

THESIS PLAN

REGREENERATION

FRAMEWORK FOR THE
BRIXTON-BATTERSEA AREA

ROGIER HENDRIKS



**THESIS PLAN
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**ROGIER HENDRIKS
STUDENT NO. 4177746
HENDRIKS.ROGIER@GMAIL.COM
06 81538710**

**DELFT UNIVERSITY OF TECHNOLOGY
MASTER OF ARCHITECTURE,
URBANISM AND BUILDING SCIENCES**

**MASTER TRACK URBANISM:
URBAN REGENERATION
IN THE EUROPEAN CONTEXT**

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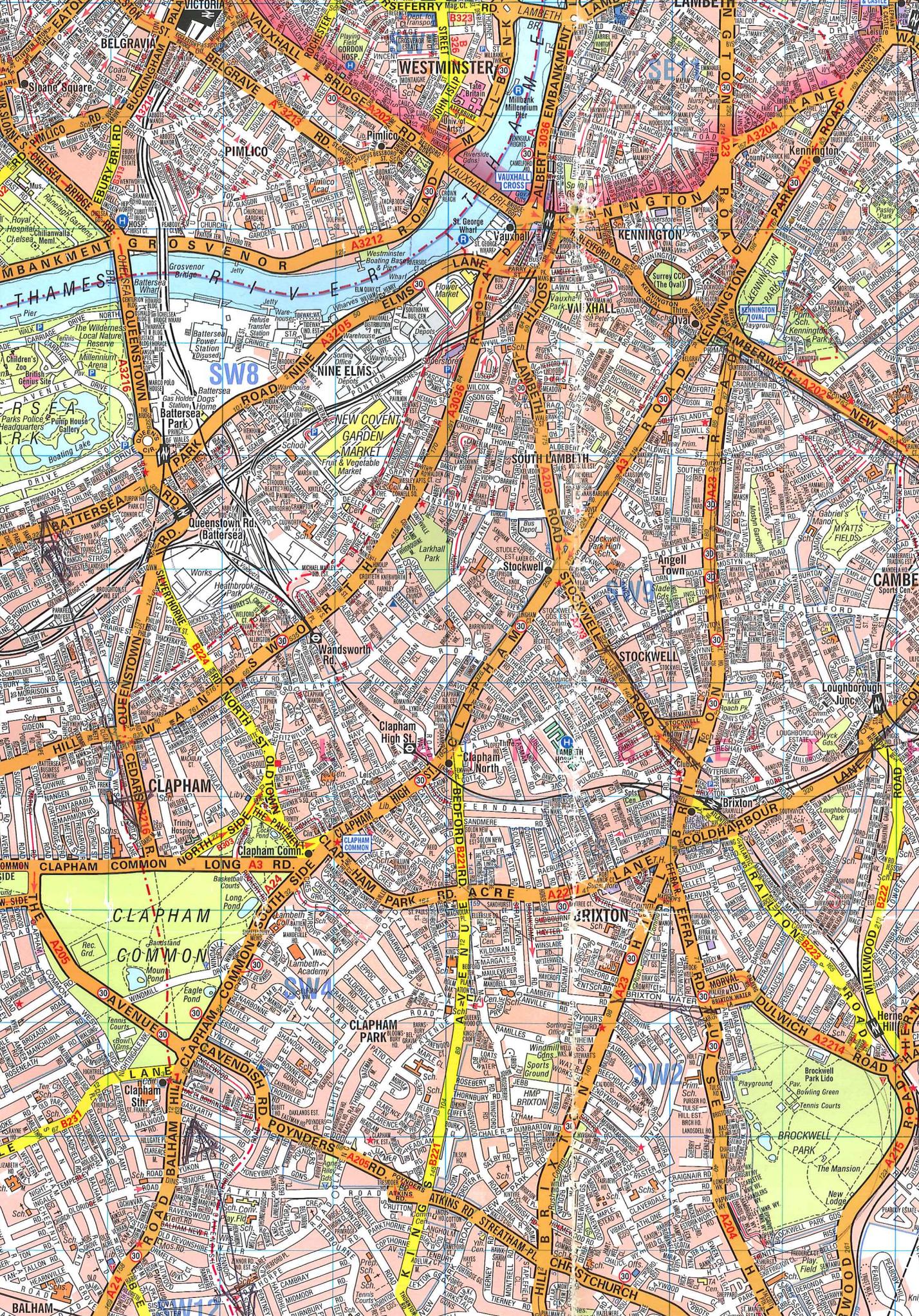
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1. INTRODUCTION

The Battersea Power Station (BPS) is one of the most distinctive buildings within the centre London and was used to generate electricity for the major parts of the city (see figure 1). Nowadays, the building is an icon within the city that refers to the flourishing days of industrial revolution and is one of the most distinctive landmarks of London. But a closer look to the station shows that the flourishing days are over: the building and its surrounding brown fields are vacant except for some temporary uses.

The Battersea Power Station is closely connected to the borough of Lambeth, of which the northern part is one of the most deprived areas in West-London. High crime rates, much unemployment and a bad reputation are some of the issues that the area faces. Brixton is the dynamic and lively centre of the northern part, that is characterised by its diverse population and the small informal shops and restaurants that are hidden in small malls.

But the situation is changing. Real estate developers bought the plot of the Battersea Power Station and made together with Greater London plans to redevelop it into an international, high-end mixed use centre with space for culture, arts, businesses and dwellings. Looking at the current plans for the Battersea Power Plant, the question rises if this development affects the current inhabitants positively or, more plausible, if it will be another

intervention that causes gentrification and displacement, like what happened in the Docklands and Thames Gateway Project.

The development of new high-end areas close to deprived areas is not a new phenomenon within London. The London Docklands Project and the Thames Gateway Project are early examples of the same kind of transformations. The intention of those projects was to redevelop the vacant brown fields in the centre of London to establish mixed and balanced neighbourhoods that satisfied the needs of the dwelling demands within London. But due to the economic and physical success of the projects, the housing and amenity values rose enormously and the original people are displaced by a more affluent population.

This thesis will reflect on the current developments within the Brixton-Battersea area and will propose a framework in which the redevelopment of Battersea will be a catalyst that improves the well-being of the residents in the surrounding areas.

Figure 1: Battersea Power Station in current state (own picture).





2. PROBLEM FIELD

2.1 PROBLEM ANALYSIS

The Brixton-Battersea area is changing. In this, the Battersea area is under construction to become one of the main activities zones within London and the areas surrounding Brixton face serious deprivation. This paragraph will shortly elaborate on those two issues.

SITUATION

The project area is situated within Inner London in the boroughs of Lambeth and Wandsworth, and exists out of the areas around Brixton and Battersea and everything what is in between (see figure 1). Brixton and Battersea are formally two wards this thesis will use them to indicate two smaller locations. The name Battersea will be used to indicate the plot of the Battersea Power Station and its surrounding brownfield. This area is located in the north of the borough and is adjacent to the Thames. Brixton will be used to indicate the centre of the ward of Brixton and is located in the middle of the Borough. The distance between Brixton and Battersea is a bit more than 2 kilometre.

BATTERSEA

The Battersea area includes the Battersea Power Station and its surrounding brown fields. The station is a former power plant that is not being used to generate electricity, but because of his big iconic value it is preserved (see figure 1). Because of its good location close to the Thames and the city centre, the area and the building are appointed as opportunity area for a central activities zone (see figure 4). This new zone will connect to another CAZ-area by a linear park, that runs as a backbone through the new developments (see figure 5). Together, the two CAZ-areas will form a new business district, which will be comparable with the London Docklands and the City of London.

According to the Vauxhall Nine Elms Battersea Opportunity Area Planning



Figure 1: Situation of Battersea and Brixton in relation to Lambeth and London (own illustration).

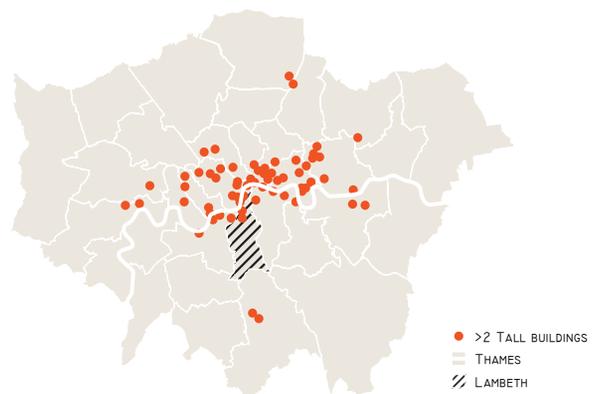


Figure 2: Tall buildings within London: Many tall buildings are close to the Thames (Own Illustration).

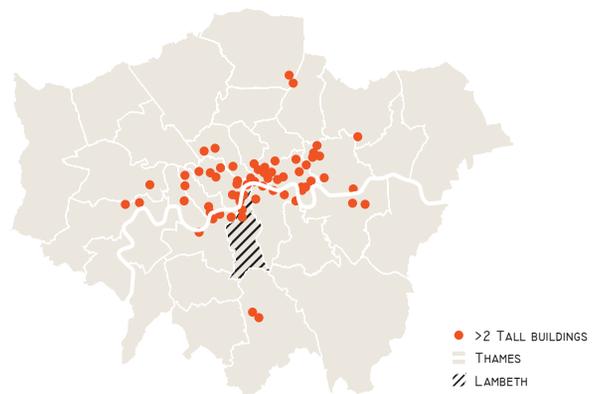


Figure 2: Tall buildings within London: Many tall buildings are close to the Thames (Own Illustration).

people a stunning view on the building. When the current plans for the Station will be executed as they are planned, this view from the Thames will be limited, because the new high rise will partly block this view (see figure X). Besides the view from the Thames, the maybe more important view from out of the train is also blocked (see figure 1).

Besides the urban plan, the building itself will also change quite radically. In the period when the building was used, it generated electricity in order to provide to major parts of London. In order to do so, almost the whole inside existed of one impressive room, which made the building the largest building of brick within Europe (Battersea Power Station Community Group, 2011). The plans of the developer are to transform the building into a shopping mall focused on the upper class of society. The whole building will be filled with layers of retail. By this redesign, the historic and spatial characteristics of the building will be abandoned.

DEPRIVED AREAS SURROUNDING BRIXTON

Brixton and its surrounding areas are deprived and face multiple problems. This project is about the deprived area between Brixton and Battersea in which Brixton is the centre of the area. The surrounding deprived areas are mainly residential, except a small cluster of shops surrounding Stockwell. The section below elaborates first on the issues of Brixton and afterwards on the problems in the deprived areas.

BRIXTON

Brixton can be seen as the major centre of the borough and contains a variety of people from different backgrounds. This heterogeneous population did arise after the second world war, when Brixton was heavily bombed. Because of the shortage in housing, big villas were transformed in multiple small and cheap dwellings in order to accommodate homeless families. Because of this development, Brixton transformed from a place for the rich, into a place for the poor and migrants (Howard, 2002).

This mixture of people, with a majority of Afro-Caribbean people, led to the unusual development of small markets. Those markets are located in the existing building blocks and can be classified as small informal malls (see figure X). Nowadays, this small malls face an increase of people from outside Brixton that use the shops, who are mostly young urban professionals and young people. This change in users affected the enterprises and leads to a more professional shops, but while it maintains its informal identity. Nowadays, Brixton contains popular night clubs and restaurants (Howard, 2002).

Besides this positive development within Brixton, there are still much problems. The most problems are comparable with the surrounding deprived neighbourhoods, but people who dwell in the centre face also reputation problems. A recent survey of Howard (2002) about the problems within Brixton pointed out that children who grow up in this area face problems because people have negative associations with Brixton. The children think that their individual chances are limited because of the fact that they are from Brixton.



Figure XX: mapping of the small enterprises within the "mall" (own illustration).

SURROUNDING DEPRIVED AREAS

The surrounding deprived areas are less vibrant. Mostly the areas are characterised by residential functions and they lack green. Stockwell is the only centre between Brixton and Battersea that contains some clustered shops and a tube station. In addition, the area is filled with barriers which limit the mobility of the residents (see figure XX). Mainly there are three groups of barriers, which are the elevated train tracks, the heavily used roads and some big clusters of buildings. This barriers affects the physical and mental connections on a smaller scale, but it also influences the connection between Brixton an Battersea, which does hardly exists nowadays.

As already stated above, Brixton and its surrounding areas are highly deprived. The Indices of Multiple Deprivation show the average amount of deprivation for smaller output areas. Within this set of maps, there is one that shows the overall deprivation, which is set by looking at different aspects of deprivation, like health, income and employment. Figure %% shows a part of this map, focussed on the project area. In this, the area surrounding Brixton is clearly defined as a strong deprived area which extends to the North and South (Greater London Authority, 2011).

In addition, the Development Plan of Lambeth (Lambeth Planning, 2011) gives an overview of the major problems within this area. Those major problems are;

- high unemployment rate in comparison with Greater London;
- high crime rate and the highest violent crime rate within the UK;
- high percentage of people who cannot afford the high market rents;
- bad health rates and the highest infant mortality rate within the UK;
- and shortage of open public space and high pollution rate.

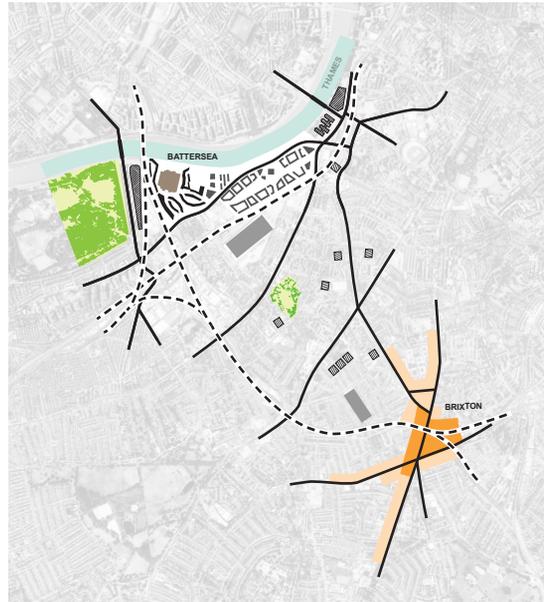


Figure XX: A simplified representation of the area.

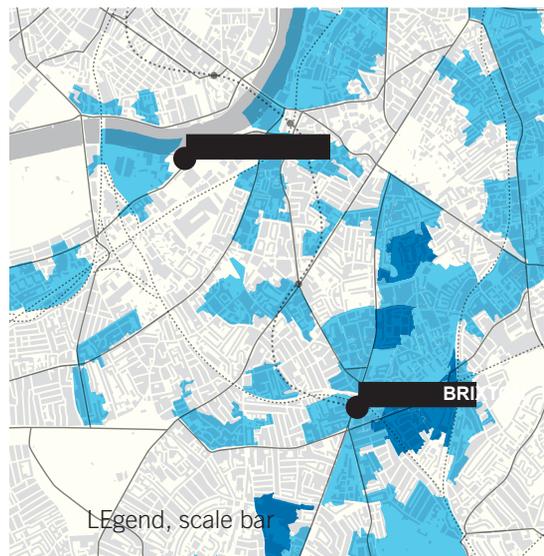


Figure XX: Mapping of the amount of deprivation within the Northern part of Lambeth. Brixton is surrounded by highly deprived areas (Own illustration based on existing information (Greater London Authority, 2011)).

2.2 PROBLEM STATEMENT

The hypothesis on the current developments in the Brixton-Battersea area is that the proposed redevelopment of the BPS-area will create a prosperous area, that has a strong connection with the city centre. Regrettably, this development does not react on its context and the barriers within the area strengthen this isolation. In the long term, this will result in a strong polarisation between Brixton and Battersea, that could turn out into displacement of the original residents of the deprived area. This will be caused by rising tract prices and the increase of expensive amenities in combination with the rising pressure of redevelopment.

The vision towards this problem is that big and prosperous developments like the developments in Battersea, are only successful if reacts on its context, in this case if it contributes to the decrease of deprivation. Therefore, the goal for this thesis is to find a way in which the redevelopment of the BPS-area contributes to the decrease of the amount of deprivation in Brixton and its surrounding underprivileged areas. The current inhabitants of the deprived areas should profit from the developments, instead of facing negative effects. At the same time, the new population of Battersea should be able benefit from the transformations in Brixton.

There are many possible approaches to improve deprived areas, therefore it is good to set the scope. This project will mainly focus on physical interventions within the build environment and how those interventions affect and improve the socio economic values of individuals who dwell in the area. Because of my background in landscape architecture in combination with the lack of public green in the area, there will be an emphasis on the role of public space. This focus does not imply that the other aspects like, socioeconomic interventions, and interventions in the building stock are denied.

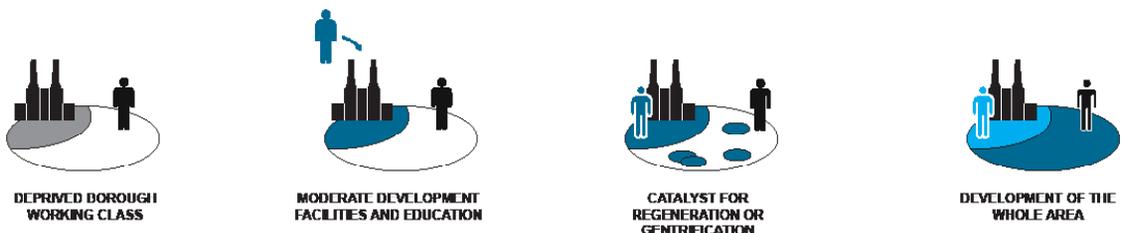


Figure XX: A simplified representation of the area.

2.3 DESIGN AND RESEARCH QUESTIONS

The main question for the project is:
HOW COULD THE DEVELOPMENT OF BATTERSEA CONTRIBUTE TO THE IMPROVEMENT OF THE DEPRIVED BRIXTON-AREA TO MEET THE DEMANDS OF THE CURRENT POPULATION?

The sub questions to answer the main question are:

WHICH PHYSICAL INTERVENTIONS WITHIN THE EXISTING URBAN FABRIC COULD IMPROVE THE INDIVIDUAL OUTCOMES OF THE INHABITANTS OF BRIXTON AND ITS SURROUNDING AREAS?

This sub question will combine the knowledge gained by answering other sub-questions, to propose interventions in the existing urban fabric. The question aims to explore different solutions that can improve the socioeconomic status of the residents, by using on the current structures and characteristics. The method which is used is to reveal those solutions will be a combination of research by design, reference studies and a small literature review. The references that will be studied should face similar issues as the project area.

IN WHICH WAYS COULD AREAS BE REGENERATED WITHOUT CREATING DISPLACEMENT OF THE ORIGINAL RESIDENTS?

In the problem statement is argued that the current development plans of Battersea will cause polarisation and displacement within the borough. To be able to design a regeneration strategy that keeps the current inhabitants in the area, a research should be done on interventions that regenerate the build environment without displacing people. To reveal those interventions, a literature review will be done to find out what research says about this topic.

WHAT ARE THE CHARACTERISTICS OF THE BRIXTON-BATTERSEA AREA?

To be able to make a design for the Brixton-Battersea area, it is crucial to understand the area. Therefore an analysis will be made. This analysis will start at the city-scale and explores the location of the BB-area within Greater London and will analyse different kinds of policy. In addition, research will explore the different kinds of deprivation who occur in the area. The research results into a clear view on the location of the plan area in relation to the city.

WHAT ARE THE STRENGTHS AND WEAKNESSES OF THE PLANS MADE FOR THE BATTERSEA POWER PLANT AND WHAT ARE OPINIONS ABOUT THIS DEVELOPMENT?

By studying the current plans made for the BPS-area, the strengths and weaknesses will be more clear, which can be used to design the main objectives for the thesis. Besides knowing more about the plan itself, it is also crucial to know what the current population and governmental organisations think about the new developments. By researching this, the main pros and cons of the current plans will be more clear, which helps to establish a proper argumentation. The research will be executed by looking at the current documents which are published by the developers, visiting the information centre of the project, reading articles in papers on the development of the site and talking with local inhabitants from the area about what they think of the proposed developments.

WHAT ARE THE CHARACTERISTICS OF THE BRIXTON AREA AND WHAT ARE ITS MAIN ISSUES?

Besides a more detailed analysis of the Battersea area, such an analysis will be made for the Brixton area that also includes the area of Stockwell which is located north of the centre of Brixton. This analysis will explore the characteristics of the area and

the issues residents are facing. Besides this physical analysis, a research will be done on the socioeconomic situation of the area. This will mainly be done by literature and policy research. By answering the question, knowledge will be gained in order to be able to make well thought through decisions. The methods that will be used are mainly mapping and literature review.

2.4 RELEVANCE

SOCIETAL RELEVANCE

The societal relevance of the project is high. The Battersea Power Station is an important element within London and people feel connected to it. The reasons for this differ, some are passing the building every day by train, some people admire the historical value and some worked there. That people value the station is shown by the amount of people that visited the station on one of the last open days: thousands of people visited the building and some waited for 5 hours or more (BBC, 2013).

Most critique on the developments towards the development of the BPS-area is not about whether it should be developed or not, but about the way it will be developed. According to blogs and newspapers people are glad that the building is being preserved (The Daily Mail, 2013), but they question the content of the plans. There is much resistance towards the blocked views towards the Station (Richert, 2013), the high property costs to dwell in the area and connected to this the anxiety that only foreign people buy the properties (CNN, 2013).

Besides the development of the BPS, the deprivation in the other parts of the graduation site is also part of the societal relevance, because the deprivation affects the lives of the residents negatively in some ways. By decreasing the deprivation, people will face a better quality of life and will be more mobile.

ACADEMIC RELEVANCE

Besides the societal relevance, the project is also academic relevant. As already stated, some big developments like the Docklands had negative effects on residents that live close to the site. The project will explore ways in which the negative effects of those developments could be turned into positive effects, which could be used in projects with the same context. Of course it will not be realised which has the consequence that there is no proof that it will work, but it could be a start to think different about this kind of issues.

In addition, the thesis contains a literature review which is composed using academic literature. This information can be used in projects who deal with the same issues.



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3. METHODOLOGY

The overall structure of the project is displayed in figure 5. The project starts with the problem definition which results in questions who will answered through research. The

research will be used to create a vision which will direct design decisions. This finally results in the design of a framework for the area.



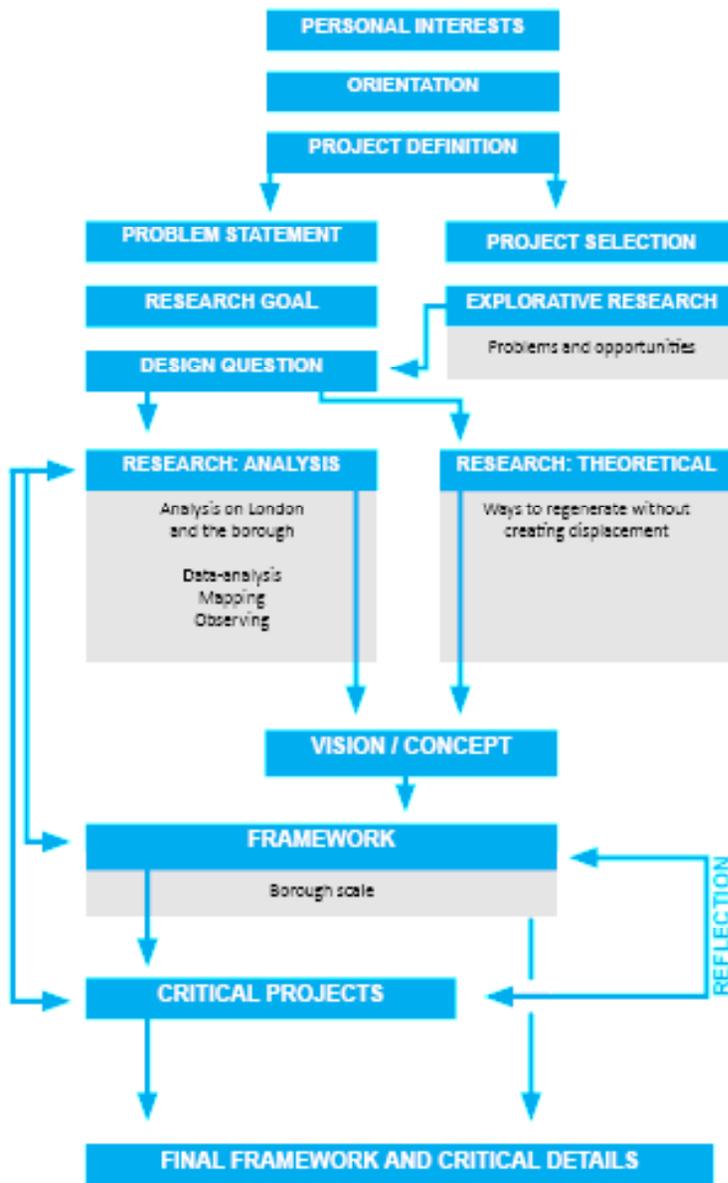
Figure 5: Overall structure of the project (own illustration).

3.1 METHODOLOGY

The methodology defined for this project is displayed in figure 6. First, the project is defined by looking at my personal interests and current developments within the field of urbanism. An exploratory research will be executed on the topic to be able to define the problem statement and to come up with a design location. This information will result in the preliminary thesis plan which will be the base of the graduation project.

After defining the scope of the project, the research part will start which can be divided into two parts: analysis and theory. The theory part will mainly be about gaining knowledge about the topic which is addressed in the project and the analysis part will be more site specific and define strengths and weaknesses. Methods that will be used in the theory part of the research are literature review and case studies. The analysis will make use of data-analysis, mapping, observing and interviewing. Parts of the theory research will result in a review paper.

This research will help to establish a vision and a concept on the issue and project area. This vision will be used to compose a framework on a borough/neighbourhood scale. When the main principles of this framework are set, critical projects will be defined. Finally some critical projects will be selected and detailed on a smaller scale. After every scale step has been made, a reflection takes place to look what the interventions on a lower scale cause on a bigger scale. This iterative process will make the project more coherent and enables adjustments of earlier made decisions. All the findings of the research and designs will be reported in a booklet.



DESIGN RESEARCH

Figure 6: Methodology (own illustration).

3.2 PLANNING

The planning for the project is displayed in figure 7. This planning is based on the components within the methodology and the time schedule of the studio. The planning shows roughly the intended phasing of the project and the formal deadlines for submitting certain products.

In general, the time up to P1 will be mainly about defining an interesting graduation topic and location and compose the preliminary thesis plan. Because of the UrbanismWeek, the start of the graduation was quite slow. The period after P1 will mainly be spent on research. This research exists out of theoretical research which will result in the position paper and the theoretical framework and the analysis which will result in a clarification of strengths and weaknesses of the area. Besides the research, a vision and a preliminary concept will be proposed.

The upcoming two periods will be spent on finishing the analysis and designing frameworks on the different scales and will end with the critical details. The period after P4 will be spent on finishing and adjusting the last things and preparing the presentation by making a presentation, posters and a model.

There are two site visits planned, one after P1 and one after P2, but most likely one will be added after P3.

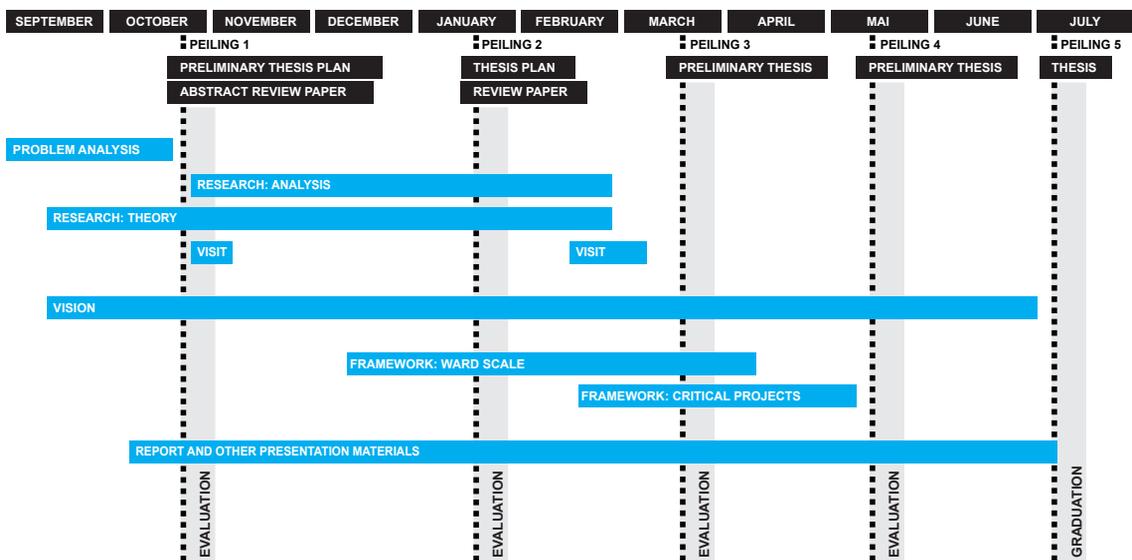


Figure 7: Planning (own illustration).



4. THEORETICAL FRAMEWORK

REGENERATING FOR THE DEPRIVED

London is known for its big regeneration projects. Examples of those projects are the Docklands, the Thames Gateway project and London 2012. Those projects were big a physical and economic success, but the regeneration did not turn out so positive for the original residents of the areas. Many residents were displaced from the areas by the increase of property values and the increased quality of the amenities. In addition, this projects caused not only displacement in the plan areas, but also in the surrounding, not regenerated areas, because of the good connectivity between these areas and the pressure of new developments. The result of this kind of developments is that the poor, displaced people are forced to move and settle down in cheaper parts of the city, or in worst cases move to other, cheaper cities (Bernstock, 2009).

To avoid such displacement of inhabitants in the Brixton-Battersea area, the theoretical framework will explore in what ways areas could be regenerated without creating big displacement. In line with this, the research question for this literature review is: In what ways can deprived areas be regenerated without creating displacement of the original inhabitants? The question will be answered by a literature review, which starts with elaborating on the current methods used to regenerate areas and what kind of measures the consulted literature proposes. Afterwards, a more detailed elaboration will be given about in what ways green elements can contribute to decrease individual deprivation.

6.1 REGENERATION STRATEGIES TO IMPROVE DEPRIVED AREAS

In time, cities tried to solve deprivation in different ways. Different kinds of measures are proposed in which mixed housing strategies are one of the major interventions that tried to solve the well-being of the poor. This section will elaborate on this popular mixed housing strategies and will look at its effects.

6.1.1 NEIGHBOURHOOD EFFECTS THEORY AND THE MIXED HOUSING POLICIES

Within the field of urbanism and planning, there is a shared belief in the existence of neighbourhood effects. Those effects which argue that the characteristics of the neighbourhood effects people's individual socioeconomic outcomes, like health deprivation, low incomes and unemployment. Much research have been executed on this topic and most outcomes suggest a relation between the neighbourhood and individual outcomes (Manley, Ham, & Doherty, 2011). Examples of such research are a study executed by Overman (2002) who concluded that neighbourhood characteristics influenced the individual results of kids in schools, and a

research of Friedrichs and Blasius (2003) who claimed that the chance of unusual behaviour is influenced by their environment.

Wilson (1987) was one of the first who spoke about the neighbourhood effects theory. He suggests that some negative neighbourhood characteristics do affect its inhabitants. The theory that he proposed was about access to employment and he stated that an area with many structural unemployed residents can lead to “negative social dispositions, limited aspirations and casual work habits” (Wilson, 1991, p. 642). In line with his theory, he argues that certain areas stimulate the growth of an underclass which is dominated by unemployment.

MIXED HOUSING STRATEGIES

Many contemporary urban regeneration proposals are based on interpretations of this neighbourhood effects theory, in which people assume that the improvement of deprived neighbourhoods will cause an improvement of individual well-being. A common measure which is used in urbanism and planning to upgrade deprived neighbourhoods is to aspire a balanced population that exists out of people from different socioeconomic groups. This mixture of different people will counteract negative neighbourhood effects and improve the well-being of the poor. (Manley et al., 2011).

This idea of mixed populations started in the 20th century with the garden city movement and is nowadays part of many western urban policies (Cheshire, 2009). In general those strategies change the tenure structure of the area to establish a socioeconomic mixed populations. Those strategies go often hand in hand with big demolition schemes to rebuild dwellings which suit the demands of the aimed target groups, because the current properties do not meet the standards of the aimed residents (Manley et al., 2011).

Some authors abandon the idea of the mixed community policy and argue that it is a faith-based theory. Cheshire (2009) is one of them and states in his article about mixed communities that this approach treat the symptoms of poor areas instead of the cause

of poverty. He argues that poor areas are regenerated by inserting more affluent people, which lead to increasing socioeconomic statistics of the area in general, but not to an increase of socioeconomic status of poor individuals.

In addition, the physical changes within the neighbourhoods to attract more affluent residents caused an increase in dwelling costs and a change in quality of the local amenities. Because most poor people cannot afford this increase, they are forced to move to other, less expensive areas. Cheshire (2009) advocates in his article that it makes more sense to improve the social inequality within the population in comparison to promoting policies which moves people around to establish a mixed community.

MIXED HOUSING POLICIES IN THE UNITED KINGDOM

An more concrete example can be found in the housing policy of The United Kingdom which is based on own research. Researchers compared the outcomes of people who live in the 10 percent most deprived areas with the average of the inhabitants on England. They concluded that ‘People living in deprived neighbourhoods are less likely to work, more likely to be poor and have lower life expectancy, more likely to live in poorer housing in unattractive local environments with high levels of antisocial behaviour and lawlessness and more likely to receive poorer education and health services. Living in a deprived area adversely affects individuals’ life chances over and above what would be predicted by their personal circumstances and characteristics’ (ODPM, 2005, p. 6). The researchers and policy makers translated the outcome of this research in a mixed housing policy that aims to reduce inequality and social exclusion. Cheshire (2009) argues in his article that this conclusion is bold and naive. He argues that this research only looked to overall neighbourhood outcomes instead of looking to the individual outcomes.

Cheshire explains the differences in the socioeconomic characteristics of areas by self-selection. He argues that poor people live in deprived areas because the dwelling values are

lower, so the lower income groups self select themselves into deprived neighbourhoods. On the other hand, higher income groups are able to afford more expensive housing, so they will decide to live in the more prosperous areas.

6.1.2 WAYS TO AVOID DISPLACEMENT

The literature which is used to create this review elaborates much on the effects of mixed housing policies and on its effects, but only a few elaborate on ways to improve the conditions of the residents within these deprived areas.

Different authors argue that the improvement of the social economic situation of residents in deprived areas most likely focuses on the empowerment of the residents. The paper of Manley et al. (2011) about mixed housing strategies, state that this empowerment is mainly about decreasing the health deprivation and investments in education. By this, people will be more mobile in making their own decisions and will be less vulnerable for deprivation. The paper of Chatterton and Bradley (2000) which reflects on the policy of Great Britain, add employment to those two again to increase the mobility of the residents.

But focussing on the empowerment of the inhabitants only is not enough. Manley et al. (2011) state that investing in the basics of deprived neighbourhoods is important to guarantee quality of the basic needs and safety for the poorest ones in society, who do not have the possibility to move.

HEALTH, EDUCATION AND EMPLOYMENT

The next paragraphs will elaborate more on how education and employment could be improved and what effects it has on the people who live in deprived neighbourhoods. Section 4.2 will elaborate on ways that health can be improved by physical regeneration.

Crowther, Cummings, Dyson, and Millward (2003) illustrate in their book about regeneration and the role of schools, the effects of improved ways of education on the population. They did a research that compared schools who invest in the improvement of their education and schools who do not. The results showed that the improvement of the curriculum contributes in a positive way to the life-chances

of the scholars. Besides the chances in life of the scholars, it also increases the chances of their surroundings, in the long term. Nevertheless, most impact can be seen on the individual level. Durlak and Weissberg (2007) show in their study on the effect of after-school programs that those programmes contribute to scholars social, personal and academic skills. This is caused by the increased willingness to attend school, the improvement of social integration, increased school performances and decrease in aggression and other behavioural problems.

Chatterton and Bradley (2000) elaborate in their paper on the housing policy of Great Britain. They state that the employment and mobility of the population of a deprived area can be improved effectively by creating jobs who match the ambitions and the skills of the residents of the deprived area. A decrease of the unemployment will increase the mobility of people, because they will have more money to spend. The researchers remark that empowerment and a changing population structure could change the ambitions and skills of the residents, and therefore a more flexible approach is needed. In addition they mention that the created jobs could be taken by people from outside the area.

6.1.3 REGENERATION CAUSING MINIMAL DISPLACEMENT

According to the literature that is used in the previous section, physical improvements lead to an increase in value, so there is a possibility that people will be displaced. But probably this view is a bit too black and white, and there are other approaches who could improve individual outcomes without creating big displacement. This is in line with the argumentation of Sampaio (2007), who argues that it is not about if there any form of displacement, but that it is about the amount of displacement interventions cause. This would imply that deprived areas need moderate interventions who anticipate on the socioeconomic status of its residents. The next section will elaborate on two aspects that are important for the regeneration of deprived areas.

BOTTOM-UP APPROACHES

Within the field of urbanism and planning, there is a trend visible which is about physical transformation that aims to improve the conditions of the inhabitants: bottom-up planning. Houterman and Hulsbergen (2005) define bottom-up initiatives as initiatives that arise from the community to improve the socioeconomic and physical aspects of their direct environment. These initiatives arise from a mismatch between the needs of inhabitants and what the environment offers. Because these projects arise from the community, they tackle local problems in order to satisfy its residents' needs. Mostly these projects are about small interventions that modify its surroundings.

Houterman and Hulsbergen (2005) mention three points in which bottom-up initiatives could be important tools in regeneration. The first is that bottom-up initiatives reveal new problems and change the interpretation of those problems because the residents are familiar with the existing problems. Hull (2001) argues that in regular projects the residents are seen as a part of the problem, but that bottom-up projects include the residents as part of the solution which will result in new views towards existing problems and will offer different solutions. The second point is that participation could change the conditions of the area, in physical, social and/or economic terms. Some executed projects taught us that people are willing to spend time and effort in changing their environment in order to adapt it to their needs and afterwards benefit from it. The third point they mention is that such initiatives could stimulate social aspects within the area. Residents will participate in the plan process and improve the living conditions in their environment, but on the same time, this will increase the social cohesion and decrease social exclusion.

Houterman and Hulsbergen (2005) emphasise that the amount of freedom that participants get is an important factor to what extent bottom-up initiatives will be effective or not. Because if the (political) climate is too limiting the effect of those initiatives will be less.

There is a strong potential relationship between bottom-up initiatives and strategies. Kennisnetwerk SQM (2004) state that bottom-up initiatives are the more effective when

they are part of a strategy because bottom-up initiatives are not able to effectively respond to the complex problems of deprived areas. At the same time, top-down measures cannot respond fully to the problems who exist or arise on the local scale. Therefore integration of bottom-up initiatives in top-down strategies address a wider range of problems (Carter, 2000).

MAINTAINING SOCIAL HOUSING

Newman and Wyly (2006) did research on gentrification in New York. Their research describes that one of the main buffers that counteracts deprivation which is the supply of public housing. Public housing enables the poor residents to dwell in good quality housing for a low price. Therefore, adding and maintaining public housing in deprived areas will put off major displacement. Mallach (2009) argues in his book about affordable housing, that regeneration projects should maintain public housing and retain the low rents, in order to prevent the current deprived population for displacement.

6.2 THE EFFECTS OF GREEN SPACES ON HEALTH

The second section of this literature review will focus on ways to empower residents, by focussing on the role of green spaces on health. Recent research of the Commission of Architecture and the Built Environment (2010) about the conditions of green in England, showed that mainly people of deprived areas lack access to proper green spaces. If the general belief that green has a positive effect on people's health is right, individual deprivation could be counteracted by implementing and improving green spaces in those underprivileged areas. Therefore, this literature review explores the possibilities to improve individual chances in deprived areas by focussing on green elements.

In order to do so, this second part of the theoretical framework poses the question "In

what ways could green spaces counteract health deprivation? “. This question is being answered by a review of literature which starts with an elaboration on the distribution of green spaces over the city. Afterwards, the effect that green has on health will be explained and elaborated, which is followed by an sum up of the elements who stimulate the increase of health. Finally, the problems and limitations of this study will be described and the article will end by looking in what way green can be used to counteract deprivation.

6.2.1 DISTRIBUTION OF GREEN SPACES

Green spaces are not equally spread over the city. The Commission of Architecture and the Build Environment (2010) did research on green spaces within England in relation to their location. The research points out that prosperous areas contain more public and accessible green spaces in comparison with deprived areas. In their study, they compared two types of neighbourhoods which are classified by demographics. The first type covers deprived neighbourhoods which are characterised by a population that consists out of more than forty percent minority residents and the second covers prosperous neighbourhoods with a population that consists out of less than two percent minority groups. The statistics of the research showed that the prosperous neighbourhood contained six times more accessible parks. the difference even increases when looking at all the green elements in the areas like verges, small green spaces and parks: the quantity of green is eleven times bigger in prosperous neighbourhoods. In addition, the research pointed out that there are also differences in the quality of the green. Often, green spaces are less well maintained in deprived areas and because of this less attractive for residents to visit.

Besides the amount of green spaces, also single trees are not spread equally over the city. A study of Ravetz (2000) on the city region of Manchester found out that the amount of single trees is bigger in more affluent areas compared to deprived areas. He measured the amount of trees in different areas and compared this data with information about the demographic

status. He concluded that the tree coverage in wealthy parts is 10 percent and in the poorer areas only 2 percent.

6.2.2 EFFECTS OF GREEN SPACES ON DIFFERENT TYPES OF HEALTH

In the academic literature on the effect of green spaces on wellbeing, health is often classified grouped in two types: perceived health and assessed health. In this, assessed health can be divided in physical health and mental health (see figure 1) (Lee & Maheswaran, 2010; Maas, Verheij, Groenewegen, Vries, & Spreeuwenberg, 2006). This review will elaborate on the influence of green spaces in relation to those three types of health.



Figure 1: typology of health used in different kinds of literature (Own illustration).

PERCEIVED HEALTH

There is a general belief that green spaces affect people’s perceived health positively. Maas et al. (2006) executed a research which aimed to confirm this general belief. The researchers selected Dutch people with different socioeconomic and demographic characteristics and asked them to rate their own health. The outcome is compared with information about the amount of green space surrounding their dwelling. They used a database that distinguishes 39 different kinds of land-uses and measured the percentage of green within 1 kilometre and 3 kilometre around the resident’s dwelling.

The results of this research confirmed that there is a positive correlation between the amount of green and the level of perceived health of the residents (see figure 2). They concluded that more accessible green results in higher perceived health rates. In addition, the research compared the effects of the green

space within 1 kilometre and 3 kilometre on the amount of perceived health. They came to the conclusion that the amount of green within a radius of 1 kilometre is more significant to the level perceived health in highly urbanised areas (Maas et al., 2006).

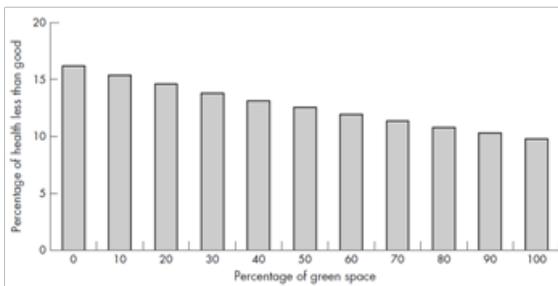


Figure 2: The amount of perceived health in relation to the amount of green within a radius of 3km around the dwelling (Maas et al., 2007)

ASSESSED HEALTH

The amount of perceived health of residents is something else than the amount of assessed health of residents. Therefore it is relevant to elaborate on the relation between the amount of green spaces and the assessed health of residents. Maas, Verheij, et al. (2009) extended the research that is described earlier, and they measured the amount of green spaces in relation to diseases assessed by doctors. The results show that 15 of the 24 types of diseases show up less in areas with a high amount of green space (see figure 3). This shows a positive correlation between access to green areas and doctor assessed health.

In addition, the research confirmed the assumption that the amount of green spaces within a radius of 1 kilometre is more significant in comparison to the spaces within a radius of 3 kilometre (Maas, Dillen, Verheij, & Groenewegen, 2009).

6.2.3 ASPECTS OF GREEN THAT POSITIVELY AFFECT HEALTH

To be able to use green in order to improve health issues, it is important to know why green space has a positive effects on health. Several papers tried to investigate this and pointed out different aspects. The research of Van Dorst

(2012) and Maas, Dillen, et al. (2009) showed mainly four same aspects of green that are important for health. Those four aspects will be explained in the following paragraphs, in which first the physical aspects will be discussed and afterwards the mental aspects.

ASPECTS OF GREEN THAT POSITIVELY AFFECT PHYSICAL HEALTH

The first physical aspect is that green spaces provide a better air quality. A very strong relation was found by Maas, Verheij, et al. (2009) between the amount of green spaces and the amount of respiratory diseases under residents who dwell close to green spaces. People who live close to parks or other large green elements face less respiratory diseases. This is probably linked to a better air quality in green spaces because trees and other vegetation remove pollution and supply oxygen (Coder, 1996).

Cluster	Prevalence per 1000	
	10% green space	90% green space
Cardiovascular		
High blood pressure	23.8	22.4
Cardiac disease	4.7	4.0
Coronary heart disease	1.9	1.5
Stroke, brain haemorrhage	0.92	0.76
Musculoskeletal		
Neck and back complaints	125	106
Severe back complaints	99.2	65.8
Severe neck and shoulder complaints	75.6	63.3
Severe elbow, wrist and hand complaints	23.0	19.3
Osteoarthritis	21.8	21.3
Arthritis	6.7	6.2
Mental		
Depression	32	24
Anxiety disorder	26	18
Respiratory		
Upper respiratory tract infection	84	68
Bronchi(ol)itis/pneumonia	16.0	14.7
Asthma, COPD	26	20
Neurological		
Migraine/severe headache	40	34
Vertigo	8.3	6.6
Digestive		
Severe intestinal complaints	14.9	12.3
Infectious disease of the intestinal canal	6.5	5.1
Miscellaneous		
MUPS	237	197
Chronic eczema	5.5	4.9
Acute urinary tract infection	23.2	19.4
Diabetes Mellitus	10	8
Cancer	4.9	4.4

Figure 3: Morbidity rates in average neighbourhoods, per 1000 inhabitants (Maas, Verheij, et al., 2009).

The second physical aspect is described by Bedimo-Rung, Mowen, and Cohen (2005) who argue that green spaces increase indirectly the physical health of individuals. The reason for this is that green spaces stimulate physical activity which will increase people's physical health. They state that frequent physical exercise improves physical health and it will reduce the chance of 'heart disease, diabetes, high blood pressure, colon cancer... while building and maintaining healthy bones, muscles and joints' (p. 159). In addition, more physical exercise decreases the risk to suffer from obesity (Ebbeling, Pawlak, & Ludwig, 2002).

Research pointed out that there are two main aspects of green spaces which are responsible for the stimulation of physical activity. The first aspect is that most parks are a free and easy accessible amenity to practice different kinds of physical exercise (Bedimo-Rung et al., 2005). Most parks contain facilities that stimulate people to be physically active, like football fields, fitness machines, but also more basic elements as the path system or the lawns stimulate people be active. In this, the remark has to be made that it are not only green spaces which stimulate physical activity. Also paved areas can do this (Lee & Maheswaran, 2010).

A second effect is described by Bedimo-Rung et al. (2005) who found out that people's willingness to exercise improves when they can do that in an attractive green area and when they see others who are physically active. The Health Council of The Netherlands and Dutch Advisory Council for Research in Spatial Planning Nature and the Environment (2004) adds to this that the duration of the exercise will also increase.

ASPECTS OF GREEN THAT POSITIVELY AFFECT MENTAL HEALTH

The third aspect deals with mental health and is about the decrease of stress and fatigue. Berg, Hartig, and Staats (2007) did research on the effect of green on restorative effects. They executed a experiment in which they put two groups of mentally fatigued Swedish students in a simulated environment. The one group was exposed to a natural environment and the other group to an urban environment. The measured

outcome shows that the students who were put in the natural environment scored almost 2.5 times higher when looking at the amount of recovery from fatigue. In addition, a study of Steptoe, Feldman, and Hartig (2004) who did research on the effects of green in relation to stress by measuring the blood pressure, shows that environments with high restorative effects will result in less stress.

The last aspect is that green stimulates the creation of social ties. Maas, Dillen, et al. (2009) did research on the effect of green and the residents health, by focussing on social mechanisms. They imply that strong social ties have a positive effect on the mental wellbeing and that green plays a major role in the creation of those ties. The authors state that (semi) public spaces are crucial elements to generate interaction between people, which is important to establish those social ties and to create local communities. Flap and Volker (2005) argue that the public spaces where this interaction occurs are for example parks, recreational amenities, schools and churches. In this, green spaces play a prominent role because they generally attract more people compared to barren spaces, which will result in more frequent meetings. Possible explanations for the attractiveness of green elements are that they are easy accessible, they generate shadow, reduce noise, create privacy and they are able to generate restorative effects, which make people often choose green spaces over other types of public space (Maas, Dillen, et al., 2009).

Greenbaum (1982) elaborates more on this topic in the context of the interaction between neighbours. He claims that the interaction between neighbours mainly increases because of frequent visual contact, greetings and short talks. A proper public space is in this essential to create spontaneous meetings and interactions. Different authors emphasise the urgency of proper public space in high density areas to establish recognition and interactions, because the relations between people in urban areas seems to be much weaker in comparison with people who live outside the urban areas (Forrest & Kearns, 2001).

Besides the amount of interaction between people, green space also generates a common sense of community. Kim and Kaplan

(2004) argue that there are three domains which increase the sense of community: community attachment (when people feel at ease), community identity (when people feel connected with others and to the place) and pedestrianism (when people are able to explore the place). Green space plays an important role in establishing those three domains because green objects increase feelings of emotional bounding to a place and identification with an area.

6.2.4 INTERVENTIONS TO IMPROVE HEALTH

Although there is much research done on the effects of green on health, there is still less known about the impact of different elements of green spaces on the well-being of people. Some literature elaborates on specific elements that are used in green spaces. Those elements can be categorised by the nature of their aim: some are about attracting people, some will stimulate physical exercise and some will stimulate social interaction. This paragraph will elaborate on those different interventions.

The first measure aims to attract people to green spaces. Coley, Sullivan, and Kuo (1997) did research on the amount of trees in relation to the use of the space in Chicago. They concluded that outdoor areas with trees situated in low density areas, attracted three times more people in comparison to spaces without trees. In addition to this, a relation was found between the number of trees in low-rise areas and the amount of people that use the space: This relation is displayed in figure 4 and shows that there is a significant difference between spaces without trees and spaces with 1 or 2 trees. The research found no evidence that high-rise areas with trees attract more people. Kuo and Sullivan (1998) expanded the research and looked at the amount of trees in relation to the perceived sense of community. They found out that an increased amount of trees also strengthen the sense of community.

The second measure aims to support physical exercise. Ebbeling et al. (2002) found in their research that some elements like playgrounds influence well-being of children. This research concluded that playgrounds can counteract obesity among children, because they stimulate kids to be physically active. In

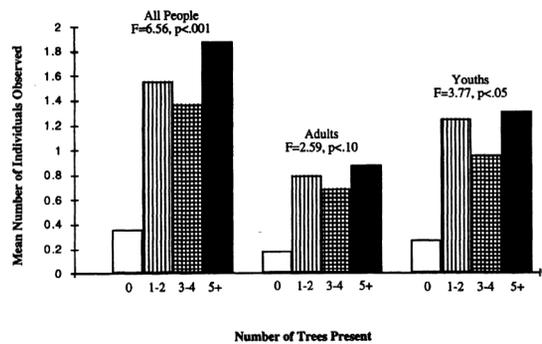


Figure 4: Amount of trees in relation to the amount of people (Coley et al., 1997).

fact, all elements which stimulate people to be physically active affect the physical health positively, like sports courts, public fitness machines and the path structure.

The last tool that is found in literature aims to improve the social interaction between people. A survey of Commission of Architecture and the Build Environment (2010) found that especially green spaces can contribute to the easing of radical tensions between people with different backgrounds. Important aspects in this are amenities which stimulate casual interaction, for example sports facilities like football fields and playgrounds. By this, people get to know each other by casual activities which promote the social cohesion within a neighbourhood, and strengthens the social ties within this area.

6.2.5 PROBLEMS CAUSED BY GREEN SPACES

Existing literature on green spaces also mentions some negative effects on health, which are important to state in order to complete the elaboration. The often returning problem is that bad maintained green spaces do not attract visitors, but cause a counter effect. The Commission of Architecture and the Build Environment (2005) did research on the use of green spaces and they discovered that bad maintained green spaces and declining amenities often result in a decrease of the attractiveness of the green space, which affects the amount of visitors negatively. The decrease of amount of visitors could attract

crime and anti-social behaviour and by this daunt desired groups. This will result in a negative image and people could be afraid to be exposed to crime (English Heritage, Sport England, & Countryside Agency, 2003). In this, women are more concerned about their safety than men. Also ethnic minorities will avoid those neglected spaces, mainly because they fear discrimination and racial abuse (Floyd, Gramman, & Saenz, 1993).

That many green spaces are perceived as dangerous, is shown by research of the Commission of Architecture and the Built Environment (2010) who did research on the use of green in England. They found that only 75 percent of the people who participated in the survey feel safe in the green spaces surrounding their dwelling. Having a closer look at the statistics of the research, we can see that for example people from Bangladesh feel less safe: only 53 percent of the Bangladeshi feels safe in green spaces surrounding their dwelling.

The research from the Commission of Architecture and the Built Environment (2010) did also look at the reasoning why people perceived the areas as dangerous. They found out that people like to have a total overview over the green space in order to feel safe. Therefore they advise to avoid high walls and view blocking vegetation to be able to have a good overview of the space. In addition, Luymes and Tamminga (1995) write that increasing the lighting, improving the layout and stimulating self-policing will result in spaces that are perceived as more safe.

6.2.6 LIMITATIONS OF CURRENT RESEARCH

The literature which is used to compose this theory review shows clear correlations between the amount of green space and health, and argues that a higher percentage of green results in better perceived, mental and physical health, but a remark has to be made. As different papers already mention, the correlation can be caused or influenced by selection effects which are a result of the cross-sectional method of the different studies (Maas et al., 2006; Maas, Verheij, et al., 2009). There is a possibility that the findings are influenced by selective migration, for example that healthy people buy houses

in greener areas. Most of the studies tried to exclude those selection effects by looking at the individual demographic and socioeconomic characteristics of the different groups, but the selection effects cannot be banned totally (Maas et al., 2006).

In addition, green is not the only factor which influences health of people, there are much more aspects like quality of food, dwelling conditions etcetera.

6.3 CONCLUSION

This theoretical framework started with posing the question: In what way can deprived areas be regenerated without creating displacement of the original inhabitants? The reviewed literature on this topic shows that the current used mixed housing strategies are not able to improve the physical conditions in such a way that that deprived inhabitants face a increase of individual well-being. On the long term, this kind of regeneration can even cause deprivation, because the dwelling values are raising and the amenities do not fit the original residents.

The literature suggests that the empowerment of the population of deprived areas is a more effective way to improve the life chances of the residents. Important aspects to improve are health, education and employment, which should be adjusted to the demands of the population. By this empowerment, the mobility of the population increase and they will be more resistant against the pressure of displacement.

The improvement of individual health outcomes by green spaces is studied more in detail, which appears to have a positive effect on health. This can be explained by four main arguments; green stimulates physical exercise, provides clean air, offers space for social interaction and decreases fatigue and stress. The implementation of certain elements within green spaces are important to enable people to profit from the benefits that come with the use of green. Those interventions can be classified in three different categories with different aims, those are interventions that attract

people, interventions that stimulate physical exercise and interventions that stimulate social interaction.

Besides the ways regeneration could influence the empowerment of individuals, the framework studied two kinds of physical interventions who improve individual outcomes and decrease the chance of displacement. The first one is the implementation of bottom-up initiatives which are guided by a framework on a bigger scale, which tackles issues local issues, and who all together affect problems on the bigger scale. The second intervention is about maintaining public housing to ensure poor people are not displaced because of increasing dwelling costs.

6.4 RECOMMENDATIONS

The transformation of the Brixton-Battersea area will be about changes within the urban fabric to improve the chances of the individuals. The different papers showed that the implementation of more expensive public space or more prosperous people will not lead towards better individual chances for the original population. Therefore it is more powerful to invest in the empowerment of the population and subtle physical interventions in the deprived areas, like the improvement of green spaces by bottom-up initiatives.

6.5 FURTHER RESEARCH

When focussing on the empowerment of residents by focussing on the increase of health by green spaces, it is important to keep in mind that green is not the only way to improve health conditions. More research on the health benefits of for example paved areas and dwelling conditions is needed to obtain a total view on how health can be increased in deprived neighbourhoods.

6.6 KEY CONCEPTS

Some concepts could be interpreted in different ways, therefore the most important ones will be defined below.

DEPRIVATION

Hulsbergen (2005) states that deprivation is about exclusion of residents who live in or make use of the urbanised environment. The City of London uses the 'Indices of Multiple Deprivation' to measure the deprivation within small areas within the city. This index measures different kinds of deprivation separately and combines them afterwards to be able to define an overall score (Greater London Authority, 2011). This Indices of Deprivation will be used to define the major problems within the deprived areas and will determine which problems will be addressed in the final framework/design.

REGENERATION

The concept of regeneration is not limited to Urbanism. The biological definition of the concept by Couch and Fraser (2003, p. 2) is 'regrowth of lost or injured tissue, or restoration of a system to its initial state'. Couch and Fraser state that this definition applies to urbanism as well. It restores economic activity where it has vanished, re-establishes social structures when it is abolished and returns environmental quality or ecological values when it has disappeared. So urban regeneration can be defined as a way of planning which deals with adjustments within the existing fabric, instead of planning from a tabula rasa (Couch and Fraser, 2003). The final thesis will include a framework to regenerate the adjacent deprived boroughs and will address different kinds of deprivation within the existing urban fabric.

GENTRIFICATION

Gentrification is defined by Smith (1996, p. 2) as 'the process by which poor and working class neighbourhoods in the inner city are refurbished by an influx of private capital and middle class homebuyers'. Mostly, the existing buildings are revitalised so the

housing stock becomes more attractive for higher income groups. This revitalisation causes also higher property rates which results into the displacement of the initial tenants to cheaper parts of the city because they cannot afford living in the area anymore. Phillips states that gentrification is a social upgrade of the population within an area (2002). The former transformations of brown fields within London can be characterised as gentrification projects, because the relatively poor population is replaced by a more prosperous group of people.

DISPLACEMENT

Hartman, Keating, and LeGates (1982) explained the concept as something "what happens when forces outside the household make living there impossible, hazardous or unaffordable" (p. 3). So it is about a forced movement of people or groups by external factors. In general, displacement affects people on four different aspects: economic, physical, the neighbourhood and individual (Marcuse, 1985).

SOCIAL POLARISATION

Marcuse (1989) uses the metaphor of an egg to explain the concept of polarisation. Normally the population is egg shaped, with a majority of average of the population in the middle and some prosperous people on the top and some less prosperous on at bottom. Polarisation is described as a process which transforms the egg shaped population to a hourglass shape, which occurs by a narrowing middle part and growing ends. This means that the amount of prosperous people and less prosperous people grows and the amount of average people declines. Social polarisation occurs when differences between groups of people grow. Those differences can be seen in income, education, ethnicity, gender and age (Stouten, 2010).



5. DESIGN GOAL

5.1 CONCEPT

One of the findings of the analysis is that the Brixton-Battersea area contains two main centres which are surrounded by deprived areas. In this, Battersea is the brand new centre which offers the more expensive amenities, different kinds of leisure and access to the Thames. Brixton is characterised by its authentic character and mixed population and provides small specialised shops, petite restaurants and a good nightlife.

Because both areas cover a different niche they do not function as competitors, but could be an addition to each other. People of Brixton could do the more expensive shopping in Battersea instead of travelling to the city centre and the people from Battersea might want to enjoy the nightlife in Brixton or go for a decent meal in one of the small restaurants (see figure xx).

Such a development could function as an impulse for Brixton, which creates more employment and could change the image of the area.

To stimulate such a development, the area in between should provide a proper connection. Analysis shows that the deprived area in between contains many barriers (see figure XX) and no proper public transport connections (see figure xx). In order to establish such a decent connection, strategically chosen existing green spaces will be improved and connected, which will establish a enjoyable connection between Battersea and Brixton without barriers (see figure XX). This connection should support different kinds of transportation, like walking and bicycling, but there should also be public transport that connects the two centres.

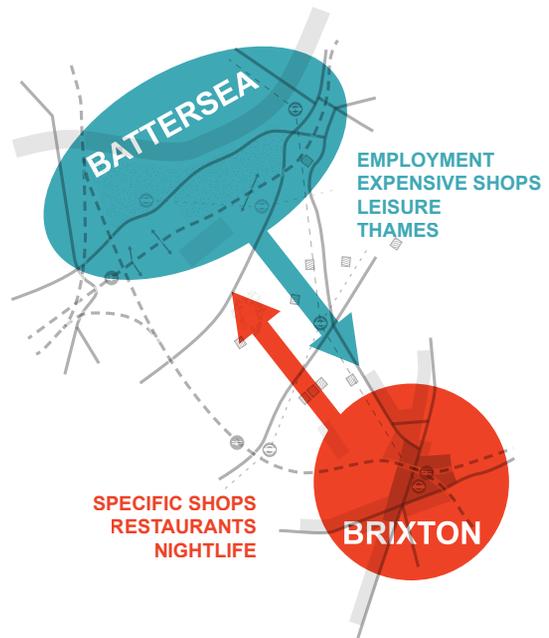


Figure 9: The two different centers which could complement each other.

But the improvement of the green will have another purpose. Because the quality of the green will improve, the residents of the deprived area will benefit from this. As showed in the theoretical framework, decent accessible green affects health, social ties, crime and social aspects positively.

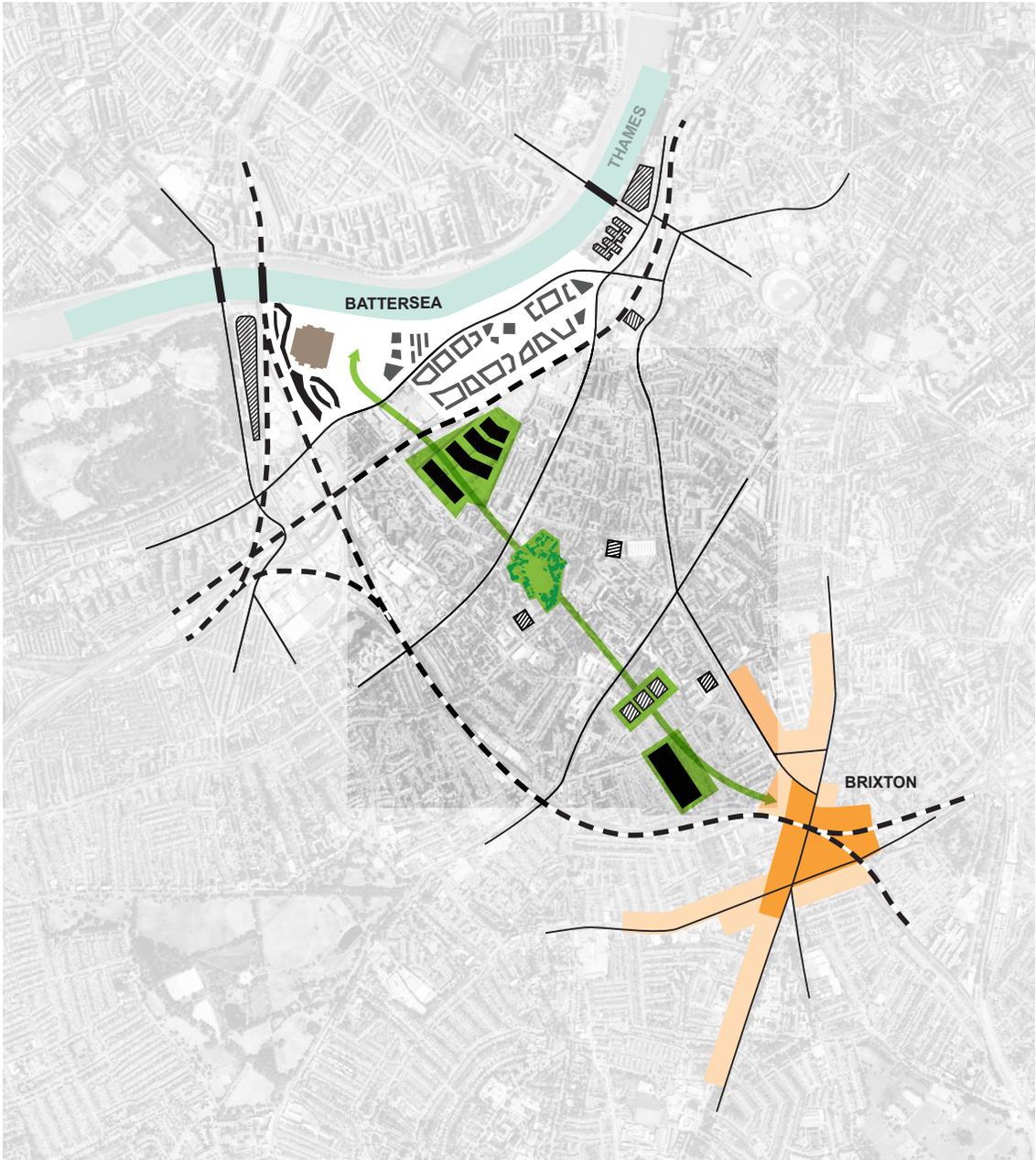


Figure XX: connected parks create a route between the two centers and counteract deprivation.

5.2 FRAMEWORK AND DETAILS

The project will exist out of one framework which consists out of smaller projects. Those smaller projects will use a bottom-up approach, which tackles problems on a lower scale. All the projects together create the connection which deals with issues on a bigger scale.

The framework will cover the two centres and the area in between (see figure xx). The two main details will elaborate how the new connection is embedded within the centre. In addition to this, the detail of Brixton will focus on the regeneration of the centre and the detail of Battersea will focus on how the connection connects to the Thames and the new developments. A third detail will show how the different improved green structures are linked.