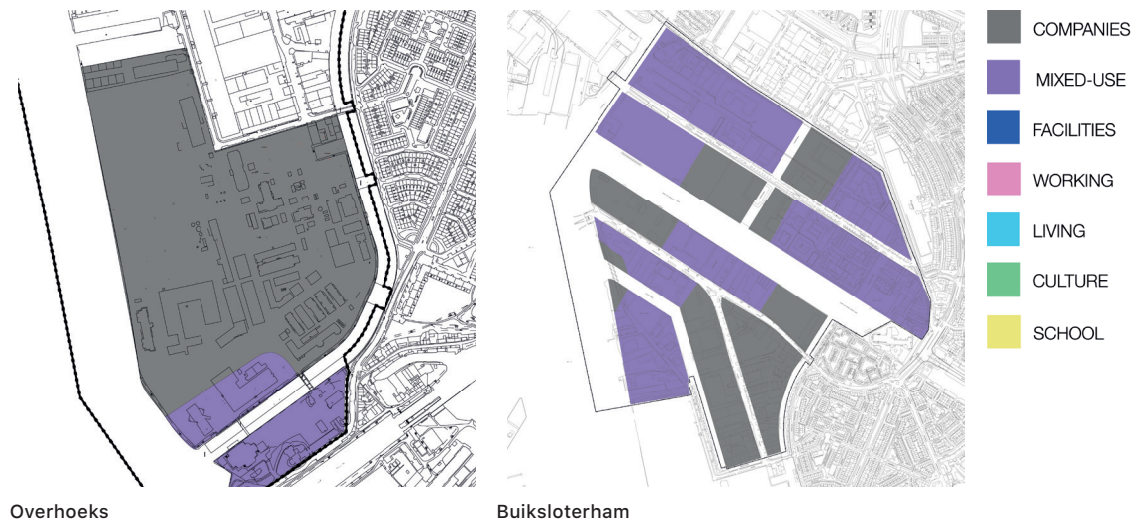
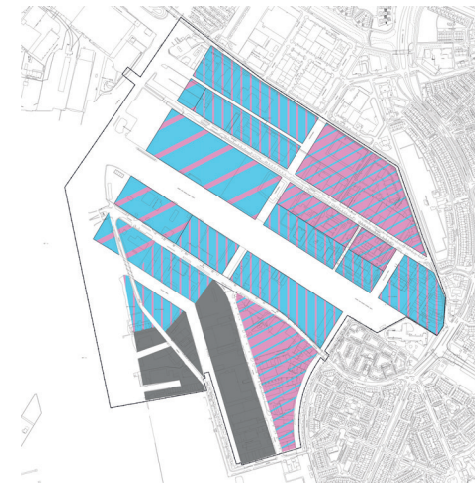


Figure III.3.7. Function-mix as indicated in Urban Masterplan Shell-terrain (2004):



Overhoeks

Figure III.3.8. Function-mix as indicated in Project decree Buikslooterham (2005):



Buikslooterham

- COMPANIES
- MIXED-USE
- FACILITIES
- WORKING
- LIVING
- CULTURE
- SCHOOL

Figure III.3.9. Function-mix as indicated in Zoning plan Overhoeks (2006):



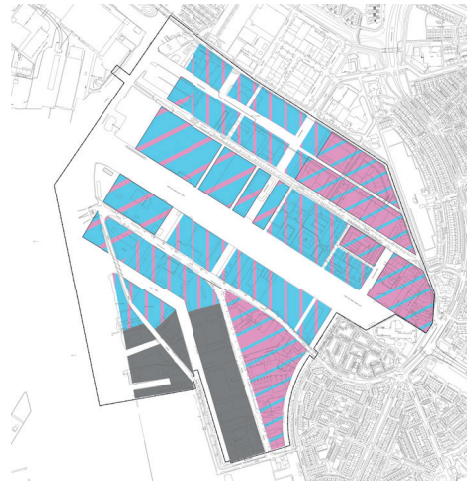
Overhoeks



Buikslooterham

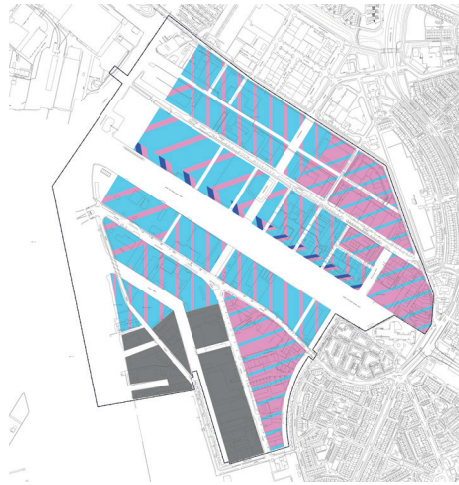
- COMPANIES
- MIXED-USE
- FACILITIES
- WORKING
- LIVING
- CULTURE
- SCHOOL

Figure III.3.10. Function-mix as indicated in Investment decree Buiksloterham (2006):



Buiksloterham

Figure III.3.11. Function-mix as indicated in Zoning plan Buiksloterham (2009):



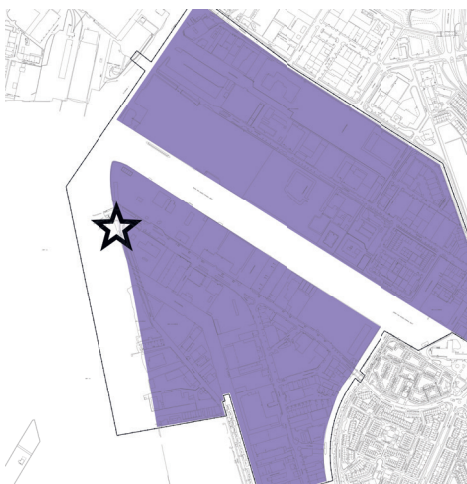
Buiksloterham



Figure III.3.12. Function-mix as indicated in Structural Vision Amsterdam 2040 (2011):



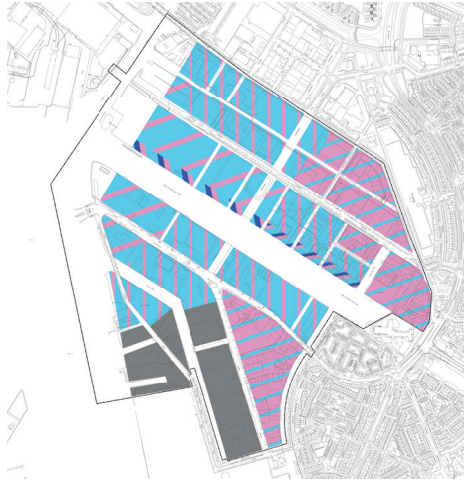
Overhoeks



Buiksloterham



Figure III.3.13. Function-mix as indicated in First partial revision zoning plan BSH (2011):



Buiksloterham

Figure III.3.14. Function-mix as indicated in Development strategy Strip/Scheg OvH (2013):



Overhoeks

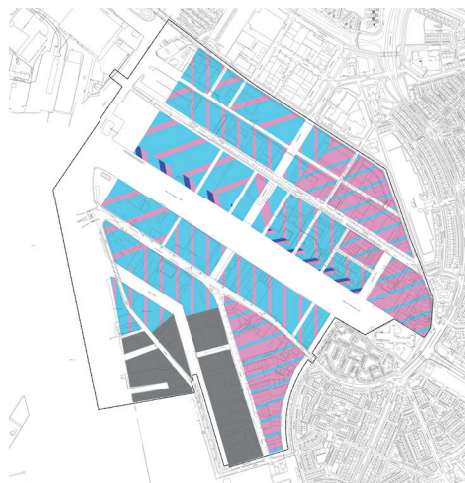
- COMPANIES
- MIXED-USE
- FACILITIES
- WORKING
- LIVING
- CULTURE
- SCHOOL

Figure III.3.15. Function-mix as indicated in First revision urban masterplan OvH (2013):



Overhoeks

Figure III.3.16. Function-mix as indicated in Third partial revision zoning plan BSH (2014):



Buiksloterham

- COMPANIES
- MIXED-USE
- FACILITIES
- WORKING
- LIVING
- CULTURE
- SCHOOL

**Figure III.3.17. Function-mix as indicated
in First partial revision zoning plan
Overhoeks (2014):**



Overhoeks

Incorporated sustainability components

From the analysis of the content of the planning documents we see that in the formal planning documents relevant for urban area developments Overhoeks and Buiksloterham, decisions are made on a number of levels that are relevant for the degree of urban sustainability of the final development result (as outlined in the theoretical framework, see chapter II.1). In rough categories, decisions are made on the level of:

- The degree of strategic foundation
- user-comfort
- energy, resources & pollution
- water management
- green, water & ecology
- public space
- character
- density
- functions
- degree of mixed-use
- distinctiveness,
- mobility,
- flexibility,
- human capital,
- degree of influence on development result by end-user,
- and finally, the development approach.

(which levels are mentioned in which planning documents can be seen in appendix III.3.5).

Of these levels, a few are recognised and presented in the planning documents as relevant for sustainability: Density, mixed-use, energy, resource management, pollution, water management, green, water, ecology, mobility and flexibility. These statements coincide with theory. No elements are presented as sustainable while they actually are not. Nevertheless, although many important components of sustainability are mentioned and recognised, many, also, are not. As is often the case in the sustainability debate (see theoretical framework chapter 1.A), the focus lies on the environmental aspect sustainability, of which all aspects are well mentioned. The social and economical aspect however, are underexposed. While economic competitiveness, attractiveness and distinctiveness is aspired, their connection with sustainability is not made explicit. This while long term economic viability and end-user satisfaction are inherent components of urban sustainability (see theoretical framework chapter 1.A). Also the relationship between the specific shaping of the urban fabric and this economic vitality and attractiveness is not mentioned once. Theory tells us however that these aspects, such as scale, size of blocks, distance between streets and interweaving of functions are decisive in achieving vibrant and intensively used urban areas (see theoretical framework chapter 1). The same goes for the employed development process (determining the degree of control users have on shaping their environment) and long term end-user satisfaction, and the preservation of historic elements and a binding sense of identity of the place. Also other components of sustainability, such as an overall decrease of car-usage (inevitable due to infrastructural capacity problems) (development of slow and public modes of transport are mentioned) and improvement of health, are not manifested in the formal plan-development process.

Sustainability of the decisions

Although not always recognised, many of the decisions made in the planning documents go in the right direction from the perspective of achieving urban sustainability. In terms of density and mixed-use, a high density and a high level of mixed-use is advocated for the sake of intensified land-use. In terms of energy, resource management and pollution, a move towards energy efficiency, non-fossil fuels, renewable energy generation and a circular economy (recyclage etc) is mentioned in the context of sustainability. Furthermore, protection and addition of green and water for the sake of ecology, water management and flood-protection, as well as a development of slow and public modes of transport and an increase of flexibility are all recognised as sustainable components.

A few observations regarding the made decisions in the planning documents from a sustainable perspective can be made:

Rising consciousness of the need for urban sustainability - Although the project decree of Overhoeks and Buiksloterham already had mixed-use as a starting point, the consciousness of the sustainability of more intensive and mixed land-use and the strategic urban planning towards this becomes more and more clear in the city-level planning documents over the course of the years, with the summit of the structural vision of Amsterdam 2040 from 2011.

Ignorance of the sustainable decision (also regarding mixed-use) - However, many plan-decisions made in the documents are still not making the decision that would be best from the sustainability perspective, such as the repeated design of the area for easy and extensive car usage by residents and visitors and the sometimes re-separation of functions into zones such as in Overhoeks. This illustrates the point that, although 'mixed-use' can be mentioned and formulated as a sustainable ambition, it is still interpreted in multiple ways in the urban area development practice and does not automatically advocate the intense, fine-grained degree of mix that leads to the most sustainable benefits.

In Overhoeks, mixed-use is interpreted on two different scales. Mixed-use is a specific aim from the first moment on in the plans for the area by Shell, ING and the municipality. It is not explicitly connected to sustainability in the planning documents, but it is being related to a 'successful, inner city environment' in the planning documents (Projectbureau Noordwaarts, 2003). Although the whole area is determined, and we can say marketed, as mixed-use, the plans of Overhoeks first and foremost sketch a high density sub-area (the Strip) with different functions between or within relatively large plots. For the rest, there exists a function mix on the level of the area, with the area being subdivided into clear functional zones (amongst which the 'residential quarter', the Campus) which are strictly separated as a result of the chosen urban layout. There are therefore some structural differences with the fine-grained function mix on the level of the plot as is in the city centre of Amsterdam.

In Buiksloterham, mixed-use is pursued as a hybrid urban form that allows a flexible transformation of an industrial area to an area in which can also be resided. In the plans for Buiksloterham, mixed-use is recognised as a modern urban form of dynamic 'inner city' urban environments, and the diversity that it is expected to bring is fostered as a quality and a way to make the area distinctive.



Figure III.3.18. Interpretation of mixed-use in Buiksloterham and Overhoeks: Function mix on the level of the area in functional zones in Overhoeks (left), versus function mix on the level of the plot spread out over almost the whole area in Buiksloterham (right) (own illustration, abstraction of current plans for Overhoeks and Buiksloterham)

This, on its turn, is expected to attract an assertive target group that will use the given flexibility to shape their own area and keep the enterprising commercial component the area alive. This will allegedly lead to a private- lead and long term socially and economically viable area. To enforce a mix and combination with businesses on the level of the (relatively small) plots, a bandwidth of a minimum and maximum allowed ratio living/working is established for each plot. This should guarantee a fine grain of interweaving of at least living/working functions in the whole area.

In summary, where in Buiksloterham a true mixed-use area as described in theory is objected and maintained throughout the whole planning process and functions are mixed on the level of the block and plot, in Overhoeks only the Strip offers this type of mixed-use and the rest of the functions in the area are largely organised into zones; zones with strict separations, originating from the chosen urban form and layout in the early planning documents.

Inadequate regulations to enforce decisions - What also is remarkable in Overhoeks is that while the planning documents can describe a quite high level of function mix (such as the urban masterplan (2004) and the revision of the urban masterplan for the campus (phase 3) (2013)), the planning documents that legally regulate this (= the zoning plans (zoning plan overhoeks of 2006 and first partial revision of 2014) are much less specific. This enhances the flexible implementation of the plan, but also gives up the legal aid to ensure the degree of function mix described in the other planning documents is realised. In Buiksloterham this is safeguarded with amendable minimum and maximum ratios of functions indicated per plot.

Not following decisions - Another observation is that some strategic decisions that are formulated in structural visions are subsequently not always followed in the various urban area developments. While the masterplan of the northern banks of the IJ for example advocates an incremental, more passive development approach Overhoeks continues with the development by a single developer in large pre-planned phases, also after the exit of ING.

Attitude towards change and flexibility - Overall, the planning documents of Overhoeks and Buiksloterham clearly display a different degree of flexibility and a different way of coping with change in the development process. This paragraph will go into three aspects of change and flexibility in the urban area development projects of Overhoeks and Buiksloterham: The extent to which flexibility and a response to change was aimed at, the extent to which the planning documents allowed this, and the extent to which the planning documents did this and effectively changed over the years.

The urban area development of Overhoeks didn't aim at flexibility and responding to future changes. In Overhoeks, the first planning document, the project decree of 2003, already goes into great detail on the development plans and has been tightly followed during the whole development process of the area. In fact, the development in its current state (2016) that is about to enter the execution of the last phase of its development, is in its main features still very similar to this project decree. Following the project decree, an urban masterplan was designed, translating the project decree into an urban design and lining out a pre-planned end-image of the area that hasn't changed. The zoning plan of Overhoeks of 2006 determines the legal development possibilities

in the project-area of Overhoeks exactly according to the plans laid out in the masterplan of 2004, being very specific about which functions should go where and, just as the other planning documents in Overhoeks, holding on to a strict programme and requirements for each plot that doesn't allow for much change.

When the global financial crisis hit in 2009, changes were inevitable for the urban area developments of Overhoeks and Buiksloterham. In the resolutions of the BAAK-meetings (where members of the college of mayor and aldermen, the secretary of the municipality and members of the board of finances discuss the municipal budget) in 2010, the process costs for the urban area development projects in Amsterdam Noord were cut by 20%. In Overhoeks the impact seemed restricted since the expenses were already largely in the hands of developing parties such as ING RED. However, this couldn't spare the development from the crisis; in 2010 it became clear that ING RED wouldn't fulfill the contract and wanted to withdraw from the development of Overhoeks (and other urban area developments in Amsterdam) as a result of the crisis. After negotiations, the municipality took over the development of the Strip and Scheg, deciding to split the Strip up into smaller plots that would be tendered to private parties separately. Furthermore ING adjusted its strategy for the second phase of the campus. This led to the only revision of the urban masterplan and zoning plan in the history of the development process of Overhoeks (so far), bringing a little more flexibility in the legal framework regarding target groups and functions and allowing higher sound values in specific areas, all to enhance the possibilities of the plan to react on the significant decline of sales of dwellings and interest in offices.

In Buiksloterham, the plan development process has shown to be much more flexible than in Overhoeks. With the incremental development objected in Buiksloterham, flexibility is an inherent aim of the urban area development of Buiksloterham, which is reflected in the choice for planning documents used in Buiksloterham, deviating from the Amsterdam Plaberum, dismissing a fixed urban plan and employing a flexible institutional framework. The zoning plans of Buiksloterham includes clauses for amendment, that permit conditional adjustment of certain requirements if needed. Furthermore the land exploitation plan is revised annually, allowing annual (non-structural) adjusting measures.

Also regarding the crisis, Buiksloterham has adjusted more compared to Overhoeks, swiftly implementing changes in its planning documents in the field of development strategy, functional programme, urban design and phasing. Because of the crisis traditional developers had trouble financing the big developments projects, there was no interest in developing the high amount of offices from the zoning plan of 2009, and the development stagnated. The possibilities for adjustment in the design of the development process in Buiksloterham have led to a number of revisions of the zoning plan, implying adjustments in the field of functions, ratios of function mix, allowed FSI (Space-floor index), parking norm, and location-specific urban and architectural conditions.

Decisions due to the crisis - What can be seen is that in the crisis, many adjusting decisions are made to reduce vacancy, increase market conformity and shift towards a more incremental and private-led development. These decisions made out of financial shortages however are not

necessarily less sustainable. On the contrary: often these decisions stimulate the economic viability, flexibility, stakeholder influence on the development result and a smaller development grain of the urban area development, which are actually positive aspects for sustainability and successful mixed-use urban areas according to theory (see sustainable components of theory, appendix II.1.6).

Sustainability of the ambitions

Important decisions early in the process - From the previous paragraph it became apparent that many important components in relation to sustainability are decided early in the plan development process. As theory also subscribes, the setting of well substantiated sustainable ambitions in this plan development stage is thus important. Since the structural plan of 2003, which came just too late for the project decree of the Shell-terrain, this is done well in Amsterdam, with the various city-wide plans and researches that are developed every few years (the structural plan Amsterdam 2003-2010 (2003), the culture-historic effects report for the Northern banks of the IJ (2003), the Masterplan for the northern banks of the IJ (2003), the environmental effects report for the transformation Overhoeks/Buiksloterham (2005) and the structural vision Amsterdam 2040 (2011)). Especially the structural vision Amsterdam 2040 of 2011 is very complete and well motivated from the perspective of urban sustainability, and promising for the future urban planning process.

The importance of setting sustainable ambitions - The importance of this setting of sustainable ambitions from the start is illustrated by the comparison between Overhoeks and Buiksloterham. When comparing the content of the formal plan-development documents of Buiksloterham and Overhoeks, Buiksloterham clearly is more sustainability-oriented than Overhoeks. In the planning documents of Buiksloterham, specific emphasis is placed on sustainability since 2006 and sustainable requirements are made part of the formal decision-making documents, allowing their enforcement and thus ensuring their implementation in the development of the area. This is not the case in Overhoeks. Also, when a new opportunity arose to set requirements to the development in Overhoeks (such as the tender of a plot), this opportunity is not used to set higher than legally obligated requirements to sustainability in Overhoeks. This does not mean the developments will not be sustainable, but it means that the choice to implement sustainability is left into the hands of the private developer and is not legally safeguarded.

More sustainable components in Buiksloterham - Also the 'silent' sustainable components (that are related to urban sustainability in the theoretical framework but are not necessarily regarded as such in the planning documents), such as a stakeholder participation in the development process and end-user influence on the development result are better represented in Buiksloterham, through the stakeholder involvement in the (sustainable) vision development in the Manifest Circulair Buiksloterham (2015), PC and CPC opportunities, and the open plan process of the Papaverpark. Also flexibility is more incorporated in the planning process of Buiksloterham than in Overhoeks, manifested by the flexible zoning plan, the inclusion of clauses for amendment,

and the revisions of the zoning plan in which regulations are changed or relaxed to make certain desirable developments possible.

However, in Buiksloterham, although sustainability has become the main ambition and the identifying strength of the area, many of the sustainable ambitions remain abstract and most of the exhibited sustainable interventions are not binding (such as those in the manifest Circular Buiksloterham). Later, when discussing the observations of the development deliberations, it will become clear that the ambitions will come to stand under pressure because of this in the execution phase. Therefore, true statements on the meaning of the urban area development processes of the two projects on the outcoming level of urban sustainability can only be made once the development results have been evaluated.

D. CONCLUSION

The official planning documents employed in an urban area development illustrate the formal decision-making process followed in the urban area development. From the analysis of all relevant planning documents of Overhoeks and Buiksloterham in relation to the theoretical framework on urban sustainability performed in this chapter, a number of conclusions can be drawn on the urban area development processes of Overhoeks and Buiksloterham and its meaning in the light of future urban sustainability.

The conclusions consist of observations of differences between the urban area development projects of Overhoeks and Buiksloterham. The most important differences concerning the kind, sequence and content of the planning documents and the reason for these differences as well as their consequences will be discussed. Furthermore, the lessons learned from the analysis of practice will be summed up and related to theory on the subject, provided in the theoretical framework chapter 2.

FINDINGS

Different planning documents in Overhoeks and Buiksloterham

Firstly, the planning documents of Overhoeks and Buiksloterham are different. Overhoeks largely sticks to the standard planning documents for urban area development processes outlined by the municipality of Amsterdam's 'Plaberum' with a the standard project decree, investment decree, urban masterplan, zoning plan and further preliminary, definitive design and technical specifications on sub-development level. Buiksloterham deliberately deviates from these standard documents, abandoning the pre-defined masterplan and adding new planning documents in the development process on plot-level, directed towards more private participation in the development process and more information and requirements on sustainability.

These differences in planning documents are a direct reflection of the different development approaches of the urban area developments. Overhoeks is developed in relatively large plots by a small number of large developers which make the plan decisions in a top-down manner and aims at a pre-defined end-result that is systematically worked towards, which fits the Amsterdam Plaberum process with a limited number of fixed planning documents including an urban masterplan. Buiksloterham consists of more and smaller plots and includes more and smaller developers, aims at an open end-result and incremental development, and specifically aims at a more bottom up development and private development initiatives. This leads to a higher number of (plot-specific) planning documents, more open planning documents than the ones outlined by the Plaberum (discarding the pre-defined masterplan and working with more modifiable planning documents manifested by more revisions, amendments and exemptions) and different planning processes and documents that are more privately oriented.

Different decision-making sequences in Overhoeks and Buiksloterham

Also, different decision-making sequences can be seen through the analysis of the planning documents. The level and detail of the decisions that are being made differs over the planning documents and are not necessarily the same in the same type of documents. Therefore, the order in which decisions are being made differs as well, which influences the underlying motivation for these decisions and the actors deciding upon them. This is important for the implementation of sustainability. From the planning documents it comes forward that certain levels of decisions that have proven to be very influential on the final degree of urban sustainability according to theory (see theoretical framework chapter 1), such as the future functions and urban layout, are decided very early on in the plan development process and not necessarily (by the actors) with the long term public interest in mind.

Different intentions in Overhoeks and Buiksloterham

Finally, important differences between the planning documents of Buiksloterham and Overhoeks can be distinguished that are ascribable to different intentions of the urban area development. This not only explains the majority of the differences in content between the planning documents of Overhoeks and Buiksloterham, but is also responsible for part of the structure of the plan documentation process.

Element that is of influence on the *structure* of the plan documentation process is the degree of flexibility that is pursued with the urban area development. Buiksloterham aims at flexibility with an incremental development that leaves room for small scale private development initiatives, while Overhoeks does not. This leads to different types and structures of planning documents as is explained in the paragraph 'Different planning documents' (by for example incorporating clauses of amendments or issuing revisions) and also influences the way and degree of detail in which the plan decisions are recorded in the planning documents.

Another way in which the intentions of urban area developments can differ that is particularly relevant in the context of this research is the degree to which the urban area development aims

at long-term sustainability of the development result. Where in 2003 this was still hard to find, the planning documents over the years show that sustainability is increasingly recognised and becoming part of all plan development processes on plot- and city-level in Amsterdam. Many important components of sustainability are mentioned and recognised in these documents, but many, still, are not and the focus still lies on the environmental aspect sustainability. However, although not always recognised, many of the decisions made in the planning documents of Overhoeks and Buiksloterham go in the right direction from the perspective of achieving urban sustainability. Still there are huge differences between the sustainable ambition of the urban area developments of Overhoeks and Buiksloterham. Where in Buiksloterham sustainability is the number one intention of the urban area development (especially in environmental sense), Overhoeks does not do more than is legally required for sustainability and aims at creating successful functions for which investors and developers can be found at the moment. This leads to large differences in the content of the planning documents in terms of the way in which decisions are motivated and aims and requirements / regulations that are set (with or without sustainability in mind). Buiksloterham does this much more with a sustainability objective than Overhoeks.

Also the type and character of the area that is pursued differs between Overhoeks and Buiksloterham and influences the degree of mixed-use that is chosen. These choices and intentions, often made in the early plan development stage, are highly relevant for the future degree of urban sustainability of the developed area.

LESSONS LEARNED

From the comparison of the found situation in practice to the recommendations from theory, a number of conclusions can be drawn on what is important in the formal decision making process in the light of achieving long term urban sustainability of the development result.

The right motivation

A final development plan is the result of a series of decisions made over the course of the plan development process. Many of these decisions are highly influential on the final degree of urban sustainability of the development result. The decisions are made from a motivation that is the result of a certain balance of interests of different stakeholders. The right decision from a certain perspective therefore starts with the right motivation.

In order to form a plan that offers long term urban sustainability, decisions should be made with the intention of achieving long term urban sustainability of the development result in mind. This means that the plan components important for the urban sustainability should be decided on the right basis, in the right order, by the right actor and with the right interests in mind.

The right actor - In the analysis of the planning documents we have seen that the actors that have power over certain plan components differ. The different actors involved in the urban area development process represent different interests, with the private developers traditionally

defending their individual interest based on profit and the government and municipality representing the public interest. Sustainability goes beyond the individual interest of private parties and is a public interest. Important decisions on plan components that influence sustainability should thus include the body that represents the public interest; the municipality.

The right order - For decisions to be made from the right motivation and with the right information at hand, it is also important that planning documents occur and decisions are made in the right order. In practice we see that, while researches (environmental and culture-historic effects report) and long term, regional plans have been developed over the course of the urban area development processes, they have not always been there at the right moment for implementation for the urban area development projects of Overhoeks and Buiksloterham. Also, decisions on certain levels can influence the opportunities for implementation of sustainability on other levels (such as the chosen urban layout influencing the possible degree of function mix in Overhoeks). Aspects such as urban form should therefore preferably follow the relevant previously set aims/decisions on other levels and researches should be conducted in time to be incorporated in the decision making process.

A strategic long term and wide-scope foundation - This leads to the third point, which is that, for true sustainability, the plan formation for an urban area development should start with a strategic long term and wide-scope vision for the city/region as a whole. To ensure efficiency, coordinate the different interventions in the region and really anticipate on what the city needs on the long term, there has to be researched over the limits of physical boundaries and time in order to come to a strategic decision. Since the structural plan of 2003, which came just too late for the project decree of the Shell-terrain, this is done well in Amsterdam. Especially the structural vision Amsterdam 2040 of 2011 is very complete and well motivated and promising for the future urban planning process.

The setting of sustainable ambitions - As straightforward as it is, the inclusion of sustainable ambitions in these starting document is thus important. In Overhoeks sustainability has not explicitly been mentioned as an ambition, resulting in no specific emphasis being placed on sustainability and no sustainable requirements being made part of the formal decision-making documents. In Buiksloterham, where a sustainable ambition has been formulated, they have, allowing their enforcement and thus ensuring their implementation in the development of the area.

The full scope of sustainability - Last conclusion in the motivation plan-decisions in the right way from the perspective of achieving long term urban sustainability is that the definition of sustainability thus matters. To achieve true urban sustainability, the full scope of sustainability must be understood and addressed. This means that not only the environmental aspect of sustainability should be pursued, but that the social and economic viability of the area should equally be taken into account. In both Overhoeks and Buiksloterham these last two aspects are still underexposed. In order to be able to adequately steer on holistic urban sustainability and make well balanced decisions however, all sustainability goals should be incorporated in the plan formation process from the start.

The right implementation

Next to these components of the right rationale needed to work towards a sustainable end-result, the analysis of practice has shown us some lessons on the further development process to ensure the implementation of in the actual development result.

Concreteness - First lesson is that ambitions should be made concrete. In Buiksloterham, although sustainability has become the main ambition and the identifying strength of the area, many of the sustainable ambitions remain abstract. When leaving the implementation of the sustainable interventions into the hands of the developer, this lack of concreteness however leads to implementation being postponed and eventually being put under pressure in the execution process, as is demonstrated in the development deliberations of several projects in Buiksloterham. It is therefore important to make clear decisions on this topic at the beginning of the project. Also, when specific results or aims are set (also visual, spatial or programmatic aims), these should as good as possible be translated into a concrete requirement and not be left to an idea that is supposed to be understood. This is also relevant in the context of the pursuit of 'mixed-use'. In Overhoeks for example whole areas have been marked in the zoning plan as 'mixed-use' with no further requirements, which has led to a limited diversity and separation of functions within these zones in practice. When a specific degree and scale of mixed-use is envisioned, this should be translated into concrete requirements as is done in Buiksloterham, where a bandwidth of minimum and maximum ratios of functions has been given which ensures function mix on plot-level.

Binding - Going on on the previous point, aims should not only be made concrete but these concrete translations of the aim should also be made binding to the actors in the area. This is another lesson that can be drawn from the Manifest Circular Buiksloterham in Buiksloterham. Even when interventions are concrete and the stakeholders and developers agree and are prepared to commit to them, if there is no legal framework binding the actors to these agreements, even the best intentions risk getting overrun in the in the further development process by more urgent interests and other requirements that are legally enforced.

Guarding - It is not always possible to translate an ambition into concrete regulations. Sometimes it is just not feasible nor desirable to make regulations to the degree of specificity and it can kill flexibility. A lack of means to test plans and proposals to regulations should however not mean that there should not be tested to ambitions at all.

On the contrary: when sustainable ambitions and concrete goals are set, they should be guarded. Currently this is not the case in Overhoeks and Buiksloterham. Although plans are tested to numerous regulations and criteria, especially the largest lines are often forgotten. An overview of the core, integrated ambitions of the area is hard to find, let alone be monitored. To ensure continuity and alignment of the different developments in the area, I am of the utter belief that a formulation of the core ambitions and the guarding of and testing to this list in each separate project in the area should be part of the plan evaluation process.

Incorporating flexibility - Finally, as the theoretical framework states, sustainability is also flexibility: Not only flexibility in physical sense of easily adaptable buildings and infrastructures,

but also the flexibility in the legal frameworks to leave room for private parties to implement economically viable initiatives and exercise their own control on the shaping of their environment. The inclusion of clauses for amendment and facilitation of revisions of plans as is to a certain extent done in Buiksloterham, are already important steps in the right direction.

4. ANALYSIS DEVELOPMENT DELIBERATIONS

As explained, planning documents illustrate the formal plan formation process. To see however how these decisions are made and what decision making processes underlie the decisions that are recorded in the planning documents, additional research has to be done. To investigate this unrecorded plan formulation process, development deliberations are observed.

Development deliberations are the deliberations between actors in the development process in which the specifics of (parts of) the development are discussed. In the development deliberations, actors negotiate and ultimately decide on the decisions that will become part of the formal planning documents.

From the more than 20 analyzed development deliberations for each case, the interests manifested by the actors, the interventions proposed and opposed by the actors and the eventual decisions made are analyzed. These aspects are analyzed on the topic of their impact on mixed-use and the urban sustainability of the area following the sustainability components and values from theory, and subsequently related to the urban area development project (and thus development approach) in which they have occurred, the land- and development situation of the sub-project, the phase at the moment of occurring, the actor defending or opposing them and, ultimately, their implementation. Based on these findings, conclusions can be drawn on the sustainable orientation of the actors and the position of sustainability in the decision-making balance in relation to these aspects, from which, once again, recommendations can be derived, this time in the field of the unrecorded development process.

Over the course of the empirical part of this research the researcher has done an internship at the municipality of Amsterdam and has observed the (within the period of the internship) occurring development deliberations of the urban area developments of Overhoeks and Buiksloterham. This has led to a total of 41 analyzed development deliberations, concerning both deliberations within the municipality and deliberations between the municipality and other actors. An overview of the analyzed development deliberations can be found in appendix III.4.1. Special attention has been paid to ensure that at least one development deliberation on the topic of projects in all phases and of all combinations of land- and development situation has been attended, but many more have been observed.

For the observation of the development deliberations the researcher has been present at the sessions and taken notes of the often confidential conversation that was being conducted between the actors without participating personally, paying special attention to the manifested interests of the actors involved, their stance and interpretation of sustainability and the balance of the interests of actors in the making of development decisions. Sometimes after the development deliberations additional conversation has been held by the researcher with actors in the deliberations to further inform about the rationale underlying their performance in the development deliberation. This was included in the analysis of the development deliberations. For the further analysis of the development deliberations, the proposed interventions and/or wishes of the actors along with the mentioned interests have been distilled from the script of the deliberations. This information has been supplemented with the relevant information on the project and actors (such as actor representing the wish / interest, phase of the development, development situation and land situation) and finally related to the urban sustainability components from theory that are being affected by the proposed intervention as well as the way in which they are being affected. This has led to conclusions on the sustainable orientation of the actors, their interests, and the interaction between these interests and long term urban sustainability according to theory, all given their role in the development and the phase, land- and development situation of the project. The statistical software IBM SPSS was used as an aid to inventorise the mentioned elements and to make the data insightful in terms of how many times the same things were mentioned and by whom. For this reason the data was coded. This is however unfortunately not a quantitative / statistical research step but is explicitly meant to provide a qualitative analysis of the information gathered from the development interviews.

The input of the development deliberations along with the coded variables and values in SPSS is shown in appendix III.4.2 and III.4.3.

A. MANIFESTED ACTOR-INTERESTS

First the interests manifested by the actors in the development deliberations are analyzed.

INVENTARISATION OF INTERESTS

In the 41 observed development deliberations, two main actors have been involved: The municipality and the developer. These two main actors have other actors working for them, each representing their own particular interest according to their discipline, but still working for and thus representing the interest of the main actor as explained in the chapter III.2.: Actor analysis.

Manifested interests

When analyzing all the manifested interests in the development deliberations of Buiksloterham and Overhoeks the mentioned interests can be narrowed down to 22 overarching interests in four categories:

<p>QUALITY</p> <ul style="list-style-type: none"> • Spatial quality (quality of the space in / between architectural or urban elements in terms of visual and user quality) • Residential quality (quality in terms of the attractiveness to stay in the area in question) • Visual quality (Aesthetic attractiveness) • Attractiveness (overall attractiveness in terms of features that can not be attributed to spatial, residential or visual quality but can be ascribed to what's happening in the space, atmosphere, liveliness etc.) 	<p>FUNCTIONALITY</p> <ul style="list-style-type: none"> • Comfort • Functionality • Safety • Viability function (medium-long term viability of function in societal context) • Vacancy avoidance • Comfort for car-usage • Robustness of materials • Simplicity of maintenance
<p>STRATEGY</p> <ul style="list-style-type: none"> • Stimulation of slow modes of transport • Intensity land-use • Resource efficiency (the input/output ratio in terms of the usage of materials and fuels (including transport) in relation to the results achieved) • Desorientation car • Environmental friendliness (Aspects of environmental friendliness next to resource efficiency, such as pollution, fossil fuel consumption, energy consumption and natural preservation) 	<p>COMMERCIALISM</p> <ul style="list-style-type: none"> • Profit • Costs • Speed of the development • Simplicity building process

Table III.4.1 Manifested interests in development deliberations of Overhoeks and Buiksloterham

These interests can both refer to the area or development as a whole or limit themselves to the actor or sub-development itself. There will be further gone into this in another paragraph, as well as on which interests are represented by whom.

Mixed-use

What becomes clear is that no specific interests in mixed-use development are mentioned. The interest of intensive land-use could be interpreted as a desire for mixed-use, but this is not mentioned explicitly by the actors.

Theory shows that mixed-use plays a strong part in achieving the aforementioned interests that are expressed by the actors. Theory has shown that mixed-use development bears direct or indirect positive influence on, amongst others, resource efficiency, disorientation of the car, stimulation of slow modes of transport, function viability, vacancy avoidance, functionality, and attractiveness of the urban environment, which are all direct interests of the actors in the urban area development process. This link is however not seen by the actors.

Differences in manifested interests in Buiksloterham and Overhoeks

Regarding the interests that are clearly manifested in the development deliberations in Overhoeks and Buiksloterham, the interest mentioned in Buiksloterham and Overhoeks are largely the same. There are some differences however. First of all there are differences in the interests that are being mentioned at all. In Overhoeks, the viability of functions, environmental friendliness and sustainability have not been mentioned explicitly once. In Buiksloterham they have come to the table often. In the same way, the interest 'comfort for car usage' has been mentioned in Overhoeks, but not in Buiksloterham.

Secondly there are differences in the amount of times certain interests are mentioned in Overhoeks and Buiksloterham. Interests in terms of costs and overall attractiveness / visual quality are mentioned most in both urban area development deliberations. In Buiksloterham however, there is more discussion on the costs than in Overhoeks. Furthermore also the spatial and visual quality and overall attractiveness on urban level have been mentioned more often in Buiksloterham. This is however not attributable to a lack of interest on the topic in Overhoeks, but attributable to the fact that (the interpretation of) the urban framework is still flexible and thus open for discussion in Buiksloterham, whereas in Overhoeks the urban plan is fixed. Regarding the rest of the interests no specific difference was manifested between Overhoeks and Buiksloterham

DEFENDERS OF INTERESTS

Next there will be gone into which interests were represented by which actors.

Buiksloterham

In Buiksloterham, the developers have represented interests in:

<p>QUALITY</p> <ul style="list-style-type: none"> • Spatial quality • Visual quality (Aesthetic attractiveness) • Attractiveness 	<p>FUNCTIONALITY</p> <ul style="list-style-type: none"> • Comfort • Functionality • Viability function • Simplicity of maintenance
<p>STRATEGY</p> <ul style="list-style-type: none"> • Intensity land-use • Resource efficiency • Desorientation car • Environmental friendliness 	<p>COMMERCIALISM</p> <ul style="list-style-type: none"> • Profit • Costs • Speed of the development • Simplicity building processes

Table III.4.2 Manifested interests by developer in development deliberations of Buiksloterham

These interests were mostly focused on the own company and the own development, but also often on the level of the area and public space surrounding the own development and even for

the area of Buiksloterham as a whole. Interests that have recurred the most and have thus been presented as the main interests of the developers in Buiksloterham are costs and profit, together with the attractiveness, comfort, and functionality of the development.

Profit in this case indicates profit directly attributable to the development (such as sale or rent of the development). The interest of profit of actors by exercising commercial functions in the building is included in the objective of functionality of the real estate for the aimed at function.

The municipality in Buiksloterham has manifested interests in:

<p>QUALITY</p> <ul style="list-style-type: none"> • Spatial quality, • Visual quality, • Urban quality and user-quality of the urban form • Attractiveness 	<p>FUNCTIONALITY</p> <ul style="list-style-type: none"> • Functionality, • Comfort, • Safety • Viability function
<p>STRATEGY</p> <ul style="list-style-type: none"> • Intensity land-use • Resource efficiency • Desorientation car • Environmental friendliness 	<p>COMMERCIALISM</p> <ul style="list-style-type: none"> • Costs

Table III.4.3 Manifested interests by municipality in development deliberations of Buiksloterham

These interests are mostly focused on the whole area, public space and subarea, but sometimes also for the benefit of the city / society as a whole (i.e. disorientation of car, reduction of pollution) , the municipality itself or even the developer.

Most mentioned and thus main interests manifested by the municipality in Buiksloterham are environmental friendliness and sustainability, safety and visual quality on urban level and costs.

Overhoeks

In Overhoeks, the developer has manifested interest in:

<p>QUALITY</p> <ul style="list-style-type: none"> • Overall attractiveness • Residential quality • Visual quality • Spatial quality 	<p>FUNCTIONALITY</p> <ul style="list-style-type: none"> • Comfort • Comfort for car usage
<p>STRATEGY</p>	<p>COMMERCIALISM</p> <ul style="list-style-type: none"> • Costs • Speed of the development

Table III.4.4 Manifested interests by developer in development deliberations of Overhoeks

These interests are mostly focused on the own development, but also on the own company and the public space and area surrounding the own development. Main interests of the developers in Overhoeks are overall attractiveness followed by (in a lesser degree) costs.

The municipality in Overhoeks represents interests in:

<p>QUALITY</p> <ul style="list-style-type: none"> • Spatial quality • Residential quality • Visual quality • Overall attractiveness 	<p>FUNCTIONALITY</p> <ul style="list-style-type: none"> • Functionality • Comfort • Comfort for car usage • Vacancy avoidance
<p>STRATEGY</p> <ul style="list-style-type: none"> • Desorientation car • Stimulation slow modes of transport • Intensity land use • Robustness materials • Resource efficiency 	<p>COMMERCIALISM</p> <ul style="list-style-type: none"> • Costs • Speed development • Simplicity building process

Table III.4.5 Manifested interests by municipality in development deliberations of Overhoeks

Mostly the interests apply to the scale of the public space and the sub-area, but the municipality also often represents interests for the whole area as well as for the municipality itself (costs, simplicity building process etc.). Most manifested interests are the visual quality and overall attractiveness of the public space in Overhoeks.

General

Furthermore, in both areas, the end-user has expressed interests. These were all related to comfort and nuisance.

No meaningful differences could be distinguished between the interests represented in projects on privately or publically owned land or developed by a development company, private landowner, collective private commissioners or private commissioners; The interests came down to the same categories, mentioned above.

General interests of actor types

Taking the results from Overhoecks and Buiksloterham together, an analysis has been made of the general interests of the developer and the municipality as an overarching actor type. Only the profile of the actor types of municipality and the developer can be analysed in this way and supplemented with sound findings from the observation of development deliberation because little to no interests from other actor types have been heard. Reflecting on the involvement of the actors identified in the previous chapter, observation has shown the municipality and the developer to be highly involved in the development process, followed by little involvement of client in some cases and rare consultation of the initiator (In the plan development phase of the project), operator or end-user in the design phase. The investor has never been heard.

The analysis of general interests of the municipality and developer is based both on the manifested interests of the actors in practice in the development deliberations and also goes forth on the statements of the actors on their interests in the conducted interviews (summarized in chapter III.2: Actor analysis). For this analysis, the main interests of the actors have been projected onto a diagram with an ordinal scale from 0 to 30 for each interest, representing the degree in which this interest is of importance for the developer / municipality.

The coloured line represents the orientation of the actor as manifested in 41 development deliberations by 9 developers and multiple departments of the municipality of Amsterdam (following the amount of times this interest has been mentioned in the deliberations) and as expressed in the interviews. The interests have been categorized and put together as far as possible. Still, some interests are manifested by some actors but not by the other. The actors manifesting the interest in question is indicated by the coloured dots under the interest.

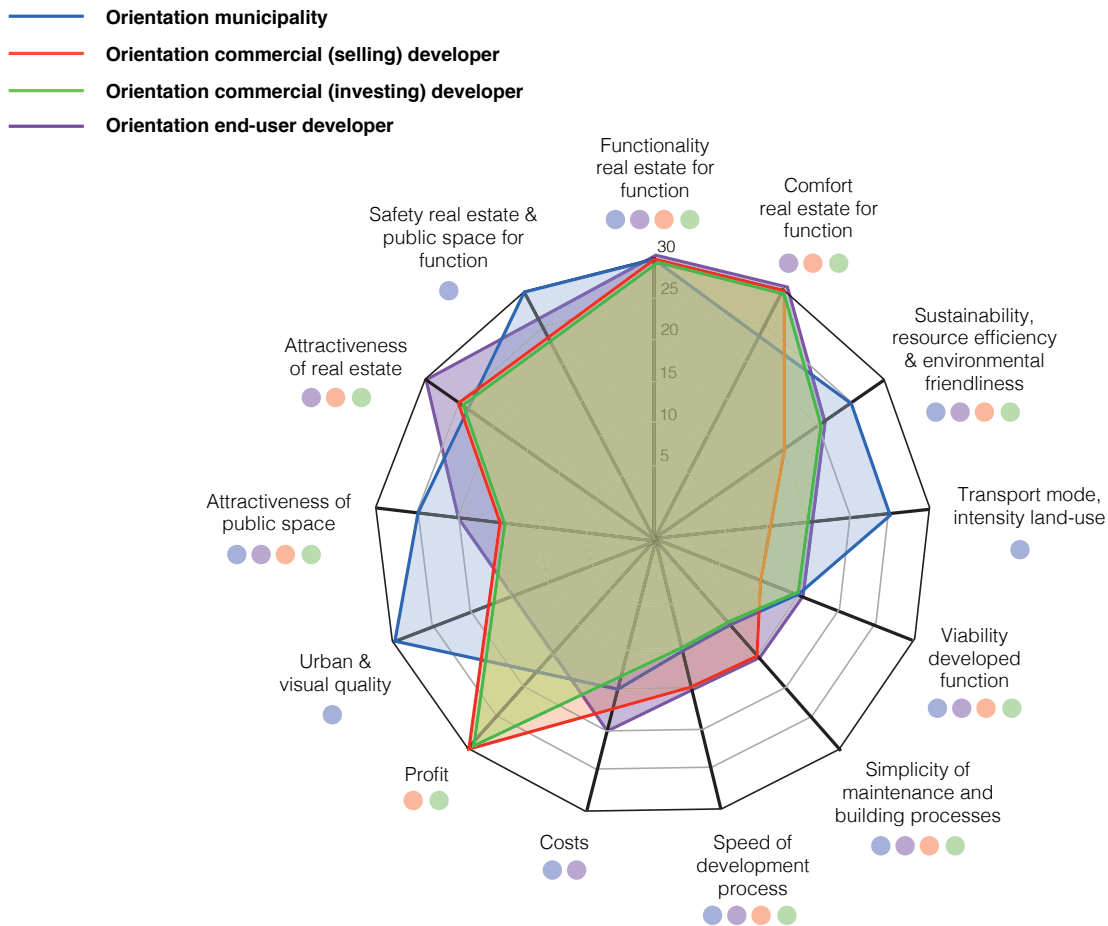


Figure III.4.1. *General interests & orientations of core actor types in development deliberations of Overhoeks and Buiksloterham (own illustration)*

Within the actor type of developer three subtypes could be distinguished with slightly different interests in the development deliberations. These sub-types coincide with the actor types already identified in the actor-analysis (chapter III.2).

The developer

What can be seen from the orientation of these actors is that the commercial developers are indeed very profit oriented in the development deliberations, trying to keep the costs low and the speed of the development process high. This goes for all commercial developers, including housing corporations. For the rest, their interests particularly go out to functionality and comfort for the end-user and the attractiveness of the building and close surrounding environment, which is reflected in the market value.

Investing developers - The investing developers do show a longer-term perspective and spread these interests out over a medium-long term timespan. As a result, the interests of sustainability and the viability of the developed functions become of higher interest to the investing developer.

For the commercial developer whose core-business is not to invest in the real-estate itself after completion but to sell it, the focus on the viability of the function is very low. While this is one of the most important long-term components of urban sustainability, they are hardly relevant for a profit-oriented actor with a short term commitment to the area as long as the building sells. Another reason for the low manifested interest in the viability of the function might be that this component is assumed to be guarded by the zoning plan. However, although the zoning plan outlines the functions that are permitted in the area, this does not necessarily mean that the area fosters the right conditions for long-term success of all permitted functions.

End-user developer - The end-user developer is a special actor type that develops with the objective to later deploy the development for its own use. Other than the commercial developers, the end-user developer does not have a commercial objective to make profit. Instead, he is most focused on the functionality, comfort and (visual) attractiveness of their building and the space around it. Also, as these developers aim to use the building themselves for a medium-long period of time, sustainability also becomes a greater interests. However, since these private developers often develop individually, their budget is typically very limited and they can not afford to generate losses. Therefore the costs remain a very important consideration in their development decisions. This type of developer is only seen in Buiksloterham, in the form of private companies developing on their own land and (collective) private commissioners developing their own self-build homes.

The municipality

As far as the municipality is concerned the manifested interests indeed go out mostly to public interests, such as the attractiveness of the urban environment and public space, safety, functionality, and sustainable interests such as sustainable mobility, resource efficiency, intensive land-use and environmental friendliness. Interests in terms of costs and the viability of functions are expressed from time to time. However, this element is mentioned much less than the other aspects of sustainability. Taking in account the importance of the viability of the developed functions in the light of urban sustainability, this element should be at least as recognised and guarded by the municipality as the other aspects of sustainability. This is not the case.

CONFLICTS

As is part of the nature of multidisciplinary mixed-use urban area developments, many of the interests of the actors involved are in conflict with each other. Development decisions are often a compromise between multiple conflicting interests.

Some interests are naturally opposing each other. In order to get a good insight in the balance of interests in development decisions and an understanding of the reason for this decision-making (that will be discussed later in the research), it is important to know which inherent interests of the actors compose a threat to each other.

As the main interests of the developer and the municipality (the actors having the most power over the development decisions in the urban area development process) have been outlined, these can now be analysed on the topic of their interaction.

Method - To do this, the separate interests of the developer and municipality are distinguished or classified together (when composing a similar effect when combined with other interests) based on the found interests of the actor type of developer and municipality and the scale on which they are applicable.

Once the interests are defined, they are put on an axis with a line originating in either one or the other direction depending on the actor of whom the interest is. In this way the lines (interests) of different actors will be crossed. If two lines originate from an interest this means that this is an interest of both the municipality and the developer.

The intersections of the lines indicate the intersections of interests. Each combination of interests has been analysed in the field of their potential conflictuality, based on the amount of times the specific combination of interests has proven to be in conflict or in agreement in the development deliberations. The typical clashes of interests that are hard to combine are marked with a black triangle (= when the intersecting interests are more often in conflict in the development deliberations than not). White circles indicate that the interests are inclined to enforce each other and work to each other's benefit (= when the intersecting interests are more often in agreement in the development deliberations than not). The found agreements and conflicts are also supported by logic.

Results

The results of this analysis are represented in the following diagram:

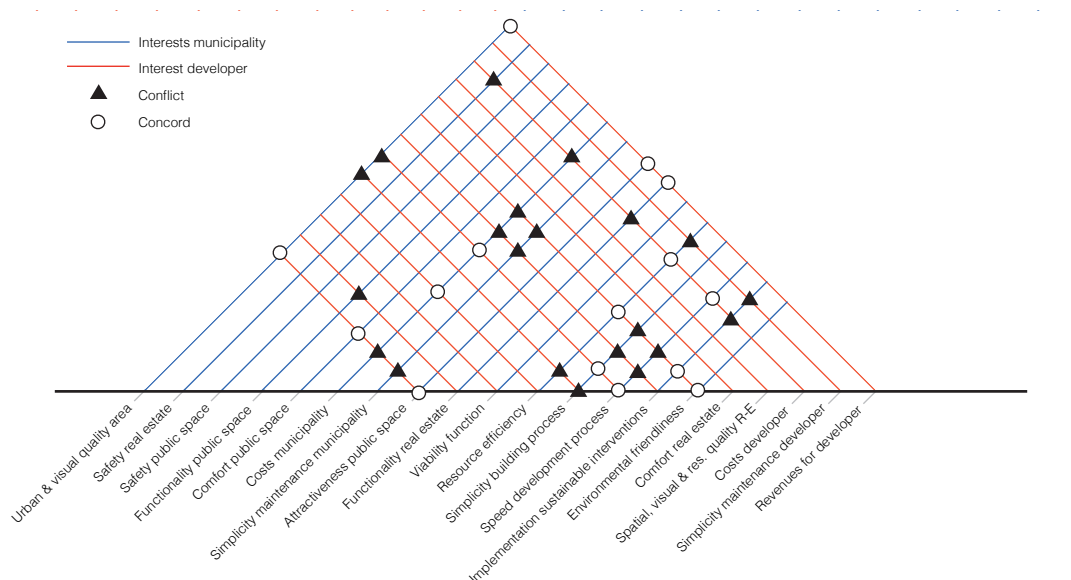


Figure III.4.2. Interaction general interests developer and municipality (own illustration)

Cost vs. quality - Most common conflicts are the ones between costs and aspects of quality. Enhanced urban and visual quality of the area, safety, functionality, attractiveness of the public space often require additions or higher performance materials and lead to higher costs. The same is true for the implementation of sustainable interventions and environmental friendliness. Simplicity of maintenance and building processes and speed of the development process on the other hand have a positive effect on the costs.

Costs and quality are both interests of both the municipality and the developer. This means that these interests can already cause conflicts within the actor itself. On top of that there is an inherent conflict between the costs of the municipality and the costs of the developer in urban area developments, because the development investments are to be shared and both parties want to minimize their own expenses.

Enhanced (sustainable) quality vs. simplicity and speed - Furthermore the most important conflicts are, unfortunately from the perspective of urban sustainability, between enhanced attractiveness, environmental friendliness and the implementation of sustainable interventions versus the simplicity of building- and maintenance processes and speed of the development. The prettiest solution is not always the easiest to maintain or build, and the same goes for sustainable interventions such as green roofs or geothermal energy installations.

Possibility for alignment early in the process - However, although these are typical conflicts, they do not have to be. Conflicts (with for example costs, the speed of the development process or the simplicity of building processes) can be avoided when objectives are set, incorporated and concretized early in the plan formulation and design process.

Opportunities for sustainability through mutual benefits - Moreover, actors can find each other in their mutual benefit of urban and visual quality of the area, attractiveness of public space, speed of the development process, resource efficiency

CONCLUSIONS MANIFESTED INTERESTS

Summarized, the findings from the analysis of the manifested interests in the development deliberations are the following.

Differences in mentioned interests - The interests mentioned in Overhoeks and Buiksloterham are largely the same. No specific interests for mixed-use development are expressed by any actor. There are however some important differences between the ones expressed in Overhoeks and in Buiksloterham: The viability of functions, environmental friendliness and sustainability is never mentioned in the development deliberations in Overhoeks, while in Buiksloterham on the other hand, these have come to the table often. The manifested interests of the actors illustrate that in Buiksloterham there is quite a large focus on sustainability, while in Overhoeks actors are not focused on sustainability at all but are instead more focused on the streamlinedness of the development process.

There can be found no differences between interests represented in projects with different land and development situations.

Most mentioned interests - Interests on costs and visual quality are the best represented interests in both areas.

In Buiksloterham there are more discussions on the costs, but then again, in Buiksloterham there is more discussion on every topic. This can be explained by the chosen development approach, in which certain aspects are deliberately not predefined and left open to discussion, such as the urban design. Actors do demonstrate a larger inclination to collaborate in Buiksloterham, with developers manifesting interests for the benefit of the whole area together with the municipality, and the municipality even defending some interests of the developer. Even if this is not directly of influence on the sustainable content of the individual developments, this development process itself positively influences the degree of urban sustainability according to theory, because it influences the degree of influence that the private parties have in shaping their own environment, which is a component of future long term satisfaction and urban sustainability.

In Overhoeks, more elements of the plan are pre-defined and less things aren't open to discussion. This is in line with the more top-down development approach of Overhoeks. Therefore there is also less discussion on costs. Furthermore the municipality is more strongly defending its own interests in Overhoeks, with less inclination to accommodate developers. It is the developer's role to accommodate the municipality, because the municipality makes the rules.

General conclusions developer and municipality - Also some general conclusions on the interests of the developer and the municipality in urban area developments can be drawn. From the amount of time certain interests are expressed by the actors in the development deliberations, along with what they identified as their main interests in the interviews, the main interests from the municipality and the developer have been determined. Some of these conflicts are inherently prone to conflict with each other. Most common conflicts are the ones between costs and quality, relevant both within the municipality and the developer themselves, as between them. Another important group of conflicts is discovered between the interests of enhanced attractiveness, environmental friendliness and the implementation of sustainable interventions, versus development process aspects such as simplicity of the building and maintenance process, the speed of the development and of course again, costs.

Both of these interests can be accommodated in urban area development processes, but this requires special attention. The possibility to implement both interests without one of them suffering from the other, decreases as the plan development process progresses.

However, some interests of the developer and the municipality are inclined to enforce each other and work to each other's benefit. Actors can find each other in these mutual interests, such as attractiveness of the urban environment and public space, speed of the development process and resource efficiency.

B. INTERESTS & PROPOSED INTERVENTIONS IN RELATION TO SUSTAINABILITY COMPONENTS THEORY

Now the content of the development deliberations will be analyzed from the perspective of long term urban sustainability. To do this, the manifested interests of the actors as well as the proposed interventions will be related to the components of long term urban sustainability as these have come forward from theory.

AFFECTED SUSTAINABILITY COMPONENTS

In the development deliberations also the wishes of the actors have been inventoried through the tracking of the proposed interventions by the actors. Naturally, these interventions have a certain effect on the development, be it in terms of product, process or both. In this way they can also have an effect on components of the development that are of influence on the future degree of urban sustainability of the area, as defined by theory. These components have been made insightful in appendix II.1.6. Per defended intervention, the influence sustainability components have been associated with it and the effect of the intervention on these components (positive or negative from the perspective of sustainability) is added.

In Buksloterham and Overhoeks the following sustainability components from theory are affected by the actors in the development deliberations:

- Attractiveness & distinctiveness area
- Attractiveness functions
- Fitness & attractiveness real-estate for function
- Comfort & user quality of real estate and public space
- Compatibility of functions
- User viability of functions
- Interweaving of functions
- Coverage and diversity of functions
- Degree of car / bicycle / pedestrian orientation
- Fossil fuel consumption & pollution
- Market conformity
- Permeability & safety traffic
- Resource efficiency

- Duration of the development process

Influence in development deliberations

Positively affected - In the large majority of the cases these components (and with that urban sustainability) are positively affected by the proposed interventions in the development deliberations. Attractiveness & distinctiveness of the area, attractiveness of functions, fitness & attractiveness real estate for function and comfort & user quality of real estate and public space are largely positively affected by the actors in the development deliberations.

Positively and negatively affected - Compatibility of functions, interweaving of functions, coverage and diversity of functions, permeability of safety & traffic and the degree of car / bicycle orientation are about equally positively as negatively affected. This can be because other things are more, or less, important in the specific discussion or because there is still an unresolved dilemma on the interest itself. This is the case with the last point 'degree of car/bicycle orientation' in Overhoeks and Buiksloterham, with a long-term objective to transition towards slower modes of transport but at the same time a desire to make the area highly comfortable for car usage (especially in Overhoeks).

Negatively affected - Mostly negatively affected are the viability of functions, market conformity of functions, duration of the development process, resource efficiency and fossil fuel consumption and pollution.

The viability of functions is rarely mentioned at all, but when it is affected it is often in negative sense because the developer yields towards the more profitable functions, which are not necessarily the functions that are the most necessary on the long term in the area given the context. An example of this is the constant inclination towards housing in the high segment. This also comprises a risk for market conformity. The municipality however guards these aspects well.

The duration of the development process is largely negatively affected because, firstly, there is little room for interventions to lead to an acceleration. Furthermore new or changed wishes from actors occurring over the course of the development process lead to more work and more time needed. This prolongation is even larger when these changes come up in such a phase in the development process that adjusting measures on previous work need to be taken.

Furthermore, resource efficiency, fossil fuel consumption and pollution are almost in all cases negatively affected because they interfere with the simplicity of the building process and, more importantly, because, in the way the built environment and urban society is designed right now, it is still easier and cheaper for the municipality and developers to meet the requirements of themselves and the end-user in a fossil-fueled and pollutive way than it is to achieve them in a resource efficient, non-fossil fueled and non-pollutive way. A transition towards an environment with these last characteristics, needs a change of systems (which costs effort and money), a change of urban processes (such as mobility and waste management) and a change in the mentality of the citizens. This however conflict with some very important mutual interests of the most important actors in the development process: speed, costs and attractiveness.

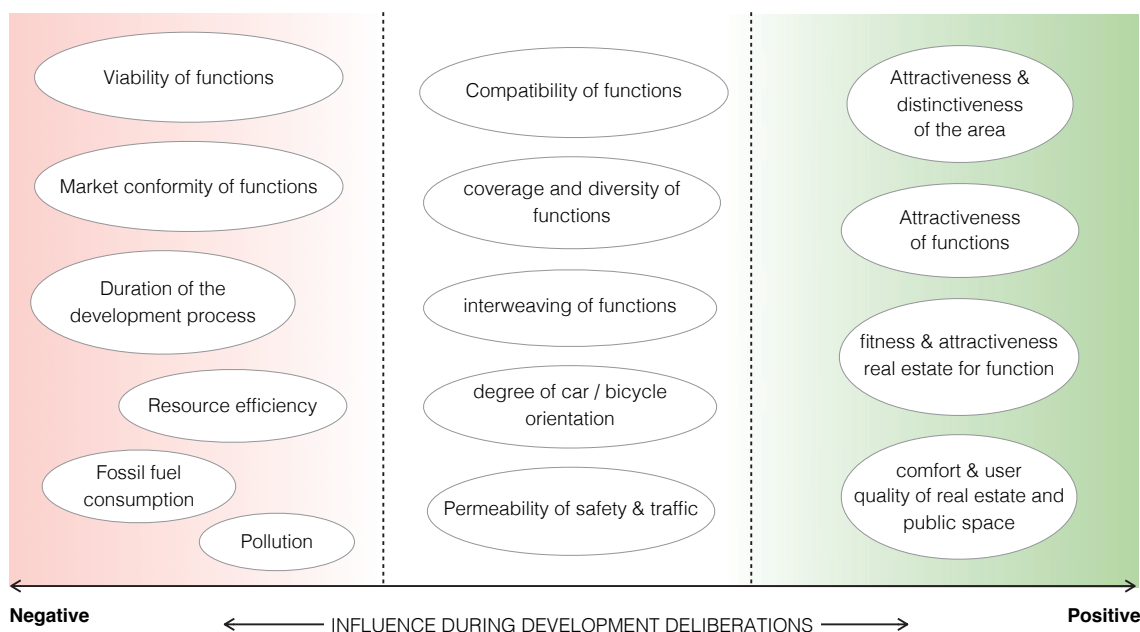


Figure III.4.3. Sustainability components mapped according to the way they are influenced during the development deliberations (own illustration)

Components of mixed-use - Many of the sustainability components affected during the development deliberations are directly related to (the degree of) mixed-use of the development in question. Again however, mixed-use is never explicitly mentioned as an interest, nor is the impact of a lesser or larger degree of mixed-use on other components of sustainability or actor-interests ever referred to by an actor in the development process.

As far as the way in which the sustainability components related to mixed-use are influenced is concerned, the components directly related to a mix of different functions stay pointedly in the middle of the diagram, meaning that they are about equally positively as negatively influenced by the actors during the development deliberations.

The sustainability components related to the success of individual functions and real estate objects are predominantly positively affected, in line with the direct benefits they comprise for the municipality and developer, also in terms of market value. Unfortunately however, a positive influence of these components doesn't entail a positive effect on the degree of function-mix in the area.

It does become clear that the components related to the success of individual functions on a longer term, such as viability of functions and market conformity, fall in the negatively affected category of sustainability components. It has been speculated earlier that the negative influence on these elements is attributable to the actors in the urban redevelopment process being lead by their interests that provide obvious and direct profits on a short term timespan, with the result of longer term and therefore less evident benefits being clouded and less defended.

ACTOR-INTERESTS IN RELATION TO SUSTAINABILITY COMPONENTS FROM THEORY

Based on their effect on the urban sustainability components from theory, the sustainability of the mentioned interests of the actors in the development deliberation can also be determined.

Some interests mentioned by the actors are directly related to or even equal to certain sustainability components from theory. These are the interests relating to the attractiveness (spatial, residential, visual quality and overall attractiveness) and functionality and comfort (comfort, functionality, safety, robustness materials) of the real estate, public space and urban environment, along with the interests viability of the functions, avoidance of vacancy, stimulation of slow modes of transport, desorientation from car, intensity of land-use, resource efficiency and environmental friendliness. Other interests are no sustainable interests, such as comfort for car-usage, profit, cost, speed of the development and simplicity of maintenance and building processes.

It is remarkable that, while many interests that the actors defend influence urban sustainability, almost none of them are presented as such in the development deliberations. This while this could provide an additional argument and enforce the point that the actor is making. Also other manifestations in the development deliberations indicate that elements are not seen as being of influence on sustainability.

More sustainable interests manifested in Buiksloterham - Depending on the choice the interest supports regarding the proposed intervention and its relation to the urban sustainability, interests can clearly be defined as being sustainable or not sustainable. In both areas, about two thirds of all expressed interests are in favour of urban sustainability. In Overhoeks, by far the largest share of sustainable interests were represented by the municipality. In Buiksloterham, sustainable interests were almost equally represented by the municipality and the developers and often shared by both.

The municipality in Overhoeks however also defends various interests that are opposing sustainability (such as not pursuing certain measures that would increase quality). These interests can be traced back to speed of the development process, costs and simplicity in the building process. In Buiksloterham however, almost no non-sustainable interests were represented by the municipality.

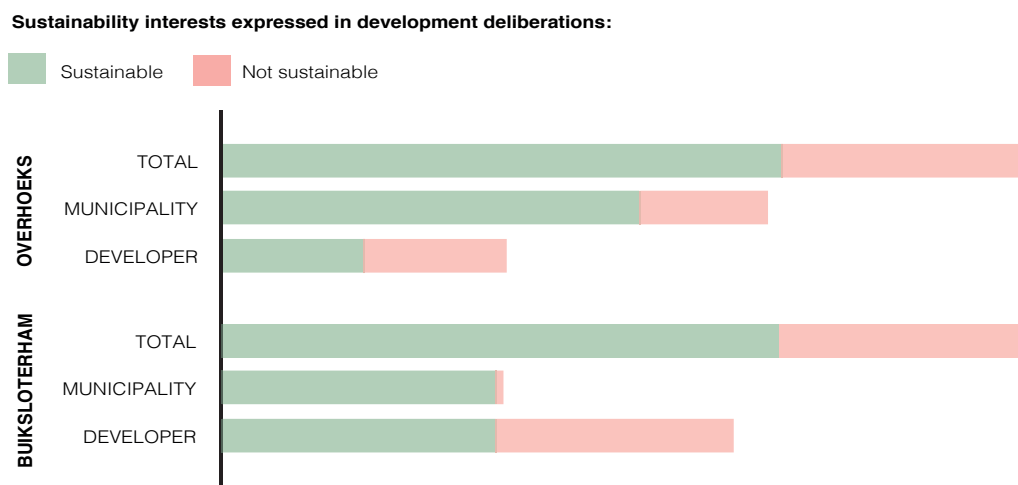


Figure III.4.4. Sustainability interests expressed in development deliberations according to defender (own illustration)

* This diagram does not indicate exact quantities and has the sole purpose of visualising observed trends and general ratios to offer a better insight and understanding of the real situation.

PROPOSED INTERVENTIONS IN RELATION TO SUSTAINABILITY COMPONENTS FROM THEORY

In the same way the sustainability of the proposed interventions has also been analysed.

Based on their positive or negative effect on sustainability components from theory the interventions have been typified as sustainable or not sustainable and further been subject to analysis.

Proposed interventions mostly positive for sustainability - In both areas, most proposed interventions would positively affect urban sustainability.

In Overhoeks, the municipality and the developer proposed sustainable interventions, but the municipality by far the most. In Buksloterham, an equal amount of sustainable interventions was proposed by the municipality and developing parties, but all non-sustainable interventions were proposed by developers.

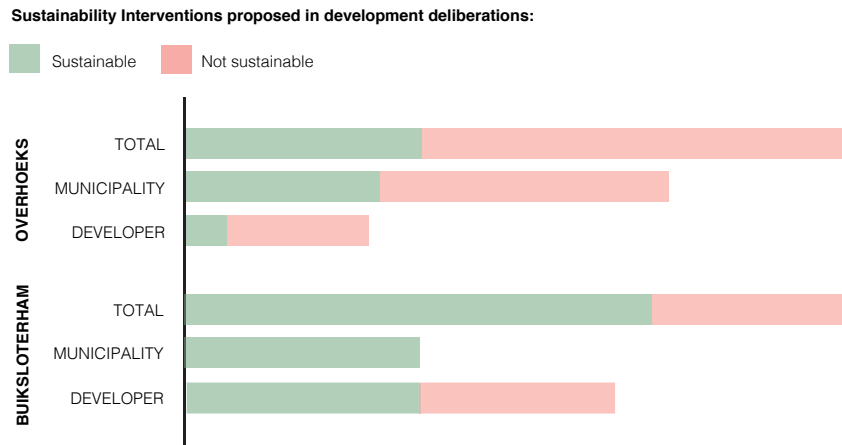


Figure III.4.5. Sustainability interventions proposed in development deliberations according to proposer (own illustration)

* This diagram does not indicate exact quantities and has the sole purpose of visualising observed trends and general ratios to offer a better insight and understanding of the real situation.

Also the nature of the interventions in the light of urban sustainability in relation to the phase of the development process in which the intervention was proposed, the land-situation and the development-situation of the project was analyzed.

Sustainability of interventions in relation to phase - From the observation of the 41 development deliberations, four separate phases could be distinguished in the development process: The plan development phase, the design phase, the execution phase and the operation phase. In Overhoeks, most requests for sustainable and unsustainable interventions were done in the plan development stage and design phase. In the execution phase less sustainable interventions have been proposed, and more unsustainable interventions have.

In Buiksloterham, the same trend can be observed, except with a higher degree of sustainable interventions. The interventions proposed in the plan development stage are all sustainable, gradually declining with non-sustainable propositions coming up in the design phase and finally becoming replaced by almost purely non-sustainable propositions in the execution phase.

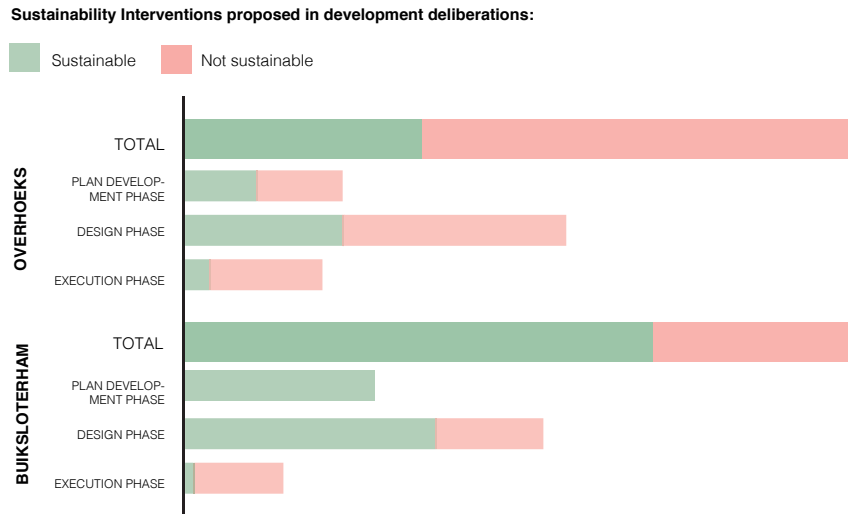


Figure III.4.6. Sustainability interventions proposed in development deliberations according to phase (own illustration)

* This diagram does not indicate exact quantities and has the sole purpose of visualising observed trends and general ratios to offer a better insight and understanding of the real situation.

Sustainability of interventions in relation to land- and development situation - Regarding the land and development situation (analyzing both areas together), the ratio of sustainable interventions from the total of proposed interventions in the projects is the highest in projects where the land is owned and developed by the municipality and the lowest in development projects where the land is privately owned and developed. From the projects that are being developed on municipal land by a developer in leasehold, the projects being developed by parties that had not been subject to a selection procedure (such as ING, some housing corporations and others) represent the highest ratio of non-sustainable propositions. The projects that had been subject to a selection procedure, such as a tender score significantly higher in the sustainability of the interventions proposed by their developers. This score is much higher however in Buiksloterham than in Overhoeks. Furthermore, collective private commissioning projects achieve better scores in this field than private commissioning projects, where at the start many sustainable propositions are done, but later in the development process these are sometimes reverted to non-sustainable propositions.

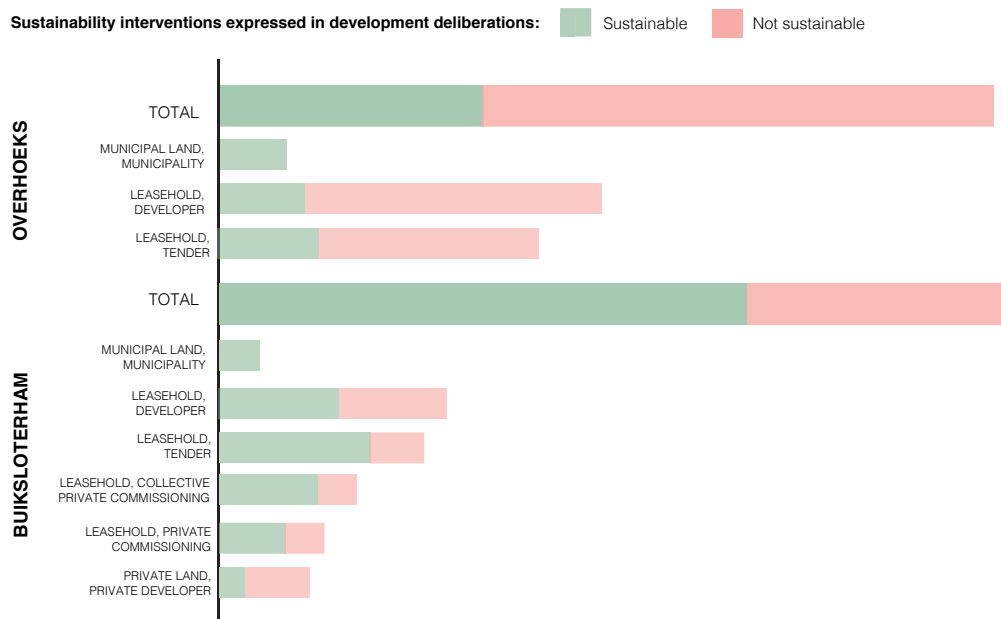


Figure III.4.7. Sustainability interests expressed in development deliberations according to land- and development situation (own illustration)

** This diagram does not indicate exact quantities and has the sole purpose of visualising observed trends and general ratios to offer a better insight and understanding of the real situation.*

CONCLUSION INTERESTS & INTERVENTIONS IN RELATION TO SUSTAINABILITY COMPONENTS THEORY

Influence sustainability components in development deliberations - Many of the urban sustainability components deduced from theory are influenced by the actors in the development deliberations in Overhoeks and Buiksloterham. These are especially the components related to the functions, physical appearance, functionality and comfort of the real estate and urban environment, and certain orientations, such as environmental friendliness, fossil fuel dependency, resource efficiency, functions viability, market conformity and car/pedestrian/bicycle orientation. It becomes clear once again however, that the impact of certain interventions on the urban sustainability is insufficiently understood and recognised by the actors.

The components related to comfort, functionality and visual quality are often positively affected in the development deliberations. This can be attributed to the mutual endeavor of the actors for a more attractive environment.

The 'orientations' are mostly negatively affected. This is firstly because, regarding their content (environmental friendliness, fossil fuel dependency, resource efficiency, car/bicycle/pedestrian orientation), in the current society it is still easier and cheaper to meet the end-user requirements of the development in a way that does not follow these sustainable interests, than it is in a way that

does. This leads to these orientations mostly being in conflict with higher interests of the actors in the development: Costs and attractiveness for the end-user. Secondly, these elements are mostly negatively affected because they are simply less defended in the development deliberations in relation to the other interests. It is highly likely that this is because the interests demonstrating direct benefits are the most important in the eyes of the actors. These 'orientational' sustainability components often don't show direct effects, while other interests do, and therefore often get pushed to the background.

Mostly sustainable interests and interventions defended - From the analysis of the interests and interventions of the actors in the light of these sustainability components, about two thirds of the interests expressed in both urban area developments can be considered as in favour of sustainability and one third as negative for sustainability. In line with this, most proposed interventions also positively affect urban sustainability components.

Sustainability of proposed interventions in relation to actor - In Overhoeks, the large majority of sustainable interests and sustainable proposed interventions were represented by the municipality, while in Buiksloterham about half of these were expressed by the developer. This illustrates a relatively large sustainable orientation of the developers in Buiksloterham. All non-sustainable interventions in Buiksloterham however were also proposed by the developer, which demonstrates that the developer is still in internal conflict between their interest for sustainability and their direct interests in terms of time and money.

Sustainable orientation actor in relation to phase - Regarding the phase, we see that the sustainable orientation of the actors is highest in the plan development phase, and decreases as the development process progresses. In the execution phase sustainable interests are often overruled by more direct and practical interests relating to time and money.

Sustainable orientation actor in relation to land- and development situation - Slight differences in the sustainable orientations of actors can be seen regarding land and development situation. Municipal developments are the most sustainable in terms of sustainable interventions being proposed, because municipality is both owner and developer of the land and the interests of the municipality (= more public and long term interests) are thus core. The sustainable orientation decreases as the power of the municipality decreases and the power of the private developers rises, with the sustainable orientation of leasehold projects being larger than in developments by private developers on private land, and the sustainability decreasing as exercised power of the municipality on the developers (through for example selection procedures and requirements) is being relaxed. In these cases this has led to the order of land-and development situations as illustrated in figure III.4.10. A power of the municipality to influence this can however also be recognized, as is illustrated by the difference in sustainable orientation of the developer in Buiksloterham and Overhoeks.

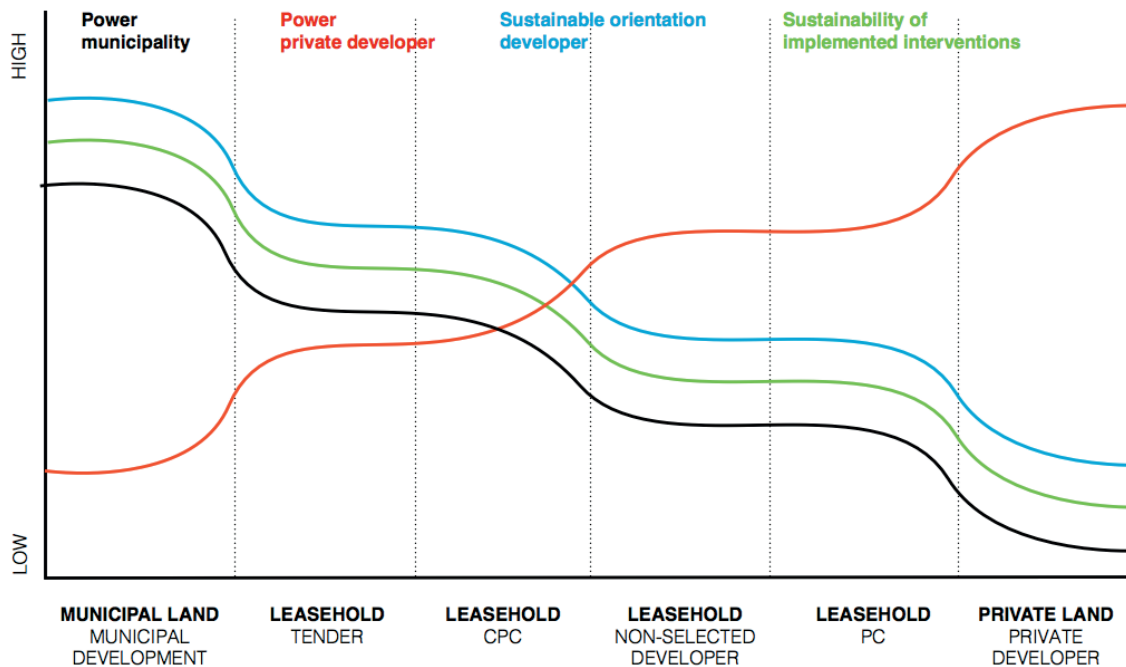


Figure III.4.8. Observed implications of land and development situation on urban sustainability (own illustration)

* This diagram does not indicate exact quantities and has the sole purpose of visualising observed trends and general ratios to offer a better insight and understanding of the real situation.

C. DECISION-MAKING BALANCE

Finally, next to the analysis of the interests and the sustainability of these interest and the proposed interventions, there has been looked at the balance of these interests in the eventually made development decision on the topic that was at discussion.

Method - The decision-making balance is determined by analyzing the implementation of the proposed interventions in relation to the actor(s) defending them. When a decision is made to implement a certain intervention, the actors advocating the intervention had a higher weight in the decision making balance, while the actors opposing the intervention were evidently weighed lower. The same goes for the opposite situation: When it is decided to not implement an intervention, the actors opposing the intervention were apparently higher in weight in the decision-making balance than the actors advocating it.

Many decisions not made during research - Since the empirical research was investigating ongoing developments, many of the decisions on proposed interventions have not been decided during the period of the research. These interventions can therefore not be included in the analysis of the implementation of the proposed interventions.

FINDINGS

Implementation of sustainable / non-sustainable interventions - From the propositions on which a decision was made however, an equal amount of sustainable and unsustainable interventions have eventually been implemented in Overhoeks. In Buikslotherham, the large majority of the accepted interventions are sustainable and only a very small portion of non-sustainable interventions have been implemented. In fact, all proposed sustainable interventions decided upon over the course of the research have been implemented. Of the non sustainable proposed interventions, less than half of the ones proposed became implemented.

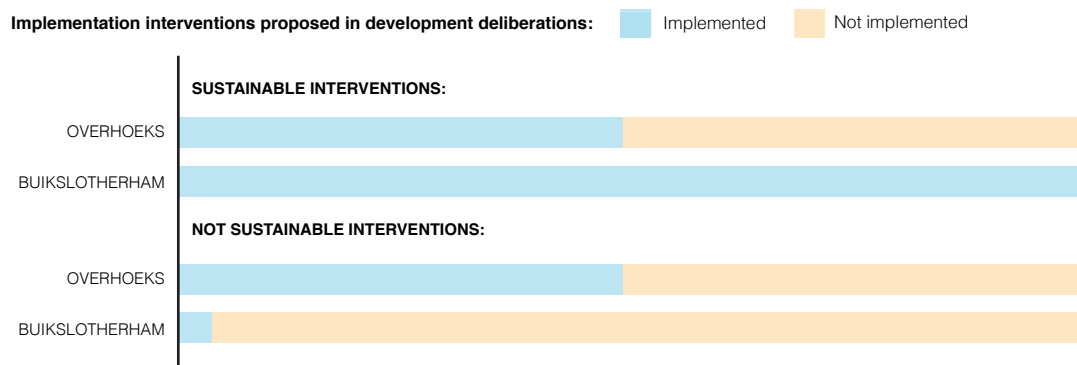


Figure III.4.9. Implementation proposed interventions in development deliberations according to sustainability (own illustration)

** This diagram does not indicate exact quantities and has the sole purpose of visualising observed trends and general ratios to offer a better insight and understanding of the real situation.*

Implementation of interventions in relation to proposing actor - Regarding the proposer of the interventions in relation to the eventual implementation of these interventions, the large majority of the implemented interventions in both areas were interventions proposed by the municipality.

In Overhoeks, most interventions proposed by the developer were not implemented, and most interventions proposed by the municipality were implemented. In Buikslotherham, about two thirds of the interests proposed by developers and all interventions proposed by the municipality were implemented.

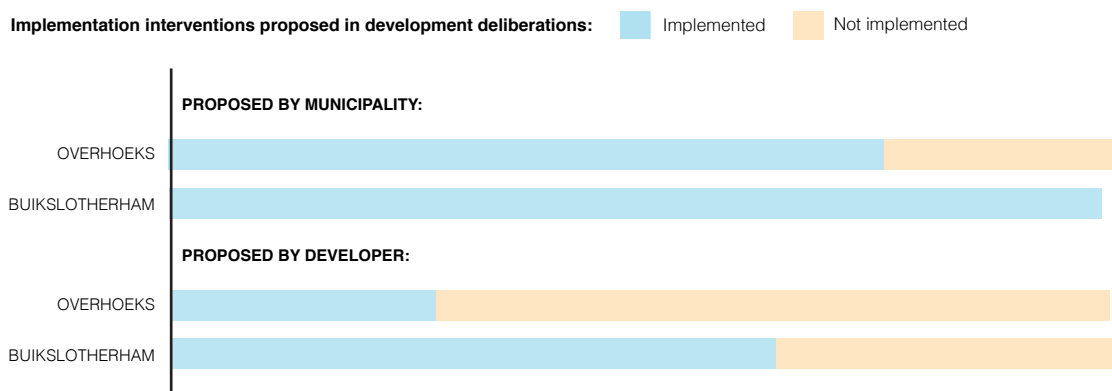


Figure III.4.10. Implementation proposed interventions in development deliberations according to proposer (own illustration)

** This diagram does not indicate exact quantities and has the sole purpose of visualising observed trends and general ratios to offer a better insight and understanding of the real situation.*

Implementation of interventions in relation to land- and development situation - Although the gathered dataset was not large enough to draw valid conclusions for each land- and development situation, the observation can be made that in these case studies, most interventions proposed by the developer were implemented when the project was developed by private developer on private land or by a private commissioner on leasehold municipal land. This amount is least in the tender and collective private commissioning projects where the municipal control is strict.

Implementation of interventions in relation to phases - In terms of phases, the implementation of proposed interventions is high in the plan development phase with almost all proposed interventions being implemented, and gradually declines as the development progresses and moves through the design and execution phase, with about half of the interventions proposed in the design phase being implemented and most interventions proposed in the execution phase not being implemented. Still, interventions proposed in the execution phase are often implemented (often because there is no other choice), and these interventions are mostly non-sustainable.

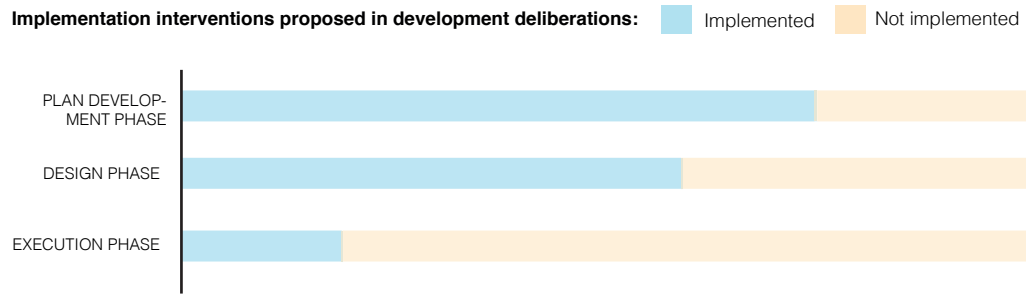


Figure III.4.11. Implementation proposed interventions in development deliberations according to phase (own illustration)

** This diagram does not indicate exact quantities and has the sole purpose of visualising observed trends and general ratios to offer a better insight and understanding of the real situation.*

CONCLUSION DECISION-MAKING BALANCE

High power leads to high chance of implementation of proposed interventions - These conclusions are supported by the analysis of the decision making balance in the development deliberations. Most interventions proposed by the municipality have been implemented in the land- and development situations where the municipality is high in power and decline as the power of the municipality decreases, along the same lines of figure III.4.8. For the developer this is exactly the other way around.

Highest chance for implementation early in the planning process - Sustainable propositions have the highest chance of being implemented when being proposed in the early plan development process. This chance decreases as the development process progresses through the design phase and the execution phase, with most non sustainable interventions being implemented in the execution phase.

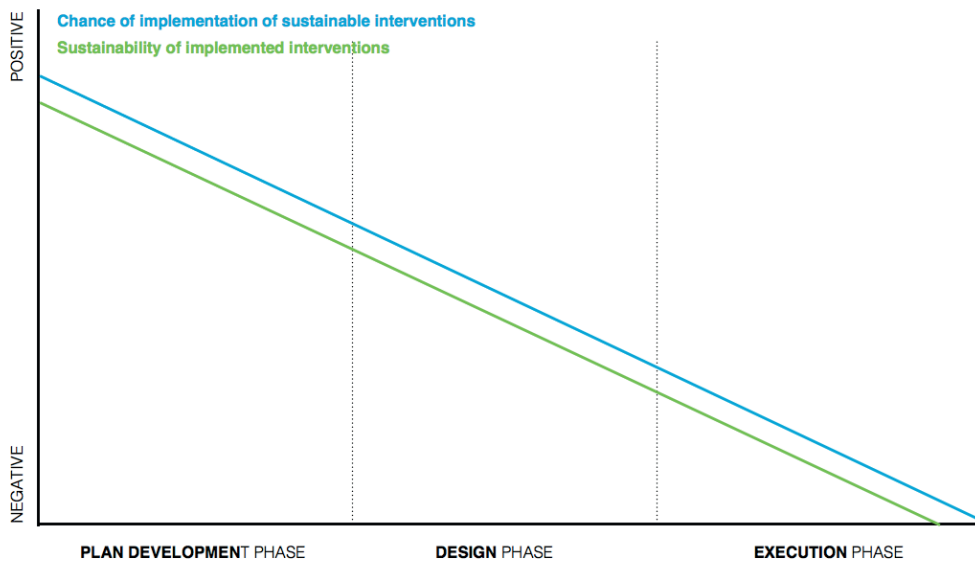


Figure III.4.12. Evolution of the chance of implementation of sustainable interventions and the sustainability of implemented interventions as the development process progresses (own illustration)

* This diagram does not indicate exact quantities and has the sole purpose of visualising observed trends and general ratios to offer a better insight and understanding of the real situation.

Higher weight of sustainable interests in decision-making process in Buiksloterham - In the decision making balance, the interests of time and money are always heavy in weight. The mutual interest for overall attractiveness, which is a component of urban sustainability, is however also heavy-weighting in the decision making balance. In Overhoeks however, the sustainable components including the ones of overall attractiveness are subordinated to time and money in the decision making balance, which has lead to an implementation of about half of the sustainable proposed interventions and the proposed non-sustainable interventions. In Buiksloterham, all sustainable proposed interventions that have been decided upon over the course of the research are implemented along with only very few non sustainable ones.

Practical obstacles for implementation - Some last observations from the decision making balance are that there are also cases in which the developer and the municipality agree, but decisions are not implemented because of an external obstacle. In many cases these are legislative affairs, for example the zoning plan. This emphasizes that legislation should be very particular in what it is prohibiting, to avoid the situation in which desirable developments accidently fall under this category. There are also precedents (in Buiksloterham) in which, although there is an initiative from the developer to implement a sustainable intervention, this is put off because of the requirements set by the municipality. Sometimes so many requirements are set that the intervention becomes too specific and eventually becomes too expensive for the developer to implement on its own costs and is discarded. The municipality has to be very attentive to what

requirements it sets to the implementation of sustainable interventions and what things it chooses to subsidize.

D. CONCLUSION

From the observation of the 41 development deliberations within the municipality and between the municipality and developing parties in the urban area developments of Overhoeks and Buiksloterham in Amsterdam, a number of conclusions can be drawn.

No explicit pursuit of mixed-use - Firstly, mixed-use is never explicitly mentioned as an interest, nor is the impact of a lesser or larger degree of mixed-use on other components of sustainability or actor-interests ever referred to by an actor in the development process.

The fact that mixed-use is not mentioned explicitly as a desire by the actors in the urban area development process confirms the statement from theory that the relation between mixed-use and its positive consequences on the interests of the actors is rarely understood in practice. Monofunctional development often seems easier and more (cost)efficient to develop for actors, while mixed-use development implies extra effort and complexity while the benefits are not always recognised. This is a shame, because on the long term, mixed-use development does provide many benefits for most of the actors involved in the urban area development, as the theoretical framework has shown. Furthermore, the absence of recognition of the importance of mixed-use development for the interest of the actors eliminates the possibility to steer on mixed-use, with better results as a result.

This finding once again illustrates the importance of making the link between mixed-use development and benefits for the interests of the actors clear in the heads of the actors. The benefits that mixed-use comprises are increasingly becoming recognised as an interest, such as the attractiveness of public space, intensification of land-use and stimulation of slow modes of transport, but the step remains to connect these abstract interests to the form of the urban area development product that fosters it: mixed-use.

Focus on sustainability in Buiksloterham and focus on a streamlined development process in Overhoeks - From the interests that are manifested by the actors, we can see that in Buiksloterham there is quite a large focus on sustainability, while in Overhoeks actors are not focused on sustainability at all. Instead, the actors are focused more on the streamlinedness of the development process. This is reflected in the results that have been achieved in Overhoeks so far, with large, ambitious and well reviewed projects being developed.

Culture of mutual collaboration in Buiksloterham - Actors do demonstrate a larger inclination to collaborate and accommodate in Buiksloterham. Even if this is not directly of influence on the sustainable content of the individual developments, this development process itself positively influences the degree of urban sustainability according to theory, because it influences the degree of influence that the private parties have in shaping their own environment, which is a component of future long term satisfaction and urban sustainability. In Overhoeks, the municipality sticks to it's top down role of making the rules and it is more the developers that must accommodate the wishes of the municipality, while in Buiksloterham this mentality is more other way around.

Actor involvement - Reflecting on the involvement of the actors identified in the chapter 'Actor analysis', the overarching observation of the development deliberations of Overhoeks and Buiksloterham has shown that in fact, actors besides the developer and the municipality are rarely involved in the development deliberations and therefore have a little to no weight in the making of the development decisions.

General interests of the municipality and the developer and the importance of long term commitment of actors to the development result - From the core interests from the municipality and the developer as an actor type that can be deduced from their manifested interests in the development deliberations and the interests they presented as their main interests in the interviews, it becomes clear that the developer is indeed very profit oriented and the municipality indeed predominantly advocates public interests. For the developers however, the commercial, selling developer shows a low interest in sustainability and the viability of the developed functions, which can be explained by the short term commitment of this actor to the development result. Thus, fostering a longer term commitment of actors to the development result, through for example investing developers and longer contracts, is very important in the light of sustainability and long term viability of the real estate, as was already subscribed by theory (Heurkens, 2012). This should therefore be pursued when aiming at long term urban sustainability.

Inherent conflict in interests between costs and (sustainable) quality - From the main general interests of the developer and the municipality some interests are inherently conflicting. Cost versus quality and the pursuance of sustainable elements versus the simplicity, cost and speed of the development process are the most important conflicts. This threatens the future urban sustainability of the development. Some mutual interests of the developer and the municipality however can also enforce each other, such as attractiveness of the urban environment and public space, speed of the development process and resource efficiency, and offer opportunities for the implementation of sustainability.

Influenced sustainability components - Many urban sustainability components from theory are influenced by the actors in the development deliberations. Results from the analysis of the development deliberations is that most interests and proposed interventions are actually in favour of sustainability.

The aspects related to comfort, functionality and visual quality are often positively affected, thanks to the mutual endeavor of the actors for a more attractive environment. Orientational aspects such as environmental friendliness, fossil fuel dependency, resource efficiency and degree of car/bicycle/pedestrian orientation are mostly negatively affected, largely because they are in conflict with higher interests of the actors, such as costs and attractiveness for the end-user. They are however also less defended in the development deliberations, probably because they demonstrate less direct benefits and are therefore often subordinated to interests that do in the decision making balance. This composes a threat for the implementation or urban sustainability. In this context, the high importance of recognition of the influence of certain decisions on the future level of urban sustainability and of the long term benefits of urban sustainability, is shown once again.

Larger sustainable orientation in Buiksloterham - Buiksloterham illustrates a large sustainable orientation of the developers compared to Overhoeks. This is also reflected in the amount of sustainable interventions that are eventually implemented, indicating a higher weight of sustainability in the decision making balance in Buiksloterham.

Sustainable orientation in relation to land- and development situation - Although the used data set is too small to come to factual conclusions in terms of the relation between the implementation of urban sustainability and the land- and development situation or phase of a project, some clear trends can be observed. Slight differences in the sustainable orientations of actors can be seen regarding land and development situation. The sustainable orientation of the developer and sustainability of implemented interventions is highest in municipal developments and decreases as the power of the municipality decreases and the power of the private developers rises.

Sustainable orientation in relation to phase - Regarding the phase, we see that the sustainable orientation of the actors is highest and the opportunity for implementing sustainable components is also the highest in the plan development phase, and decreases as the development process progresses. In the execution phase, sustainable interests are often overruled by more direct and practical interests relating to time and money, leading to many (very) unsustainable decisions being made over the course of the execution phase.

5. CONCLUSIONS FROM CASE STUDIES

As a conclusion of the empirical part of the research, the findings and lessons learned from practice will shortly be summarized.

FINDINGS

First of all a comparison has been made between the two cases of Overhoeks and Buiksloterham on all the studied topics. This has been summarized in the table below:

LAND & DEVELOPMENT SITUATION		
	OVERHOEKS	BUIKSLOTERHAM
LAND SITUATION	18 PLOTS	82 PLOTS
	17 plots municipal land	64 plots municipal land
	3 plots free for municipality	16 plots free for municipality
	13 plots in leasehold	48 plots in leasehold
	1 plot rented out	4 plots rented out
	1 plot privately owned	18 plots privately owned
DEVELOPMENT APPROACH	Public-led, pre-planned development by the municipality and selected large developer(combinations).	Private-led and incremental development of small plots, facilitated by the municipality
DEVELOPMENT FORMULAS	<ol style="list-style-type: none"> Selected developers / housing associations Tenders 	<ol style="list-style-type: none"> Selected developers / housing associations Private developments on own land PC CPC Sustainable tenders
PLANNING DOCUMENTS		
	OVERHOEKS	BUIKSLOTERHAM
TYPE OF PLANNING DOCUMENTS	Project decree - investment decree - urban masterplan - zoning plan - Plaberum plans on plot and sub-area level	Project decree - investment decree - zoning plan - custom made plans on plot and sub-area level
SPECIFIC INTENTIONS IN PLANNING DOCUMENTS	Mixed-use, calm urban area with lively strip with metropolitan functions	Mixed-use, flexibility, sustainability, diversity
INTERPRETATION OF SUSTAINABILITY IN PLANNING DOCUMENTS	Environmental sustainability	Environmental sustainability (implicit: social + economical sustainability)

INTENTIONS WITH MIXED-USE IN PLANNING DOCUMENTS	Necessary for a 'succesful, inner city environment'	Modern urban form of dynamic 'inner city' urban environments, fostering diversity, distinctiveness and social and economical viability of the area
IMPLEMENTATION OF CONCEPT 'MIXED-USE'	Mixed-use on the level of the area through strictly seperated functional zones, and on the level of one sub-area through function mix between and within relatively large plots.	Mandatory mixed-use on the level of the plot
INSTITUTIONAL FRAMEWORK / REGULATIONS IN PLANNING DOCUMENTS	Strict	(Attempted to be) flexible
ACTORS		
	OVERHOEKS	BUIKSLOTERHAM
INVOLVED ACTOR TYPES	Client initiator investor developer advisor architect and constructor operator end-user	Client initiator investor (end-user)developer advisor architect and constructor operator end-user
ACTORS IN MUNICIPAL PROJECT TEAM	3 x project manager 1 x ass. project / neighborhood manager 2 x Designer public space (Before: Urbanist) 2 x project leader land affairs 3 x project leader execution 2 x plan economist 1 x planning advisor 1 x communication advisor (Before: Urban supervision team) Architectural supervision team	2 x project manager 3 x assistent project manager 2 x jurist 2 x urbanist 1 x sustainability expert 2 x project leader land affairs 1 x project leader execution 1 x plan economist 2 x planning advisor 1 x communication advisor Urban supervision team
DEVELOPMENT DELIBERATIONS		
	OVERHOEKS	BUIKSLOTERHAM
PURSUIT OF MIXED-USE IN DEVELOPMENT DELIBERATIONS	No explicit pursuit of mixed-use	No explicit pursuit of mixed-use
MENTIONED INTERESTS IN DEVELOPMENT DELIBERATIONS	Same as in Buiksloterham, with one interest being mentioned in Overhoeks and not in Buiksloterham: Comfort for car usage.	Same as in Overhoeks, with three interests being mentioned in Buiksloterham and not in Overhoeks: Viability of functions, environmental friendliness, sustainability
SCALE OF INTERESTS MUNICIPALITY	Public space + sub-area Whole area	Whole area Whole city Development project of municipality / developer
GENERAL SCALE OF INTERESTS DEVELOPER	Own development project Surrounding public space	Own development project + surrounding public space Sub area + whole area

COLLABORATION IN DEVELOPMENT DELIBERATIONS	Focus on own interests, 'competitive' attitude	Focus on mutual interests, collaborative attitude
INCLUDED ACTORS IN DEVELOPMENT PROCESS	Municipality Developer	Municipality Developer End-user (Papaverpark)
FREEDOM OF DEVELOPER TO SHAPE OWN ENVIRONMENT	Low	High
SUSTAINABILITY OF EXPRESSED INTERESTS	In total: - around 70% sustainable (of which ca 75% mentioned by municipality and 25% mentioned by developer) - around 30% non sustainable (of which ca 40% mentioned by municipality and 60% mentioned by developer)	In total: - around 70% sustainable (of which ca 50% mentioned by municipality and 50% mentioned by developer) - around 30% non sustainable (of which ca 5% mentioned by municipality and 95% mentioned by developer)
	Municipality: Around 80/20% sustainable / non sustainable interests	Municipality: Around 95/5% sustainable / non sustainable interests
	Developer: Around 50/50% sustainable / non sustainable interests	Developer: Around 50/50% sustainable / non sustainable interests
SUSTAINABILITY OF PROPOSED INTERVENTIONS	In total: - around 35% sustainable (of which ca 80% proposed by municipality and 20% proposed by developer) - around 65% non sustainable (of which ca 70% proposed by municipality and 30% proposed by developer)	In total: - around 65% sustainable (of which ca 50% proposed by municipality and 50% proposed by developer) - around 35% non sustainable (of which 100% mentioned by developer)
	Municipality: Around 30/70% sustainable / non sustainable proposed interventions	Municipality: 100% sustainable proposed interventions
	Developer: Around 20/80% sustainable / non sustainable proposed interventions	Developer: Around 60/40% sustainable / non sustainable proposed interventions
SUSTAINABILITY IMPLEMENTED INTERVENTIONS	Sustainable interventions: Around 50/50% implemented / not implemented	Sustainable interventions: Around 100% implemented
	Non-sustainable interventions: Around 50/50% implemented / not implemented	Non-sustainable interventions: Around 5/95% implemented / not implemented
IMPLEMENTATION PROPOSED INTERVENTIONS	Proposed by municipality: around 80% implemented around 20% not implemented	Proposed by municipality: Around 100% implemented
	Proposed by developer: around 30% implemented around 70% not implemented	Proposed by developer: around 70% implemented around 30% not implemented
FOCUS IN DEVELOPMENT DELIBERATIONS	Focus on streamlined development	Focus on sustainability

Table III.5.1 Findings comparison Overhoeks and Buiksloterham

Furthermore, some general findings have been found that were true in both cases:

<p>MOST MENTIONED INTERESTS IN DEVELOPMENT DELIBERATIONS</p>	<ul style="list-style-type: none"> - Visual quality - Costs
<p>MOST OCCURRING CONFLICTS OF INTEREST IN THE DEVELOPMENT DELIBERATIONS</p>	<ul style="list-style-type: none"> - Quality VS. Costs - Implementation of sustainable principles VS. simplicity, cost and speed of the development process
<p>MOSTLY POSITIVELY INFLUENCED SUSTAINABILITY COMPONENTS IN DEVELOPMENT DELIBERATIONS</p>	<ul style="list-style-type: none"> - Attractiveness of the area - Distinctiveness of the area - Attractiveness of functions - Fitness & attractiveness real estate for function - Comfort & user quality of real estate - Comfort & user quality public space
<p>EQUALLY POSITIVELY AND NEGATIVELY INFLUENCED SUSTAINABILITY COMPONENTS IN DEVELOPMENT DELIBERATIONS</p>	<ul style="list-style-type: none"> - Compatibility of functions - Interweaving of functions - Coverage and diversity of functions - Permeability of safety & traffic - Degree of car / bicycle orientation
<p>MOSTLY NEGATIVELY INFLUENCED SUSTAINABILITY COMPONENTS IN DEVELOPMENT DELIBERATIONS</p>	<ul style="list-style-type: none"> - Viability of functions - Market conformity of functions - Duration of the development process - Resource efficiency - Fossil fuel consumption and pollution
<p>IMPLEMENTATION PROPOSED INTERVENTIONS ACCORDING TO PHASE</p>	<ul style="list-style-type: none"> - Plan-development phase: around 75% implemented - Design phase: around 55% implemented - Execution phase: around 20% implemented
<p>SUSTAINABILITY PROPOSED INTERVENTIONS ACCORDING TO PHASE</p>	<p>The graph illustrates the implementation of sustainability interventions across different land development phases. The y-axis represents the level of implementation from 'LOW' to 'HIGH'. The x-axis shows phases: MUNICIPAL LAND MUNICIPAL DEVELOPMENT, LEASEHOLD TENDER, LEASEHOLD CPC, LEASEHOLD NON-SELECTED DEVELOPER, LEASEHOLD PC, and PRIVATE LAND PRIVATE DEVELOPER. Four lines represent different aspects: Power municipality (black), Power private developer (red), Sustainable orientation developer (blue), and Sustainability of implemented interventions (green).</p>
<p>IMPLEMENTATION & PROPOSITION SUSTAINABLE INTERVENTIONS ACCORDING TO LAND AND DEVELOPMENT SITUATION</p>	<p>This section is part of the graph described above, showing the implementation of sustainability interventions across different land development phases.</p>

Table III.5.2 findings case studies Overhoeks / Buiksloterham

These findings come down to the following:

Buiksloterham more sustainable than Overhoeks

Using the components (variables) of urban sustainability and their sustainable values as defined by theory as a reference, the urban area development project of Buiksloterham is more sustainable than Overhoeks. Both in the planning documents as in the development deliberations, more sustainable interests have been expressed, more sustainable interventions have been proposed (both by the developer and the municipality), and more sustainable plan decisions have been included in the formal planning documents. This is reflected in the development result, in which more sustainable interventions have been implemented and valuable private, sustainable initiatives have emerged with committed and satisfied end-users.

The specific elements that make Buiksloterham more sustainable than Overhoeks in the light the components of long term urban sustainability from theory, are the high opportunities the urban area development of Buiksloterham offers for diversity, flexibility, and for end-users to shape their own environment.

The land situation of dispersed ownership and small plots fosters diversity. Furthermore the municipality actively chooses to give the market parties and private individuals a lot of freedom and room for participation in the development process, through a flexible institutional framework, (collective)private commissioning formulas in which the developer is also the end-user of the development, co-creation processes for public space, exemptions from the committee of visual quality and by giving them responsibilities that go beyond their own building, such as developing public space. This induces broader and more long term commitments to the development result, which increases the pay off of developing in a sustainable way. Furthermore, the conscious setting of high sustainable ambitions and standards for sustainable performance in new building projects has lead to a relatively high environmental performance of the new developments in the area so far, compared to Overhoeks.

Sustainability as a choice

What the case studies of the Amsterdam urban area development projects Overhoeks and Buiksloterham illustrate, is that pursuing and thus achieving long term urban sustainability in the development result is for a very large part a matter of choice. While the location, history and context of the two areas are practically identical, Buiksloterham achieves high performances in the field of sustainability while Overhoeks does not achieve higher sustainable performance than is legally required by the municipality of Amsterdam.

The difference is that Buiksloterham has chosen to pursue sustainability in the urban area development project. In Overhoeks, the focus lies more on a 'successful development result' in the sense that there is aimed at a streamlined cost-efficient and continuous development of an area with (metropolitan) functions for which investors and developers can immediately found. This is reflected in the results that have been achieved in Overhoeks so far, with large, ambitious

and well reviewed projects being developed. Sustainability has not explicitly been mentioned as an ambition in Overhoeks, resulting in no specific emphasis being placed on sustainability and no sustainable requirements being made part of the formal decision-making documents. In Buiksloterham this has been done, leading to a more sustainable mindset of all actors, a higher weight of sustainability in the decision making balance, and more sustainable results.

One-sided view of sustainability

Although Buiksloterham actually pursues many plan elements that are positive for the future social and economic sustainability of the area, these aspects of sustainability are hardly recognised and included in the assessment of sustainability. To achieve true urban sustainability however, the full scope of sustainability must be understood and addressed. This means that not only the environmental aspect of sustainability should be pursued, but that the social and economic viability of the area should equally be taken into account. In both Overhoeks and Buiksloterham these last two aspects are still underexposed.

Little to no awareness of the (sustainable) benefits of mixed-use

Although mixed-use is one of the main goals stated in the planning documents of Overhoeks and Buiksloterham as an indispensable urban form component of an 'inner city environment', the relation of mixed-use with sustainability is never made explicit. Also in the development deliberations, mixed-use is never explicitly mentioned as an interest, nor is the impact of a lesser or larger degree of mixed-use on other components of sustainability or actor-interests ever referred to by an actor in the development process.

This confirms the statement from theory that the relation between mixed-use and its positive consequences on the interests of the actors is rarely understood in practice. The benefits that mixed-use comprises are increasingly becoming recognised as an interest, such as the attractiveness of public space, intensification of land-use and stimulation of slow modes of transport, but the step remains to connect these abstract interests to the form of the urban area development product that fosters it: mixed-use.

Sustainability often lost during the process

Last but not least, in both cases, the implementation of sustainability in the development process has proven to be a difficult task that very easily gets overrun and abandoned over the course of the development process. For this, a number of reasons have been found.

Inherent conflicts with costs and speed - When looking at the interests expressed in the development deliberations, most of them are actually sustainable. When coming down to the making of decisions however, it becomes clear that sustainability is only one of the many interests in the urban area development process and is often subordinated to more direct interests, such as costs, simplicity and speed. The implementation sustainable elements is another manifestations

of the inherent conflict between costs and quality, and is with this one of the most important conflicts in the urban area development process.

Indirect sustainability components often subordinated and little defended - Particularly vulnerable components of sustainability in the development deliberations have proven to be orientational aspects such as environmental friendliness, fossil fuel dependency, resource efficiency and degree of car/bicycle/pedestrian orientation.

Because they demonstrate less direct benefits and are therefore often subordinated to interests that do in the decision making balance, they are less defended in the development deliberations, resulting in them often being negatively influenced by the development decisions. In this context, the high importance of recognition of the influence of certain decisions on the future level of urban sustainability and of the long term benefits of urban sustainability, is shown once again.

Chance on implementation of sustainability declines as development progresses - From the analysis of the development deliberations it is shown that that the sustainable orientation of the actors is highest and the opportunity for implementing sustainable components is also the highest in the plan development phase when there is still room for aligning interests and solutions, and decreases as the development process progresses. In the execution phase, sustainable interests are often overruled by more direct and practical interests relating to time and money, leading to many (very) unsustainable decisions being made over the course of the execution phase. This emphasizes the importance of inclusion of sustainability in the development process from the very start and of the guarding of the sustainable ambitions throughout the development process.

Sustainability declines as power municipality decreases - Furthermore, slight differences in the sustainable orientations of actors can be seen regarding land and development situation, with the sustainable orientation of the developer and sustainability of implemented interventions being highest in municipal developments, and decreases as the power of the municipality decreases and the power of the private developer rises. This subscribes the fact that private parties are primarily commercially driven and focus on short term costs and benefits, which are, as told, often in conflict with the implementation of sustainable interventions. The municipality on the other hand has a longer term perspective and a larger focus on the public interest, and thus sustainability.

Sustainability getting lost in the process - In the context of so many interests and problems to be discussed in the development deliberations, an overemphasis on interaction and communication sometimes result in a separation of processes and procedures from the content or substance of a problem. In this process, goals and ambitions that are not properly specified, recorded and guarded are often being overrun by other agenda topics, to eventually disappear from the agenda completely.

Complicated institutional framework - Last but not least, the institutional framework can pose a barrier to the implementation of sustainable principles in the development process. The setting up of an adequate institutional framework is a complex task. Sometimes, the requirements set are so high or so specific, that even when there is a desire, initiative and means to implement a sustainable intervention, the idea strands because it turns out not to be allowed or not to be

feasible for the private party anymore. The institutional framework should therefore not be too directive. On the other hand, there are also cases where the institutional framework is not directive enough, and intended goals are not achieved because the private parties find another way to interpret the rules. A good institutional framework should therefore be flexible enough to give room to private developments and initiatives, while being strict enough to protect the objectives and standards of the development.

LESSONS LEARNED

From and next to these findings from practice, lessons can be drawn on how long term urban sustainability can be achieved in mixed-use urban area developments.]

Recommendations from planning documents - In the analysis of the planning documents, the importance of addressing the full scope of sustainability, making substantiated decisions based on a research and a strategic long term vision, consciously including sustainability as an ambition from the start of the process, making ambitions concrete, making ambitions binding, guarding ambitions, and incorporating flexibility has already been explained. All these recommendations have been subscribed by the analysis of the associated informal decision-making process; the development deliberations.

Recommendations from development deliberations - Furthermore additional lessons can be learned from the development deliberations, one of them being emphasizing the importance of educating actors on the relationship between the impact of their own actions and environmental, social and economical sustainability, the concept of mixed-use, and the benefits of these concepts from the perspective of their own interests. Also a broader and longer term commitment of actors to the development result, through for example investing developers, end-user developers, longer contracts, and making developers responsible for developing beyond the scale of their own building, proves to be beneficial for urban sustainability and the long term viability of the real estate.

There are however also some specific product and process aspects employed in the two case studies that have been proven useful in the light of achieving urban sustainability.

Buiksloterham: CPC/PC formula's and co-creation projects - The development formula's in which the future residents get the control over the design of their own house, private commissioning and collective private commissioning, employed in Buiksloterham, prove particularly fruitful in attracting private capital and highly educated and entrepreneurial residents. Furthermore these formulas as well as co-creation projects in which citizens collaborate in the design process of public spaces, such as the Papaverpark in Buiksloterham, provide the end-users with a large potential to shape their own environment. This fosters diversity, but also high levels of commitment, social cohesion and satisfaction, as can already be seen in Buiksloterham but is also argued by other case studies as well as theory to be long term. These self-build or co-creation

formula's, which can also be employed by commercial developers or housing associations, thus provide very good opportunities to induce urban sustainability.

Buiksloterham: Sustainable standards through tenders / selection procedures - Although they are not utilized as such in Overhoeks, the sustainability-oriented tenders and selection procedures for PC and CPC in Buiksloterham prove that by including high requirements to sustainable performance in the selection procedures, highly sustainable development results can be achieved. They provide equal qualities as non-sustainable buildings, with the difference that, if anything, they are more distinctive, interesting and, of course, more sustainable. It must be taken into account that the development within the set requirements stays feasible for the developer, which can be ensured by lower land- or leasehold prices, subsidies, or helping investments in for example basis infrastructure. Other than that, developers are through this medium forced to innovate and build sustainably in order to obtain a competitive market position.

The municipality is free to set these requirements in the selection procedures; as said, it is a matter of choice. In order to do this however, the municipality needs, in this case, control over the land.

Buiksloterham: Customized planning documents / Deviation of the Plaberum - The planning documents outlined by the Amsterdam Plaberum (Plan- and decisionmaking process Spatial Measures) in 2003, were automatically focused on pre-defining urban masterplans set up at the beginning urban area development process, such as the Masterplan Shellterrain from 2004. Buiksloterham deliberately deviated from the Plaberum, not sticking to pre-defined planning documents or a pre-defined end-result for that matter. Instead Buiksloterham employed planning documents and consecutions of planning documents that were customized to the specific characteristics of the projects themselves, such as an outline with urbanistic boundary conditions instead of masterplan and planning documents focused on co-creation with the citizens for the development of the Papaverpark. These customized planning documents offer more opportunities for flexibility as well as a for providing a match with the specific project, with more appropriate processes and better achievements as a result.

Buiksloterham: Sustainability expert in project team - Buiksloterham recognizes that implementing sustainability in urban area developments is a complex task which requires knowledge, analysis and guidance. Accordingly, a sustainability expert has been made part of the municipal project team, who focuses on the achievement of the sustainable ambitions of the urban area development project, gives advice on the topic and deliberates with the developing parties about the process of (collaborating in the context of) incorporating sustainable interventions. Such a 'manager Sustainability' provides opportunities to guard, help and steer on the progress and implementation of sustainability in the development process.

Overhoeks: Neighborhood manager - End-user satisfaction is important in the light of urban sustainability (see theoretical framework). However, this does not only concern the future residents and users of the development, but also the existing and surrounding ones. In a context of development and building activities, maintaining this satisfaction is not always easy. (A feeling

of) inclusion in the design and development process helps to achieve this satisfaction and consequently foster commitment and support. For this reason, in Overhoeks, a neighbourhood manager is included of the municipal project team, charged with the task of informing the actors from the surroundings of the development, listening to their concerns and, as far as possible, meeting their needs. This helps with ensuring a good collaboration with stakeholders in the surrounding area, stimulating satisfaction and thus urban sustainability and at the same time the streamlinedness of the development process. Also Buiksloterham would benefit a lot from such a neighbourhood manager.





IV. CONCLUSIONS & RECOMMENDATIONS

1. CONCLUSIONS

After this theoretical and empirical analysis, it is time to formulate conclusions.

For this, the main research question will be repeated:

How can long term urban sustainability be achieved in urban area developments?

This main research question is twofold and divided into two sub-questions, related to the product- and process dimension of the question:

1. For the product:

What urban form offers most potential for achieving long term sustainable urban areas?

2. For the process:

Which development approach offers best opportunities for achieving long term sustainable mixed-use urban area developments?

These questions will now be answered consecutively.

The origins of the conclusions are of course important. These conclusions are a synthesis of empiry and theory, and the conclusions drawn from theory are often based on a multitude of authors. Therefore, to guard the readability of the text and offer optimal traceability, the sources of the conclusions along with the most important authors substantiating each point are visualised in a table in appendix IV.1.1.

A. HOW CAN LONG TERM URBAN SUSTAINABILITY BE ACHIEVED IN URBAN AREA DEVELOPMENTS?

Before answering the specific urban form and development approach providing the best potential for achieving sustainable urban areas, general conclusions on how sustainable urban areas can best be achieved will be presented.

Alignment of product and process

This research has learned us that developing sustainable urban areas is a combination of working towards an appropriate product that fosters long term social, economical and environmental sustainability and an appropriate process that supports the emergence of the specific product-factors needed for this. This 'product' and 'process' are no isolated components that can be designed autonomously. In fact, the process and product of a development are interrelated and have an enormous influence on each other, with both the organization of the process influencing the development outcome in various ways (see theoretical framework chapter 2.A.), and the product posing requirements to the process in order to allow certain results to be produced. This relationship can be well illustrated through the example of end-user satisfaction and -inclusion: The product that is aimed at can be a product that yields a high degree of end-user satisfaction and a large sense of influence on the shaping of their own environment. This can only be achieved if also the process is designed to fit this ambition, by for example incorporating end-user inclusion in the development process. Furthermore, the process should allow continuity in the development of the development product order to achieve strong urban area development results, with certain decisions on the project being made in certain phases of the project and being a logical consequence of each other (this continuity and sequence as recommended in this research is visualised in figure IV.2.1.). An integration of the urban area development product and the urban area development process thus lies at the core of sustainable urban areas.

Integrated conception of sustainability

First step in answering the question 'how sustainable urban areas can best be achieved' is the definition of what urban sustainability is. The answer to this question provided by this research is that in order for an area to be truly sustainable, an integrative approach in which all economic, social and environmental dimensions of sustainability are included is needed. This requires a long term, integrated thinking across the whole lifecycle and a range of scales, systems, disciplines and actors.

Awareness of context

Last but not least, the fact that achieving sustainable urban areas is not only a matter of product- and process choices but is also dependant on the circumstances of the development, can not be ignored. Just as development processes cohere with the development product, they also do not function in isolation amidst of their context, and are influenced by multiple socio-economical circumstances.

In the case studies of this research it has been shown that the two chosen cases originate from different land situations, that are for a large part responsible for the chosen development approach. In Buiksloterham the land-ownership was dispersed, making a large acquisition- and expropriation action not financially feasible and making an approach in which the municipality had full control over the development through the land, such as in Overhoeks, impossible. Furthermore, the development approaches of both the case studies have been influenced by

external circumstances during the development process (namely the financial crisis), showing that in reality, the socio-economical context of developments can change quickly. The financial crisis of 2007-2008 legitimated a downscaled, incremental, private-led development approach as in Buiksloterham from a financial perspective, allowing development in a time when investment potential of the municipality was low. In the top-down development approach of Overhoeks, the crisis was addressed by adopting more flexibility in the development strategy. However, although originating from external urgencies, both these process components have shown to also be fruitful in the context of achieving urban sustainability, with the crisis serving as a catalyst for their adoption.

Contextual uncertainty will always be part of urban area development. So far this has mostly been interpreted in the urban area development practice as a danger that has to be avoided, but in reality, urban area development strategies have to cope with this inherent aspect of the discipline. The recommended urban form and development approach that will follow in these research conclusions take this requirement into account, and are argued by theory to also be successful from this perspective.

B. WHAT URBAN FORM OFFERS MOST POTENTIAL FOR ACHIEVING LONG TERM SUSTAINABLE URBAN AREAS?

THE CONCEPT OF MIXED-USE

The concept of mixed-use development is appointed by practice as well as theory as the urban form that offers most potential of achieving long term urban sustainability. Long term urban sustainability is in this research defined as holistic long term economical, environmental and social viability of urban areas (see theoretical framework chapter 1.A).

Thorough reflection on the topic by contemporary theories on sustainable urbanism as well as long term successful examples from practice indicate that a high level of function mix is a critical component for urban sustainability, positively impacting urban sustainability in the social field and in the fields of transport, environment, and economy.

OPTIMAL PHYSICAL FEATURES

Mixed-use development however is but a concept. In order to come to a recommended urban form, specifications have been made on what physical characteristics have to be respected in order to come to the full sustainable potential of mixed-use development.

End-user perspective of optimization

The 'optimal' features from the perspective of long term urban sustainability have been defined as the features that achieve the most sustainable long-term end-user behaviour, since for endurance and viability it is essential for sustainable systems to be utilized and therefore to undertake a sustainable behaviour that will continue to exist (See theoretical framework chapter 1.A). It overarches the different aspects of sustainability and brings them back to their initial driver.

Translating sustainable potential to goals, to solutions provided by mixed-use to achieve these goals, to necessary end-user behaviour, to determinative physical features

The optimal physical characteristics are determined via a result-oriented approach, as the most sustainable characteristics are the characteristics that will induce the long-term end-user behaviour that will yield the most sustainable results (See theoretical framework chapter 1.A).

To do this, first the maximum sustainable benefits of mixed-use are translated into concrete goals for mixed-use. Theory on mixed-use offers solutions through which mixed-use development can achieve these goals. These solutions all presuppose a certain end-user behaviour. Finally, these end-user behaviours pose certain requirements to the urban form to induce and support this end-user behaviour, which are determined with the help of recommendations from literature, observation of practice and input of experts in the form of relevant physical variables.

ANSWER: FINELY-GRAINED, PEDESTRIAN-ORIENTED, VIBRANT, AND DISTINCTIVE MIXED-USE NEIGHBOURHOODS

Based on the findings from theory and empiry, the urban form that offers most potential for achieving long term urban sustainability in urban area developments can be defined as mixed-use neighbourhoods with specific physical features that foster walkability, vibrancy, diversity, freedom for the end-user to shape his own environment, and a sense of identity. Each of these features are substantiated by multiple researches.

Firstly, the functions in the mixed-use area should be adequate (offering basic functions as well as employment opportunities and recreational functions for a diversity of social groups), diverse, attractive and compatible with each other, with a high degree of interweaving and distribution of functions over the area and low function-to-function distances.

The density of the area should be at least high enough to support economic viability of the functions. The real estate, infrastructure and (equipment of) public space should be fit, safe, comfortable and attractive for their function, while real estate should at the same time be flexible enough to be able to accommodate a variety of functions.

The sustainable benefits of mixed-use development increase as the size of separate plots and (visual) blocks (grain) is fine, the length of streets is short, and the visual connection between spaces is high. Furthermore high amounts of public space, presence and notability of historic and distinctive characteristics, presence and visibility of green and water, and architectural quality of the built elements (real estate, infrastructure, public space) positively impact urban sustainability.

Core in successful mixed-use districts is a sense of identity, that allows users to identify with the area and feel connected to it. In this light, existing local cultures and characteristics should be exploited and end-users should get a large freedom to shape their own environment, increasing diversity, economic activity and end-user satisfaction.

A disorientation of the car and instead a focus on flow modes of transport (cycling and walking) and (clean and) integrated public transport is crucial. This should be expressed in urban form by low walking distances to public transport nodes and bicycle storages and a high ratio of the space being attributed to walking and cycling versus a low ratio to the car (this also means low parking norms).

Last but not least, although mixed-use development by itself does already possess inherent benefits in the field, performance in environmental sustainability should not be forgotten. The choice of materials (related to their robustness and environmental footprint through production, transport and maintenance), as well as the pollution, fossil fuel- and energy consumption of buildings, means of transport and employed systems, are important factors in this. Flood-resistance, energy efficiency, renewable energy systems and waste recycling should be encouraged.

The exact physical characteristics of the urban form that are significant for the degree of urban sustainability of the area have been summarized in a list of variables, which are supplemented with their desired values from the perspective of urban sustainability. This list is added in table II.1.2. This list can serve as a guideline for achieving sustainability when designing mixed-use urban areas, by using it during the development process to oversee the impact on urban sustainability of proposed interventions and guard sustainable decision-making.

C. WHICH DEVELOPMENT APPROACH OFFERS BEST OPPORTUNITIES FOR ACHIEVING LONG TERM SUSTAINABLE MIXED-USE URBAN AREA DEVELOPMENTS?

Secondly the second research question will be answered, referring to the process dimension of the main research question: Which development approach offers most potential for achieving long term urban sustainability in mixed-use urban area developments?

To answer this question, literature on the urban area development process and possible development approaches has been reviewed to understand the difficulties and tasks involved with developing sustainable mixed-use areas and distill recommendations based on which process features are important in the light of achieving the sustainable components of the product established in the previous part. Furthermore, the two extremes of the possible development approaches have been studied in detail in practice through case studies of a bottom-up and top-down development approach in the Netherlands, giving a clear insight in the difficulties and threats to sustainability in the development process in practice, verifying and assessing recommendations from theory, and leading to specific recommendations from practice.

MAIN CHALLENGES

Analysis of theory as well as practice (through case studies) have demonstrated the main challenges that mixed-use development approaches have to cope with for successfully developing successful and sustainable mixed-use districts.

High complexity of mixed-use, urban area- and sustainable development processes

First of all, sustainable mixed-use urban area development processes are extremely complex.

The case studies have shown that urban area development processes are very complex because of their large scopes in every sense; lying at the interface of many different institutions and disciplines and entailing large areas, long term perspectives, and far stretching consequences in various fields (see also theoretical framework chapter 2.A). Mixed-use development is submerged in complexity because of the many actors and interests involved as a consequence of the multitude

of included functions and thus business models, target groups and physical requirements. At the same time high requirements for integration are set, stemming from the desire to combine uses in an area, block or even building (theoretical framework, observations from practice).

The implementation of a sustainable development perspective in the development process adds to this complexity, because sustainable development is a large, developing scientific field with a large scope of integrated disciplines with many interrelations, that are to a certain extent still unknown and often misunderstood by actors in the urban area development process. Furthermore the implementation of the sustainable principles coming from this theoretical field into the practice of urban area development poses specific challenges, having to handle with existing ways of working and systematic characteristics of the building sector, product and supply chain and political and institutional systems (see theoretical framework).

When attempting to develop mixed-use urban areas from a sustainable perspective, the complexities of all these systems are combined and supplemented with large political complexity, stemming from an intricate network of stakeholders and actors that are each pursuing their personal ambitions and interests (theoretical framework, observations from practice), and taking place in a highly political environment that is influenced by social, economical and political dynamics on national and regional scale (theoretical framework, observations from practice).

Customization of strategies and procedures versus rigid Institutions

From this research it comes forward that current problems in urban area developments are so specific and diverging in nature that there are no longer 'one size fits all' approaches. In order to get an optimal match with the project-specific context, actors, threats and opportunities and achieve optimal results, strategies and procedures should be customized to the specific circumstances and objectives (see theoretical framework chapter 2.B). The institutions shaping many of these procedures and strategies in urban area development however, are inherently marked by rigidity; and inertia to change (theoretical framework chapter 2.A). On the one hand, the institutionalized methods offer relative stability and make it possible for human groups to take effective action. On the other hand, this institutionalization the blueprint strategies and procedures are almost inevitably suboptimal (theoretical framework chapter 2.A). This causes a field of tension between customization and institutionalization in urban area development.

The debate of makeability and the conflict between market-driven and strategic considerations

Finally, the process of determining urban area development approaches is one of the most practical expressions of the sociological debate of makeability.

Some believe that the society and behaviour of human beings can be steered and pre-planned into detail, substantiating an top-down approach in which the public institutions, such as authorities on the public interest, do exactly this by planning the area in detail on the basis of a long term

strategic vision of the desired result, and stipulating the behaviour of private parties with the help of powerful planning instruments (theoretical framework chapter 2.A, observations from Overhoeks). Nowadays however, many put limits on the belief of the makeability of the society and take the position that the most fruitful initiatives emerge organically, substantiating a private-led urban development in which the requirements set by the public institutions are much more relaxed and the municipality takes a supportive role focused on facilitating private, market-led initiatives (theoretical framework chapter 2.A, observations from Buiksloterham).

On the one hand the pre-planning and strict regulations of top-down government by public institutions consolidates the long term, strategic perspective in urban area developments that is vital for long term sustainability. On the other hand, it limits the chances for innovation and emergence of potentially better alternatives, and has the risk of lacking market-conformity (theoretical framework chapter 2.A, observations from practice). The bottom-up approach in which private parties get the freedom to lead the development of the area does foster solutions customized to the location-specific circumstances and organic emergence of viable functions (theoretical framework chapter 2.A, observations from practice). However, this raises questions and risks in relation to the representation of the long term strategic focus on the public interest in the development plan, when all is left in the hands of private parties who inherently represent a more commercial and short term interest and scope.

This permanent friction between the strategic and the market-perspective makes the development of a sustainable mixed-use area a balancing act between sufficient constraints to guard strategic requirements and sufficient freedom of movement to facilitate valuable private initiatives.

RECOMMENDED PROCESS COMPONENTS

From theory as well as from the analysis of practice through case studies, some lessons can be drawn on process components that are important in the context of dealing with these specific problems that lead up to the formulation of the recommended development approach.

Network-structure - Firstly, theory states and practice shows that the hierarchical position of the municipality in the urban area development belongs to the past. Through increased specialization and dynamics in knowledge and product development, greater dependencies are created between organizations and parties have become interdependent from other parties for the achievement of their policy goals. This also goes for public parties. The authoritative relations in urban area development are replaced therefore by horizontal relationships in which the actors are equal: networks.

Integrated, participatory decision-making processes - In order to appropriately deal with the complexity of urban area development, mixed-use development and sustainable development, an integrated approach is necessary (theoretical framework chapter 1 + 2). For high performance- and long term viable solutions, all stakeholders have to be satisfied. It is therefore crucial that these stakeholders are included in the plan development and decision making process.

In order to reach consensus amidst these many interests of the various stakeholders, actors will actively have to participate and collaborate in the development process. This requires a transparent and communicative attitude, in which interests and ambitions are openly shared while working towards an integrated, shared vision in which both interests and solutions are aligned (Theoretical framework chapter 2).

Private-led development - Regarding the debate of makeability, the contemporary view is that the makeability of society and the success of top-down, pre-defined plans are limited (theoretical framework chapter 2, observations from practice).

Practice has proven that, although public authorities can pre-plan areas with the aim of fostering high end-user satisfaction, attractiveness and favourable economic circumstances for private parties, the achieved results are higher when these users and market parties get a say in it themselves. It is increasingly being acknowledged that private parties thus dispose over indispensable knowledge to develop adequate and appreciated urban areas. Furthermore, the case studies have shown that private initiatives can be very valuable for achieving high levels of social, economical and even environmental sustainability, which is substantiated by literature.

For this reason, private-led development methods are advocated by most contemporary theoreticians. Also regarding their ability to adapt to changing circumstances and to provide customized approaches, private parties, with their commercially-oriented, location-specific solutions, offer better chances than the predominantly rigid public institutions.

Flexible institutional framework - This private-led development requires a withdrawn role of public institutions in the field of regulation. Instead, municipalities should take a facilitating role, in which private initiatives are encouraged and supported (theoretical framework chapter 2, observations from practice), by offering for example helping investments in infrastructure, financial arrangements and incentives.

The freedom of the private parties should be protected through a flexible institutional framework (observations from case studies). This institutional framework must offer stability and legal certainty to the private developers, but should at the same time be flexible enough to permit a wide range of private initiatives and give them room to flourish (theoretical framework, observations from case studies).

Focus on sustainability - As far as implementation of sustainable considerations in the development process is concerned, practice has shown that the inclusion of sustainability in the urban area development process is not self-evident and that its urgency is still often underestimated and subordinated to other interests. Also when sustainability is included in the objectives of the project, it happens that it becomes obsolete and eventually abandoned over the course of the development process because it is overruled by more direct interests in critical phases or because of lack of concreteness (observations from case studies). This demonstrates the need for a selected sustainable focus in urban area development processes, in which sustainability is actively included and guarded.

ANSWER: PRIVATE-LED DEVELOPMENT WITHIN A FLEXIBLE YET DIRECTIVE INSTITUTIONAL FRAMEWORK + A FOCUS ON SUSTAINABILITY

Based on these practical and theoretical recommendations and the projection of these recommendations on two real and different urban area development processes of Overhoeks and Buiksloterham, a specific development approach has been formulated that offers opportunities for successful development of long term sustainable mixed-use urban areas.

The development approach determined as offering the most potential for achieving long term urban sustainability in the development result, is a combination of top-down and bottom-up planning in which the municipality sets out and guards a broad strategic course, and the developed is led by private parties (including housing associations) who develop the area in plots on own initiative according to their own ideas.

In this approach, private parties should be encouraged to take on responsibilities that go beyond the scale and term of the development of a single building, including for example development of public space and becoming investor or user of a building, leading to larger scopes and longer term commitments and engagement in the development of the area as a whole (Theoretical framework, observations from Buiksloterham). Plan developments should be formed through participatory and collaborative decision-making processes in a setting of horizontal inter-actor relationships, in which the actors combine their means and knowledge to come to mutually beneficial, integrated solutions (theoretical framework + observations from practice).

Core to this development approach focused on achieving long term sustainable mixed-use areas is that the ultimate end-users of the area get a large influence over the shaping of their own environment, both through close inclusion in the development process or provided opportunities to build their own homes or business spaces through (collective) private commissioning formulas (theoretical framework chapter 1+2, observations from Buiksloterham).

The role of the public authorities and ultimately the municipality is to facilitate these private development initiatives, while at the same time keeping a strong direction over the process from a long term, wide-scope, public interest-oriented strategic planning basis (observations from practice). This directive role can be played through binding planning instruments such as structural visions and planning documents which formulate spatial and legal boundary conditions (observations from case studies), by encouraging certain types of developments by offering specific incentives (observations from case studies), by keeping a certain control over the land (observations from case studies), and by taking up the management of the urban area development process, which offers steering opportunities (theoretical framework).

The municipality can facilitate by helping market parties and individuals to explore the potential of the area and by supporting investment decisions by private parties, through aiding investments

in supportive structures such as infrastructure, financial arrangements, and relaxed procedures (theoretical framework + observations from practice). For this, an appropriate institutional framework has to be employed that finds a balance between the regulations necessary for the protection of the aims of the development and the qualities of the area, and a maximum degree of freedom for the development of valuable private initiatives.

Last component of this development approach focused on maximising the potential for urban sustainability of mixed-use urban areas, is that all of this should happen with a focus of long term urban sustainability in mind (observations from case studies). The sense of sustainability should be incorporated in the strategic plan and steering of the municipality, but should also be instated in the minds of the private actors participating in the urban area development, and guarded throughout the development process. Development of knowledge on the topic, corresponding actor education and employment of a pragmatic, sustainability-oriented working method that provides handles for the inclusion, operationalisation, guarding and monitoring of sustainable principles in the development process, should secure the integral consideration of this sustainable dimension in the urban area development process (observations from case studies).

This working method, as well as other recommendations in the context of this development approach, is included in the section 'Recommendations on the process', following in chapter IV.2.

2. RECOMMENDATIONS

This research has also led to recommendations in the field of product, process and research in the context of developing sustainable mixed-use areas. The product and process recommendations are additional, more specific recommendations on elements that can be employed in cohesion with the recommended urban form and development approach in the conclusions, that have come forward in literature and/or in the case studies. The recommendations for research give an indication of what can and should be further researched in order to develop sustainable mixed-use areas and further develop knowledge on the topic.

A. PRODUCT RECOMMENDATIONS

From the case studies of Overhoeks and Buiksloterham, some product-elements have come forward that have shown to have a positive effect on certain sustainability components from theory and thus on urban sustainability, in these particular cases. Possibly they also provide opportunities to do this in other situations.

Small- to medium-sized plots

The splitting up of the area into many small to medium sized plots in Buiksloterham has shown to foster a good basis for diversity in an urban area development. As the plots are typically developed by different developers and clients, with differing goals and ideas, a high amount of separate plots and developers guarantee a certain degree of visual and functional diversity in the area. Large plots developed by single developers can also be developed in a way offering functional and visual diversity, but this then has to be a choice of the developer. Furthermore it is shown in theory (see theoretical framework chapter 2.A) that developers often yield toward monofunctional projects using a single architectural style in order to manage the complexity and risk of the project.

Also, smaller plots can provide a benefit for urban sustainability in the sense that they provide more flexibility and room for maneuvering. The down-scaling of developments can de-risk the phasing of the urban area development, because, when the development of some plots stagnate, other, different, plots are left to be developed (at a relatively low investment-threshold, as they are small- to medium-sized). Furthermore, a larger amount of plots and developers in the area provides more room for negotiation for the municipality when a certain programme has to be realized in

the area, with programme being scrapped in some negotiations with developers being able to be compensated in negotiations with others. In Overhoeks, this possibility is limited, with the risk that when concessions are made on the level of (for example) function mix with one of the large developers (i.e. no commercial functions in the campus), there is no more room for compensation by other developers and initial, strategic development goals are not achieved. To reduce this risk, the municipality in Overhoeks could have decided to split the campus up into more plots and spread the leasehold rights over various developers as is done in the Strip, either in the beginning of the project before the rights were granted to ING RED, or during the negotiations with ING when it wanted to exit the contract after the financial crisis.

City heating

Another example of a product-element that seems to offer good opportunities for urban sustainability in an area, is a city heating network (Dutch: Stadswarmte) as employed in Buiksloterham. City heating is a heating network installed in the area to which all plots can be linked, that can be connected to a multitude of different heat sources. In Buiksloterham, the city heating network is for example heated by residual heat of waste incineration. In this way, a multitude of facilities in the area can make use of a single sustainable energy source, instead of depending on private heating systems powered by, for example, electricity. This is certainly more efficient, but also opens doors for integrated, sustainable energy provision of a large amount of households and built facilities at once.

PC & CPC formulas

As far as the building types in the area are concerned, private commissioning and collective private commissioning formulas show to be promising formulas for implementing a certain sense of urban sustainability in an area. They are successful in enforcing two components of urban sustainability determined by theory: the degree of end-user influence on the shaping of their environment and the degree of visual diversity. The large degree of influence end-user get on the shaping of their own dwellings or business spaces through PC and CPC formula's induces end-user satisfaction with the development result; a crucial component of long term urban sustainability. Furthermore, when combined with relaxed regulations on visual quality as in done in Buiksloterham but for example also in IJburg in Amsterdam, PC and CPC formulas help in allowing the users of the area to put their own stamp on the area, fostering diversity and a sense of identity. This does not only increase attractiveness and end-user satisfaction, but also increases the commitment of the end-users to the area, strengthening solidarity and social cohesion. In Buiksloterham we see that these formulas are even employed in projects where the plot is developed by a large development company or housing association, where the buyers get the freedom to design their own homes within the boundaries set by the developer, in a larger developed block. This concept could also be employed in the residential quarter in Overhoeks, and maybe is an option for Amvest (the developer of the second phase of the campus that is about to start), to bring a sense of end-user customization in the development plans.

Co-designed public spaces

In the same way that PC and CPC formula's can do this, co-designed public spaces can increase urban sustainability. The collaborative design process of the Papaverpark in Buiksloterham is a good example of how citizens can be included in the design process of the public space in the area, with successful results both in the eyes of the users as the municipality. Certainly in this case, the end-user inclusion in the urban area development process has led to social cohesion and a close community (Van den Aakster, personal communication, 28 september 2015). These types of parks and squares can therefore be pursued in urban area development projects. Co-designing a street however, with the experiment of the 'self-build street' of the Bosrankstraat in Buiksloterham, lead to less satisfactory outcomes. This demonstrates that not all public spaces are suitable for citizen-participatory design processes, or at least not in the specific way these were employed in Buiksloterham.

Respecting existing characteristics and culture

Last product-recommendation in the context of achieving urban sustainability, is to respect and work with the existing characteristics and cultures of the area in the urban area in the (re) development product. Unicity and a sense of identity through which users can identify themselves with the area are indispensable aspects of attractive urban areas. Existing characteristics and cultures can therefore present a quality in the urban area development result, a quality that is not always easily found in new developments. These given elements offer an excellent basis for imparting an identity to the urban area (re)development that is not alien or imposed. Rather than erasing this history and these characteristic features, the existing characteristic and local culture in the area should be exploited and can serve as a directive for the development of the area, as is done in Buiksloterham, where the history of creative and industrial pioneering has been expanded to the contemporary image of the area as a hatchery of sustainable innovation.

B. PROCESS RECOMMENDATIONS

Also in the field of the process of urban area development, some more specific recommendations can be made in order to enhance the chance on long term sustainable urban area developments in the context of the recommended development approach.

I. ACTOR EDUCATION

First process recommendation is actor education. As concluded from theory and practice, awareness and understanding by the actors in the development process of the need for and

essence of urban sustainability is often low. If actors are not aware of the need for, meaning of, benefits of, determinative factors of and possible solutions for urban sustainability, these can not adequately be steered upon in the development process and incorporated in the development result. Creating an awareness and a base of knowledge on the importance and structure of the system of urban sustainability amongst all actors, is therefore the first step in ensuring incorporation of sustainability in urban area development projects. This education should entail the following components.

a. Make actors aware of the need for sustainability

Firstly, actors should be made aware of the need and urgency of sustainability. Comparison of the planning documents and development results of Overhoeks and Buiksloterham show that focusing on sustainability in the urban area development process is a choice, the making of which is determinative for the achieved degree of urban sustainability in the development result. Inclusion of sustainability as a goal for the development is therefore necessary to achieve optimal urban sustainability. In order to make this choice, actors participating in the development process need to see the need to do so. For this reason they should be educated on the importance of urban sustainability and the urgency of sustainable development.

Also the 'people on the street' - the citizens and end-users of the urban area - should be made aware of this need. Rather than developing in a sustainable way as is applicable for the actors participating in the development process, this education should in the case of the end-users, citizens and consumers be reflected by behaving in a sustainable way and making sustainable choices. In this way a sustainable demand is created, offering concrete incentives to actors in the development process to indeed develop sustainably.

b. Show actors the benefits of urban sustainability

Secondly, actors should be shown the benefits of urban sustainability. Many benefits of urban sustainability are long term and silent benefits, but this does not make them less legitimate. This does however make them less recognized by actors. These benefits should therefore be pointed out. Also, actors should be made aware of the benefits that long term urban sustainability can provide for them, such as higher revenues, higher real estate values that will keep their value in the future, less risk, or a better competitive position. In this way actors must be made aware of the fact that implementing sustainable principles can actually provide financial profit instead of losses, as it is often considered to do in the minds of developers, where the cost- and speed criteria are the main reason to dismiss sustainable interventions (shown in the analysis of development deliberations in the case studies of Overhoeks and Buiksloterham). Especially when sustainability is incorporated from the start of the development process and included in an integrated fashion, additional costs are minimized or avoided altogether, so this point should be emphasized.

c. Increase actor understanding of urban sustainability

Furthermore, the understanding of the actors of the system of urban sustainability should be increased. Actors should understand what urban sustainability is and how urban sustainability 'works', and understand the causes and consequences of choices in the development process and changes in the built environment in the field of urban sustainability. This includes the understanding that urban sustainability and urban area development should be approached in a holistic and integrated way, including that the environmental, economic and social dimensions of urban sustainability should be taken into account, that problems and solutions should be evaluated from a long term scope and a whole lifecycle approach, that plan formation over the various scales (from the level of building details to regional planning) should be aligned and integrated and that disciplines and expertise should be integrated in the development process. Also the importance of an end-user focus of the development (as they ultimately determine what to rent, where to spend, how to behave and whether to be satisfied in the area) should be emphasized.

d. Increase actor knowledge on sustainable solutions

Also the knowledge of actors participating in the development process on sustainable solutions should be increased. When the actors understand the benefits urban sustainability can bring them and have set their sustainable goals, it is subsequently crucial that they know how to achieve them. This includes connecting certain sustainable benefits to certain products and aspects of urban form. Mixed-use development in one example of a product that can achieve multiple sustainable benefits. Actors should thus be made aware of mixed-use being a suitable solution for achieving these goals, and have an understanding of the all the factors that are important for the achievement of the sustainable benefits of mixed-use. The list of product variables and -values that are of influence on the degree of urban sustainability in mixed-use areas that is set up in this research, includes this knowledge and makes it insightful and can be used in the development process to guide the actors in sustainable decision-making regarding mixed-use.

e. Couple research with practice

Sustainable urban area development relies on a broad field of knowledge on the topic. This research is an appeal of urban area development needing to come from a strong strategic and researched basis and relying on integrated, coordinated and substantiated decisions. Exactly in this context, it is crucial that this knowledge is correct and, as sustainable development is a relatively young discipline and it's field of knowledge is still evolving, in line with the current stance of research. An coupling of research and practice in which information is exchanged and triangulated can help ensure that the knowledge and conclusions drawn are valid.

2. INTERDISCIPLINARY COLLABORATION

It has already been explained in the recommended development approach that the urban area development process should be marked by a network structure in which public and private actors

collaborate in non-hierarchical relationships. From theory, also some additional recommendations on the collaboration of the actors in the development process come forward.

a. Incorporation of all actors

In order to come to sustainable results, decisions in the field of product as well as process should be accepted by the actors who will be affected by the decisions in question. Also the upkeep of made decisions throughout the lifecycle of the development requires collaboration and commitment of actors, to ensure adequate handling and continuity needed for optimal success of implemented measures. It is therefore needed that all stakeholders in the area are reached in the planning process and included in the decision-making process of decisions relevant for them. Inclusion of the end-user is particularly recommended, because the ultimate end-user behaviour and -satisfaction in/of the development result are decisive factors for the future degree of urban sustainability of the area (see theoretical framework chapter 1), and representation of the end-user by another party (such as the developer) can lead to speculation and a mismatch of the development result and the actual wishes of the end-user and the actual ones, resulting in inadequate development results. Buiksloterham is already a long way in the right direction regarding this point. The development from Overhoeks could benefit a lot from a higher degree of end-user inclusion in the development process in the last phase of the campus that is about to start.

b. Collaboratively forming an integrated vision

The best chance to reach agreement and make optimal use of the means and strengths of the various actors, is created when both interests and solutions are aligned in the development plan. Therefore, the development process is recommended to start with the actors jointly working towards an integrated vision (also in the field of sustainability) for the direction of development of the area. This shared vision also fosters satisfaction and commitment of the parties, as being an integrated result of all parties. The mutual interests of attractiveness of the urban environment and public space, speed of the development process and resource efficiency, that have proven to be shared interests of the actors in the urban area development process in the analysis of development deliberations in Overhoeks and Buiksloterham, can provide a basis for this vision.

With the 2015 manifest Circular Buiksloterham, the municipality sat together with the parties in the area to determine and give shape to their common vision for Buiksloterham, which has shown to foster a large commitment a good collaboration between parties during the following development process. New urban area development projects are recommended to do this at the start of the development process. In Overhoeks, only Shell, ING RED and the municipality were included in the plan formation for Overhoeks, while many more parties turned out to be involved in the development process later. The adjusted development strategy for the Strip and Scheg in 2013 and the taking over of the development of the second part of the campus by Amvest were opportunities to formulate common visions for the sub-areas, but only in the development process of the Schegpark more parties were invited to do so.

c. Transparent and communicative attitudes

In order to collaborate in the described way and come to the best integrated solution and optimally combine the efforts and knowledge of the actors in the development process, a communicative and transparent attitude of the actors in the development process concerning their interests, objectives and expectations is needed. This requires a change in culture for some parties that are used to conceal their objectives for strategic reasons.

d. Process manager from the municipality, with a sustainable focus

The enrollment of the process as outlined requires strong management of the actors, the communication, the information and the establishment of made decisions during the development process. As this management can also steer the development outcome, it should be carefully considered which actor to put in this leadership role. Furthermore, visionary leadership with an understanding of sustainable development can also create a momentum for sustainable decisions. As a certain degree of steering by the municipality is exactly required in the development approach recommended as a result of this research, the municipality is recommended to take up this task and, indeed, use it as an opportunity to steer on sustainability. Furthermore, during the management of the process, the municipality should make sure all actors are reached and included in the development process, coordinate the decision-making process, make sure there is an alignment between the process and the product of the development that is aimed to be achieved, fit appropriate municipal procedures to the development process that are not blueprint or limiting, ensure good (digitalized) information management and guard the binding recording of made decisions.

3. MUNICIPAL FACILITATION / DIRECTION

Next to the mentioned recommendations for the public parties in the recommended development approach (of adopting an active and supportive role to the private parties, offering them incentives, doing supporting investments, managing the process, prioritising sustainability in the public policies and aligning public policies on different scales), there are some more recommendations for the municipality in the context of these tasks.

a. Organisation of citizen participation

As mentioned, all relevant actors should be included in the development process of an urban area development and inclusion of the end-user is particularly important. In urban area developments, these end-users are often just normal citizens. Generating broad participation and enthusiasm from urban residents, as well as from elected officials and city staff is important in addressing environmental challenges and priorities and thus in pursuing sustainability in an urban area (Dodman et al, 2013). It is the municipalities task as manager of the urban area development process to come up with appropriate platforms or formula's through which citizens can participate

in the development process of the area as a whole or parts of it in an organized way. The open design process of the Papaverpark in Buiksloterham shows an example of how this can be done.

b. Neighbourhood Manager as part of the team

Even when participation in certain development processes of certain actors is not appropriate, it is nonetheless important that these actors are informed and kept up to date on the plans that are made, the progress of the development and the changes they will encounter in their environment due to the development. By maintaining dialogue with all stakeholders in the area of the development project, these actors are respected and conflicts and resistance can be avoided.

In Overhoeks, a special member of the project team is charged with this particular task. This neighbourhood manager informs the various actors surrounding developments and offers a listening ear to actors with complaints or remarks, making sure the relevant sentiments are heard by the project manager and the project team. Especially in areas where many separate developments are taking place (as in the recommended development approach), this provision of information of stakeholders is very needed and a complex task, and incorporation of a neighbourhood manager in the municipal project team is highly recommended.

c. Keeping control through land + sustainable tenders

In the context of the recommended directive task of the municipality, the comprehensive case studies of the mixed-use urban area development projects of Overhoeks and Buiksloterham performed in this research have clearly shown that a certain control of the land by the municipality through ownership enhances the municipality's power to influence the content of (private) developments on the land and to impose certain regulations or conditions to the developments of the area. The municipality has the right to develop the land itself and to formulate conditions under which it sells or leases the land to parties that want to develop it.

When the land is privately owned the municipality's power to guard the content and thus quality of the development is limited. For this reason, in the context of the recommended directive task of the municipality to ensure the implementation of a certain well-substantiated, long term, strategic, public-interest oriented direction of development of the area, the municipality is recommended to maintain a certain control over the land in the area. In this case the municipality can still give as much freedom to private parties to develop on the land as required, but when boundary conditions for the benefit of the area and the public interest is needed, the municipality possesses the means to impose these. Leasehold, in which the private party leases land of the municipality for a certain period of time during which it has full user-rights and can do everything it wants with the area, but the municipality stays legal owner of the land and the land always comes back in the hands of the municipality, is a principle that can provide practicable solutions in this light.

The land-situation and -ownership can be influenced by selectively buying (and potentially reselling) certain plots of land or by converting leaseholds. The approach of the Strip in Overhoeks, where the municipality bought the land and tenders the leasehold rights to private parties in

smaller plots, is a good way in which the municipality can allow private development without giving up all control over the quality of the development. Incorporating sustainability requirements and -selection criteria in these tenders, as is done in the sustainability tenders in Buiksloterham, have shown to provide excellent basis for offering freedom to private parties whilst steering on sustainability of the development result.

d. Sustainable interventions on area level

As mentioned before, the municipality should facilitate private parties by doing, amongst others, helping investments in supportive structures such as public space and infrastructure. Sustainable interventions on area level can also be seen as supportive structures when sustainable urban areas are objected. Furthermore, many important interventions for the achievement of the future level of sustainability are made on area-level (energy provision, wastewater handling, transport systems...) and go beyond individual plots and boundaries of private realms, making the power of private parties to implement them limited. Another way in which the municipality can fulfill its directive role in steering on sustainability in urban area developments is thus by taking its responsibility in the implementation of sustainable interventions on area level. As legally binding actors to their commitments is important for the achievement of the ambitions (as will be explained later in point 6), it makes sense that when it is decided that the municipality has a responsibility in investing in supportive sustainable infrastructure in the area, this is also translated to a legal obligation, consolidating part of the ambitions and offering more certainty to the private developers in the area.

e. Sustainability advisor as part of the team

Lastly, a very clear way in which the municipality can steer on urban sustainability during the development process is by incorporating a sustainability advisor in the development project team. The interest of 'sustainability' often is a grey area in the urban area development process, mostly represented by no-one and everyone in the development process with no one specifically watching it. This makes it hard to follow and guard. This can be rectified by appointing a specific representative of the sustainability interest in the development team, as the plan-economist is for the financial feasibility of the project and the urbanist is for urban quality. This sustainability advisor provides expertise on sustainability that can help when making decisions, but can also be seen as a manager of sustainability in the development process, guarding the implementation of sustainability in the individual development projects and helping the private developers in managing the process of sustainable development. This actor is already included in the project team in Buiksloterham, but should be included in any urban area development project aiming at high levels of urban sustainability to take the responsibility of guarding this goal.

4. A FLEXIBLE INSTITUTIONAL FRAMEWORK

The recommended development approach advocates a flexible institutional framework. The formulation of this framework is a complex task that I can not at all perform in this stage of research. However, some elementary recommendations can already be appointed that should be taken into account when setting up this framework, judging from the executed analysis of theory and practice.

a. No pre-planning of a fixed end-image

Firstly, the traditional way of working of a plan with a, urban masterplan fixed end-result of an urban plan should be relativated. A disadvantage of this approach is that ideas and developments that do not follow this premeditated plan are discarded, which can result in valuable private ideas and initiatives and desirable developments being missed. Pre-planning the urban plan does not allow for much freedom by the private parties at all and does not offer the desired degree of flexibility and ability to customize and optimize the plan during the development process to changing circumstances; all important components of the recommended development approach. Instead, rather than pre-planning a fixed end-image of the urban area, a well-substantiated framework of urban boundary conditions can be set up that leave room for flexible implementation, while guarding the main goals and requirements for the functionality and protection of existing qualities of the area.

b. Form follows goals (and not other way around)

Secondly, during the setting up of the institutional framework in planning documents such as the zoning plan, it must be emphasized that the decisions made should follow the set goals of the area, and not the other way around. Forms, such as specific urban layouts or building typologies, should not be used as starting points, being based purely on certain principles of urban or architectural form or designers' artistic opinions. Instead, each design should be a consequence of the integrated plan development for the area and the following strategic goals for the area and the element in question.

c. Flexible, legally-sound, yet simple planning procedures and land-use plans

The institutional framework should offer enough certainty to the developers in the area and be legally sound, while at the same time being flexible enough to give the private developers freedom to act and allow their initiatives to flourish. In order for the development to be flexible and adjustable, procedures should also be flexible. They should therefore conform to the previous requirement (b) (setting boundary conditions to consolidate the goals and qualities of the area while maintaining maximum flexibility for implementation), supplemented with the inclusion of clauses for amendment in planning documents and facilitation of revisions of plans.

Incorporating flexibility in procedures is one of the hardest things to do in the bureaucratic setting of the municipality in urban area development. Furthermore, to not unnecessarily delay transitions towards sustainable energy- and other systems, the spatial and environmental procedures for implementation of these sustainable systems should be strongly simplified and accelerated. A focus on the relaxation and simplification of municipal procedures according to these requirements is therefore one of the main tasks for the municipality to allow urban area development that offers optimal potential for achieving urban sustainability.

d. Detailed enough to ensure goal

Last but not least, while procedures and requirements should be flexible and therefore broad, they should not be so free that the objected goals of the development are lost. A good example of this is the zoning plan of Overhoeks (2006), in which the requirement for mixed-use was indicated with a large zone for the function 'mixed-use', leading to a largely separated function mix into functional zones rather than achieving the finely-grained function mix that comprises most sustainable benefits and was, according to the accompanying text ('inner city environment'), aimed at. While the ambition was incorporated in the land-use plan, it was thus not specific enough, illustrating that the legal requirements should be detailed enough in the right fields in order to ensure the consolidation of the development goals. This comprises a continuous balancing act between maximum flexibility on the one hand and legal certainty and consolidation of development goals on the other. In order to establish this optimal balance, research on the required legislation for the coordination of parties and projects and the minimum features required for the achievement of the development goals, is needed.

5. A SUSTAINABILITY-ORIENTED WORKING METHOD

Final process recommendation of this research is that urban area development processes should adopt a working method oriented on sustainability. As mentioned before, it is hard to steer on and thus achieve high results in a field if no goals in this field are formulated or guarded and when there is no actor representing the interest of achieving these goals. For this reason, in order to achieve sustainable urban areas, urban area development projects must incorporate a way of working that structurally coordinates the implementation of sustainability in the development product, from the setting of sustainable ambitions to the achievement of actual results.

The analysis of the formal and informal plan development process of the case studies in this research have shown which actions in the process are important for the achievement of sustainable results and should therefore be incorporated in the development process. This sustainability-oriented working method consists of seven steps.

STEP 1: Awareness

Sustainable urban area development starts with the actors participating in the development process being aware of the need and urgency for sustainability, as well as the meaning and

implications of the (integrated and multi-dimensional) concept sustainability for the area. For this, actors need to be educated (see point 1: Actor education).

STEP 2: Inclusion

Second condition for the implementation of sustainable principles in the urban area development process is that urban sustainability is included in the goal statement of the project. Unfortunately, awareness does not always lead to inclusion of sustainability in development goals. Actors must, at the start of the project when formulating the brief of the development task ahead, actively choose to incorporate sustainability in the goal statement of the development project in order to indeed allow it to play a role and be incorporated in the development process. Good actor education should guarantee this decision.

STEP 3: Research & Analysis

When the goal of urban sustainability is included in the development project, a phase of research and analysis should be conducted in order to come to a strategic long term and wide-scope vision for the city/region as a whole and thus the optimal direction of development of the area. This is the responsibility of the municipality. It is important that this plan is based on facts and well-substantiated. To ensure efficiency, coordinate the different interventions in the region and really anticipate on what the city needs on the long term, there has to be researched over the limits of physical boundaries and time in order to come to a strategic decision. The structural vision of Amsterdam 2040 (2011) is a fine example of what the output of this phase could look like.

STEP 4: Formulation of ambitions

Based on the conducted research and analysis and the strategic, long term vision for the direction of the area in the context of successfulness of the urban region as a whole, the specific sustainable ambitions for the area should be set. These sustainable ambitions should be a translation of the goal of urban sustainability into focused sustainable goals specific for the area, such as CO2 neutrality, car-free, citizen participation, urban farming, etc.

STEP 5: Operationalisation of ambitions into concrete goals

When the sustainable ambitions are set and included in the development assignment, it is crucial that these ambitions are operationalized into concrete aims and requirements, including criteria for evaluation and assessment. The literature and case studies shows that one of the most common reasons for not achieving good results in the field or urban sustainability even when this had been included in the ambitions of the project, is the lack of tangible goals and requirements. When specific results or aims are set, these should as good as possible be translated into explicit requirements with criteria for evaluation and assessment, and not be left to an idea that is supposed to be understood. For example, when a specific type of mixed-use is envisioned, this should be translated into physical requirements (as is done for example in Buiksloterham, where

a bandwidth of minimum and maximum ratio's of functions has been given which ensures function mix on plot-level), and not be left simply to the term 'mixed-use.

STEP 6: Making ambitions binding

Aims should not only be made concrete, but these should also be made binding to the actors in the area. The Manifest Circular Buiksloterham shows that even when interventions are concrete and the stakeholders and developers promise to commit to them, these aims are still often overrun in the further development process if there is no legal framework binding the actors to these agreements. After the aims have been jointly set up by the parties in the development, these aims should therefore be made binding to the actors, so that they can be legally enforced and developing parties experience consequences when aims are not achieved.

STEP 7: Guarding goals

Although design proposals and development plans are currently tested to numerous regulations and criteria, the large lines are often forgotten. To ensure continuity and alignment of the different developments in the area, formulation of the core goals and the guarding of and testing to these goals in each separate project in the area should be part of the plan evaluation process. Therefore, each development deliberation and test of plans should always have the overview of the core, integrated ambitions of the area at hand, that should repeatedly be checked as the design (in every sub project) evolves.

STEP 8: Monitoring progress

Last step of the sustainability-oriented development approach is that also after the development process, in which all the previous elementary steps should be incorporated, the actually achieved results in completed projects should be monitored. That goals are set and guarded does, unfortunately, although largely increasing the chance, not guarantee that they are actually achieved once the project is operating in practice. Therefore, once the plan is established, it is desirable to check whether the objectives of the plan are accomplished during operation and whether the set principles are kept through monitoring and evaluation, so that adjusting measures in the project itself or in other, undeveloped projects in the area can be taken to protect the achievement of the sustainable goals of the area as a whole. The evaluation and monitoring should be performed for the whole area and through the entire life cycle, so that inadequacies can be detected in time and addressed as soon as possible. The concrete goals and assessment criteria set for the projects should be the subjects of monitoring. If this monitoring is implemented in an integrated way and processed in a good digital information system, this monitoring should require minimum extra capacity and effort and should provide great insights for the further developments of the area.

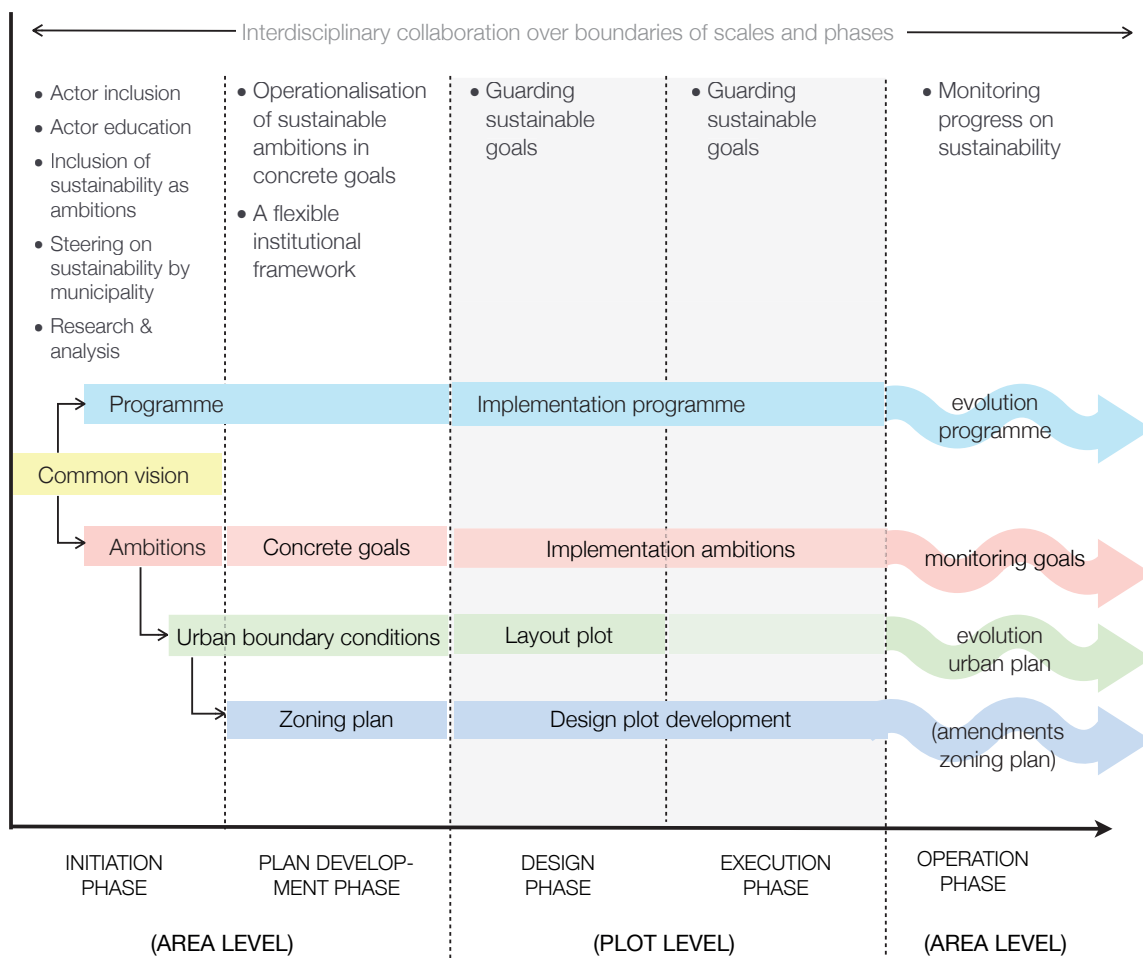


Figure IV.2.1. Simplified visualisation of recommended important plan components and process recommendations over the phases of the urban area development project (own illustration)

C. RECOMMENDATIONS FOR RESEARCH

This report will be closed of with some recommendations for further research in the field of sustainable urban area development.

a. Further specification of the physical specifics of sustainable mixed-use areas

First recommendation for research is further research on the specification of the physical specifics of mixed-use urban areas that achieve the full sustainability benefits of mixed-use development. In this research, the full sustainability benefits of mixed-use are determined and relevant physical variables for the achievement of these benefits have been distinguished and supplemented with a

desired direction for their values (i.e.: high/low, homogeneous / diverse). Further specification of these values, especially of the values minimally required to achieve certain results, is useful. In this context, the establishment of the physical conditions for end-users to behave in a certain way (for example to skip the car and walk, cycle or make use of public transport to reach their destination) is most relevant from the perspective of this research. Also the formulation of the maximum function-to-function distances required to achieve the sustainable benefits established in this research by theory with GIS (a Geographic Information System) is very interesting, certainly as this would concretize the 'level' of mixed-use and degree of interweaving of functions associated with the potential sustainable benefits of mixed-use development.

b. Additional research on the relationship between the land- and development situation and the sustainability of the development result

This research observes certain trends in the field of the relation between the land-and development situation of plots (municipal development / public tenders to private parties / (collective) private commissioning / private development of privately owned land) and the degree of urban sustainability of the development result. The observed trend is that the sustainable orientation of the developer and the sustainability of the development result decreases as the power of the municipality decreases and the power of private parties rises. In order to make these observed trends statistically valid and sound however, additional research is required. By statistically researching a large amount of projects of these land-and development combinations, a definitive correlation or even causality between these land-and development situation and sustainability of the development result can potentially be detected, potentially influencing the choice of ownership and development models best employed in the context of achieving urban sustainability.

c. Research on the application of (collective) private commissioning- related development methods in relation to social mix in area

Although many process and product elements are recommended in this research, the way in which they are implemented is very important, as overdoing it can bring about undesirable side-effects. In this context, the implementation of collective private commissioning-related development methods should be thoroughly researched, as the application of these concepts in Bukslotherham has shown to provoke a natural selection of residents (autochtoneous, highly educated, financially strong people with on average 1.7 children), even though the plots were relatively cheap. This while a social mix is also an important component of urban sustainability (see theoretical framework chapter 1). Additional research should therefore be conducted on how (collective) private commissioning formulas in which end-users have a large influence on the shaping of their own environment can be employed in urban area development, without compromising the social diversity in the area.

d. Research on the optimization of the private-led development approach in practice and the coordination- and efficiency challenge

This research report has recommended a development approach in which the development of an urban area relies on private investment and the municipality takes a facilitating role. This private-led and bottom-up development however is new for most municipalities and requires a lot of additional research on the specifics of this development approach for implementation in practice. The coordination in an area with various private developments taking place at the same time and the efficiency of executing construction works amidst multiple separate plots, stakeholders, and phasings is a large challenge. Also the ownership situation can be complicated in this type of developments in which private developers are encouraged to adopt a larger scope and also develop parts of communal facilities, infrastructure, or public space. This might, as Heurkens (2012) says, require different different types of alliances and partnerships and other ways of financial engineering, as well as many other changes with respect to the urban area development practice today.

e. Research on how to manage the 'steering but space-leaving' development process

Research also has to be continued on the permanent question of how to manage the 'steering but space-leaving' process of flexible urban area development with a large degree of freedom for private developers. There is a fine line between establishing requirements necessary to guard the realisation of the ambitions for the area and unnecessarily limiting the freedom of private parties. The placement of this line therefore has to be carefully researched in every formulation of regulations in the development process. Furthermore, the ways in which the municipality can steer the development process should be researched and developed. Planning documents such as the structural vision 2040 of Amsterdam may be useful in this light if they are made binding, but also land-ownership has shown to provide the municipality with a certain control over the development of the area and steering opportunities. The leasehold system of Amsterdam, in which private parties obtain development rights over the plot while the municipality remains ultimate owner of the land, may be useful to research in this case.

f. Research on the sustainability and success of the finished development result of the urban areas of Overhoeks / Buiksloterham

Final recommendation for research is the research on the urban sustainability and success of the researched areas Overhoeks and Buiksloterham once they are finished and in operation in the future. This research project has made statements on the relative sustainability of the development approaches and urban form of Overhoeks and Buiksloterham based on theory and observation of the development process, but has not investigate the actual finished results in the operation phase. Therefore, it would be extremely interesting to research the urban sustainability of the two completed areas after years of operation, to see whether these expectations have come true, what the reasons for potential contradiction of these expectations were, and to re-evaluate the chosen

development approach and urban form from the perspective of urban sustainability with the new input of this investigation. I hope to conduct this research in some 20 years myself.



TERMINOLOGY

Sustainability - *Sustainability* is a broad notion that can be used in different fields. In general terms, sustainability is the endurance of systems and processes (Vreeker, Deakin & Curwell, 2008). '*Sustainable*' as an adjective means that the indicated noun is capable of being sustained on the long term, requiring that it has a long term viability and is not dependent of finite resources (Merriam-Webster Inc, 2004). This paper focuses on sustainability of urban areas, better referred to as *urban sustainability*.

Sustainable Development - *Sustainable development* is a process for achieving sustainability in any activity that uses resources and where immediate and intergenerational replication is demanded (Vreeker, Deakin & Curwell, 2008). The more complete definition of sustainable development of the EPA (US Environmental Protection Agency) is 'creating and maintaining the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations' (EPA, 2009). Sustainable development thus ties together the concern for carrying capacity of natural systems and the social, political, and economic challenges faced by humanity.

Urban Area (re)development - *Urban development* may be described as the sum of a large number of complex processes performed in urban context by many individual actors and organizations with their own interests and claims, and involving international competition between cities while being subject to the influence of events from far beyond the region itself (Franzen, Hobma, De Jonge & Wigman, 2011). *Urban area development* indicates the urban development of new urban areas, while *urban redevelopment* refers to urban development altering existing urban areas. *Urban redevelopment* may involve anything from the renewal of inner city areas, transformation of port and industrial areas, industrial renewal, development of new residential areas, the rehabilitation of the historic centre of a town or the development of leisure areas in a city. These various interventions are often given different names, such as *urban redevelopment*, *urban renewal*, *urban revitalization* and *urban regeneration* (Franzen et al). Here however, these different Interventions are summarized under the term '*urban area (re)development*'.

Sustainable Urban area (re)development - *Sustainable urban area (re)development* is the main aim of this research and is the sustainable development (creating and maintaining the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations) in urban context. *Sustainable urban area (re)development* therefore indicates the (re)development of an urban area in such a way that it can accommodate the future socio-economical and functional developments in the city, with the minimal amount of necessary structural interventions in the future (Reijndorp, Bijlsma & Nio, 2012). It can be used interchangeably with *sustainable urbanism* and *sustainable urban planning*.

Sustainable Urbanism - While urbanism can also mean the characteristic way of interaction of inhabitants of towns and cities (urban areas) with the built environment, in this paper urbanism refers to the theory and practice of building, designing and planning of cities (Haas, 2007). Sustainable urbanism is the mode of urbanism that pursues a high urban sustainability.

Sustainable Urban Planning - While *urbanism* is a more holistic term, *urban planning* focusses specifically on the strategic planning of cities. Urban planning guides and ensures the orderly development of settlements and satellite communities which commute into and out of urban areas or share resources with it. It concerns itself with research and analysis, strategic thinking, architecture, urban design, public consultation, policy recommendations, implementation and management (Landry, 2006). Following from the definition of sustainable development, sustainable urban planning is the strategic planning of cities concerned with future solutions within urban spaces that are to be planned today, with the main objective to shape coherency within a context of dispersed interests and resources (Friedmann, 1987). In this paper, it is the mode of urban planning that pursues a high urban sustainability.

Urban Sustainability - With '*urban sustainability*' this paper means to refer to the level of sustainability (capability of being sustained on the long term, requiring that it has a long term viability and is not dependent of finite resources) of an urban area. The notion of urban sustainability is very important in this research paper and will serve both as a goal specification and as an assessment unit throughout the research.

Sustainable Urban Area - A *sustainable urban area* indicates an urban area that fosters a high degree of *urban sustainability*. The exact components of the sustainable mixed-use area will be thoroughly researched in the theoretical part of the research paper, addressing what the key features are of urban sustainability / sustainable urban areas and what different literature says about these key features. Based on this, the characteristics will be described of what the author considers, from literature, a sustainable urban area and this will be used as a reference to evaluate the sustainability of the outcomes of the development results that will be analyzed.

Mixed-Use (Development) - *Mixed-use development* is an urban planning concept that is part of almost all of the contemporary leading sustainable urbanism theories and that is believed to enhance urban sustainability. *Mixed-use* indicates a high level of function mix in an area (also referred to as land-use integration) (Miller & Miller, 2003). *Mixed-use (urban area) development* refers to the development of an urban area with a high degree of function mix in the area. In this research, mixed-use refers to a mix of functions amongst which a residential function is included, because many of the sustainability benefits of mixed-use development are dependent on the presence of permanent residential users of the area, and residence is the main function of the city and thus one of the most important ones to be optimized. This research focuses on mixed-use as the most sustainable form to achieve sustainable urban areas, and aims at specifying guidelines on its specific form of implementation in order to achieve the full sustainability benefits of mixed-use development in practice.

Function - '*Function*' in urban context means the functional land-use a plot of land has, such as residential, commercial, industrial, institutional, functions related to transportation, and many more (Jabareen, 2006). Land-use and function can be considered interchangeable.

Function Mix - The degree of '*function mix*' indicates the level of physical diversity of these functional land-uses in a specific urban area. (Jabareen, 2006). When speaking of 'function mix' without further specification, it can be assumed that a high level of function mix is meant (also referred to as land-use integration: the integration of multiple functions in a single area).

Urban Function Mix - In a lot of literature on sustainable urbanism, this 'function mix' is addressed as an important element that can influence urban sustainability, more specifically through mixed-use development. The term '*urban function mix*' in this paper, indicates the precise ways functions are mixed in terms of four conceptual dimensions: type, dimension, scale and urban texture (see theoretical framework chapter 1).

Physical implementation of mixed-use or Urban Form- The '*(specific) physical (urban) form of implementation of (the concept of) mixed-use*' means to indicate the exact physical form in which the concept of mixed-use is implemented in practice, referring to these four conceptual levels related to the way functions are mixed, along with a fifth conceptual level of design, which gives these components their specific shape and look. In this research, these five conceptual level together are also summarized in the term *urban form*.

Top-down (development) - Top-down development is a development approach in which the development is planned and led by public authorities, exercising a strong hierarchical control over private parties in the development.

Bottom-up (development) - Bottom-up development refers to the development approach in which the development is led by private parties and driven by private investments and development initiatives, with public parties having a more withdrawn role.

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SEMI-STRUCTURED INTERVIEWS MIXED-USE IN PRACTICE

RESPONDENT	MUNICIPALITY	DATE OF INTERVIEW
Gijs Wanders	Haarlem	2 June 2015
Koos van Zanen	Amsterdam	9 June 2015
Brenda Hunt	Amsterdam	9 June 2015
Selma van Mensvoort	Leiden	9 June 2015
Rob Gerardts	The Hague	5 June 2015
Arjaan Hoogenboom	Delft	1 June 2015
Harko Stolte	Rotterdam	8 June 2015
Emiel Arends	Rotterdam	3 June 2015

SEMI-STRUCTURED INTERVIEWS MIXED-USE IN PRACTICE

RESPONDENT	FUNCTION	PROJECT	DATE OF INTERVIEW
Co Stor	Manager urban area development Amsterdam Noord, Official Client	Overhoeks / Buiksloterham	15 oktober 2015
Ton Schaap	Supervisor	Overhoeks	12 oktober 2015
Pascal van der Velde	Project manager	Overhoeks	Multiple occasions from 1 september - 17 december 2015
Thijs Koolmees	Assistant projectmanager / Neighbourhood manager	Overhoeks	Multiple occasions from 1 september - 17 december 2015
Eric-Jan de Rooij	Developing partner project developer Lingotto	Overhoeks	22 september 2015
Matthijs Muijsers	Project leader land affairs	Overhoeks	Multiple occasions from 1 september - 17 december 2015
Toine van Goethem	Urbanist	Overhoeks	Multiple occasions from 1 september - 17 december 2015
Wouter Nijssingh	Developer IES Immobielien	Overhoeks	Multiple occasions from 1 september - 17 december 2015
Judith Wildbret	Communication advisor	Overhoeks / Buiksloterham	Multiple occasions from 1 september - 17 december 2015
Els Daems	Projectmanager Buiksloterham	Buiksloterham	Multiple occasions from 1 september - 17 december 2015
Sanne Bouwman	Projectmanager Buiksloterham	Buiksloterham	Multiple occasions from 1 september - 17 december 2015
Sabina Baarsma	Assistent Projectmanager	Buiksloterham	Multiple occasions from 1 september - 17 december 2015
Elske van Caspel	Project leader land affairs	Buiksloterham	Multiple occasions from 1 september - 17 december 2015
Gerard van Arum	Project developer Distelweg BV	Buiksloterham	7 oktober 2015, 8 december 2015
Arnout Vos	Project developer De Alliantie	Buiksloterham	15 oktober 2015
Renate Heppener	Team Sustainability	Buiksloterham	Multiple occasions from 1 september - 17 december 2015

Ank Brand	Assistent Projectmanager	Buiksloterham	Multiple occasions from 1 september - 17 december 2015
Gerard Kwakkenbos	Urbanist	Buiksloterham	Multiple occasions from 1 september - 17 december 2015
Sanne van den Aakster	Private commissioner self-build home	Buiksloterham	28 september 2015

A II. I.I. SUSTAINABLE URBANISM THEORIES ON MIXED-USE

In the following literature analysis the currently relevant theories and visions on sustainable urbanism will be reviewed and the role of mixed-use within them will be discussed. This is done in order to explore the current stance of research on sustainable urban function mix, including potential recommendations in the field of implementation. The relationship between the sustainable city / urban sustainability and the selected theories and visions will be demonstrated, as well as the relationship between function and the achievement of the key features of the most sustainable urban area.

Compact city

The 'Compact City' is an urban planning and urban design concept that stands for spatially compact, high density cities with a mix of uses and clear (i.e., non-sprawling) boundaries (Dieleman & Wegener, 2004). Since the 1990s it is the outcome of the debate of the impacts of different urban forms on travel behavior that urban planners have investigated for long, particularly in Europe, the United States, and Australia (Bruegman, 2005).

Urban compactness is closely related to function mix, because compactness requires an intensification of activities and thus functions per area. There are a number of reasons why the compact city and mixed-function are considered sustainable.

First, compact cities are argued to be efficient for more sustainable modes of transport. Some scholars argue that compact cities offer opportunities to reduce fuel consumption for traveling, since work and leisure facilities are closer together and travel distances are thus reduced (Newman and Kenworthy 1998; Dieleman and Wegener, 2004; Berton, 2002; Cervero, 1988). Peter Newman (2000) found that the compact city emerges as the most fuel-efficient of urban forms.

Second, compact cities are seen as a sustainable use of land. By reducing sprawl, land in the countryside is preserved and land in towns can be recycled for development, offering a more efficient use of land resources inside the city and more effective protection of natural resources over all. (Bruegmann, 2005)

Third, in social terms, compactness and mixed-uses are associated with diversity, social cohesion, and cultural development. A large variety of activities in the same area provides opportunities for social interaction as well as a safety by enhancing social control (Chan & Lee, 2008). This on its turn, increases the social cohesion and thus the social viability of an area (Rowley, 1996). Fourth, compact cities are argued to be economically viable. Infrastructure, such as roads and street lighting, can be provided cost-effectively per capita. Also, population densities are sufficient to support local services and businesses (Burton, Jenks & Williams, 2003). Some also argue that the compact city is an equitable form because it offers good accessibility to jobs, stimulating the economy and the personal welfare of the population. Last but not least the high-density, mixed-use development enhances the walkability of an area, which on its turn promotes the accessibility and usage of services, stimulating the economy. (Jabareen, 2006)

Transit Oriented Development (TOD)

Transit-oriented development (TOD) is a planning concept where infrastructure and spatial planning are addressed in an integrative way in terms of policy-making, financing and operation. The term originates from the United States, where the concept was seen as a possible response on the unlimited suburbanization, called urban sprawl (Cervero, 1998).

As the name says, this concept is oriented towards transit, and is centered around a public transportation infrastructure that encourages transit ridership. In order to maximize access to public transport, a transit-oriented development relies on a walkable mixed-use residential and commercial area that makes it possible to live a higher quality life without complete dependence on a car for mobility and survival (Frank, 1994). A TOD neighborhood typically has a center with a transit station or

stop (train station, metro station, tram stop, or bus stop), surrounded by relatively high-density development with progressively lower-density development spreading outward from the center. TODs generally are located within a radius of one-quarter to one-half mile (400 to 800 m) from a transit stop, as this is considered to be an appropriate scale for pedestrians, thus solving the last mile problem (Ewing & Walters, 2008).

Main aim and sustainable effect of Transit Oriented Development is that it offers a more sustainable mode of transport, enhancing the energy efficiency of the city by sharing transport and significantly lowering the CO₂-emission by reducing dependency and thus usage of the car and switching to centralized, clean modes of transport instead. A benefit that emphasized in this context is that Transit Oriented Development would result in this way also result in cleaner air, resulting in positive effects on health. Also, by transitioning to public instead of private transport, the traffic in the city could be coordinated and streamlined, reducing traffic combustion and increasing economic activity and personal welfare (Kirk, 2008).

Literature however also benefits of this urban planning concept related to the mixed-use component, which are largely similar to the compact city motivations. The high function mix would yield more efficient use of land, energy and resources, help conserve open space, and in general increase "location efficiency", so people can walk, bike and take transit. In this way, mixed-use also enhances health by promoting healthier lifestyles, while at the same time increasing neighborhood safety thanks to more people on the street. This also promotes a sense of community and of place, inducing social inclusion, cohesion and in the long run enhancing social sustainability of an area (Queensland Government, 2007).

Last but not least the Transit Oriented Development concept also stresses the economic benefits of mixed-use. The function mix increases foot traffic for local businesses and would increase property values, lease revenues and rents while ultimately lowering the costs of transportation (which is a high part of household expenditure), all resulting in a higher personal welfare and a stronger economy viability (Rabianski, Gilber, Clements & Tidwell, 2009)..

Placemaking

Placemaking is a multi-faceted approach to the planning, design and management of public spaces. Placemaking tries to strengthen the connection between people and the places they share and thus enhances social sustainability.

The concepts behind placemaking originated in the 1960s, when writers like Jane Jacobs and William H. Whyte offered groundbreaking ideas about designing cities that catered to people. Their work focused on the importance of lively neighborhoods and inviting public spaces for sustainable urban areas.

Jane Jacobs (1961) popularized the diversity dimension of urban sustainability, subsequently adopted and widely accepted by many planning approaches, such as new urbanism, smart growth, and sustainable development, which have been or will still be discussed in this paper, in the shape of 'mixed-use'. According to Jacobs, placemaking is essential to the sustainability of cities and diversity is a vital requirement for placemaking. According to Jacobs, urban areas need to be diverse and walkable; without it, the urban system declines as a living place and a place to live (Jabareen,2006). Results of recent research have indeed proven that residents living in walkable, mixed-use neighbourhoods are more likely to know their neighbors, to participate politically, to trust others, and to be involved socially. (Leyden, 2003)

Obviously there are similarities between diversity and mixed land-use. Diversity however is a multidimensional phenomenon that extends to dimensions outside functional diversity, such as social and cultural diversity. Diverse development therefore does not only contain a mixture of land uses, but also of building and housing types, architectural styles, and rents. As Wheeler says: "If development is not diverse, then homogeneity of built forms often produces unattractive, monotonous urban landscapes, a lack of housing for all income groups, class and racial segregation, and job- housing imbalances that lead to increased driving, congestion, and air pollution" (Wheeler, 2003, 328).

Adams and Tiesdell offer a more recent vision of placemaking and took the placemaking of White and Jacobs to the next level. In their book *Shaping Places* (2012), they show how the quality of places can influence economic prosperity, social cohesion and environmental sustainability.

According to Adams and Tiesdell, there are five characteristics of successful places:

1. Places meant for people
2. Well-connected and permeable places
3. Places of mixed-use and varied density
4. Distinctive places
5. Sustainable, resilient and robust places

Of these five points, four propagate a high function mix. Places meant for people is based on the concept that people animate places by their very presence, both creating and reflecting urban vitality. To attract people and encourage them to linger and return, activity and scale are important amongst others. Activities draws people to places. The more diverse or complex the activities on offer, the more people are likely to be attracted to a place. This relates to function mix. Places work best when set at a human scale, where people feel neither hemmed in nor overwhelmed by the scale of the environment. This is also connected to the level function mix, discouraging large mono-functional areas because they defy human scale.

Well connected and permeable places is connected to mobility and connectivity, enabling people to move in and through them easily, especially on foot or bicycle, which requires closer distances and thus a mixed-use area.

In their third point 'places of mixed-use and varied density' the authors explicitly recommend a high level of function mix, because it promotes urban vitality and create a more active street life. On top of that, successful places tend to display distinctiveness: creating distinctive urban experiences, by highlighting and enhancing whatever can draw out the particular identity and authenticity of that location. Finally, sustainable, resilient and robust places are based on the integration of functional, environmental and quality considerations and stakeholder involvement into the design, plan and management of the built environment. Several principles of sustainable urban design have already been mentioned, like promoting diversity and choice through mixing uses, facilitating movement, encouraging local distinctiveness and designing places at the human scale. Other principles of sustainability, resilience and robustness are resource efficiency, pollution reduction, self sufficiency, green and water provision and flexibility (Adams & Tiesdell, 2012).

Eco City

The concept of the "eco-city" was born out of one of the first organizations focused on eco-city development, "Urban Ecology". The group was founded by Richard Register in the USA in 1975, and was founded with the idea of reconstructing cities to be in balance with nature (Coupland, 1997). The ultimate goal of eco-cities is to eliminate all carbon waste, to produce energy entirely through renewable sources, and to incorporate the environment into the city; however, eco-cities also have the intentions of stimulating economic growth, reducing poverty, organizing cities to have higher population densities, and therefore higher efficiency, and improving health (Spirn, 2012).

The eco-city does promote a compact, mixed-use urban form that uses land efficiently, stating that these urban form factors are especially important in how the city relates to its bio-region, whether it consumes it for urban development or whether the urban area is able to draw much of its food, materials and water requirements from within its own boundaries or surroundings, thus minimizing the city's ecological footprint. This protects the natural environment, biodiversity and food-producing areas. Furthermore urban density and mixed-use areas are found to have a very strong relationship with transport patterns, especially the level of car dependence and the effectiveness of public transport. Both higher densities and a higher level of function mix support a greater role for sustainable modes of transport (both public and clean). The efforts to achieve more compact, people-scale, walkable development patterns are also associated with a need to build more effective community in cities and to create a much higher quality urban public realm that has a real sense of place and meaning for people (Kenworthy, 2006).

Green Urbanism

Green Urbanism is a conceptual model for zero- emission and zero-waste urban design, which arose in the 1990s, promoting compact energy-efficient urban development. Its principles are quite similar to those of the Eco City. The vision of green urbanism includes the programs, policies and creative design ideas for urban renewal and environment sustainability and provides an proactive vision of what might be our zero-carbon, fossil fuel free future. It includes overlapping mixed-use activities, exploration of new living and working building typologies on the urban scale, infrastructures systems for renewable energy, public transport and individual energy-efficient building designs (Beatley, 2012).

Also according to the Green Urbanism theorists land use development patterns are key to urban sustainability. According to them, a mixed-use (and mixed-income) city delivers more social sustainability and social inclusion and helps to repopulate

the city centre. In general the Green Urbanism model advocates connected, compact communities for a livable city, applying mixed-use concepts and strategies for housing affordability, and offering different typologies for different needs. These mixed-use neighbourhoods have to avoid gentrification and provide adequate housing and facilities, yielding districts inclusive to all social groups and also providing secure tenure (ensuring 'aging in place'). Furthermore, mixed land uses are believed to be particularly important as it helps reduce traffic and supports public transport infrastructure. This would stimulate more sustainable lifestyle choices by integrating a diverse range of economic and cultural activities and avoid mono-functional projects that generate a high demand for mobility (Lehmann, 2010).

Smart Growth

Smart Growth is an urban planning and transportation theory. Transportation and community planners began to promote the idea of compact cities and communities and adopt many of the regulatory approaches associated with Smart Growth in the early 1970s. In 1991 the original 'Ahwahnee Principles' were set up, which articulate many of the major principles now generally accepted as part of smart growth movement, co-authored by several of the founders of the New Urbanist movement.

The term 'smart growth' is particularly used in North America. In Europe and particularly the UK, the terms 'Compact City' or 'urban intensification' have often been used to describe similar concepts, which have influenced government planning policies in the UK, the Netherlands and several other European countries (Jabareen 2006).

Smart Growth is a model that concentrates growth in compact walkable mixed-use urban centers to avoid sprawl. It advocates compact, transit-oriented, walkable, bicycle-friendly land use. It supports mixed land uses as a critical component of achieving better places to live. By putting residential, commercial and recreational uses in close proximity to one another, alternatives to driving, such as walking or biking, become viable. Mixed land uses also provide a more diverse and sizable population and commercial base for supporting viable public transit (Jackson, 2003). Furthermore, mixed-use can enhance the vitality and perceived security of an area by increasing the number and activity of people on the street. It attracts pedestrians and helps revitalize community life by making streets, public spaces and pedestrian-oriented retail become places where people meet (Morris, 2006).

Last but not least mixed land uses also comprise economic benefits. Siting commercial areas close to residential areas can raise property values. Meanwhile, businesses recognize the benefits associated with locations that attract more people, increasing economic activity. In today's service economy, communities find that by mixing land uses, they make neighborhoods attractive to workers who are considering quality-of-life-criteria as well as salary to determine where they will settle (Smart Growth Network, 2014).

New Urbanism

New Urbanism is an urban design movement that arose in the United States in the early 1980s and has materialized in the Charter of the New Urbanism, issued by the organizing body: the Congress for the New Urbanism, founded in 1993 (Kaufman, 2006). New urbanism promotes the creation and restoration of diverse, walkable, compact, vibrant, mixed-use communities composed of the same components as conventional development, but assembled in a more integrated fashion, in the form of complete communities. It encompasses principles such as traditional neighborhood design (TND) and transit-oriented development (TOD). It is also related to regionalism environmentalism, placemaking and smart growth (Haas, 2007).

From the 10 principles of New Urbanism issued by the Congress for the New Urbanism (CNU), we clearly see the relationship with mixed-use in point 1, 2, 3, 4, 6, 7, 8 and 9:

1. Walkability
2. Connectivity
3. Mixed-Use & Diversity
4. Mixed Housing
5. Quality Architecture & Urban Design
6. Traditional Neighborhood Structure (Contains a range of uses and densities within 10- minute walk)
7. Increased Density
8. Smart Transportation (trains and light rail instead of highways and roads)
9. Physical Sustainability 10. Quality of Life

New Urbanists consider the superiority of mixed-use indisputable and proven, comprising benefits for all parties in the city including residents, businesses, developers and municipalities (Katz, Scully & Bressi, 1994).

Firstly, mixed-use, pedestrian friendly- communities would offer more social interaction, resulting in social cohesion a better overall community image and sense of place. They also induce a higher quality of life and a healthier lifestyle. Furthermore, there is less crime and less spent on policing due to the presence of more people day and night and there is enhanced freedom and independence of children, elderly, and the poor in being able to get to jobs, recreation, and services (without the need for a car or someone to drive them) (Saelens, Sallis & Frank, 2003).

Secondly car-dependency is reduced and replaced by other, shared and cleaner ways of transport, which results less traffic congestion, improves energy efficiency and lowers CO₂-emissions.

Lastly the walkable, mixed-function areas would also lead to a stronger economy and greater personal wealth thanks to a higher income potential from higher density mixed-use projects due to more leasable square footage, more sales per square foot, and higher property values and selling prices, more efficient use of tax money with less spent on spread out utilities and roads, increased economic activity due to more foot traffic and people spending less on cars and gas (Field, 2007).

As one of the only sustainable urbanism theories, New Urbanism even provides some defining elements on the promoted mixed-use areas. Andres Duany and Elizabeth Plater-Zyberk, two of the founders of the Congress for the New Urbanism, observed mixed-use streetscapes while living in New Haven, Connecticut and observed some patterns concerning the scale of function mix. Unfortunately these are still very vague ('edge of the neighbourhood', 'close'...) and hardly usable because they are very incomplete and rely solely on observations of a single area, of which the objective urban sustainability has also never been proven (Katz et al., 1994).

A II. 1.2. SUSTAINABLE IMPACTS OF MIXED- USE ACCORDING TO SUSTAINABLE URBANISM THEORIES

FIELD OF IMPACT		COMPACT CITY	TRANSIT ORIENTED DEV. (TOD)	PLACEMAKING	ECO CITY	GREEN URBANISM	SMART GROWTH	NEW URBANISM
ENVIRONMENTAL	More sustainable modes of transport: faster, lesser, cleaner	Mixed use districts are argued to be efficient for more sustainable modes of transport. Some scholars argue that compact cities offer opportunities to reduce fuel consumption for traveling, since work and leisure facilities are closer together and travel distances are thus reduced (Newman and Kenworthy 1989; Dieleman and Wegener, 2004; Berton, 2002; Certero, 1988). Peter Newman (2000) found that the compact city emerges as the most fuel-efficient of urban forms.	more sustainable mode of transport, enhancing the energy efficiency of the city by sharing transport and significantly lowering the CO2-emission by reducing dependency and thus usage of the car and switching to centralized, clean modes of transport instead		Urban density and mixed-use areas are found to have a very strong relationship with transport patterns, especially the level of car dependence and the effectiveness of public transport. Both higher densities and a higher level of function mix support a greater role for sustainable modes of transport (both public and clean).	Mixed land uses are believed to be particularly important as it helps reduce traffic and supports public transport infrastructure.	Alternatives to driving, such as walking or biking, become viable. Mixed land uses also provide a more diverse and sizeable population and commercial base for supporting viable public transit (Jackson, 2003).	Secondly car-dependency is reduced and replaced by other, shared and cleaner ways of transport, which results less traffic congestion, improves energy efficiency and lowers CO2-emissions.
	Protection of natural resources	Mixed use areas are seen as a sustainable use of land. By reducing sprawl, land in the countryside is preserved and land in towns can be recycled for development, offering a more efficient use of land resources inside the city and more effective protection of natural resources over all. (Bruegmann, 2005)	The high function mix would yield more efficient use of land, energy and resources, help conserve open space, and in general increase "location efficiency", so people can walk, bike and take transit		A mixed-use urban form can minimize the city's ecological footprint. This protects the natural environment, biodiversity and food-producing areas.			
	Air quality		A benefit that emphasized in this context is that Transit Oriented Development would result in this way also result in cleaner air					
	CO2 emission	Less CO2 emission through more sustainable ways of transport	Less CO2 emission through more sustainable ways of transport		Less CO2 emission through more sustainable ways of transport			Less CO2 emission through more sustainable ways of transport

SOCIAL	Social interaction, Social cohesion, safety	In social terms, compactness and mixed uses are associated with diversity, social cohesion, and cultural development. A large variety of activities in the same area provides opportunities for social interaction as well as a safety by enhancing social control (ODPM, 2006). This in turn, increases the social cohesion and thus the social viability of an area (Rowley, 1996).	Mixed use increases neighborhood safety thanks to more people on the street. This also promotes a sense of community and of inclusion, inducing social and in the long run enhancing social sustainability of an area (QldGovt, 2007).	Residents living in walkable, mixed-use neighborhoods are more likely to know their neighbors, to participate politically, to trust others, and to be involved socially (Leyden, 2003). This strengthens the connection between people and the places they share and thus enhances social sustainability.	Mixed function need to build more effective community in cities and to create a much higher quality urban public realm that has a real sense of place and meaning for people.	Mixed-use neighborhoods avoid gentrification, yielding districts inclusive to all social groups. A mixed-use (and mixed-income) city delivers more social sustainability and social inclusion.	mixed use can enhance the vitality and perceived security of an area by increasing the number and activity of people on the street. It attracts pedestrians and helps revitalize community life by making streets, public spaces and pedestrian-oriented retail become places where people meet (Morris, 2006).	Firstly, mixed-use, pedestrian friendly-communities would offer more social interaction, resulting in social cohesion a better overall sense of place. There is less crime and less spent on policing due to the presence of more people day and night.
Higher quality of life							They also induce a higher quality of life.	
Health		Cleaner air would result in positive effects on health. The high function mix would increase "location efficiency", so people can walk, bike and take transit. In this way, mixed use also enhances health by promoting healthier lifestyles.			Walkable, mixed use areas stimulate a more sustainable and healthy lifestyle.	Healthier alternatives to driving, such as walking or biking, become viable.	They also induce a healthier lifestyle.	
More freedom							There is enhanced freedom and independence of children, elderly, and the poor in being able to get to jobs, recreation, and services (without the need for a car or someone to drive them) (Saelens, Sallis & Frank, 2003).	

ECO-NOMIC	cost effective infrastructure per capita	Infrastructure, such as roads and street lighting, can be provided cost-effectively per capita.							More efficient use of tax money with less spent on spread out utilities and roads
	Increased land value and revenue		The function mix increases property values, lease revenues and rents					Mixed land uses also comprise economic benefits. Siting commercial areas close to residential areas can raise property values.	There is a higher income potential from higher density mixed-use projects due to more leasable square footage, more sales per square foot, and higher property values and selling prices
	Enough population to support local services and businesses	Population densities are sufficient to support local services and businesses (Burton, Jenks & Williams, 2003)							
	Good access to jobs	The compact city is an equitable form because it offers good accessibility to jobs, stimulating the economy and the personal welfare of the population.							
	increased economic activity due to accessibility and slow modes of transport	The high-density, mixed use development enhances the walkability of an area, which in its turn promotes the accessibility and usage of services, stimulating the economy.	The function mix increases foot traffic for local businesses					Businesses recognize the benefits associated with locations that attract more people, increasing economic activity.	Increased economic activity due to more foot traffic
	Lower costs of transportation		Lowering the costs of transportation (which is a high part of household expenditure)						

A II.1.3. TRANSLATION THEORETICAL AIMS OF MIXED-USE TO END-USER BEHAVIOUR AND PHYSICAL REQUIREMENTS

THEORETICAL AIMS OF MIXED-USE	SOLUTIONS THAT MIXED-USE WOULD PROVIDE PROPOSED IN THEORY	GOAL IN RELATION TO END-USER	NEEDED END-USER BEHAVIOUR	REQUIREMENTS IN TERMS OF URBAN FORM
1. Preserve natural land	Intensify within the boundaries of the city	More compact living	Be okay with compact living and denser living environments	Urban form that makes dense residential environments attractive
	Reduce transportation objects in transit	Induce the usage of shared transport (such as public buses and shared bicycle and car garages)	Walk to shared transportation nodes	Availability and accessibility of shared transport nodes within walking radius High enough densities and function mix for an efficient shared / public transport system
2. Increase mobility		Reduce the need to travel far for services, products and activities	Go to needed services, products and activities via sustainable modes of transport (walking, cycling, public transport...)	Availability and accessibility (permeability and connectivity) of services, products and activities (function-to-function) distances within a radius that can be attained by sustainable modes of transport (walking, cycling, public transport...)
	Split traveling streams	Induce the usage of multiple forms of transport	Walking and cycling	Urban form that induces walking, cycling Availability and accessibility (permeability and connectivity) of services, products and activities (function-to-function) distances within a radius that can be attained by walking and cycling
3. Reduce fuel and energy consumption by transport	Reduce traveling	Induce the usage of shared transport (such as public buses and shared bicycle and car garages)	Discouraged car-usage	Urban form that obviates car-usage
		Reduce the need to travel far for services, products and activities	Walk to shared transportation nodes	Availability and accessibility of shared transport nodes within walking radius High enough densities and function mix for an efficient shared / public transport system
Lower CO2 emission by transport, Increase air quality		Induce the usage of active modes of transport like walking and cycling and (shared) non-emitting means of transport (such as electrical cars, trains, trams)	Go to needed services, products and activities via sustainable modes of transport (walking, cycling, public transport...)	Availability and accessibility (permeability and connectivity) of services, products and activities (function-to-function) distances within a radius that can be attained by sustainable modes of transport (walking, cycling, public transport...)
	Switch to clean modes of transport		Walking and cycling	Availability and accessibility (permeability and connectivity) of services, products and activities (function-to-function) distances within a radius that can be attained by walking and cycling
			Induce the usage of clean (shared) transportation systems	Urban form that induces walking, cycling Availability and accessibility of clean shared transport nodes within walking radius
			discourage car-usage	High enough densities and function mix for an efficient shared transport system Urban form that obviates car-usage
				Availability and accessibility and of clean alternatives to the CO2-emitting car

4. Increase public health	'Healthify' lifestyle	Induce more movement in the end-users lifestyle	Walking and cycling	Urban form that induces walking, cycling (see walking, cycling)
	Improve air quality (see goal 3)	(see goal 3)	(see goal 3)	Availability and accessibility (permeability and connectivity) of services, products and activities (function-to-function distances) within a radius that can be attained by walking and cycling (see goal 3)
5. Enforce social cohesion	Increase social interaction	Create an active streetlife and a vibrant urban area	Coming out in the public space to reside and transit (People on the streets)	Urban form that induces walking, cycling (see walking, cycling)
	Increase interaction of different social groups	Create an active streetlife and a vibrant urban area in which different social groups participate	Coming out in the public space of different social groups to reside and transit	Availability and accessibility of services, products and activities High quality and attractive public spaces
6. Create an attractive urban area	Increase urban vitality	Active streetlife and a vibrant urban area (see goal 5)	Perceive the urban area as attractive	Urban form and public space that is perceived as attractive by the end-users
7. Create a safe urban area	Induce social cohesion (see goal 5)	(see goal 5)	(see goal 5)	(see goal 5)
	Induce social control	24h presence of a good amount of users in the area and usage of the public space during most of the day	Usage of the public space during the day	Urban form that induces walking, cycling (see walking, cycling)
8. Create an economically viable city	Create infrastructure cost-effectively	none	Presence of a good amount of users in the area at night	Availability and accessibility of services, products and activities High quality and attractive public spaces
	Foster economic activity	Inducing expenditure at the local commercial businesses	Use the local commercial businesses	Urban form that induces walking, cycling (see walking, cycling)
	Attract people	Induce settlement of local economic activities	Settle there	High quality and attractive public spaces
		To shops: Induce slow modes of transport	Walking and cycling	Urban form that induces walking, cycling (see walking, cycling)
		To area: Create an active streetlife and vibrant urban area	Linger, transit and reside in the public space	Urban form and public space that is perceived as attractive by the end-users
				Availability and accessibility (permeability and connectivity) of services, products and activities (function-to-function distances) within a radius that can be attained by walking and cycling

A II.1.4. AIMS OF MIXED-USE IN PRACTICE

THEORETICAL AIMS OF MIXED-USE	OBJECTIVES OF MIXED-USE STATED IN DEVELOPMENT PLAN OF ATLANTIC STATION, ATLANTA (US)	OBJECTIVES OF MIXED-USE STATED IN PLANNING VISION & STRATEGY 2030 HONG KONG	OBJECTIVES OF MIXED-USE STATED IN STRUCTURAL VISION 2040 AMSTERDAM & VISION AMSTERDAM SOUTH AXIS	OBJECTIVES OF MIXED-USE STATED IN THE VISION FOR MIXED-USE OF ROTTERDAM
1. Preserve natural land			Minimizing the impact on natural land	Enhancing intensity and efficiency of the usage of space
2. Increase mobility	Induce walking and cycling Encourage public transport	Minimize traveling Shortening commuting trips	Handling transport more efficiently Reducing car dependency	Reducing auto-mobility Reducing congestion
3. Reduce fuel and energy consumption by transport, Lower CO2 emission by transport, Increase air quality	Improve air quality by promoting walking and reducing the number of vehicular trips	More environmentally friendly modes of transport	Handling energy more efficiently	Reducing auto-mobility
4. Increase public health	Induce walking and cycling	Stimulating a healthy lifestyle through pedestrianization	Handling transport more efficiently Reducing pollution	Reducing congestion Reducing pollution
5. Enforce social cohesion			Inducing social interaction and cohesion	
6. Create an attractive urban area	Increasing attractiveness Giving a sense of identity	Creating more attractive living environments Creating a sense of place	Increasing the quality of the urban environment for its users Increasing the sense of identity	Revitalizing urban areas Enhancing attractiveness
7. Create a safe urban area	Increasing safety		Increasing safety	Enhancing safety
8. Create an economically viable city			Stimulating economic development	Revitalizing urban areas

A II. I.5. RECOMMENDATIONS ON THE PHYSICAL IMPLEMENTATION OF MIXED-USE FROM DOCUMENTS FROM PRACTICE

DOMAINS	RECOMMENDATIONS ON FEATURES OF GOOD MIXED-USE DEVELOPMENT STATED IN DEVELOPMENT PLAN OF ATLANTIC STATION, ATLANTA (US)	RECOMMENDATIONS ON FEATURES OF GOOD MIXED-USE DEVELOPMENT STATED IN PLANNING VISION & STRATEGY 2030 HONG KONG	RECOMMENDATIONS ON FEATURES OF GOOD MIXED-USE DEVELOPMENT STATED IN STRUCTURAL VISION 2040 AMSTERDAM & VISION AMSTERDAM SOUTH AXIS	RECOMMENDATIONS ON FEATURES OF GOOD MIXED-USE DEVELOPMENT STATED IN THE VISION FOR MIXED-USE OF ROTTERDAM
Infra-structure	New pedestrian oriented commercial nodes	Good urban infrastructure, including community facilities, open space, efficient and green energy supply, and sewage and waste treatment systems	Squares, neighbourhood squares, parks, sports fields, communal gardens.	
	Good public transport system		verbetering openbaar vervoersnetwerk Extension of tramline and busservices.	verbetering openbaar vervoer
Urban layout	Adequate parking requirements and bicycle storage		Bicycle storage and parking	Bicycle storage and parking
	safe, attractive and convenient pedestrian circulation		Plinth functions	Public plint
Housing supply	Housing supply for a mix of social groups			Een aantal bijzondere voorzieningen, iconen, op strategische plekken, waarbij een koppeling met voldoende openbare ruimte wordt gemaakt
	divers en rijk aanbod van stedelijke voorzieningen	divers en rijk aanbod van stedelijke voorzieningen	Evenwichtige woningvoorraad (in zowel hoog als laag segment)	Aantrekkelijke mix van woningtypes
Functions		Sufficient and accessible cultural and community facilities	culturele voorzieningen en horecagelegenheden	snel diversifiërend, kwalitatief hoogwaardig voorzieningenniveau
			toenemende concentratie van (kleinschalige) bedrijvigheid.	grote hoeveelheid en diversiteit aan (kleinschalige) particuliere initiatieven.
			Sportvoorzieningen – al dan niet in combinatie met onderwijs – maken deel uit van de wijk.	mixed program in terms of opening hours with great diversity in functions.

Charac- ter	a high quality living environment.	a high quality living environment.	levendige en aantrekkelijke plekken, afgewisseld met rustige, kwalitatief hoogwaardige woongebieden en openbare ruimte van straten, pleinen en parken.	a high quality living environment
	Unicity preserve and restore existing, traditional and pedestrian scale buildings in established, historic neighborhood districts	Sense of identity Building upon the existing characteristics and qualities	Sense of identity Exploit traditional qualities that are characteristic for the place Gebouwen met historische waarde (met een unesco notering) beschermen en bewaren als kenmerk. vele door particulieren en kleine ontwikkelaars uitgevoerde vormgevingen van het woningbestand	Sense of identity makes the best possible use of existing local qualities.
Flexibility	Icons maximum flexibility of real estate	Flexible buildings	Iconic buildings flexible building design	Iconen Flexibel indeelbare panden en wijken die in de loop der jaren verschillende functies kunnen herbergen

A III.I.I. PLOTS OVERHOEKS

GEBIED	KAVEL	(NAAM)	GROND- BEZIT	GRONDAF- NAME	ERFPACH- THOUDER / HUURDER / GRONDEI- GENAAR	OPDRACHT- GEVER	ONTWIKKEL- METHODE	ONTWIKKELENDE PARTIJ	PROGRAMMA	STATUS
Overhoeks	A	EYE	Publiek	Erfpacht	EYE	ING Real Estate	Public-private-partnership	Gemeente, ING RED & Ymere	Filminstituut	Opgeleverd 2012
Overhoeks	B	Shell Technology Centre Amsterdam (STCA)	Particulier	Shell	Shell	Shell	Privaat	Shell	Onderzoekscentrum Shell	

Overhoeks	C		A'DAM Toren	Publiek	Erfpacht			Gemeente	Privaat	Lingotto, Sander Gro- et, Duncan, Rabobank (?) > gezamenlijk opdrachtgeverschap. Wel bijzonder dat uiteindelijk opdracht- gever ook gebruiker is (huurder)	Club, evenement- en ruimte, hotel, bar, restaurant, sportschool, ID&T, Q-DANCE Air Events, SFX, panoramapunt.	Oplevering 2016
	D		Overhoeksplein	Publiek	Gemeente- grond	Gemeente	Gemeente	Gemeente	Publiek	Gemeente	Plein	
Overhoeks	E	Shell Grootlab	A'lab	Publiek	Erfpacht	A'lab	A'lab	A'lab	Privaat	CODUM	Innovatieve broed- plaats	Oplevering 2015
Overhoeks	F	Shell Grootlab	AHK	Publiek	Erfpacht	AHK	AHK	AHK	Publiek	AHK	Amsterdams Ho- geschool voor de Kunsten	Oplevering 2016
Overhoeks	G	Shell Grootlab	Clinkhostel	Publiek	Erfpacht	Clinkhostel	Clinkhostel	Clinkhostel	Privaat	Clinkhostel	Hostel	Opgeleverd 2015
Overhoeks	H		Oeverpark	Publiek	Gemeente- grond	Gemeente	Gemeente	Gemeente	Publiek	Gemeente	Park	Opgeleverd 2014
Overhoeks	I		Schegpark	Publiek	Gemeente- grond	Gemeente	Gemeente	Gemeente	Publiek	Gemeente	Park	Oplevering 2020
Overhoeks	B	Campus (fase 1)	De Gelfria	Publiek	Erfpacht	Gemeente	Gemeente	Gemeente	Privaat	Ontwikkelcombinatie Overhoeks (ING RED & Ymere)	woningcomplex (59 sociale huurwoni- gen) (Ymere)	Opgeleverd 2010
Overhoeks	B	Campus (fase 1)	De Halve Maen	Publiek	Erfpacht	Gemeente	Gemeente	Gemeente	Privaat	Ontwikkelcombinatie Overhoeks (ING RED & Ymere)	woningcomplex (88 koopappartementen)	Opgeleverd 2014
Overhoeks	B	Campus (fase 1)	De Europa	Publiek	Erfpacht	Gemeente	Gemeente	Gemeente	Privaat	Ontwikkelcombinatie Overhoeks (OCO) (Amvest & Ymere)	woningcomplex (79 luxe huur-koop appartementen) (Vesteda)	Opgeleverd 2011
Overhoeks	B	Campus (fase 1)	De Willem Bar- endsz	Publiek	Erfpacht	Gemeente	Gemeente	Gemeente	Privaat	Ontwikkelcombinatie Overhoeks (OCO) (Amvest & Ymere)	2 woningcomplex (elk 22 appartement- en)	Opgeleverd 2012
Overhoeks	B	Campus (fase 1)	de Zee-Arend	Publiek	Erfpacht	Gemeente	Gemeente	Gemeente	Privaat	Ontwikkelcombinatie Overhoeks (OCO) (Amvest & Ymere)	2 woningcomplex (elk 22 appartement- en)	Opgeleverd 2012

Overhoeks	B	Campus (fase 1)	De Zeven Provincien	Publiek	Erfpacht	Gemeente	Gemeente	Privaat	Ontwikkelcombinatie Overhoeks (OCO) (Amvest & Ymere)	woningcomplex (62 koopappartementen)	Opgeleverd 2012
Overhoeks	B	Campus (fase 1)	De Oranje	Publiek	Erfpacht	Gemeente	Gemeente	Privaat	Ontwikkelcombinatie Overhoeks (OCO) (Amvest & Ymere)	woningcomplex (koop appartementen)	Opgeleverd 2009
Overhoeks	B	Campus (fase 1)	De Prinsendam	Publiek	Erfpacht	Gemeente	Gemeente	Privaat	Ontwikkelcombinatie Overhoeks (OCO) (Amvest & Ymere)	woningcomplex (koop appartementen)	Opgeleverd 2010
Overhoeks	B	Campus (fase 1)	De Statendam	Publiek	Erfpacht	Gemeente	Gemeente	Privaat	Ontwikkelcombinatie Overhoeks (OCO) (Amvest & Ymere)	woningcomplex (73 koopappartementen)	Oplevering 2015
Overhoeks	B	Campus (fase 3)	Campus (fase 3)	Publiek	Erfpacht	Gemeente	Gemeente	Privaat	Ontwikkelcombinatie Overhoeks (OCO) (Amvest & Ymere)	2e deel woonwijk	Start 2016
Overhoeks	1	Strip	Toren 1	Publiek	Erfpacht	Gemeente	Gemeente	Privaat	AM (ontwikkelaar) & MN (pensioenfonds) (investeerder)	150 huurappartementen (friends concept)	Oplevering 2017
Overhoeks	2	Strip	Maritim	Publiek	Erfpacht	Maritim	Gemeente	Privaat	IES Immobielien, Maritim (woontoren erbij genomen) (Stedenbouwkundig plan)	Congrescentrum + hotel + woontoren	Oplevering 2018
Overhoeks	3	Strip	Maritim	Publiek	Erfpacht	Maritim	Gemeente	Privaat	IES Immobielien, Maritim (woontoren erbij genomen) (Stedenbouwkundig plan)	Congrescentrum + hotel + woontoren	
Overhoeks	4	Strip	To be announced	Publiek							
Overhoeks	5	Strip	Kavel 5	Publiek	Erfpacht	To be announced	Gemeente	Privaat (tender)			
Overhoeks	6	Strip	Hyperion	Publiek	Erfpacht	Hyperion	ROC van Amsterdam	Publiek	ROC met behulp van adviseurs (ICS Vastgoed)	Middelbare school	Oplevering 2018
Overhoeks	7	Strip	To be announced	Publiek	Erfpacht						
Overhoeks	J	Strip	Tijdelijk Hyperion	Publiek	Huur	Hyperion	ROC van Amsterdam	Publiek	ROC met behulp van adviseurs (ICS Vastgoed)	Middelbare school	Oplevering 2015

A III.1.2. PLOTS BUIKSLOTERHAM

KAVEL	ADRES	(NAAM)	GROND- BEZIT	GRONDAF- NAME	ERFPACH- THOUDER / HUURDER / GRONDEIGE- NAAR	ONTWIK- KEL- METHODE	ONTWIK- KELENDE PARTIJ	PROGRAMMA	STATUS
0A		Groene oever	Publiek	Gemeente- grond	Gemeente	Publiek	Gemeente	Park	Oplevering ca 2020
0B		Papaver- park	Publiek	Gemeente- grond	Gemeente	Publiek	Open plan- proces met bewoners	Park	Oplevering 2016
0W1		Waterka- vels	Publiek	Erfpacht		Privaat	Bouwgroep Schoon- Schip	30 Drijvende zelfbouwwo- ningen.	Start bouw maart 2016 Bouw gereed JULI 2018
0W2		Waterkavel	Publiek	Verhuur	Asile Flottant	Privaat	Asile Flot- tant	Drijvend hotel	
01a	Klaprozen- weg 63 & 65		Publiek	Gemeente- grond				29 woningen	Planning onbekend
01a			Publiek	Verhuur	NW				Ontwikke- ling opge- schoven in kader van projecten- schouw tot na 2020
01b	Klaprozen- weg 57-69		Publiek	Erfpacht	Braspenning - Hijzelen- doorn - BMG Vastgoed BV				
02a-b	Monnik- skapstraat 10-60		Publiek	Erfpacht	Individuele Zelfbouwers	Privaat	Particulier opdracht- gever- schap	20 Individuele zelfbouwwo- ningen	Start bouw 2016- oplevering 2019
03a	Klaprozen- weg, vrouwman- telstraat, Kaasjeskru- idstraat		Publiek	Erfpacht	Zelfbouwers	Privaat	Particulier opdracht- gever- schap	10 Individuele zelfbouwwo- ningen	Start bouw 2014 - Oplevering september 2016
03b	Klaprozen- weg, vrouwman- telstraat, Kaasjeskru- idstraat		Publiek	Erfpacht	Zelfbouwers	Privaat	Particulier opdracht- gever- schap	18 Individuele zelfbouwwo- ningen	Start bouw 2014 - oplevering oktober 2016
03c	Klaprozen- weg, vrouwman- telstraat, Kaasjeskru- idstraat		Publiek	Erfpacht	Zelfbouwers	Privaat	Particulier opdracht- gever- schap	25 Individuele zelfbouwwo- ningen	Start bouw 2016 - oplevering 2018
03d	Klaprozen- weg, vrouwman- telstraat, Kaasjeskru- idstraat		Publiek	Erfpacht		Tender?		43 individuele zelfbouwwo- ningen	Start bouw 2016 - Oplevering 2017
03e 1	Klaprozen- weg, vrouwman- telstraat, Kaasjeskru- idstraat		Publiek	Erfpacht	Zelfbouwers	Privaat	CPO + ontwikke- laar	5 individuele zelfbouwwo- ningen	Start bouw 2014 - Oplevering 2015

03e 2	Klaprozenweg, vrouwmantelstraat, Kaasjeskruidstraat		Publiek	Erfpacht	Zelfbouwers	Privaat	CPO + ontwikkelaar	5 individuele zelfbouwoningen	Start bouw 2017 - Oplevering 2018
04a			Publiek	Gemeentelijk eigendom					
04b	Bosrankstraat 1	De Helling	Publiek	Erfpacht	Stichting Kolom	Publiek	Stichting Kolom, Ymere	School, gymnastiekzaal, watergeweningsbad, mogelijkheid tot theater	Opgeleverd
05a	Bosrankstraat 5 - 35 + hulstweg		Publiek	Erfpacht		Privaat	Privaat opdrachtgever-schap	18 Individuele zelfbouwoningen	Opgeleverd 2015
05a-r	Bosrankstraat 5 - 35 + hulstweg		Publiek	Erfpacht		Privaat	Privaat opdrachtgever-schap	19 Individuele zelfbouwoningen	Opgeleverd 2016
05a-r	Bosrankstraat 5 - 35 + hulstweg		Publiek	Erfpacht		Privaat	Privaat opdrachtgever-schap	20 Individuele zelfbouwoningen	Opgeleverd 2017
05a-r	Bosrankstraat 5 - 35 + hulstweg		Publiek	Erfpacht		Privaat	Privaat opdrachtgever-schap	21 Individuele zelfbouwoningen	Opgeleverd 2018
05b	Klaprozenweg 31-33		Publiek	Erfpacht	NAZ beheer BV				
06	Klaprozenweg 19-27		Publiek	Erfpacht	Bosch N., Bosch M, Bosch Y, Bosch P.			Winkels	Niet in grex
07	Vlierweg 44 - Klaprozenweg 17D		Publiek	Erfpacht	VVE Klaprozenweg 17D-Vlierweg 44			Winkels + kantoor	Niet in grex
07a	Klaprozenweg 17A		Publiek	Erfpacht	Bekker			Kantoor	
07b	Klaprozenweg 17B		Publiek	Erfpacht	Bekker			Kantoor	
07c	Klaprozenweg 15		Publiek	Erfpacht	Kolk S			Industrie + woning	
07d	Klaprozenweg 9-13		Publiek	Erfpacht	S. Jongsma en Zoon Amsterdam NV			Sportfunctie + woning + kantoor	
07e	Klaprozenweg 7		Publiek	Erfpacht	Hendriksma J.			Woning + industrie-functie	
08	Papaverweg 50-56		Publiek	Erfpacht	NW			Gemeentelijk bedrijf - Waternet drijvend kantoor	Opgeleverd
09	Papaverweg 50		Publiek	Erfpacht	Nuon Infra west			Nuon stroomverdeelstation. Blijft.	In kader van bestemmingsplan contract voor vermindering geluid.

10	Papaverweg 50		Publiek	Erfpacht	Nuon Infra west			Nuon stroomverdeelstation. Blijft.	In kader van bestemmingsplan contract voor vermindering geluid.
11	Papaverweg 46-48		Publiek	Erfpacht	Stichting de Alliantie			Vintage winkel Neef Louis. - Voormalig GTI gebouw met cultuurhistorische waarde - woningen	
12	Bosrankstraat 2-52	Docklands	Publiek	Erfpacht	VVE Docklands	Privaat	Vink bouw (ontwikkelaar)	appartementencomplex met 44 appartementen, 13 bedrijfsunits, parkeergarage	Oplevering 2017
13	Papaverweg 40a		Publiek	Erfpacht	Beams Systems (Beam Holding BV)			Bedrijf Beams Systems, wil wel verhuizen, verkent herontwikkelingsmogelijkheden met architecten van buro binnenstad	
14	Papaverweg 30-38-40	Kavel 14	Privaat	Particulier eigendom	Maanzaad BV (huurder: Roskam)			Herontwikkelingsplan beginfase	Ontwerpvoorstel Oktober 2015
15	Papaverweg 36 - hulstweg 11		Publiek	Erfpacht	Misdorp HC & Misdorp Beheer BV			bedrijf winlove Bio industries (kantoor?)	
16a	Hulstweg 8		Publiek	Erfpacht	TSV beheer BV			Bestemming: industrie	
16b	Papaverweg 36		Publiek	Erfpacht	Kwekkenboom BV			Bestemming: industrie	
17a	Vlierweg 12-26 + Papaverweg 34		Publiek	Erfpacht	Maarsen groep			Bestemming: industrie	
17b	Papaverweg 32		Publiek	Erfpacht	H.A.M. Van Tol beheer BV			Bestemming: kantoor	
17c	Papaverweg 32-Vlierweg 30		Publiek	Erfpacht	Schram filmstudios BV			Bestemming: industrie	
17D	Papaverweg 30		Publiek	Erfpacht	Sleep en takeldienst vrolijk BV			Bestemming: kantoor	
17e	Papaverweg 28 - Vlierweg 38		Publiek	Erfpacht	pracht en Praal producties BV			Bestemming: industrie	
17f	Papaverweg 18		Publiek	Erfpacht	Jong de R. & Schipper R.			Bestemming: industrie	
17g	Papaverweg 18		Publiek	Erfpacht	Dech			Bestemming: industrie	
17h	Klaprozenweg 1-5 + Papaverweg 16-18		Publiek	Erfpacht	Klaprozen vastgoed BV			Kantoor, woning, industrie	

18			Publiek	Gemeente- grond	Gemeente			Asielzoeker- sopvang?	Ontwikke- lingen ivm heroverw- ering naar achter gefaseerd
19			Publiek	Gemeente- grond	Gemeente				Gemeenteli- jke ontwik- kelstrategie vaststellen
20a-f		Kavel 20	Publiek	Erfpacht		Privaat	Bouw- groepen	155 CPO won- ingen	Uitgifte ok- tober 2015
21a	Ridder- spoorweg 183-262 & Johan van Hasselt- kade 310- 324	Kavel 21			VVE Blackjack	Privaat	Bouwgroep BLACK JACK	flexibel casco	Oplevering gefaseerd vanaf okto- ber 2015
21b	Ridder- spoorweg 127-169	Kavel 21			VVE Nova Zembla Lofts	Privaat	Bouwgroep NOVA ZEMBLA	flexibel casco	
21c	Ridder- spoorweg 191-125 & Christ- offelkru- idstraat 74-104	Kavel 21	Eigen	Erfpacht	VVE gebouw superlofts	Privaat	Bouwgroep DE HOOFF- DEN	superlofts	
21d	Christof- felkruid- straat 40 - 70 & Rid- derstraat 114-115	Kavel 21	Publiek	Erfpacht	VVE Noor- d4Us	Privaat	Bouwgroep NOOR- D4US	Volgens alles-deelcon- cept	
21e		Kavel 21	Publiek	Erfpacht	VVE Elta	Privaat	Bouwgroep NIEUW BSH (ELTA)		
21f	Christof- felkruid- straat 4, papaverweg 45-115, ridder- spoorweg 105-107	Kavel 21	Publiek	Erfpacht	VVE Puur BSH	Privaat	Bouwgroep PUUUR BSH	30 zelfbouw- woningen	
22	Christof- felkruid- straat 21-29 & Johan van Hasseltkade 202 - 306	Patch 22		Erfpacht / Eigendom	VVE Patch 22	Privaat	Lemni- skade BV	Woon/werk gebouw Hoog- ste houten gebouw van NL - CPO	Oplevering 2015
23			Particu- lier	Particulier eigendom	BSN	Privaat	BSN	27 woningen	Aanzet tot VO - plan- ning nog te bepalen
23	Papaverweg 43		Publiek	Erfpacht	Wolf de A.T. & Wolf de M.			Bestemming: Wooneen- heden - nu detailhandel	
23	Papaverweg 37		Publiek	Erfpacht	Koopman- schap J.W.M.				
23	Papaverweg 35		Publiek	Erfpacht	Projectontwik- keling Ymere				

24			Publiek	Gemeente- grond	Gemeente				Terug- getrokken uit tender wegens onvoldoende belang- stelling. Nu proberen te verhuren
25			Publiek	Gemeente- grond	Gemeente			Nu gemeen- telijk bedrijf: Afvalpunt. Plan: 87 won- ingen	nog te bep- alen
26			Publiek	Erfpacht	40 verschillen- de erfpach- thouders			Kleine kavels bestemming industrie	niet in grex
27			Publiek	Erfpacht	19 verschillen- de erfpach- thouders				niet in grex
28		Papaver- hoek	Publiek	Erfpacht					onteigening- sprocedure
29		Papaver- hoek	Publiek	Erfpacht					onteigening- sprocedure
30		Papaver- hoek	Particu- lier	Particuliere grond					onteigening- sprocedure
31		Papaver- hoek	Publiek	Erfpacht					onteigening- sprocedure
32	Korte pa- paverweg	Papaver- hoek	Publiek	Gemeente- grond	Gemeente		De Ceuvel	Creatieve werkplaats met ruimte voor wonen, werken en horeca in voormalig scheepswerf	onteigening- sprocedure
33		Papaver- hoek	Particu- lier	Particuliere grond					onteigening- sprocedure
34		Papaver- hoek	Publiek	Erfpacht					onteigening- sprocedure
35	Korte pa- paverweg	Papaver- hoek	Publiek	Gemeente- grond	Gemeente		De Ceuvel	Creatieve werkplaats met ruimte voor wonen, werken en horeca in voormalig scheepswerf	opgeleverd. 10 jaar, tijdelijk.
36		Papaver- hoek	Publiek	Erfpacht					onteigening- sprocedure
37		Papaver- hoek	Publiek	Erfpacht					onteigening- sprocedure
38		Papaver- hoek	Publiek	Erfpacht					onteigening- sprocedure
39			Publiek	Gemeente- grond	Gemeente			488 woningen	Planning nog te bepalen
40	Distelweg 88		Publiek	Erfpacht	Beheer- maatschappij E.Koop			Bedrijf Koopman in- ternational hier gevestigd	niet in grex
41		Kavel 41	Publiek	Erfpacht		Privaat	Koopmans		
41		Kavel 41	Publiek	Erfpacht		Privaat	Koopmans	2 particuliere woningen?	Oplevering augustus 2016

42	Distelweg 80 A-M		Particulier	Particuliere grond	Maarsdistel BV & Wentzel & Beheermaatschappij E. Koop				Niet in GREX
43	Distelweg 64-66	De Vrije Kade	Publiek	Gemeentegrond	Gemeente	Privaat	Distelweg BV (Eigen Haard, Van der Ley)	235 woningen incl. 66 sociaal	Start bouw 1e Fase APRIL 2015 Bouw 1e fase gereed SEPTEMBER 2016 - overige fases bouw gereed 2019
44	Distelweg 64-66	De Vrije Kade	Publiek	Gemeentegrond	Gemeente	Privaat	Distelweg BV (Eigen Haard, Projecton)	Programma conform opgave van de ontwikkelaar	Oplevering 2017
45	-	-	-	-	-	-	-	-	Geplande- landaan- winning in investerings- besluit. Gaat niet door.
46	Disterlweg 113		Publiek	Erfpacht	Distwel 113 BV - BPO ontwikkelaar?		New Energydocks		
47		Buiksloterham & Co / Cityplot	Publiek	Erfpacht	Conversie Airproducts naar de Alliantie	Privaat	De Alliantie (corporatie)	Zelfbouwka- vells, markt- kavels (CPO), koopappartemen- ten, huurappartemen- ten en bedrijfsruim- ten. (508 woningen waarvan 168 sociaal)	Start bouw 1e fase MAART 2015 Bouw gereed 2018
48		Buiksloterham & Co / Cityplot	Publiek	Erfpacht	Conversie Airproducts naar de Alliantie	Privaat	De Alliantie (corporatie)	Zelfbouwka- vells, markt- kavels (CPO), koopappartemen- ten, huurappartemen- ten en bedrijfsruim- ten. (559 woningen)	Oplevering 2020
49		Buiksloterham & Co / Cityplot	Publiek	Erfpacht	Conversie Airproducts naar de Alliantie	Privaat	De Alliantie (corporatie)	Zelfbouwka- vells, markt- kavels (CPO), koopappartemen- ten, huurappartemen- ten en bedrijfsruim- ten. (559 woningen)	Oplevering 2020
50	Asterweg 75-141		Publiek	Erfpacht	VVE Bedrijven- park Asterpark & Asterbaan	Privaat	Labes groep	bedrijfs- gebouw 'Aster- park'	Opgeleverd
51	Asterweg 41-43		Particulier	Particuliere grond	VVE Asterbaan & Steengoed BMA BV				
52	Asterweg 37		Publiek	Gemeentegrond	Gemeente				Uitgesteld in kader van projecten-schouw

53	Asterweg 34-40 & Distelweg 91-95		Publiek	Erfpacht	Wegter Vastgoed en Beleggingen & Os van GCJ			Deel Asterweg	
54	Asterdwarsweg 1		Particulier	Particuliere grond	Anna Jenny Beheer & Bambi & de Prins, Wolbers holding & Eps Vastgoed		Klevering?	Deel Asterweg	Uitkopen?
54	Asterdwarsweg 5		Particulier	Particuliere grond	Anna Jenny Beheer & Bambi & de Prins, Wolbers holding & Eps Vastgoed		Lava?	Deel Asterweg	Uitkopen?
54	Asterweg 34		Particulier	Particuliere grond	Anna Jenny Beheer & Bambi & de Prins, Wolbers holding & Eps Vastgoed		Shop de Ville Vasilis Sfakianakis	Deel Asterweg	Uitkopen?
54	Distelweg 89		Particulier	Particuliere grond	Anna Jenny Beheer & Bambi & de Prins, Wolbers holding & Eps Vastgoed		Joolz positive design	Deel Asterweg	Uitkopen?
55	Distelweg 85		Particulier	Particuliere grond	Scheper				
56a		Collectiecentrum EYE	Particulier	Particuliere grond	Eigendom Hoekpoort BV		Eye filminstituut	Collectiecentrum EYE	Oplevering 2016
56b			Particulier	Particuliere grond	Eigendom Hoekpoort BV		Van der Leij? / eigen haard?	56 woningen	Bouw 2019 (volgend op 43-44)
57	Chrisantenstraat 26-28		Publiek	Verhuur					
58a	Chrisantenstraat 26-28		Publiek	Verhuur					
58b1	Asterweg 22		Publiek	Erfpacht	Bunder constructie, advies en projectontwikkeling BV				
58b2	Asterweg 20		Publiek	Erfpacht	VVE Gebouw Asterweg 20				
59	Chrisantenstraat 2-20		Publiek	Erfpacht					
60	Asterweg 20	Groene Draeck	Particulier	Particuliere grond	VVE Gebouw Asterweg 20			De Groene Draeck. Voormalig Werfgebouw wat nu ruimte biedt aan architecten, webdesigners en vormgevers	
61a	Asterweg 18		Publiek	Erfpacht	M Kalou				
61b	Asterweg 16, Wilgenweg 36		Publiek	Erfpacht	Noord Amsterdamse Machinefabriek				
62a	Asterweg 16, Wilgenweg 36		Particulier	Particuliere grond	Noord Amsterdamse Machinefabriek				

62b	Wilgenweg 4-32		Particulier	Particuliere grond	VVE Bedrijfsgebouw wilgenweg			Boomerang Casa. Bedrijfsverzamelgebouw waarin diverse creatieve en innovatieve bedrijven zijn gevestigd.	
63	Wilgenweg 4-32		Publiek	Erfpacht	VVE Bedrijfsgebouw wilgenweg			Boomerang Casa. Bedrijfsverzamelgebouw waarin diverse creatieve en innovatieve bedrijven zijn gevestigd.	
64	Asterweg 2-14		Publiek	Erfpacht	Verschillende erfpachthouders				
65	Asterweg 1-15		Particulier	Particuliere grond	Stichting bewaring Cortona Bedrijfshallen			bedrijfsverzamelgebouw Kaap Noord	
66a	Asterweg 17-19		Publiek	Erfpacht	VVE Kaap Noord Asterweg			bedrijfsverzamelgebouw Kaap Noord	
66b	Asterweg 23-25		Publiek	Erfpacht	Greif Nederland BV				
67a	Asterweg 23-25		Particulier	Particuliere grond	Greif Nederland BV				
67b			Particulier	Particuliere grond	Adriaan Pelt Beheer			Asterhotel (tijdelijk (10 jaar) familiehotel)	
68a	Grasweg 53-81	Kop Grasweg	Particulier	Particuliere grond	Kop Grasweg Beheer BV	Privaat	Amvest, Hurks, De Alliantie (ontwikkelaar, belegger, woningcorporatie)	315 koop- en huurappartementen (waarvan 168 sociaal) en ca 3800 m2 commerciële ruimte	VO ingediend september 2015 - Start bouw nog onbekend (vroegste mogelijkheid 2018)
68b			Particulier	Particuliere grond	Le Phare				
69		Kop Grasweg	Particulier	Particuliere grond	Kop Grasweg Beheer BV	Privaat	Amvest, Hurks, De Alliantie (ontwikkelaar, belegger, woningcorporatie)	350 koop- en huurappartementen en ca 3800 m2 commerciële ruimte	
70a		Kop Grasweg	Publiek	Erfpacht	Kop Grasweg Beheer BV	Privaat	Amvest, Hurks, De Alliantie (ontwikkelaar, belegger, woningcorporatie)	350 koop- en huurappartementen en ca 3800 m2 commerciële ruimte	
70b		Kop Grasweg	Particulier	Particuliere grond	Stichting de Alliantie	Privaat	Amvest, Hurks, De Alliantie (ontwikkelaar, belegger, woningcorporatie)	350 koop- en huurappartementen en ca 3800 m2 commerciële ruimte	

71a	Grasweg 52		Publiek	Erfpacht	Harpeneau				
71b	Grasweg 50		Publiek	Erfpacht	Schram Filmstudio's			Cinemotel	VO
72	Grasweg 46		Particulier	Particuliere grond	Globel Vastgoed BV			Grasweg 46 hotel (6000 m2 bvo)	VO
73	Grasweg 51		Particulier	Particuliere grond	Grasweg de Lelie BV				
74	Grasweg 49		Particulier	Particuliere grond	Breevast Invest				
75a	Grasweg 47		Publiek	Erfpacht	Omya Netherlands BV			K57 - bedrijf Omya (voorm. Norwegian Talc) - wil blijven - Plannen voor bedrijfsverzamelgebouw - Locatie Zikking en schriek (scheepsreparatiebedrijf) (HM Architecten)	
75b	Grasweg 41		Publiek	Erfpacht	Verschillende erfpachthouders				
76		Groene oever	Publiek	Gemeentegrond	Gemeente	Publiek	Groene oever		
77		Groenstrook	Publiek	Gemeentegrond	Gemeente	Publiek	Groenstrook		
78a			Publiek	Gemeentegrond	Gemeente				
78b	Asterweg 26		Publiek	Erfpacht	Depot Amsterdam BV				
78c	Asterdwarsweg 10	Erfpacht	Publiek	Erfpacht	Ymere			Monumentaal gebouw beheerd door Stichting André Volten	

A III.2.1. ACTORS BUIKSLOTERHAM

PLOT / AREA	NAME	ACTOR CATEGORY	COMPANY	FUNCTION PERSON IN COMPANY	NAME PERSON
Buiksloterham	Buiksloterham	Municipality	Department Land & Development	Manager urban area development Amsterdam Noord, Official Client	Co stor
Buiksloterham	Buiksloterham	Municipality	Department Space & Sustainability	Urban supervisor	Pieter Klomp
Buiksloterham	Buiksloterham	Municipality	City District Amsterdam-Noord	Area broker (gebiedsmakelaar)	Machtelt Kooijman
Buiksloterham	Buiksloterham	Municipality	City District Amsterdam-Noord	Area coordinator	Esther Blok
Buiksloterham	Buiksloterham	Municipality	City District Amsterdam-Noord	Area coordinator	Nathalie Lagrand
Buiksloterham	Buiksloterham	Municipality	City District Amsterdam-Noord	Projectadvisor management public space	Sjaak Conijn
Buiksloterham	Buiksloterham	Municipality	City District Amsterdam-Noord	Manager permits	Chris Vis
Buiksloterham	Buiksloterham	Municipality	Department Land & Development	Funds manager	Ton Bakkum
Buiksloterham	Buiksloterham	Municipality - Project team	Department Project Management	Projectmanager Buiksloterham	Els Daems
Buiksloterham	Buiksloterham	Municipality - Project team	Department Project Management	Projectmanager Buiksloterham	Sanne Bouwman
Buiksloterham	Buiksloterham	Municipality - Project team	Department Project Management	Projectmanager Buiksloterham	Gert-Jan Stroucken
Buiksloterham	Buiksloterham	Municipality - Project team	Department Project Management	Assistent Projectmanager	Ank Brand
Buiksloterham	Buiksloterham	Municipality - Project team	Department Project Management	Assistent projectmanager	Batoul Alaz
Buiksloterham	Buiksloterham	Municipality - Project team	Department Project Management	Assistent projectmanager	Sabina Baarsma-Kok
Buiksloterham	Buiksloterham	Municipality - Project team	Department Space & Sustainability	Urbanist	Dick Bruijne
Buiksloterham	Buiksloterham	Municipality - Project team	Department Space & Sustainability	Urbanist	Gerard Kwakkebos
Buiksloterham	Buiksloterham	Municipality - Project team	Department Space & Sustainability	Jurist	Loes Gratama
Buiksloterham	Buiksloterham	Municipality - Project team	Department Space & Sustainability	Jurist	Mariette van Baaren
Buiksloterham	Buiksloterham	Municipality - Project team	Department Space & Sustainability	Team Sustainability	Renate Heppener
Buiksloterham	Buiksloterham	Municipality - Project team	Department Land & Development	Project leader land affairs	Elske van Caspel
Buiksloterham	Buiksloterham	Municipality - Project team	Department Land & Development	Project leader land affairs	Janneke Nijenhuis
Buiksloterham	Buiksloterham	Municipality - Project team	Department Land & Development	Project leader execution	Robin Siebel
Buiksloterham	Buiksloterham	Municipality - Project team	Department Land & Development	Plan economist	Pieter van Zwet
Buiksloterham	Buiksloterham	Municipality - Project team	Department Land & Development	Planning advisor	Harrie Dorssers
Buiksloterham	Buiksloterham	Municipality - Project team	Department Land & Development	Planning advisor	Marieke Bevaart

Buiksloterham	Buiksloterham	Municipality - Project team	Department Land & Development	Project supporter	Jacco Fransen
Buiksloterham	Buiksloterham	Municipality - Project team	Department Land & Development	Communication advisor	Judith Wildbret
Buiksloterham	Buiksloterham	Waterbedrijf	Waternet	General Director	Roelof Kruize
Groene oever	Groene oever	Developer	Municipality	Official Client	Co stor
Papaverpark	Papaverpark	Developer	Municipality	Official Client	Co stor
Papaverpark	Papaverpark	Advisors	Private individuals	Future users	Frank Alsema
Papaverpark	Papaverpark	End-user	Private individuals	Future users	Frank Alsema
Waterkavel	Asile flottant	Developer	Asile flottant BV	Initiator	Nick van Loon
Waterkavel	CPO floating dwellings	Developer	Building group Schoon Schip	Initiator	Marjan de Blok
Waterkavel	CPO floating dwellings	Advisors	Metabolic	Operations manager	Cynthia Mooij
Waterkavel	CPO floating dwellings	Advisors	Private individuals	Future residents	Thomas Sykora
Waterkavel	CPO floating dwellings	End-user	Private individuals	Future residents	Thomas Sykora
2	self-build dwellings	Client	Private individuals	Future residents	Rob
2	self-build dwellings	End-user	Private individuals	Future residents	Rob
3	self-build dwellings	Client	Private individuals	Future residents	Lisa & Bart
3	self-build dwellings	End-user	Private individuals	Future residents	Lisa & Bart
4	School de Heldring	Client	Stichting Kolom	General Director	Gert-Jan van Steenis
4	School de Heldring	Constructor	Janssen de Jong Bouw	Director	Ron Wolbert
4	School de Heldring	Advisors	ABT advisors	Project leader	Frank Spaen
4	School de Heldring	Architect	Berger Barnett Architecten	Architect	Jo Barnett
5	self-build dwellings	Client	Private individuals	Future residents	Sanne van den Aakster
5	self-build dwellings	End-user	Private individuals	Future residents	Sanne van den Aakster
5	self-build dwellings	Client	Private individuals	Future residents	Gerard Lindner
5	self-build dwellings	End-user	Private individuals	Future residents	Gerard Lindner
12	Docklands	Developer	Vink Bouw	Adjunct-Director	Patrich Immerzeel
12	Docklands	Advisors	Fore installatie advisors	Director	Frank Homan
12	Docklands	Architect	Marcel Lok architecten	Architect	Marcel Lok
13	Kavel 13	Developer	Beams Systems	Owner & Founder	Josef Heij
13	Kavel 13	Architect	Buro de Binnenstad	Architect	Martijn van Rossum

13	Kavel 13	Architect	Buro de Binnenstad	Architect	John Pepping
20	CPO dwellings	Erfpachthouder, Developer	Building group en	Building group en	Various
20	CPO dwellings	Advisors	Private individuals	Future residents	Various
20	CPO dwellings	End-user	Private individuals	Future residents	Various
21	21a - CPO	Developer	Building group BLACK JACK	Developer	Blackjack
21	21a - CPO	Architect	BNB	Architect	Dirk Jan van Wieringhen Borski
21	21a - CPO	Architect	BO6	Architect	Rene de Prie
21	21a - CPO	Bouwbedrijf	Sprangers	Work preparer	Prewina Sookhall
21	21a - CPO	End-user	Private individuals	Future residents	Wim & Marie
21	21a - CPO	Advisors	Private individuals	Future residents	Wim & Marie
21	21b - CPO	Developer	Building group NOVA ZEMBLA	Developer	Nova Zembla
21	21b - CPO	Architect	ArchitectBNA	Architect - initiator Building group	Hans Oudendorp
21	21b - CPO	Architect	ArchitectBNA	Architect	Michiel Markus
21	21b - CPO	Architect	ArchitectBNA	Architect	Reijer Bets
21	21b - CPO	Constructing company	Geus Bouw	CEO	Piet de Geus
21	21b - CPO	Proces manager	Cruq-S.	Proces manager	Jose van Spaandonk
21	21b - CPO	End-user	Private individuals	Future residents	/
21	21b - CPO	Advisors	Private individuals	Future residents	/
21	21c - CPO	Developer	Building group DE HeadEN	Developer	De Headen
21	21c - CPO	Developer, architect	De architecten Cie.	Architect & Partner	Pi de Bruijn
21	21c - CPO	Developer, architect	Mark Koehler Architects	Architect & Partner	Mark Koehler
21	21c - CPO	Developer, architect	Thijs Asselbergs & Co	Architect & Partner	Thijs Asselberg
21	21c - CPO	End-user	Private individuals	Future residents	/
21	21c - CPO	Advisors	Private individuals	Future residents	/
21	21d - CPO	Developer	Building group NOOR-D4US	Developer	Noord4us
21	21d - CPO	Architect	Berger Barnett Architecten	Architect	Jo Barnett
21	21d - CPO	End-user	Private individuals	Future residents	/
21	21d - CPO	Advisors	Private individuals	Future residents	/
21	21e - CPO	Developer	Building group NIEUW BSH (ELTA)	Developer	ELTA
21	21e - CPO	Developer	Bot Bouw Initiatief	Director	Gem Bot
21	21e - CPO	Architect	One architecture	Architect	Bart Aptroot
21	21e - CPO	End-user	Private individuals	Future residents	/
21	21e - CPO	Advisors	Private individuals	Future residents	/
21	21f - CPO	Developer	Building group PUUUR BSH	Developer	PUUUR
21	21f - CPO	Investor	Vink bouw	Adjunct-Director	Patrich Immerzeel
21	21f - CPO	Architect	Atelier PUUUR	Architect	Furkan Köse
21	21f - CPO	End-user	Private individuals	Future residents	/
21	21f - CPO	Advisors	Private individuals	Future residents	/

22	Patch 22	Developer	Lemnikade BV	Building manager	Claus Oussoren en Margriet Oussoren
22	Patch 22	Constructor	Hillen en Roosen	General director	Hillen & Roosen
22	Patch 22	Architect	Tom Frantzen	Architect	Tom Frantzen
35	De Ceuvel	Co-Developer	Jeroen Apers architecten	Architect	Jeroen Apers
35	De Ceuvel	Co-Developer	Space & Matter	Architect & Partner	Sascha Glasl
35	De Ceuvel	Co-Developer	Metabolic	Operations manager	Cynthia Mooij
35	De Ceuvel	Co-Developer	Delva Landscapes	Architect	Rens Wijnakker
35	De Ceuvel	Co-Developer	Smeele architecture	Architect	Victor Smeele
35	De Ceuvel	Co-Developer	Waternet	General director	Roelof Kruize
35	De Ceuvel	Co-Developer	Stichting doen	Team officer Green & Inclusive Economy	Lineke Post
35	De Ceuvel	Co-Developer	Municipality Amsterdam	Head Bureau Broedplaatsen	Jaap Schoufour
35	De Ceuvel	Co-Developer	Innovatie Agro & Natuur	Board member	Jan Jaap De Graeff
41	Kavel 41	Developer	GTP real-estatedevelopment	Project Developer	Britta Langedijk
41	Kavel 41	Architect	Carola Boeker	Architect	Carola Boeker
41	Kavel 41	Architect	John Zondag	Architect	John Zondag
41	Kavel 41	Architect	Jos Rijs	Architect	Jos Rijs
41	Kavel 41	Constructeur	Search Department Engineering BV	Project leader	Noortje Schrauwen
50	Asterpark	Client, gebruiker	Labes group	Director	Mark Labes
50	Asterpark	Architect	Gietermans & Van Dijk	Architect	Wim Gietermans
50	Asterpark	Constructor	bouwbedrijf J.M. Deurwaarder	Director	Martin Deurwaarder
56	Collectiecentrum EYE	Developer	Rijksreal-estatebedrijf	Project leader	Jan Otto Gaus
56	Collectiecentrum EYE	Client	EYE	Director	Sandra Den Hamer
56	Collectiecentrum EYE	Architect	Cepezed	Architect	Job Van der Heuvel
43 / 44	De Vrije Kade	Developer	Distelweg BV (Eigen Haard + Projecton)	Project developer	Gerard van Arum
43 / 44	De Vrije Kade	Bouwbedrijf	Van der Leij (Projecton)	Director	Rob van der Leij
43 / 44	De Vrije Kade	housing corporation	Eigen Haard	Director	Jan Bolhoeve
43 / 44	De Vrije Kade	housing corporation	Eigen Haard	Director development	Danny Weinbelt
43 / 44	De Vrije Kade	ProjectDeveloper	Expo real-estate	ProjectDeveloper	Peter Kerklaan
43 / 44	De Vrije Kade	Constructor	Smits bouwbedrijven	Director productie	André Tito
43 / 44	De Vrije Kade	Architect	Heren 5	Architect	Jeroen Attenveld
47 / 48 / 49	Buiksloterham & Co / Cityplot	housing corporation De Alliantie	Housing corporation De Alliantie	Director development	Jn van Barneveld

47 / 48 / 49	Buiksloterham & Co / Cityplot	Beheerder	Housing corporation De Alliantie	Director real-estate	Larrie Bath
47 / 48 / 49	Buiksloterham & Co / Cityplot	Developer	Housing corporation De Alliantie	Project developer	Arnout Vos
47 / 48 / 49	Buiksloterham & Co / Cityplot	Architect	Studio Ninedots	Architect	Albert Herder
47 / 48 / 49	Buiksloterham & Co / Cityplot	Urbanist	Delva Landscapes	Architect	Rens Wijnakker
68 / 69 / 70	Kop Grasweg	Developer / Builder	Amvest	Development manager	Armand Schuurman
68 / 69 / 70	Kop Grasweg	Developer / Investor	Hurks	Director development	Erik Leijten
68 / 69 / 70	Kop Grasweg	Developer / Housing corporation	Housing corporation De Alliantie	Project Developer	Arnout Vos
68 / 69 / 70	Kop Grasweg	Architect	Studio Ninedots	Architect	Albert Herder

A III.2.2. ACTORS OVERHOEKS

PLOT	NAME	ACTOR CATEGORY	COMPANY	FUNCTION PERSON IN COMPANY	NAME PERSON
Overhoeks	Overhoeks	Municipality	Department Land & Development	Manager urban area development Amsterdam Noord, Official Client	Co stor
Overhoeks	Overhoeks	Municipality	Department Space & Sustainability	Supervisor	Ton Schaap
Overhoeks	Overhoeks	Municipality	Department Space & Sustainability	Supervisor	Bram Breedveld
Overhoeks	Overhoeks	Municipality	City District Amsterdam-Noord	Area broker (gebiedsmakelaar)	Machtelt Kooijman
Overhoeks	Overhoeks	Municipality	City District Amsterdam-Noord	Area coordinator	Esther Blok
Overhoeks	Overhoeks	Municipality	City District Amsterdam-Noord	Area coordinator	Nathalie Lagrand
Overhoeks	Overhoeks	Municipality	City District Amsterdam-Noord	Projectadvisor management public space	Sjaak Conijn
Overhoeks	Overhoeks	Municipality	City District Amsterdam-Noord	Manager permits	Chris Vis
Overhoeks	Overhoeks	Municipality	Department Land & Development	Funds manager	Ton Bakkum
Overhoeks	Overhoeks	Municipality - Project team	Projectmanagement Bureau	Projectmanager Overhoeks	Annegien Krugers Dagneaux
Overhoeks	Overhoeks	Municipality - Project team	Projectmanagement Bureau	Projectmanager	Hanny van der Meijs
Overhoeks	Overhoeks	Municipality - Project team	Projectmanagement Bureau	Projectmanager	Pascal van der Velde
Overhoeks	Overhoeks	Municipality - Project team	Projectmanagement Bureau	Projectmanager / neighbourhood manager	Thijs Koolmees
Overhoeks	Overhoeks	Municipality - Project team	Department Land & Development	Project leader land affairs	Ed Koelé
Overhoeks	Overhoeks	Municipality - Project team	Department Land & Development	Project leader land affairs	Matthijs Muijsers
Overhoeks	Overhoeks	Municipality - Project team	Department Space & Sustainability	Designer public space	Toine van Goethem
Overhoeks	Overhoeks	Municipality - Project team	Department Space & Sustainability	Designer public space	Ton Muller
Overhoeks	Overhoeks	Municipality - Project team	Department Land & Development	Plan economist	Nard Koppen
Overhoeks	Overhoeks	Municipality - Project team	Department Land & Development	Plan economist	Pieter van Zwet
Overhoeks	Overhoeks	Municipality - Project team	Department Land & Development	Planning advisor	Rolinde de Smid
Overhoeks	Overhoeks	Municipality - Project team	Department Engineering	Project leader execution	Evelien van Wolfereen
Overhoeks	Overhoeks	Municipality - Project team	Department Engineering	Project leader execution	Wim Smits
Overhoeks	Overhoeks	Municipality - Project team	Department Engineering	Project leader execution	Rob Verkroost
Overhoeks	Overhoeks	Municipality - Project team	Department Engineering	Coördinator land preparation	Gaston Dolmans
Overhoeks	Overhoeks	Municipality - Project team	Department Land & Development	Communication advisor	Judith Wildbret

Overhoeks	Overhoeks	Municipality - Project team	Department Land & Development	project supporter	Jacco Fransen
Øeverpark	Øeverpark	Municipality - Project team	Department Space & Sustainability	Urbanist	Bram-Breedveld
Schegpark	Schegpark	Municipality	Department Space & Sustainability	Designer public space	Ton Muller
Campus	Campus fase 1	Developer	ØCO-Overhoeks (ING (70%) & Ymere (30%))	ING RED	f
Campus	Campus fase 1	Developer	ØCO-Overhoeks (ING (70%) & Ymere (30%))	Project Developer- Ymere	Jan Sjaarda
Campus	De Prinsendam	End-user / owners	VvE Prinsendam	Resident	Marcen Oomen
Campus	De Willem Barentz	End-user / owners	VvE De Willem Barentz	Resident	Miro Lucassen
Campus	Zeven Provinciën	End-user / owners	VvE Zeven Provinciën	Resident	Karel van Grondelle
Campus	Zeven Provinciën	End-user / owners	VvE Zeven Provinciën	Resident	Marc Sloos
Campus	De Statendam	Developer	Dura Vermeer	Head projectdevelopment	Dolf Broekhuizen
Campus	De Statendam	Constructor	Dura Vermeer	Headuitvoerder	Erwin Joustra
Campus	De Statendam	Developer	Ymere (housing corporation)	Projectmanager Ymere	Bert Stam
Campus	De Statendam	Architect	Geurtz en Schultze architecten	Architect	Rens Schulze
Campus	Campus	End-user	neighbourhood association Overhoeks	Resident, member neighbourhood association	Jaap Verbruggen
Campus	Campus	End-user	neighbourhood association Overhoeks	Resident, member neighbourhood association	Karel van Grondelle
Campus	Campus	End-user	neighbourhood association Overhoeks	Resident, member neighbourhood association	Marc Groenewoud
Campus	Campus	End-user	neighbourhood association Overhoeks	Voorzitter neighbourhood association overhoeks	Marcel Oomen
Campus	Campus	End-user	neighbourhood association Overhoeks	Board neighbourhood association overhoeks	Wouter Jansweijer
Campus	Campus (fase 3)	Developer	OCO Overhoeks (Amvest (70%) & Ymere (30%))	Development manager Amvest	Ralf Peeters
Campus	Campus (fase 3)	Developer	OCO Overhoeks (Amvest (70%) & Ymere (30%))	Projectmanager Ymere	Bert Stam
Campus	Brede School	Client	ICS advisors	advisor real-estate development	David Bouwer
STCA	Shell Technology Centre Amsterdam (STCA)	Owner + Operator (exploitant)	Shell	Communications & external relations manager (Shell)	Peter van Boeschoten
EYE	EYE	Developer	Municipality, ING RED, Ymere	Projectmanager Department Project Management - Municipality Amsterdam	Ronald van Warmerdam
EYE	EYE	Developer	Municipality, ING RED, Ymere	ING RED	f
EYE	EYE	Developer	Municipality, ING RED, Ymere	Ymere-	Jan Sjaarda
EYE	EYE	Operator (exploitant)	EYE	Director	Sandra den Hamer
EYE	EYE	Operator (exploitant)	EYE	Corporate Deputy Director	Stan Spijkerman

EYE	EYE	Operator (exploitant)	Manager	Manager	Martin van Leuven
EYE	EYE	Operator (exploitant)	EYE	Eye marketing / communication / events	Marjolijn Bronkhuyzen
A'DAM	A'DAM	Initiator	Lingotto	Partner	Eric-Jan de Rooij
A'DAM	A'DAM	Initiator	Club Air	Shareholder and Owner	Sander Groet
A'DAM	A'DAM	Initiator	ID&T	Co-Founder / Owner	Duncan Stutterheim
A'DAM	A'DAM	Initiator	Massive Music	CEO	Hans Brouwer
A'DAM	A'DAM	Developer	Lingotto	Project developer Lingotto	Esther Lelyveld
A'DAM	A'DAM	Architect	Claus en Kaan architecten	Architect	Felix Claues
A'DAM	A'DAM	Architect	Oeverzaaijer architecten	Architect	Koos Zwitter
A'DAM	A'DAM	Constructor	JP Van Eesteren	Headexecutor	Maarten van der Eng
A'DAM	A'DAM	Constructor	JP van Eesteren	Constructor	John Verheul
A'DAM	A'DAM	Constructor	JP van Eesteren	Constructor	Ronald van ernst
A'DAM	Boutiquehotel Sir Adam	Operator (exploitant)	Lingotto	Partner Lingotto	Eric-Jan de Rooij
A'DAM	Excelsior geluidsstudio	Operator (exploitant)	Excelsior geluidsstudio	Owner en producer	Frans Hagenaaars
Grootlab	ClinkNOORD	Developer	4MTBouwmanagement	Owner	Marco Timmermans
Grootlab	ClinkNOORD	Developer	Ultrajectum-estate	Owner	Jules Schara
Grootlab	ClinkNOORD	Operator (exploitant)	Clink hostels	Owner	Ivan Dolan
Grootlab	ClinkNOORD	Operator (exploitant)	ClinkNOORD	Front house manager	Bas Ruis
Grootlab	A-lab	Developer	GODUM	Owner	Marcus Fernhout
Grootlab	AHK	Developer	Bouwbedrijf Heijmans	Projectmanager	Vincent van der Endt
Grootlab	AHK	advisors	Koeter real-estateadvisors	Projectmanager	Guus Theuws
Grootlab	A-lab	Operator (exploitant)	A-lab	Member Board of Directors, Chief Innovation Officer	Arpad Gerecsey
Grootlab	A-lab	Operator (exploitant)	A-lab	Boardsmember	Lucas Hendriks
Grootlab	AHK	Operator (exploitant)	Amsterdamse Hogeschool van de Kunsten	Head educational housing	Erik Duiker
Grootlab	AHK	End-user	Amsterdamse Hogeschool van de Kunsten	Students / Staff	/
Toren 1	Housing tower	Developer	AM	Director	Ronald Huikeshoven
Toren 1	Housing tower	Developer	AM	real-estate Developer	Jeroen van der Tas
Toren 1	Housing tower	Developer	BAM	Project leader	Jos Kemp
Toren 1	Housing tower	Developer	BAM	Project preparer	Karin Wittebrood
Toren 1	Housing tower	Investor	MN	Portefeuille Manager real estate MN	Danielle Neeleman
Toren 1	Housing tower	Investor	MN	Teammanager Acquisition Real Estate	Michiel van Staveren
Toren 1	Housing tower	Investor	MN	Technical manager Real Estate	André Burm

Kavel 2-3	Maritim Housing tower / congresshotel combination	Initiator	IES Immobilien	Managing director	Marcus Teufel
Kavel 2-3	Maritim Housing tower / congresshotel combination	Developer	IES Immobilien	real-estate advisor	Wouter Nijssingh
Kavel 2-3	Maritim Housing tower / congresshotel combination	Developer	Lingotto	Partner	Eric-Jan de Rooij
Kavel 2-3	Maritim Housing tower / congresshotel combination	Operator (exploitant)	Maritim Group	Chair of the Supervisory Board	Monika Gommola
Kavel 2-3	Maritim Housing tower / congresshotel combination	Architect	Team V	Architect	Ruben Smits
Kavel 2-3	Maritim Housing tower / congresshotel combination	Architect	Team V	Architect	Do Janne Vermeulen
Kavel 6	Hyperion	Client	ROC van Amsterdam	Project leader educational housing	Ralph van Gastel
Kavel 6	Hyperion	advisors	ROC van Amsterdam	real-estate advisor	Paul van Delft
Kavel 6	Hyperion	advisors	ICS advisors	advisor real-estate development	Jan Remijnse
Kavel 6	Hyperion	End-user	Hyperion Lyceum	Staff	Hans Schoonheim
Pavilion	Pavilion	Initiator	Brand New Leisure	Owner	Daan de Kruijk
Pavilion	Pavilion	Initiator	IES Immobilien	real-estate advisor	Wouter Nijssingh
Pavilion	Pavilion	Developer	Lingotto	Partner	Eric-Jan de Rooij
Pavilion	Pavilion	Architect	Mopet	Architect	Joep Mollink
Pavilion	Pavilion	Architect	Team V	Architect	Ruben Smits
Pavilion	Pavilion	Architect	Team V	Architect	Do Janne Vermeulen
Tolhuistuin	Tolhuistuin	Operator (exploitant)	Stichting Tolhuistuin	Owner	Tijmen Vermaas
Tolhuistuin	Tolhuistuin	Operator (exploitant)	Stichting Tolhuistuin	Director	Tijmen Vermaas
Tolhuistuin	Tolhuistuin	Operator (exploitant)	Stichting Tolhuistuin	General Director	Touria Meliani
Tolhuistuin	Tolhuistuin	Operator (exploitant)	Stichting Tolhuistuin	Head beheer	Willem Kaldenbach
3D-print bouwplaats	3D-print bouwplaats	Initiator	DUS architecten	Architect	Hans Vermeulen
3D-print bouwplaats	3D-print bouwplaats	Operator (exploitant)	DUS architecten	Architect	Hans Vermeulen
Cafe de Pont	Café de Pont	Operator (exploitant)	Café de Pont	Restaurant Owner	Bas van den Akker

A III.2.3. BACKGROUND: ACTORS WITHIN THE MUNICIPALITY

The municipality is an obvious actor involved in urban area developments. As being responsible for the areas within its boundaries and the implementation of the national policy, the municipality has an unmistakable role in urban area development processes almost all over the world.

The municipality is a complex organisation that goes far beyond urban area developments. It consists of numerous departments amongst which social services, law enforcement and business management, with at the head the mayor. The municipality of Amsterdam, the municipality in question in these case studies, is organized in a specific way.

Cluster 'Space and Economy'

Urban area (re)development is a field in which different disciplines intersect.

In the municipality of Amsterdam, the sector of urban area development is since the change of the municipal system in Amsterdam (2014) accommodated in the cluster 'Space and economy' (Ruimte en Economie). This cluster stands for the creation of the spatial and economic conditions necessary for the urban development of Amsterdam.

In this, the department of 'Land & development' focuses specifically on urban area development and -transformation projects. Also the municipal office of project management and engineering are included in this cluster, as well as the department 'Space and sustainability' (the former 'dienst ruimtelijke ordening' (DRO)) in which amongst others the (urban) designers are housed. There are however many more departments in this cluster which, are all consulted in a larger or lesser extent in urban area (re) development projects. These can be seen in figure A.III.2.3. at the end of this appendix. The urban area development projects are a close collaboration of these departments.

The Central City: Board of mayor and alderman and City council

These clusters as well as the departments within them are part of the so-called 'central municipality' in which the overarching tasks of the municipality in the city, such as the formulation of the urban policy in various fields, are organised. This central city is governed by the board of the mayor and aldermen (College van Burgemeester & Wethouders) and the elected city council (Gemeenteraad). They decide on the large lines of urban development of Amsterdam as a whole, the process (in the form of the Plaberum, see planning documents, plaberum), and have to ratify all official planning documents on area level.

City districts: Board committees

There are however also compartments in the municipality that are specifically oriented towards specific geographic areas in the city, called 'city districts' (Stadsdelen). These city districts are each directed by an elected board committee (Bestuurscommissie), who are focused on the implementation of the urban policy in their city district and make sure that the implementation of policies matches the needs and requirements of the city district. Management and maintenance of the public space, enforcement of the law and the issue of permits fall under the role of the city districts.

Project offices: Board Noordwaarts (2004-2014)

Urban area (re)developments lie on the interface of the central city with its urban policies and the city districts with their connection with the location. In order to achieve a closer collaboration between these two sections of the municipality, coalitions were established between certain city districts of Amsterdam and the central city. The coalition with city district Amsterdam-Noord was established at the beginning of the development of Overhoeks (in 2004) under the name of 'projectbureau Noordwaarts', and controlled from that moment on the urban area development projects in Amsterdam-Noord.

The project office Noordwaarts was directed by a board including two members of the city district and two aldermen of the central municipality. They decided about the plaberum products and zoning plans, selection of market parties, budget and working plans, negotiations with third parties, communication and PR-policy.

Manager urban area development Noord

In 2014 the governmental system was overhauled with the objective of centralizing and simplifying the municipal processes. With this, the project offices were abolished and the function of the project office of Noordwaarts was taken over by the new

function of 'manager urban area development' Noord. This manager urban area development is also the official client of the project.

The manager urban area development is involved in the so-called 'steering committee deliberations' (stuurgroep overleg), which are standard development deliberations between the developer, the municipal project manager and the area manager that exist for each individual project in which the made planning decisions are recorded with the permission of the manager urban area development.

Committee of visual quality: Supervisors

Other authority in the municipality is the committee of visual quality (Welstandscommissie). The committee of visual quality has the direction over the visual quality of the city and brings out advice on applications for building permits. The members of the committee are guided by the issued notes on visual quality (Welstandnota's) from the municipality of Amsterdam, which present the urban policy in the field and are set up by the central city.

The central municipality of city district can appoint one or more 'supervisors' (Supervisoren) from the committee of visual quality to guide certain design processes. These supervisors are independent expert designers from within or outside of the municipality, who don't build in the area themselves and who give advice on the design proposals from the perspective of visual quality. This can be done with regard to the urban design, which has been / is the case in Overhoeks and Buiksloterham, but also regarding the architectural design of the individual developments, which is the case in Overhoeks.

A positive advice of the committee of visual quality / supervisors is needed for the city council to ratify certain spatial plans and for the board committee of the city district to issue building permits.

Project team: Multidisciplinary actors

Finally, there is the municipal project team that is working on the specific urban area development. The project team is the team of the relevant experts from different disciplines that are responsible for performing the tasks connected to their discipline in this particular urban area development.

The purpose of the projectteam is that all relevant disciplines along with their associated actors and interests are represented and come together. They combine their different expertise to form well-substantiated plans for the urban area development.

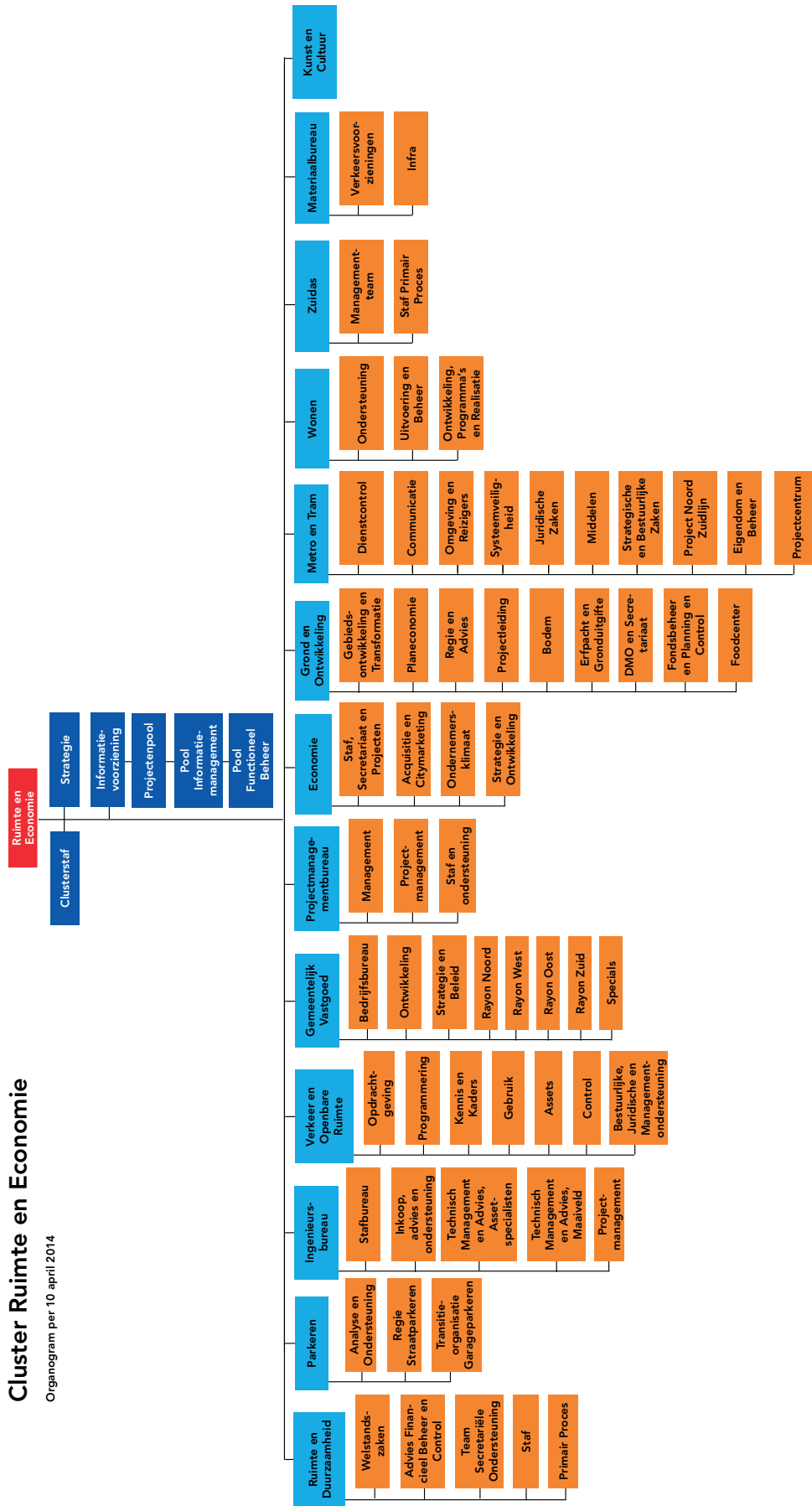
The project team typically includes actors such as a project manager, assistant project manager, plan economist, planning advisor, project leader land-affairs, urban designer, designer public space, and a project leader execution, who come from different departments of the central municipality, amongst which the departments Land & Development, Project Management and Space & Sustainability are most common. However also actors from the other departments of the cluster Space & Economy can be included in the project team or occasionally or regularly consulted, for instance a communication manager, jurist or traffic designer.

Furthermore, within the different departments of the cluster, special teams exist with expertise focused on certain themes, such as team Duurzaamheid (sustainability) and team Zelfbouw (Self-build; private commissioning). These teams can be consulted by the project team as well.

Figure A.III.2.3.: Organogram Cluster 'Space and Economy' from the municipality of Amsterdam (Gemeente Amsterdam, 2015)

Cluster Ruimte en Economie

Organogram per 10 april 2014



A III.3.1. OVERVIEW PLANNING DOCUMENTS

SCOPE	DOCUMENT	DATUM	OPDRACHTGEVER	AUTEURS
Nederland	Bouwbesluit	Januari 2003	Rijksoverheid	Rijksoverheid
Amsterdam	Structuurplan Amsterdam 2003-2010: Kiezen voor stedelijkheid	April 2003	Gemeente Amsterdam	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
Overhoeks	Projectbesluit Shell terrein	Augustus 2003	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam, Shell, ING RED
Amsterdam	De Noordelijke IJ-oever: een cultuurhistorische effectenrapportage	Augustus 2003	Gemeente Amsterdam: Stadsdeel Noord	Bureau Monumenten & Archeologie
Noordelijke IJ-Oever	Masterplan Noordelijke IJ-oever: Noord aan het IJ	Oktober 2003	Gemeente Amsterdam: BVR, DRO, Stadsdeel Noord	Gemeente Amsterdam: BVR, DRO, Stadsdeel Noord
Overhoeks	Stedenbouwkundig plan Shellterrein	Mei 2004	Gemeente Amsterdam: Projectbureau Noordwaarts & ING Real Estate	Atelier Shell en Geurst & Schulze Architecten
Buiksloterham / Overhoeks	Milieu-effecten rapportage herinrichting Buiksloterham / Overhoeks te Amsterdam	Mei 2005	Gemeente Amsterdam: Stadsdeel Noord	Gemeente Amsterdam
Overhoeks	Voorlopig ontwerp Park Overhoeks	Mei 2005	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam: Projectbureau Noordwaarts
Buiksloterham	Projectbesluit Buiksloterham: Transformatie naar stedelijk wonen en werken.	September 2005	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam: Projectbureau Noordwaarts
Amsterdam	Plan- en besluitvormingsproces ruimtelijke maatregelen 2005	Oktober 2005	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
OH Campus 1	Voorlopig ontwerp maaiveld Campus	Februari 2006	Gemeente Amsterdam: projectbureau Noordwaarts	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
Overhoeks / deel Buiksloterham	Bestemmingsplan Overhoeks	Oktober 2006	Gemeente Amsterdam	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
OH Oeverpark	Definitief ontwerp park Overhoeks	November 2006	Gemeente Amsterdam: projectbureau Noordwaarts	Bram Breedveld
OH Campus 1	Definitief ontwerp maaiveld Campus	November 2006	Gemeente Amsterdam: projectbureau Noordwaarts	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
Buiksloterham	Investeringsbesluit Buiksloterham: Transformatie naar stedelijk wonen en werken.	December 2006	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
OH Campus 1	Definitief ontwerp Campus fase 1	Januari 2007	ING RED	Baneke Architecten
Amsterdam Noord	Meerjaren Investeringsprogramma Sociale Accommodaties Amsterdam Noord	Mei 2007	Gemeente Amsterdam: Stadsdeel Noord	Gemeente Amsterdam: Stadsdeel Noord
OH Campus 1	Bestekstuk maaiveld Campus	Januari 2008	Gemeente Amsterdam: projectbureau Noordwaarts	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
OH Oeverpark	Bestekstuk Oeverpark Overhoeks	Maart 2008	Gemeente Amsterdam: projectbureau Noordwaarts	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
Amsterdam	Nota Duurzaamheid in de Nieuwbouw	Januari 2009	Gemeente Amsterdam	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
Buiksloterham	Bestemmingsplan Buiksloterham	December 2009	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
Amsterdam	BAAK-Besluit	Oktober 2010	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam: Projectbureau Noordwaarts
Buiksloterham	Nieuw Buiksloterham	December 2010	Projectbureau Noordwaarts gemeente Amsterdam	DRO & ontwikkelingsbedrijf Gemeente Amsterdam
Amsterdam	Structuurvisie Amsterdam 2040: Economisch Sterk en Duurzaam	Februari 2011	Gemeente Amsterdam	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
Overhoeks	Finaal tegenbod ING-projecten Overhoeks, Centrumgebied Amsterdam Noord (CAN) en Beethoven	Februari 2011	Gemeente Amsterdam	Boer & Croon

BSH Kavel 5	Bouwenvelop Kavel 5+ Buiksloterham	Maart 2011	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)
BSH Kavel 5	Handboek zelfbouw Bosrankstraat	Maart 2011	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam: Team Zelfbouw
BSH Kavel 5 & 21	Welstandvrij verklaren kavels 5 en 21 Buiksloterham	November 2011	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam: Gemeenteraad
Nederland	Bouwbesluit	Januari 2012	Rijksoverheid	Rijksoverheid
BSH Kavel 21	Brochure selectieprocedure en erfpachtuitgifte bouwgroepen Kavel 21 a t/m f Buiksloterham	April 2012	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam: Team Zelfbouw
BSH Kavel 21	Kavelregels 21a t/m f Buiksloterham	April 2012	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam: Team Zelfbouw
Buiksloterham	Menukaart Klimaatneutrale Zelfbouw	Juni 2012	Gemeente Amsterdam: Dienst Ruimtelijke Ordening (DRO)	Gemeente Amsterdam: Team Zelfbouw
Buiksloterham	Eerste partiële herziening Bestemmingsplan Buiksloterham	Oktober 2012	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam
Overhoeks	Ontwikkelstrategie Strip / Scheg Overhoeks	Maart 2013	Gemeente Amsterdam: Projectbureau Noordwaarts	Gemeente Amsterdam: Projectbureau Noordwaarts
Buiksloterham	Tweede partiële herziening Bestemmingsplan Buiksloterham	Mei 2013	Gemeente Amsterdam: Grond & Ontwikkeling	Gemeente Amsterdam: Ruimte & Duurzaamheid
BSH Kavel 43-44	Schetsontwerp Stedenbouw Vrije Kade	Juni 2013	Distelweg BV	Heren 5
Amsterdam	Welstandnota De Schoonheid van Amsterdam	Juni 2013	Gemeente Amsterdam	Gemeente Amsterdam: Ruimte & Duurzaamheid
BSH Kavel 5	Definitief ontwerp Bosrankstraat 15	Juni 2013	Particulier	Particulier
Overhoeks	Campus Overhoeks Fase 3: Revisie Stedenbouwkundig Plan	Juli 2013	Gemeente Amsterdam: Grond & Ontwikkeling	Gemeente Amsterdam: Ruimte & Duurzaamheid
BSH Kavel 21	Definitief ontwerp Blackjack	September 2013	Blackjack	Blackjack
Amsterdam	Derde partiële herziening Bestemmingsplan Buiksloterham	Oktober 2013	Gemeente Amsterdam: Grond & Ontwikkeling	Gemeente Amsterdam: Ruimte & Duurzaamheid
Amsterdam	Plan- en besluitvormingsproces ruimtelijke maatregelen 2014	Februari 2014	Gemeente Amsterdam: Ruimte & Duurzaamheid	Gemeente Amsterdam: Ruimte & Duurzaamheid
BSH Kavel 43-44	Voorlopig ontwerp Stedenbouw Vrije Kade	Maart 2014	Distelweg BV	Heren 5
BSH Papaverpark	Programma van wensen Papaverpark Buiksloterham	Juli 2014	Gemeente Amsterdam: Grond & Ontwikkeling	Gemeente Amsterdam: Ruimte & Duurzaamheid
BSH Kavel 43-44	Definitief ontwerp Stedenbouw Vrije Kade	September 2014	Distelweg BV	Heren 5
BSH Kavel 43-44	Voorlopig ontwerp Vrije Kade fase 1	Oktober 2014	Distelweg BV	Heren 5
BSH Kavel 43-44	Definitief ontwerp Vrije Kade fase 1	December 2014	Distelweg BV	Heren 5
Overhoeks	1e partiële herziening Bestemmingsplan Overhoeks	December 2014	Gemeente Amsterdam: Grond & Ontwikkeling	Gemeente Amsterdam: Ruimte & Duurzaamheid
Buiksloterham	Bodemenergieplan Buiksloterham	Augustus 2014	Gemeente Amsterdam: RVE Grond & Ontwikkeling	IF Technology BV, A. Floris
Buiksloterham	Manifest Circulair Buiksloterham: Visie & Ambitie	March 2015	De Alliantie, Waternet, Gemeente Amsterdam (G&O)	Creative Commons
Buiksloterham	Bestek Vrije Kade fase 1	April 2015	Distelweg BV	Heren 5
Buiksloterham	Voorlopig ontwerp Vrije Kade fase 1	Juni 2015	Distelweg BV	Heren 5
BSH Kavel 14	Ontwerpvoorstel BSH kavel 14	September 2015	Maanzaad BV	Delva
BSH Papaverpark	Definitief ontwerp Papaverpark Buiksloterham	December 2015	Gemeente Amsterdam: Grond & Ontwikkeling	Gemeente Amsterdam: Ruimte & Duurzaamheid
BSH Papaverpark	Bestek Papaverpark Buiksloterham	Januari 2016	Gemeente Amsterdam: Grond & Ontwikkeling	Gemeente Amsterdam: Ingenieursbureau
OH Kavel 5	Selectiebrochure tender Kavel 5 Strip Overhoeks	December 2015	Gemeente Amsterdam: Grond & Ontwikkeling	Gemeente Amsterdam: Grond & Ontwikkeling
OH Kavel 5	Bouwenvelop Kavel 5 Strip Overhoeks	December 2015	Gemeente Amsterdam: Grond & Ontwikkeling	Gemeente Amsterdam: Ruimte & Duurzaamheid

A III.3.2. INVENTARISATION PLANNING DOCUMENTS

1. General planning documents

- Nota 'Duurzaamheid in de nieuwbouw' (2009)
- Bouwbesluit (2012)
- Welstandsnota 'De schoonheid van Amsterdam' (2013)

2. Planning documents containing plan-development on city-level

- Structuurplan Amsterdam 2003-2010 (2003)
- Masterplan Noordelijke IJ-oeveren (2003)
- De Noordelijke IJ-oever: een cultuurhistorische effectrapportage (2003)
- Milieu-effectrapportage herinrichting Buiksloterham/Overhoeks (2005)
- Meerjarig Investeringsprogramma Sociale Accomodaties Stadsdeel Amsterdam-Noord (2007)
- Structuurvisie Amsterdam 2040 (2011)

3. Planning documents containing plan-development on projectarea-level

Plaberum-documents used in Overhoeks:

- Project decree Shell-terrain (2003) (accepted as execution decree) (including programme, land exploitation, management plan public space)
- Urban Masterplan Shell-terrain (2004) (including building envelope(s))
- Zoning plan (Bestemmingsplan) Overhoeks (2006)
- Building envelope conventions (ongoing)
- Preliminary and definitive design public space (ongoing)

Plaberum-documents used in Buiksloterham:

- Project decree Buiksloterham (2005)
- Investment decree Buiksloterham (2006) (including, programme, land exploitation, excluding urban masterplan)
- Building envelopes (ongoing)
- Zoning plan (Bestemmingsplan) Buiksloterham (2009)
- Building envelope conventions (ongoing)
- Preliminary and definitive design public space (ongoing)

Other area-level planning documents for Overhoeks:

- Baak-besluit (2010)
- Raadsbesluit overeenkomst ING Overhoeks, CAN, Beethoven (2011)
- Ontwikkelstrategie Strip / Scheg Overhoeks (2013)
- Revisie Stedenbouwkundig Plan: Campus Overhoeks Fase 3 (2013)
- 1e partiële herziening bestemmingsplan Overhoeks (2014)

Other area-level planning documents for Buiksloterham:

- Baak-besluit (2010)
- Nieuw Buiksloterham (2010)
- 1e partiële herziening bestemmingsplan Buiksloterham (2012)
- 2e partiële herziening bestemmingsplan Buiksloterham (2013)
- 3e partiële herziening bestemmingsplan Buiksloterham (2013)
- Bodemenergieplan Buiksloterham (2014)
- Manifest Circulair Buiksloterham (2015)

4. Planning documents containing plan-development on subarea-level

In Overhoeks:

- **Oeverpark (Public land ownership, public development)**
 - Preliminary design Park Overhoeks (Oeverpark) (2005)
 - Definitive design Park Overhoeks (Oeverpark) (2006)
 - Preliminary design public space (Oeverpark) (2006)
 - Definitive design public space (Oeverpark) (2007)
 - Building specifications and drawings (2008-2009)
 - Realisation plan (2009)

- **Campus phase 1 (Public land ownership, private development):**
 - Preliminary design Campus (2005)
 - Preliminary design public space Campus (2005)
 - Definitive design Campus (2006)
 - Definitive design public space Campus (2006)
 - Building specifications and drawings Campus (2007)
 - Realisation plan Campus (2008)
 - Building specifications and drawings public space Campus (2008)
 - Realisation plan public space Campus (2009)

- **OH Kavel 5 (Public land ownership, private development by tender):**
 - Selection brochure tender Kavel 5 Strip Overhoeks (2015)
 - Building envelope Kavel 5 Strip Overhoeks (2015)

In Buiksloterham:

- **Papaverpark (Public land ownership, public development)**
 - Programme of wishes (2014)
 - Sketch design 1, 2 and 3 (2014)
 - Definitive sketch design / preliminary design (2015)
 - Definitive design (2015)
 - Building specifications and drawings (2016)

- **BSH plot 12: Docklands (Public land ownership, public development by tender)**
 - Brochure pre-selection sustainable tender Buiksloterham (2009)
 - Rekentabel klimaatneutraal bouwen (2009) (EPC berekening)
 - Building envelopes plot 12, 21, 22, 24, 41 (2009)
 - Realisation convention Kavel 12 BSH (gegrond 2010)
 - Preliminary design (2013)
 - Definitive design (2014)
 - Building specifications and drawings (start bouw november 2014)

- **De Vrije kade (Public land ownership, private development)**
 - SO stedenbouw (2013)
 - VO stedenbouw vrije kade (2014)
 - DO stedenbouw vrije kade (2014)
 - Preliminary design phase 1 (2014)
 - Definitive design phase 1 (2014)
 - Building specifications and drawings phase 1 (2015)
 - Preliminary design phase 2 (2015)
 - Preliminary design public space (2016)

- **BSH plot 21 (Public land ownership, collective-private commissioning)**
 - Brochure selection procedure and leasehold issue building groups plot 21a t/m 21f Buiksloterham (2012)
 - Kavelregels 21a t/m 21f (2012)
 - Menu climate-neutral building + for building groups BSH (2012)
 - Realisation convention Kavel 21 BSH (2014)
 - Preliminary design (2012)

- Definitive design (2013)
- Building specifications and drawings (2014)
- **BSH plot 5 (Public land ownership, private commissioning)**
 - Bouwvelop kavel 5+ Buiksloterham (2011)
 - Welstandvrijverklaring kavels 5 en 21 (2011)
 - Menu climate-neutral self-build BSH (2011)
 - Handboek zelfbouw Bosrankstraat (2011)
 - Realisation convention Kavel 5 BSH (2013)
 - Preliminary design (2012-2013)
 - Definitive design (2013)
 - Building specifications and drawings (2013)
- **BSH plot 14 (Private land ownership, private development)**
 - Design proposal (2015)
 - Preliminary design (2016)

A III.3.3. SIGNIFICANCE OF AND LEVELS OF DECISION IN PLANNING DOCUMENTS OVERHOEKS & BUIKSLOTERHAM

Firstly the planning documents describing the plan-formation on national, urban and area-level will be addressed in chronological order, so that the sequence and relation between the different documents is well illustrated.

Next, the elaborations of the individual developments on plot level will be discussed for Overhoeks and Buiksloterham separately.

PLANNING DOCUMENTS ON THE LEVEL OF THE AREA AND ABOVE

Bouwbesluit (2003-2012) - The 'bouwbesluit' (Literal translation: building decree) is a collection of building-technical regulations that all buildings in the Netherlands have to satisfy. The building decree describes minimal performance and quality requirements in the field of safety, health, usability, energy-efficiency and the environment. All new buildings and transformations, including those in Overhoeks and Buiksloterham, are subject to the building decree (first the version of 2003, later the version of 2012) before receiving a building permit.

Project decree Shell-terrain (2003) - In 2003 the projectdecree for the Shell-terrain was issued. Shell had made 20 hectares of its former terrain free for development, after which ING RED was selected by Shell as a real-estate developer and the municipality stepped in as the land-developer. Together the parties formulated the project decree describing the development vision for the area. This project decree decides on the character of the future area, the target groups, the functions, the density, as well as the spatial organisation of these functions and the urban layout, structure and typology. Furthermore it provides a plan for mobility and the modes transport that are to be used and it formulates ambitions to the further specification of the plan in the field of energy efficiency, ecology, green and water. The project decree of 2003 already goes into great detail and also doubles as Plabrum execution-decree. It has been leading in the future plan-development process of the area. In fact, the development in its current state (2016) that is about to enter the execution of the last phase of its development, is in its main features still very similar to this project decree.

Structuurplan Amsterdam 2003-2010 (2003) - The structural plan for Amsterdam 2003-2010 lays out a vision for the city of Amsterdam that designates the most important focal points for the further development of Amsterdam in the period 2003 to 2010. It contains decisions on the level of ambitions and preconditions in the field of accessibility, visual quality of the urban environment, the scale and allocation of the functional programma in the city and the quality of green, water and public space. It also outlines the expected spatial tasks in different parts of the city, including those for Amsterdam North, but remains very abstract and open in this area. The Buiksloterham is not mentioned specifically at all and while the redevelopment of the Shell-terrain (later Overhoeks) is mentioned as important, the direction of this development (that was already formulated in a project decree by the time this structural plan was issued) is silently accepted and not elaborated from a strategic or a contextual perspective in this structural plan. The specifics on Amsterdam North formulated in this structural plan thus stick to the aforementioned general ambitions and preconditions formulated for Amsterdam as whole.

De Noordelijke IJ-oever: Een Cultuurhistorische Effectrapportage (2003) - In 2003 a research on culture-historic effects for the Northern banks of the IJ in Amsterdam was conducted, in the light of the expected developments in the area and with the eye on the preservation of culture-historical heritage in these types of transformations (formulated in the policy note 'Rijksnota Belvedere' in 1999). The conclusion of the culture-historic effect report is an inventarisation and valuation of the historical spatial, urban and architectural structures present in the area. Although it does not formulate actual plan-decisions for the area, it does make recommendations in the field of the preservation and exploitation of specific historical qualities in the area that are included in the further decision-making process in the plan-formation of the urban area developments Overhoeks and Buiksloterham.

Masterplan Noordelijke IJ-oevers (2003) - The Masterplan for the Northern banks of the IJ in Amsterdam (2003) gives a physical interpretation of the structural plan of 2003 projected on the Northern banks of the IJ. It entails a respecification

of the spatial task of Amsterdam North in particular from a strategic approach. Furthermore it investigates and formulates a decision on the separate identities of the areas that should be exploited and it formulates a development strategy describing the public-private collaboration envisioned at the Northern IJ-banks. It concludes in frameworks of public space, water, traffic and urban structure, outlining the locations, form, connections and interactions of these components on the level of the Northern IJ-banks. These frameworks and typologies (both in the field of identity and urbanism) have, although never formally established due to the financial shortages of the municipality to execute the complete plan, since 2003 been leading for the further vision- and plandevlopment of the urban area developments in Amsterdam North and have been of high influence on the area-developments of Buiksloterham and Overhoeks.

Urban Masterplan Shell-terrain (2004) - In 2004 the Masterplan for the Shell-terrain was completed. The masterplan specified the exact characteristics and boundaries of the spatial elements of public space, infrastructure and buildings mentioned in the project decree, including building envelopes and criteria for visual quality.

Project decree Buiksloterham (2005) - In 2005 a projectdecree was established for Buiksloterham as well. Whereas in Overhoeks the project decree was already very detailed, the project decree of Buiksloterham is much less specific in nature. In the project decree the headlines of the future development are sketched, outlining the envisioned character of the area, the functional programme, the rough layout of the area in zones for public space, infrastructure and other functions, and the development strategy. The project decree serves as a starting point for the future developmentprocess of the urban area development of Buiksloterham.

Milieu-effecten rapportage herinrichting Buiksloterham/Overhoeks (2005) - One of the outcomes of the Masterplan of the Northern banks of the IJ (2003) was that a research on the environmental effects was needed to fill in the exact development plans of the separate areas, as is also required by law (VROM, 1999). This led to the Report of environmental effects transformation Buiksloterham/Overhoeks (2005). This report gives a conclusion for separately Overhoeks and Buiksloterham in terms of a broad outline of the environmental effects and potential nuisance that can be expected and possible interventions that will be necessary by law in certain scenario's, based on the preconditions and expectation of future usage formulated in the Masterplan Northern IJ-banks. With this it gives a view of the necessary interventions and consequences in terms of the developmentproduct and -proces, allowing a more well-informed plan-development process, but it also makes some general recommendations in terms of process on how to minimize negative environmental effects and maximize environmental sustainability in the future development, such as monitoring and evaluating the environmental effects through tests over the course of the development.

Bestemmingsplan Overhoeks (Overhoeks & part of Buiksloterham) (2006) - In 2006 a zoning plan was established including the projectarea of Overhoeks as in the projectdecree Shell-terrain(2003) and masterplan Shell-terrain (2004), as well as about half of the Buiksloterham (the part north of Overhoeks up to the Johan van Hasseltkanaal-west) (for the upper part of the Buiksloterham, no zoning plan is formulated until 2009). In the zoning plan, decisions are made on the level of the permitted building heights, land uses, densities and environmental contours, all following specifically designated zones. This zoning plan outlines the permissions in the project-area of Overhoeks in great detail, exactly according to the plans laid out in the masterplan, while the part of Buiksloterham is reduced to almost exclusively industry with no further specifications, with the exception of some land destined for infrastructure and designated to traffic. In the zoning plan it is indicated that this is because multiple environmental measures have to be taken before the envisioned residential function in Buiksloterham can be permitted in a zoning plan. For this reason however, a right to amendment is included in the zoning plan, so that the destined functions in this zoning plan can, under certain conditions, be changed. For Overhoeks, the zoning plan is leading and has in the following ten years only been subject to one partial revision for the benefit of the very last fase of the development.

Investment decree Buiksloterham (2006) - The project decree of Buiksloterham (2005) was followed in 2006 by an investment decree.

The investment decree offers an urban, programmatic, environmental, technical and financial framework for the urban area development. It contains a specification of the in the project decree outlined desired characteristics, ambitions, the specific programme and spatial structure. Also it further elaborates the previously formulated development strategy and it offers a complete land exploitation plan.

In contradiction with the Plaberum of Amsterdam that states that an urban masterplan should be part of the investment decree, the investment decree of Buiksloterham explicitly rejects the setting up of an urban masterplan and a fixed end-image of the area in advance. Instead, it offers a set of conditions and requirements to the (urban form of) area as a whole, and translates this framework to plot-specific 'playing rules'. The urban and architectonic principles are operationalised in criteria for visual quality that are also part of the investment decree. The 'playing rules' are the rules to which private initiators who want to build

on their own land or land that is issued in leasehold have to conform, and that will offer the basis for the plot-specific building envelopes that will be established incrementally and for the issue of land by the municipality to market parties. The planning map of the area lays down a plan for the infrastructure and public space and splits the area up into separately developable building plots with indications of the permitted functions. With this the investment decree also offers the basis for the new zoning plan.

Meerjarig Investeringsprogramma Sociale Accommodaties Stadsdeel Amsterdam-Noord (2007) - The 'Meerjarig Investeringsprogramma Sociale Accommodaties' (MIPSA) is a multi-annual investment programme of social accommodations. In 2007 this was set up for Amsterdam-North, following from the Programme of Social Investments 2006-2010 (2006) for the whole of Amsterdam, which on its own turn follows from a social structural plan (2003). These documents give a programme of requirements regarding the required social accommodations in Amsterdam North, based on the important future developments and needs up to 2015 in the field of education, work and income, culture, sport, healthcare and safety. This also decides part of the functional programme in Buiksloterham and Overhoeks.

Bestemmingsplan Buiksloterham (2009) - In the zoning plan of Buiksloterham of 2009 the characteristics of the permitted developments are established in order to facilitate the realization of the plans formulated for Buiksloterham in the investment decree of 2006. Space is reserved for the destination for infrastructure, water and green, and for the rest of the land the functions as well as the ratio between living and working that are permitted are indicated per plot. The maximum building heights, FSI, amount of dwellings and percentage of residential functions allowed are indicated according to clearly restricted zones. Furthermore the zoning plan contains contours of environmental hindrance, within which special regulations are enforced.

Again, the zoning plan includes a clause for amendment that permits a conditional adjustment of the destined functions when needed for transformation. For the various functions, different requirements for building and usage apply that are included in the planning document, such as a parking norm. Exemption of these requirements is, under certain conditions, possible. The zoning plan also sets the regulations regarding various themes, such as sound, air quality, water quality, handling of cultural heritage, ecology, sustainability, etc. Last but not least the zoning plan includes elaborations on the economical, technical and social feasibility of the plan, including an exploitation plan in which the costs of the realization of the total plan are shared over the land-owners in the plan-area pro rata to the expected returns (the first plan of this sort in Amsterdam). This land exploitation plan is revised annually, allowing annual (non-structural) adjusting measures.

Nota 'Duurzaamheid in de nieuwbouw' (2009) - 'Nota's' (Literal translation: Notes) are short thematic policy documents issued by the public authorities that form valid additions to the currently applicable policies and law. They can set additional requirements to national regulations such as the building decree or make policies on levels that are until then unaddressed in the law. The note 'Sustainability in new buildings' issued in 2009 by the municipality of Amsterdam establishes a set ambition in the field of the desired level of sustainability of spatial developments in Amsterdam and develops a procedure in which the elaboration of the sustainability ambition by the interested parties is co-decisive for the granting of building envelopes to parties. Since 2009 this policy note has become applicable to all spatial developments in Amsterdam, including the urban area developments in Buiksloterham and Overhoeks.

BAAK-besluit (2010), Nieuw Buiksloterham (2010), Raadsbesluit overeenkomst ING (2011) - BAAK-meetings are meetings where members of the college of mayor and aldermen, the secretary of the municipality and members of the board of finances discuss the municipal budget. In 2010 the resolution of these meetings was particularly impactful, because of a severe review of and budget cuts for urban area redevelopment projects in Amsterdam as a result of the financial crisis. The process costs for the urban area development projects in Noord were cut by 20%. In Overhoeks the impact seemed restricted since the expenses were already largely in the hands of developing parties such as ING RED. However, this couldn't spare the development from the crisis; in 2010 it became clear that ING RED wouldn't fulfill the contract and wanted to withdraw from the development of Overhoeks (and other urban area developments in Amsterdam) as a result of the crisis. In 2011, after thorough negotiations, the resolution was taken to change the contract and limit ING's development obligations in Overhoeks, which initially entailed the development of the area as a whole, to the development of only the campus in cooperation with housing corporation Ymere (Raadsbesluit overeenkomst ING, 2011).

Naturally these decisions had an effect on the development plans of Overhoeks and Buiksloterham. In Overhoeks, the municipality took over the development of the Strip and Scheg and ING adjusted its strategy for the second phase of the campus. The changes resulting from this will be explained in the discussion of the later following documents 'Ontwikkelstrategie Strip/Scheg Overhoeks' (2013) and 'Campus Overhoeks Fase 3: Revisie Stedenbouwkundig Plan' (2013). In 2014 real estate developer and investor Amvest stepped in to take over ING's position in the second half of the campus (phase 3).

In Buiksloterham, a thorough review and selection of the development activities was made, documented in the document 'Nieuw Buiksloterham' (2010). In a very short time, a new urban concept and associated financial translation was formulated. This led to changes in the field of development strategy, functional programme, urban design and phasing.

Structuurvisie Amsterdam 2040 (2011) - The structural vision of Amsterdam 2040 is a very detailed and long term outline of the desired developments with the eye on the maximization of the long-term success of Amsterdam. The structural vision forms the basis of all spatial plans coming into development in the coming years, including all zoning- and masterplans (De Rijk, 2009).

In the vision, the ambitions of the city are filed along with the policies that will be deployed in the coming years to realize those ambitions. The structural vision of Amsterdam 2040 is divided into various implementation-sections in which the vision is projected onto specific areas and the required spatial coherence between infrastructure, green, blue and the development of the location itself is laid out in broad lines. Also, the so-called 'Location-policy' (Dutch: Locatiebeleid) that is part of the instrumentation of the structural vision provides establishment criteria for companies and offices. This location-policy defines certain strict types of locations (metropolitan core area, large-scale industrial estate, inner-city city-nurturing business, work-residential area, residential-work area...), and indicates for each type which functions are suitable, in which maximum and minimum rates, and under what conditions (following the general ambitions of the vision).

Furthermore elaborations of the structural vision are made in which the expected spatial claims coming from the different sectors are analyzed and weighed against each other. On the basis of this analysis the municipality makes a statement on the realistic program for each sector, the relevant locations and the required financial conditions (Gemeente Amsterdam, 2011). On the basis of these sectoral strategy resolutions a supply strategy can be made for specific types of real-estate and infrastructure, giving the municipality influence on the functional program within developments. A strategy resolution that has been particularly relevant for Buiksloterham and Overhoeks has been the office-strategie of 2011, in which the need for offices had drastically dropped and changed the functional programme in Buiksloterham that, in the zoning plan of 2009, still relied heavily on offices (Gemeente Amsterdam, 2011).

Of course the structural vision of Amsterdam 2040 only originated in 2011, when both Overhoeks and Buiksloterham were already quite far in the plan-development process. It therefore hasn't been significant in the first part of the development process of Overhoeks and Buiksloterham. More the other way around; it has included the plans of Overhoeks and Buiksloterham that were known at the time in the development process of the vision. Some components of the structural vision however, such as the office-strategy and elements of the spatial frameworks and the location-policy, have where possible still been included in the plan-formation of Overhoeks and Buiksloterham.

1e partiële herziening bestemmingsplan Buiksloterham (2012) - In 2012 the adjustments in the plan of Buiksloterham that have come up since 2009 were officially adopted in a first partial revision of the zoning plan. The reason given for the first partial revision is that because of the crisis traditional developers have trouble financing the big developments projects, there is no interest in developing the high amount of offices from the zoning plan of 2009, and the development stagnates. In the revision, changes are made in the field of functions, rates of function mix, scale and type of objected developments and parking vision.

2e partiële herziening bestemmingsplan Buiksloterham (2013) - In the second partial revision, sound regulations are adjusted in order to permit the expansion of the Klaprozenweg and the increased traffic and associated noise. The Klaprozenweg is the most important access road for the newly developed areas Overhoeks, Buiksloterham and NDSM-terrain in Amsterdam North. In order to facilitate the expected traffic and construct the public transport connection between Zaandam and Amsterdam Noord, a widening of the road is needed.

3e partiële herziening bestemmingsplan Buiksloterham (2013) - In the third partial revision of the zoning plan of Buiksloterham, again some principled decisions are made in the field of allowed FSI (Space-floor index), ratio of function mix and required parking norm, along with a number of specified urban and architectural preconditions for certain areas.

Welstandsnota 'De schoonheid van Amsterdam' (2013) - The policy note of visual quality called 'The beauty of Amsterdam', issued by the municipality of Amsterdam in 2013, is a first policy note in which the visual quality is regulated for the city as a whole. It contains criteria for the visual quality of spatial developments in Amsterdam on three levels: (1) Specific standardized criteria for common, small-scale building plans and interventions in existing buildings, (2) relative and more abstractly formulated criteria focused on larger and more far-reaching plans, and (3) plan-dependent criteria for areas in transformation.

This note of visual quality is leading in the area development of Overhoeks but is less significant in Buiksloterham, where exemptions of this note of visual quality are formally issued for certain sub-areas and plots.

Ontwikkelstrategie Strip / Scheg Overhoeks (2013) - In 2011, due to the changing contract with ING, it was decided that the municipality would develop the Scheg and the Strip in Overhoeks. In 2013, the municipality therefore came with a new document 'Ontwikkelstrategie Strip/Scheg Overhoeks', describing the municipalities new vision of the Strip and Scheg from the urban plan. The document describes the complete specification of the Strip including functional programme, urban requirements, parking vision, vision for public space and development strategy. For the Scheg it goes into less detail, formulating in particular the function and character of the area and the relation between the Strip and the Scheg.

'Campus Overhoeks Fase 3: Revisie Stedenbouwkundig Plan' (2013) - In 2013, with the prospect of the start off the development of the second part of the campus, the urban masterplan of 2004 was revised. Main objectives were to enhance the possibilities of the plan to react on the significant decline of sales of dwellings as a consequence of the deteriorated conditions on the housing market during the financial crisis. Some ambitions were changed and more flexibility was incorporated regarding target groups and development scale. The main features of the original urban masterplan however, were respected.

1e partiële herziening bestemmingsplan Overhoeks (2014) - The first partial revision of the zoning plan of Overhoeks follows the revision of the urban plan. In order to make the proposed adjustments possible, more flexibility was required in the legal framework posed by the zoning plan. Furthermore higher sound values were established in specific areas to allow development within the soundcircle of certain roads and companies.

Bodemenergieplan Buiksloterham (2014) - Following the vision and ambitions formulated in the investment decree (2006), which remains the foundation of the urban area development of Buiksloterham, research was done on a sustainable energy provision for the area. In the context of Buiksloterham, geothermal energy is an attractive option. For this reason, a geothermal energy plan was set up in 2014 that sketches a framework for new geothermal energy systems in the area, in order to increase coordination and prevent negative interference between systems, while at the same time optimally exploiting the available potential of geothermal energy. With this, obviously, the document makes decisions on the level of stimulation of certain methods of energy provision.

Manifest Circulair Buiksloterham (2015) - In 2015 the perhaps most illustrative document for the development of the Buiksloterham was issued: the 'Manifest Circulair Buiksloterham' (2015). The manifest contains the results of a study, commissioned and executed by a consortium of local stakeholders that are active in the area, on the potential of the Buiksloterham as an expressive example of circular urban are development in Amsterdam and for a global example of a new way of urban development. As a result of an extensive analysis of the area, sustainability, the stakeholders and the collaboration, this document decides a long term vision of the sustainable development of Buiksloterham and sets ambitions in the field of sustainability, as well as offering a detailed list of specific interventions that could help in implementing these ambitions. With this it establishes the specific focus and interpretation of sustainability in the Buiksloterham and steers the direction of the further sustainable development. Although the statements made in the documents are not binding and serve solely as guidelines and handles in the journey towards sustainability, it is signed by 22 active parties in the area (including the municipality) that thereby have committed to attempt to contribute to the visions and ambitions formulated in the manifest. Following the manifest the area was attributed the status of 'living lab', offering relaxed regulations in certain fields for the sake of experimentation and research.

PLANNING DOCUMENTS ON PLOT-LEVEL

Now the content of the planning documents deciding on the final elaboration of the plans on the level of the individual sub-developments will be adressed.

OVERHOEKS

Oeverpark - The development process of the Oeverpark of Overhoeks on municipal land was fulfilled autonomously by the municipality. In this, the municipality followed the traditional plan-development sequence, first deciding the complete design of the park via a preliminary design (2005-2006) and a following definitive design (2006-2007) (made by a municipal designer, based on the urban masterplan of 2004), then deciding the exact materialisation and equipment of the park in the building specifications and drawings (Bestek, 2008-2009). In 2009 a realisation contract was signed with a contractor and the park was completed in 2010.

Campus phase 1 - In the development of the Campus phase 1, the development was split between the real estate and the public space. The complete design and building specification of the real estate (including the semi-public courts inbetween)

on the in lease-hold issued municipal land was decided by the developer (in this case the consortium of ING-RED and Ymere), along the requirements set by the urban masterplan (2004) and the zoning plan (2006). Subsequently, as was usual, the municipality made the design of the streets and public space around the blocks, deciding the complete design of the public space via a preliminary design (2006) and a following definitive design (2006), then deciding its exact materialisation and equipment in the building specifications and drawings (Bestek, 2007), and granting a realisation contract to a contractor in 2008.

Tender plot 5 - The development of the Strip, taken over and adjusted by the municipality after the crisis in 2011, was different. As a reference we take plot 5. As the other plots in the strip, the municipality tenders to a developer, who will subsequently design and realise the development of the plot on in leasehold-issued municipal land according to a granted contract. Before this however, the municipality has set up the programme of requirements (2008), criteria for visual quality (2008) and the building envelopes of the plots (2013) for the Strip as a whole, deciding the full part of the programme and a large part of the final form, to which the developers have to conform. Building envelope conventions are concluded along the way as a committed party is found. Furthermore, the municipality has set up additional requirements formulated to the plan and developer in the selection brochure of the tender (2015), making decisions on the level of performance values that have to be met and the specific programme of requirements for the building. The further design will subsequently be filled in by the developer in the sequence of preliminary design and definitive design in collaboration with the supervisors of the committee of visual quality of the municipality, and the exact building specifications and construction is decided by the developer as well according to building specifications and -drawings, a contract with a contractor and a permit of the municipality.

BUIKSLOTERHAM

Papaverpark - The papaverpark in Buiksloterham deviates from the traditional public development process of public land where the municipality designs autonomously. The documented planning process starts with a programme of wishes (2014), which identifies the various wishes for the park through an inquiry with local residents. Furthermore, these wishes are translated into three sketch designs by a designer of the municipality through a workshop with the residents, in which the design and main features of the park are laid out. After a second workshop, these sketch designs are integrated into a definitive sketch design which the municipal designer elaborates to a preliminary design where the complete design is decided. After approval of the residents and a communal decision on the budget for construction and maintenance, the development process is rounded off with a definitive design (2015), building specifications and drawings (2015).

Tender plot 12 (Docklands) - The tenderprocedure for plot 12 in Buiksloterham is similar to the tender of plot 5 in the Strip in Overhoeks. The municipality tenders to a developer, who will subsequently design and realise the development of the plot on in leasehold-issued municipal land according to a granted contract. The requirements are formulated by the overarching plans and the contract is granted to the best party according to specifically chosen selection criteria (Brochure pre-selection sustainable tender Buiksloterham, 2009): In this case construction company Vink Bouw with its plan for the apartment complex 'Docklands' (realization convention granted in 2010). The design and execution will subsequently be filled in by the developer in the sequence of preliminary design (2013) and definitive design (2014) and building specifications and drawings (2014).

The difference with the tender in Overhoeks is that in Buiksloterham the building envelope was not set up upfront, but simultaneously with the tender document. Furthermore, the selection criteria are different and the tenderdocuments of BSH plot 12 are supplemented with a calculation model for climate-neutral development.

De Vrije kade (plot 43 & 44) - The development of the project 'De Vrije Kade' on plots 43 and 44 in Buiksloterham are another example of development of lease-held municipal land by a private developer (Distelweg BV, consortium between housing corporation Eigen Haard and construction firm Van der Ley), such as the Campus in Overhoeks. As in the rest of Buiksloterham, the building envelopes are developed only once there is a development interest in the plot. The development started with an urban design set up by the developer under supervision of the municipal projectteam of Buiksloterham and committee of visual quality, following a sketch design (2013), preliminary design (2014) and finally definitive design (2014) and deciding upon the programme, urban design and urban structure of the plan. The rest of the plan is developed by the developer under the same conditions in three phases, in which the preliminary design and definitive design of each phase decide on the organisation, equipment and appearance of the buildings in the phase, and the building specifications and drawings and realization contract decide on the construction methods and exact materialisation. Just as in the campus in Overhoekd the municipality is responsible for the design of the streets and public space around the blocks, deciding the complete design of the public space via a preliminary design (2016) and a following definitive design, then deciding its exact materialisation and equipment in the building specifications and drawings, and granting a realisation contract to a contractor. This is however done in close collaboration with the developer and his wishes.

CPC plot 21 - Plot 21 in Buiksloterham is a publicly owned plot that has been put in the market for collective private commissioning in 2012, after the crisis and the failing of a tender in 2010. In collective private commissioning, so-called building groups, consisting of

private commissioners who together want to build a shared building with dwellings for own use, are responsible for the design and construction of the dwellings. These building groups were selected according to selection criteria on various levels, described in the Brochure selection procedure and leasehold issue for building groups on Kavel 21a t/m 21f Buiksloterham (2012). The selection documents were supplemented with a 'Menu' of climate neutral building measures for building groups in Buiksloterham and 'plot rules', describing the specific prices, programme and building possibilities on the separate plots (21a to 21f) (2012). The realisation convention was signed with the selected building groups in 2012. The plots were exempt from the policy of visual quality, giving the building groups full control over the content and appearance of the development (within the overarching limitations set by the investment decree, zoning plan including revisions and tender documents). The designs were checked by the municipality and the construction started in 2014, with a phased completion starting in 2016.

PC plot 5 - Plot 5 in Buiksloterham was set in the market by the municipality for private commissioning. Fixed rules were set up for each plot regarding the price, allowed programme and the building envelope. A small subsidy was offered for the implementation of sustainable principles and information on sustainable interventions was supplied by the municipality. Private commissioners had the opportunity to subscribe for the plots and were selected according to the first come, first served principle. The realization convention was signed in 2013. The first homes were completed end 2015.

Private plot 14 - Plot 14 in Buiksloterham is an example of a plot where a private developer takes a private initiative to perform a new development on privately owned land. Because the developer is also owner of the land (in this case Maanzaad BV), he is free to develop anything he wants within the limitations of the zoning plan, investment decree and other binding documents, and decides on the full further content of the development. Therefore the owner is free to submit a design proposal showing municipality its development plans at any given time, as the owner of plot 14 did in (2015). This design proposal can subsequently be further elaborated to preliminary design, definitive design and building specifications under supervision of the municipal projectteam of Buiksloterham and the committee of visual quality. Plot 14 is since september 2015 passing through this process.

A III.3.4. DECISIONS IN PLANNING DOCUMENTS ON SUSTAINABILITY COMPONENTS FROM THEORY

For each document the found specifics on components relevant for urban sustainability (as defined by theory) will be inventoried. Because this is much more technical information the findings will be summed up bulletwise. A distinction will be made between specifications of sustainability components specifically related to mixed-use (as in: directly influencing the degree and/or composition of function mix) (underlined) and other specifications related to sustainability (normal text), to give an insight in the (non-)existing focus of the planning documents on mixed-use. Note however that this does not mean that these components are more important than the others, and that all mentioned components are relevant in the context of creating sustainable mixed-use districts.

NATIONAL AND CITY-LEVEL PLANNING DOCUMENTS

Bouwbesluit (2003-2012):

- Mandatory calculation of greenhouse gas emissions and exhaustion of finite resources along the composition of construction components according to the method 'SBK Bepalingsmethode Milieuprestatie Gebouwen en GWW-werken'. No required outcome.
- Minimum performance values for energy prestatation coefficient
- Minimum performance values for thermic isolation
- Minimum performance values for living quality (sound, air, etc)

Structuurplan Amsterdam 2003-2010 (2003):

- Semi-long term vision
- Coordinated with regional strategic plan of Noord-Holland Zuid
- Choosing for high urbanity
- Enhancement of visual quality of the urban environment
- Enhancement of quality of green, water and public space
- Exploitation of unique location-bound qualities of / in Amsterdam
- Scale of buildings and function mix: matching the fine-grain, historic character
- Strategic city-scale allocation and balance of functions
- Strategic city-scale accessibility plan
- Expansion public transport system
- Improvement the bicycle network

De Noordelijke IJ-oever: Een Cultuurhistorische Effectrapportage (2003):

- Strategic research on culture-historical value
- Recommendation of preservation of culture-historic elements
- Awareness of importance culture-historic elements for distinctiveness, attractiveness and identity area

Masterplan Noordelijke IJ-oever (2003):

- Strategic, regional and long term vision
- Exploitation of unique identities separate areas
- Enhanced accessibility
- High quality public space
- Exploitation and protection of water and green
- Strategically motivated spatial frameworks of public space
- Strategically motivated spatial frameworks of traffic
- Strategically motivated spatial frameworks of urban structures
- Development strategy: Incremental, private led transformation with clear direction instead of pre-defined end-result.
- Room for private development

- Facilitating role municipality

Milieu-effectrapportage herinrichting Buiksloterham/Overhoeks (2005):

- Research on environmental impact
- Recommendations for minimizing negative environmental effects and maximize environmental sustainability
- Strengthening relationship with water
- Preservation and enhancement of culture-historic values
- Development of the slow- and public transport network

Meerjarig Investeringsprogramma Sociale Accommodaties Stadsdeel Amsterdam-Noord (2007):

- Strategic and researched programme of required social accommodations

Nota 'Duurzaamheid in de nieuwbouw' (2009):

- Start with realization of climate-neutral buildings from 2010 (40% of the production of dwellings and utilities)
- All new buildings in Amsterdam climate-neutral from 2015
- Procedure in which elaboration of sustainable ambition is co-decisive for the granting of building envelopes to parties

Structuurvisie Amsterdam 2040 (2011):

- Strategic, very wide scope and long term vision
- Sustainability and economic strength main ambitions
- Expanding inner-city environment
- Allocation of distinct identities and functions in the city
- Local very high-density areas (high-rise)
- Vision for economic competitiveness
- Intensified land-use and mixed-use
- Interaction plinths / functions with public space
- Improvement and expansion public transport system
- Reaction on demand: flexibility
- Housing supply for all target groups
- New development strategies: More flexible, incremental, private-led developments
- Giving private parties more influence on their homes and urban environment (Private participation)
- Enhancing opportunities for PC and CPC
- Investing in art and culture (important for tourism and economy, binders for identity and attractiveness)
- Stimulating private / small entrepreneurship
- Higher quality public space
- Investment in green and water for urban attractiveness and recreation
- Protection 'green fingers' for (accessibility) nature and green
- Exploiting the IJ and the quality offered by the water
- Strategically established city-level frameworks of green
- Strategically established city-level frameworks of trees
- Strategically established city-level frameworks of ecology
- Strategically established city-level frameworks of public space
- Strategically established city-level frameworks of traffic
- Strategically established city-level frameworks of water
- Transformation as starting point
- Stop designing and planning for fossil fuels
- Investing in electric transport modes
- Move towards renewable energy self sufficiency
- Focus on building climate-neutral
- 40% CO2-reduction in 2025 (compared to 1990)
- Employ geothermal energy and city-heating, energy storage, solar panels
- Increased interaction and knowledge sharing
- Flood resilience and water management
- Reducing car orientation
- Enhancing bicycle network
- Reducing amount of cars parked in public space

- Right function in the right spot: strategic location policy
- Establishmentcriteria for companies and offices according to municipal ambitions
- Realistic city-wide programme for each functional sector (> office-strategy of 2011: No more offices)

Welstandsnota 'De schoonheid van Amsterdam' (2013):

- City-wide criteria for visual quality

OVERHOEKS

Project decree Shell-terrain (2003):

- Character: high urbanity, inner city, mixed-use area with high quality, quiet residential neighbourhood.
- Target groups & housing supply: Differentiated. Seniors. Internationals. Companies: Knowledge companies, sustainable technology, creative sector.
- Functions: 70% dwelling, 30% other functions (office and business spaces, amenities). Residential area: 80/20 ratio living/working. Strip: 50/50 ratio living/working. Presence horeca and culture. Social amenities.
- Density: comparable to city centre. Intensive land use set as sustainable ambition.
- Spatial organisation of functions: Strict separation strip - park
- Flexibility: Experiment with flexible, multifunctional casco's. Flexible combinations of functions.
- Urban structure: Long plots referring to historic harbour structure
- Mobility: Stimulation of bicycle and public transport. Partly car-free and parking out of sight. Broad parking norm. 300 public parking spaces.
- Sustainable systems: Energy-efficient energy systems. Separated sewer system.
- Ecology: Preservation monumental trees. Protection underwater species by suitable IJ-banks. Enforcing bird population by enhancing nesting opportunities.
- Green and water: Large amount of public space. Exploitation of quality of water. Recreative routes. Green appearance with green roofs and facades.

Urban Masterplan Shell-terrain (2004):

- Character: high urbanity, inner city, mixed-use area with high quality, quiet residential neighbourhood.
- Target groups & housing supply: Differentiated. Seniors. Internationals. Companies: Knowledge companies, sustainable technology, creative sector.
- Functions: 70% dwelling, 30% other functions (office and business spaces, amenities). Residential area: 80/20 ratio living/working. Strip: 50/50 ratio living/working. Presence horeca and culture. Social amenities. Function mix possible on the level of the plot.
- Density: comparable to city centre. Intensive land use set as sustainable ambition.
- Spatial organisation of functions: Strict separation strip - park
- Flexibility: Experiment with flexible, multifunctional casco's. Flexible combinations of functions.
- Urban structure: Long plots referring to historic harbour structure
- Urban typology: Strip: Dynamic high-rise with public plinth. Residential quarter: campus typology with free-standing yet interactive blocks connected by public space. Park: metropolitan, elegant parks.
- Appearance buildings: Campus: diversity between blocks (9 levels). Strip: Dynamic shapes and height differences.
- Appearance public space: Metropolitan, elegant. Green public space in campus.
- Mobility: Stimulation of bicycle and public transport. Cars allowed and parked in street in campus and on parking decks under courts. Should be attractive for cars. 95 % of parking in buildings. Large underground parking garage under Scheg-park. Broad parking norms. 300 public parking spaces.
- Sustainable systems: Energy-efficient energy systems. Separated sewer system.
- Ecology: Preservation monumental trees. Compensation for removed trees. Protection underwater species by suitable IJ-banks. Enforcing bird population by enhancing nesting opportunities.
- Green and water: Large amount of public space. Exploitation of quality of water. Recreative routes. Green appearance with green roofs and facades.
- One distinctive building and function in visible location
- Preservation toren Overhoeks, Shell Grootlab and Shell-cantine.
- Sustainable materials with low environmental impact
- elevated ground level for water management and flood-protection
- 179.000 m2 of programme in Strip.

Bestemmingsplan Overhoeks (Overhoeks & part of Buiksloterham) (2006):

- Density: FSI 2 - 7
- Detailed zones according to masterplan
- Environmental contours with special regulations
- Land uses: Green, infrastructure, public space. Functions: 70% dwelling, 30% other functions (office and business spaces, amenities). Residential area: 80/20 ratio living/working. Strip: 50/50 ratio living/working. Presence horeca and culture. Social amenities. Function mix possible on the level of the plot.
- 80% free sector dwellings, 20% social sector.
- Regulations according to function
- Building heights with average of 30 meter and accents from 90 to 110 meters
- Filmmuseum

Oeverpark (sketch design 2005, completed 2010):

- autonomous design and development by municipality
- Minimalist, metropolitan park with linear design and descending levels towards the IJ
- Elm arboretum (Largest collection of different kinds of 'Elm' (Dutch: iep) tree species in Europe)
- Recreational pedestrian and bicycle routes
- High quality equipment
- Space reserved for dock watertaxi
- Bicycle storage in public space

Campus phase 1 (preliminary design 2005, completed 2009-2015):

- Buildings designed by ING, public space by municipality (Because ING had obtained development rights before, no additional (selection)criteria set to the development / ING by the municipality)
- High quality and green public space
- Blocks with different appearances from 6 to 9 levels
- residential parking on parking decks under inner courts (every apartment own parking spot)
- Diverse dwellings (1 block social housing, 1 block market rent, 7 blocks sale) (2-room to 5-room apartments from 54 to 136 m2)

Ontwikkelstrategie Strip / Scheg Overhoeks (2013):

- Character: high urbanity, inner city, mixed-use high-rise district with quiet park
- High density
- Strip: 50/50 ratio living/working. Presence horeca and culture. Social amenities. Function mix possible on the level of the plot.
- Stepwise issue of land in separate plots, varying in shape and size (7 plots)
- Development by different developers.
- Indication of minimum and maximum size of programme and towards, left to the market to decide the exact size.
- Market-led development
- Fixed location of towers and minimum height of plinth (building envelopes). Further design upto developer.
- Urban typology: Strip: Dynamic high-rise with public plinth. Park: metropolitan, elegant park.
- Focus on diversity in commissioning, programme and appearance
- Cancellation of underground parking garage under Schegpark. Instead parking garages allowed under street and part of park, to be developed by the independent developers.
- Parking solved on own land.
- Maximum one parking spot per sale-dwelling.
- Rent-sector: parking norm of 0,3-0,8 per dwelling
- Maximum one parking spot per 125 m2 for other functions
- Programme of 170.000-190.000 m2
- Temporary function in historical Grootlab-building of shell and cultural function in cantine of Shell
- High quality public space
- Preservation Toren Overhoeks and Shell Grootlab

Campus Overhoeks Fase 3: Revisie Stedenbouwkundig Plan' (2013):

- React on market demand (more middel-segment and one-family homes) (more flexibility regarding target groups)
- Enforce the distinctive ability of the Campus
- Smaller scale of developments
- High quality outdoor spaces and green
- Flexibility: Masterplan as reference image, not binding

1e partiële herziening bestemmingsplan Overhoeks (2014):

- more flexibility in legal framework
- higher sound values to allow development within soundcircle of roads and companies (Exceeds preference values, but not maximum allowed values)

Tender plot 5 (Issued 2015):

- Minimum 70% residential function
- minimum 6.500 m2 student housing
- minimum 10 and maximum 30% other functions (services, social facilities, shops, companies, offices)
- No horeca, hotels, congres centres and shops for daily goods
- Parking to be solved under ground under plot or indicated contour under street and park
- Minimum of 0,3 parking spots per dwelling (excepting student accomodations). For student accomodations: no mandatory parking spaces
- 1 parking space epr 125 m2 GFO for all other functions
- Building envelope added in tender documents
- Selection based on option bid and energy prestation coefficient (EPC) (sustainability)
- Maximum EPC of 0,4
- Option bid (price) far more weight in selection than EPC

BUIKSLOTERHAM

Project decree Buiksloterham (2005):

- Incremental transformation
- Room for private development and initiatives
- passive development strategy by municipality
- character: diverse and distinctive urban area
- 10% of the area remains industrial
- culture of entrepreneurship and pioneering (actively stimulated)
- Facilitating role municipality
- Functional programme: living, working, amenities, businesses, industry.
- mix of living and working on various levels
- living/working 50/50
- 7000 new jobs
- maintaining original structure and allotment
- flexibility in legal framework
- parking on own terrain
- normal parking norms
- green along the IJ

Investment decree Buiksloterham (2006):

- Incremental transformation
- No pre-defined end-result / masterplan
- Deviation of plabrum products for more flexibility
- Room for private development and initiatives
- Facilitating role municipality
- active land policy in 1/3 of the area (infrastructure and public space)
- character: diverse and distinctive urban area

- 10% of the area remains industrial
- culture of entrepreneurship and pioneering (actively stimulated)
- mixed-use as starting principle
- Specified ratio of function mix on plot level
- Functional programme: living, working, amenities, businesses, industry.
- Higher amount of dwellings towards IJ
- mix of living and working on various levels
- living/working 50/50
- 7000 new jobs
- maintaining original structure and allotment
- flexibility in legal framework
- parking on own terrain
- normal parking norms
- green along the IJ
- sustainability seen as opportunity and sustainable ambition formulated
- programme on water
- appointed locations for special programme
- City-heating network (Dutch: stadswarmte-net)

Bestemmingsplan Buiksloterham (2009):

- Incremental transformation without pre-defined end-result / masterplan
- active land policy in 1/3 of the area (infrastructure and public space)
- Facilitating role municipality
- Flexible buildings and dwellings for own interpretation users
- flexibility in legal framework
- intensive land use
- Room for private development and initiatives
- character: diverse and distinctive urban area
- 10% of the area remains industrial
- culture of entrepreneurship and pioneering (actively stimulated)
- mixed-use as starting principle
- Specified ratio of function mix on plot level
- Functional programme: living, working, amenities, businesses, industry.
- Higher amount of dwellings towards IJ
- mix of living and working on various levels (overall ratio 50/50)
- maintaining original structure and allotment
- parking on own terrain
- normal parking norms
- green along the IJ
- programme on water
- Space reserved for infrastructure, water and green
- ratio between living and working that are permitted are indicated per plot
- Maximum building heights: max 30m, unless otherwise indicated
- FSI: 1,5 - 3
- contours of environmental hindrance, within which special regulations are enforced.
- clause for amendment
- Requirements for function in terms of building and usage (parking norm etc). Exemption of these requirements is possible.
- Regulations regarding sound, air quality, water quality, handling of cultural heritage, ecology, sustainability, etc.
- Exploitation plan in which the costs of the realization of the total plan are shared over the land-owners in the plan-area pro rata to the expected returns. Revised annually, allowing annual (non-structural) adjusting measures.

Tender plot 12 (Docklands) (start plan formation 2009, completion 2016):

- Fixed land price set by municipality
- Selection based on sustainability score (elaboration of sustainable vision, quality score on calculation model sustainable and climate-neutral building)

- No pre-defined interventions for sustainable construction and energy provision, but challenge to developers to come with innovative plans themselves
- Fixed building envelope with room for flexibility within

Nieuw Buiksloterham (2010):

- 1/3 active land policy by municipality (infrastructure, public space)
- Adjustment functions for increase market conformity (no more offices, realistic amount of dwellings)
- Change in phasing; focus on development of tendered plots, plots that area already ready for construction or that are currently being prepared with the help of state subsidy. Pace of granting of building envelopes will be made dependant of the market situation.
- Plan development dependant of investment-preparedness of private parties.
- Accent on PC and CPC in housing supply
- Facilitation of private initiatives continued
- Abandonment of land reclamation for plot 45

1e partiële herziening bestemmingsplan Buiksloterham (2012):

- Increase market conformity
- Functions: Cancellation of 85.000m2 of offices of zoning plan
- Changed ratio living/working on plot level (more living, less working, in order to permit (C)PC) (max 80 % living)
- Parkeernorm verlaagd van 1,5 naar 1 voor zelfbouwkwavels 5, 20 en 21.
- Possibility to deviate from appointed parking norm, with good reason
- Revision of building hight plot 5 (max 30 meter to max 15 meter) to support new vision of plot as part of a (C)PC street and secure urban quality

PC plot 5 (start plan formation 2011, completion 2014):

- Private commissioning (end-user designs and builds him/herself)
- Plot rules: fixed leasehold prices, allowed amount of functions, building envelope and building possibilities
- Parking norm: 1,5 per dwelling, 1 per 125 m2 GFO for working. Parking on own terrain.
- Selection of private commissioners based on first come, first served principle
- Designs made by private commissioners, checked by the municipality
- Exemption from policy of visual quality
- Small subsidy for implementation sustainable principles
- Supplied information on possible sustainable interventions by the municipality and advantages of sustainable building
- Mandatory indication of the implemented sustainable principles through the municipal 'Menu of circular / climateneutral (self-)building' and energy prestatation calculation model (not used for selection)

CPC plot 21 (start plan formation 2012, completion 2016):

- Collective private commissioning
- Fixed land-price and lease-hold price
- Selection based on sustainability (indication of interventions that are going to be implemented on list of possible climate-neutral building measures and elaboration of sustainable vision) and realization plan (composition and collaboration of/in building group, elaboration of realisation probability and elaboration of financial feasibility) in equal weight.
- Exemption from policy of visual quality
- Design set up by building groups, checked by municipality

2e partiële herziening bestemmingsplan Buiksloterham (2013):

- Higher sound values and prescribed deaf facades for the sake of the expansion of the Klaprozenweg and with that the car- and regional public transport network

3e partiële herziening bestemmingsplan Buiksloterham (2013):

- Adjustment of the allowed FSI (on PO plots 2 and 3)
- Increased building heights on PO plots 2 and 3
- Cancellations of the mandatory noise free side of buildings on PO plots 2 and 3
- Adjusted ratio of function mix on PO plots 2 and 3 (max. 50/50)

- Adjustment of parking norm on PO plots 2 and 3 (minimum parking norm of 1 car, parking space arranged on own terrain) (For dwellings smaller than 60 m², no minimum parking norm)
- Rules to the placement of terraces, gardens, verandas storage sheds and parking places on PO plots 2 and 3

De Vrije kade (plot 43 & 44) (start plan formation 2013, completion 2016-2017):

- Development rights obtained in the past. Therefore no additional requirements set to development / developer by municipality in tender.
- Developing party (housing corporation Eigen Haard) is one of the parties that signed the Manifest Circular Buiksloterham
- Urban plan set up by developer in collaboration with municipality
- Fixed building envelope with flexibility within
- Flexible apartments with room for own interpretation residents
- 220 dwellings (66 one-family homes with garden, 16 quay-dwellings, 58 social housing apartments and 80 sale-sector apartments) including parking places
- Preservation of historic industrial warehouse (transformed to parking garage)
- Municipality designs high quality public space (in close collaboration with the developer and his wishes)

Papaverpark (start plan formation 2014, completion 2015-2017):

- Collaborative design-process with end-users, open plan process, stakeholder participation
- Freeform, natural design with mix of trees, green and water and wild flowers
- 7 'pockets' with seating or playing equipment for young and old

Bodemenergieplan Buiksloterham (2014) -

- Focus on sustainable energy provision for the area
- Stimulation of certain methods of energy provision
- Increase in coordination and prevention of negative interference between systems while exploiting the full potential of geothermal energy in Buiksloterham

Manifest Circulair Buiksloterham (2015):

- Extensive analysis of the area, sustainability, the stakeholders and collaboration
- Long term vision of sustainable development of Buiksloterham
- Vision developed in collaboration with the stakeholders in the area.
- Specified ambitions in the field of sustainability including plan of actions and signed commitment stakeholders
- Outlined processes and proposed development strategy including stakeholder involvement and participation
- Status of 'living lab' offering relaxed regulations in certain fields for the sake of experimentation and research.
- Focus on environmental sustainability and urban metabolism (circular economy, efficient management of scarcity, recycling of materials, renewable energy provision, support and enhancement of biodiversity, culture and symbiosis by human activity, protection of health and welfare of all organisms, shift to 'bio-based' fuel / economy).
- Maximisation of competitiveness by social and ecological capital through modern infrastructure, efficient resource management and citizen participation
- Reduction of the volume of the flow of resources (reduction of the demand)
- Finding local synergies that can provide for the demand of resources (cascading of heat and materials)
- Providing renewable resource provisions for the demand of resources
- Preserving the social, ecological and physical diversity and complexity of the area
- Management of the physical cycles of energy, water and nutrients

Private plot 14 (start plan formation 2015, completion 2014-2015)

- Owner decides on full content of the development (within rules zoning plan and other overarching planning documents)
- No additional requirements set by municipality since it is privately owned land
- Projectteam of Buiksloterham and committee of visual quality of municipality supervises plan development process

A III.3.5. SUSTAINABILITY COMPONENTS MENTIONED IN THEORY

	STRATEGIC FOUNDATION	USER-COMFORT	ENERGY, RESOURCES, POLLUTION	WATER MANAGEMENT	GREEN / WATER / ECOLOGY	PUBLIC SPACE	CHARACTER	DENSITY	FUNCTIONS	DEGREE OF MIXED-USE	DISTINCTIVENESS	MOBILITY	FLEXIBILITY	HUMAN CAPITAL	DEGREE OF INFLUENCE ON END-RESULT BY END-USER	DEVELOPMENT APPROACH
Bouwbesluit (2003-2012)		x	x													
Project decree Shell-terrain (2003)			x		x	x	x	x	x	x	x	x	x	x		x
Structuurplan Amsterdam 2003-2010 (2003)	x				x		x	x	x		x	x				
De Noordelijke IJ-oever: een cultuurhistorische effectrapportage (2003)	x										x					
Masterplan Noordelijke IJ-oevers (2003)	x				x	x	x				x	x				x
Urban Masterplan Shell-terrain (2004)			x	x	x	x	x	x	x		x	x	x	x		x
Project decree Buiksloterham (2005)					x		x	x	x	x	x	x	x	x	x	x
Milieu-effectrapportage herinrichting Buiksloterham/Overhoeks (2005)					x						x	x				
Bestemmingsplan Overhoeks (2006)		x					x	x	x	x	x		x			
Investment decree Buiksloterham (2006)			x		x		x	x	x	x	x	x	x	x	x	x
Oeverpark Overhoeks (2005-2009)					x	x	x					x			x	x
Campus phase 1 Overhoeks (2005-2008)						x	x		x		x	x				
Meerjarig Investeringsprogramma sociale accommodaties stadsdeel Amsterdam-Noord (2007)	x								x							
Bestemmingsplan Buiksloterham (2009)		x	x		x			x	x	x	x	x	x	x	x	x
Tender plot 12 Buiksloterham (2009-2016)			x										x		x	
Nota 'Duurzaamheid in de Nieuwbouw' (2009)			x													

Baak-besluit (2010)	x															
Nieuw Buiksloterham (2010)				x					x				x	x	x	x
Raadsbesluit overeenkomst ING (2011)																
Structuurvisie Amsterdam 2040 (2011)	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x
1e partiële herziening bestemmingsplan Buiksloterham (2011)							x		x	x		x				
PO Plot 5 Buiksloterham (2011-2014)			x							x	x				x	x
CPO plot 21 Buiksloterham (2012-2016)			x								x				x	x
2e partiële herziening bestemmingsplan Buiksloterham (2013)		x														
3e partiële herziening bestemmingsplan Buiksloterham (2013)		x					x	x		x		x				
Welstandnota 'De Schoonheid van Amsterdam' (2013)							x									
De Vrije Kade Buiksloterham (2013-2017)			x			x	x		x		x		x		x	x
Ontwikkelstrategie Strip/Scheg Overhoeks (2013)							x	x	x	x	x	x	x			x
Campus Overhoeks Fase 3: Revisie Stedenbouwkundig Plan (2014)		x							x		x		x			x
1e partiële herziening bestemmingsplan Overhoeks (2014)		x											x			
Papaverpark Buiksloterham (2014-2017)															x	
Bodenenergieplan Buiksloterham (2014)	x															
Manifest circulair Buiksloterham (2015)	x		x	x										x	x	
Private plot 14 Buiksloterham (2014-2017)			x													x
Tender plot 5 Overhoeks (2015)	x								x			x				

A III.4.1. OVERVIEW ANALYSED DEVELOPMENT DELIBERATIONS

#	PROJECT	DATUM	TYPE OVERLEG	DEELNEMERS	FUNCTIE
#OH1	Overhoeks	1-9-2015	Team openbare ruimte	Toine van Goethem Pascal van der Velde	Stedenbouwkundige (gemeente) Assistent projectmanager (gemeente)
#OH2	Overhoeks	17-9-2015	Project coördinatie	Annegien Krugers-Dagneaux Pascal van der Velde Thijs Koolmees Jacco Franssen Kris Steen	Projectmanager Overhoeks (gemeente) Assistent projectmanager (gemeente) Assistent projectmanager (gemeente) Project assistent (gemeente) Project assistent (gemeente)
#BSH1	Buiksloterham	21-9-2015	Kernteam	Els Daems Dick Bruijine Mariëtte van Baaren Gerard Kwakkebos Loes Gratama Sabina Baarsma	Projectmanager Buiksloterham (gemeente) Stedenbouwkundige (gemeente) Jurist (gemeente) Stedenbouwkundige (gemeente) Jurist (gemeente) Assistent projectmanager (gemeente)
#OH3	Overhoeks	22-9-2015	OBS Brede school / Amvest	Annegien Krugers-Dagneaux Ed Koelé David Bout Jackie Dekker	Projectmanager Overhoeks (gemeente) Projectleider grondzaken (gemeente) Projectmanager maatschappelijk vastgoed (gemeente) Projectmanager stadsdeel Noord (gemeente)
#BSH2	Buiksloterham	22-9-2015	Team Duurzaamheid	Batoul Alaz Renate Heppener Arthur Morrien Marije Raap Janneke Nijenhuis	Assistent projectmanager (gemeente) Projectleider duurzaamheid (gemeente) Projectleider grondzaken (gemeente) Projectleider team zelfbouw (gemeente) Projectleider grondzaken (gemeente)
#BSH3	Buiksloterham	22-9-2015	Klein kernteam	Els Daems Elske van Caspel Dick Bruine Sanne Bouwman	Projectmanager Buiksloterham (gemeente) Projectmanager uitvoering (gemeente) Stedenbouwkundige (gemeente) Projectmanager (gemeente)
#OH4	Overhoeks	22-09-2015	Begeleidingscommissie	Co Stor	Ambtelijk opdrachtgever en gebiedsmanager Noord (gemeente)

					Annegien Krugers-Dagneaux	Projectmanager (gemeente)
					Thijs Koolmees	Omgevingsmanager (gemeente)
					Rolinde de Smidt	Planningsadviseur (gemeente)
					Marcel Oomen	Bewoner en voorzitter wijkvereniging Overhoeks
					Wouter Jansweijer	Bewoner en lid bestuur wijkvereniging Overhoeks
					Esther Blok	Stadsdeel Noord (gemeente)
					Machtelt Kooijman	Stadsdeel Noord (gemeente)
					Arpad Gerecsey	Lid bestuur A-lab
					Bas Ruis	Front house manager ClinkNoord
					Wouter Nijssingh	Vastgoedadviseur IES Immobillien (Maritim)
					Hans Schoonheim	Docent en waarnemend rector Hyperion Lyceum
					Ralf Peeters	Ontwikkelingsmanager Amvest (Campus fase 3)
					Willem Kaldenbach	Hoofd beheer Tolhuistuin
					Touria Melani	Algemeen directeur Tolhuistuin
					Danielle Neeleman	Portefeuille Manager Woningen Onroerend Goed MN (toren 1)
					André Burm	Technisch manager Onroerend Goed MN (toren 1)
					Stan Spijkerman	Directielid / Zakelijk adjunct directeur / sectormanager bedrijfsvoering EYE
					Eric-Jan De Rooij	Partner (Lingotto) Maritim & Adam
					Jan Sjaarda	Projectontwikkelaar Ymere
					Michiel van Staveren	Teammanager Acquisitie Onroerend Goed MN (toren 1)
					Bas van den Akker	Eigenaar en uitbater Café de Pont
					Peter van Boesschoten	Communications & external relations manager (Shell)
#OH5	Overhoeks	28-9-2015	Supervisie		Ton Schaap	Supervisor (gemeente)
					Bram Breedveld	Supervisor (gemeente)
					Annegien Krugers-Dagneaux	Projectmanager Overhoeks (gemeente)
					Pascal van der Velde	Assistent projectmanager (gemeente)
					Toine van Goethem	Stedenbouwkundige (gemeente)
					André Salvador	Stagiair stedenbouw

					Toine van Goethem	Stedenbouwkundige (gemeente)
				Ed Koelé	Projectleider grondzaken (gemeente)	
				Wouter Nijssingh	Projectontwikkelaar Maritim Group (congres hotel)	
				Eric-Jan de Rooij	Projectontwikkelaar A'DAM & woontoren (Lingotto)	
#OH10	Overhoeks	12-10-2015	Uitvoeringsoverleg extern	Evelien van Wolferen	Projectleider uitvoering (gemeente)	
				Maarten Van der Eng	Hoofduitvoerder JP Van Eesteren	
				Esther Lelyveld	projectontwikkelaar Lingotto	
				Wouter Nijssingh	Vastgoedadviseur IES Immobilen (Maritim)	
				Guus Theuws	Projectmanager Koëter vastgoed adviseurs	
				Karin Wittebrood	Projectvoorbereider BAM woningbouw	
				Jos Kemp	Projectleider BAM woningbouw	
				Bert Stam	Projectmanager Ymere	
				Erik Snel	Hoofduitvoerder Dura Vermeer	
				Rob Verkroost	Ingenieursbureau (gemeente)	
				Ingmar Tijjies	Werkvoorbereider BAM woningbouw	
				Willem van der Velden	Projectleider Heijmans	
				Wim Smits	Ingenieursbureau (gemeente)	
				Gaston Dolmans	Coördinatie bodemzaken (gemeente)	
#BSH7	Buiksloterham	12-10-2015	Projectgroep kavel 14	Sanne Bouwman	Projectmanager Buiksloterham (gemeente)	
				Janneke Nijenhuis	Projectleider grondzaken (gemeente)	
				Gerard Kwakkenbos	Stedenbouwkundige (gemeente)	
				Sjon Pepping	Architect Beams Systems	
				Martijn van Rossum	Architect Beams Systems	
#OH11	Overhoeks	12-10-2015	supervisie	Tom Muller	Ontwerper Verkeer & Openbare Ruimte (gemeente)	
				Anne	Ontwerper Verkeer & Openbare Ruimte (gemeente)	
				Ton Schaap	Supervisor (gemeente)	
				Bram Breedveld	Supervisor (gemeente)	
				Annegien Krugers-Dagneaux	Projectmanager Overhoeks (gemeente)	

					Pascal van der Velde	Assistent projectmanager (gemeente)
					Toine van Goethem	Stedenbouwkundige (gemeente)
#OH12	Overhoeks	12-10-2015	supervisie		Ton Schaap	Supervisor (gemeente)
					Bram Breedveld	Supervisor (gemeente)
					Annegien Krugers-Dagneaux	Projectmanager Overhoeks (gemeente)
					Pascal van der Velde	Assistent projectmanager (gemeente)
					Toine van Goethem	Stedenbouwkundige (gemeente)
					André Salvador	Stagiair stedenbouw
					Eric-Jan de Rooij	Projectontwikkelaar ADAM & woontoren (Lingotto)
					Do Janne Vermeulen	Architect Maritim (Team V)
					Ruben Smits	Architect Maritim (Team V)
					Co Stor	Ambtelijk opdrachtgever en gebiedsmanager Noord (gemeente)
					Hanny van der Meijs	Projectmanager gemeentewikkelingen Overhoeks (gemeente)
					Wouter Nijssingh	Projectontwikkelaar Maritim Group (congres hotel)
#BSH8	Buiksloterham	13-10-2015	Projectteam overleg		Sanne Bouwman	Projectmanager Buiksloterham (gemeente)
					Elske van Cappel	Projectmanager uitvoering (gemeente)
					Sabina Baarsma	Assistent projectmanager (gemeente)
					Janneke Nijenhuis	Projectleider grondzaken (gemeente)
					Dick Bruijne	Stedenbouwkundige (gemeente)
					Robin Siebel	Projectleider uitvoering (gemeente)
					Marieke Bevaart	Planningsadviseur (gemeente)
					Harrie Dorssers	Planningsadviseur (gemeente)
					Pieter van Zwet	Planeconoom (gemeente)
					Gerard Kwakkebos	Stedenbouwkundige (gemeente)
					Ank Brand	Projectleider uitvoering (gemeente)
#BSH9	Buiksloterham	15-10-2015	Stuurgroep Cityplot		Co Stor	Ambtelijk opdrachtgever en gebiedsmanager Noord (gemeente)
					Els Daems	Projectmanager Buiksloterham (gemeente)

						Sabina Baarsma	Assistent projectmanager (gemeente)
						Jan van Barneveld	De Alliantie
						Arnout Vos, de Alliantie	Projectmanager De Alliantie
						Larry Bath, de Alliantie	De Alliantie
#OH13	Overhoeks	19-10-2015	Kernteam Overhoeks			Jacco Fransen	Project assistent (gemeente)
						Hanny van der Meijs	Projectmanager gemeentewikkelingen Overhoeks (gemeente)
						Matthijs Muijers	Projectleider grondzaken (gemeente)
						Nard Koppen	Planeconoom (gemeente)
						Thijs Koolmees	Assistent projectmanager (gemeente)
						Pascal van der Velde	Assistent projectmanager (gemeente)
						Ed Koel�	Projectleider grondzaken (gemeente)
						Evelien van Wolferen	Projectleider uitvoering (gemeente)
#OH14	Overhoeks	19-10-2015	Evenementen van der pekbrug			Touria Melani	Directeur Tolhuistuin
						Bas Ruijs	Public Relations ClinkNOORD
						Thijs Koolmees	Assistent projectmanager (gemeente)
						Kris Steen	Stagair Overhoeks/Buiksloterham (gemeente)
						Barbara Brons	Evenementencoordinator (Stadsdeel Noord)
						Esther van der Weerd	Participatiemakelaar (Stadsdeel Noord)
						Willeke Buter	Communicatieadviseur
						Willem Kaldebach	Hoofd beheer Tolhuistuin
#OH15	Overhoeks	20-10-2015	Coördinatie naamgeving openbare ruimte			Floris Thoolen	Coördinator naamgeving openbare ruimte
						Pascal van der Velde	Assistent projectmanager (gemeente)
						Kris Steen	Stagair Overhoeks/Buiksloterham (gemeente)
#BSH10	Buiksloterham	26-10-2015	Stuurgroep vrije kade			Gerard van Arum	Projectleider woningcorporatie Eigen Haard
						Jan Bollenhoeve	Aandeelhouder Distelweg BV (Van der Leij)
						Co Stor	Ambtelijk opdrachtgever en gebiedsmanager Noord (gemeente)
						Els Daems	Projectmanager Buiksloterham (gemeente)
#BSH11	Buiksloterham	29-10-2015	Projectteam toetsing masterplan kop grasweg			Els Daems	Projectmanager Buiksloterham (gemeente)

					Dick Bruijine	Stedenbouwkundige (gemeente)
					Eliske van Caspel	Projectleider uitvoering (gemeente)
					Gerard Kwakkenbos	Stedenbouwkundige (gemeente)
					Janneke Nijenhuis	Projectleider grondzaken (gemeente)
					Heiko Miskotte	Ontwerper Verkeer & Openbare Ruimte (gemeente)
					Johan van Heugten	Beheersadviseur Amsterdam Noord
					Loes Gratama	Jurist (gemeente)
					Harrie Dorssers	Planner (gemeente)
					Robin Siebel	Projectleider uitvoering (gemeente)
					Kris Steen	Stagiair Overhoeks/Buiksloterham (gemeente)
#OH16	Overhoeks	29-10-2015	Heidag: risico analyse		Annegien Krugers-Dagneaux	Projectmanager Overhoeks (gemeente)
					Ed Koel�	Projectleider grondzaken (gemeente)
					Thijs Koolmees	Omgevingsmanager (gemeente)
					Pascal van der Velde	Assistent projectmanager (gemeente)
					Matthijs Muijers	Projectleider grondzaken (gemeente)
					Wim Smits	Ingenieursbureau (gemeente)
					Gaston Dolmans	Coördinatie bodemzaken (gemeente)
					Rolinde de Smidt	Planningsadviseur (gemeente)
					Nelleke Stelling	Planningsadviseur (gemeente)
					Nard Koppen	Planecoonoom (gemeente)
					Toine van Goethem	Stedenbouwkundige (gemeente)
					Hanny van der Meijs	Projectmanager gemeentewikkelingen Overhoeks (gemeente)
					Evelien van Wolferen	Projectleider uitvoering (gemeente)
#OH17	Overhoeks	9-11-2015	Kernteam Overhoeks		Toine van Goethem	Stedenbouwkundige (gemeente)
					Annegien Krugers-Dagneaux	Projectmanager Overhoeks (gemeente)
					Pascal van der Velde	Assistent projectmanager (gemeente)
					Thijs Koolmees	Omgevingsmanager (gemeente)
					Kris Steen	Stagiair Overhoeks/Buiksloterham (gemeente)
					Evelien van Wolferen	Projectleider uitvoering (gemeente)

									Projectmanager gemeentewikkelingen Overhoeks (gemeente)
									Planeconoom (gemeente)
									Projectleider grondzaken (gemeente)
									Projectleider grondzaken (gemeente)
#BSH12	Buiksloterham	10-11-2015	Kernteam Buiksloterham						Projectleider grondzaken (gemeente)
									Projectmanager Buiksloterham (gemeente)
									Stedenbouwkundige (gemeente)
									Projectleider uitvoering (gemeente)
									Projectleider uitvoering (gemeente)
									Stedenbouwkundige (gemeente)
									Projectmanager Buiksloterham (gemeente)
									Project assistent (gemeente)
									Assistent projectmanager (gemeente)
									Projectmanager uitvoering (gemeente)
#BSH13	Buiksloterham	10-11-2015	Overleg private kwaliteitsborging						Gebiedsmanager IJburg
									Afdelingsmanager vergunningen stadsdeel Oost (gemeente)
									Afdelingsmanager vergunningen stadsdeel Noord (gemeente)
									Manager omgevingsvergunningen (gemeente)
									Assistent projectmanager (gemeente)
									Stagiair Overhoeks/Buiksloterham (gemeente)
#OH18	Overhoeks	16-11-2015	kernteamoverleg						Stagiair Overhoeks/Buiksloterham (gemeente)
									Projectmanager Overhoeks (gemeente)
									Projectleider uitvoering (gemeente)
									Planningsadviseur (gemeente)
									Projectleider grondzaken (gemeente)
									Planeconoom (gemeente)
									Planeconoom (gemeente)
									Stedenbouwkundige (gemeente)

#BSH14	Buiksloterham	17-11-2015	Duurzaamheid cityplot	Matthijs Muijers Renate Heppener Sven Hillecamp Kris Steen	Projectleider grondzaken (gemeente) Expert duurzaamheid (gemeente) Projectmanager De Alliantie Stagiair Overhoeks/Buiksloterham (gemeente)
#BSH15	Buiksloterham	24-11-2015	Projectteam Buiksloterham	Janneke Nijenhuis Gert-Jan Stroucken Sanne Bouwman Els Daems Ank Brand Elske van Caspel Dick Bruijine Gerard Kwakkenbos	Projectleider grondzaken (gemeente) Projectmanager Buiksloterham (gemeente) Projectmanager Buiksloterham (gemeente) Projectmanager Buiksloterham (gemeente) Projectleider uitvoering (gemeente) Projectmanager uitvoering (gemeente) Stedenbouwkundige (gemeente) Stedenbouwkundige (gemeente)
#OH19	Overhoeks	30-11-3015	Kernteam overleg	Annegien Kris Steen Thijs Koolmees Hanny van der Meijs Pascal van der Velde Matthijs Muijers Jacco Fransen Evelien van Wolferen Nard Koppen Pieter van Zwet Toine van Goethem	Projectmanager Overhoeks, Sixhaven, Mosveld, Hamer- straatgebied (gemeente) Stagiair Overhoeks/Buiksloterham (gemeente) Omgevingsmanager (gemeente) Projectmanager gemeentewikkelingen Overhoeks (gemeente) Assistent projectmanager (gemeente) Projectleider grondzaken (gemeente) Project assistent (gemeente) Projectleider uitvoering (gemeente) Planeconoom (gemeente) Planeconoom (gemeente) Stedenbouwkundige (gemeente)
#BSH16	Buiksloterham	1-12-2015	Voorbespreking Vrije Kade	Sanne Bouwman Robin Siebel Janneke Nijenhuis Ank Brand Gerard Kwakkenbos Kris Steen	Projectmanager Buiksloterham (gemeente) Projectmanager uitvoering (gemeente) Projectleider grondzaken (gemeente) Projectleider uitvoering (gemeente) Stedenbouwkundige (gemeente) Stagiair Overhoeks/Buiksloterham (gemeente)

#BSH17	Buiksloterham	7-12-2015	Stuurgroep Cityplot	Arnout Vos Larry Bath Jan van Barneveld Co Stor Eliske van Caspel Sanne Bouwman Renate Heppener Thijs Koolmees	Manager projecten de Alliantie Directeur vastgoed de Alliantie Directeur de Alliantie Ambtelijk opdrachtgever en gebiedsmanager Noord (gemeente) Projectmanager uitvoering (gemeente) Projectmanager Buiksloterham (gemeente) Expert duurzaamheid (gemeente) Omgevingsmanager (gemeente)
#OH20	Overhoeks	7-12-2015	Heisessie Overhoeks	Pascal van der Velde Hanny van der Meijs Annegien Krugers-Dagneaux Toine van Goethem Wim Smits Gaston Dolmans Rolinde de Smidt Evelien van Wolferen Matthijs Muijsers Ed Koel�e Nard Koppen Pieter van Zwet	Projectmanager Overhoeks (gemeente) Projectmanager Overhoeks (gemeente) Projectmanager Overhoeks, Sixhaven, Mosveld, Hamer-straatgebied (gemeente) Stedenbouwkundige (gemeente) Ingenieursbureau (gemeente) Coördinatie bodemzaken (gemeente) Planningsadviseur (gemeente) Projectleider uitvoering (gemeente) Projectleider grondzaken (gemeente) Projectleider grondzaken (gemeente) Planeconoom (gemeente) Planeconoom (gemeente)
#BSH18	Buiksloterham	8-12-2015	Projectteam overleg	Ineke Harder Sanne Bouwman Gert-Jan Stroucken Sabina Baarsma Janneke Nijenhuis Dick Bruijne Robin Siebel Harrie Dorssers Pieter van Zwet Marianne	Projectmanager Buiksloterham, NDSM (gemeente) Projectmanager Buiksloterham (gemeente) Projectmanager Buiksloterham (gemeente) Assistent projectmanager (gemeente) Projectleider grondzaken (gemeente) Stedenbouwkundige (gemeente) Projectleider uitvoering (gemeente) Planningsadviseur (gemeente) Planeconoom (gemeente) Jurist (gemeente)

					Judith Wiidbret	Communicatieadviseur (gemeente)
					Gerard Kwakkebos	Stedenbouwkundige (gemeente)
					Ank Brand	Projectleider uitvoering (gemeente)
					Elske van Caspel	Projectmanager uitvoering (gemeente)
#BSH19	Buiksloterham	8-12-2015	Projectgroep overleg De Vrije Kade		Sanne Bouwman	Projectmanager Buiksloterham (gemeente)
					Kris Steen	Stagiair Overhoeks/Buiksloterham (gemeente)
					Gerard Kwakkebos	Stedenbouwkundige (gemeente)
					Janneke Nijenhuis	Projectleider grondzaken (gemeente)
					Robin Siebel	Projectleider uitvoering (gemeente)
					Arie van der Zaan	Projectmanager uitvoering (Dimensis)
					Gerard van Arum	Projectleider woningcorporatie Eigen Haard
					Jeroen Attenveld	Architect Heren 5
#OH21	Overhoeks	14-12-2015	Ontwerpteam overleg Overhoeks		Toine van Goethem	Stedenbouwkundige (gemeente)
					André Salvador	Stagiair stedenbouw
					Pascal van der Velde	Projectmanager Overhoeks
					Sjaak Conijn	Projectadviseur beheer openbare ruimte (gemeente)
					Jan-Pieter Klaver	Ontwerper Verkeer & Openbare Ruimte (gemeente)
					Pieter van Zwet	Planeconoom (gemeente)
					Nard Koppen	Planeconoom (gemeente)
#OH22	Overhoeks	14-12-2015	Kernteam overleg Overhoeks		Thijs Koolmees	Omgevingsmanager (gemeente)
					Nard Koppen	Planeconoom (gemeente)
					Hanny van der Meijs	Projectmanager Overhoeks (gemeente)
					Annegien	Projectmanager Overhoeks (gemeente)
					Evelien van Wolferen	Projectleider uitvoering (gemeente)
					Matthijs Muijsers	Projectleider grondzaken (gemeente)
					Kris Steen	Stagiair Overhoeks/Buiksloterham (gemeente)
					Ed Koelé	Projectleider grondzaken (gemeente)

A III.4.2. DATA + CODES ANALYSIS - DEVELOPMENT DELIBERATIONS - INTERVENTION

PROPOSED INTERVENTION	Intervention_ID	Proposer intervention	Supporter intervention	Opposer intervention	URBAN AREA DEVELOPMENT	UAD_Project	DEVELOPMENT SITUATION	Developer_proj_interv	LAND SITUATION	landsituation_proj_interv	PHASE	Phase_proj_interv	Interest ID	INTEREST	Interest Category	ACTOR	PRO / CONTRA	Defender interest	SCALE	Scale_interest	Sustainability Interest	SUSTAINABLE INTERVENTION?	Sustainability_interv	OUTCOME	Implement_intervention
Bedrijfsloods voor opslag weghalen uit BSH (naar ander bedrijventerrein)	1	1	5	3	Confidential	2	Private developer	1	Private land	3	Very early design phase (building)	2	1	comfort gebouw voor functie	7	Ontwikkelaar	PRO	1	Eindgebruiker (ontwikkelaar)	8	1	Sustainable	Not decided during research	3	
Bedrijfsloods voor opslag weghalen uit BSH (naar ander bedrijventerrein)	1	1	5	3	Confidential	2	Private developer	1	Private land	3	Very early design phase (building)	2	2	Functionaliteit gebouw voor functie	9	Ontwikkelaar	PRO	1	Eindgebruiker (ontwikkelaar)	8	1	Sustainable	Not decided during research	3	
Bedrijfsloods voor opslag weghalen uit BSH (naar ander bedrijventerrein)	1	1	5	3	Confidential	2	Private developer	1	Private land	3	Very early design phase (building)	2	3	Functionaliteit openbare ruimte voor eindgebruiker	9	Ontwikkelaar, gemeente	PRO	3	Eindgebruiker (openbare ruimte)	6	1	Sustainable	Not decided during research	3	
Bedrijfsloods voor opslag weghalen uit BSH (naar ander bedrijventerrein)	1	1	5	3	Confidential	2	Private developer	1	Private land	3	Very early design phase (building)	2	4	comfort openbare ruimte voor eindgebruiker	7	Ontwikkelaar, gemeente	PRO	3	Eindgebruiker (openbare ruimte)	6	1	Sustainable	Not decided during research	3	

Beperkt aantal bezoekersparkeerplaatsen in openbare ruimte	2	2	2	1	Confidential	2	Municipality	2	Municipal land	1	Design phase (public space)	2	5	Veiligheid inrichting openbare ruimte	10	Ge-meente	PRO	2	Hele gebied	5	1	Sus-tainable	1	Imple-mented	1
Beperkt aantal bezoekersparkeerplaatsen in openbare ruimte	2	2	2	1	Confidential	2	Municipality	2	Municipal land	1	Design phase (public space)	2	6	Uitgangspunt is transformatie -resource efficiency	20	Ge-meente	PRO	2	Hele gebied	5	1	Sus-tainable	1	Imple-mented	1
Beperkt aantal bezoekersparkeerplaatsen in openbare ruimte	2	2	2	1	Confidential	2	Municipality	2	Municipal land	1	Design phase (public space)	2	7	Uitgangspunt is transformatie - environmental friendliness	21	Ge-meente	PRO	2	Hele gebied	5	1	Sus-tainable	1	Imple-mented	1
Beperkt aantal bezoekersparkeerplaatsen in openbare ruimte	2	2	2	1	Confidential	2	Municipality	2	Municipal land	1	Design phase (public space)	2	8	Veiligheid inrichting openbare ruimte	10	Ge-meente	PRO	2	Hele gebied	5	1	Sus-tainable	1	Imple-mented	1
Bergingen oplossen in plint	3	1	2	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	9	Aantrekkelijkheid openbare ruimte	8	Ge-meente	CON-TRA	2	Openbare ruimte algemeen	6	1	Not sus-tainable	1	Imple-mented	1
Bergingen oplossen in plint	3	1	2	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	10	Functionaliteit / comfort gebouw voor eindgebruiker	9	Ontwik-kelaar	PRO	1	Eindgebruiker (eigen gebouw)	8	1	Not sus-tainable	1	Imple-mented	1
Bergingen toevoegen op kop bouwblok	4	1	2	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	11	Esthetische kwaliteit stedelijke omgeving	4	Ge-meente	CON-TRA	2	Stedelijke omgeving algemeen	6	1	Not sus-tainable	2	Not imple-mented	2
Bergingen toevoegen op kop bouwblok	4	1	2	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	12	comfort gebouw voor eindgebruiker	7	Ontwik-kelaar	PRO	1	Eindgebruiker (eigen gebouw)	8	1	Not sus-tainable	2	Not imple-mented	2
Bergingen toevoegen op kop bouwblok	4	1	2	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	13	Functionaliteit gebouw voor eindgebruiker	9	Ontwik-kelaar	PRO	1	Eindgebruiker (eigen gebouw)	8	1	Not sus-tainable	2	Not imple-mented	2

Bergingen verkleinen en fietsen stallen in openbare ruimte	5	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (Building + public space)	2	14	Aantrekkelijkheid openbare ruimte	8	Ge-meente	CON-TRA	2	Openbare ruimte algemeen	6	1	Not sustainable	2	Not decided during research	3
Bergingen verkleinen en fietsen stallen in openbare ruimte	5	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (Building + public space)	2	15	Winst (meer woonoppervlak)	14	Ontwik-kelaar	PRO	1	Ontwik-kelaar	1	2	Not sustainable	2	Not decided during research	3
Bezoekersparkeren oplossen op eigen terrein	6	2	2	1	Confidential	2	Municipality	2	Municipal land	1	Design phase (plot)	2	16	Kosten voor gebruik voor de ontwikkelaar	13	Ge-meente	PRO	2	Hele gebied	5	2	Sustainable	1	Implemented	1
Bezoekersparkeren oplossen op eigen terrein	6	2	2	1	Confidential	2	Municipality	2	Municipal land	1	Design phase (plot)	2	17	Kosten	13	Ontwik-kelaar	CON-TRA	1	Ontwik-kelaar	1	2	Sustainable	1	Implemented	1
Bouwblokken verwijderen en verwijderen van zichtlijnen en doorwaadbaarheid stedenbouw	7	2	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Plan development phase	1	18	Stedenbouwkundige kwaliteit XX	1	Ge-meente	PRO	2	Hele gebied	5	1	Sustainable	1	Implemented	1
Bouwblokken verwijderen en verwijderen van zichtlijnen en doorwaadbaarheid stedenbouw	7	2	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Plan development phase	1	19	Marktaandeel, inkomsten	12	Ontwik-kelaar	CON-TRA	1	Ontwik-kelaar	1	2	Sustainable	1	Implemented	1
Fietsenbergingen opgelost op eigen terrein	8	2	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	20	Ruimtelijke kwaliteit openbare ruimte	2	Ge-meente	PRO	2	Openbare ruimte	6	1	Sustainable	1	Not decided yet	3
Fietsenbergingen opgelost op eigen terrein	8	2	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	21	esthetische kwaliteit openbare ruimte	4	Ge-meente	PRO	2	Openbare ruimte	6	1	Sustainable	1	Not decided yet	3
Fietsenbergingen opgelost op eigen terrein	8	2	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	22	functionaliteit bebouwing (bouwbesluit)	9	Ge-meente	PRO	2	Bebouwing	5	1	Sustainable	1	Not decided yet	3

Fietsenbergingen opgelost op eigen terrein	8	2	1	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	23	Veiligheid bebouwing (bouwbesluit)	10	Ge-meente	PRO	2	Bebouwing	5	1	Sustainable	1	Not decided yet	3
Fietsenbergingen opgelost op eigen terrein	8	2	1	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	24	Kosten	13	Ontwik-kelaar	CON-TRA	1	Eigen ontwikkeling	8	2	Sustainable	1	Not decided yet	3
Gasaansluiting	9	1	2	1	2	Confidential	2	Tender	3	Leasehold	2	Execution phase	3	25	Duurzaamheid energievoorziening	21	Ge-meente	CON-TRA	2	Hele gebied	5	1	Not sustainable	2	(Not decided during research)	3
Gasaansluiting	9	1	2	1	2	Confidential	2	Tender	3	Leasehold	2	Execution phase	3	26	Kosten	13	Ontwik-kelaar	PRO	1	Ontwik-kelaar	1	2	Not sustainable	2	(Not decided during research)	3
Gasaansluiting aanleggen	10	1	2	1	2	Confidential	2	CPC	4	Leasehold	2	Execution phase	3	27	Duurzaamheid energievoorziening	21	Ge-meente	CON-TRA	2	Hele gebied	5	1	Not sustainable	2	(Not decided during research)	3
Gasaansluiting aanleggen	10	1	2	1	2	Confidential	2	CPC	4	Leasehold	2	Very late execution phase	3	28	Kosten	13	Ontwik-kelaar	PRO	1	Ontwik-kelaar	1	2	Not sustainable	2	(Not decided during research)	3
Glas en stalen sponningen vervangen door normaal dak	11	1	3	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	29	Gemak beheer	22	Ontwik-kelaar	PRO	1	Ontwik-kelaar	1	2	Not sustainable	2	Implemented	1
Glasvezelinstallatie uitpandig oplossen	12	1	2	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	30	Ruimtelijke kwaliteit openbare ruimte	2	Ge-meente	CON-TRA	2	Openbare ruimte algemeen	6	1	Not sustainable	2	Not implemented	2
Glasvezelinstallatie uitpandig oplossen	12	1	2	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	31	esthetische kwaliteit openbare ruimte	4	Ge-meente	CON-TRA	2	Openbare ruimte algemeen	6	1	Not sustainable	2	Not implemented	2
Glasvezelinstallatie uitpandig oplossen	12	1	2	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	32	comfort gebouw voor eindgebruiker	7	Ontwik-kelaar	PRO	1	Eindgebruiker (eigen gebouw)	8	1	Not sustainable	2	Not implemented	2
Glasvezelinstallatie uitpandig oplossen	12	1	2	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	33	Functionaliteit gebouw voor eindgebruiker	9	Ontwik-kelaar	PRO	1	Eindgebruiker (eigen gebouw)	8	1	Not sustainable	2	Not implemented	2

Granietstroken rondom gebouw	13	2	1	2	1	2	2	34	4	Ge-meente	PRO	2	Open-bare ruimte en stedelijke omgeving	6	1	Sus-tainable	1	Partially imple-mented (Only in non-vari-able spots)	1
Granietstroken rondom gebouw	13	2	1	2	1	2	35	13	Ge-meente	PRO	2	Alle partijen	4	2	Sus-tainable	1	Partially imple-mented (Only in non-vari-able spots)	1	
Haaks parkeren (in plaats van lang-sparkeren)	14	2	3	1	2	2	36	2	Ge-meente	PRO	2	Open-bare ruimte	6	1	Sus-tainable	1	Imple-mented	1	
Haaks parkeren (in plaats van lang-sparkeren)	14	2	3	1	2	2	37	4	Ge-meente	PRO	2	Open-bare ruimte	6	1	Sus-tainable	1	Imple-mented	1	
Haaks parkeren (in plaats van lang-sparkeren)	14	2	3	1	2	2	38	24	Ge-meente	CON-TRA	2	Gebied	2	2	Sus-tainable	1	Imple-mented	1	
Higher degree of function mix	15	1	3	3	1	3	39	8	Ontwik-kelaar	PRO	1	Subge-bied	7	1	Sus-tainable	1	Not decided during research	3	
Higher degree of function mix	15	1	3	3	1	3	40	8	Ontwik-kelaar / ge-meente	PRO	3	Subge-bied	7	1	Sus-tainable	1	Not decided during research	3	
Higher degree of function mix	15	1	3	3	1	3	41	8	Ontwik-kelaar	PRO	1	Subge-bied	7	1	Sus-tainable	1	Not decided during research	3	
Higher density	16	1	3	3	1	3	42	9	Ontwik-kelaar	PRO	1	Ontwik-kelaar	1	1	Sus-tainable	1	Not decided during research	3	
Higher density	16	1	3	3	1	3	43	9	Ge-meente	NEU-TRAL	2	Hele gebied	5	1	Sus-tainable	1	Not decided during research	3	

Higher density	16	1	5	3	Confidential	2	Private developer	1	private land	3	Plan development phase	1	44	Intensiteit landgebruik	19	Ontwikkelaar / gemeente	PRO	3	Subgebied	7	1	Sustainable	1	Not decided during research	3
Higher density	16	1	5	3	Confidential	2	Private developer	1	private land	3	Plan development phase	1	45	Marktwaarde eigen ontwikkeling	12	Ontwikkelaar	PRO	1	Ontwikkelaar	1	2	Sustainable	1	Not decided during research	3
Implementatie circulaire sanitatie + biovergistingsinstallatie	17	2	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Execution phase	3	46	Duurzaamheid en circulariteit sanitatie en basisinstallaties	21	Gemeente, ontwikkelaar	PRO	3	Hele gebied	5	1	Sustainable	1	Not decided yet	3
Implementatie circulaire sanitatie + biovergistingsinstallatie	17	2	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Execution phase	3	47	Kosten (wil niet hele investering)	13	Ontwikkelaar	CONTRA	1	Ontwikkelaar	1	2	Sustainable	1	Not decided yet	3
Implementatie circulaire sanitatie + biovergistingsinstallatie	17	2	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Execution phase	3	48	Kosten (wil wel subsidie en terugvloei naar eindgebruikers, maar niet investering)	13	Gemeente	CONTRA	2	Gemeente	2	2	Sustainable	1	Not decided yet	3
Implementatie veel en brede granieten (zib)randen in openbare ruimte	18	2	1	2	Confidential	1	Municipality	2	Municipal land	1	Design phase (VO)	2	49	Robuustheid materiaal	25	Gemeente	PRO	2	Subgebied	6	1	Sustainable	1	Partially implemented (width reduced)	1
Implementatie veel en brede granieten (zib)randen in openbare ruimte	18	2	1	2	Confidential	1	Municipality	2	Municipal land	1	Design phase (VO)	2	50	verblijfs-kwaliteit openbaar park	3	Gemeente	PRO	2	Subgebied	7	1	Sustainable	1	Partially implemented (width reduced)	1
Implementatie veel en brede granieten (zib)randen in openbare ruimte	18	2	1	2	Confidential	1	Municipality	2	Municipal land	1	Design phase (VO)	2	51	Esthetische openbaar park	4	Gemeente	PRO	2	Subgebied	7	1	Sustainable	1	Partially implemented (width reduced)	1
Implementatie veel en brede granieten (zib)randen in openbare ruimte	18	2	1	2	Confidential	1	Municipality	2	Municipal land	1	Design phase (VO)	2	52	Kosten	13	Gemeente	CONTRA	2	Gemeente	2	2	Sustainable	1	Partially implemented (width reduced)	1
Loods loskoppelen van Toren	19	1	1	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	53	Aantrekkelijkheid openbare ruimte rondom gebouw	8	Ontwikkelaar	PRO	1	Openbare ruimte rondom gebouw	6	1	Sustainable	1	Implemented	1

Loods loskoppelen van Toren	19	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	54	Esthetische kwaliteit gebouw extern	4	Ontwikkelaar	PRO	1	Eigen gebouw (extern)	8	1	Sustainable	1	Implemented	1
Loods loskoppelen van Toren	19	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	55	Ruimtelijke kwaliteit gebouw	2	Ontwikkelaar	PRO	1	Eigen gebouw (intern)	8	1	Sustainable	1	Implemented	1
Loods loskoppelen van Toren	19	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	56	Ruimtelijke kwaliteit openbare ruimte rondom gebouw	2	Ontwikkelaar	PRO	1	Openbare ruimte rondom gebouw	6	1	Sustainable	1	Implemented	1
Loods loskoppelen van Toren	19	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	57	Opbrengst (deel) gebouw in marktwaarde	12	Ontwikkelaar	PRO	1	Eigen gebouw	8	2	Sustainable	1	Implemented	1
Meer investeren in duurzame maatregelen op gebiedsniveau	20	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Plan development phase	1	58	Duurzaamheid hele gebied -> synergie en cohesie	20	Ontwikkelaar	PRO	1	Hele gebied	5	1	Sustainable	1	Not decided during research	3
Meer investeren in duurzame maatregelen op gebiedsniveau	20	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Plan development phase	1	59	Kosten voor gemeente	13	Ontwikkelaar	PRO	1	Ontwikkelaar	1	2	Sustainable	1	Not decided during research	3
Meer investeren in duurzame maatregelen op gebiedsniveau	20	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Plan development phase	1	60	Kosten	13	Ge-meente	CON-TRA	2	Gemeente	2	2	Sustainable	1	Not decided during research	3
Minder parkeerplaatsen	21	2	2	1	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	61	Leegstand vermijden	16	Ge-meente	PRO	2	Gebied	3	1	Sustainable	1	Not implemented	2
Minder parkeerplaatsen	21	2	2	1	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	62	Ruimte-inname voor fiets in ontwerp, focus ontwikkelaar ligt op optimalisatie voor auto's	17	Ontwikkelaar	CON-TRA	1	Eigen ontwikkeling	8	2	Sustainable	1	Not implemented	2

Minder parkeerplaatsen	21	2	2	1	1	1	1	2	63	Desorientatie van auto	26	Ge-meente	PRO	2	Gebied	3	1	Sus-tainable	1	Not imple-mented	2
Minder parkeerplaatsen	21	2	2	1	1	1	2	64	64	Kosten	13	Ontwik-kelaar	CON-TRA	2	Ontwik-kelaar	1	2	Sus-tainable	1	Not imple-mented	2
Natuurlijke ventilatie parkeergarage via openingen in gevel	22	1	5	3	2	1	2	65	65	Resource effi-ciency	20	Ontwik-kelaar	PRO	2	Ontwik-kelaar	1	1	Sus-tainable	1	Imple-mented	1
Natuurlijke ventilatie parkeergarage via openingen in gevel	22	1	5	3	2	1	2	66	66	comfort openbare ruimte rondom gebouw voor eindge-bruiker	7	Ontwik-kelaar, ge-meente	PRO	2	Eindge-bruiker (eigen geb-ouw + openbare ruimte)	6	1	Sus-tainable	1	Imple-mented	1
Natuurlijke ventilatie parkeergarage via openingen in gevel	22	1	5	3	2	1	2	67	67	Functionaliteit openbare ruimte rondom gebouw voor eindge-bruiker	9	Ontwik-kelaar, ge-meente	PRO	2	Eindge-bruiker (eigen geb-ouw + openbare ruimte)	6	1	Sus-tainable	1	Imple-mented	1
Natuurlijke ventilatie parkeergarage via openingen in gevel	22	1	5	3	2	1	2	68	68	Kosten	13	Ontwik-kelaar	PRO	2	Ontwik-kelaar	1	2	Sus-tainable	1	Imple-mented	1
Niet meer ver-plichten tot sociale woningbouw op particuliere kavels (in plaats daarvan: gemeentekavels en grote woningbouw-projecten)	23	2	2	3	2	1	3	69	69	Levensvat-baarheid functie (werkt niet, te kleine hoeveelheden om te beheren, geen enkele corporatie wil afnemen)	11	Ge-meente, ontwik-kelaar	PRO	1	Maatsch-appij	3	1	Sus-tainable	1	Imple-mented	1
Onder parkeernorm gaan zitten	24	1	5	3	2	1	2	70	70	Afbouw autoge-bruik	26	Ge-meente	PRO	2	Hele gebied	5	1	Sus-tainable	1	Not decided yet	3
Onder parkeernorm gaan zitten	24	1	5	3	2	1	2	71	71	Winst (meer woningen ontwikkelen, niet meer parkeerplaatsen ontwikkelen)	14	Ontwik-kelaar	PRO	2	Ontwik-kelaar	1	2	Sus-tainable	1	Not decided yet	3

Opener klein winkelje in ka- vel-ontwikkeling	25	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase	2	72	Levendigheid ontwikkeling	8	Ontwik- kelaar, Ge- meente	PRO	3	Subge- bied	7	1	Sus- tainable	1	Not decided yet	3
Opener klein winkelje in ka- vel-ontwikkeling	25	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase	2	73	functionaliteit ontwikkeling	9	Ontwik- kelaar, Ge- meente	PRO	3	Subge- bied	7	1	Sus- tainable	1	Not decided yet	3
School als groter en gecombineerd gebouw	26	2	2	1	Confidential	1	Housing corporation	1	Leasehold	2	Plan development phase	2	74	Snelheid ontwikkeling	15	Ontwik- kelaar	CON-TRA	1	Subge- bied	5	1	Sus- tainable	1	Not implemented	2
School als groter en gecombineerd gebouw	26	2	2	1	Confidential	1	Housing corporation	1	Leasehold	2	Plan development phase	2	75	Hogere dichtheid	19	Ge- meente	PRO	2	Subge- bied	7	1	Sus- tainable	1	Not implemented	2
School als groter en gecombineerd gebouw	26	2	2	1	Confidential	1	Housing corporation	1	Leasehold	2	Plan development phase	2	76	Functionaliteit gebouw	9	Ge- meente	PRO	2	Gebouw	8	1	Sus- tainable	1	Not implemented	2
School als groter en gecombineerd gebouw	26	2	2	1	Confidential	1	Housing corporation	1	Leasehold	2	Plan development phase	2	77	Funcitemenging	5	Ge- meente	PRO	2	Subge- bied	7	1	Sus- tainable	1	Not implemented	2
School als groter en gecombineerd gebouw	26	2	2	1	Confidential	1	Housing corporation	1	Leasehold	2	Plan development phase	2	78	Kosten	13	Ontwik- kelaar	CON-TRA	1	Ontwik- kelaar	1	2	Sus- tainable	1	Not implemented	2
Verloren bezoeker- spaarplaatsen compenseren onder de grond	27	2	5	3	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	79	Garantie bezoekersparkeerplaatsen	17	Ge- meente	PRO	2	Gebied	5	2	Sus- tainable	1	Not implemented	2
Verloren bezoeker- spaarplaatsen compenseren onder de grond	27	2	5	3	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	80	verblijfskwaliteit (omgeving) gebouw	3	Ontwik- kelaar	PRO	1	Eigen ontwikkeling	8	1	Sus- tainable	1	Not implemented	2
Verloren bezoeker- spaarplaatsen compenseren onder de grond	27	2	5	3	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	81	Aantrekkelijkheid (omgeving) gebouw	8	Ontwik- kelaar	PRO	1	Eigen ontwikkeling	8	1	Sus- tainable	1	Not implemented	2

27	2	5	3	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	82	Aantrekkelijkheid gebied	8	Ge-meente	PRO	2	Gebied	3	1	Sus-tainable	1	Not Implemented	2
Verloren bezoeker-sparkeerplaatsen compenseren onder de grond																								
28	2	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (VO)	2	83	Aantrekkelijkheid openbare ruimte	8	Ge-meente, ontwikkelaar	PRO	3	Eindgebruiker (openbare ruimte)	6	1	Sus-tainable	1	Implemented	1
Vervallen 10 parkeerplaatsen voor bezoekers voor meer kwaliteit openbare ruimte als verblijfsruimte.																								
29	3	3	2	Confidential	1	Municipality	2	Leasehold	2	Operation phase	4	84	Kosten	13	Ge-meente	CONTRA	2	Gemeente	2	2	Sus-tainable	1	Implemented	1
Vervangen Bricano-materialisatie expeditiestrook EYE-plein door asfalt																								
29	3	3	2	Confidential	1	Municipality	2	Leasehold	2	Operation phase	4	85	materiaal efficiëntie	20	Ge-meente	CONTRA	2	Gemeente	2	1	Sus-tainable	1	Implemented	1
Vervangen Bricano-materialisatie expeditiestrook EYE-plein door asfalt																								
29	3	3	2	Confidential	1	Municipality	2	Leasehold	2	Operation phase	4	86	Comfort omwonenden (geluidsoverlast)	7	Om-wonen-den	PRO	1	Eindgebruiker gebied	7	1	Sus-tainable	1	Implemented	1
Vervangen Bricano-materialisatie expeditiestrook EYE-plein door asfalt																								
29	3	3	2	Confidential	1	Municipality	2	Leasehold	2	Operation phase	4	87	Esthetische kwaliteit openbare ruimte	4	Ge-meente	CONTRA	2	Openbare ruimte	6	1	Sus-tainable	1	Implemented	1
Vervangen Bricano-materialisatie expeditiestrook EYE-plein door asfalt																								
30	1	1	2	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	88	Vertraging ontwikkelproces gebied (erg laat voor implementatie)	15	Ge-meente	CONTRA	2	Subgebied	5	1	Sus-tainable	1	Not Implemented	2
Vervanging tweerichtingsverkeer laan door autoluw 'woonerf' met betere verbinding gebouwen-park																								
30	1	1	2	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	89	verblijfskwaliteit (omgeving) gebouw	3	Ontwik-kelaar	PRO	1	Eigen ontwikkeling	8	1	Sus-tainable	1	Not Implemented	2
Vervanging tweerichtingsverkeer laan door autoluw 'woonerf' met betere verbinding gebouwen-park																								
30	1	1	2	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	90	Aantrekkelijkheid (omgeving) gebouw	8	Ontwik-kelaar	PRO	1	Eigen ontwikkeling	8	1	Sus-tainable	1	Not Implemented	2
Vervanging tweerichtingsverkeer laan door autoluw 'woonerf' met betere verbinding gebouwen-park																								

Vervanging tweerichtingsverkeer laan door autoluw 'woonerf' met betere verbinding gebouwen-park	30	1	1	2	1	1	1	1	2	91	Gemak verkeerssituatie auto en bus	17	Ge-meente	CON-TRA	2	Gebied	5	2	Sus-tainable	1	Not Imple-mented	2
Vervanging tweerichtingsverkeer laan door autoluw 'woonerf' met betere verbinding gebouwen-park	30	1	1	2	1	1	1	2	92	Aantrekkelijkheid gebied	8	Ge-meente	PRO	2	Gebied	3	1	3	Sus-tainable	1	Not Imple-mented	2
Vervuilde grond neerleggen op bepaalde plaatsen	31	1	5	2	2	1	1	2	93	Vervuiling	21	Ge-meente	CON-TRA	2	Gebied	3	1	3	Not sus-tainable	2	Not Imple-mented	2
Vervuilde grond neerleggen op bepaalde plaatsen	31	1	5	2	2	1	1	2	94	Eenvoud bouwproces	24	Ontwik-kelaar	PRO	1	Ontwik-kelaar	1	2	1	Not sus-tainable	2	Not Imple-mented	2
Wijzigen fietsenstalling voor meer gebruikerscomfort en aantrekkelijkheid	32	2	2	1	1	1	1	2	95	Comfort voor de eindgebruiker	7	Ge-meente	PRO	2	Eindge-bruiker	7	1	7	Sus-tainable	1	Imple-mented	1
Wijzigen fietsenstalling voor meer gebruikerscomfort en aantrekkelijkheid	32	2	2	1	1	1	1	2	96	Stimulatie voor fietsen	18	Ge-meente	PRO	2	Eindge-bruiker	7	1	7	Sus-tainable	1	Imple-mented	2
Wijzigen fietsenstalling voor meer gebruikerscomfort en aantrekkelijkheid	32	2	2	1	1	1	1	2	97	Aantrekkelijkheid voor de eindgebruiker	8	Ge-meente	PRO	2	Eindge-bruiker	7	1	7	Sus-tainable	1	Imple-mented	1
Wijzigen fietsenstalling voor meer gebruikerscomfort en aantrekkelijkheid	32	2	2	1	1	1	1	2	98	Ruimtelijke kwaliteit openbare ruimte (als fietsenstalling niet goed, fietsen op de stoep)	2	Ge-meente	PRO	2	Open-bare ruimte	6	1	6	Sus-tainable	1	Imple-mented	1
Wijzigen fietsenstalling voor meer gebruikerscomfort en aantrekkelijkheid	32	2	2	1	1	1	1	2	99	esthetische kwaliteit openbare ruimte (als fietsenstalling niet goed, fietsen op de stoep)	4	Ge-meente	PRO	2	Open-bare ruimte	6	1	6	Sus-tainable	1	Imple-mented	1

A III.4.2. DATA + CODES ANALYSIS DEVELOPMENT DELIBERATIONS - SUSTAINABILITY COMPONENTS

Intervention_ID	Proposer_intervention	Supporter_intervention	Opposer_intervention	URBAN AREA DEVELOPMENT PROJECT	UAD_Project	DEVELOPMENT SITUATION	Developer_proj_interv	LAND SITUATION	landsituation_proj_interv	PHASE	Phase_proj_interv	INFLUENCED SUSTAINABILITY COMPONENT	Sustcomponent_ID	Category_sustcomponent	EFFECT ON SUSTAINABILITY	Affectation_sustcomopnent	SUSTAINABLE INTERVENTION?	Sustainability_interv	OUTCOME	Implement_intervention
1	1	5	3	Confidential	2	Private developer	1	Private land	3	Very early design phase (building)	2	Compatibility of functions	1	5	Positive	1	Sustainable	1	Not decided during research	3
1	1	5	3	Confidential	2	Private developer	1	Private land	3	Very early design phase (building)	2	Comfort & user quality public space	2	7	Positive	1	Sustainable	1	Not decided during research	3
1	1	5	3	Confidential	2	Private developer	1	Private land	3	Very early design phase (building)	2	Attractiveness of area	3	1	Positive	1	Sustainable	1	Not decided during research	3
2	2	2	1	Confidential	2	Municipality	2	Municipal land	1	Design phase (public space)	2	Safety of traffic situation	4	13	Positive	1	Sustainable	1	Implemented	1
2	2	2	1	Confidential	2	Municipality	2	Municipal land	1	Design phase (public space)	2	Ressource efficiency	5	14	Positive	1	Sustainable	1	Implemented	1
2	2	2	1	Confidential	2	Municipality	2	Municipal land	1	Design phase (public space)	2	Degree of pedestrian orientation	6	8	Positive	1	Sustainable	1	Implemented	1
3	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	Visual Attractiveness real estate adjacent public space	7	1	Negative	2	Not sustainable	2	Implemented	1
3	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	Interaction of buildings with the public space	8	3	Negative	2	Not sustainable	2	Implemented	1
3	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	Fitness of real estate to support function	9	3	Positive	1	Not sustainable	2	Implemented	1

4	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	Visual Attractiveness real estate adjacent public space	10	1	Negative	2	Not sustainable	2	Not implemented	2
5	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (Building + public space)	2	Visual attractiveness of public space	11	1	Negative	2	Not sustainable	2	Not decided during research	3
5	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (Building + public space)	2	Fitness of real estate to support function	12	3	Negative	2	Not sustainable	2	Not decided during research	3
6	2	2	1	Confidential	2	Municipality	2	Municipal land	1	Design phase (plot)	2	Degree of car orientation	13	8	Positive	1	Sustainable	1	Implemented	1
7	2	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Plan development phase	1	Permeability	14	13	Positive	1	Sustainable	1	Implemented	1
7	2	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Plan development phase	1	Attractiveness & distinctiveness of area	15	1	Positive	1	Sustainable	1	Implemented	1
8	2	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	Visual attractiveness public space	16	1	Positive	1	Sustainable	1	Not decided yet	3
8	2	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	Fitness of real estate to support function	17	3	Positive	1	Sustainable	1	Not decided yet	3
9	1	1	2	Confidential	2	Tender	3	Leasehold	2	Execution phase	3	Fossil fuel consumption	18	10	Negative	2	Not sustainable	2	(Not decided during research)	3
10	1	1	2	Confidential	2	CPC	4	Leasehold	2	Execution phase	3	Fossil fuel consumption	19	10	Negative	2	Not sustainable	2	(Not decided during research)	3
11	1	1	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	Internal attractiveness real estate	20	3	Negative	2	Not sustainable	2	Implemented	1
12	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	Visual attractiveness public space	21	1	Negative	2	Not sustainable	2	Not implemented	2
13	2	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (urban)	2	Visual attractiveness public space	22	1	Positive	1	Sustainable	1	Partially implemented (Only in non-variable spots)	1
13	2	2	1	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (urban)	2	Robustness of material (high sustainability & low maintenance)	23	14	Positive	1	Sustainable	1	Partially implemented (Only in non-variable spots)	1
14	2	5	3	Confidential	1	Municipality	2	Municipal land	1	Design phase (public space)	2	Attractiveness of area	24	1	Positive	1	Sustainable	1	Implemented	1

15	1	5	3	Confidential	2	Private developer	1	private land	3	Plan development phase	1	Interweaving of functions	25	11	Positive	1	Sustainable	1	Not decided during research	3
15	1	5	3	Confidential	2	Private developer	1	private land	3	Plan development phase	1	Attractiveness & distinctiveness of area (through liveliness public space)	26	1	Positive	1	Sustainable	1	Not decided during research	3
16	1	5	3	Confidential	2	Private developer	1	private land	3	Plan development phase	1	User viability of functions (own plot)	27	6	Positive	1	Sustainable	1	Not decided during research	3
16	1	5	3	Confidential	2	Private developer	1	private land	3	Plan development phase	1	User viability of functions (BSH as a whole)	28	6	Unknown	3	Sustainable	1	Not decided during research	3
16	1	5	3	Confidential	2	Private developer	1	private land	3	Plan development phase	1	Resource efficiency	29	14	Positive	1	Sustainable	1	Not decided during research	3
17	2	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Execution phase	3	Resource efficiency	30	14	Positive	1	Sustainable	1	Not decided yet	3
17	2	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Execution phase	3	Fossil fuel consumption	31	10	Positive	1	Sustainable	1	Not decided yet	3
18	2	1	2	Confidential	1	Municipality	2	Municipal land	1	Design phase (VO)	2	Robustness of material (high sustainability & low maintenance)	32	14	Positive	1	Sustainable	1	Partially implemented (width reduced)	1
18	2	1	2	Confidential	1	Municipality	2	Municipal land	1	Design phase (VO)	2	Attractiveness & distinctiveness of area	33	1	Positive	1	Sustainable	1	Partially implemented (width reduced)	1
19	1	1	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	Visual attractiveness of public space	34	1	Unsure	3	Sustainable	1	Implemented	1
19	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	Visual attractiveness real estate adjacent public space	35	1	Positive	1	Sustainable	1	Implemented	1
19	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	Fitness of real estate to support function	36	3	Unsure	3	Sustainable	1	Implemented	1
19	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building + urban)	2	Amount of public space	37	1	Positive	1	Sustainable	1	Implemented	1
20	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Plan development phase	1	Resource efficiency	38	14	Positive	1	Sustainable	1	Not decided during research	3
20	1	1	2	Confidential	2	Housing corporation	1	Leasehold	2	Plan development phase	1	Implementation sustainable area-interventions	39	10	Positive	1	Sustainable	1	Not decided during research	3
21	2	2	1	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	Market conformity	40	12	Positive	1	Sustainable	1	Not implemented	2
21	2	2	1	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	Degree of car orientation	41	8	Positive	1	Sustainable	1	Not implemented	2

22	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	Resource efficiency	42	14	Positive	1	Sustainable	1	Implemented	1
22	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	Comfort of real estate for function	43	7	Positive	1	Sustainable	1	Implemented	1
22	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (building)	2	Amount of nuisance public space	44	4	Positive	1	Sustainable	1	Implemented	1
23	2	2	3	Confidential	2	Private developer	1	All	3	Plan development phase	1	Market conformity, vacancy	45	12	Positive	1	Sustainable	1	Implemented	1
24	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase	2	Degree of car orientation	46	8	Positive	1	Sustainable	1	Not decided yet	3
25	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase	2	Interweaving of functions	47	11	Positive	1	Sustainable	1	Not decided yet	3
25	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase	2	Coverage & diversity of functions in relation to required activities, services and products by the end-user	48	7	Positive	1	Sustainable	1	Not decided yet	3
25	1	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase	2	Attractiveness of functions	49	2	Positive	1	Sustainable	1	Not decided yet	3
26	2	2	1	Confidential	1	Housing corporation	1	Leasehold	2	Plan development phase	1	Speed development	50	9	Negative	2	Sustainable	1	Not implemented	2
26	2	2	1	Confidential	1	Housing corporation	1	Leasehold	2	Plan development phase	1	Resource efficiency	51	14	Positive	1	Sustainable	1	Not implemented	2
26	2	2	1	Confidential	1	Housing corporation	1	Leasehold	2	Plan development phase	1	Fitness and attractiveness of real estate to support function	52	3	Positive	1	Sustainable	1	Not implemented	2
26	2	2	1	Confidential	1	Housing corporation	1	Leasehold	2	Plan development phase	1	Attractiveness & distinctiveness of area (through liveliness public space)	53	1	Positive	1	Sustainable	1	Not implemented	2
27	2	5	3	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	Degree of car orientation	54	8	Negative	2	Sustainable	1	Not Implemented	2
27	2	5	3	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	Attractiveness & distinctiveness of real estate	55	1	Positive	1	Sustainable	1	Not Implemented	2
28	2	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (VO)	2	Degree of car orientation	56	8	Positive	1	Sustainable	1	Implemented	1
28	2	5	3	Confidential	2	Housing corporation	1	Leasehold	2	Design phase (VO)	2	Attractiveness of area	57	1	Positive	1	Sustainable	1	Implemented	1
29	3	3	2	Confidential	1	Municipality	2	Leasehold	2	Operation phase	4	Resource efficiency	58	14	Negative	2	Sustainable	1	Implemented	1

29	3	3	2	Confidential	1	Municipality	2	Leasehold	2	Operation phase	4	Comfort & user quality	59	7	Positive	1	Sustainable	1	Implemented	1
29	3	3	2	Confidential	1	Municipality	2	Leasehold	2	Operation phase	4	Attractiveness of area	60	1	Negative	2	Sustainable	1	Implemented	1
30	1	1	2	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	Duration development process	61	9	Negative	2	Sustainable	1	Not Implemented	2
30	1	1	2	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	Degree of car orientation	62	8	Positive	1	Sustainable	1	Not Implemented	2
30	1	1	2	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	Attractiveness & distinctiveness of real estate	63	1	Positive	1	Sustainable	1	Not Implemented	2
31	1	5	2	Confidential	2	Housing corporation	1	Leasehold	2	Execution phase	3	Pollution	64	10	Negative	2	Not sustainable	2	Not implemented	2
32	2	2	1	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	Fitness and attractiveness of real estate to support function	65	3	Positive	1	Sustainable	1	Implemented	1
32	2	2	1	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	Degree of bicycle orientation	66	8	Positive	1	Sustainable	1	Implemented	2
32	2	2	1	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	Comfort & user quality	67	7	Positive	1	Sustainable	1	Implemented	1
32	2	2	1	Confidential	1	Developer	1	Leasehold	2	Design phase (DO)	2	Attractiveness of public space	68	1	Positive	1	Sustainable	1	Implemented	1

A IV.1.1. SOURCES OF CONCLUSIONS

A			
GENERAL			
	CONCLUSIONS	SOURCE LITERATURE	SOURCE EMPIRY
A.1	Need for alignment of product and process	<ul style="list-style-type: none"> • Van Bueren & De Jong, 2007 	Observations from case studies Overhoeks + Buiksloterham
A.2	Need for integrated conception of sustainability	<ul style="list-style-type: none"> • Van Bueren & De Jong, 2007 • Lombardi & Brandon, 2002 • Monno & Conte, 2015 	Observations from case studies Overhoeks + Buiksloterham
A.3	Need for awareness of context	<ul style="list-style-type: none"> • Heurkens, 2012 • Koolmees & Majoor, 2016 	Observations of case studies Overhoeks + Buiksloterham
B			
URBAN FORM			
	CONCLUSIONS	SOURCE LITERATURE	SOURCE EMPIRY
B.1	Need for the concept of mixed-use	<ul style="list-style-type: none"> • Lehmann, 2010 • Newman & Kenworthy, 1998 • Cervero, 1998 • Haas, 2007 • Jacobs, 1961 • Adams & Tiesdell, 2012 • Smart Growth Network, 2014 • Spirn & Say, 2012 • Coupland, 1997 • Grant, 2002 	Confirmed by experts from practice (<i>some</i> municipal urban planners + <i>some</i> developers)
B.2	Legitimacy of end-user perspective of optimization	<ul style="list-style-type: none"> • Landry, 2006 • Adams & Tiesdell, 2012 • Grant, 2002 • Frank, 1994 	Interviews with experts from practice
B.3	Need for end-user satisfaction	<ul style="list-style-type: none"> • Bonaiuto, Fornara & Bonnes, 2003 • Landry, 2006 	Interviews with experts from practice
B.4	Need for social mix	<ul style="list-style-type: none"> • Anquetil, 2009 	Confirmed by experts from practice (municipal urban planner + end-user)
B.5	Need for walkability	<ul style="list-style-type: none"> • Jabareen, 2006 • Adams & Tiesdell, 2012 • Schwanke, 2003 	Confirmed by experts from practice (municipal urban planner + developer + end-user)
B.6	Need for high enough density	<ul style="list-style-type: none"> • Newman & Kenworthy, 1998 • Jabareen, 2006 	Confirmed by experts from practice (municipal urban planner + developer)
B.7	Need for disorientation car & public transport	<ul style="list-style-type: none"> • Cervero, 1998 • Adams & Tiesdell, 2012 • Frank, 1994 • Haas, 2007 • Smart Growth Network, 2014 	Confirmed by experts from practice (municipal urban planner)

B.8	Need for diversity	<ul style="list-style-type: none"> • Jacobs, 1961 • Adams & Tiesdell, 2012 • Macmillan, 2006 	Confirmed by experts from practice (municipal urban planner)
B.9	Need for a sense of identity (historic qualities, local culture)	<ul style="list-style-type: none"> • Adams & Tiesdell, 2012 • Macmillan, 2006 	Confirmed by experts from practice (municipal urban planner)
B.10	Need for a high degree of interweaving / fine grained mixed-use	<ul style="list-style-type: none"> • Jacobs, 1961 • Adams & Tiesdell, 2012 	Confirmed by experts from practice (municipal urban planner)
B.11	Need for visual connection between spaces	<ul style="list-style-type: none"> • Adams & Tiesdell, 2012 	Confirmed by experts from practice (municipal urbanist)
B.12	Need for green & water	<ul style="list-style-type: none"> • Anquetil, 2009 • Spirn & Say, 2012 • Idsinga & Oosterheerd, 2009 	Confirmed by experts from practice (municipal urbanist + developer + end-user)
B.13	Values of variables sustainable components	<ul style="list-style-type: none"> • Specialised literature 	Interviews with experts from practice
B.14	Need for end-user freedom to shape own environment	<ul style="list-style-type: none"> • Idsinga & Oosterheerd, 2009 • Adams & Tiesdell, 2012 • Landry, 2006 	Confirmed by experts from practice (<i>some</i> municipal urban planners + <i>some</i> developers + end-users)
C	DEVELOPMENT APPROACH		
	CONCLUSIONS	SOURCE LITERATURE	SOURCE EMPIRY
C.1	Presence of high complexity of mixed-use, urban area- and sustainable development processes	<ul style="list-style-type: none"> • Mayer, Van Bueren, Bots, Van der Voort & Seijdel, 2005 • Franzen, Hobma, De Jonge & Wigmans, 2011 • Klijn & Koppenjan, 2004 • Williams & Dair, 2007 • Rabianski, Gilber, Clements & Tidwell, 2009 	Observations from case studies Overhoeks + Buiksloterham
C.2	Presence of institutional rigidity	<ul style="list-style-type: none"> • Lustick, Nettle, Wilson, Kokko & Thayer, 2011 • Roland, 2004 	Observations from case studies Overhoeks + Buiksloterham
C.3	Need for customization / adaptation of strategies	<ul style="list-style-type: none"> • Van Bueren & Ten Heuvelhof, 2005 • Healey, 1997 • Powell & Dimaggio, 2012 	Observations from case studies Overhoeks + Buiksloterham
C.4	The debate of makeability and the conflict between market-driven and strategic considerations		Interviews with experts from practice (Municipality + developer)
C.5	Need for network structure - collaboration between public and private parties (governance)	<ul style="list-style-type: none"> • Koppenjan & Klijn, 2004 • Franzen, Hobma, De Jonge & Wigmans, 2011 • De Bruijn, Ten Heuvelhof, In't Veld & Prins, 2002 • Mayntz, 2006 • Heurkens, 2012 • Healey, 2010 • Mayer et al, 2005 • Daamen, 2010 	Observations from case studies Overhoeks + Buiksloterham
C.6	Need for collaboratively setting up an integrated vision for the area	<ul style="list-style-type: none"> • Franzen, Hobma, De Jonge & Wigmans, 2011 	Observations from case studies Overhoeks + Buiksloterham

C.7	Need for participatory decision making processes	<ul style="list-style-type: none"> • Van Bueren & De Jong, 2007 • Healey, 2010 	Observations from case studies Overhoeks + Buiksloterham
C.8	Need for private led development	<ul style="list-style-type: none"> • Heurkens, 2012 • Daamen, Heurkens & Pol, 2015 • Heurkens & Louwaars, 2011 • Franzen et al, 2011 	Comparison of case studies Overhoeks + Buiksloterham
C.9	Need for development in (small-to medium-size) plots	<ul style="list-style-type: none"> • Consequence of B.8 & B.10 	Comparison of case studies Overhoeks + Buiksloterham
C.10	Need for a flexible institutional framework	<ul style="list-style-type: none"> • Daamen, Heurkens & Pol, 2015 • Koolmees & Majoor, 2016 	Observations from case studies Overhoeks + Buiksloterham
C.11	Need for municipal steering	<ul style="list-style-type: none"> • Literature review of mini cases 	Observations from case studies Overhoeks + Buiksloterham
C.12	Need for broader and longer term responsibilities of private developers	<ul style="list-style-type: none"> • Heurkens, 2012 • Putman, 2010 	Observations from case studies Overhoeks + Buiksloterham
C.13	Need for back-flowing benefits of sustainable interventions to initial financiers and users	<ul style="list-style-type: none"> • Van Bueren & De Jong, 2007 	
C.14	Need for large end-user involvement in development process	<ul style="list-style-type: none"> • Consequence of B.13 	Comparison of case studies Overhoeks + Buiksloterham
C.15	Possibility for municipal direction through binding strategic planning documents		Observations from case studies Overhoeks + Buiksloterham
C.16	Possibility for municipal direction through management of the urban area development process	<ul style="list-style-type: none"> • Van Bueren & de Jong, 2007 • Louwaars, 2011 • Bossink, 1998 • Van Hal, 2000 	Observations from case studies Overhoeks + Buiksloterham
C.17	Possibility for municipal facilitation through the offering of incentives	<ul style="list-style-type: none"> • Van Bueren & de Jong, 2007 • Grant, 2007 	Observations from case studies Overhoeks + Buiksloterham
C.18	Possibility for municipal facilitation through investments in supportive structures	<ul style="list-style-type: none"> • Daamen, Heurkens & Pol, 2015 	Observations from case studies Overhoeks + Buiksloterham
C.19	Possibility for municipal facilitation through financial arrangements	<ul style="list-style-type: none"> • Daamen, Heurkens & Pol, 2015 • Mayer et al, 2005 	Observations from case studies Overhoeks + Buiksloterham
C.20	Presence of mostly insufficient awareness, understanding and focus of / on sustainability	<ul style="list-style-type: none"> • Van Bueren & De Jong, 2007 	Observations from case studies Overhoeks + Buiksloterham
C.21	Situation of sustainable intentions failing over the course of the development process	<ul style="list-style-type: none"> • Buckingham-Hatfield & Evans, 1996 • Van Hal, 2000 • Van Bueren & De Jong, 2007 	Observations from case studies Overhoeks + Buiksloterham
C.22	Need for prioritisation of sustainability in municipal policy	<ul style="list-style-type: none"> • Van Bueren & De Jong, 2007 	Observations from case studies Overhoeks + Buiksloterham
C.23	Need for actor education	<ul style="list-style-type: none"> • Consequence of C.20 	Observations from case studies Overhoeks + Buiksloterham
C.24	Need for a focus on and guarding of sustainability in the process	<ul style="list-style-type: none"> • Consequence of C.21 	Observations from case studies Overhoeks + Buiksloterham

