

Design Book

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Restructuring South Arch, Rotterdam

- Waterfront Regeneration : Combating Segregation In Cities By Urban Renewal

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This Thesis-Graduation project for MSc (Urbanism), and the two years spent in Netherlands will stay with me as an important point of reference, both for my personal and professional life.

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“Urban areas are complex and dynamic systems which reflect the many processes that drive physical, social, environmental and economic transition, which are main generators of many such changes. Urban Regeneration is an outcome of the interplay between these many sources, and it is also a response to the opportunities and challenges which are presented by urban degeneration in a particular place at a specific moment in time, however it is most important that all urban problems are unique to a particular town or city”

- Peter Roberts, 2000

Urban Waterfront Regeneration and Segregation in cities are two issues that fascinate me. I have personally observed such projects and problems in my country, studied similar examples in international context and also in theoretical exercises. The choice of Rotterdam south area for my final thesis project allowed me to bring the two issues together in an attempt to find a solution to these key urban problems. They are also the good examples for experimenting with various urban design theories, methodology and analytical tools, design scales as we will further discover in the analysis chapters.

WATERFRONT: The word 'waterfront' identifies the urban area in direct contact with water. These areas in riverside/seaside cities correspond usually to the area occupied by port infrastructures and port activities, abandoned and vacant natural lands which were never used, or squatter and unorganised small scale industries developed along the water edge.

In this times of increasing urbanisation and changing lifestyles Cities cannot succeed while ignoring the physical realm of the city. As cities shift from industrial to service economies, a major aspect of their success will be in the quality of their urban environments. It is here that the waterfront plays a critical role. Waterfronts being the sites of the former industries, warehouses and transport lines are often the most degraded places in the city. Waterfronts are also highly visible locations in most cities and hence of a very high aesthetic potential. The image of the city can be remade here.

The revitalisation of waterfront areas is one of the most interesting urban renewal policies since the 1980s. From this point of view, marine and riverside cities can be considered laboratories for the process of urban renewal presenting a broad range of cases and a variety of the results. Many of these examples are though very different in terms of geography, dimensions, population and culture; they can be valuable sources of ideas for the future.

SEGREGATION: Segregation has been a rather ambiguous concept used in many different contexts. Sometimes it has been used to characterise general differences in the social composition of residents in different urban areas- synonymous to social geography of cities. In other context, it refers to spatial concentration of certain social or ethnic groups.

Generally cities are divided into neighbourhoods having different qualities and inhabited by different groups of people. This variety and

differentiation in cities is normally accepted as a positive thing as people can chose according to their economical limits and social preferences. It is therefore not seen as a spatial problem, but as an obvious result of the general economic and social inequality in societies.

However a concentration of poor households lead to a neglect in maintenance of buildings and basic infrastructure services, lack of private investment, sports and leisure facilities, proliferation of trafficking, alcohol and drug consumption and other non visible social problems and above all disinterested attitude of local authorities towards the non/marginal tax paying populations leading to a socially unacceptable situation. This signs of Urban Decay can manifest in the so called problem areas of slums or deprived neighbourhoods or areas of urban decay. In the worst-hit areas, a process of abandon has begun, leaving empty apartments and half-destroyed buildings.

These problems are all the more visible in the multi-storeyed, multi-family post war housing, suburban and peri-urban developments suffering from a lack of identity and impersonality. Far from city centres, lacking basic transportation and infrastructure facilities, without connection to nature and inhabited only by the most poor and discriminated against population these ensembles have already been identified as zones needing important urban renewal strategies since late 60s.

URBAN RENEWAL: The urban renewal is seen as the art of recreating a city on the existing city by mutation and sedimentation of existing urban tissue to accommodate the new land occupation, functions, uses, and population. Often it manifests by large physical interventions – new cultural centres, parks, transportation networks, renovation/rebuilding of renewal of residential and commercial buildings. There are also policies/management level decisions that can be decisive in the re-looking of an urban area, for eg: tax structure that may encourage or dissuade a certain functions, judicial restriction of a certain type of transport or activities in

certain area, Reinforcing education and civic awareness in problem areas, Promotion of social and cultural events with a strong link to the area (e.g. cultural fair, or exhibitions), and so on. Many cities in Europe and all over the world have adopted this mix of physical renewal and management strategies to transform existing urban areas posing issues like exclusion, fragmentation, disuse and degeneration.

Even though Urban Waterfront Regeneration and Urban renewal of segregated areas per say are separate processes one should approach them from a common ground because more often than not they pose similar problems and are interdependent or related by their dependence on the same city.

Case of Rotterdam: In Rotterdam, the biggest port city in Europe, each and every portion of the waterfront has a strategically high functional and aesthetic potential. This potential can be achieved by a synchronised utilisation of land for infrastructure, transportation, economical development and residential, culture, and leisure purposes with a right mix of functions and users.

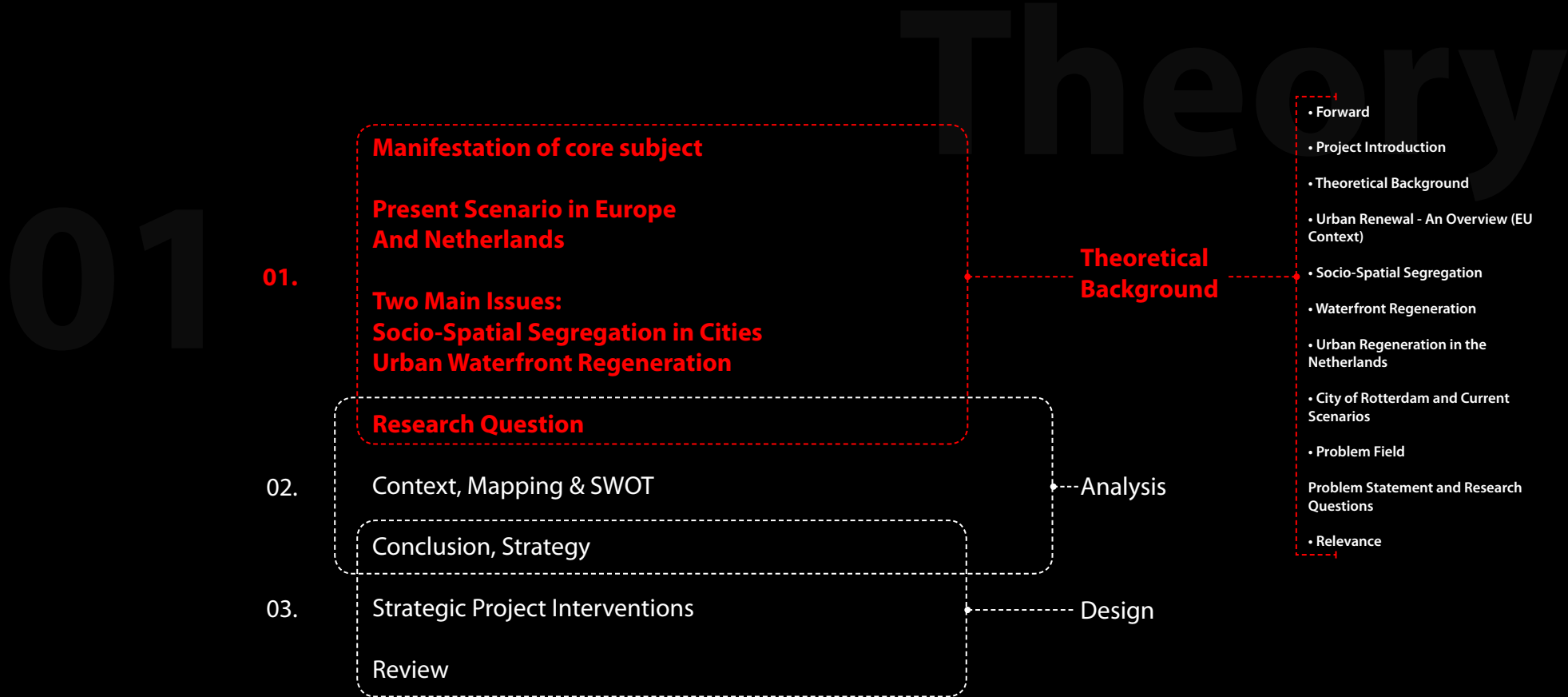
The Nieuwe Maas River is a determining factor in the future development of Rotterdam and has always been an important spatial element distinguishing Rotterdam from other cities. The city centre on both the banks is a strategic area that should keep developing programmatically and spatially, into a lively and attractive space for inhabitants, visitors and businesses. The Industry to Service sector shift has here left a lot of is room for more homes, shops, facilities, tourist attractions, and office and business facilities waiting to be exploited.

The proposed project area presents as much developmental potential as the well known Kop Van Zuid project in terms of mixed use development, better connection to surrounding neighbourhoods, public places and amenities as well as future local and regional infrastructure. It presents

at the same time similar socio-spatial problems to be dealt with. A study of KvZ can therefore help to anticipate and avoid the unwelcome side effects faced by it.

The process of Design includes various stages including Theoretical base, Research, Analysis and defining problems, Strategies, Design development and to review whole process for Evaluation

Following are the main stages of the design to understand whole process of the project from Theory to Design: to begin with Theory and Research



“Space is a material product, in relation with other material elements – among others, men, who themselves enter into particular social relations, which give to space (and to the other elements of the combinations) a form, a function, a social signification. It is not, therefore, a mere occasion for the deployment of the social structure, but a concrete expression of each historical ensemble in which a society is specified.” Space in Urban context as described by Castells in *La question urbaine* (1972)

Over 20 years after publication of *La question urbaine*; Castells points to an evolution from a structural to a more subjective approach and to the integration – though not complete – of both points of view in a structural theory and urban change. Although he himself indicates analytical problems, he places the concept of the Dual City together with the Information City, thus stressing the Dual City and Segregation (Polarisation) again (*Stouten, 2000; Castells, 1994*).

In practice there are many policies and strategy to cope with this problem by interventions at different scales. Urban Renewal - one of the basic processes towards solving problems of urban segregation / polarisation, where many strategic projects get realised by improving housing, infrastructure (connectivity and accessibility), economical activity, recreation and cultural interventions, waterfront oriented projects, redevelopment of old harbour and port areas, revitalisation of old and poor areas. Many such urban renewal schemes have been implemented in Cities like Paris, London, Amsterdam, Rotterdam, Hamburg, Berlin, Baltimore, Boston, etc during last 30 years.

These cities have urban renewal plans comprising of many interventions at different scales. For example ; Connectivity of poor areas to some important commercial hub of the city for economical benefit, important commercial development as facilities development, pedestrian zones and tourist attractions, or waterfront development to connect city to water as and give nostalgic feeling to the people. Many of these urban

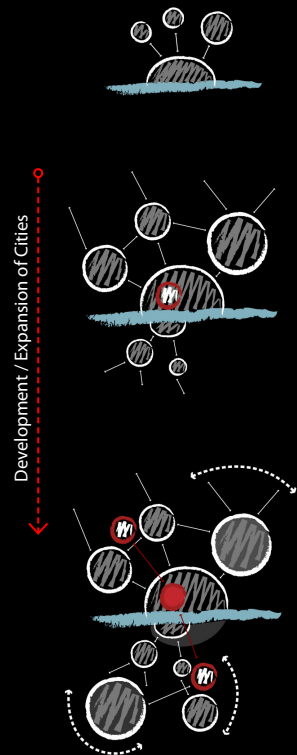
renewal plans fail in their social and cultural objectives while succeeding in creating economic uplift by waterfront development as seen in Rotterdam South. At this conjecture we need to first understand why is it so? Therefore, I would like to define the important research and analysis parameters that I shall use to arrive at my project proposal for ‘ Restructuring South Arch, Rotterdam. Some questions to start with:

- How urban waterfront development strategically helps the city as a whole in terms of economical, social, spatial and cultural growth?

- What are the important guidelines to keep in mind while considering urban waterfront development as a project not only for rich and higher-middle income people but also for poor and socially segregated inhabitants?

- What kind of strategic intervention beneficial to all levels and sectors of population, resident and visitors should be proposed?

Urban Renewal - an Overview (EU Context)



Urban areas are never static, they are constantly changing: either expanding, contracting or undergoing internal restructuring in response to economic and social pressures (Couch, 1990). Much of the change that affects urban areas results from the gradual spatial and sectoral adjustments to economic activity and the movement of population between or within existing urban areas.

These spatial and sectoral changes in demand for land and buildings lead to the intensification of use in some areas, a reduction of density in others, in some cases to refurbishment and perhaps a change in the use of a building, in another case to demolition and reconstruction, and in a few cases to the abandon of buildings, vacancy and dereliction. Furthermore, there will be public utilities, transportation infrastructure and social facilities to be provided, adapted, expanded, contracted or replaced in response to the changing demands in as much as these changes affect the physical structure and fabric of urban areas. In short, 'Urban renewal is seen as the physical change, or change in the use or intensity of use of land and buildings, that is the inevitable outcome of the action of economic and social forces upon urban areas' (*ibid*).

Cities comprise of various districts and neighbourhoods, each with its own function, nature, architectural style, attraction, advantages and disadvantages for residents, businesses and visitors. Some areas can be characterized by one single problem, such as noise from an adjacent railway track, while other areas are characterized by a multitude of problems. Some areas are made up of multi-family units or even overwhelmingly high-rises, while others are typically single-family areas.

Manifestation of Urban Decay and Deprivation: Cities are divided into neighbourhoods which have different qualities and are inhabited by different people. This variety and differentiation in cities is normally accepted as a positive thing. People with different needs and economic

resources can choose to settle in different parts of the urban landscape in accordance with their preferences for, and willingness and ability to pay for, the qualities available. Inequality in the environmental qualities and location enjoyed by different groups is therefore not seen as spatial problem, but a result of the general economic and social inequality in societies.

However, sometimes this differentiation of urban space seems to go too far and conditions in certain parts of the cities become unacceptable. These problem areas are called slums, deprived neighbourhoods or areas of urban decay. The neighbourhoods in question are characterised by widespread physical deterioration, a lack of investment in buildings and services and a high concentration of visible and invisible social problems among residents. In the worst-hit areas, a process of abandonment has begun, leaving empty apartments and half-destroyed buildings.

Furthermore, the flexibility of the building supply and the urban fabric in terms of its usage and ability to create added value in line with new economic trends is of utmost importance. The rise of new technologies, especially with regards to information, and its growth on a world-wide scale has contributed to a new geography and to the renewal of the spatial structure, which is characterised by centralisation and marginalisation. This new geography reproduces possibilities already existing in part, and current forms of economic growth (Stouten, 2004; Sassen, 1999). At the same time, there is an increasing contradictions that indicate unequal positions with regards to access to strategic resources and activities between different cities and different households and population groups. Integration of diverse groups and identities, to avoid social exclusion, is imperative for the development of a sustainable city.

Degradation of housing stock and neighbourhoods: In European cities, the corpus of housing and neighbourhood facilities in pre-war and post-war housing areas (normally 40 to 100 years old) no longer meet

today's standards. Though a lot has been invested for physical upgrading of these buildings in last 3-4 decades studies reveal that the conditions remain far from agreeable.

As per Leipzig Charter on Sustainable European Cities (BMVBS/BBR; March 2007); following parameters results causes urban degradation:

- Many dwellings show clear signs of physical decay and long lists of physical housing problems can sometimes be produced. These lists may include problems with the construction of buildings themselves, damp rooms, elevators that do not work properly, etc.

- Relatively cheap housing attracts those households that cannot afford to live elsewhere, leading to a population that is uninterested in the neighbourhood itself, not in bonding with others living there.

- Many deprived urban areas are characterised by a disproportionate number of the unemployed or those with other disadvantage such as the elderly with low pensions, etc.

- Deprived urban areas are often characterised by unsafe places and variety of anti-social activities.

- Public space may be dirty, dysfunctional or dangerous.

- An increasing number of cars may cause traffic-jams, parking problems and insecurity on the streets for children.

- Stigmatisation of a neighbourhood can arise from downgrading processes in the area, especially when the process of decay is covered by in the media.

Turkington and Colleagues, 2004 (*BMVBS/BBR; March 2007*) have systematically listed a range of problems identified by several authors

across many countries as typical for large housing estates built in first three of four decades after Second World War, with some adaptation they can be used in a more general sense.

The Problems:

- Structural problems refer to the usage of building methods and poor quality materials, resulting for example in poorly constructed dwellings and housing blocks.

- Urban design or spatial problems are related to poor location (e.g. Distance to the city centre), high building density and problems with traffic

- Internal social problems, antisocial behaviour, crime, etc.

- Management and organisational problems result from inadequate maintenance and insufficient resources.

- Wider social-economic problems can have their impact on an urban area, leading to problems such as high unemployment or poor schooling. A high concentration of households living in such circumstances in expected to intensify problems.

In Northern and Western Europe, many problematic urban areas are characterised by the presence of social or public rented dwellings the only affordable homes available to low-income households in or near the city. Proximity to the city is important due to employment prospects. But not every area with a majority of social rented dwellings is automatically a problematic area. Privately owned housing block exhibits other aspect of social problem where owner exploit tenants by demanding huge rents in exchange of no facilities which is also a kind of anti-social behaviour. The government is now targeting such cases and trying to apply certain

standards of neighbourhood development/renewal.

This variation is possible between countries, between cities, but even between similar areas within cities. In countries with a low number of social or public rented dwellings, the cheap owner-occupied sector is the one in which low-income households (have to) live. These are found more in Southern and, after privatisation, Central and Eastern Europe.

Many scientists and governments believe that urban planning and better housing will automatically help to solve all kinds of social problems. Physical interventions would lead to solving problems such as criminality, social disintegration, unemployment and even poverty. Certainly different physical environments may offer different opportunities for human behaviour: nice open, cosy squares may stimulate social contact between people, while dark tunnels may give rise to various types of criminal activity. But the scale of the effect of physical restructuring on social aspects in a city remains to be seen. It could be that the social effects of physical plans are more successful than the social effects of social measures. Physical investments are often the most costly, and could be used as a focal point to attract and group further activities, budgets and key players around them to create synergies and integrated answers to complex problems.

Socio-Spatial Segregation

Segregation as Interaction between Social and Spatial Inequality:

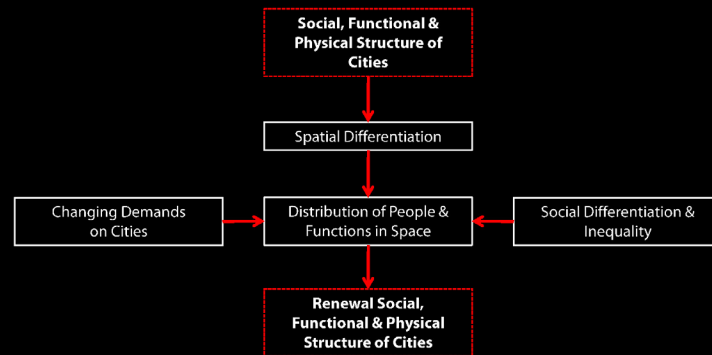
The development of cities has occurred as interaction between social and physical changes. It has been called a socio-spatial dialectic (*Soja, 1980*), a continuous two-way process in which people create and modify urban spaces while at the same time being conditioned in various ways by these changes. Areas, in which people prefer to live and work, or have access, continuously change. However, people's economic resources and preferences for and affiliation to places are also changing simultaneously. As a result, the social and physical structures of cities have undergone pronounced changes over the years. The growth of every town can be

seen as 'twin process of outward extension and internal reorganisation' (*Knox, 1995*). While cities have been extended by new estates on the suburban fringe, existing urban areas have been subject to functional and physical changes; they have sometimes been converted to accommodate new uses. In some, existing physical structures have become obsolete and have deteriorated.

Urban decay is a result of the interaction between social, economic and physical changes in cities, but as per author Andersen, Hans (2003), deprived neighbourhoods also constitute a very important element of this interaction. The deprived areas act as magnetic poles that attract poverty and social problems, and repel people and economic resources in a way that influences other parts of the city. They are the visible signs that cities are subject to special socio-spatial forces that create and physical inequality, unstable conditions and sometimes destruction.

The diagram below, illustrates how these changes occur in cities. The figure shows that the distribution of people in space is a product of both social and spatial differentiations. This spatial differentiation is a product of the social, physical and functional structure of the city, a structure that is continuously changing due to economic investments and disinvestment as people and functions are redistributed in space. Cities become divided into identifiable areas that can be relatively homogeneous, but exhibit distinctive characteristics with very different physical qualities, such as housing stock, architecture, natural attractions, access to recreational areas, waterfronts and access to transport facilities and service supply but also by less tangible qualities such as social image, status and security. For example (in case of Rotterdam-South), most important factors for residents' perceptions of their problematic neighbourhoods are: traffic problems, street cleanliness and maintenance, accessibility to open and recreation places, frequency of anti-social activity (vandalism, violence etc.), Accessibility within the city as a whole, social interaction and landscaping. Preference for living in various neighbourhoods can

vary between households with different needs and lifestyles, but there will always be some common values among people that result in some neighbourhoods being appreciated more highly by the majority, while others are seen as very unattractive.



The Interaction between changes in social and spatial differentiation in cities (Source: Hans Skiffer Andersen; 'Urban Sores'; 2003, page-23)

Most countries in Europe have experienced specific problems that have emerged in certain more or less well-defined parts of cities called deprived or depressed urban neighbourhoods. These problems were initially found in the oldest urban areas with the lowest quality housing. Since the beginning of the 1980s, however, in Europe they have also emerged in newer social housing estates outside city centres (Andersen, 2003).

These neighbourhoods display visible physical and social problems that can disfigure the perhaps otherwise attractive urban landscape. In severe cases they could even be termed sores on the face of the city. They are often perceived by the public as places that are not inhabited

or frequented by decent people – they are seen as ‘places of exclusion’ (*ibid*).

To see particular example; let's look at famous London Dockland project which started with good intention but after several years it still faces problem of segregation - The City's South Bank has been subject to regeneration plans and paradigms throughout the 20th Century, but none of them has been able to curb processes of deprivation and polarisation. Like most inner-London neighbourhoods, the South Bank still faces a sustained decline in terms of population numbers and local employment opportunities, in spite of a vast range of (independent) regeneration projects, substantial financial resources and powerful local regeneration partnership boards. Contemporary regeneration attempts on the South Bank consist of a loose conglomerate of individual projects that first and foremost try to link the South Bank economy to the thriving cultural, commercial and tourist industries on the North Bank. The dominant regeneration agenda, with its focus on affordable housing and facilities for the local community, has gradually paved the way for a more business-oriented agenda in which local firms and non-accountable partnerships play a much more dominant role.

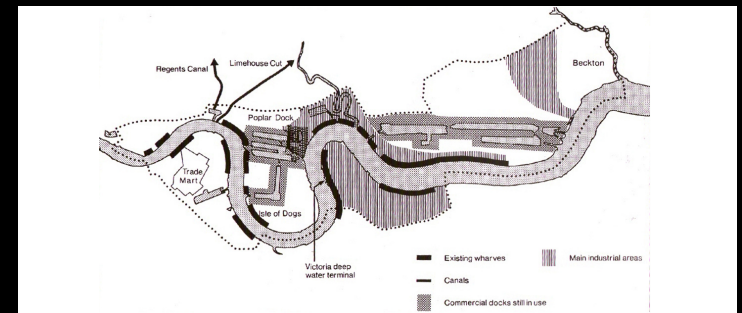


Diagram: Docks are central hub and wharves as extended ribbon along the river (Source: Han Meyer; 'City and Port', page-79)

Expert of this research concludes; the south bank first and foremost needs an overall development plan, which would bring the piecemeal character of current regeneration policies to an end, and gives strategic direction to the renewal process along with new agenda.

is not always on buildings such as old factories, but also more generally on the transformation of old and redundant harbour areas and railway shunting yards.

Urban Renewal: Categories

To start with I would like to include some of the guidelines proposed by the German EU council Presidency along with Federal Ministry of Transport, Building and Urban Affairs (2007); as a larger scenario of the subject:

Which issues are central in the cases? Which problems are to be tackled by the different policies envisaged? I would like to elaborate the three following groups as examples in urban regeneration:

- **ONE** type focuses on improving the situation of “deprived city centres”. Here, physical measures aim to modernize the centre. This could be to increase local and regional attractiveness and the tourism image, or to improve overall economic performance.

- **SECOND** type focuses on the complete “replacement of areas” that does not function well on the housing market for one or more reasons. These can be old neighbourhoods that have been problematic for a range of years/decades.

- **THIRD** type deals with the “transformation of functions”. Most of these cover a transformation of old and derelict industrial/social housing functions into new housing or commercial ones. Surrounding areas, once developed for housing the local workforce, suffer from industrial decline in several ways, including an increasing unemployment rate. These types of projects aim to transform the old industrial site and to improve the often poor situation in nearby neighbourhoods. The focus

Waterfront Regeneration

Importance of Waterfront:

In pre-industrial cities, waterfront areas were intensely used and thriving with people and activities. In particular, river cities display an intimate and complex relationship with the water which was never considered as a limit but an extension of the urban fabric.

With the industrial era, this relationship was interrupted and cities began to expand into the mainland. The development of port activities also blocked access to the water and with the development of railroads, followed by road networks waterborne transport has become less important.

At the end of the 20th century, the image and structure of the 'industrial city' was greatly modified, primarily because of the rapid and often large-scale decline of the 'industries' that took place during the second half of the century. These cities are now defined as "post-industrial" cities, where large urban areas have first become obsolete and then been abandoned, creating problems of both physical and social deterioration. In some cities concentrated development and building activities are observed on only one of the banks of the city. The economical and residential activities are shifting to a single side of the river with development of numerous new suburbs where new constructible land and inter-regional transportation is available abandoning city centre restricted by its river front to gradual impoverishment and decay. eg. Ahmedabad.

Many cities have reacted to this phenomenon with programs to regenerate the run-down areas, interpreting the post-industrial phase in a positive sense as an opportunity to re-vitalize the urban economy, to experiment with new objectives and create new challenges. In more recent years, urban settlements are rediscovering their water edges and rivers as a result of renewed attention and awareness towards water in general, also related to the growing interest in environmental issues and the development of leisure activities.

Key Factors in Urban Waterfront Regeneration around the world: [Pros and Cons]

Strength:

1. The 'strategic' value of waterfront areas for the development of the city as a whole: Waterfront Development is the answer to the need for city expansion in central areas and convenient in terms of 'quality' and 'quantity', in contrast to the negative outcome of city expansion in the suburbs.

2. The 'location' factor of the waterfront: Waterfront are often located very close to city centres, even if access to them may have been difficult in the past but present technology and design skills can solve such problems. Waterfront recovery means making spaces available for the introduction of new activities.

3. A rich heritage of infrastructures and historical buildings: Old and heritage buildings and their preservation through restoration and conversation can help in preserving the site/project area's original identity.

4. Direct contact with water: 'water renaissance' has taken place, water is once again seen as a resource and no longer an obstacle or a danger to be defended against and water has emerged as a positive and influential element for a new urban quality and with the capacity to attract a wide range of activities and people.

5. The evocative and symbolic value of waterfront areas: In many cases waterfront has old harbour or port areas which once were vibrant places often gives symbol of wealth and power for many cities on water around the world, before being separated from them by port activities.

Threat:

1. 'Standardisation' of the interventions, where planning/design 'models' have been imposed as they were considered appropriate in terms of profit and have thus been taken as a reference point for many other operations

but it is not working for all the cities [i.e. Rotterdam, London].

2. The acquisition of high profit levels is the main objective rather than the quest for a high quality as a final outcome.

3. An overly planned commercial, recreational and cultural functions and which lacks proper residential atmosphere which can bring longer-lasting stability [i.e. Rotterdam].

4. The scarcity of productive activities can also appear a negative aspect.

Few categories based on diversity of waterfront development which are widely used in cities around the world:

- New Urban Expansion; Mixed development (Berlin, London, Hamburg)
- Waterfronts and Great Events; Expo (Barcelona, Lisbon)
- New Urban Waterfront Itineraries; promenade, public plazas, beach (London, Barcelona)
- Reuse of Port Areas; mixed development (Rotterdam, Amsterdam)
- Flood Defences (Vienna)
- Urban Riverfront Regeneration (Antwerp, Ahmedabad, Seoul)
- Urban Beaches (Paris, Rotterdam, Copenhagen)
- Natural parks, gardens, public places (Ahmedabad, Sacramento)
- Mobility as a part of redevelopment (Ahmedabad, Sacramento)

Principle of Sustainable Urban Waterfront Regeneration Projects:

[based on Global Conference on the Urban Future (URBAN 21), Berlin; previously developed by Wasserstadt GmbH, Berlin]

1. Secure the quality of water and the environment: The quality of water in the system of streams, rivers, canals, lakes, bays and the sea is a prerequisite for all waterfront developments. The municipalities are responsible for the sustainable recovery of derelict banks and contaminated water.

2. Waterfronts are part of the existing urban fabric: New waterfronts should be conceived as an integral part of the existing city and contribute to its vitality. Water is a part of the urban landscape and should be utilized for specific functions such as waterborne transport, entertainment and culture.

3. The historic identity gives character: Collective heritage of water and city, of events, landmarks and nature should be utilized to give the waterfront redevelopment character and meaning. The preservation of the industrial past is an integral element of sustainable redevelopment.

4. Mixed use is a priority: Waterfronts should celebrate water by offering a diversity of cultural, commercial and housing uses. Those that require access to water should have priority. Housing neighbourhoods should be mixed both functionally and socially.

5. Public access is a prerequisite: Waterfronts should be both physically and visually accessible for locals and tourists of all ages and income. Public spaces should be constructed in high quality to allow intensive use.

6. Planning in public private partnerships speeds the process: New waterfront developments should be planned in public private partnerships. Public authorities must guarantee the quality of the design, supply infrastructure and generate social equilibrium. Private developers should be involved from the start to insure knowledge of the markets and to speed the development.

7. Public participation is an element of sustainability: Cities should benefit from sustainable waterfront development not only in ecological and economical terms but also socially. The community should be informed and involved in discussions continuously from the start.

Urban Regeneration in the Netherlands

8. Waterfronts are long term projects: Waterfronts need to be redeveloped step by step so the entire city can benefit from their potentials. They are a challenge for more than one generation and need a variety of characters both in architecture, public space and art. Public administration must give impulses on a political level to ensure that the objectives are realized independently of economic cycles or short-term interests.

9. Re-vitalization is an ongoing process: All master planning must be based on the detailed analysis of the principle functions and meanings the waterfront is concerned. Plans should be flexible, adapt to change and incorporate all relevant disciplines. To encourage a system of sustainable growth, the management and operation of waterfronts during the day and at night must have equal priority to building them.

10. Waterfronts profit from international networking: The re-development of waterfronts is a highly complex task that involves professionals of many disciplines. The exchange of knowledge in an international network between contacts involved in waterfronts on different levels offers both individual support and information about the most important projects completed or underway.

Urban Regeneration Policy Document; To shape the physical aspect of revitalising cities, the Ministry of Housing, Spatial Planning and the Environment has worked out a plan (the New Urban Renewal Policy Document, 1997) and a new law for urban renewal / urban regeneration (WSV, 2000). This policy addresses the urgency for reshaping inner cities, brown-fields (former industrial sites/harbours) and post-war neighbourhoods. The document concludes that in many cities a one-sided housing stock has developed, dominated by cheap, increasingly less desirable multi-family housing. Together with the declining provision of

services and amenities these districts can hardly compete with suburban, new construction sites in and around the city (so called VINEX-locations). The expectation was that these houses of the sixties and seventies will stand empty and fall into decay in the near future if measurements aren't taken. A neighbourhood approach is necessary. The primary feature of the document is not a technical approach to housing, as had more or less been the case in classic traditional urban renewal. Instead, it emphasized the necessity of ensuring sufficient market demand for housing in the long term, together with promotion of a differentiated population in terms of household incomes in every urban district. In this way the downward spiral of problems will be broken.

This goal has to be achieved by reducing the stock of social rental housing (demolition, sale) and expanding the stock of expensive owner-occupied dwellings (new construction, upgrading and amalgamation). In this way people can move through their neighbourhood instead of moving out (housing carrier in the neighbourhood). Besides the measurements in the housing stock the policy also concerns the upgrading of whole urban neighbourhoods and quarters, including public space, shops, employment, social participation and a variety of amenities (KEI, Netherlands, 'the policy'; English Summery, Retrieved on October, 2007)

Even before this current renewal policies, as per the old renewal policy 'Town and Village Renewal Act', 1985; (McCarthy, 1995) in Randstad, the importance of the marketing of cities as part of strategy to maximise international competitiveness led to the designation of 13 cities as 'urban intersections', within which new development was to be concentrated. These cities possessed key advantages such as well-developed business uses, a good location in relation to transport infrastructure and high level of amenities. Consequently, they have been given priority by central government in the funding of infrastructure (Spaans, 1995). The development of 'key projects' within such favoured metropolitan areas was further refinement of this concept, enabling investment priorities to

be related to specific development projects with the cities concerned.

In addition to the promotion of cities as 'engines of the economy', the prioritization of private sector investment in urban regeneration has also been seen as a priority for central government, which has taken a leading role in the designation of arrangements elsewhere. The objective of the 'key projects' is therefore the strategic, coordinated and targeted application of public sector funding of development infrastructure in order to facilitate associated private sector funding. Subsequently, the effective operation of public-private partnerships is an important part of the projects, and this is facilitated by the acceleration of necessary procedures in relation to development by both municipalities and the government. However, the operation of 'key projects' should be considered in the overall context of the culture of negotiation in the Netherlands, within which pragmatism is highly regarded. Consequently, even outside the 'key project' areas, municipalities and developers frequently continue negotiations regarding design details throughout the process of implementation (Needham et al, 1993).

Dilemmas and Questions about Urban Renewal:

At urban level people often have different ideas on how to actually tackle urban renewal. The parties who are directly involved, including the local residents, will first have to agree on some basic principles. If dilemmas arise, they will have to be reconciled by consensus. Urban renewal is fraught with dilemmas (Priemus, 2004):

- For whom is the urban renewal intended?
- Who decides which is the best policy on the urban renewal?
- Is the approach to be broad (many areas) or narrow?
- Is the approach market-compliant or non-market-compliant?
- Is cooperation requested from the social entrepreneurship of independent housing associations or are the measures to be imposed?

Who is the urban Renewal intended for: In national documents and in many municipal papers urban renewal is associated with balanced population and the prevention of spatial segregation. To some people this means upgrading the neighbourhood to attract better-placed residents from elsewhere. Others argue that the first priority is the living conditions of the current residents. There is an excellent way around this dilemma; target the upwardly mobile in the neighbourhood and to be sure that they are not forced to leave because the housing does not meet their future needs. This approach has led to positive experiences in the *bijlmermeer* (Amsterdam) and *Schilderswijk* (The Hague), where some of the upwardly mobile population bought new apartments and houses. This approach reflects a new interpretation of the old slogan: Build for the neighbourhood.

Who Decides: Local residents should play a dominant role in the decision-making. This would place a heavy emphasis on affordability and would presumably create a strong resistance to demolition. So, does one choose the government vision, which advocates extensive demolition, repositioning and the construction of (mid-range) expensive housing for owner-occupiers? OR is there enough leeway for different combination approaches by the cities?

Broad or narrow: The inherent danger in focusing so strongly on certain areas is that social problems merely move on to adjoining neighbourhoods. It might therefore be worthwhile developing district visions and a plan of action including many areas and to consider the whole area as one for future development.

Market-compliant or non-market-compliant: Pushing up the demand for owner-occupier housing and lowering the demand for social rented housing. The idea is then to demolish and sell rented housing and build a lot of extra private housing. The housing problems would then revolve around quality rather than quantity. However, the volume of

new housing available– though planned at 100,000 a year – has now slumped to far below the annual average of 70,000; with the result that housing shortages are not diminishing but increasing. At the same time, the private housing market is stagnating and putting more pressure on the housing stock.

Recommendations: Successful Urban Renewal: (Priemus, 2004)

(a) The approach must be demand-driven. What are the demands of the various categories of local residents and how far are they prepared to go to get them? These relate not only to housing preferences but also (and perhaps more importantly) to housing environment preferences. The different residents groups should also participate actively in framing the plans and the policy.

(b) Special attention should be paid to the demands of the upwardly mobile in the neighbourhood. Given their increased demands, how can they be presented with opportunities to stay in the neighbourhood and the city? How can attractive alternatives be created in the urban neighbourhood for this group?

(c) Feasible and meaningful future alternatives for the district should be explored through design and creativity. What potential lies in the neighbourhood and how can it be utilized? The long-term stakeholders in the district ultimately choose between the different options.

(d) Absolutely essential is an unconditional commitment by the municipality and the housing associations to upgrade the district. The municipality and the housing associations must coordinate their policy and reach multiyear agreements. The financial consequences of these agreements must be accepted by both sides, where necessary with support from fellow associations with relatively large resources.

(e) The focus on the district must be within a regional context. After all, the housing market is a regional housing market. If the core stock of affordable housing shrinks in one area of urban renewal, it is necessary to ascertain if it needs to be enlarged elsewhere in the region. Widening gaps in the socioeconomic status of the city and the surroundings must be avoided.

(f) The urban renewal plans need to be embedded in a long-term scenario (till 2020 and 2030) of population development in and around the city. The restructuring activities must be geared to the future as well as the current demand.

(g) Needless to say, urban renewal will be seen not just in physical terms, but rather as a comprehensive project combining the social, economic, physical and safety agendas.

(h) A multi-functional orientation is needed towards the development of the district. It is not only housing that matters but also business, employment, social and cultural amenities, shops, schools, parking facilities, greenery and the public space.

(i) So, urban renewal is a multi-player challenge. It is not just a task for the municipality, the housing associations and the residents but also for businesses, school boards, retailers, developers and real estate investors.

Location

Population - 596,407

Population Density - 2,889 Inhabitants / sq.km

Housing Stock - 285,982 nos.

Housing Stock Density - 1,383 per sq.km



At Country Level



Rotterdam At Regional Level



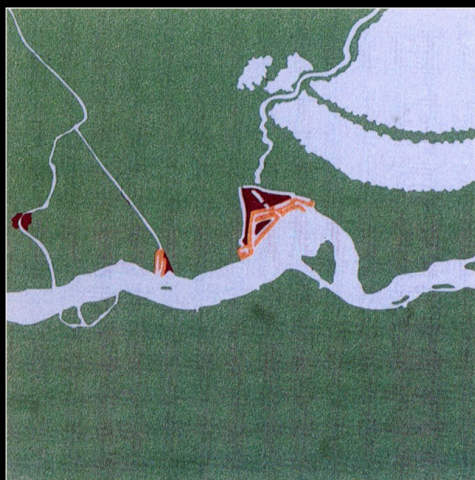
South Of Rotterdam In Relation With Waterfront And City Centre

City of Rotterdam and Current Development Policies

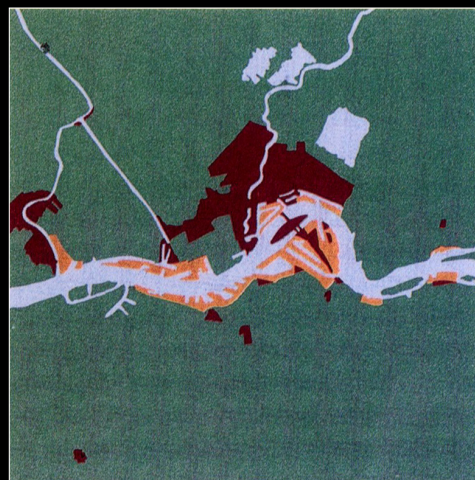
Background: Rotterdam, the second largest city (after Amsterdam) in the Netherlands with 588,718 (*Randstad Monitor, 2006*) inhabitants is located near the estuary of the river Rhine (Rhine Delta, Mouth of the Rhine, "Rijnmond"). Due to this position, with a large hinterland (containing a population of roughly 160 million people), Rotterdam functions as the gateway to and from Europe; since the middle of the 1970s the city and its region possesses the largest harbour in the world.

The great turnaround of Rotterdam took place in 1987 with the city council's presentation of "The renewal of Rotterdam". The mono-functional reconstruction of the city and port, and the city's policy of adoption a public housing approach could not prevent an economic crisis in the 1980s. The port and other riverside areas that were freed up were first filled with public housing in the early 1970s. Awareness that

comprehensive urban development could be a precondition for the city's economic growth and for housing of all population groups emerged in the mid 1980s, after which comprehensive urban projects stimulate were executed such as Waterstad, Kop van Zuid and other river bank projects. The port slowly shifted and slid westward. Thousands of housing units were built within the city, and the urban economy and culture was reinforced, a process that will continue over the coming decades and will slowly but surely produce a more balanced relationship between inner city employment and living accommodations which were the main goal of urban renewal plan. Though the port is moving further away from the city their connection remains functionally necessary. Headquarter of The international port companies demand high quality residential districts in the city as an essential consideration for new investments, the idea is to combine this demand with the potential of the port-city and the water-



1850



1900



1950



1990

front both attractive to tourist and new resident.

Waterfront and old port districts will be conceived as locations for new type of urbanity with facilities for education, art, tourism and leisure taken into account. Several studies have been done on based on the project design of cities of Baltimore, Barcelona, Hamburg and London. Three groups get priority; households with middle and higher incomes, families with children and elderly with higher incomes. Economics functions are stimulated in order to maintain employment levels and existing buildings will be reconverted for business, for media industries. Questions have been raised about the social and spatial effects of this program and uncertainties. The rise in the number of low-income households, who cannot meet the targeted demand level, is worrying. One could say that by this measure the government has stimulated an enormous increase in building prices because of the demand for owner-occupied housing. Newly built housing in the market sector will hardly be affordable even to, many middle income groups. Another important development has been that private investors have increasingly invested in the suburbs and along corridors with ambitious projects of shopping

malls and offices.

For strategic planning the main uncertainties are over the vertical and horizontal integration and conflicts about long term commitments between the local government and city municipality and the participation of a fragmented and heterogeneous population.

Kop van Zuid, Erasmusbrug-Brdige (De Zwaan), Ketendrecht, The district Noordereiland, Zuidkade, Entrpot are few important project realised during last 15-20 yrs which gave tremendous economic boost and aesthetic advantage to the city. Thought the positive facts are well known some of the negative outcomes of this projects should also be studied for which we will consider the implications of Kop van Zuid on Rotterdam South area.

Originally Kop van Zuid is intended to address following issues:

- Linking Kop van Zuid, and the suburbs to the south of it, directly to the city centre (Erasmus Bridge, new Metro station and the extension of Tram plus)



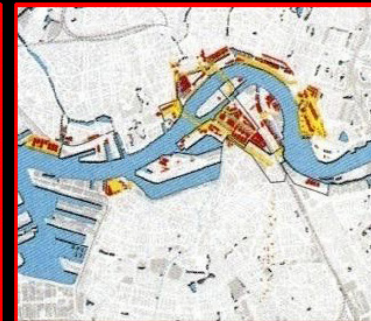
1985



1990



1995



2000



2005

- Creating a lively and attractive mixed-use district (offices, residential, leisure, education) in Kop van Zuid
- Insisting on high quality of design in all buildings and throughout the public realm

Kop van Zuid, Rotterdam: As per research and analysis by URSPIC Executive report, 1999; The Kop van Zuid (KvZ) project is a resounding success in economic terms but it failed to meet to a large degree its social objectives. It produced social polarisation in the sense that the increasing popularity of the area and the increasing demand for agreeable living space for well-to-do households spurred the construction of luxurious and expensive houses and apartments, to the neglect of cheaper housing

for households on lower incomes. The great demand for houses in the KvZ put housing prices and rents rapidly out of reach for population groups on low pay, for which originally a large part of the housing was meant. The lack of multiplier effects of the project into the surrounding poorer neighbourhoods makes the differences between the luxurious and rich KvZ area and its dilapidated surroundings all the more visible. Because the modern Kop van Zuid project is surrounded by more or less deprived neighbourhoods the project also makes social polarisation more visible.

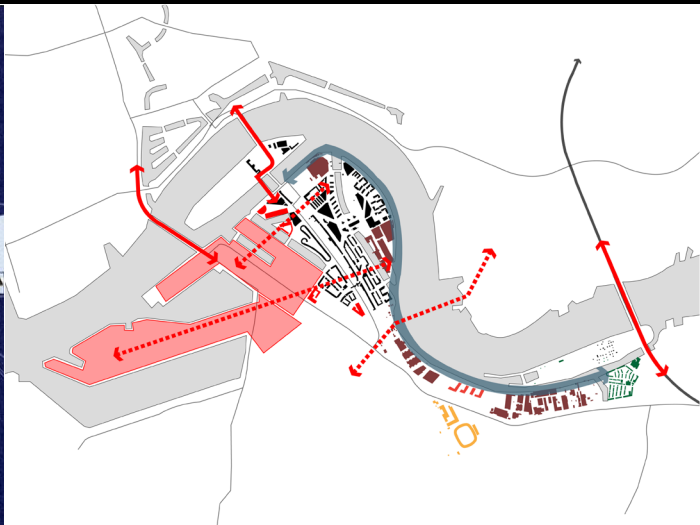
The KvZ project showed in the long term a positive effect on the local labour market, although this should not be exaggerated. The KvZ Mutual Benefit Project (MBP), acting as an intermediary mechanism to get local unemployed hired by KvZ-employers played an important role. MBP helped to reinforce the economic structure in the KvZ area and the



Original Axis of North-South Development



Kop van Zuid and other strategic projects during Urban Renewal Plan



Present Condition of Kop van Zuid and Surrounding

adjacent districts to some extent, although synchronisation between the MBP and socio-economic projects in the adjacent neighbourhoods did not occur.

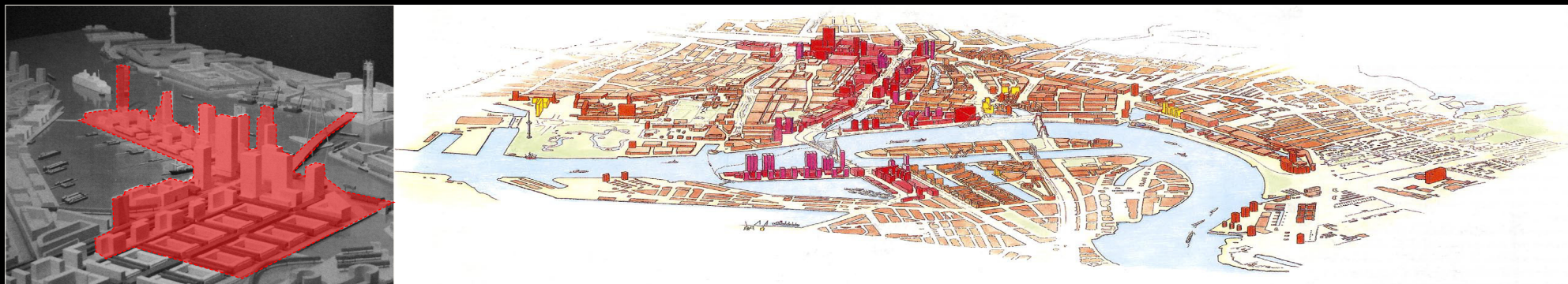
Project experience shows that it is easier to generate new jobs in the exploitation phase than in the development phase of an UDP. Moreover, it takes time to have an area or an adjacent district benefit from a project like the Kop van Zuid. The “transfer” or multiplier process is by no means automatic. Shops and shopping areas in the adjacent districts seem not to benefit from the Kop van Zuid project. KvZ-residents shop near their offices and in the city-centre. This is partly due to the fact that the quality of the shops and the streets in the area surrounding the KvZ is rather low.

The Kop van Zuid project was primarily an economic and spatial project in which the employment, social and housing department played only an auxiliary role. A more balanced and integrated approach is needed to optimise the social-economic potential of the project. To stimulate the integration between the KvZ area and the adjacent districts more houses for lower income households should be made available. In the adjacent

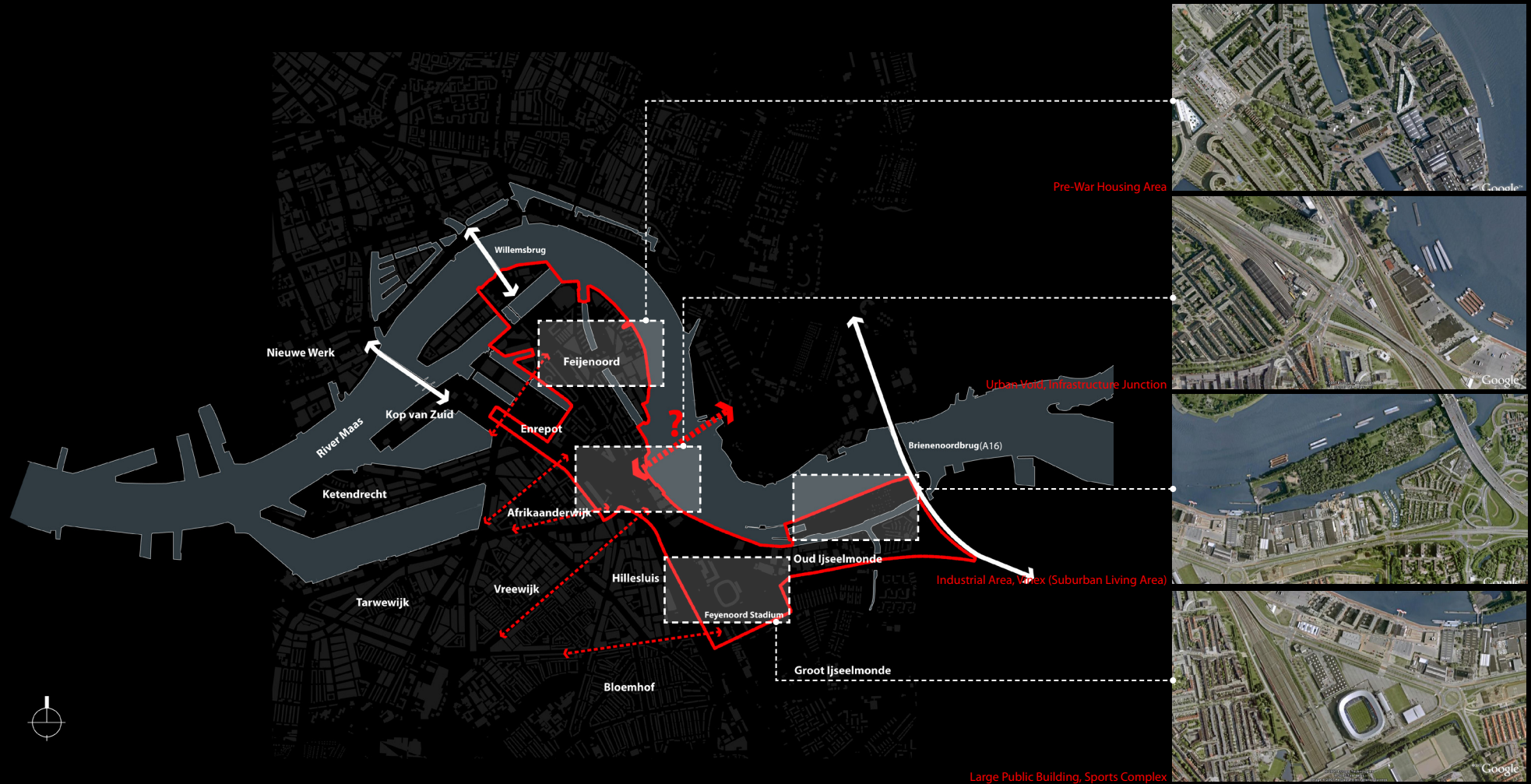
districts housing for higher income households should be constructed to ease out the sharp and visible differences between the KvZ and the poorer neighbourhoods.

In order to prevent socially and politically undesirable developments such as the increasingly strong tendency to only build homes for the well to do, local government should intervene in the market forces to prevent social polarisation.

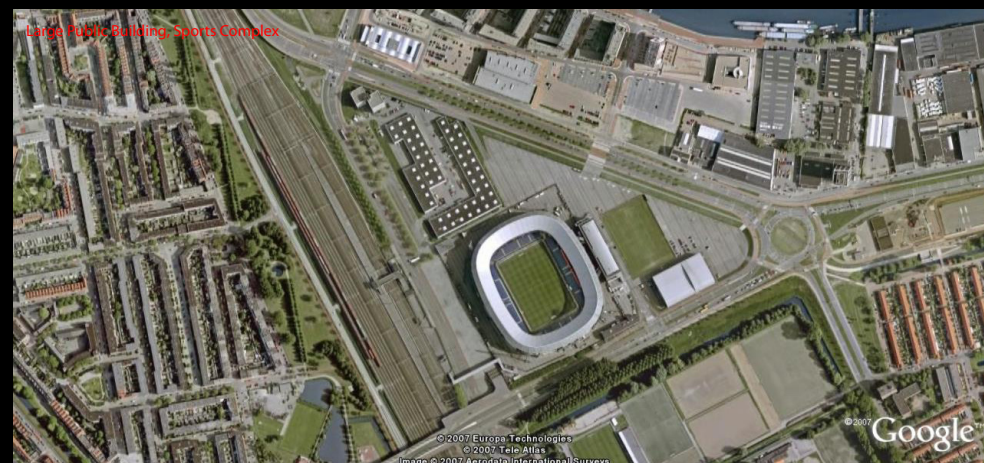
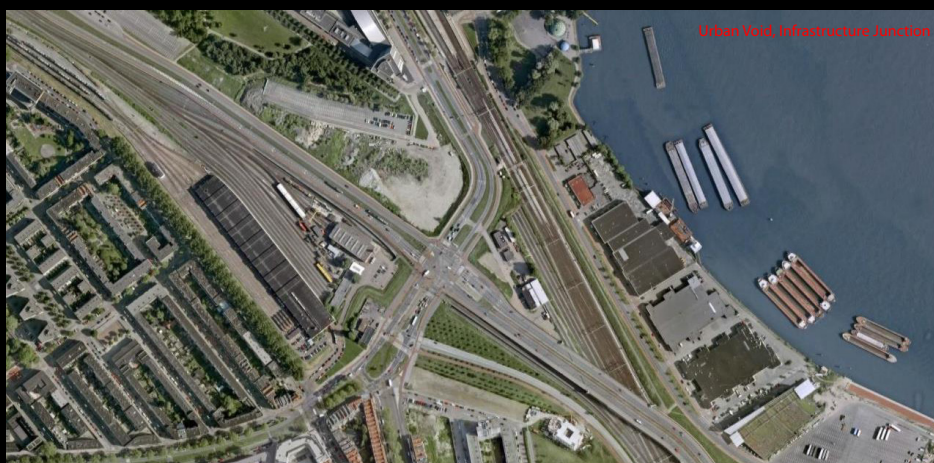
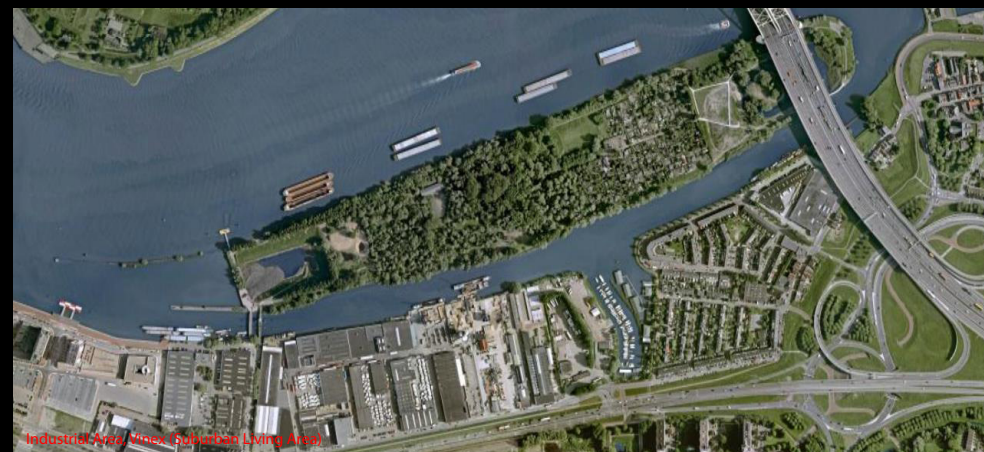
While as per view of Gerard Wigmans; (Wigmans, 2003) The Kop van Zuid as a strategic project has placed a huge financial burden on local public spending. This has been made at the expense of other projects and requirements in the city. And it has meant stagnation and problem areas developing elsewhere. The redevelopment of a number of employment areas implied that in the short term any substantial growth of large city employment cannot be expected. In the short term, there would not appear to be any solution to the extremely high unemployment in the old city neighbourhoods with their large ethnic minorities. Any growth of employment in the future is expected to take place mainly in the suburban zones of the city.







The Project area is situated on the south bank of the river Nieuwe Maas directly opposite the city centre on the north bank, and adjacent to. This project area includes variety of functions at present; pre-war housing area, Industries, newly developed housing blocks, feyenoord stadium area and regional infrastructure, railway and motorway, unused land area (urban void); It is partly under administration of borough - Feijenoord and partly to the Oude IJsselmonde district. Project has approximately 5km or river front (from Willemsbrug till Van Brienenoordbrug – A16). The project area surrounded by various districts; Kop van Zuid, Ketendrecht, Noordereiland (an isle in the river, belonging to the borough of Feijenoord), Zuidkade, Entrepot, Afrikaanderwijk, Oude IJsselmonde, Hillesluis.



Today though many parts of south Rotterdam are already under regeneration or new development stage, there are still left out areas in need of upgrading and renewal, suffering lack of community facilities and basic infrastructure like access to transport etc. So a new disparity is created within the outlying districts of the city which themselves feel economic and social segregations from the city centre calling for a more homogenous approach involving a group of such areas.

The proposed project area presents better developmental potential than Kop Van Zuid project in terms of not only for mixed use development but better connection to surrounding neighbourhoods, public places and amenities as well as future local and regional infrastructure. It presents at the same time similar socio-spatial problems to be dealt with and demands checks to be provided for the unwelcome side effects as exposed by the pilot project.

The Core concern of this Research and Design Project is, to understand the current scenario of Socio-Spatial Segregation in cities, the problems rising due to it , general deterioration of living conditions in poor urban neighbourhoods, and how a good Waterfront can act as a 'CATALYST' for the future growth and improvement of quality of life in the city.

Research Questions:

Fundamental:

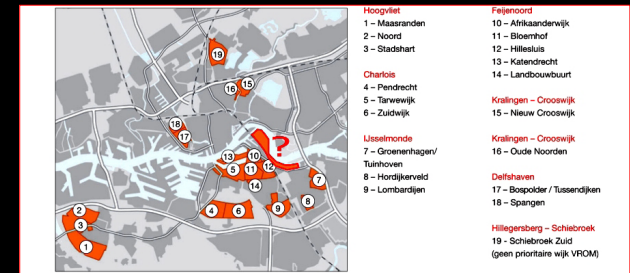
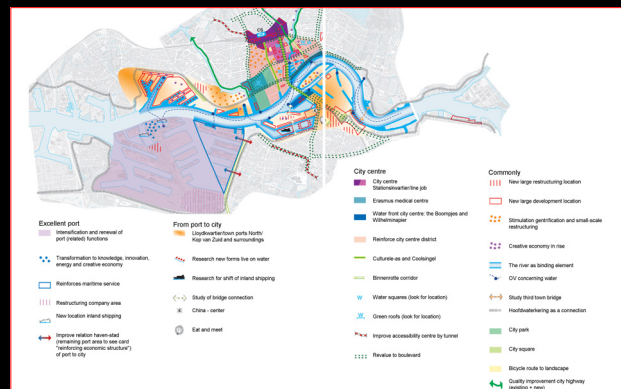
- How Urban Waterfront Development Strategically Helps the City as a Whole in terms of Economical, Social, Spatial and Cultural growth
- What are the important guidelines one should keep in mind while considering urban waterfront development as important project not only for rich and higher-middle income people but also for poor and socially segregated inhabitants?
- What kind of strategic intervention one should develop which is beneficially to all levels and sectors of population as well as outsiders?
- What are the criteria to look at while developing such large intervention while population of the city is declining? What are the parameters to justify the same based on research?

Specific:

- How Districts / Neighbourhoods functions? In relation to inhabitants, work, mobility, infrastructure, public space and facilities, consumption, etc.
- What is the present situation in terms of hierarchy of functions and at what level they are related to city as a whole?
- Are there any abandoned and empty areas situated in present urban structure?
- What are the missing requirements or functions which are crucial for this urban setup?
- Which are the new and ongoing projects planned in south of Rotterdam

as well as how are they useful to future development?

- What is the present condition of urban waterfront in relation with existing development as well as current policies related to it?
- How this area is connected to other part of the city as well as on regional scale?
- What will happen to existing inhabitants who live in this area? Whether, they will be moved out or accommodated in future development? What are the options to retain and develop different category of the housing typology?
- Who are the new users and how will they benefit to current users?
- What are the possible stages of the project and how flexible they might be according to economical, social and societal requirements?



In the Urban Renewal Memorandum (1997), the Dutch government fuelled the idea that the solution of neighbourhood problems lies principally in the attraction of affluent residents with higher incomes from outside the neighbourhood. This approach is not unique with respect to the Netherlands. The governments of several Western European countries have adopted housing policies that target mixed-income and mixed tenure areas with the aim of reducing, or preventing spatial segregation (KEI Website; Van Kempen & Priemus, 1999, Veldboer et al., 2002).

Rotterdam wants to meet all of these varied demands, so the construction of dwellings is not limited to proliferation of neighbourhoods on the edge of the city. At a surprising number of places in the existing urban area, often at splendid locations with beautiful views, there is room for concentrated high-density housing construction. The port areas were mentioned earlier; but there are also many places in the centre where construction can still take places. In addition to housing this area also offers space for a wealth of functions and a livelier city centre. The shortage of space in Rotterdam is subject to change for more reasons than the construction of dwellings alone. In attractive places - in the centre, along the riverbanks and at easily accessible locations along the ring road - one office complex after another is being built. In a city that is developing so strongly and dynamically, the infrastructure must also be constantly improved. Wherever possible this is done by improving the existing roads and mass transit lines (KEI Website, 2007).

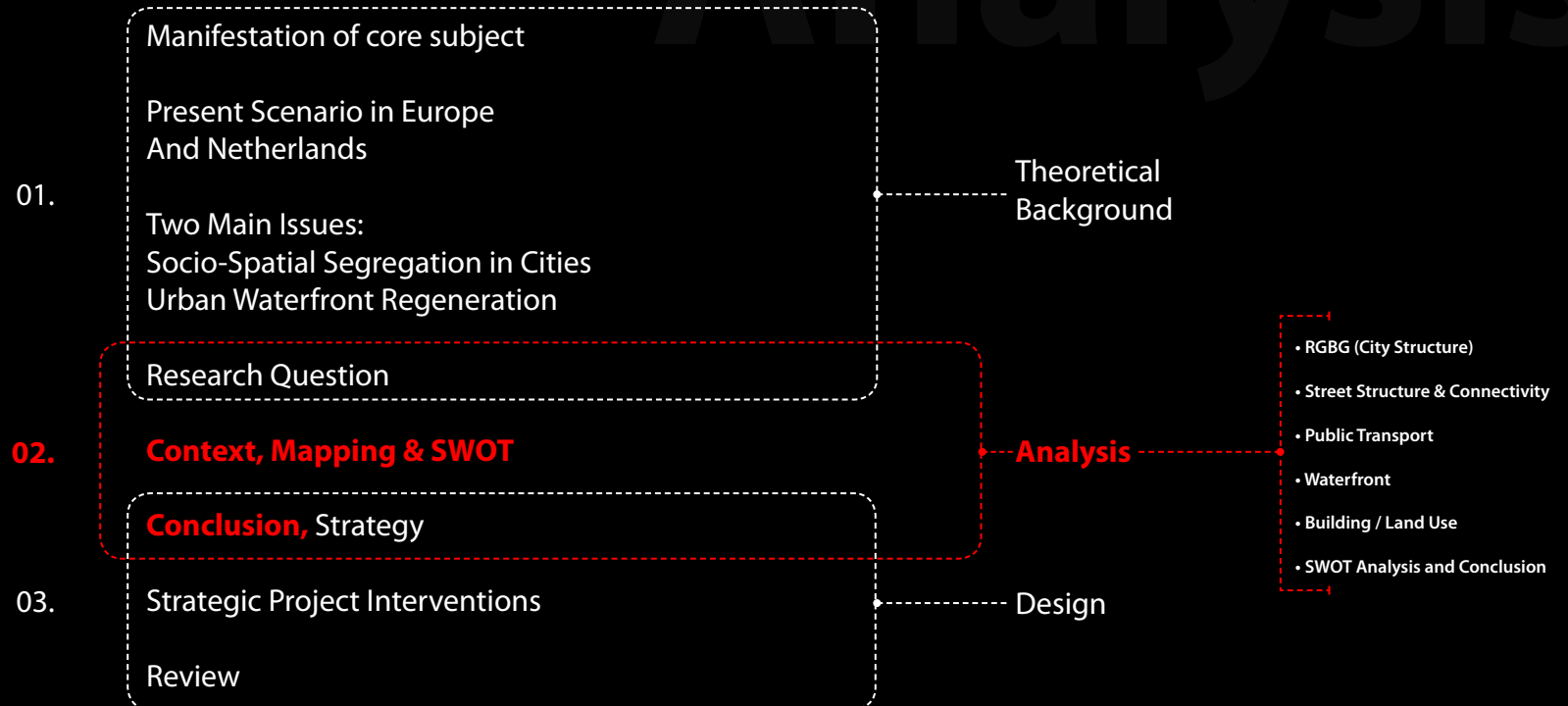
To continue seeing this dream become reality, all major part of inner city and immediate surroundings have to come up with certain level of hierarchy and standards. The research and design area has such potential because of its strategic location, if the current issues are dealt with and possibility to transform the site into a high quality living environment with work opportunities, leisure facilities and clean healthy green area.

The proposed intervention derives its fundamentals from the current city vision plan 2030; where two main themes: **'Attractive living areas in city & International city by river'** are core value for the project to consider on.

I shall now enumerate the different tools, methods and mapping resources used during the site analysis;

1. Collection of supporting data from various sources and their analysis
2. Observation of physical structure by using photography as a tool
3. Mapping of existing situation in reference to different criteria:
 - Morphology (figure ground)
 - Connectivity
 - Demographic information
 - Space syntax software for connectivity for regional as well as local routes
 - Urban and housing typology
 - RGBG model for drawing various visions for different layers (urban, green, water, infrastructure)
 - City growth and future scenarios – city visions

The data thus collected is used for Mapping and projected in the SWOT analysis for the formulation of project strategy.



The Strategic RGBG model used as a scenario analysis and design method aims at visualising main paths, nodes and regions which might generate and carry transformation through the recognition and (re) confirmation of specific topological qualities within the existing urban structure. It's multi-layered, dynamic and structural approach provides insight in both the current situation as well as generate (long term) strategic visions regarded contemporary public spaces, urban structure and other important facilities. The super-positioned layers (Red, Green, Blue & Grey) highlight the pattern of places, functions, destinations and landmarks which indicates – the existing and/or absent-circuits which tie them together into a hierarchical framework, based on the assumption that complete and healthy frame complies flows and social encounters into meaningful and productive public spaces, the method generates the motives for a more effective and conditional policy with regard to location, assignment, design and future maintenance.

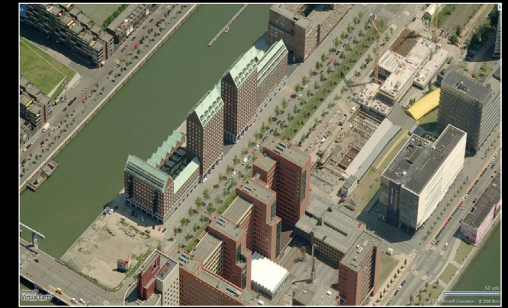
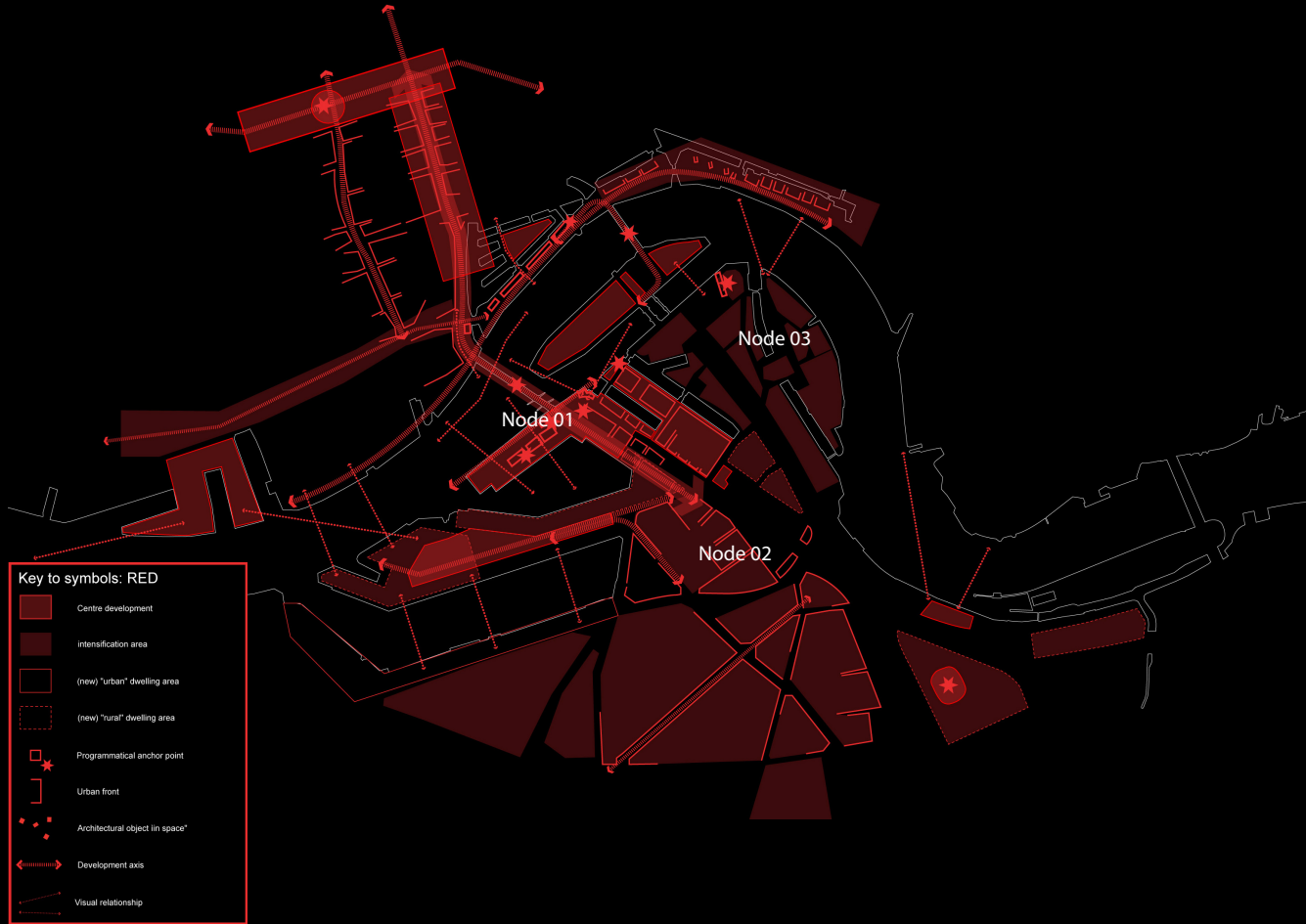
Main components of this analysis:

Red – urban structure, main city development axis, density, important buildings, landmarks, inter-relationship of urban environment, segregation

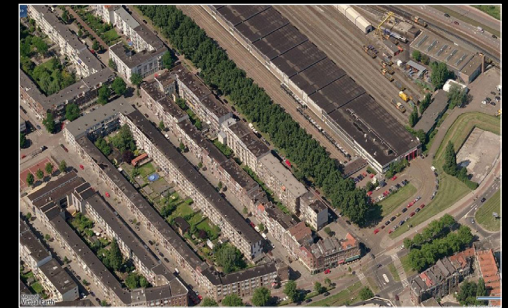
Green – existing green network, public places & routes, movement, promenade, continuity and accessibility of public realm, prominent public areas, regional green structure

Blue – water transportation, location of harbour and other leisure activities,

Grey – Main, Secondary street network, busy nodes, unorganised/ problematic junctions, Isolation



Node 01



Node 02



Node 03

Above diagram shows present condition of urban structure in conjunction with the waterfront area, main axis of Cool Single – Erasmus Bridge – Laan op Zuid, Important buildings and their quality in terms of use, architecture and built mass. Highlighted spots represent main landmarks and important buildings in present settings.

This diagram clearly shows the prominent axis of Kop van Zuid (KvZ) in relation to the city centre, but area besides KvZ, are not well integrated in terms of above mentioned characteristics, they are segregated from primary structure, shows urban voids between neighbourhood and to the waterfront, few high quality living areas.



Node 01

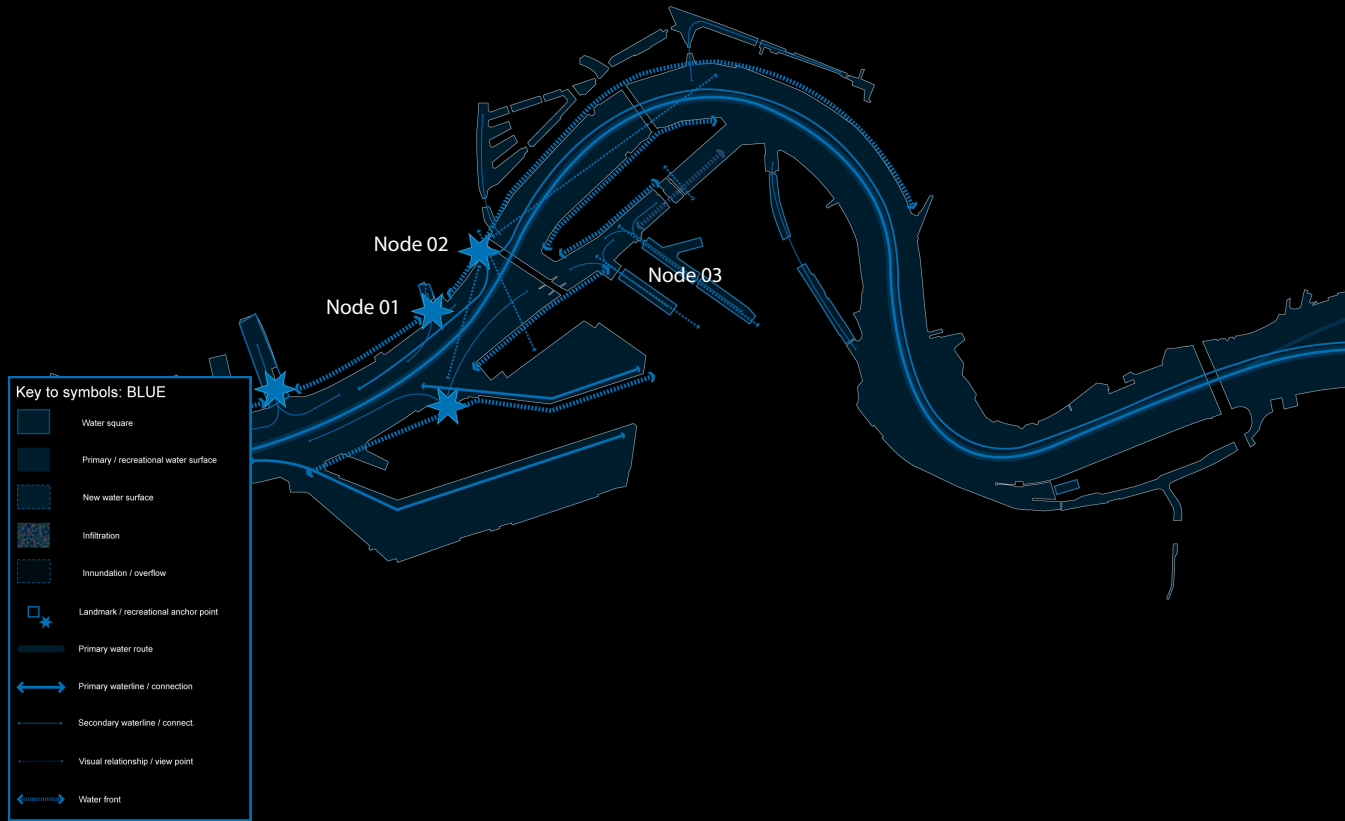


Node 02



Node 03

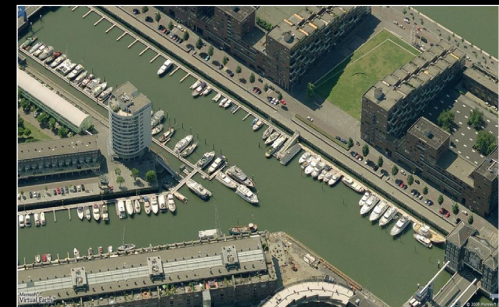
Rotterdam south has many green areas (pocket parks to large green buffer zones) as compared to city centre. Network of public spaces, promenades are more clear and structured at northern bank of river (Mass Boulevard), while at south bank only few hundred meters of continues waterfront along the KvZ. Proposed project area has few large public garden / plazas but they are very much segregated and not supported by other public functions.



Node 01

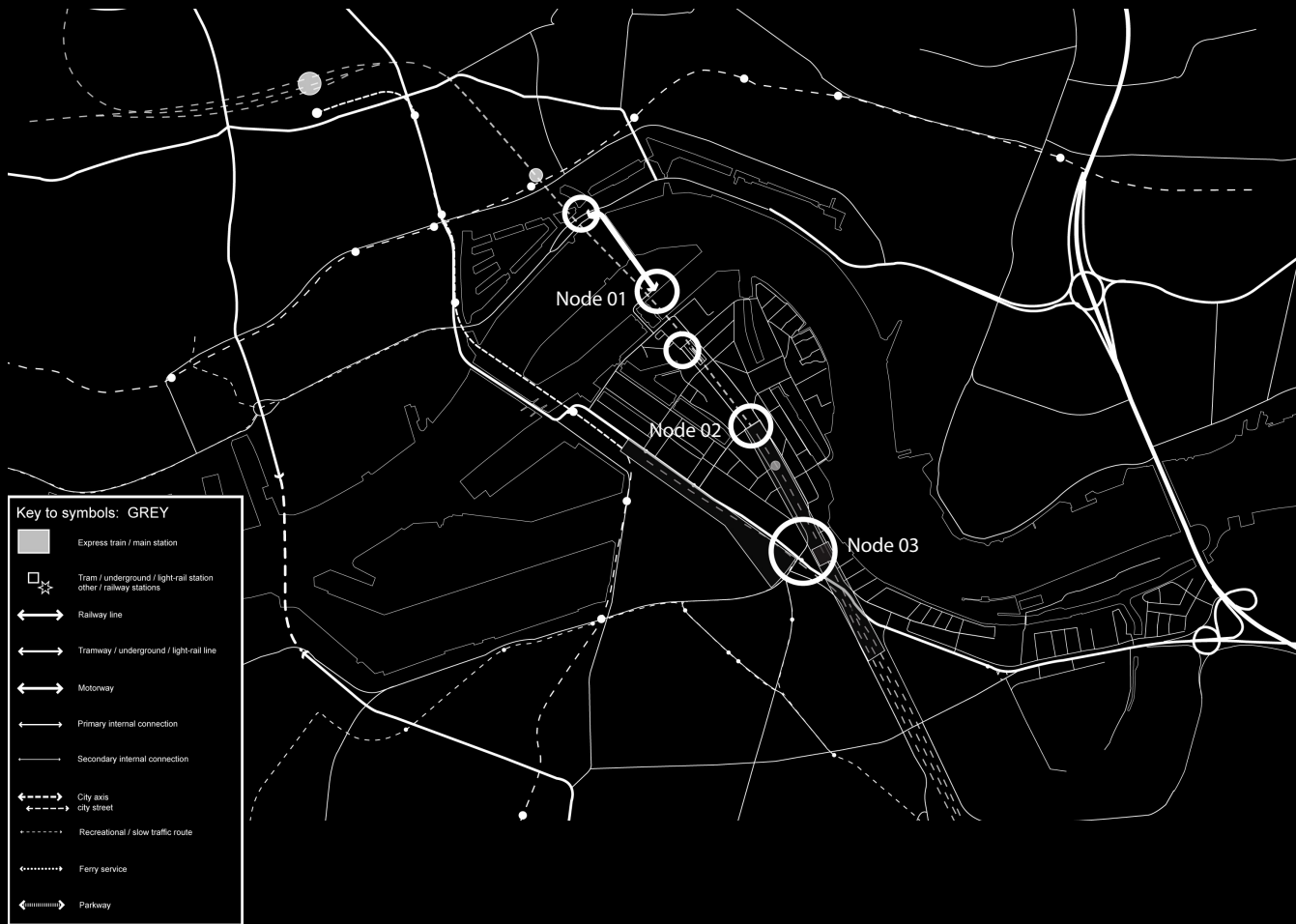


Node 02



Node 03

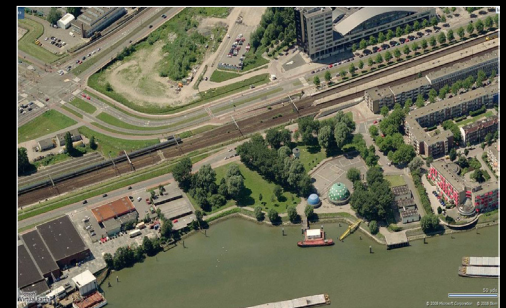
Waterfront is prominently used here for Harbour services (Transportation), along with this Rotterdam has public water transportation (ferry service), which is one of the most important activity in river Mass. Although the ferry stations are located only near the foot of the Erasmus Bridge on northern side of river which is directly connected to Dordrecht, there are few other smaller ports (harbours) which are used by private owners to park their boats. This apart there is no major activity along the southern bank of river.



Node 01



Node 02



Node 03

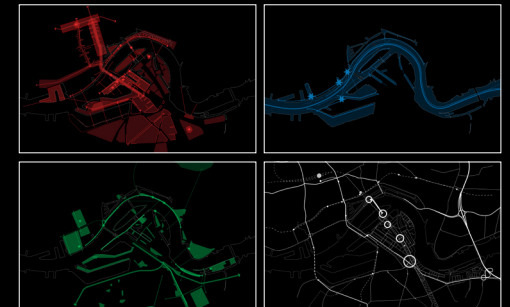
Highway, Main roads and Secondary roads are key component to map with, this diagram shows current scenario of road network, public transport (Metro, Tram, Rail) and major stops (stations), basic mapping shows the integration of the project area and south of Rotterdam to the regional connectivity, important links and nodes. Key points – Better connectivity with Erasmusbrug (Bridge) and Williamsbrug (Bridge), resolution of problematic junctions, and isolation with North-East part of the city.

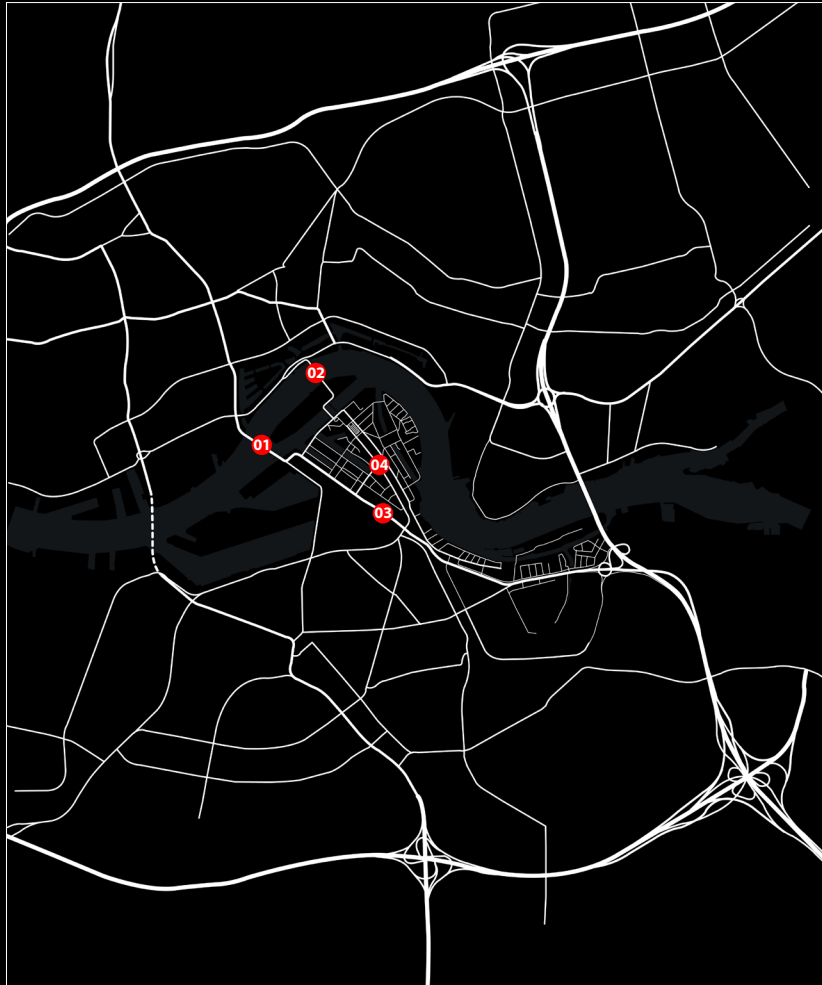


Present Situation of Urban Structure:

The final integrated map shows present condition of key components of the urban structure, how Rotterdam south and especially proposed project area is linked with main structure of the city, To conclude with; few results of RGBG analysis

- Proposed project is clearly isolated in terms of urban structure and accessibility,
- Although a part of project area places itself near city centre, we observe absence of important interaction and use in comparison to main city axis as opposed to KvZ project.
- Northern and Southern part of city is presently connected by only two bridges which is not sufficient to integrate highly populated urban areas immediately south of Rotterdam.
- Key element-Waterfront is under used except for few access points, ferry station, and a limited area of south bank used as promenade (newly developed).
- No strong network of public spaces, poor visibility and accessibility to present green and public areas.





Network of Streets

Street Hierarchy: Highway, Main Road, Secondary, Local (small) streets

Spatial (Step) Analysis: 2 step analysis, a method to map basic street structure with one street (one single line) and how other second street (which crosses the main street) is integrated with structure, these map shows one important street, its continuous topology, second street and their direct connection to the city. Here the examples of street are the same as in Axial analysis (Erasmusbrug, Williamsbrug, Laan op Zuid, Rosestraat) which in a result shows how two different methods are used to derive set of conclusions for the connectivity of the proposed project area.

Axial: Use of Depth-map software is a key tool for analysing this method, axial map analysis mainly shows the overall integration of street with each other by their characteristics like, length of street, number of nodes (junctions) on one single street, integration with other long and short streets in length,

Following sets of diagrams mainly show regional connectivity, and four important streets connecting the project area; Erasmusbrug, Williamsbrug, Laan op Zuid, Rosestraat. Each example shows how Particular Street is integrated with other street in 3 steps (3 layers of integration), important junctions and overall dispersion to the regional reach.

Focus of study is mainly related to 4 main Lines as follows:

01. Erasmusbrug
02. Williamsbrug
03. Laan op Zuid
04. Rosestraat

Street Network

Existing, Missing Links



Existing Situation (Hierarchy of Streets: Highway, Main road, Secondary and Local streets)



01



02



03



04



05



06

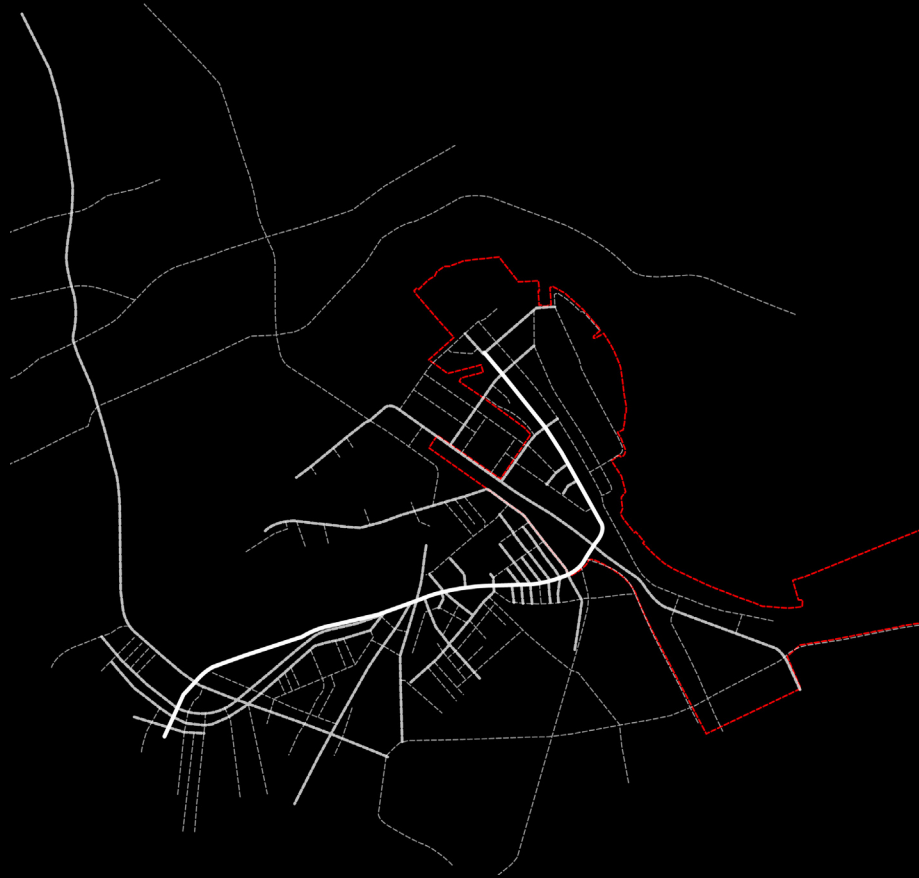


Existing Situation (Hierarchy of Streets: Missing Links)

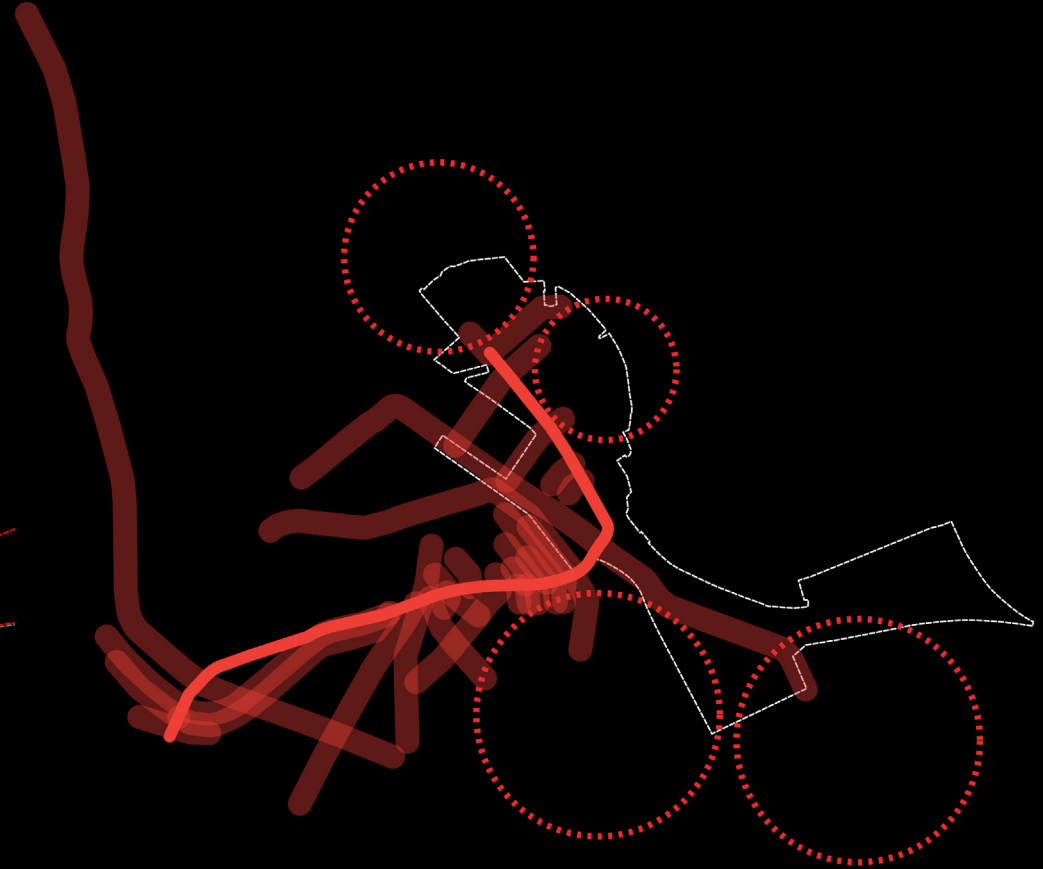
Highway, Main roads and Secondary roads are key component to map with, this diagram shows current scenario of Street Network, Important Junctions, and missing links. For the project area North-South link; Laan op Zuid is the most important and fast route of the network, and most parts of neighbourhoods are not directly connected to fast routes. Diagrams shows existing street network and some visible missing link as overall network.

Connectivity (Step Analysis)

Rosestraat



2 step Analysis of Rosestraat, Number of secondary streets connected to various spots



Most secondary street are connected in and to the south-western region only, Missing most of the project area

Connectivity (Step Analysis)

Erasmusbrug



2 step Analysis of Erasmusbrug, Number of secondary streets connected to various spots



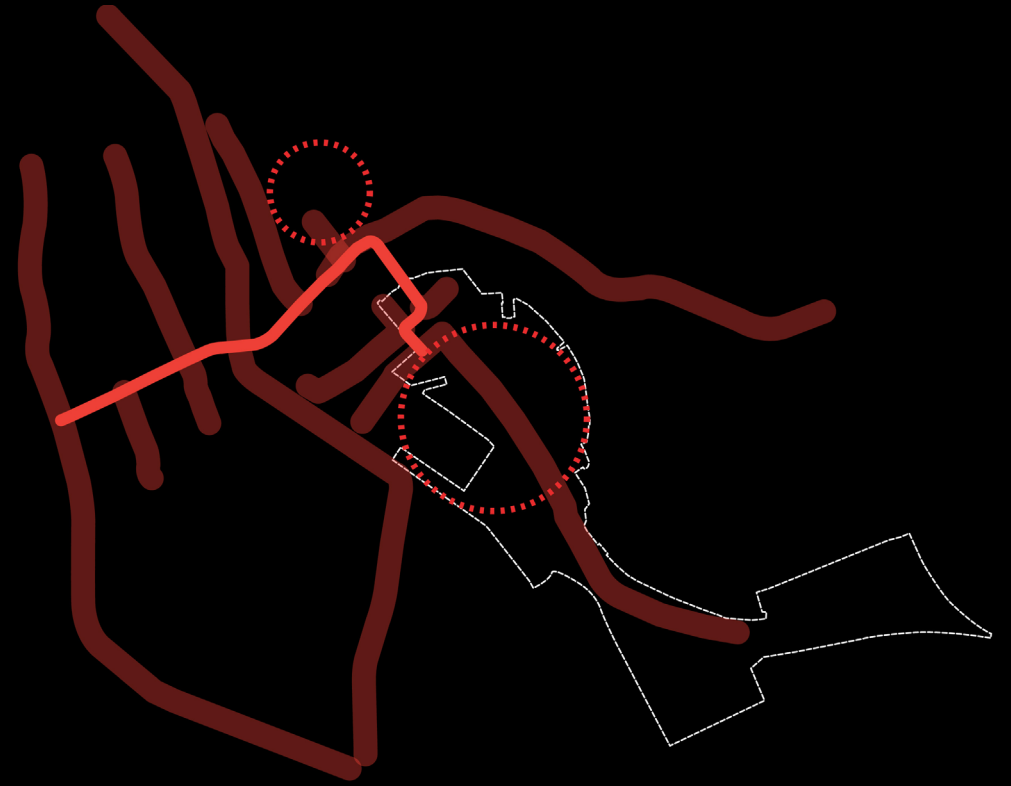
Not directly connected to project area, Poor connectivity to Southern area too

Connectivity (Step Analysis)

Williamsbrug



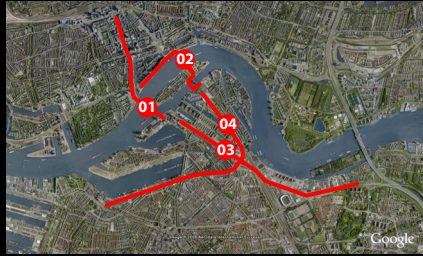
2 step Analysis of Erasmusbrug, Number of secondary streets connected to various spots



Critical connection and junctions

Connectivity (Step Analysis)

Williamsbrug



Focus of study is mainly concerns to 4 main Lines:

- 01. Erasmusbrug
- 02. Williamsbrug
- 03. Laan op Zuid
- 04. Rosestraat



Connectivity (Step Analysis)

Erasmusbrug (Erasmus Bridge)



4 step integration



2 step integration

Connectivity (Step Analysis)

Williamsbrug (Williams Bridge)



4 step integration



2 step integration

Connectivity (Step Analysis)

Laan op Zuid



4 step integration



2 step integration

Connectivity (Step Analysis)

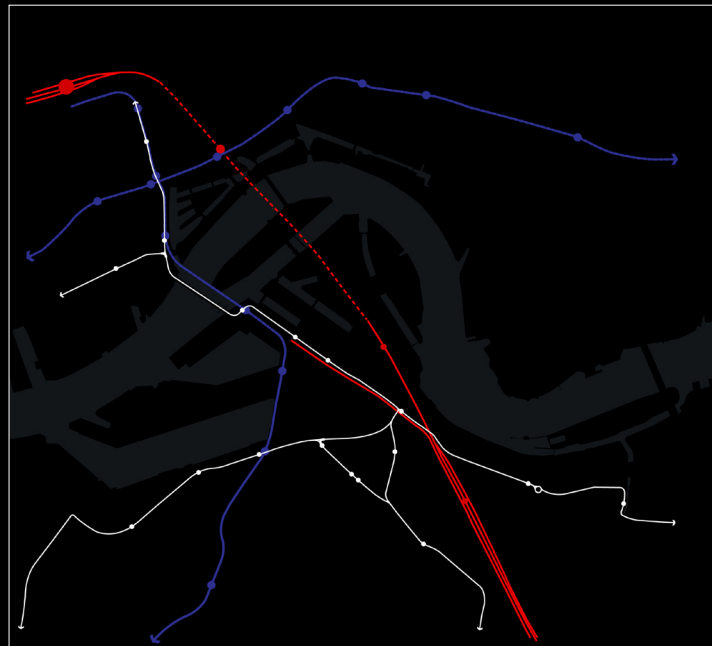
Rosestraat



4 step integration



2 step integration



Existing Public Transport

Project covers regional as well local accessibility and connectivity of the proposed area. Analysis of present situation shows public transport as fast facilities like Rail, Metro and Tram.. Although Bus routes are also important as they are the second best option for travelling after personal car, they are ignored for the purpose of this project due to the need of a clear strategy and in depth analysis of routes, and traffic data. The limited scope of the project and time constraint force us to do so.

Following studies shows network of Rail, Metro and Tram and their clear reach in the city (distance of reach is based on urban design standards and theory)

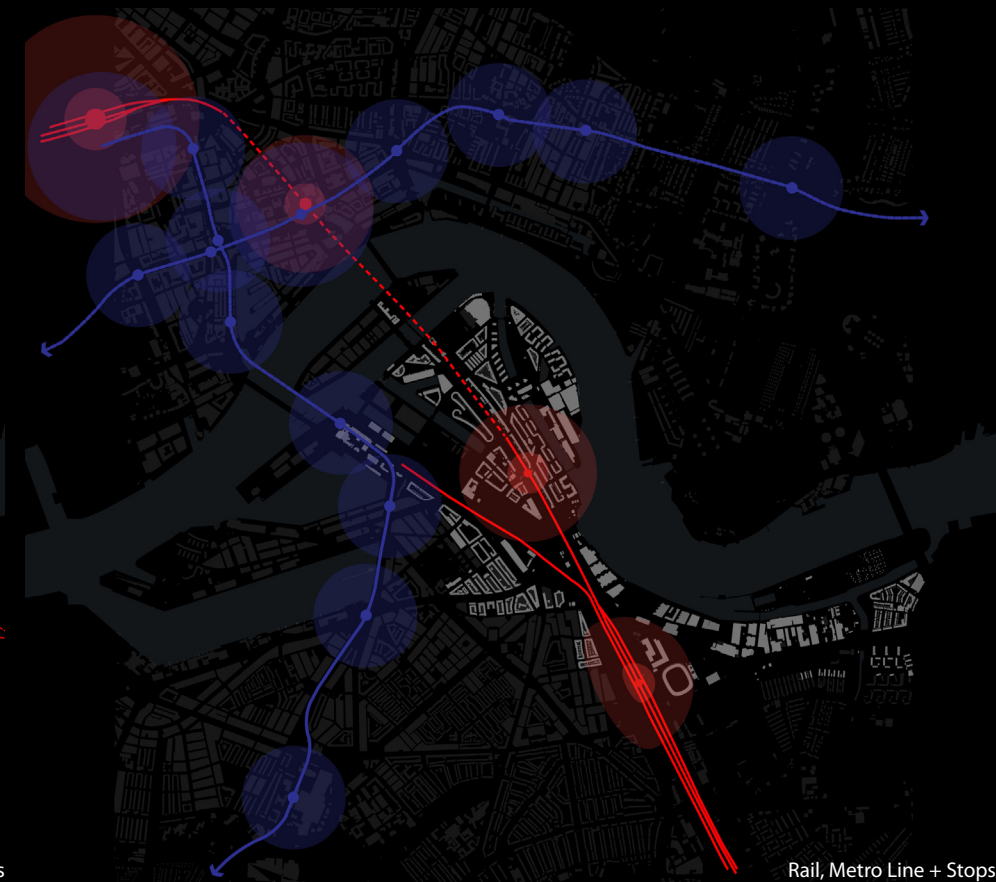
Rail Connection

Metro Network

Tram Network

Public Transport

Rail, Metro & Tram Connections



Tram: Tram is the most used public transport mode in our cities like Rotterdam; the diagram shows two main routes, one which is central and most important line which connects North and South side of city with the help of Erasmusbrug and second is East-West direction which connects mainly southern part of the city to North route. It shows 600m reach at each stop.

Key points:

- Two main routes (with various tram connections)
- Main connectivity is only towards central station and some region of south
- Note entirely connected with old city centre (blaak, Williamsbrug , etc)
- Poorly accessible to the Project area (connects only at two tram stops)

Rail and Metro: Rotterdam has very important position in-terms of Railway connection as it links Netherlands in North to Belgium and France in the south and is soon due to become operational HSL (High Speed Line). Rotterdam has very important responsibility to serve its best.

Diagram shows, basic route of Railway and Metro (Two lines) and their reach (1000m & 600m) respectively. Metro goes only North-South and East-West which is not at all part of proposed project area. Railway connection is the most important feature to substitute this lack. Project area has two small (local) stations, Rotterdam Zuid and Feijenoord Station. Other important junction is Station Blaak and Central Station which in future will be the stop of HSL (High Speed Line).

However, there are very few trains (local only) used by very few commuters which stop at these two station (Zuid and Feijenoord).

Existing Situation



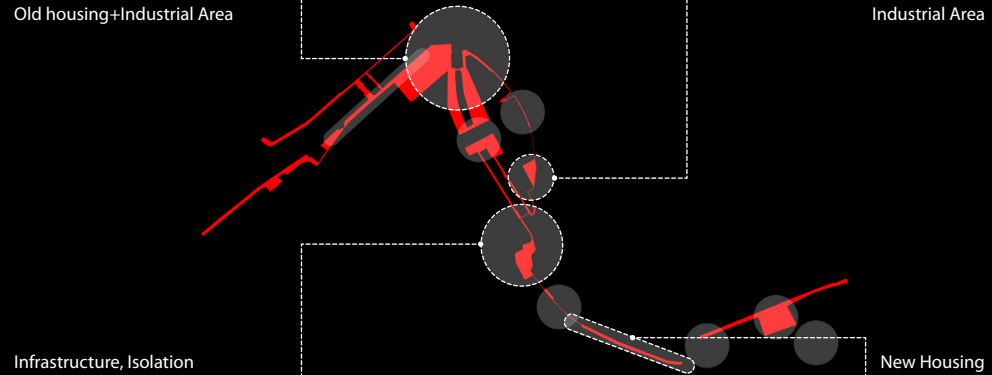
Current Situation of the Waterfront (Related to Project Area)



Old housing+Industrial Area



Industrial Area



Infrastructure, Isolation

New Housing



As waterfront regeneration is a key proposal of the project, study of present waterfront condition is the most important aspect of this analysis. For this one should analyse the present condition of waterfront in-terms of usage, quality of public and other facilities, building typology along the waterfront, accessibility, important (and problematic) nodes and junctions and safety,

Diagrams shows, clear indication of present condition, by detail study it shows, how poorly whole waterfront is used. Majority part of waterfront is not at all accessible to common people and used only as front to Industries which is not well maintained, though some important nodes

have developed due to their historical background and some because of the newly developed residential area.

Key points:

- Non homogeneous waterfront - discontinuity of public realm
- Not pedestrian friendly
- Nearly half of the area is only occupied by Industries and other harbour activities
- Poor accessibility



Proposed project area is presently mostly occupied by a variety of buildings and uses mainly consisting of; Pre-war housing area, Old industries, Railway yards (Urban voids) new housing, and old Vinex (Dutch; suburban green living area), large public buildings location and green spaces.

Diagrams show, various land uses, buildings and their relation to existing urban fabric. As explained earlier there are various kinds of buildings along the waterfront like old Pre-war social housing and industries and at south of waterfront edge there are newly developed large scale residential apartments. Project area clearly lacks basic small and large scale public facilities which help to connect and can be used by residents and people from immediate surroundings.

- Pre-war housing area at north part of the project area
- Old Industries, and harbour activity
- New housing blocks
- Public buildings (i.e. Feijenoord Stadium, HBO (high) school, large shopping centres, Multiplex cinema, etc)
- Parkstaad and other smaller pocket parks
- Large amount of empty areas (old railway yards, railway tunnel, large parking areas)

Majority of built and empty area needs to be considered for future development, in relation to existing district at southern part of the city if they have to compete with KvZ and other new developments.

Building and Land Use

Overview of Building Typology and Land Allocation



Legend - Building Types

Red	New Buildings (Mixed Use)
Orange	Residential Blocks (Prewar)
Grey	Industries
Light Blue	Public Buildings
Dark Blue	Sports Facilities
Purple	Commercial Development
Green	Green Housing (Vinex)
Dark Blue	Old Buildings (Heritage)

Residential / Housing Blocks



Old Industrial / Harbour Activities



Sports and Public Buildings



Green, Public Places & Empty Areas



Land Distribution, All Typologies



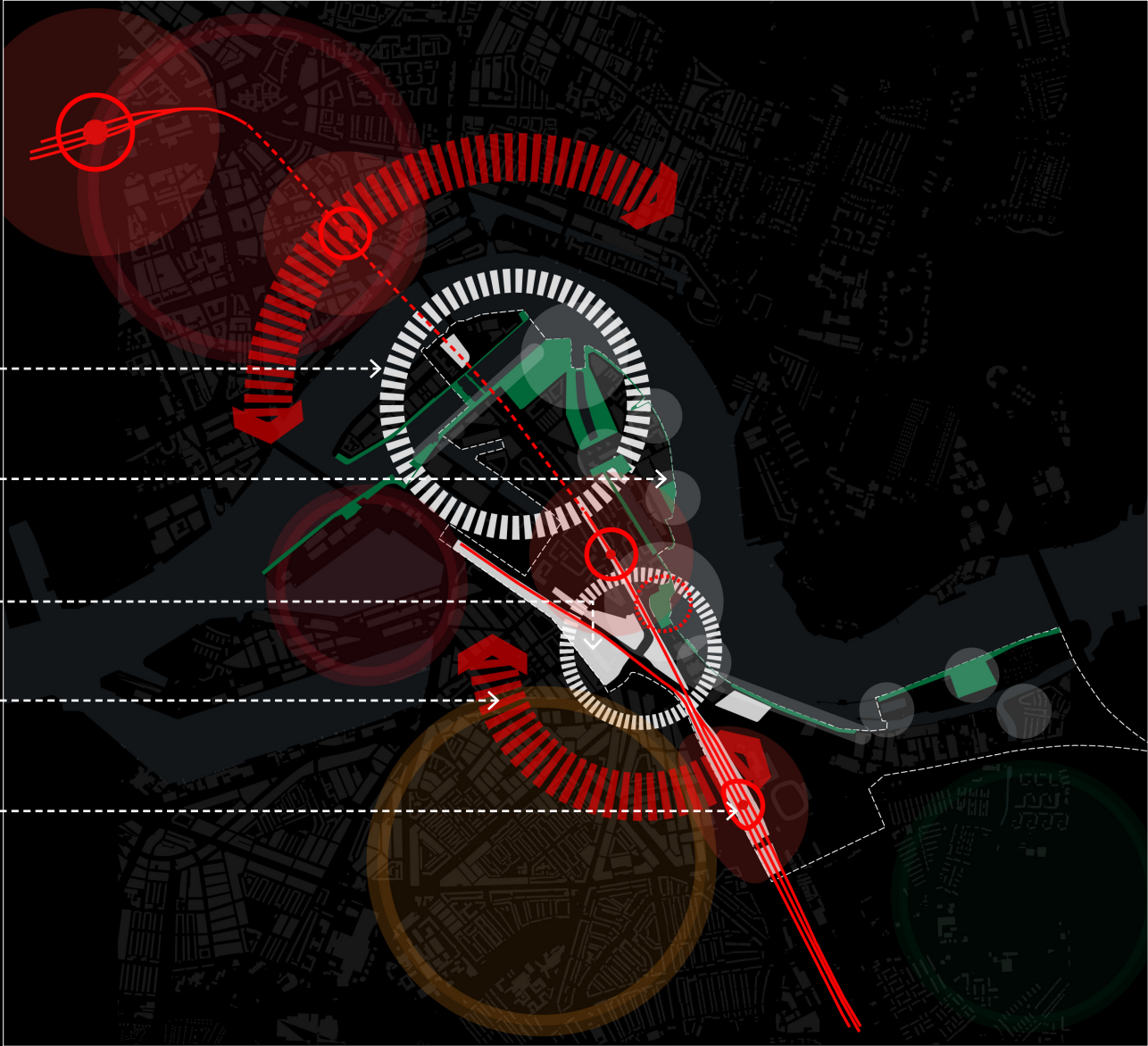
Based on the context analysis, present data, and current policies, the following indications shows various conclusions in a form of SWOT (Strength, Weakness, Opportunity and Threat)

SWOT analysis is an important stage to look all the aspect together before starting design proposal on the paper, following diagrams shows various key features of the project area in relation to city.



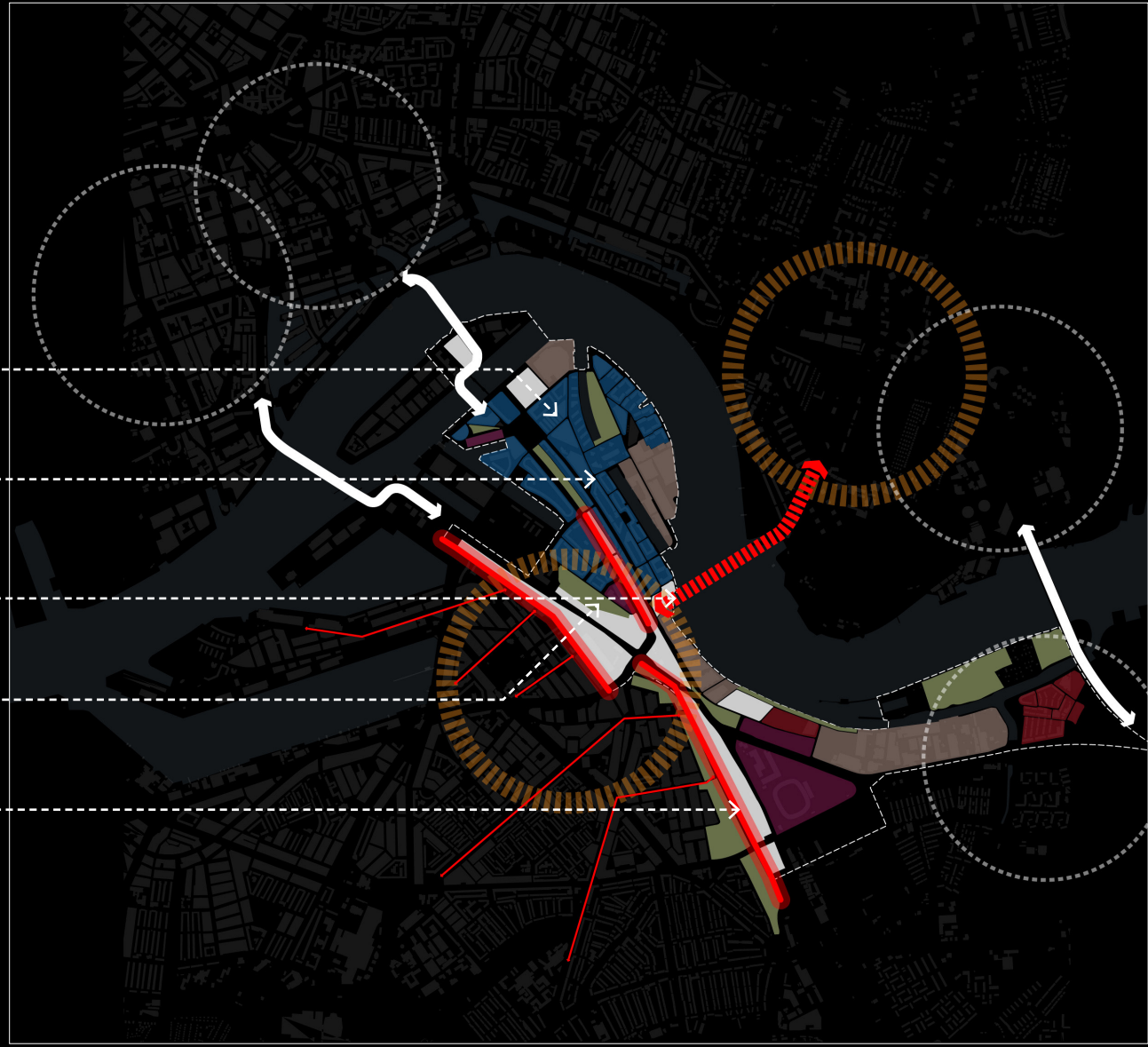
Strength

- Northern area (of south river bank) as part of city centre
- Approximately 5 km of Urban waterfront with possible Nodes for future development as public places
- Empty areas (for new development without demolishing existing housing areas)
- Strategic and Important location at city level, especially for southern part of city
- Railway line and their connection with local stations

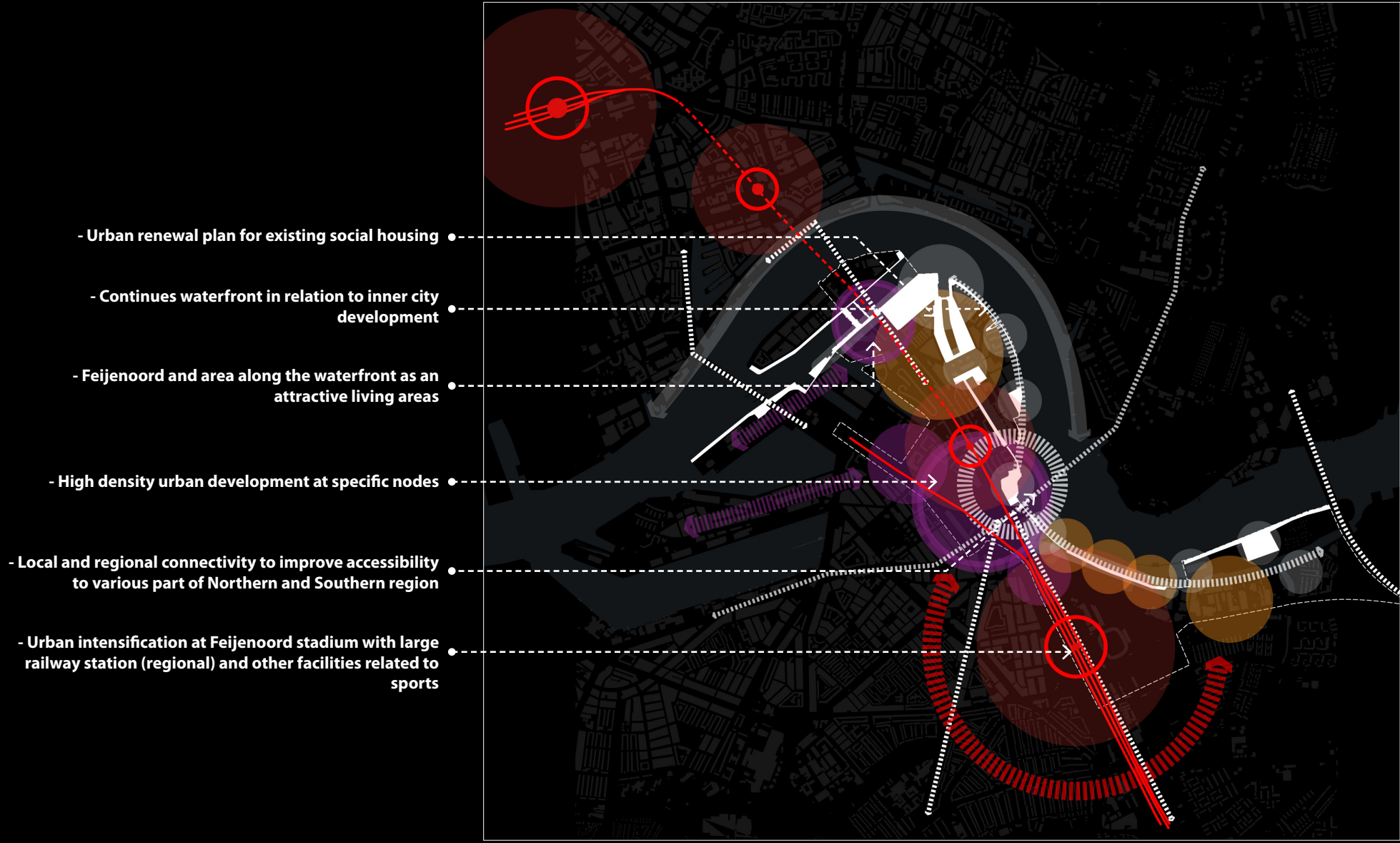


Weakness

- Fragmentation of various functions
- Poor housing quality (mainly social housing) compared to newly developed urban areas
- Problem of regional as well as local connectivity
- Few green and public areas
- Clear isolation from surrounding neighbourhoods due to infrastructure barrier and large empty areas



Opportunity



Threat

- Further isolation of neighbourhood due to increase in demands and new development in various part of city
- Lack of identity (no important functions or activity)
- Spatial, Social and Economical degradation
- Non-sustainability



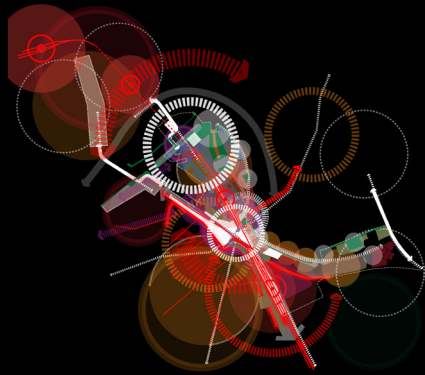
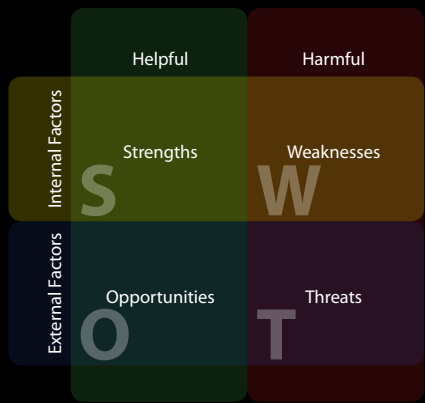
Conclusion (SWOT)

- How to **use** Strengths?

- How to **stop** Weaknesses?

- How to **exploit** Opportunities?

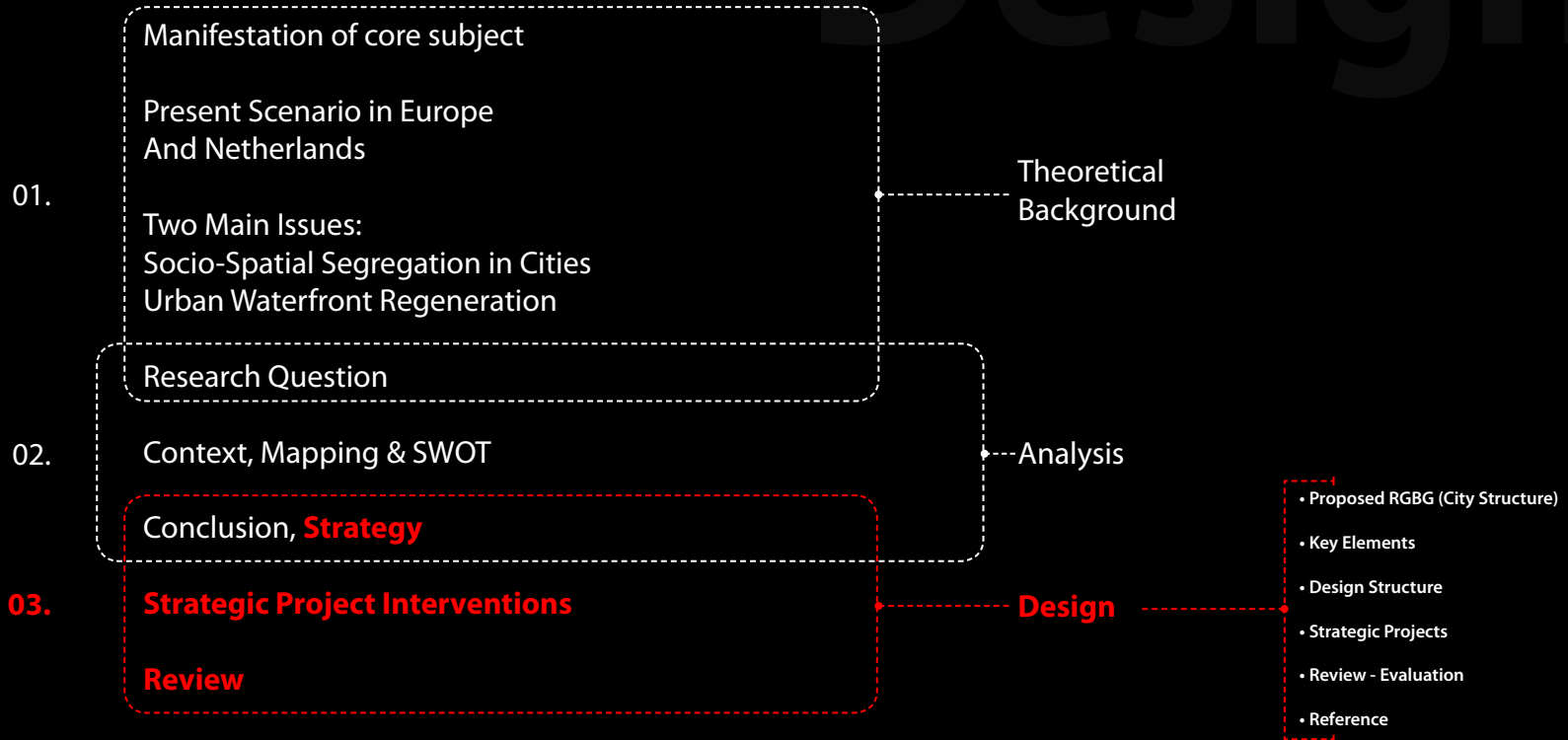
- How to **defend** against Threats?



	S Strengths	W Weaknesses
O Opportunities	<p>How to use these Strengths to take advantage of these opportunities.</p> <ul style="list-style-type: none"> - 5km of waterfront area - Empty land for attractive living areas - New station and urban development for New and Old stadium (Sports town) - Old railway yard and industries as high density (mixed used) urban development, functions as important node for southern part of the city 	<p>How to overcome these weaknesses that prevent project to take advantage of these opportunities.</p> <ul style="list-style-type: none"> - Urban renewal guideline for poor housing mainly pre-war social housing - Improving street structure, connection across river, new routes for public transport - Continuous waterfront development and clear structure of public places - High density urban development with improved street structure
T Threats	<p>How to use this Strength to reduce the likelihood and impact of these threats?</p> <ul style="list-style-type: none"> - Use of empty areas for new urban development with mixed use, public transport and other basic facilities to overcome further spatial and economical degradation 	<p>How to address the weaknesses that will make these threats a reality?</p> <ul style="list-style-type: none"> - Isolation of neighbourhoods due to lack of facilities and large empty areas

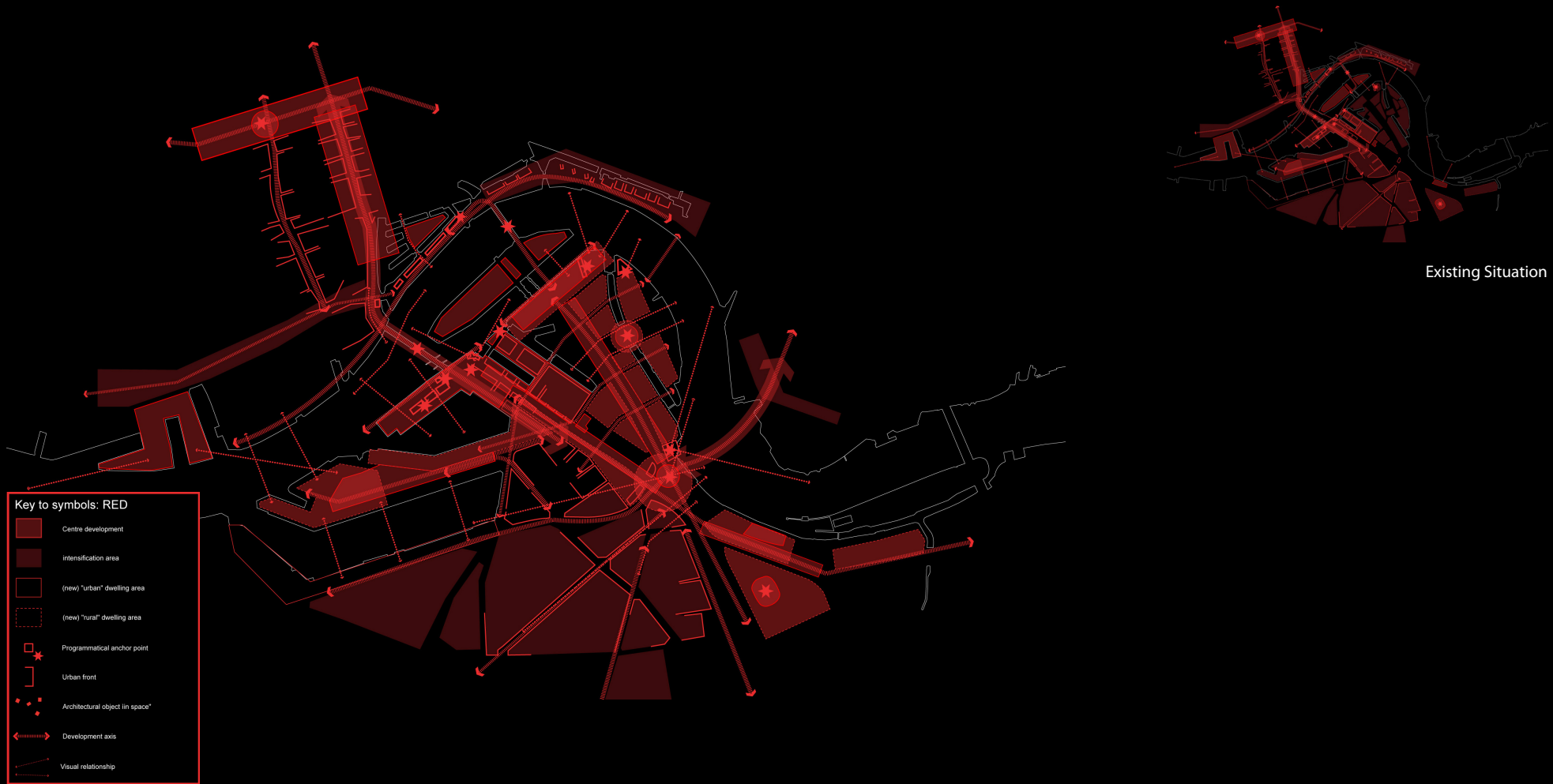
As already mentioned, the Core concern of this Research and Design Project is to understand the current scenario of Socio-Spatial Segregation in cities, the problems rising due to it , general deterioration of living conditions in poor urban neighbourhoods, and how a good Waterfront can act as a 'CATALYST' for the future growth and improvement of quality of life in the city.

Design



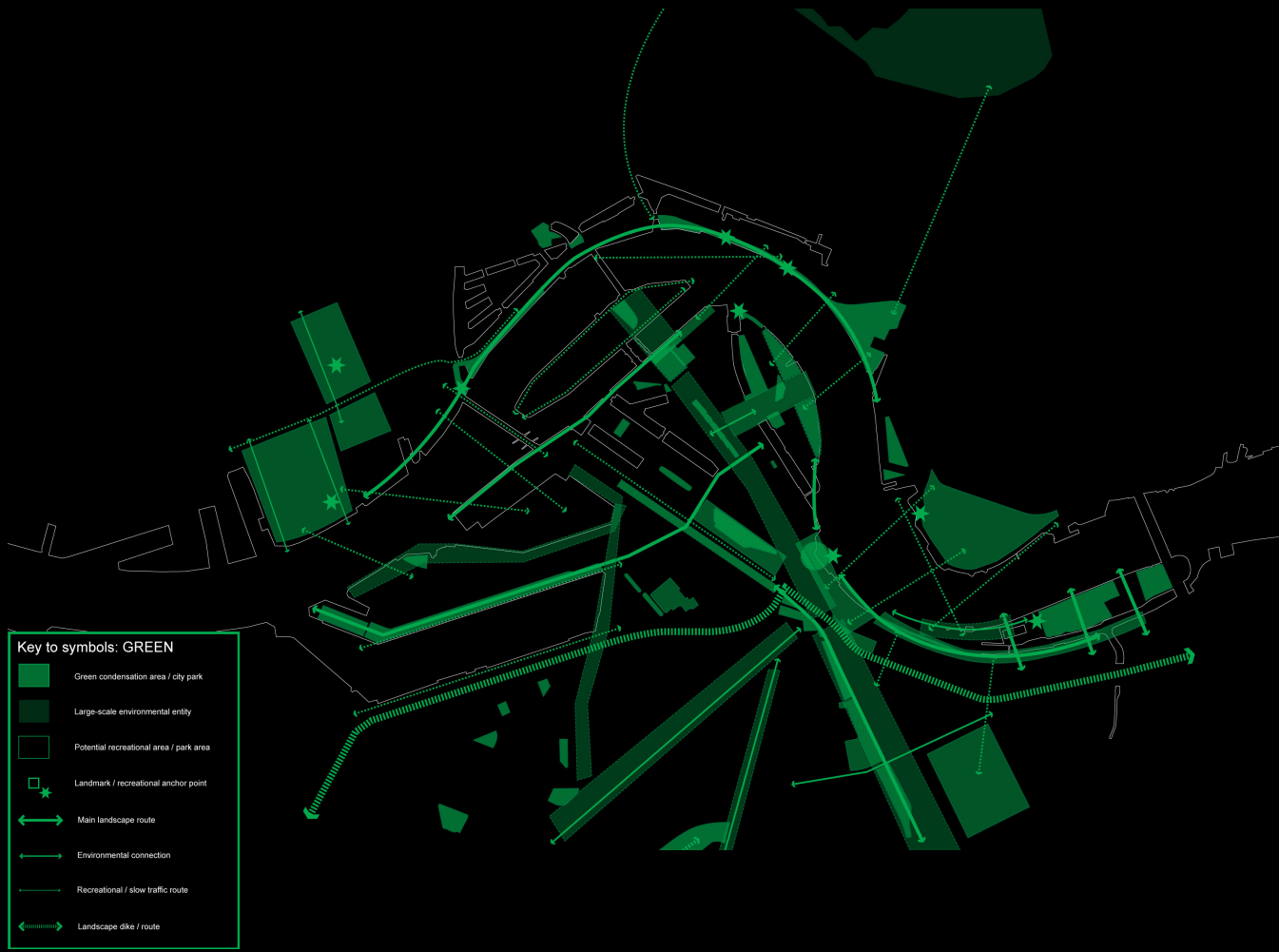
03

Following diagrams based on research and SWOT analysis show how the existing urban structure can be modified and future growth be streamlined. They can be further used to derive a version of RGBG model proposal -Red (Urban structure), Green (Green structure), Blue (Water) and Grey(Infrastructure) layers, possible direction to improve the proposed area with various possible solutions, their particular characteristics and importance.



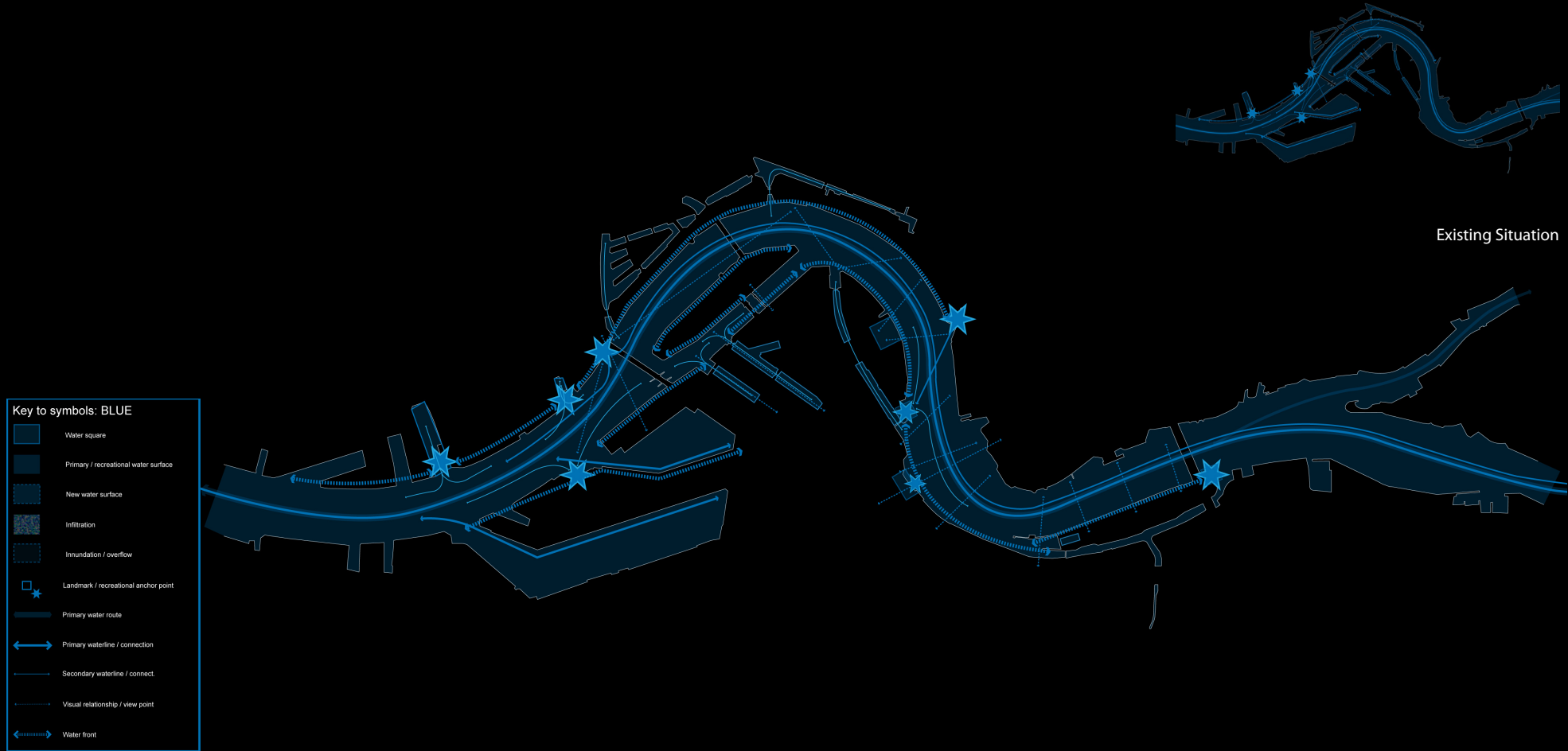
The diagram shows present condition of urban structure in conjunction with the waterfront area, main axis of Cool Single – Erasmus Bridge – Laan op Zuid, Important buildings and their characteristics in terms of use, architecture and built mass, highlighted spots shows main landmarks and important buildings in present settings.

This diagram clearly shows the prominent axis of Kop van Zuid (KvZ) in relation with city centre, but area besides KvZ, are not well integrated in terms of above mentioned characteristics, they are segregated from primary structure, shows urban voids between neighbourhood and to the waterfront, few high quality living areas.



Existing Situation

Rotterdam south has many green areas (pocket parks to large green buffer zones) as compared to city centre. Network of public spaces, promenades are more clear and structured at northern bank of river (Mass Boulevard), while at south bank only few hundred meters of continues waterfront along the KvZ. Proposed project area has few large public garden / plazas but they are very much segregated and not supported by other public functions.



Waterfront is prominently used here for Harbour services (Transportation). along with this Rotterdam has public water transportation transport (ferry service), which is one of the most important activity in river Mass. Although the ferry stations are located only near the foot of the Erasmus Bridge on northern side of river which is directly connected to Dordrecht, there are few other smaller ports (harbours) which are used by private owners to park their boats. This apart there is no major activity along the southern bank of river.

B (Water Structure) - Proposed



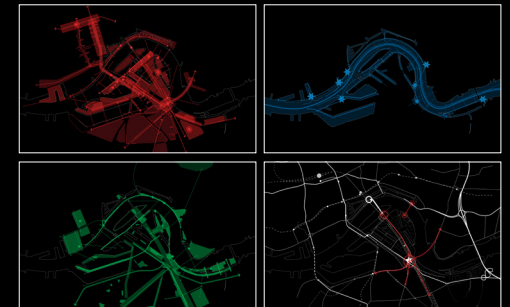
Highway, Main roads and Secondary roads are key component to map with, this diagram shows current scenario of road network, public transport (Metro, Tram, Rail) and major stops (stations), basic mapping shows the integration of the project area and south of Rotterdam to the regional connectivity, important links and nodes. Key points – Better connectivity with Erasmusbrug (Bridge) and Williamsbrug (Bridge), resolution of problematic junctions, and isolation with North-East part of the city.



Key Features:

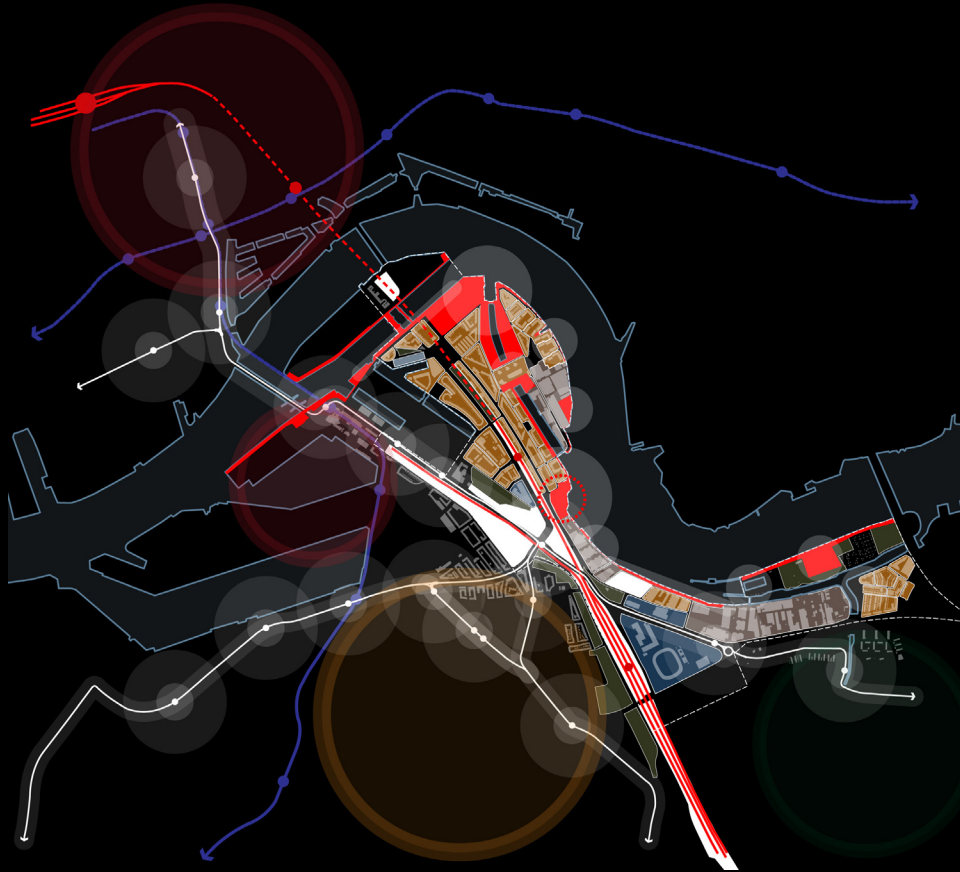
The final integrated map shows proposed scenario of key components of the urban structure, how Rotterdam south and especially proposed project area should take advantage of every possible opportunity and use existing strengths.

- Integration of local as well as regional connectivity (internal streets, major road, and highways)
- High density urban development at waterfront along with KvZ (Kop van Zuid) with strategic projects and landmarks
- Continuous waterfront with large strategic public spaces with small pocket parks accessible to pedestrians and cyclists.
- Strengthening existing Laan op Zuid Boulevard as a main artery of the project with mixed use development and other public facilities.



Key Elements

Existing Issues and Proposed Elements of Master Plan



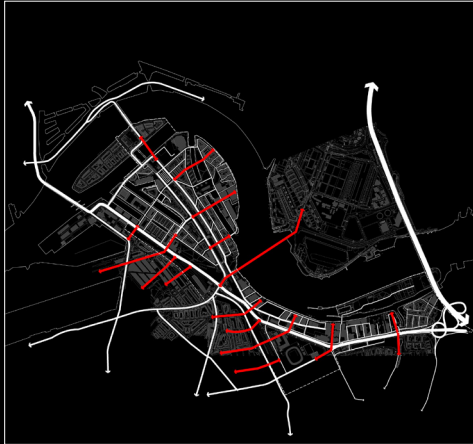
Based on the present and projected scenario and to achieve project goals following are the 8 Strategic Project Proposals as key elements of the Master Plan:

- Local – Regional connectivity
- Public Transport (New Tram line, Redevelopment of Feijenoord station and area around)
- Laan op Zuid Boulevard
- Waterfront Redevelopment
- Street structure
- Two Important Nodes (High density, Mixed used development) (With Detail Urban Design)
- Network of Public Spaces
- Housing renewal guidelines for Pre-war/Social housing areas

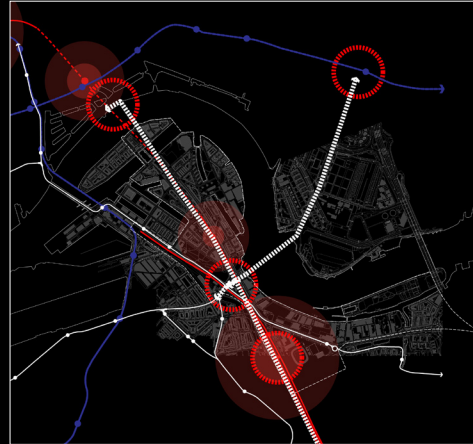
Key Elements

Possible individual project assignments for Detailed design

Projects marked in **Red** are dealt with in-detail for the purpose of this Graduation Project, and the others are conceptual proposals.



Street Structure, Local and Regional Connectivity



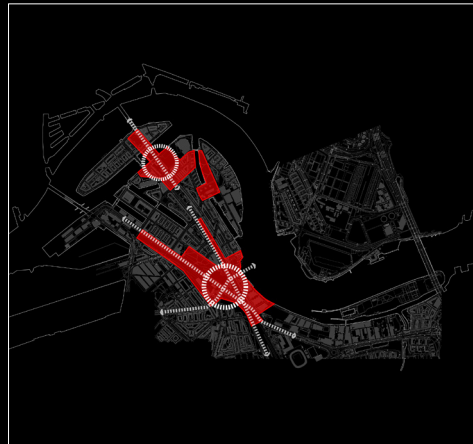
Improvement of Public Transport



Laan op Zuid Boulevard



Waterfront Development



2 Important Nodes

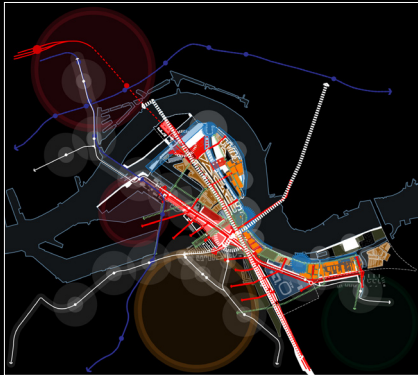


Network of Public Places



Urban Renewal Guidelines for Indicated Buildings

Criteria for Urban Design, Strategic Projects and Detail Urban Design of Selected Projects



Master Plan Elements

The 8 preliminary project proposals mentioned here before are carefully framed in view of maximum interaction and integration with each other. The three strategic elements; Laan op Zuid Boulevard, Two Important Nodes and Waterfront Development are used as strategic starting point to generate a strategy for the whole master plan (project area). The general objective is to reinforce physical structure and strengthen by incorporating new social groups and mixing them with the local community in different ways to come together in its local fabric. It is thus intended to reintegrate the project area in the larger context of the city (on the theme of solution to socio-spatial segregation and waterfront regeneration) by strategic master plan using these various design interventions.

In order to drive the new regenerative dynamics, the problems seen in the area require several initiatives and a variety of interventions apart from these key physical transformations (i.e. Extensive social and economical study, market research, detail program based on detail planning, feasibility and financial aspects). The general strategy is to propose solutions that form 'integration of segregated areas' – where each intervention is aimed at the specific characteristic of the 'individual part', but at the same time is integrated functionally and experimentally with the 'whole-master plan'.

The following individual strategic projects and their schematic visions (detail design in some cases) generate final vision map outlining the strategy of master plan. Strategic projects are applied on the site in sequential phases, which overlap with each other, respecting the order needed to establish bases for later stages to develop. The objective is that phases work as CATALYSTS that generate a coherent transition from the existing state into the desired future.

As key features of the detail design the proposed two Nodes and Waterfront redevelopment in general are chosen to zoom in and depict

programs, functional pattern and detail realizations with the help of basic urban design components; building typology, density, use and users, mixed use, quality of public places, recreational areas, pedestrian and cyclist priority, accessibility and quality of living.

Following is the step by step project visions (details) as per their size, position in overall project area and city:

Global Context (City Level):

- Street Structure (Regional and Local Connectivity)
- Public Transport
- Waterfront & Green structure

Local Context (Neighbourhoods of South of Rotterdam):

- Two Important Nodes & Laan op Zuid Boulevard

Policy Level (Urban Renewal) - for Buildings in Project Area:

- Urban Renewal Guidelines for Indicated Buildings

Before proceeding to detailed development of the strategic projects mentioned above I shall like to mention some important Urban Design tools and standards derived from different case studies and book studies and prevalent design standards that will help to shape the final intervention:

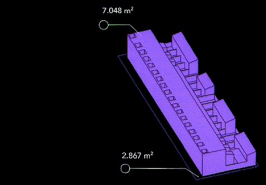
For Example; (Important highlights only))

- Density & Typology of Buildings Blocks
- Mixed Development
- Importance of Urban Structure
- Connectivity and Accessibility
- Project References; Building typologies

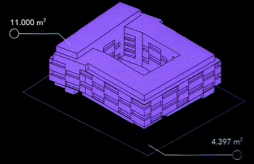
Density & Typology of Building Blocks



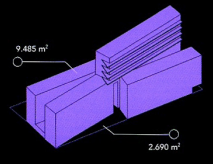
Density & Typology of Building Blocks



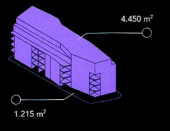
2,46
23 MACCREANOR LAVINGTON / CAMBRIDGE, UK / 06 156



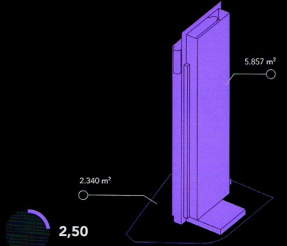
2,50
26 C.F. MØLLER / COPENHAGEN, DK / 06 170



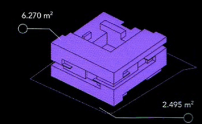
3,53
41 B01 / BARCELONA, ES / 04 258



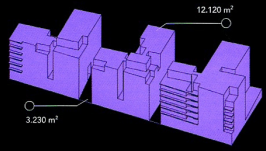
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53 EMZN / ZÜRICH, CH / 06 318



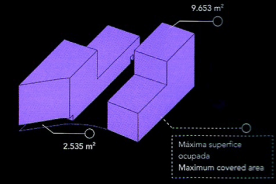
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47 WOHA / SINGAPORE, SG / 03 286



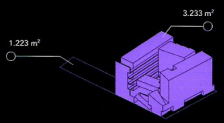
2,51
27 AART / COPENHAGEN, DK / 06 176



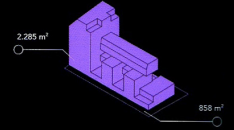
3,75
59 BRENAC & GONZÁLEZ / PARIS, FR / 06 350



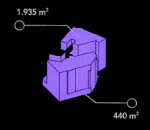
3,81
46 BÉAL ET BLANCKAERT, STEPHANE BEEL / LILLE, FR / 05 280



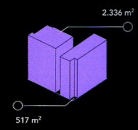
2,64
42 MICHAEL MALTZAN ARCHITECTURE / LOS ANGELES, US / 06 262



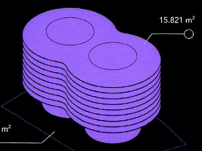
2,66
50 GERNER+GERNER PLUS / VIENNA, AT / 05 302



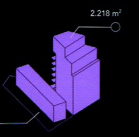
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61 JOSEP LLINÁS / BARCELONA, ES / 05 360



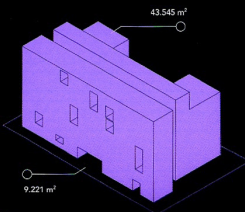
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55 CARLOS DE RIAÑO / MADRID, ES / 05 330



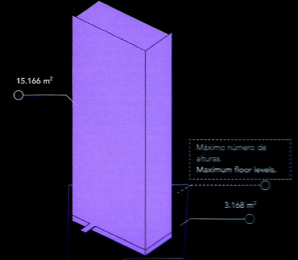
2,70
21 MVRDV / JAW ARKITEKTER / COPENHAGEN, DK / 05 144



2,70
56 CARLOS FERRATER / MADRID, ES / 05 354



4,72
33 KENGO KUMA / TOKYO, JP / 04 208



4,79
62 DELUSAN MEISSL / VIENNA, AT / 05 364

Density & Typology of Building Blocks

Landtong (Kop van Zuid, Rotterdam).
 masterplan by dS+V.
 design by Frits van Dongen
 (Architecten Cie, 1992).

program:
 - 650 dwellings
 - 500m² retail



program:
 ca. 900 dwellings
 ca. 3000m² retail
 1 primary school
 (70% apartments and 30% family houses)

Entrepot area (Kop van Zuid Rotterdam).
 masterplan design and
 architectural design by F.
 Verheijen

program:
 - 400 dwellings
 - 10.000m² retail



Mixed Used Developments

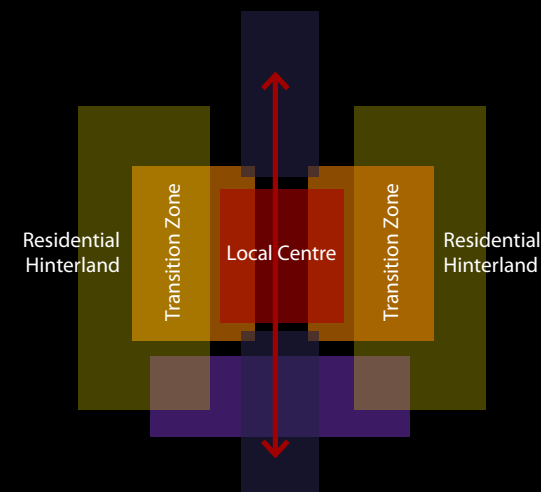
Traditionally, cities have developed around crossroads, centres of activity or stopping places, with the incremental growth of housing, retail, community and employment uses around the original core. Yet despite the virtues of mixed development, in modern development it often remains the exception, rather than the rule. *(Following: the benefits of mixed development)*

- More convenient access to facilities
- Travel-to-work congestion is minimised
- Greater opportunities for social interaction
- Socially diverse communities
- Visual stimulation and delight of different buildings within close proximity
- A greater feeling of safety, with 'eyes on streets'
- Greater energy efficiency and more efficient use of space and buildings
- More consumer choice of lifestyle, location and building type
- Urban vitality and street life
- Increased viability of urban facilities and support for small business (Such as corner shops)

A successful and sustainable local neighbourhood is a product of the distances people have to walk to access daily facilities, the presence of a sufficient range of such facilities to support their needs, and places and spaces where a variety of activities can take place.

Sprinkle housing types and tenures

Both the scale of the centre and the mix of uses it contains will depend on where the scheme sits in relation to the urban hierarchy. This of course varies from place to place, but many sites will have a layering – centre, transition zone and outer edge. Mixing tenures promotes social diversity and it is therefore important to spread different building types and tenures across this range. 'Pepper-potting' different tenures throughout an area ensures that a variety of housing types and ownership patterns are sprinkled, rather than clustered into exclusive enclaves.



A more vibrant and sustainable form results from blurring the distinction between uses and designing places that make walking to the local centre, and bus stop or railway station, as convenient and comfortable as possible

Urban Structure

What is meant by urban structure?

The term urban structure refers to the pattern or arrangement of development blocks, streets, buildings, open space and landscape which make up urban areas. It is the interrelationship between all these elements, rather than their particular characteristics that bond together to make a place.

Urban structure does not imply any particular kind of urbanism: it applies equally to the centre and to the suburb, and everything in between; and of course it applies equally to the city, the town and the village.

Why urban structure is important

The urban structure provides the foundations for detailed design of the constituent elements. It creates a coherent framework, which forms the basis of the design of individual developments -quite possibly by different actors - in order to achieve the following:

- Integration

Connection and overlap with surrounding areas.

- Functional efficiency

So that individual elements (buildings, streets, open space etc) work together as part of an efficient whole.

- Environmental harmony

Creating development forms that are energy efficient and ecologically sensitive.

- A sense of place

Creating somewhere that is recognisably distinct but simultaneously strengthens local identity.

- Commercial viability

Responding to the realities of market influence on development mix and delivery.

Connectivity and Accessibility

What is meant by the Connections

Towns exist for interaction. They depend upon movement systems - roads, streets, footpaths and public transport routes; also the service utilities (water, gas, electricity, etc.) Which make urban life possible. These connections allow towns to work and link to the wider world.

None of these movement systems exist in isolation. As well as being the means by which we get around and buildings are serviced, they are a crucial component of urban character. Just as much as architecture or landscape they help determine whether places are good or bad. So whatever their function, connections need to be thought of as an integral part of the urban fabric.

Why the Connections are Important

The success of a town or new development depends on how well the connections work. The measure of their success is not just their functional performance, but how they contribute to the quality and character of the urban area:

Linking up

New developments need to be clearly linked to existing routes. The more direct links there are, the more successful will be the integration of new and old.

Movement choices

Connections should give people the maximum choice in how to make their journeys, with a presumption in favour of walking, cycling and public transport.

A sense of place

Making connections is an essential part of creating a sense of place. This means that roads, streets and the routes for utilities should be designed in response to the local context.

Safe routes for all

Maximising choice in how people move around means creating routes all of which are felt to be safe. Segregated routes for people on foot and cycles are not always the best solution.

The parking problem

Parking needs as much thought as connections. Indeed a poor parking strategy can wreck a scheme.

Better traffic management

Design the layout of buildings and spaces to help control the flow and density of traffic. Signs and add-on traffic calming features should only be relied on as additional measures.

Design Structure

Strategic Projects

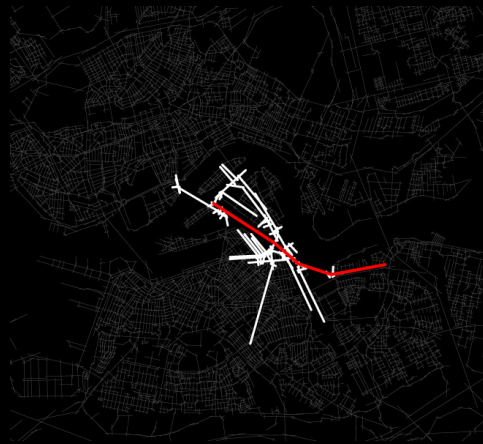


Strategic Projects

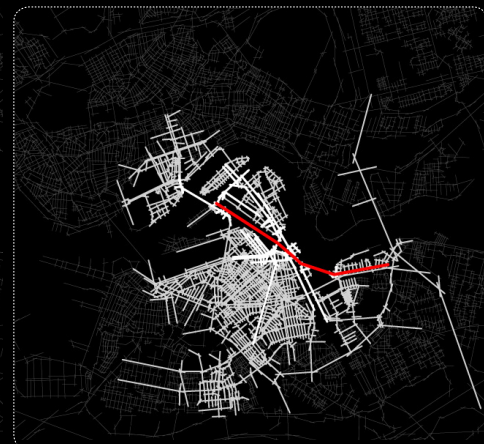
Street Structure (Regional and Local Connectivity) - Laan Op Zuid



Important Streets - New Connections



Axial - 1 Step Integration



Axial - 2 Step Integration



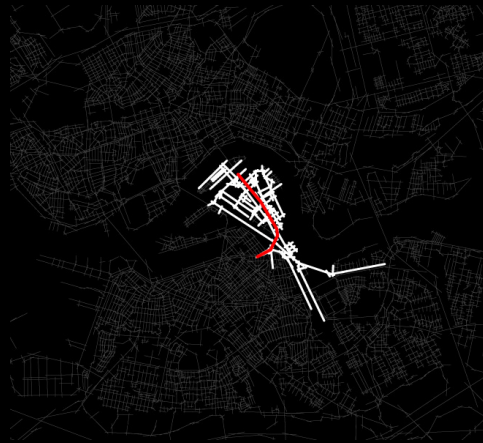
Axial - 2 Step Integration With New Street Connection

Strategic Projects

Street Structure (Regional and Local Connectivity) - **Rosestraat**



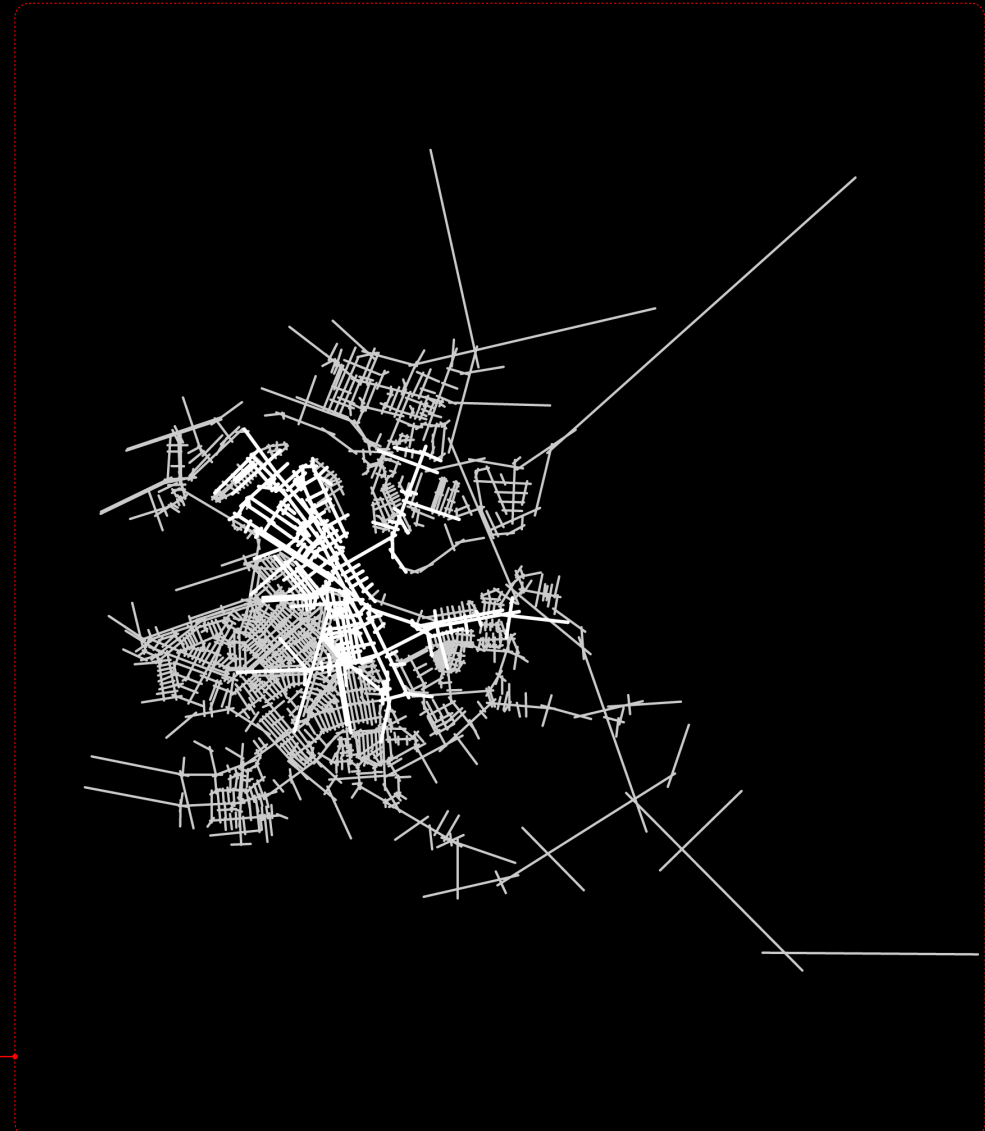
Important Streets - New Connections



Axial - 1 Step Integration



Axial - 2 Step Integration



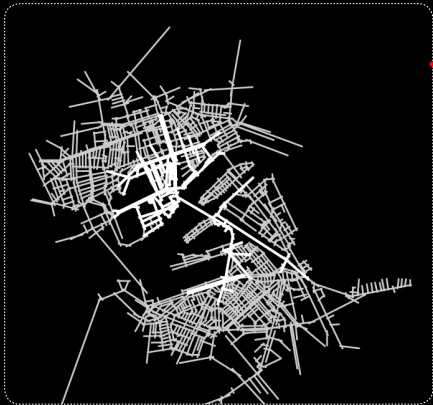
Axial - 2 Step Integration With New Street Connection

Strategic Projects

Street Structure (Regional and Local Connectivity) - Erasmusbrug & Williamsbrug



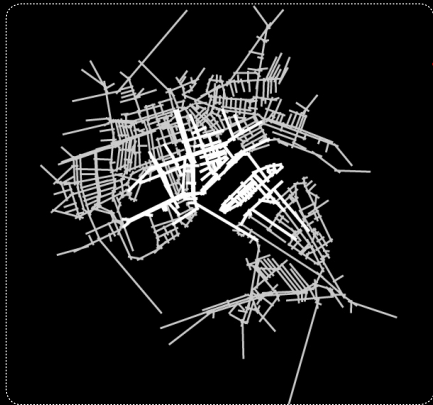
Axial - 2 Step Integration With New Street Connections



Axial - 2 Step Integration

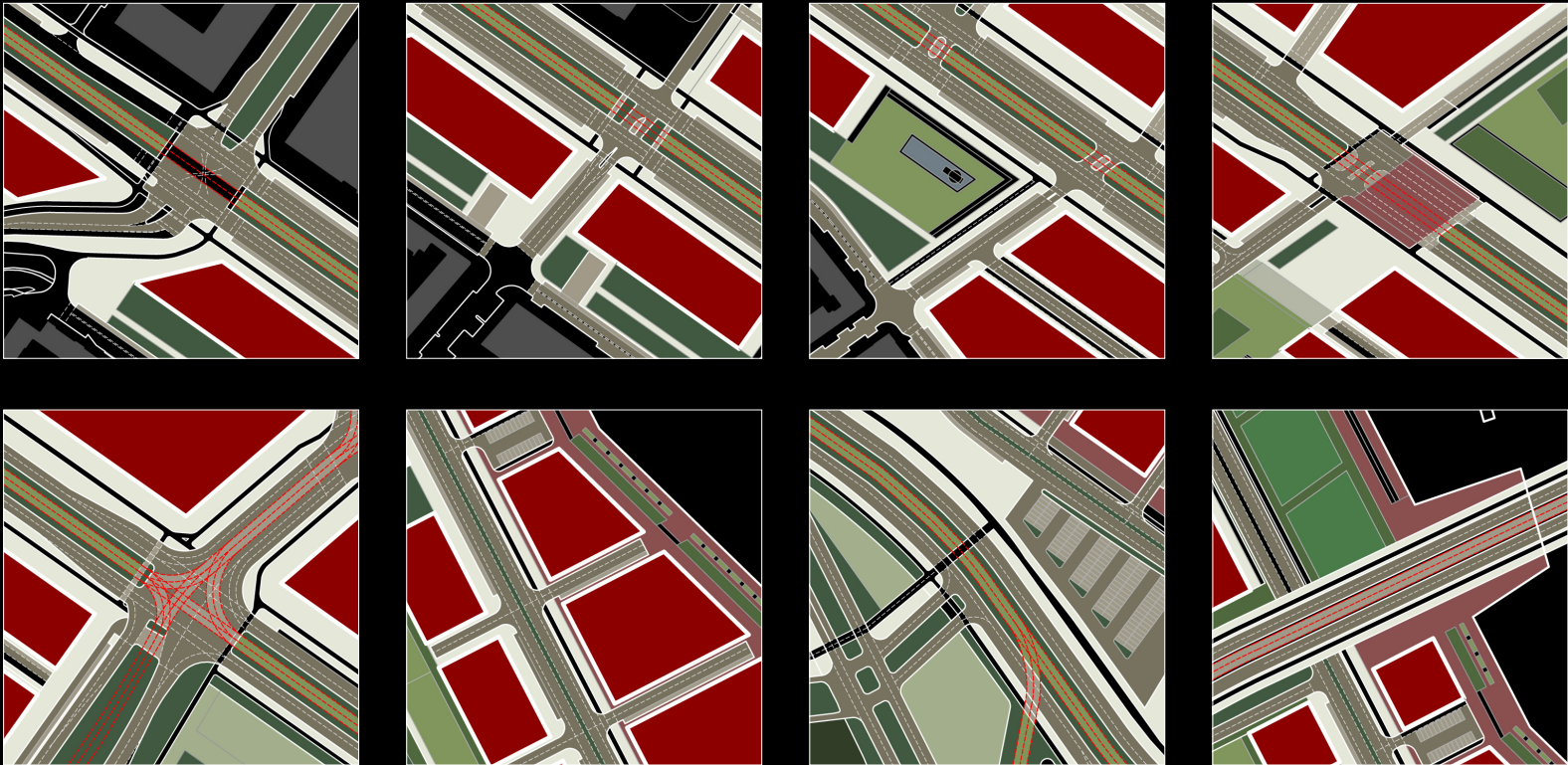


Axial - 2 Step Integration With New Street Connections



Axial - 2 Step Integration

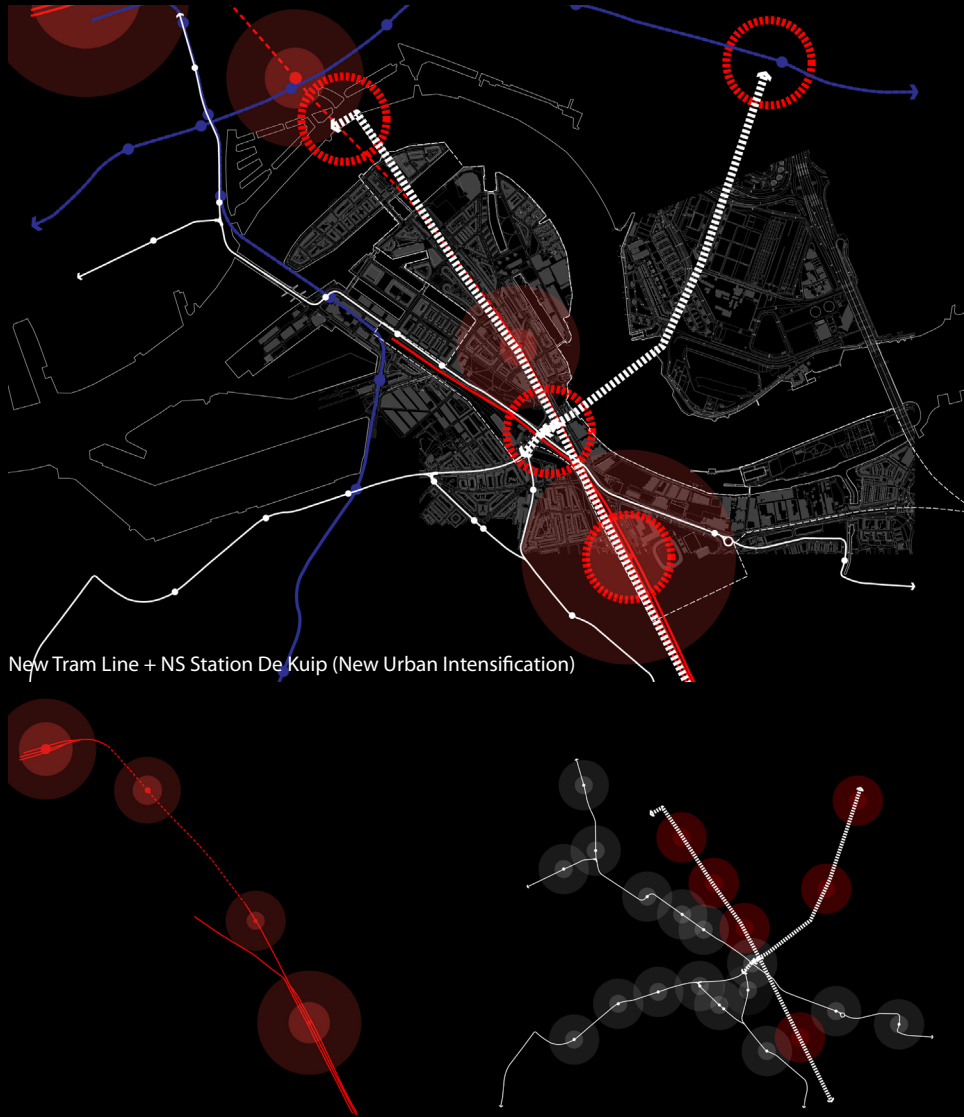
Street Structure (Regional and Local Connectivity) - **New Junctions**



Typical Street Junctions Details

Strategic Projects

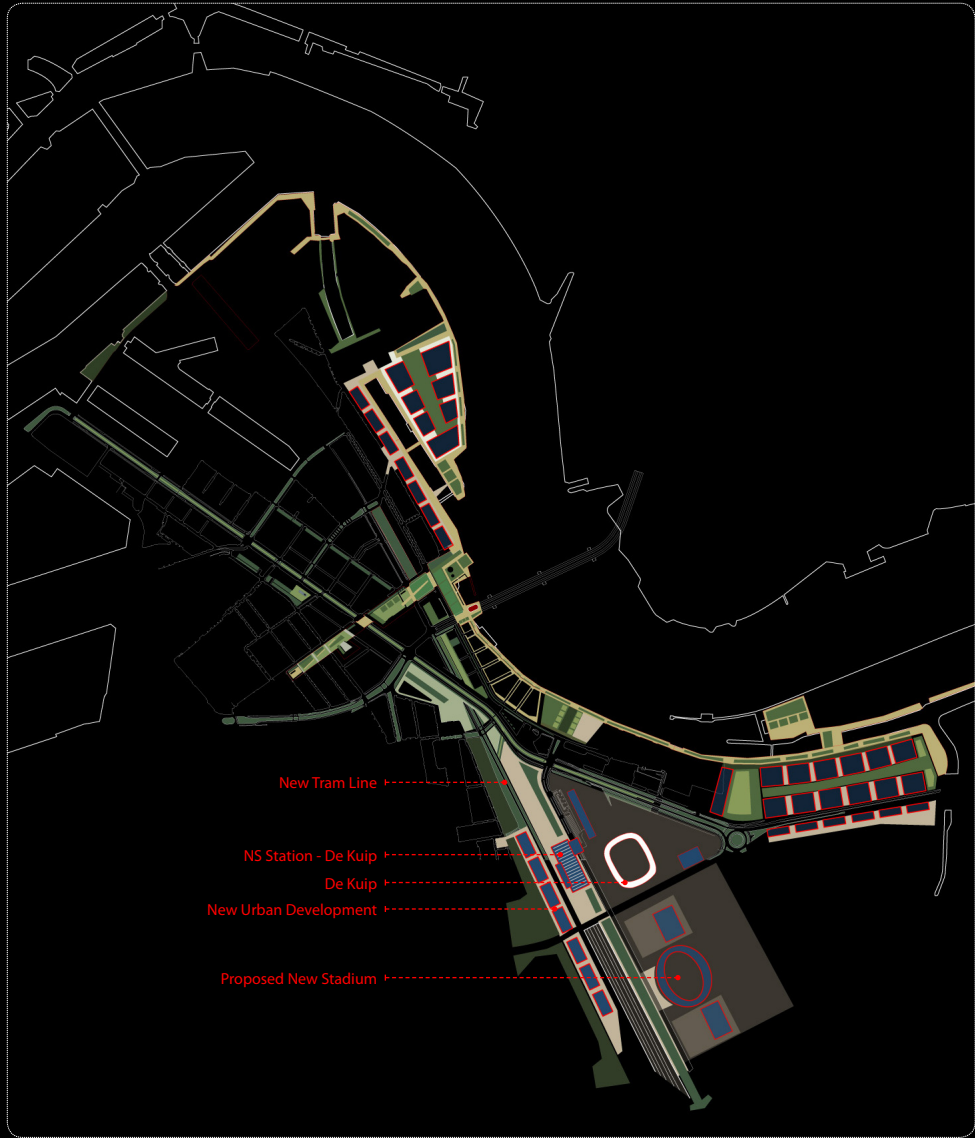
Public Transport: Rail, Tram



New Tram Line + NS Station De Kuip (New Urban Intensification)

Rail Connections

New Tram Line and Major Stops

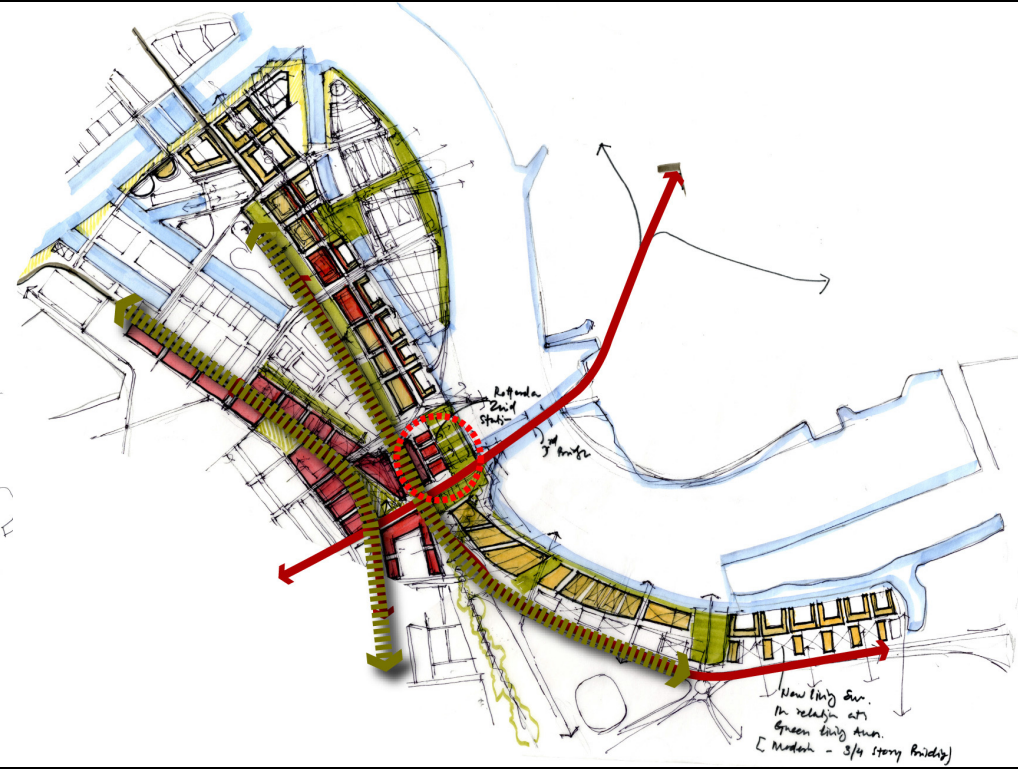


- New Tram Line
- NS Station - De Kuip
- De Kuip
- New Urban Development
- Proposed New Stadium

Strategic Proposal - New NS (De Kuip) Station, Urban Development

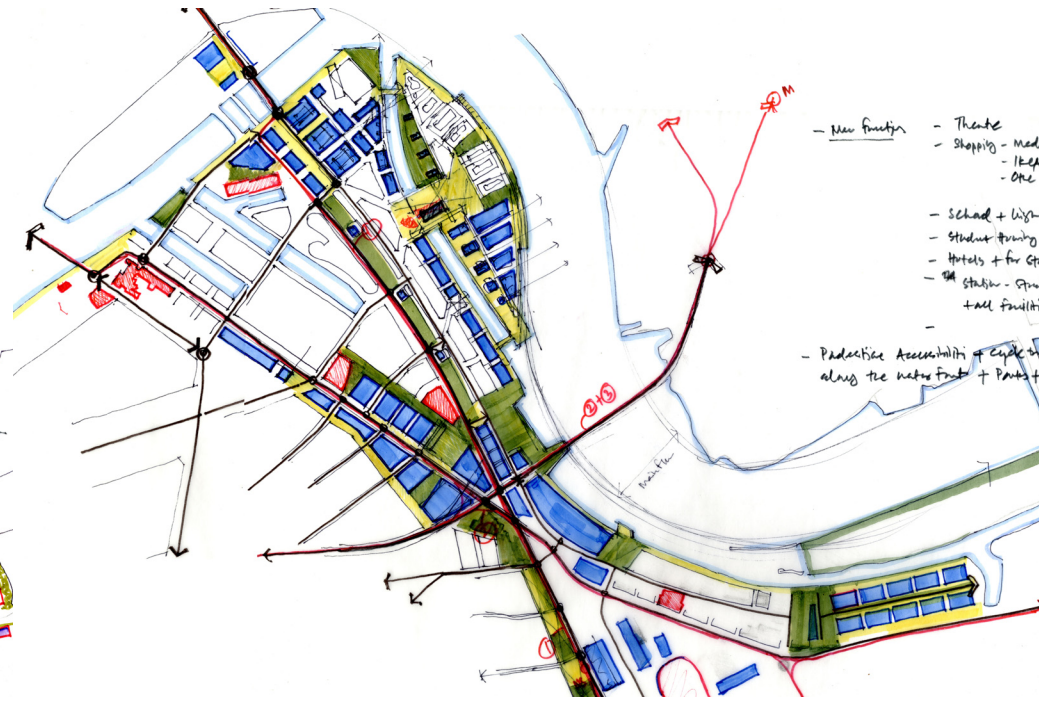
Strategic Projects

Waterfront + Two Nodes: Design Development (Conceptual Design for on Large Scale)



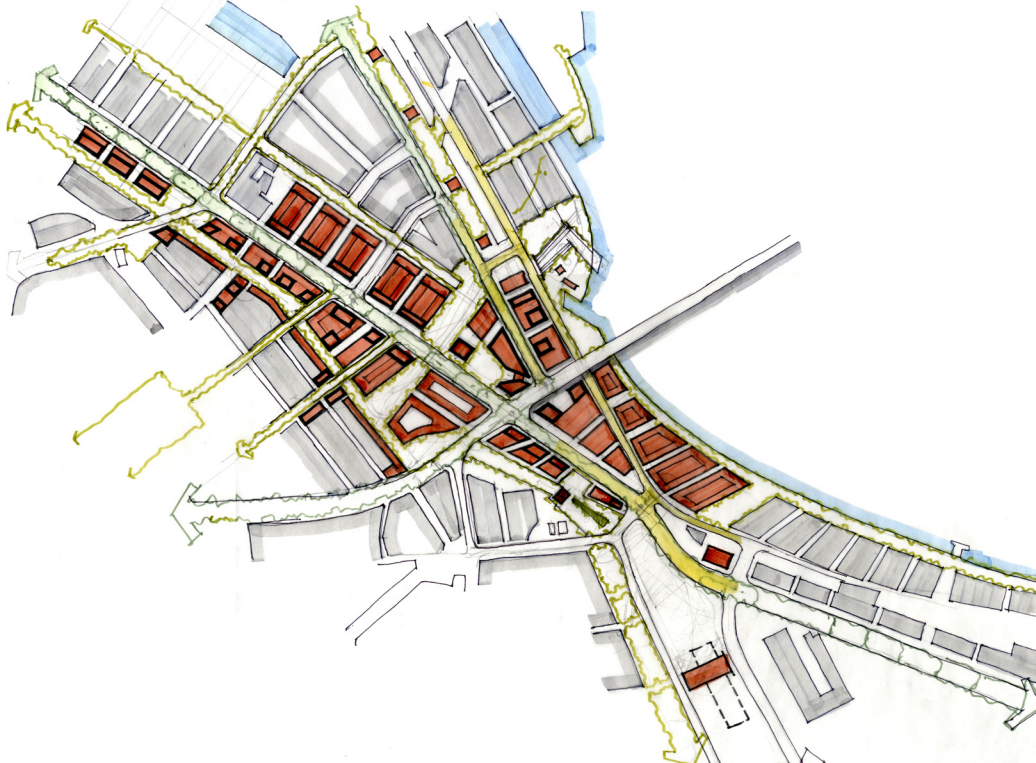
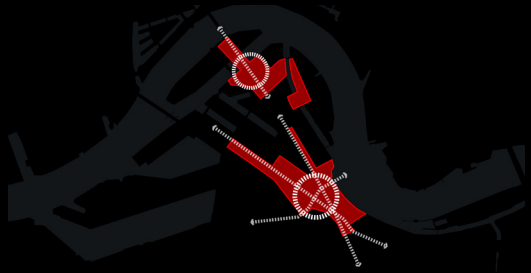
Strategic Projects

Waterfront + Two Nodes: Design Development (Conceptual Design for on Large Scale)



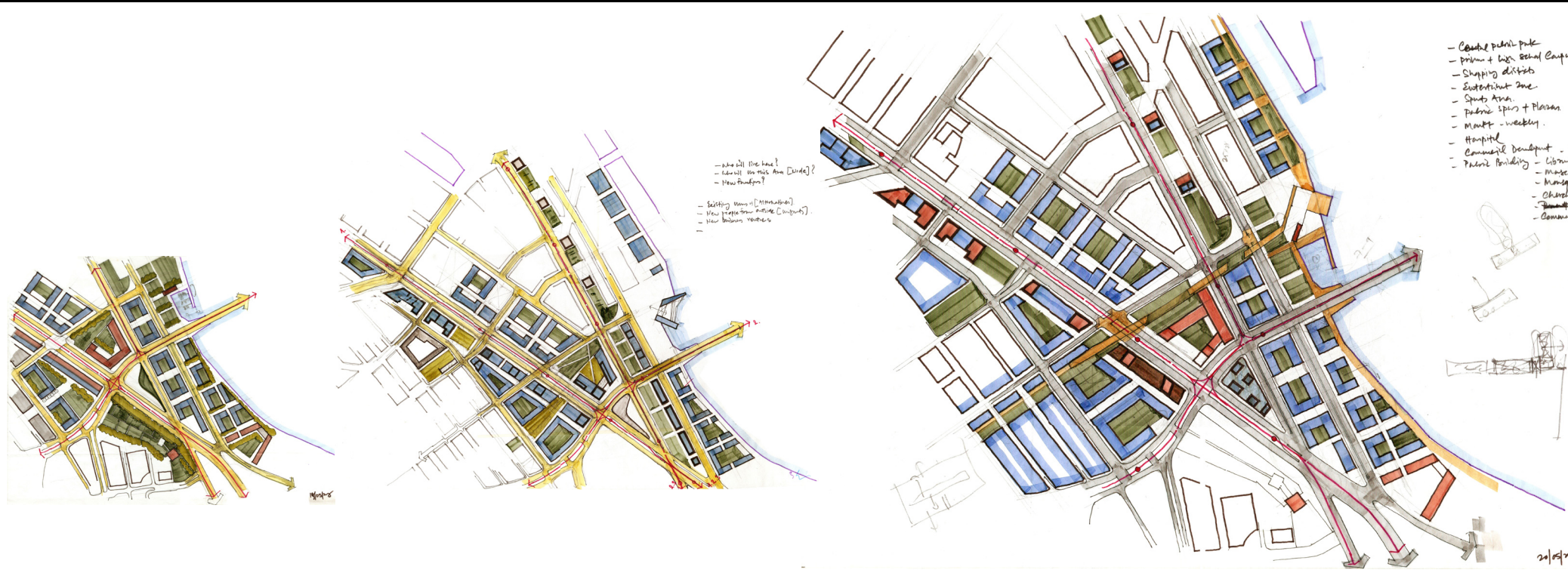
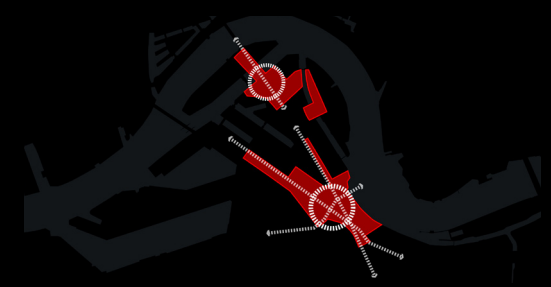
Strategic Projects

Waterfront + Two Nodes: Design Development (Conceptual Design for on Large Scale)



Strategic Projects

Waterfront + Two Nodes: Design Development (Conceptual Design for on Large Scale)



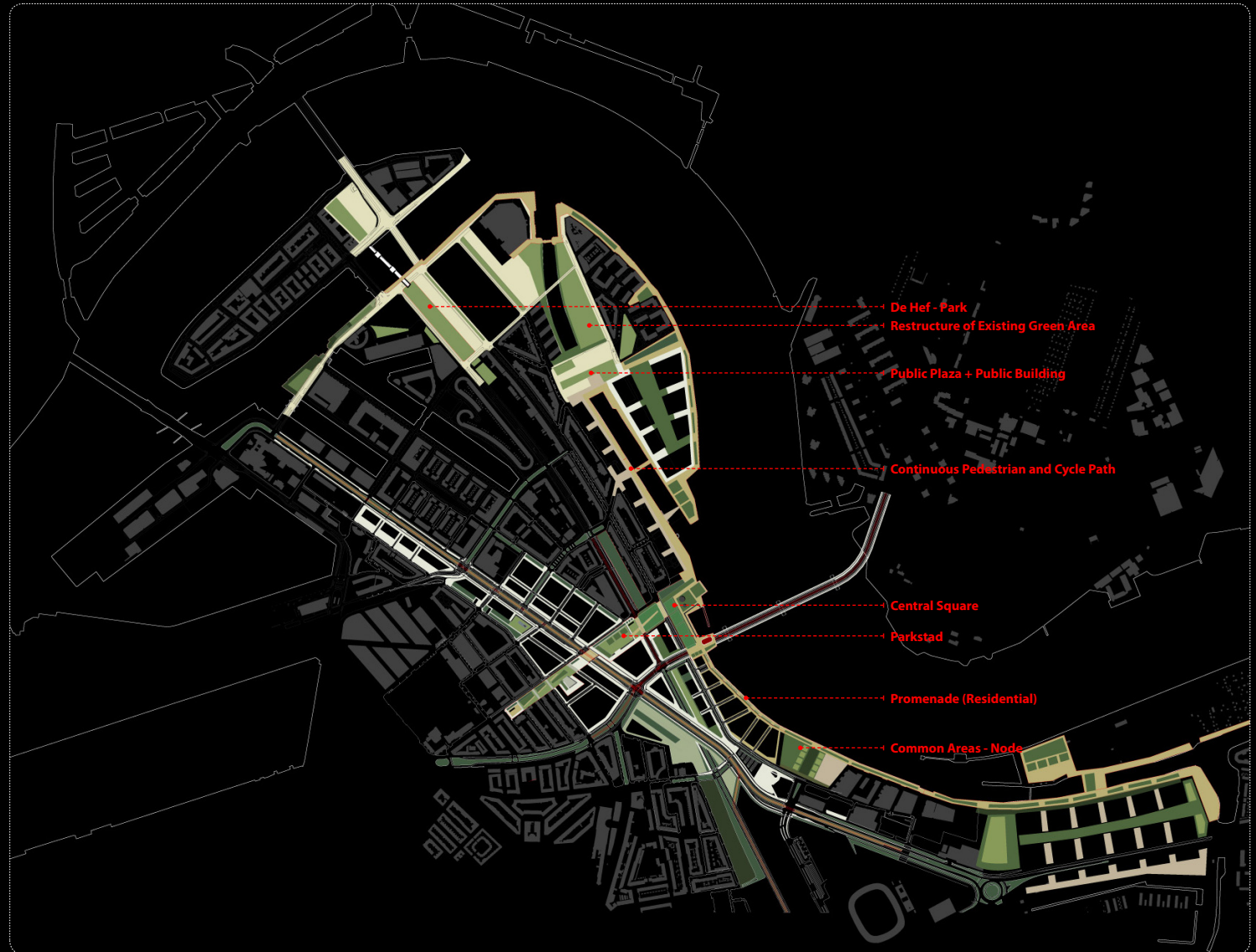
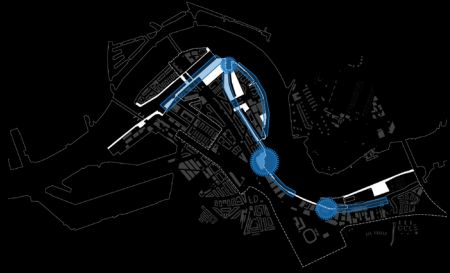


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ХИКСТА 25/02/2012

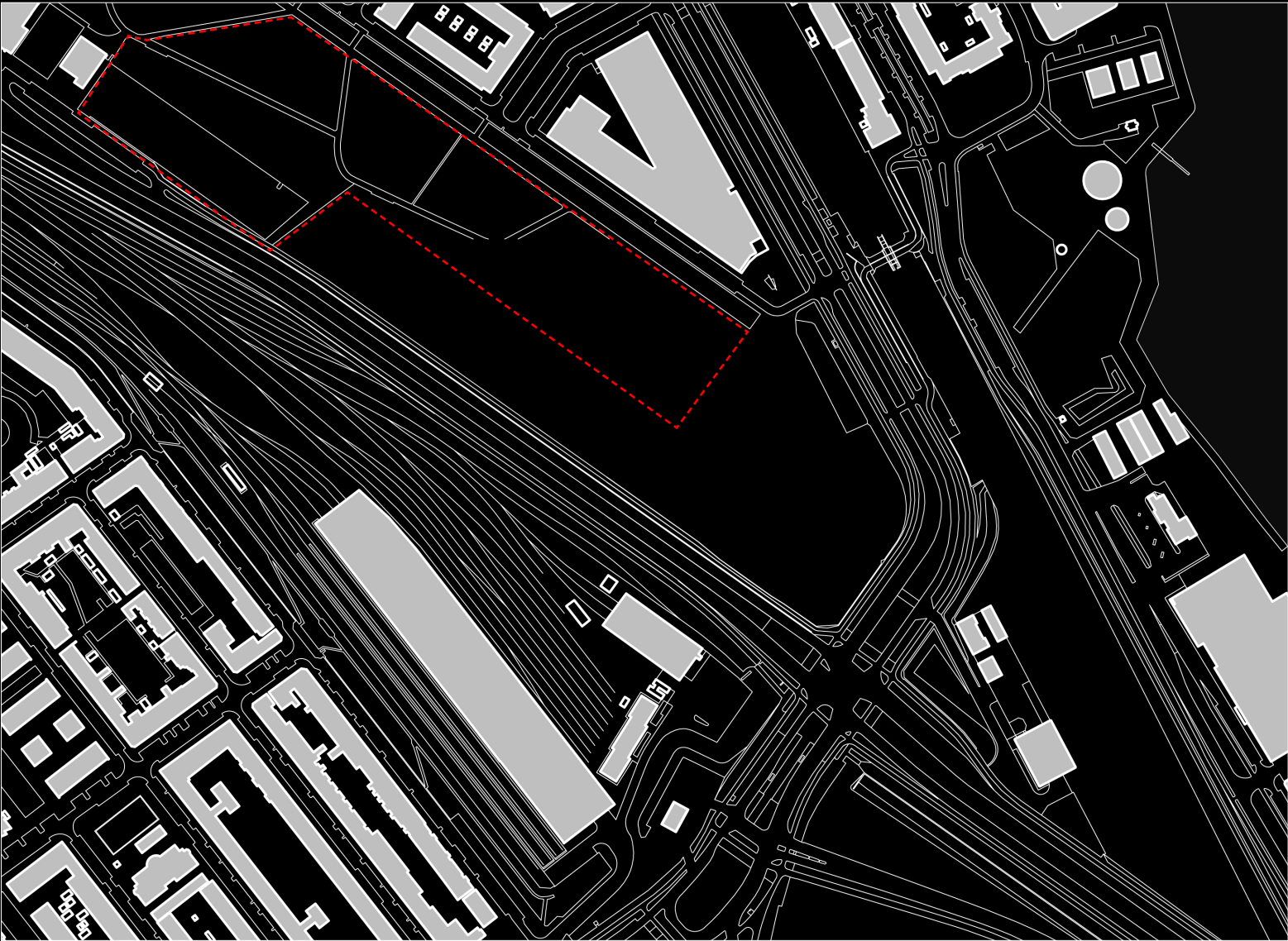
Strategic Projects

Waterfront



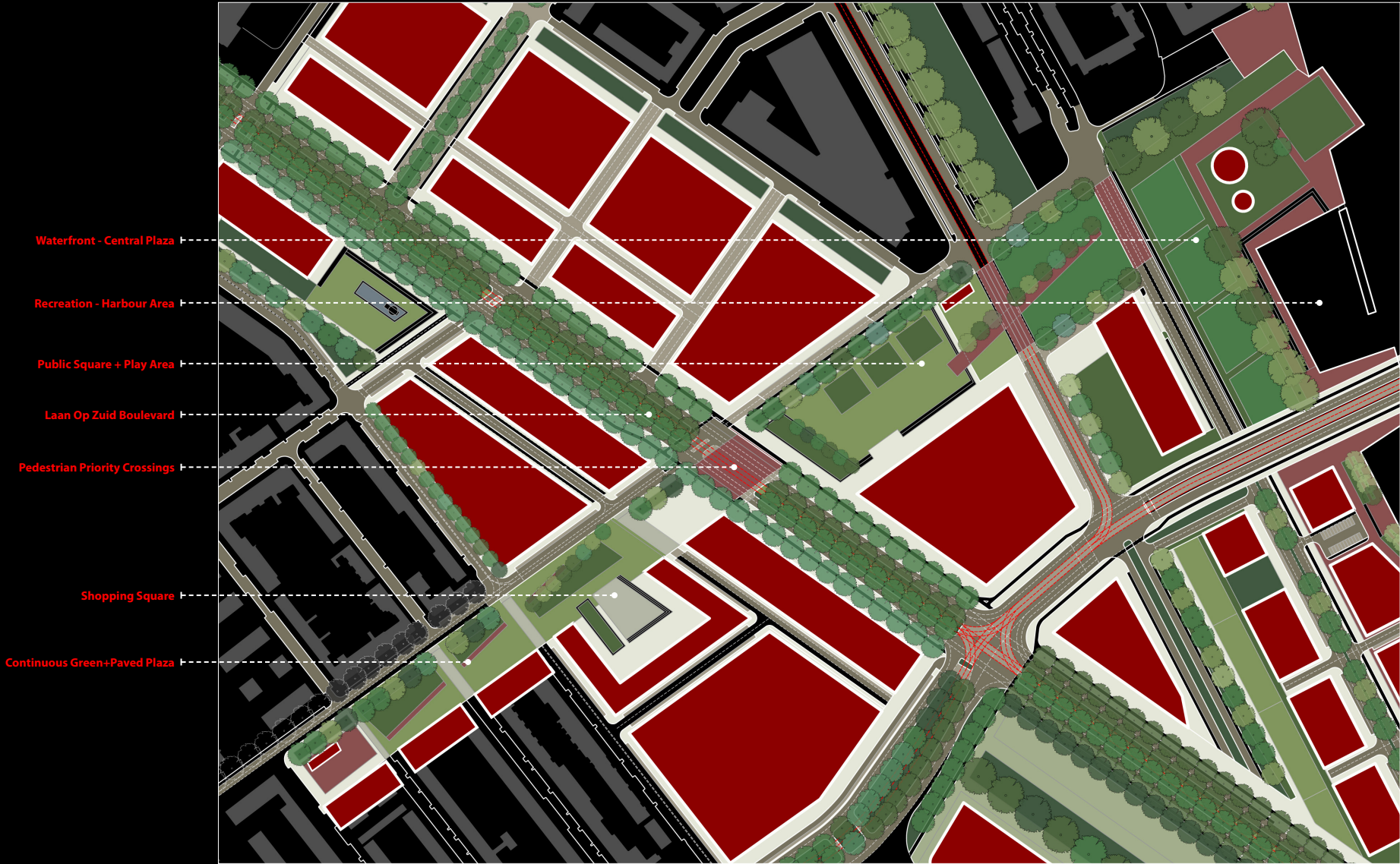
Strategic Proposal - Multipurpose Waterfront Area, Nodes, Public Places, etc.

Parkstad - Existing



Parkstad - Existing

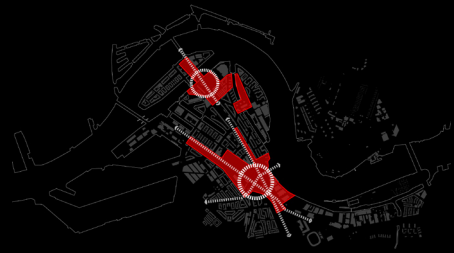
Parkstad - Proposed



Parkstad - Proposed

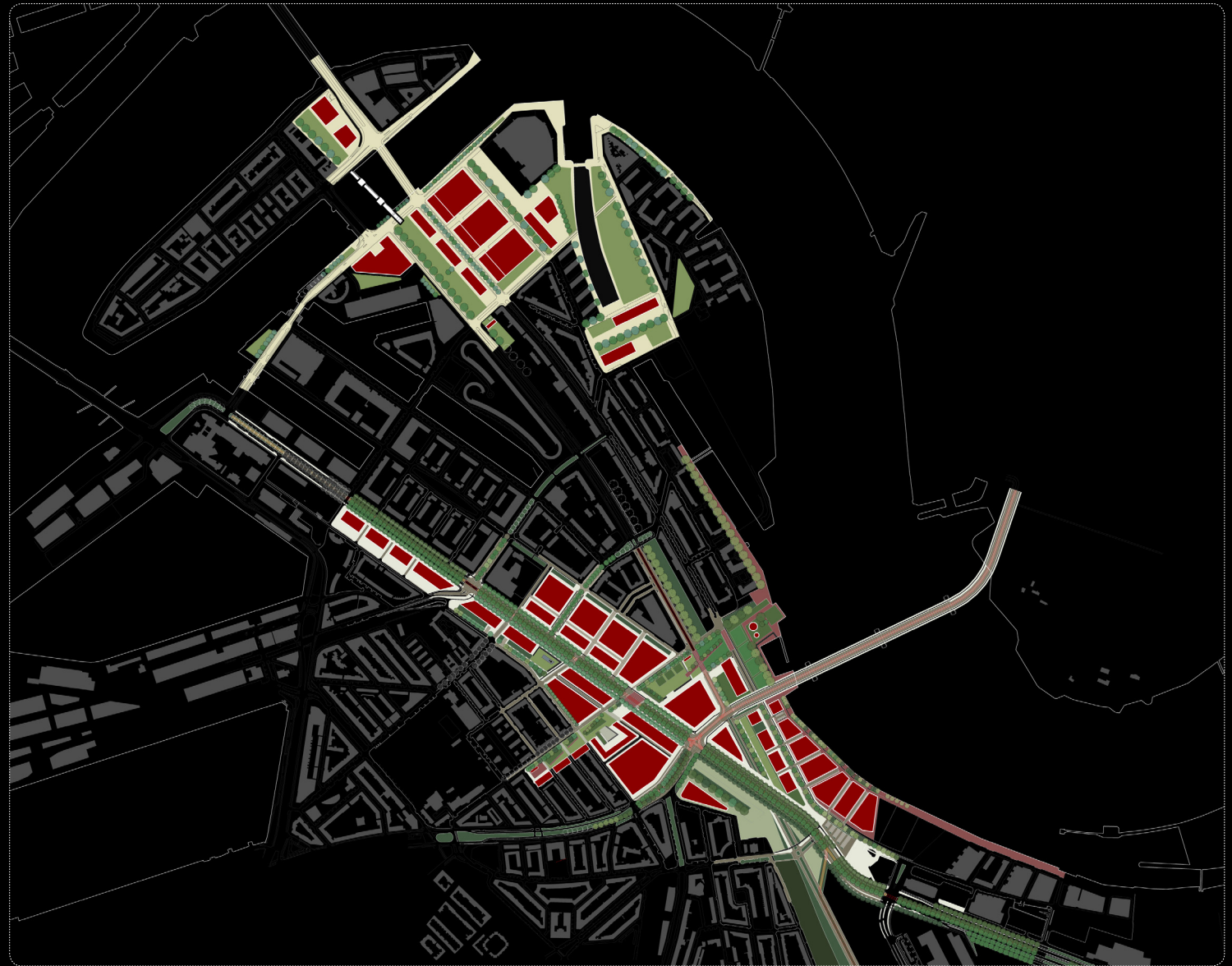
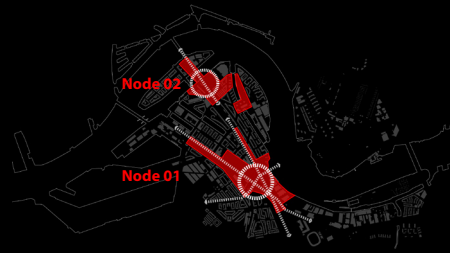
Strategic Projects

Two Nodes - Existing Situation



Strategic Projects

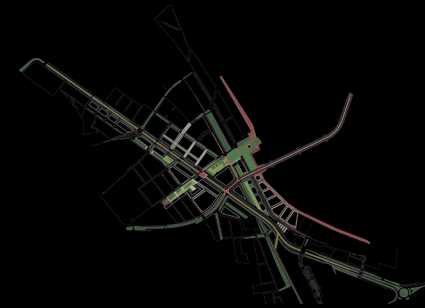
Two Nodes - Proposed



Node 01 - Master Plan



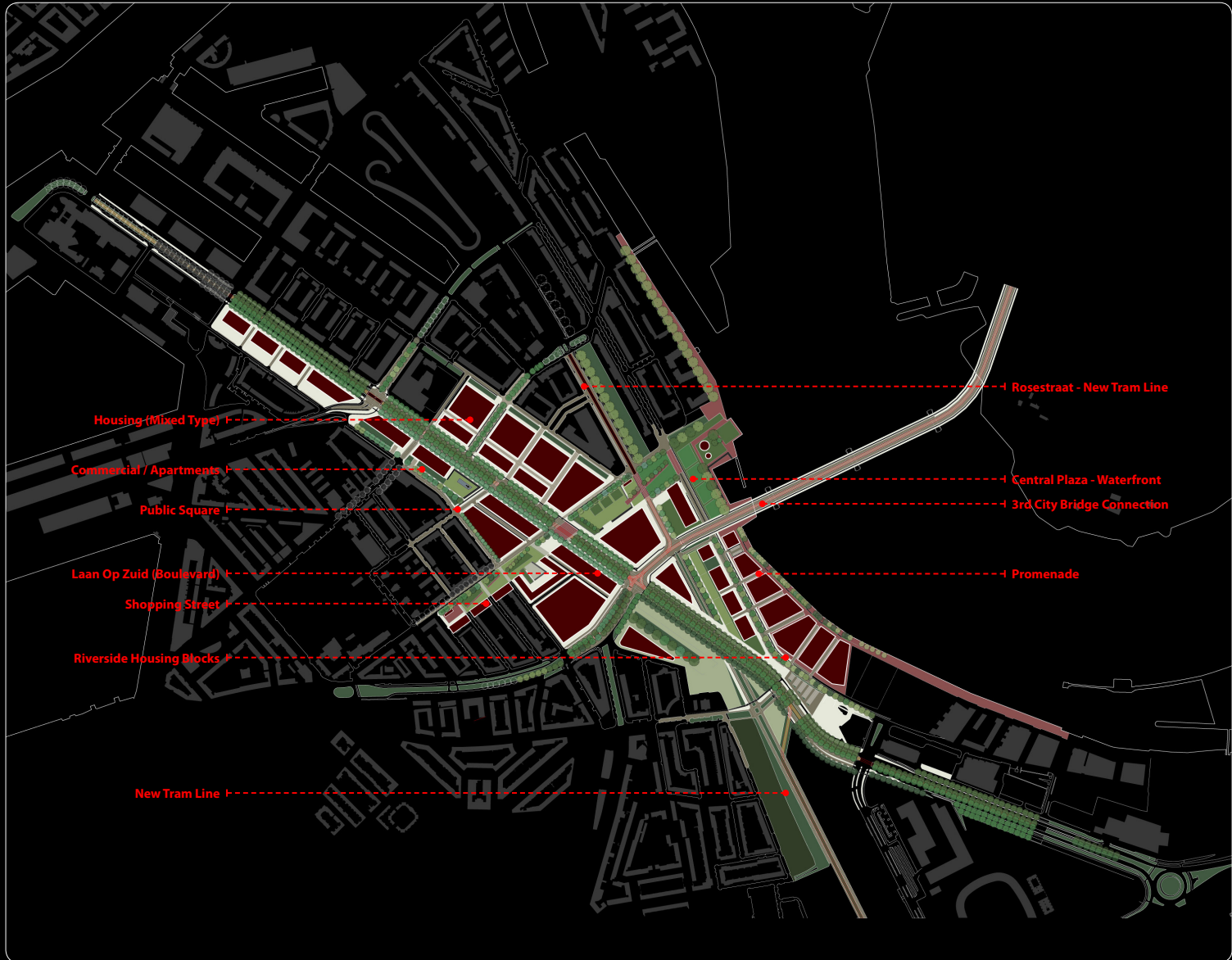
Built Area



Green Structure



Green Area + Public Plazas

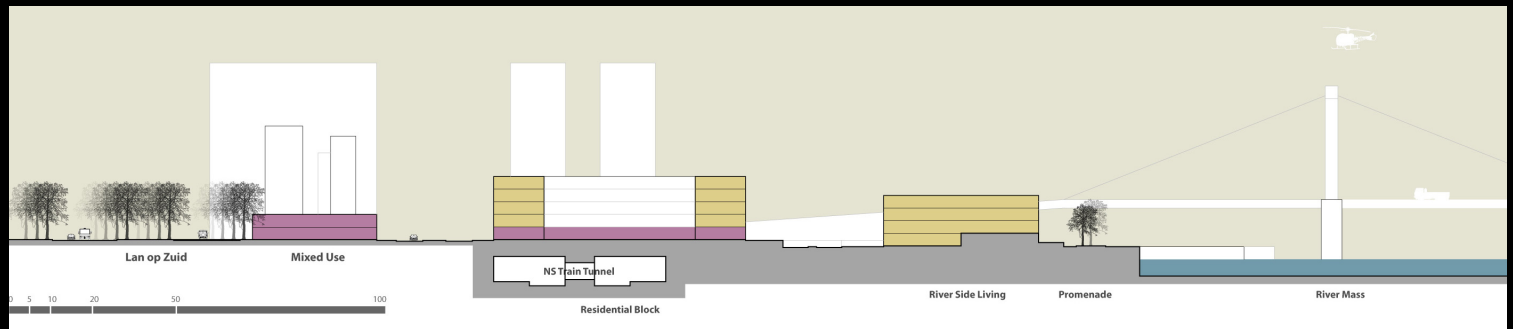


Strategic Projects

Two Nodes: Schematic Sections



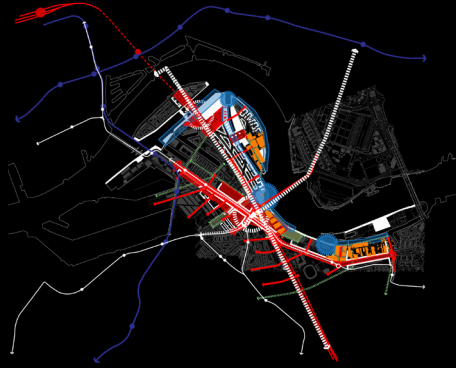
01



02



03



Strategic Master Plan - Elements



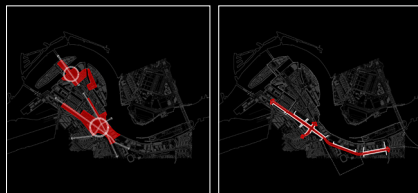
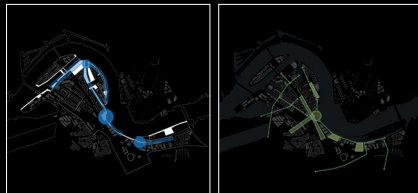
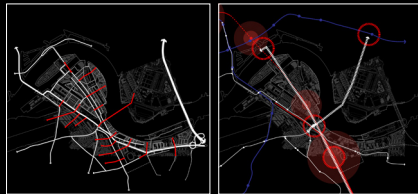


As mentioned in problem statement and goal:

“The Core concern of this Research and Design Project is, to understand the current scenario of Socio-Spatial Segregation in cities, the problems rising due to it, general deterioration of living conditions in poor urban neighbourhoods, and how a good Waterfront can act as a ‘CATALYST’ for the future growth and improvement of quality of life in the city.”

SOUTH ARCH, ROTTERDAM - THE IDEAL PROBLEM

The most important task was identification of the project area – South Arch, Rotterdam once a busy harbour and industrial district which was also home to many of the people employed in the same area. Water front location: The study area is situated in close proximity of the city centre, immediately south to it and boasts Approximately 5 km of waterfront on the southern bank of river Maas with large tracts of vacant land and some basic infrastructure as well as a corpus of interesting built heritage waiting to be re-structured. One can understand its escaping the generalised construction boom due to persistence down and poor connectivity to the city.



Process of degradation and manifestation of segregation: The district faced heavy financial losses and degradation of living standards with the disappearance of main economy generators - the displacement of harbour activities and large scale shut down of industrial activities. Many of its inhabitants moved further away with the port and new industries abandoning their homes, many were left unemployed and doomed into poverty, whilst for the young the hope success and progress was weakened. The vacant houses were soon appropriated by poorer migrant populations in view of getting closer to the city, always in search of better employment and facilities. Soon all the physical signs of urban degradation like concentration of economically, socially and ethnically disadvantaged population, lack of new investments, and dilapidation of built infrastructure manifested.

This text book like situation makes South Arch an important model project with a scope for addressing the two very important urban issues – water front regeneration and urban renewal of areas facing problems of socio-spatial segregation. Besides its strategic location on an important transportation artery and between the city and suburbs make it an ideal example with potential to create the desired multiplier effect.

Analysis and Design Approach:

The subsequent research and analysis with universally accepted methods like SWOT, RGBG and physical structure analysis tools such as density, typology, connectivity, morphology and water patterns was very useful to identify crucial nodes and bring out the potential land use/ functional zoning / infrastructure diagrams. Some 8 nodes were identified for preliminary design proposals in which detailed design was proposed for 3. The aim here is to address socio-spatial problems with physical interventions and define how integrated design plays a genuine role – where accessibility to public places-public facilities-local transportation, high density mixed development for new economic activity along with new living areas, scope for recreational, sporting and touristic activities are seen as design parameters.

This hypothetical proposal presents two major issues of Urban Regeneration, where the design solution integrates them in one experimental solution. In terms of physical restructuring it successfully manages all of the core issues identified from the analysis and re-establish waterfront as the image of city.

Beyond local: The multiple-component strategy with a dense mesh of overlapping loops, 'opening' the local fabric to movements at different scales, mapped in terms of multiple social groups – including locals and outsiders – and crossing one another in many different places in the centre and periphery of the project area acts as transition and interaction zone with other surrounding neighbourhoods (outside project area), over all urban structure of city going till the regional scale. Locating various design interventions meant for public amenities like cultural centres, sports, recreation, education etc on these critical points offers them to be used by a wider majority of population going beyond the project area. This helps 'reinforce' the positive model image of proposed project area and 'reintegrate' it into the wider context, whose effects will be felt and repeated at the neighbourhood to the city and regional scale. Thought the basic aim is that it will work as a catalyst to reduce the gap between the northern and the isolated southern part of Rotterdam.

I am aware that one of the important aspects of the Urban renewal process is to address the social problems for which provisions have been made in the plan to be integrated by specific political will and social integration strategies. To mention a few; Avoid segregation and hogging of good quality spaces by rich or higher income houses and making it available to a mix of different socio-economic class of population by provision of loans and subsidies. (for example; Government owned rental housing) Maintain as far as possible the present population – Urban renewal for the people. Propose long and short term economic incentives to attract investments. etc..

Alas, 'Urban Regeneration' of existing neighbourhood is a long term process, whose effects can only be judged after a considerable period of utilisation. But one can be successful by understanding some basics.

Constantly evolving: Cities undergo continuous mutations from time immemorial. Working on an urban agglomeration or city is to intervene on constantly moving object at a point in its evolution. That is why it is important to place oneself in a continuous process and give the utmost important to the physical, social and historic context of a site to ensure a continuity of evolution.

Physical planning: An intelligent physical plan based on careful analysis and addressing the most important socio-cultural-economical needs of a population.

Political will: In all forms of governments the political will is the prerequisite for any development. Policy level interventions count as much as and sometimes more than a good urban design proposal.

Social Consensus: Building for people as per their needs and aspirations. End user should be an important party in the decision making process. Sustainability: It includes favouring of economy of land, close of relations between urbanisation and transportation, densification of urban voids for a more compact city, and green construction as well as maintenance methods.

Books & Reports:

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Web links:

- Rotterdam city information:

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- KEI kenniscentrum stedelijke vernieuwing; <http://www.kei-centrum.nl>

<http://www.obr.rotterdam.nl/smartsite2128354.dws?Menu=2135955>

- Municipality of Rotterdam: <http://www.dsv.rotterdam.nl>

- Statistical data: <http://www.cbs.nl>

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Design Book 2

Restructuring South Arch, Rotterdam

- Waterfront Regeneration : Combating Segregation In Cities By Urban Renewal

Niki Shah (1281178) Master Of Science (Urbanism)

Mentors

Ir. John Westrik
Dr. Ir. Paul Stouten
Ir. Henk J. Engel
Ir. W.L.E.C. Meijers

Graduation Project - Final Presentation 27 June 2008

niki.2080@gmail.com



Extension of Williamsbrug

Node 02 - High Density Urban Area

De Hef - Park

Restructure of Existing Green Area

Public Plaza + Public Building

New Housing Area

Continuous Pedestrian and Cycle Path

Urban Renewal Plan / New Blocks

Rosestraat + New Tram Line

3rd City Bridge

Central Square

Parkstad

Node 01 - High Density Urban Area

Riverside Housing Areas

Promenade (Residential)

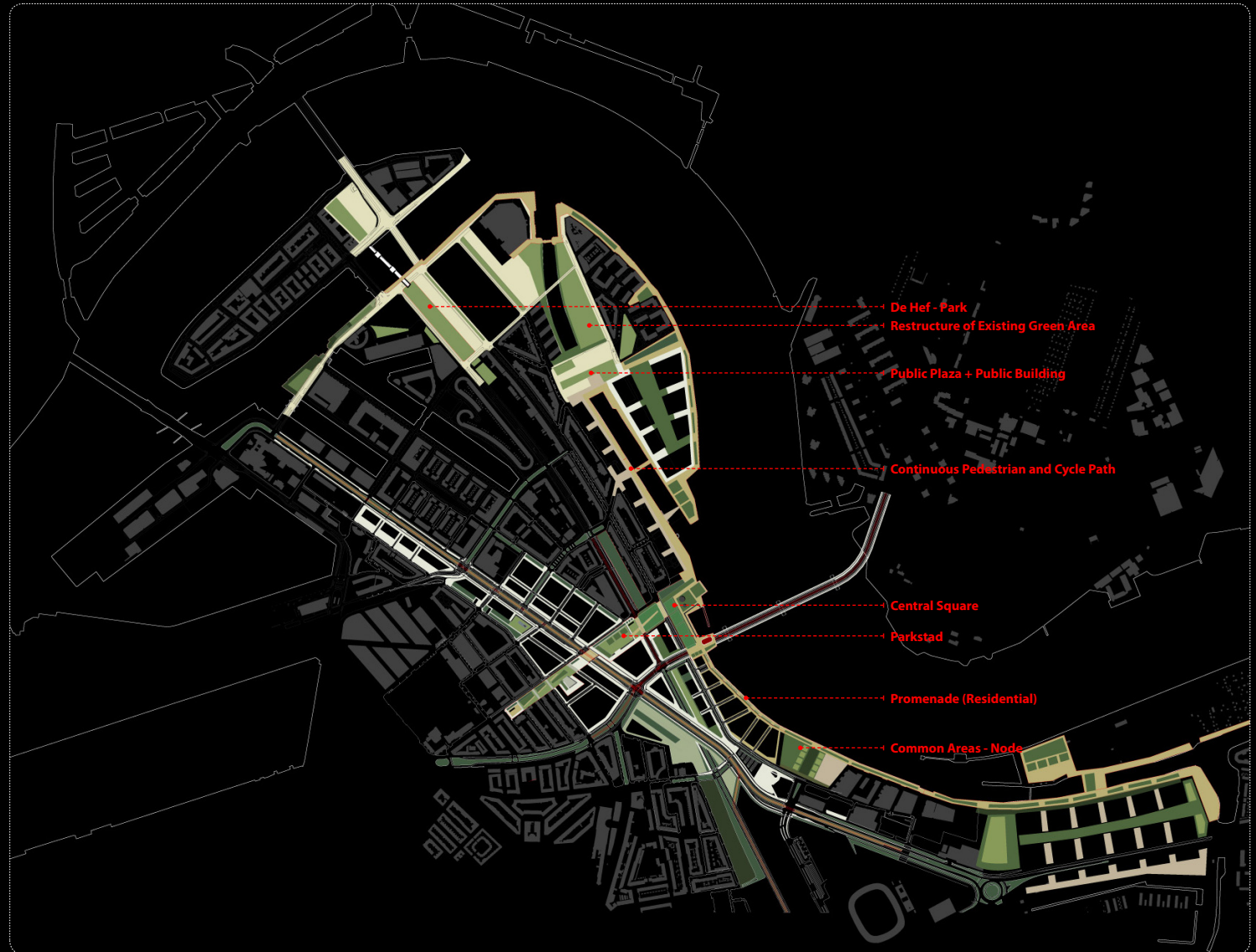
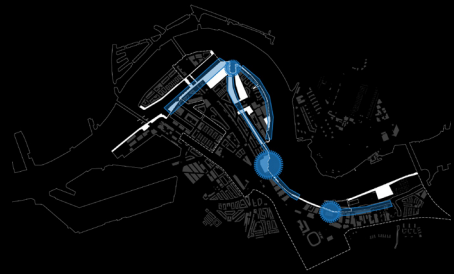
Common Areas - Node

Station (De Kuip)

Urban Intensification - Station Area

Strategic Projects

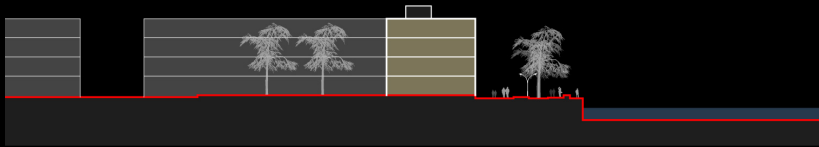
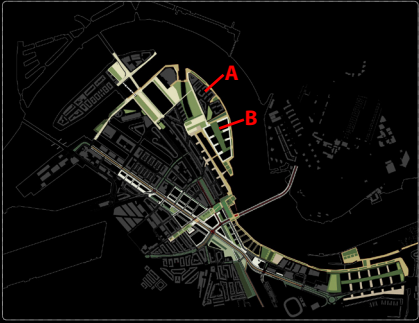
Waterfront - Overview



Strategic Proposal - Multipurpose Waterfront Area, Nodes, Public Places, etc.

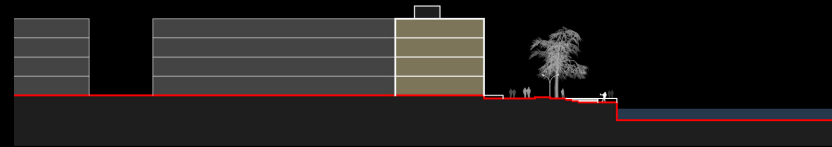
Strategic Projects

Waterfront - Details



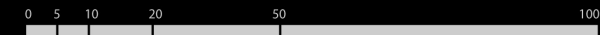
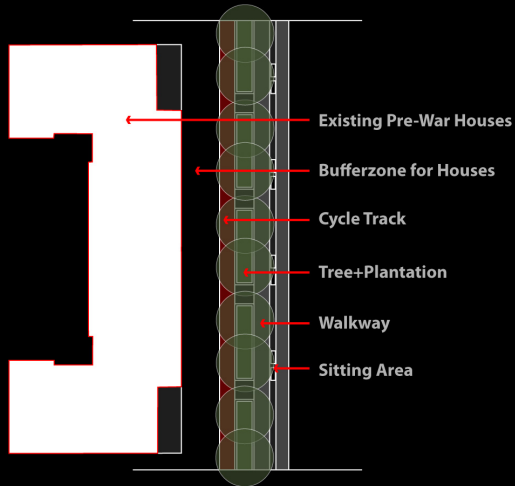
Existing Pre-war Houses

15 wide Promenade
Typical Divistions

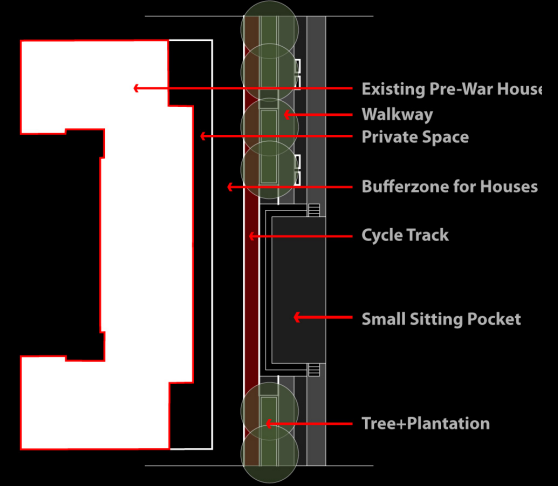


Existing Pre-war Houses

20 wide Promenade
Typical Divistions



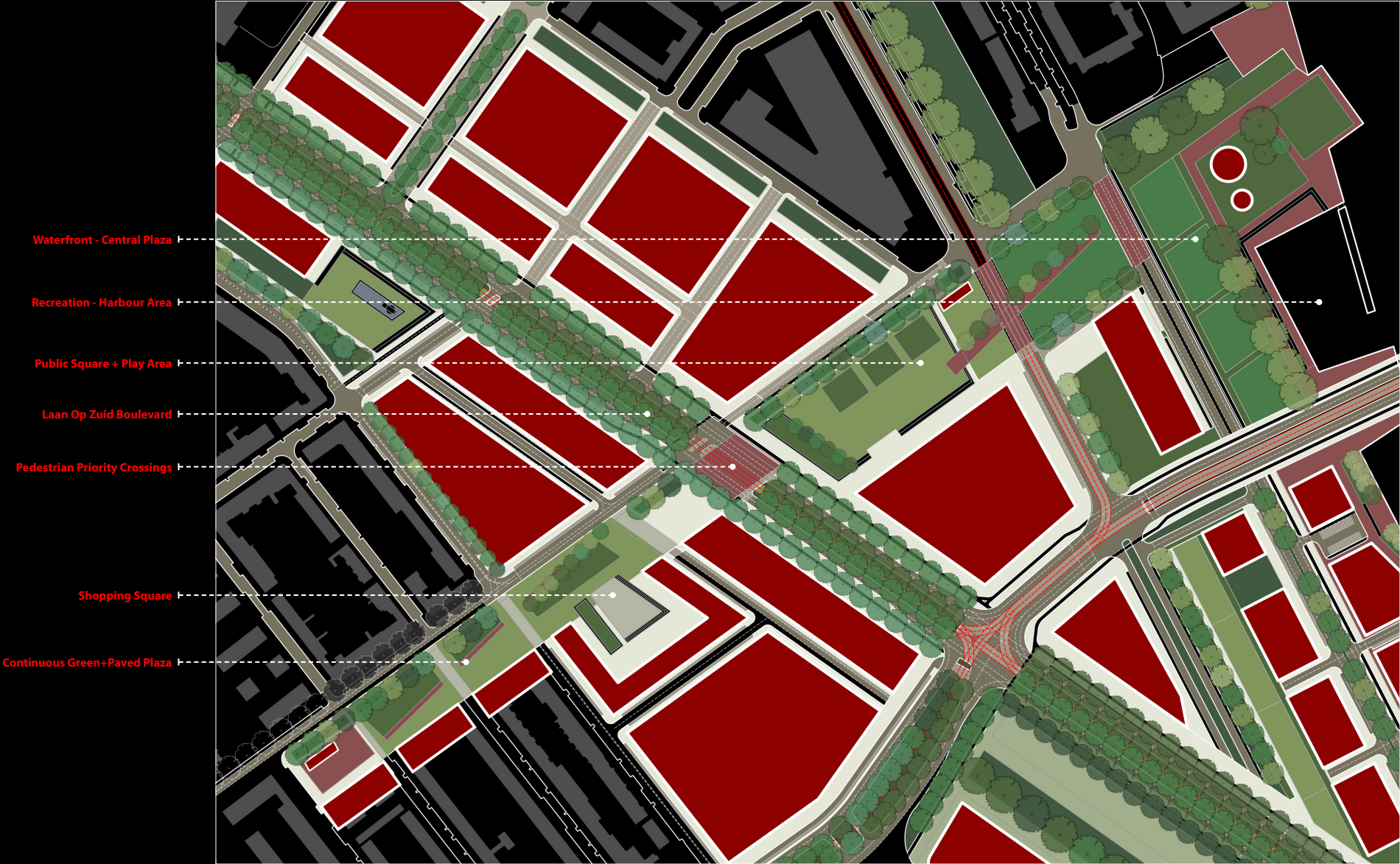
Typical Cross Section - A



Typical Cross Section - B

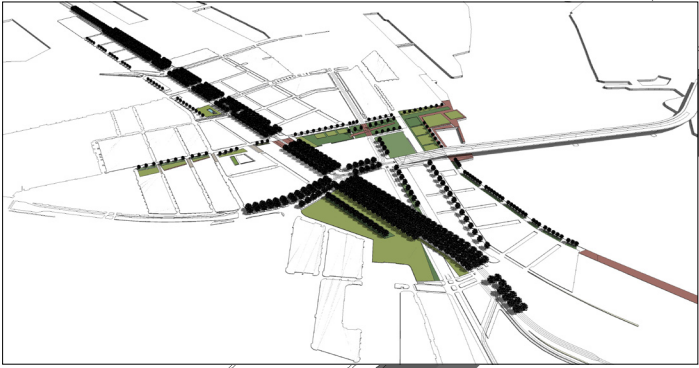
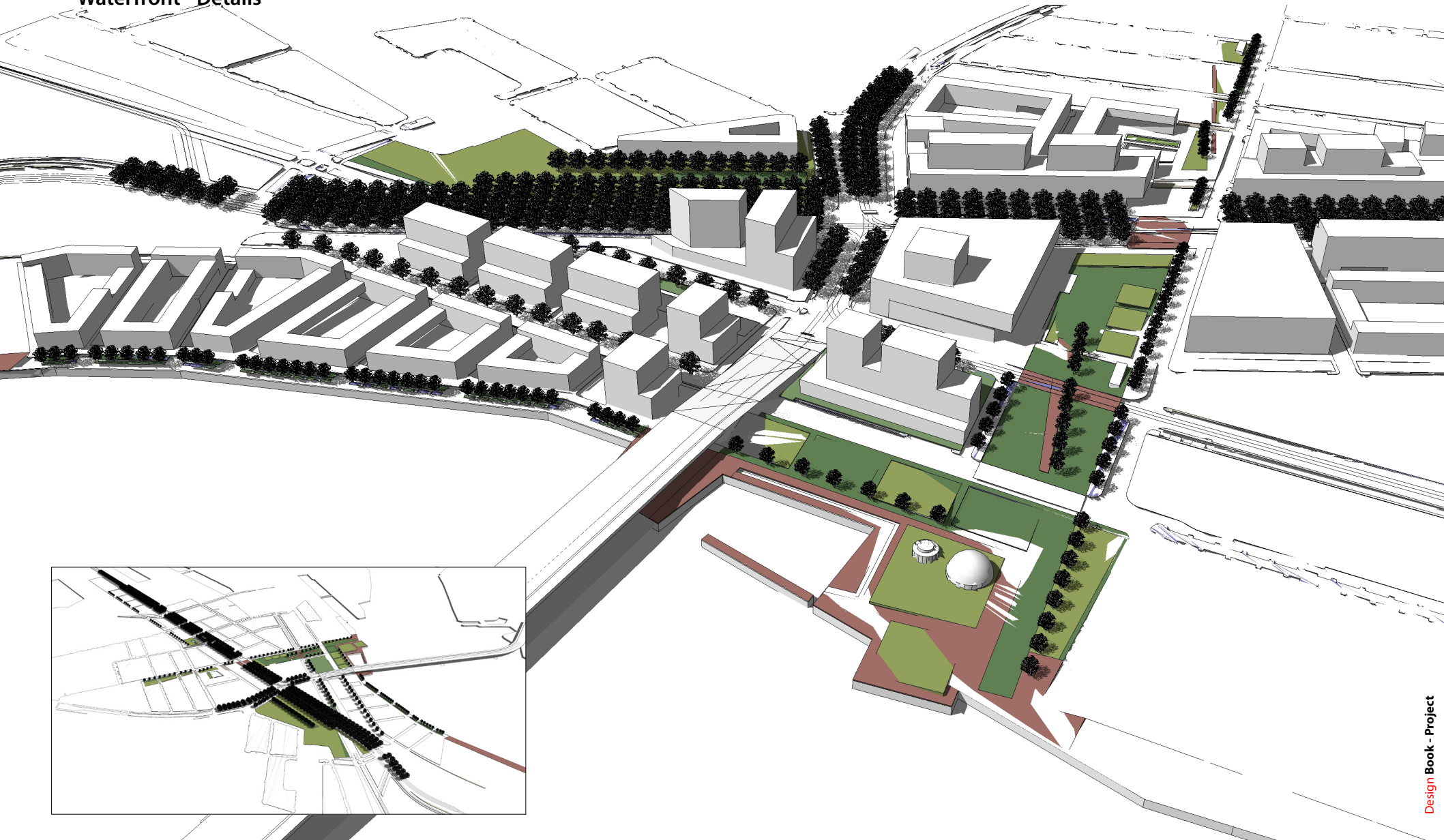
Strategic Projects

Waterfront - Parkstad - Central Plaza



Strategic Projects

Waterfront - Details

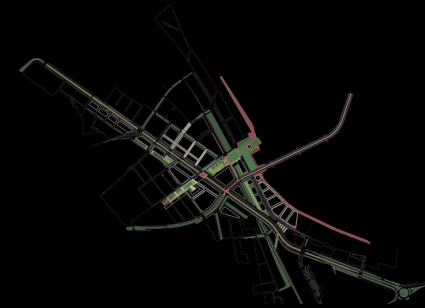


Strategic Projects

Node - 01 - Master Plan



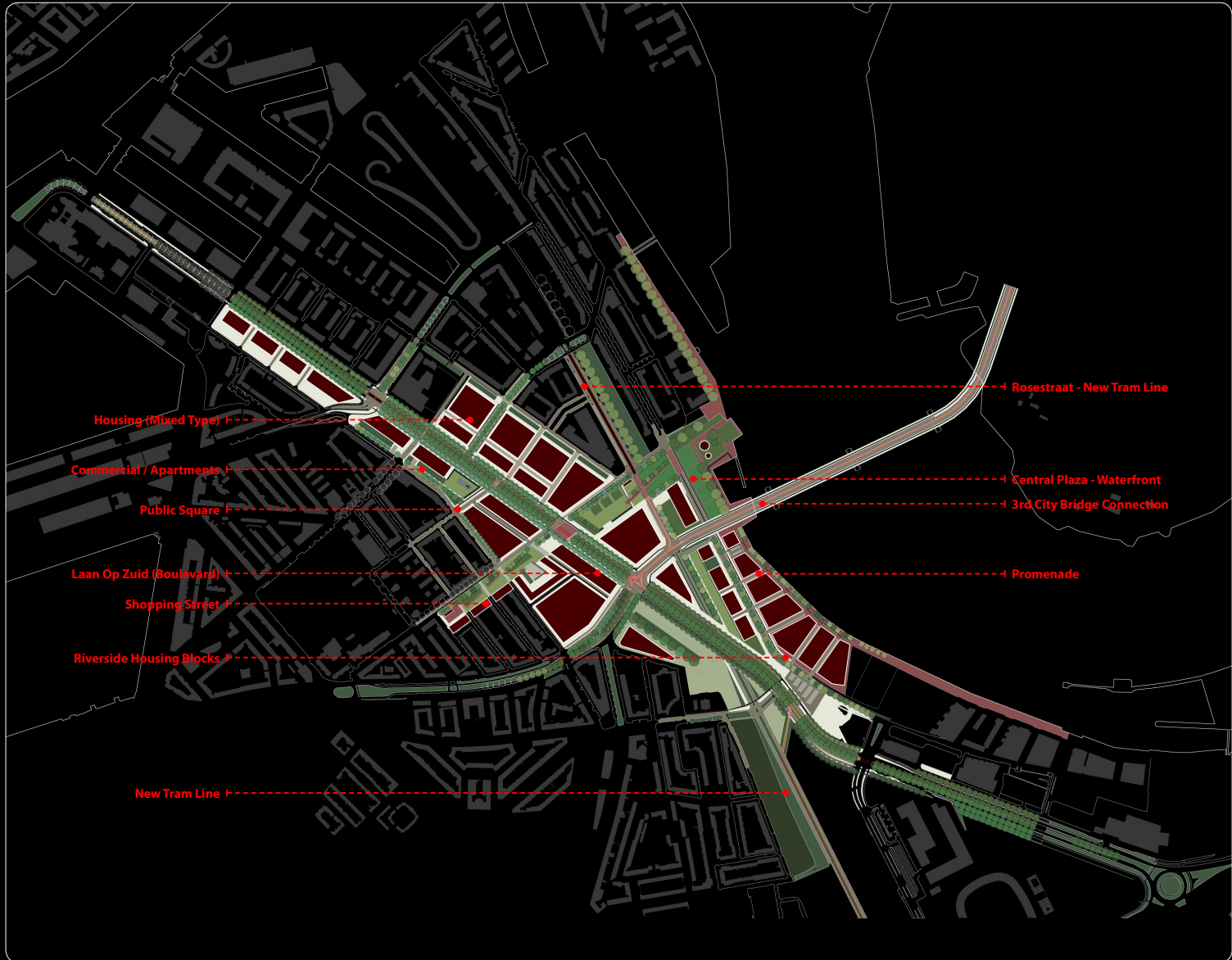
Built Area



Green Structure



Green Area + Public Plazas



Housing (Mixed Type)

Commercial / Apartments

Public Square

Laan Op Zuid (Boulevard)

Shopping Street

Riverside Housing Blocks

New Tram Line

Rosestraat - New Tram Line

Central Plaza - Waterfront

3rd City Bridge Connection

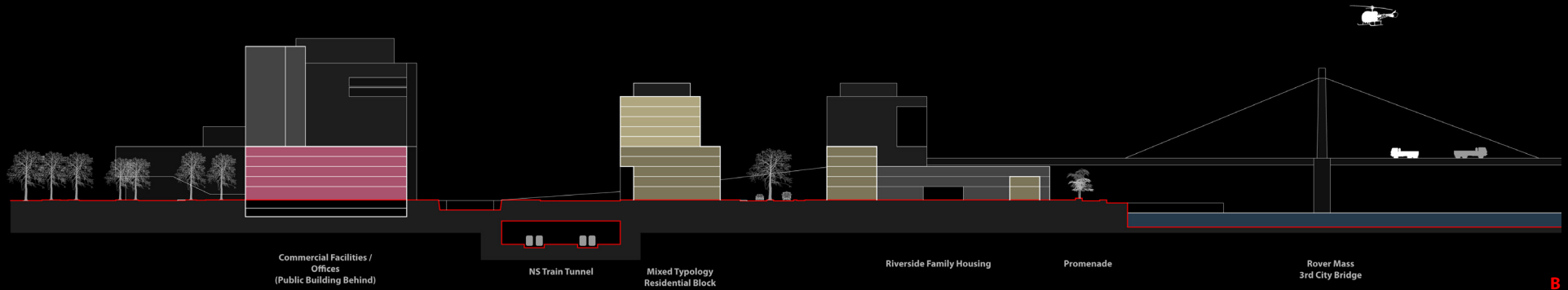
Promenade

Strategic Projects

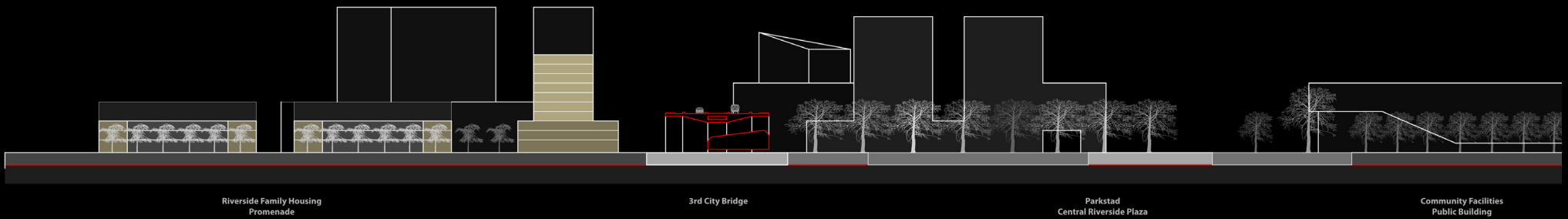
Node - 01 - Sections



A

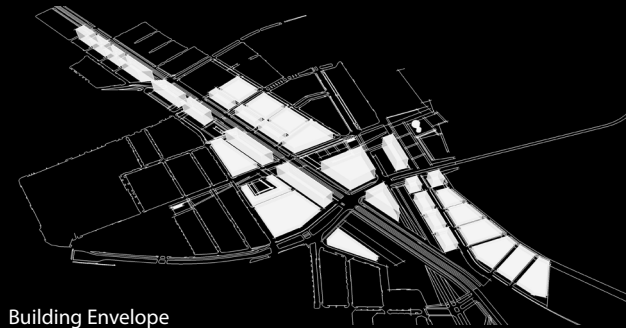


B

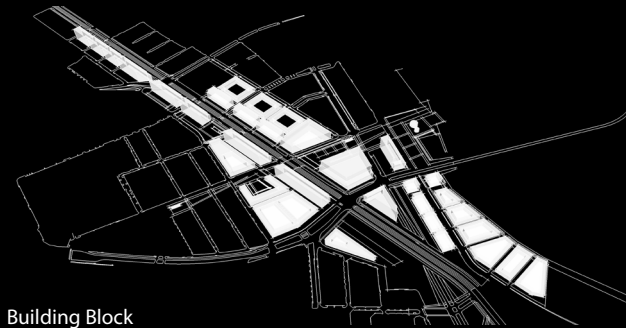


C

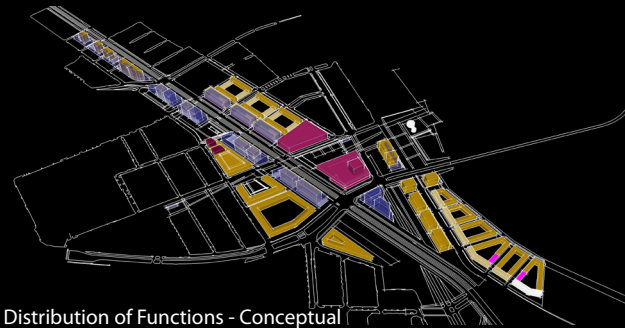
Node - 01 - Building Blocks



Building Envelope



Building Block



Distribution of Functions - Conceptual

