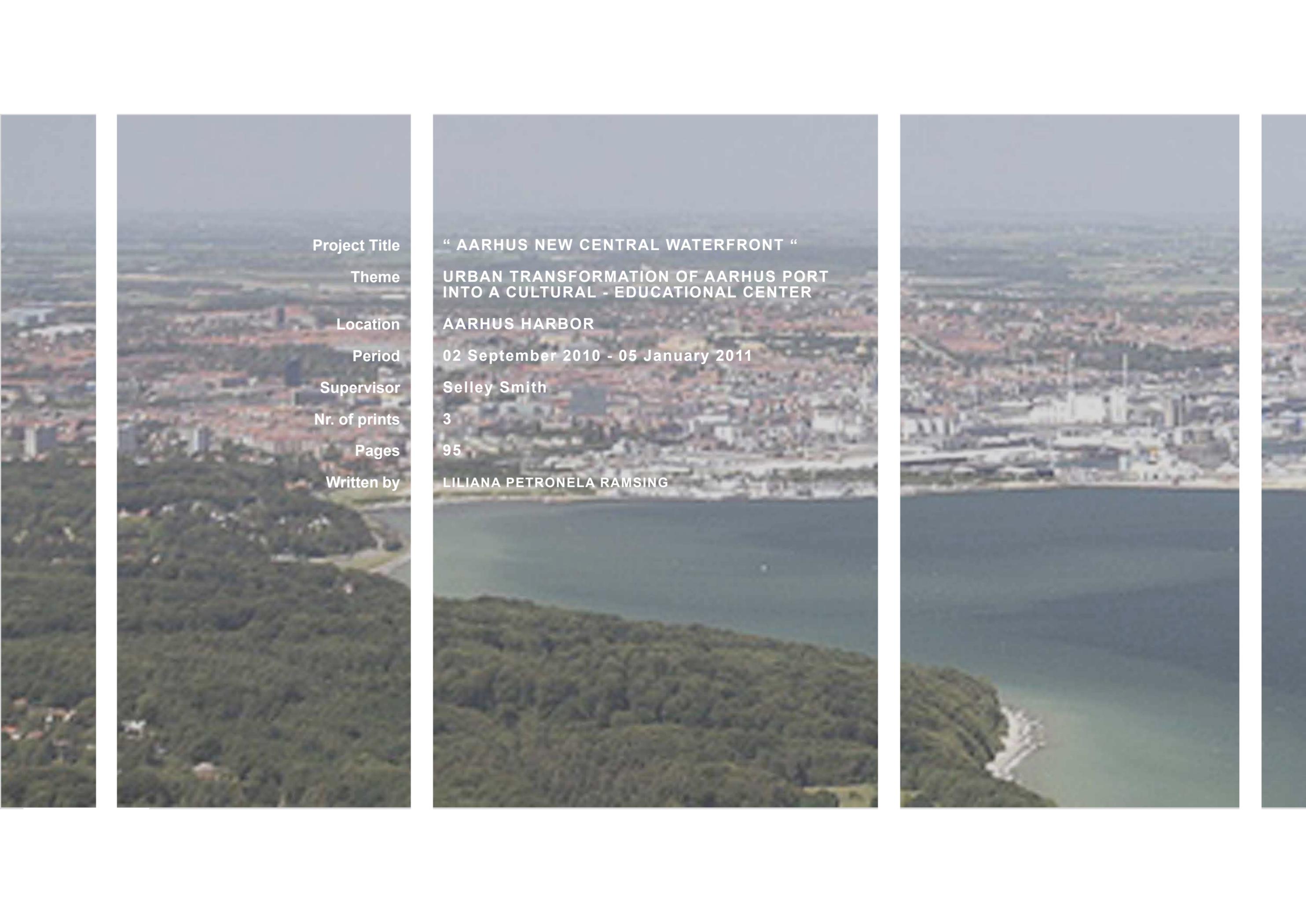




**Aalborg University**  
**Faculty of Architecture and Design**  
**4th Semester MA – Urban Design**

An aerial photograph of Aarhus, Denmark, showing the harbor, city buildings, and surrounding greenery. The text is overlaid on the left side of the image.

**Project Title**

**“ AARHUS NEW CENTRAL WATERFRONT “**

**Theme**

**URBAN TRANSFORMATION OF AARHUS PORT  
INTO A CULTURAL - EDUCATIONAL CENTER**

**Location**

**AARHUS HARBOR**

**Period**

**02 September 2010 - 05 January 2011**

**Supervisor**

**Selley Smith**

**Nr. of prints**

**3**

**Pages**

**95**

**Written by**

**LILIANA PETRONELA RAMSING**

## PREFACE

The project is carried as a master thesis of the urban design, 4th semester M.A. program at the Faculty of Architecture & Design Aalborg University, Denmark.

The thesis project is a closer look into the urban transformation of the present industrial – cargo port of Aarhus harbor in decline. The research for thesis project took place in Aarhus at the Northern Harbor and Waterfront site, as well at Aarhus Municipality on Kalkværksvej 10, Århus C.

Aarhus Docklands is a municipality project to transform the present cargo Port of Northern Harbor and Waterfront Harbor into a cultural – educational environment as an urban part of the city Centrum of Aarhus.

The thesis project uses the municipality's proposal as a background context for the final decisions in the design phase.

The aim of the project is to achieve connection and integration of urban spaces of the new cultural - educational environment at the New Central Waterfront together with the near historical city Centrum. Thus, the thesis project finalizes with a design catalogue for the urban spaces on the New Central Aarhus Waterfront and a vision plan for intervention area.

Firstly, I want to thank my supervisor, Shelley Smith for all the inspiration and supervision feedbacks I have got, and that have been a great help in the project development. I want thank as well the representatives of Planlægning og Byggeri, Teknik og Miljø Department of Århus Municipality architects Nina Bundgaard, Niels Peter M., Peter Rohde, and civil engineer Søren Sloth Lave for their kindness to help me with the information and materials needed for the project.

## PROJECT STRUCTURE

The thesis project title is the same as the local municipality uses for the same area including northern harbor. The title symbolically means the intention of the project for the new waterfront district to become a Center for the whole city of culture and knowledge.

The project is presented in 8 chapters. The chapter 1. includes the project introduction and intention.

The chapter 2. is an overview of the most relevant theories and methods used by the thesis project.

The chapter 3. and 4. present the mapping and the empirical analysis of the intervention area registration with pictures and data about the chosen site. In chapter 5. the concept and vision that project follows is discussed and presented here through text and diagrams.

The chapter 6. presents reflections upon some relevant case studies that thesis project uses in the design phase of the following chapter 7. The projects ends with formalities in the last chapter 8.

## PREFACE



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INTERVENTION AREA FOR URBAN TRANSFORMATION

CHAPTER 1



FORMATION

## 1.1 PROJECT INTRODUCTION AND INTENTION

The municipality plans are to create a new urban district, at the Northern Harbor including the Waterfront Harbor, to function as part of the city Centrum. The transformation will take place at Bassin 1, Pier 1, Bassin 2, Pier 2, Basin 5, Pier 3, Basin 7, Pier 4 and Lystbådehavn.

The project takes in consideration and presents the municipality plans and the design proposals that won the competitions for the new urban district at the Northern Harbor and Waterfront.

**The intention of the project** is to strengthen the connection of the physical spatial closeness between city Centrum and the Waterfront by implementing the urban acupuncture strategy of link spaces and institutions. The project will focus on a certain area at the Waterfront, besides Navitas Park's building and a certain link as Nørreport street.

Throughout the connective link, based on the urban acupuncture strategy, the project will propose the creation of some hotspots with attractiveness value in order to attract participants.

The project supports and uses the Docklands municipality project as a background and strengthen it further by transforming the Waterfront into active public spaces by the implementation of event-scapes with recreational purposes and temporal cultural events.

**The strategy** for the project consists of three parts:

- Intention
- Problem formulation
- Vision

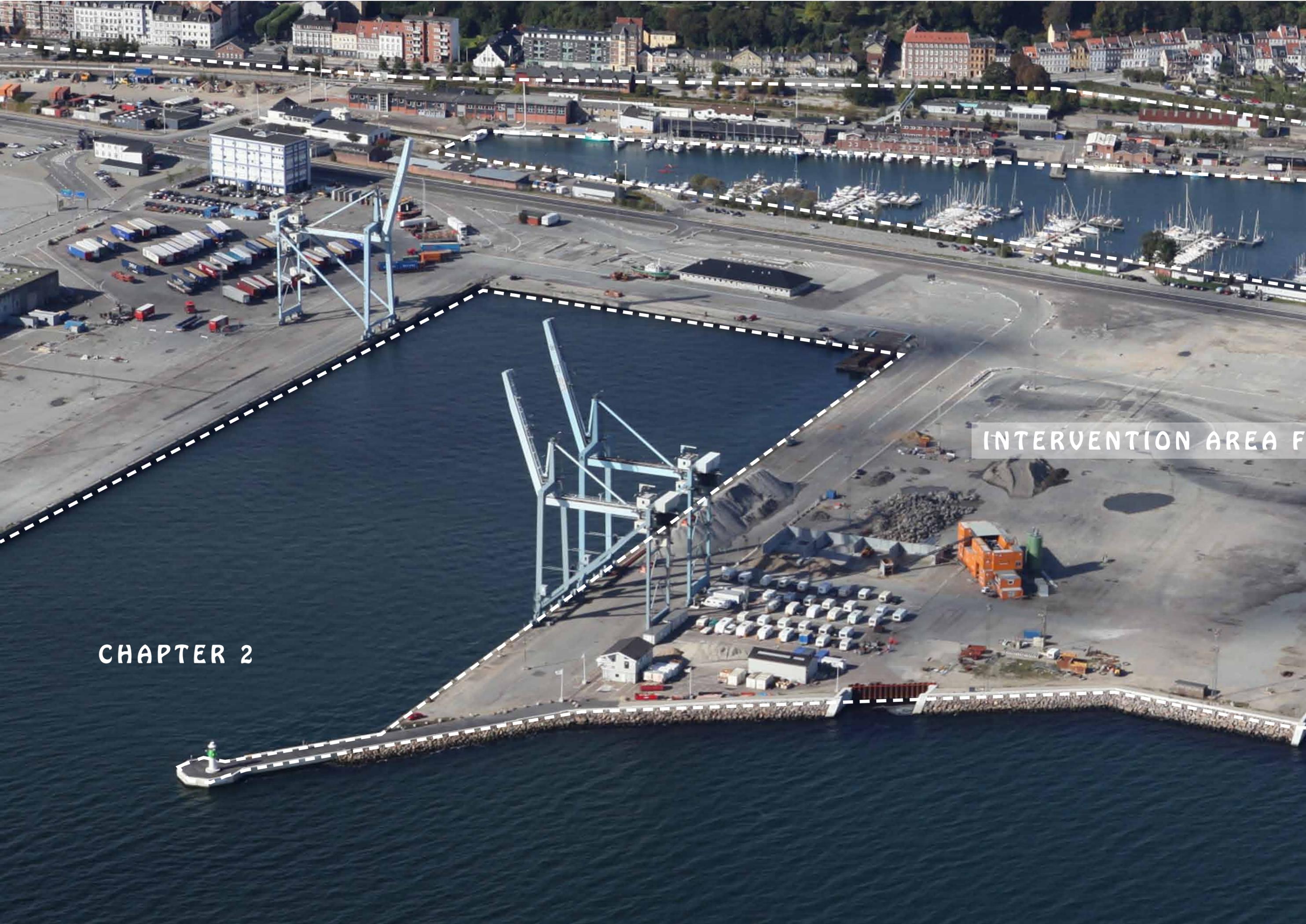
**The design proposal** will work with two layers:

- Green layer
- Cultural - Educational layer

The project completes with **a vision plan** as a design proposal for the focus area, at Aarhus Waterfront, in connection with city Centrum using the Aarhus Docklands' proposal plan as background of the proposal.

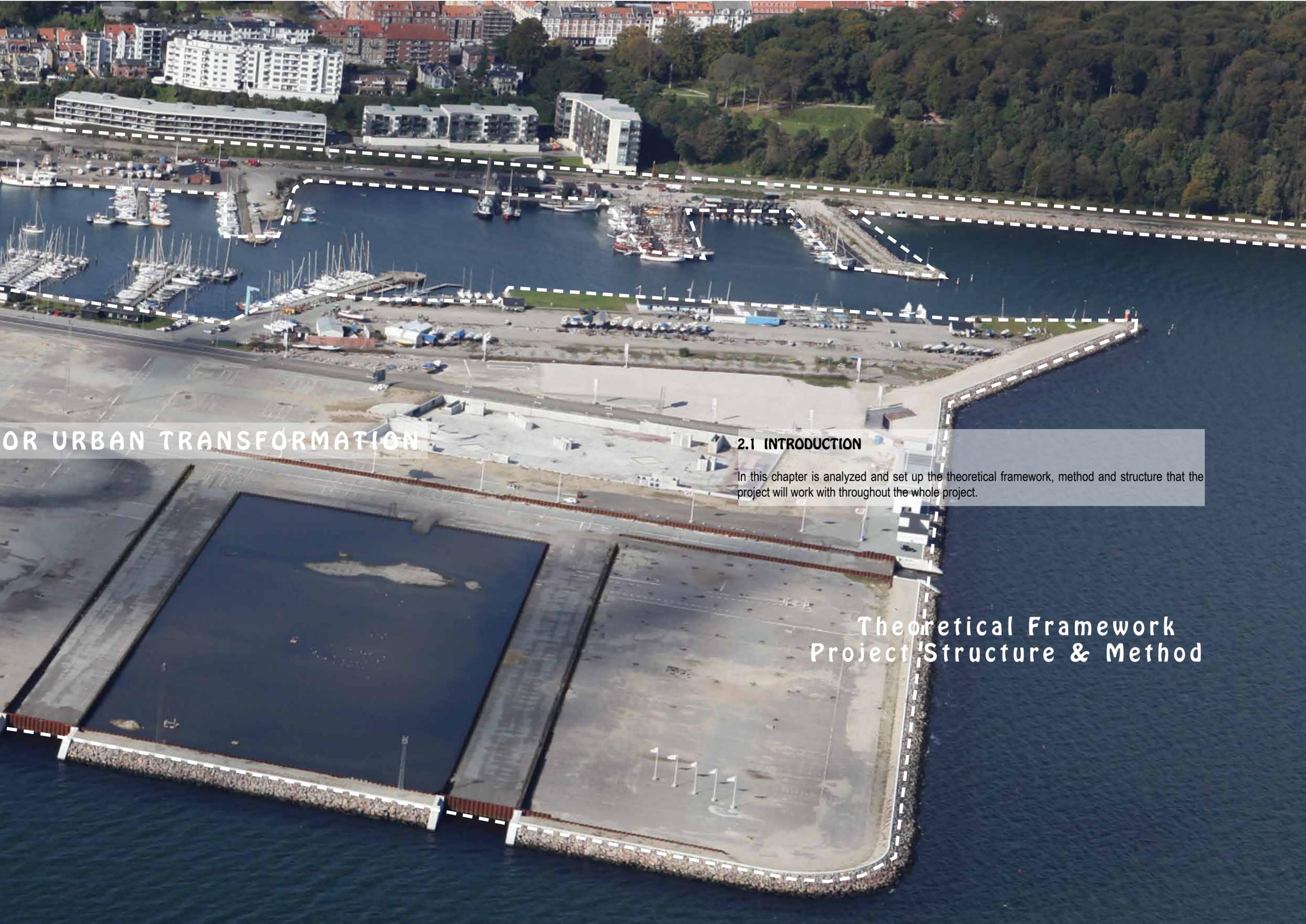
The design proposal is based on the analysis of some relevant case studies and theories for landscape urbanism, waterfront revitalization, urban and post industrial transformation.

# Project Introduction & Intention



INTERVENTION AREA F

CHAPTER 2



OR URBAN TRANSFORMATION

## 2.1 INTRODUCTION

In this chapter is analyzed and set up the theoretical framework, method and structure that the project will work with throughout the whole project.

Theoretical Framework  
Project Structure & Method

## 2.2 THEORETICAL FRAMEWORK

The project is inspired by the worldwide problems of economical decline of the post industrial Ports and their process of transformation into residential or tourism districts. The theoretical investigation of the urban transformation of the post industrial Ports and references for Waterfront revitalization strategies are the framework of this project. The different theories and authors are presented in each chapter that refers to.

Fig 2.1 brings a scheme of the way theories and methods are used through the rapport chapters.

## 2.3 METHOD

The project is presented in nine chapters. The project's introduction presents the intention and the aim of the project.

The second chapter presents in a scheme ( Fig. 2.2 ) some of the most relevant theories and methods that are included in the project structure. Most of the chapters will include a subtitle that will refer to the theories, strategies or methods the subject of that chapter is based on.

CONTEXT is like a story of territory presenting Aarhus as city and a short reference to its history, as well data about the Aarhus Harbor Port, where the focus of the project is.

MAPPIN and EMPIRICAL ANALYSIS of the different existing and future functions are performed in order to understand the problems and the potentials that derive from the visitation, registration of data and empirical analyzing of the site. The areas in focus, in this situation, are: Nørreport, Kystvejen, Havnegade and Sverigesgade streets, as well the Waterfront Harbor from Basin 1 and Northern Harbor all the way to Pier 4.

In this way, it can be define better the acute problems that need to be resolved and the potentials that can be used for the unfolding of the future decisions in the project.

EMPIRICAL ANALYSIS brings references to Kevin Andrew Lynch's studies about mental map visualization and its four elements. Therefore, the maps analysis and their presentation will reflect upon these studies and four elements.

Aarhus city's and Harbor's context are presented shortly with the necessary data for readers to understand the area defined as background for the empirical analysis of different existing functions and potentials .

OVERALL CONCEPT proposes to work with two distinctive layers: the green layer and the cultural - educational layer.

The vision for integrating the New Central Waterfront into the city to become and function as a part of the inner city, by "pulling" the city context towards present Waterfront Harbor area.

The overall concept proposes to work with two distinctive layers: the green layer and the cultural - educational layer.

In this chapter it is presented as well the methods of working with two layers and implementing them into the design phase.

CASE STUDY is a closer look upon different design approaches and methods as design references of some most relevant projects for being analyzed.

The different projects are references that deal with landscape urbanism, urban transformation of industrial – port areas and creative clusters.

The study of the different cases has the purpose to gain inspiration and a deeper understanding of the potentials of such projects.

The following projects and design references have the focus on these certain subjects: temporality, creativeness, urban spaces, harbor developments, urban flow spaces.

DESIGN PROPOSAL is the staging process, where the different chosen theories, design methods and strategies are tested in order to fulfill the aim of the project as an overall design proposal for the vision plan of the intervention area.

The first stage of the design will have the focus on the acupuncture interventions both permanent and temporary.

The next stages are going to experience different design ideas through sketching models as a design catalogue in order to put together a vision plan for a more holistic approach of the area in transformation. The focus is to create new open public spaces full of qualities and have the role to link spaces and institutions on the intervention area.

The main method of work for the New Central Waterfront is landscape urbanism.

The thesis project makes references to James Corner regarding design approaches for the former cargo harbor spaces and to enhance the urban experience of the new public spaces, as well to propose more integrated buildings into the new urban landscape.

## 2.4 PROJECT STRATEGY

The illustrative diagram ( Fig. 2.1 ) presents how the project rapport is structured in different chapters and the relation between them through theory and methods, having the same aim to achieve the vision of the design proposal.



[ Fig.2.1 Project strategy diagrame ]

Another design approach is the urban acupuncture based on pin-pointed small interventions of certain urban spaces in order to link distant points, which can be accomplished quickly to release energy and create a positive focus point effect. Urban acupuncture need not be limited to physical interventions; strategies to reduce noise pollution or to encourage nightlife and temporal outdoors activities. The urban acupuncture is the best method for quick interventions, it achieves sensitive effects in shorter time periods with respect to planning and operates within structured contexts.

The approach of design for the site under urban transformation is the multilayered application of design parameters. The different layers of the design parameters are not only describing different solutions for the problems in the spaces, but also they bring new qualities, creating the special character and the identity of the place.

The strategy is thus outlined as an overall approach and has a flexible character in order to be applicable in new context of the post – industrial transformation.

1. **Use of the site background qualities**
2. **Acupuncture – focus points**
3. **Physical linking**
4. **Conquest of the new urban spaces**

## CONSIDERATIONS AND REFLECTIONS

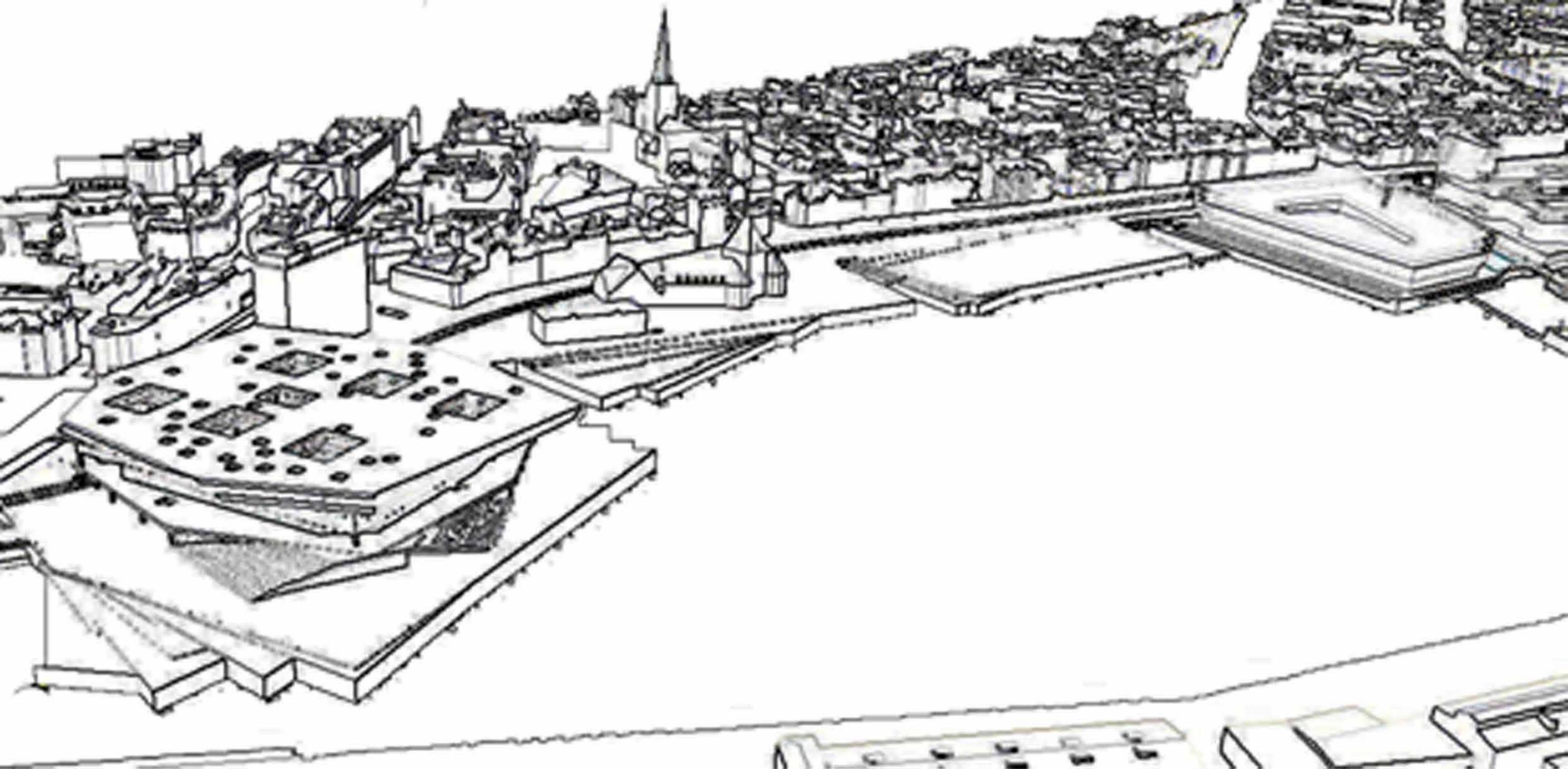
The thesis project does not involve into the Urban Mediaspace building structure and its surrounding public spaces. The project refers to Urban Mediaspace in the way it is proposed by the local municipality and uses it in relation with The New Central Waterfront's design proposal for the Vision Plan of the new urban development.

The thesis project also do not involve into Navitas Science Park inner environment and building structure. The project uses the local municipality design as it is proposed with the exceptions of the outdoors urban public spaces where the thesis project involves in some beneficial modifications.

As it is noticed in Vision Plan and Section, the thesis project merges the urban spaces of Navitas Science Park with the new recreational landscape of the Waterfront Park; in this way creating a visible physical link between the new urban public spaces as well a mental connection between the institutions created by their functions and impression upon the users.

Merging design, materials and elements of Navitas Science Park into the Waterfront Recreational Park and other nearby public spaces creates the effect of continuity and connectivity between these new public spaces.

Due to limited time, the thesis project does not involve in presentation of the interior structure and how it functions. The focus is just upon the connection between these two buildings and the nearby area and how it functions and integrates itself into the waterfront new surroundings.



## CHAPTER 3

### 3.1 INTRODUCTION

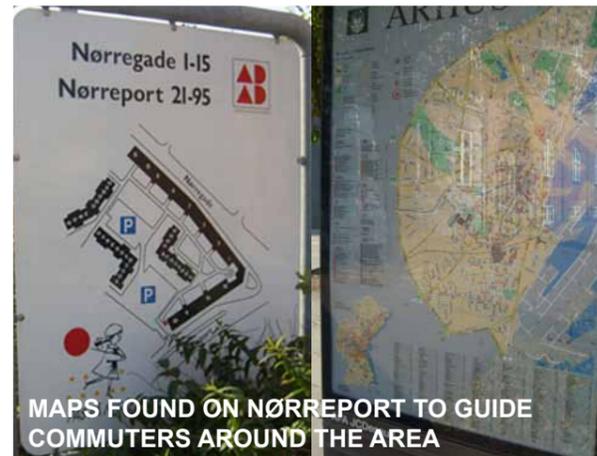
In this *chapter 3*, different types of methods of mapping are involved in the process of understanding and presenting the intervention site.

In the *subchapter 3.2 Methods of Mapping*, there are brought different references to authors and their relevant books.

The potentials for further use and problems of the analyzed site are discussed in the *subchapter 3.4 Reflections & Conclusion - Potentials & Problem Formulation*.

The *chapter 4*, ends with conclusion upon the analytical reflections of the maps, serial visions and narration of the intervention site.

## Strategy of Mapping & Serial Visions of the Sensorial Analyze



MAPS FOUND ON NØRREPORT TO GUIDE COMMUTERS AROUND THE AREA



KIRKENS KORSHÆR's ENTRANCE ON MEJLGÅDE WITH GRAFFITY SIMBOLS



STREET WALL ON NØRREPORT USED FOR ADVERTISEMENT AND ANNOUNCEMENTS



A BUILDING ON MEJLGÅDE FUNCTIONS AS AN ADVERTISEMENT SIGN

### 3.2 METHODS OF MAPPING

This subchapter 3.2 has a theoretical description of the methodologies used in performing the mapping of the chosen site for intervention.

As mentioned before, *Jan Gehl's* method from project "Doncaster public space spirit" (2005) was used to find some specific focus points and areas, as well as a leading street that links spaces and institutions on a certain site proposed for intervention.

For my thesis project, Nørreport street becomes a street with the connecting function between the city context and the harbor, as well as a connector between the existing cultural - education Institutions, Architectural school of Aarhus and the upcoming cultural - educational environment on The New Central Waterfront.

In the same time, a great deal of inspiration came from author *Robert Venturi* with his book: "Learning from Las Vegas". Here the chosen street becomes a narrative strip, where signs and symbols communicate with the commuters, guiding and telling them stories about the spaces. In ( Fig.3.1 ) is presented through pictures placed in a column, a serial of signs and symbols which tell an identity story about Nørreport and Mejldage streets.

In ( Fig.3.2 ) the identity of present Harbor is presented through pictures of the detail elements found at the site. The identity of the present Waterfront Harbor Port is presented as well as collages imagines on the page 25.

Furthermore, the Subchapter 3.4 - The serial vision of the sensorial analyze is a combination of analytical and presentational methods for the chosen site intervention.

The thesis project, in this chapter, uses references to author *Gordon Cullen* and his book: "The Concise Townscape". Gordon Cullen created the concept of serial vision which define the urban landscape as a series of related spaces.

In this way, the intervention site is presented by a successive serial of visual pictures that had been taken personally at the site, along and across Nørreport street towards the focus area on the harbor site.

The different "walks" as methods presented by author *Raoul Bunschoten* in the book: "Urban Flotsam - stirring the city" (2001) are used here in order to understand and present the areas.

The serial visions are group in two categories in the following pages 16 - 18 :

1. the above row presents Nørreport through a serial of visions along the street.
2. the lower row is the serial of visions of the aside streets or walking lanes of Nørreport.

Here, a combination between "walk across" and "walk along" methods were used.

The vastness of Aarhus Harbor is showed by the panoramic pictures on page 19 - 20.

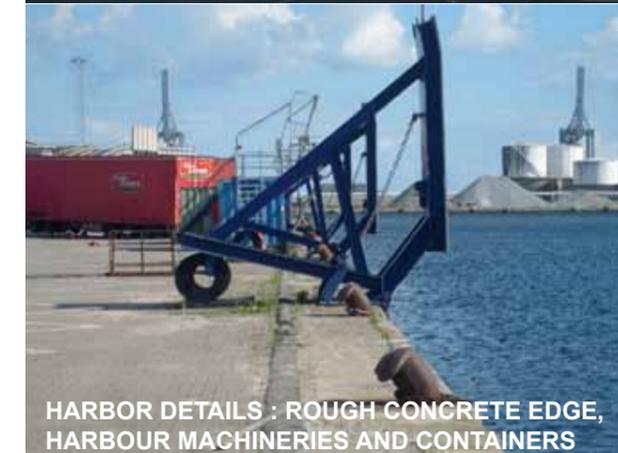
"Walk along" Nørreport street and "walk towards" the harbor, taking notices to details and facts and the horizontal line being the target of the walk.



HARBOR AS A GATEWAY



HARBOR DETAILS : ROUGH CONCRETE EDGE, HARBOUR MACHINERIES AND CONTAINERS



HARBOR DETAIL ELEMENTS: CRANES AND WAREHOUSES



HARBOR DETAIL ELEMENTS: CRANES AND WAREHOUSES



HIDDEN BOUNDARY OF THE EXISTING RAIL TRACKS AT THE GROUND FLOOR

Fig. 3.2 Identity of the present Harbor shown through pictures of the detail elements found at the site

Fig. 3.1 Illustrative pictures with signs and symbols on Mejlgade and Nørreport streets

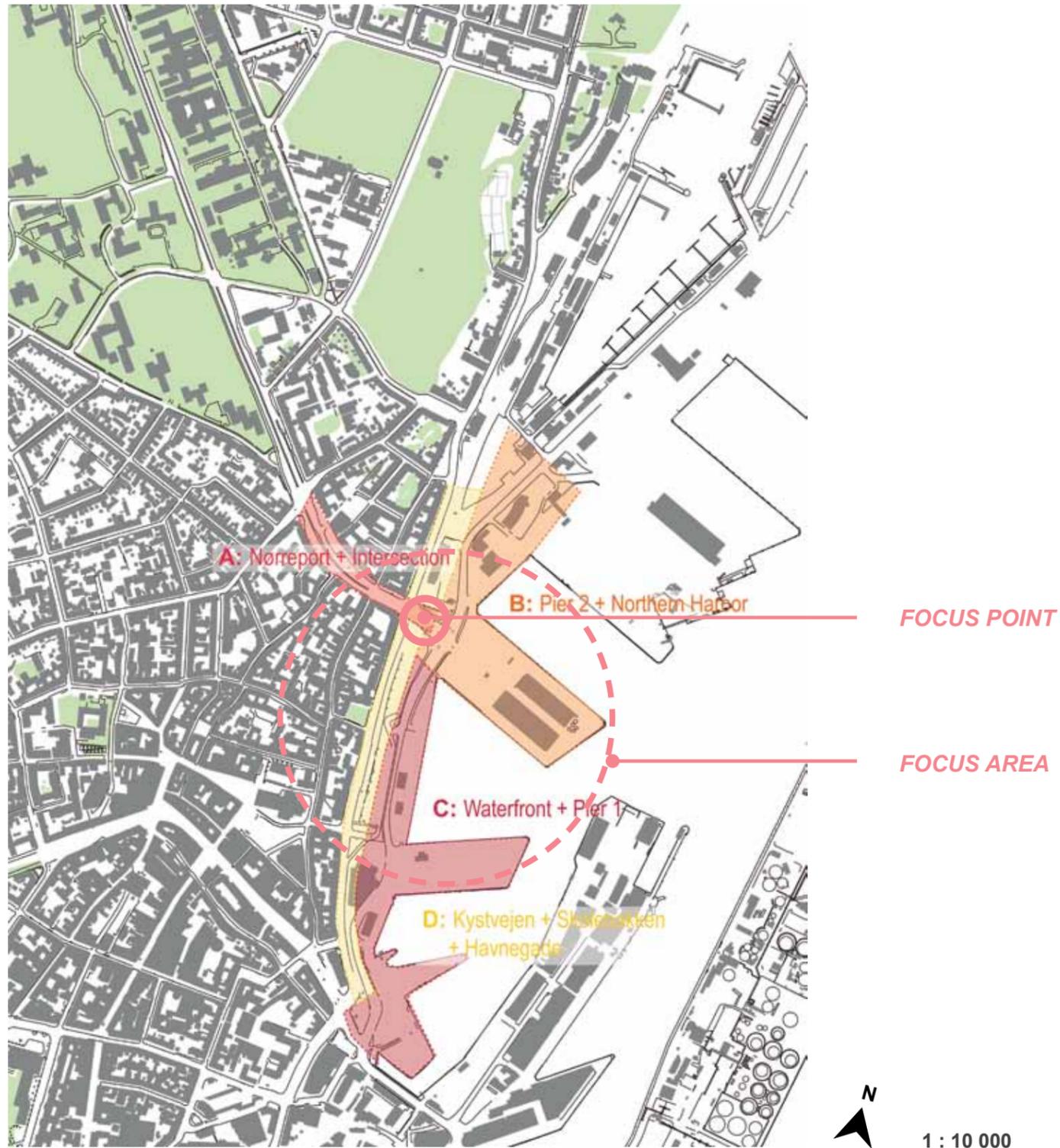


Fig. 3.3 Map of the existing city context together with the harbor of Aarhus  
- focus area and focus point of the intervention site

### 3.3 INTERVENTION SITE FOR THESIS PROJECT AND ITS FOCUS AREA

First, I have chosen a specific site for my thesis project as part of the overall urban intervention proposed by municipality for the New Central Waterfront. The site proposed for intervention, focus area and its focus point have been chosen after reflecting upon municipality plans for urban transformation of the present Waterfront with harbor port character and my personal visits to the site.

The main parameters of the chosen site are:

- is on the edge of the meeting line between the medieval Centrum and the Waterfront Harbor Port contexts
- proximity to the Centrum and cultural - educational environment provided by University Site
- proximity to the main rail station and other upcoming mobility systems
- proximity to greenery of Risskov forest and University park
- proximity to water of the river and sea
- industrial – cargo and transit port character
- diversity in scale and functionality between Centrum and Harbor of Aarhus
- immensity of the harbor in contrast with the density of the urban city

Jan Gehl's method from project "Doncaster public space spirit" (2005) is used here for divided the site, proposed for intervention, into four focus aerial parts, as illustrated in the map (Fig. 3.3)

- A: Nørreport street
- B: Pier 2 and the crossing intersection with the new Bernhardt Jensens Boulevard at Northern Harbor
- C: Waterfront
- D: Kystvejen, Skolebakken and Havnegade

As in Jan Gehl's project a street has a great importance for the project to lead people from place to place and in this way, becoming a subject for a deeper analyze.

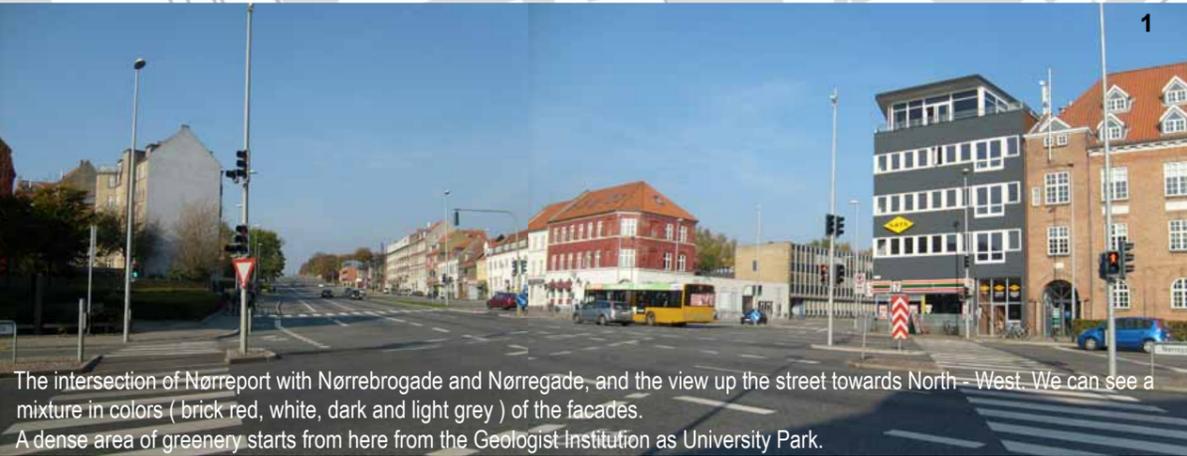
In the thesis project, Nørreport street has an important meaning for linking the existing cultural - educational institutions of architectural school and others found at Aarhus University with the upcoming cultural – educational environment on The New Central Waterfront.

As seen the illustrative map (Fig.3.3), the intervention site has a focus area and a focus point. The focus point, in this case, is the crossing intersection of the three main roads of the site :

1. Nørreport
2. Kystvejen
3. and the new Bernhardt Jensens Boulevard

The focus point of the intervention site has a great importance for the unfold process of the thesis project. Here at the crossroads, on the edge line between the city and the harbor port contexts, is the place where people can be further led into the experience of finding and knowing more offered by the implementation of the upcoming new public spaces on The New Central Waterfront.

# SERIAL VISIONS OF NØRREPORT TOWARDS HARBOR



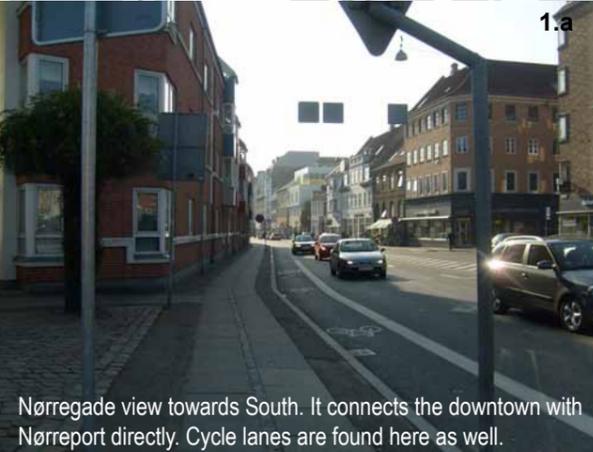
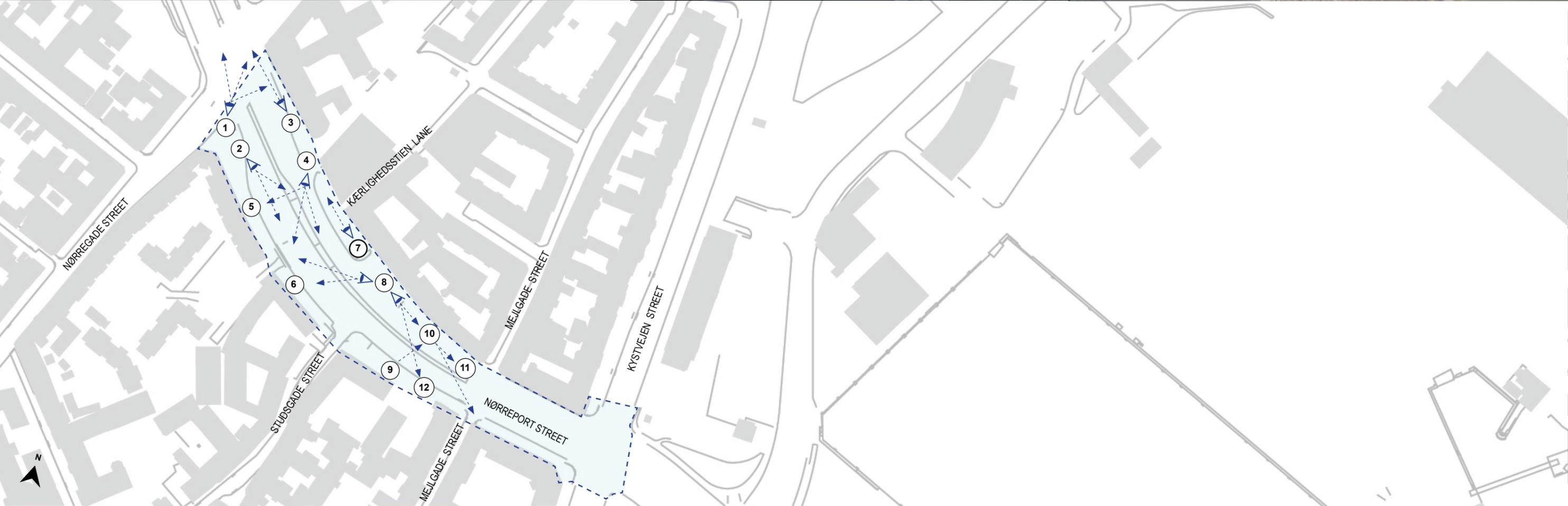
1  
The intersection of Nørreport with Nørrebrogade and Nørrgade, and the view up the street towards North - West. We can see a mixture in colors ( brick red, white, dark and light grey ) of the facades. A dense area of greenery starts from here from the Geologist Institution as University Park.



2  
View down Nørreport street towards East. The viewer can observe the wideness of the street. From this point, the harbor is not yet seen.



3  
View from Nørreport street towards North - West. The green of University Park appears at the beginning of Nørrebrogade. Round sign post for advertisements can be seen besides pedestrian sidewalk.



1.a  
Nørrgade view towards South. It connects the downtown with Nørreport directly. Cycle lanes are found here as well.



2.a  
Knudriggade street connects Nørreport with the green public spaces from Nordre Cemetery.



3.a  
Suddenly, an open gate that invites inside of the business offices' courtyard.



4.a  
Kærighedsstien brings commuters to the car parking behind the School of Architecture new building.



4.a (continued)  
A narrow walking lane viewed from the new building entrance. Some bicycles are parked against the walls, it means there are many people walking here.

# SERIAL VISIONS OF THE STREETS AND WALKING LANES ASIDE NØRREPORT

# SERIAL VISIONS OF NØRREPORT TOWARDS HARBOR

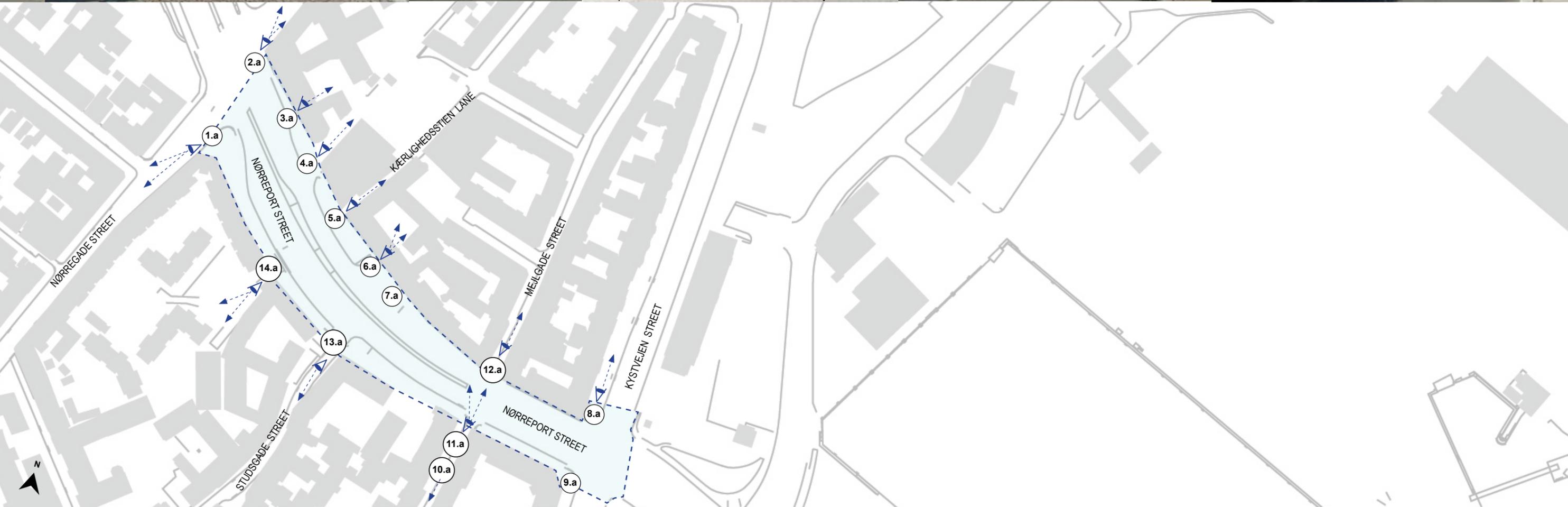


3 At North of Nørreport, the School of Architecture's new building with tectonic facade sun shades can be seen. It is an open space for public with exhibitions and conferences halls. Dense green bushes appears in front.

4 The brick red facades of the residential buildings at the end of Nørreport towards South - West in functionalis style from 60's.

5 View of the upper part of Nørreport towards South. Red brick facades are predominant here and their functionalism style.

6 The dense green bushes planted in front of the School of Architecture has the role of barrier here to prevent students to cross the street.



5.a The narrow alleyway brings commuters to the car parking behind the building. There are insufficient bicycle parkings or are distributed wrongly.

6.a The courtyard of the School of Architecture with bicycle parking aside appears as a cozy place with outdoors café tables.

7.a Suddenly, a closed gate appears at the courtyard of book shop Archi Tegn.

8.a Kystgade connects the area with the green public spaces from Nordre Cemetery and with Risskov forest at North.

9.a The same street Kystgade connects the area with the southern part of the harbor and plays a role of connector with downtown.

# SERIAL VISIONS OF THE STREETS AND WALKING LANES ASIDE NØRREPORT



At the North of the street, the archaic facades of the School of Architecture appear in different bright colors as pink, light grey in contrast with dark grey. The narrow pedestrian sidewalk with the bicycle lane can be seen.

A strange sidewalk car and bicycle parking appears in front of facades. From this point the harbor horizontal line can be seen.

The archaic and brick facade of a residential building.

The high flow of car traffic can be noticed here.

### 3.4 SERIAL VISIONS OF NØRREPORT AND ITS JUNCTION WITH HARBOR AREA

The serial visions from the above row on pages 16 - 18 present my "walk along" Nørreport street with views up the street towards North - West and views down the street towards East.

The analytical choice for Nørreport is the reason that the street plays a main role of connector between the city context and the Waterfront Harbor. It is the street that is used by thousands of students, professors and researchers daily in relation with their studding's and work.

The experience of walking the street have let me with the impression that it is a very used street by commuters, so the car flow and bicycle flow is quite high at rush - hours. The walk on both sides of the street is limitable due to the narrow sidewalks besides the buildings facades; therefore, the cars, buses and bicycles are predominant here as transport means. Nørreport street continues with Nørrebrogade street in a curving shape on a hilly ground. From the bottom of the street found at the intersection with Kystvejen and the end of the street, at the intersection with Nørrebrogade, the difference in ground level is about 45 m or more.

The aspect of Nørreport is of a very wide street with five car lines and bicycle routes on both sides. The street was recently renewed and it will suffer soon further transformations after the municipality plans of implementing the light rails system in the area. Its bottom, at the crossing intersection with Kystvejen, the street is approximate 30 m wide and on the other end, at the intersection with Nørrebrogade is approximate 50 m wide. Concluding, Nørreport street varies in broadness from an end to another one, as well in difference in ground levels.

The University Park starts near the crossing intersection between the four streets, at the end of Nørreport where Geologisk Institution is. The greenery can be seen from the middle of Nørreport.

The luck of green on Nørreport street is obvious, it appears fragiley on both sides as young trees. Suddenly, in front of the

School of Architecture, I "walked across" these hidden green boundaries formed by the appearance of dense bushes. ( See pictures 2 - 4, 7 / page 16 - 17 and pictures 8, 9 / page 18 ). In this way, the Institution's buildings are separated by the wide street, as well by the boundary of these dense bushes. I understood that the intension of these dense bushes to be there has a meaning of stopping the students to cross the street in the wrong place.

As seen in serial visions, Nørreport street, from an end to other one, can be crossed just once at the intersection with Mejlgade street. Mejlgade is a bicycle route starting from Centrum.

There is just one bus stop for this area on Nørrebrogade, near the intersection with Nørreport. Other two can be found on Skolebakken street. Public spaces for rest are also lucking. In front of student bookshop Archi Tegn, there is a single bench as a rest sport besides the green bushes. Concluding, on Nørreport street, pedestrian crossing, bus stops and resting area are not sufficient. These matters are not encouraging walking on Nørreport.

The questions in this matter are:

- Can the future light rail system not obscure the fluent flow of bicyclists coming from Mejlgade?
- How many crossings Nørreport needs to have in future?
- Should they be at the ground level and where?

There is a raised pavement space between the two main parts of the street. ( See pictures 2,4,12/ page 16 -18 ). This will be used to separate the two light rail lines which will be implemented in the middle of the street.

The questions is this matter are:

- Is that wide enough to form reasonable Stops Stations?
- How and where commuters can reach these upcoming Stops?

These are few of the questions raised about the present and the upcoming plans of Nørreport street which will be analyzed forward in the following chapters.



View of Mejlgade cycle route towards downtown. It appears as a used narrowed street. On this route, the main transport means are bicycling and walking.

Mejlgade cycle route street continues further to North through the city.

Mejlgade cycle route street continues further through the city.

Studsgade connects Nørreport with Aarhus downtown. It seems that a low flow of cars and commuters uses this street.

Nørreport continues with an aside street that brings commuters to the car parkings between the buildings at South.

# PANORAMIC VIEWS OF HARBOR'S HORIZONTAL LINE

HORIZONTAL BOUNDARY  
- HARBOR SKYLINE



VERTICAL BOUNDARY  
- CITY WALL



HORIZONTAL BOUNDARY  
- HARBOR SKYLINE



NORREPORT STREET

MEJLGÅDE STREET

KYSTVEJEN STREET

MEJLGÅDE STREET

KYSTVEJEN STREET

1.b

2.b

3.b

4.b

5.b

7.b

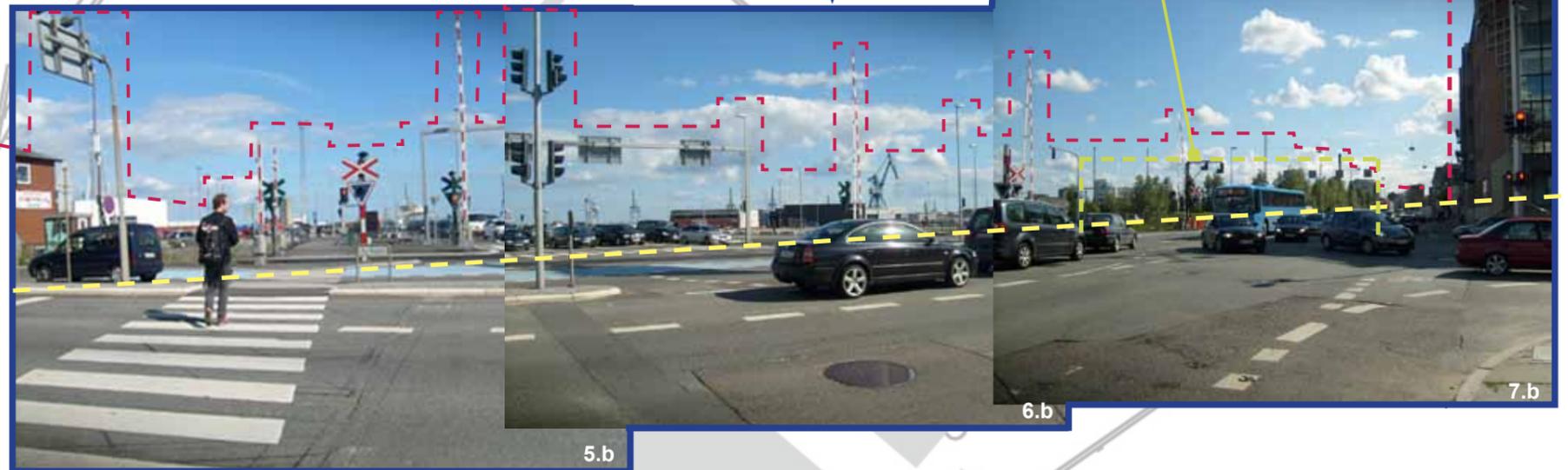
6.b

HORIZONTAL BOUNDARY  
- HARBOR SKYLINE

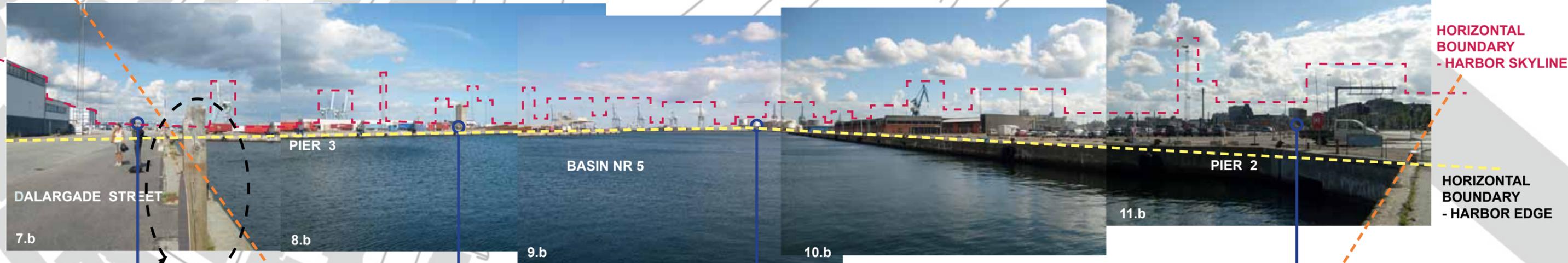
HORIZONTAL BOUNDARY  
- CITY EDGE

GREEN BOUNDARY  
- ROW OF TREES

VERTICAL BOUNDARY  
- CITY WALL



# PANORAMIC VIEWS OF HARBOR'S HORIZONTAL LINE



HARBOR DETAIL

HARBOR EDGE

WATCHING POINT

HARBOR EDGE

HARBOR DETAILS

VERTICAL BOUNDARY  
HARBOR TALL BUILDING

HORIZONTAL  
BOUNDARY  
- CITY SKYLINE

AARHUS CATHEDRAL

PIER 2

BASIN NR 5

DALARGADE STREET

HORIZONTAL BOUNDARY - PORT TERMINAL

PIER 3

HORIZONTAL BOUNDARY  
- HARBOR SKYLINE

BASIN NR 5

HARBOR EDGE

GREEN BOUNDARY - ROW OF TREES





11.c

TRADITIONAL WOODEN HOUSES FROM LATE MIDDLE AGES ON MEJLGADE



12.c

MULTI - COLORFUL TRADITIONAL WOODEN HOUSES ON MEJLGADE



13.c

RED-BRICKS FACADES ON NØRREPORT



14.c

FUNCTIONALISM STYLE REZIDENTIAL BUILDINGS FROM 60's ON UPPER NØRREPORT



1.c

CENTRAL AARHUS THEATRE ( 1898 - 1900 ) BUILT IN ART NOUVEAU STYLE

### 3.5 PANORAMIC VIEWS OF HARBOR'S HORIZONTAL LINE

The vastness of Aarhus Harbor is illustrated in the previous pictures on the pages 19 -20.

“ Walking along “ Nørreport towards East and having the vast horizon of the Harbor as a scope of vision, I observed the harbor from few points. I was aware of the great views and the potentials that this vast area offers. The faraway horizon line, illustrated in the panoramic views, spreads itself from North to South endless.

Nevertheless, the huge harbor cranes, the harbor specific elements and harbor machineries had caught my attention.

On Kystvejen street, I “walked across“ the hidden boundary of the Harbor which forms an *edge line* with the hidden boundary of the urban Centrum. As well, the seawater creates an *edge line* with the Harbour. Seen from the harbor, the city wall appears suddenly like a vertical boundary. On Kystvejen, in front of the buildings a row of trees appears like a *green wall*.

In the present, the Harbor still functions as an industrial – cargo Port. But, the works of its transformation have been started. The municipality, as mentioned before, had planned to transform the Northern Harbor and the Waterfront Harbor aside Centrum into an cultural – educational Central Cluster, where more institutions will involve in so called “ open education ” for public.

The questions are :

- How can this vast Harbor be integrated into the urban city as a continuation of the city Centrum on the Waterfront Harbor?
- Can this be done just by implementing Institutions with public interests ?
- What is the best environment of the upcoming Waterfront Harbor to attract as many users and commuters as possible?
- What the institutions' functions should be in order to be attractive to a broader range of users?

These are the few questions that need to be answers in the following chapters for fulfilling the purpose of the project in the design phase.



2.c

CATHEDRAL CHURCH (1190 – 1500) BUILT IN GOTHIC STYLE



3.c

CENTRAL BUILDINGS IN NEOCLASSICISM STYLE



4.c

FEDERAL BRICK BUILDING STYLE WITH WOODEN OLD FASHION SHUTTERS HOSTS TODAY BUSINESS



5.c

FORMER ROYAL CUSTOMS HOUSE ( 1897 ) BUILT IN NEOCLASSICISM STYLE. TOLBODEN IS A STUDENT HOUSE OF THE SCHOOL OF ARCHITECTURE



6.c

BEAUTIFUL FACADES IN RENAISSANCE STYLE ON KYSTVEJEN STREET

### 3.6 ARCHITECTURAL CHARACTER OF THE CITY CONTEXT NEAR INTERVENTION AREA

In this subchapter, it is presented through pictures from 1.c to 14.c different architectural styles which the city context is adorned with near the intervention area. From the well - known gothic cathedral church with the very tall tower as a landmark for the historical city Centrum to the traditional wooden houses on Mejlgade and the functionalism style of the new buildings on upper Nørreport.

The different styles mixture with red brick and multi - colorful facades present an attractive and diverse architecture of the predominant medieval urban city context.

The upcoming plans for the cultural - educational environment formed by icon buildings on the Waterfront will be in a big contrast with the near city context.

The question of the matter is :

- How can the public spaces between the upcoming icon buildings can connect institutions and in the same time smoothen the contrast between the medieval city context and the upcoming modernist approach of the Waterfront projects ?

### 3.7 COMPARISON OF CITY CONTEXT WITH THE VASTNESS OF AARHUS HARBOR

The collages on pages 24 – 25 illustrates the comparison between the historical urban city context and the Waterfront harbor port context. The collages present different places in the historical downtown and different locations on the present Waterfront Harbor Port.

It can be observed easily the functionality and the dense context of central urban spatial sequences are in strong contrast to the rough, industrial and vast open harbor.



10.c

FACADES IN DANISH TRADITIONAL STYLE.



9.c

THE NEW BUILDINGS OF SCHOOL OF ARCHITECTURE ARE BUILT IN FUNCTIONALIST STYLE.



8.c

PRIVATE HOUSE WINDOW DETAIL BUILT IN CLASSICISM STYLE

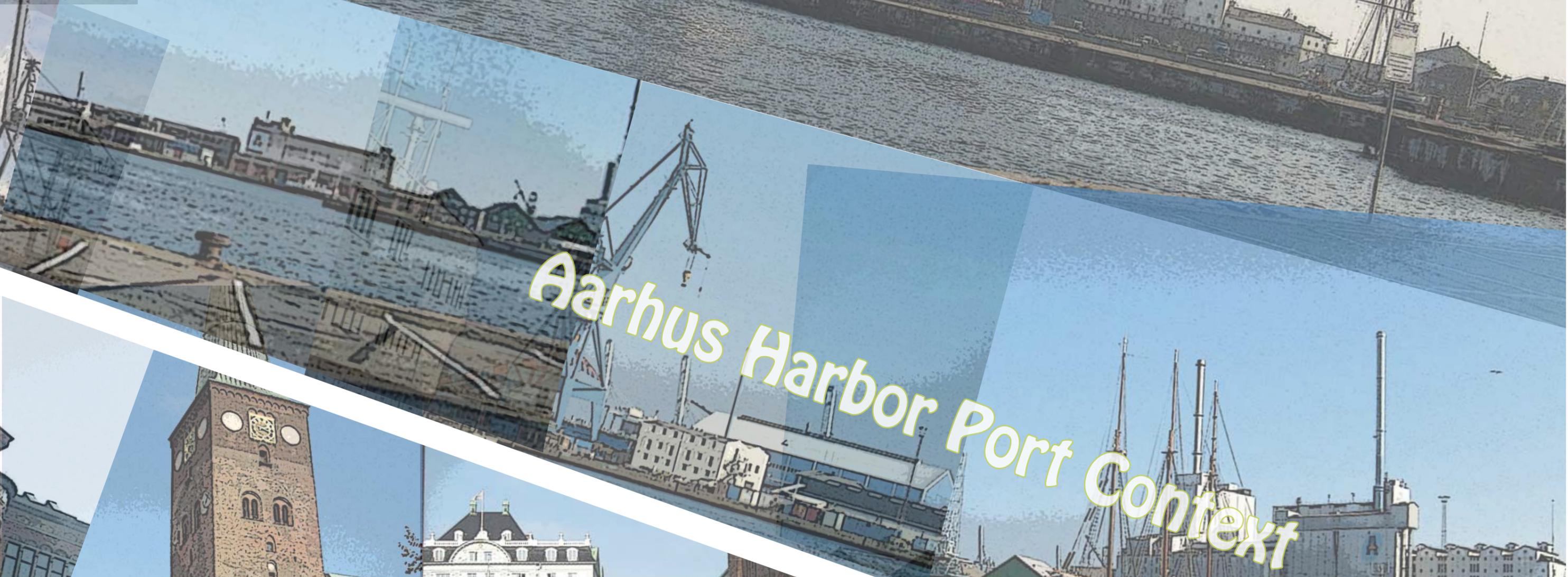


7.c

BEAUTIFUL FACADES IN RENAISSANCE STYLE

# Aarhus Centrum Context





*Aarhus Harbor Port Context*

### 3.8 MAPPING REFLECTIONS AND CONCLUSION - PROBLEM FORMULATION, POTENTIALS AND RESEARCH QUESTION

#### REFLECTIONS

The two primary visits to Aarhus was to learn the site, characterize Aarhus city and understand the relationship between the city and Harbor Port, and how are the infrastructure connections in the area. The site visitation helped me also with making decisions upon intervention site choice for my thesis project.

Aarhus is characterized by its very dynamic and attractive historical urban Centrum. Walking from downtown I got through a series of urban spaces in many directions towards Waterfront Harbor. Here, suddenly at the end of the city wall, I found myself in front of a vast open horizontal space formed by Aarhus Harbor. As experienced at this moment in the end of 2010, the harbor is at the stage of major transformations which might be delayed due to the financial crises. The Waterfront harbor still function as a cargo transit harbor and preparations for ground works are started already. ( Background pictures on pages 2 – 7 )

#### PROBLEM FORMULATION

These spaces even if they are so near physically, they are in a strong contrast and appear separated to each other.

#### POTENTIALS

Following my observations, these two different structures of the city have some good functional connections that they share together. And they are connected visually as well, since the physical distance is not quite large, encouraging the movement between the city and harbor.

Centrum and Waterfront Harbor are connected by Åboulevarden that continues with Europaplads and Mindebrogade. From the gothic Cathedral Church and its Store Torv Square is connected by Bispetorvet and Skolegyde street. Nørreport is connected with the Store Torv by Mejlgade ( the cycle route ) and this further connected with Kystvejen street by Skt. Olufs Gade.

Havnegade, Skolebakken and Kystvejen streets play here the role of edge line where urban city's and Waterfront's edge lines interfere with each other.

If we look at Aarhus in relation to functions, leisure and recreational spaces, there is a retail environment downtown and two large green natural areas as forests - Risskov forest situated at the northern part of Aarhus and Marselisborg forest at South including Tivoli as entertainment park.

### CONCLUSION AND RESEARCH QUESTIONS

The conclusion of the mapping and research question formulation has a great significance for the project progress and is based on the reflections upon collected data, illustrative imagines, personal visitations and analytical observations of the chosen site for intervention and its harbor surroundings.

As mentioned before the Waterfront Harbor is in strong contrast with the urban context of downtown Aarhus city. At the moment, these parts function separately, even if physically they are near to each other. These two different part of the city near the vast waters of the North Sea are interfere with each other on the edge line formed by both boundaries - the city wall that stops suddenly here on Havnegade, Skolebakken and Kystvejen streets and the vastness of industrial - cargo harbor port that stops right near the edge line.

The New Central Waterfront project will use the existing good physical and visual connections with the urban downtown and will improve them further in the design phase. Nevertheless, the existing green layer found in nearby will be stretched down towards the intervention site and its focus area. Furthermore, the municipality plan as design proposal for the New Central Waterfront will be used by the thesis project as a background. Therefore, the thesis project intentions are to develop further the municipality vision of creating a cultural – educational environment at the Waterfront.

The near buildings of Aarhus University including the School of Architecture are existing cultural - educational institutions with great potential for the intervention area. The potential is considered by their functions and human source generator for the areas of Waterfront development.

Concluding, the New Central Waterfront project will link institutions and urban public spaces on the intervention site, including its surroundings by the means of two distinctive layers : *the existing green layer and the mental cultural – educational layer*, which overlap each other and will create and effect the new urban spaces at the waterfront district.

The project will establish that Nørreport and Nørrebrogade streets play a connector role here by the function of linking spaces and institutions.

In the following chapters, the thesis project will develop further the idea of using the two existing layers for the purpose to fulfill the project's aim of linking spaces and institutions in relation with the urban transformation of the former cargo port of Aarhus Harbor.

The further analyze will be based upon the formulation of thesis project's research questions which will be the central supporting part for the design proposal.

#### RESEARCH QUESTIONS

- ***What are the most efficient ways of strengthen the existing connections of the historical city context with the upcoming waterfront context ?***
- ***How can the upcoming waterfront environment can be used to function as an integrated part of the city Centrum ?***
- ***How can the existing green and the cultural – educational layers can be used to integrate and link these two parts of the city Centrum?***

# Harbor Port Identity





## CHAPTER 4

#### 4.1 INTRODUCTION

This *chapter 4*. is divided in seven subchapters. In the beginning, there are references to Kevin Andrew Lynch's studies about mental map visualization and its four elements. Therefore, in the following subchapters, the chapter's maps analysis and their presentation will reflect upon these studies and four elements.

In *subchapter 4.3 and 4.4*, Aarhus city's and Harbor's context are presented shortly with the necessary data for readers to understand the area defined as background for the empirical analysis of different existing functions and potentials presented in *subchapters 4.5 and 4.6*

In this way, it can be define better the acute problems that need to be resolved and the potentials that can be used for the unfolding of the future decisions in the project.

## Empirical analysis

## 4.2 REFERENCES TO KELVIN ANDREW LYNCH'S STUDIES

### - Mental map, paths, nodes, edges, districts and landmarks

The illustrative map *Fig 4.1* represents an overview of the present harbor before the ground - works preparations had been started for the upcoming Waterfront project. The map is inspired from Lynch's study work "*The Image of the City*" (1960) regarding the mental map method of distributing perceptions and spatial information of a city.

#### MENTAL MAP DEFINITION

A person's perception of the world is known as a mental map. A mental map is an individual's own map of their known world.

#### EDGES AND DISTRICTS

The *mental map* of Aarhus Centrum pictured in *Fig.4.1* shows the delimitations of different edges of the different districts. In this case, the historical city Centrum district interferes with the harbor district on the streets which are parallel with the harbor and the *city wall edge*.

The green edge of Aarhus University Park emerges in line with the city wall edge on Nørrebrogade and at North, the green edge of cemetery green public area emerges here in line with the city wall edge on Kystvejen and Skovvejen. On Nørreport and Nørrebrogade, the educational edges formed by the University of Aarhus and the School of Architectural emerge on the edges of city walls. Here, at the Harbor district, the Sea waters create a blue edge with the harbor.

#### PATHS

These are major and minor routes of transit that people use to commute. A city has a network of major routes and a neighborhood has a network of minor routes.

The distribution of path network of the historical Centrum is typical of medieval cities that grew informal during the centuries. Most of the *paths* are irregular walking lanes surrounding the closed group of buildings and reach the common area by narrow lanes or gates.

The Aarhus historical Centrum paths are graphically presented with their directions on the mental map as some examples. Some of these walking routes, in contemporary times have been transformed into traffic streets.

Here, on the city edge line, the upcoming light rail transit lines will form a new path system for the new Central Waterfront area.

After Lynch definition, paths are "*the channels along which the observer customarily, occasionally, or potentially moves. They may be streets, walkways, transit lines, canals, railroads. For many people, these are the predominant elements in their image. People observe the city while moving through it, and along these paths the other environmental elements are arranged and related.*"

( *The city image and its elements/ page 32*)

#### NODES

Here some of main crossroads intersections are presented as *nodes*, as seen on the mental map – the crossroad intersection of Nørreport with Kystvejen street, here is the point of city junctions with the northern harbor. Further to North, the present rail station Østbane Torvet acts like a *node* as a shift point. At South, Europa Plads Square forms another node as an important crossroads

intersection of streets coming from downtown with those that connect the harbor. The Port Terminal is a node as well that acts like a shift point.

After Lynch's definition, nodes are "*points, the strategic spots in a city into which an observer can enter, and which are intensive foci to and from which he is traveling. They may be primary junctions, places of a break in transportation, a crossing or convergence of paths, moments of shift from one structure to another. Or the nodes may be simply concentrations, which gain their importance from being the condensation of some use or physical character, as a street-corner hangout or an enclosed square (...). A node is a center of activity. Actually it is a type of landmark but is distinguished from a landmark by virtue of its active function. Where a landmark is a distinct visual object, a node is a distinct hub of activity.*" ( *The city image and its elements/ page 33*)

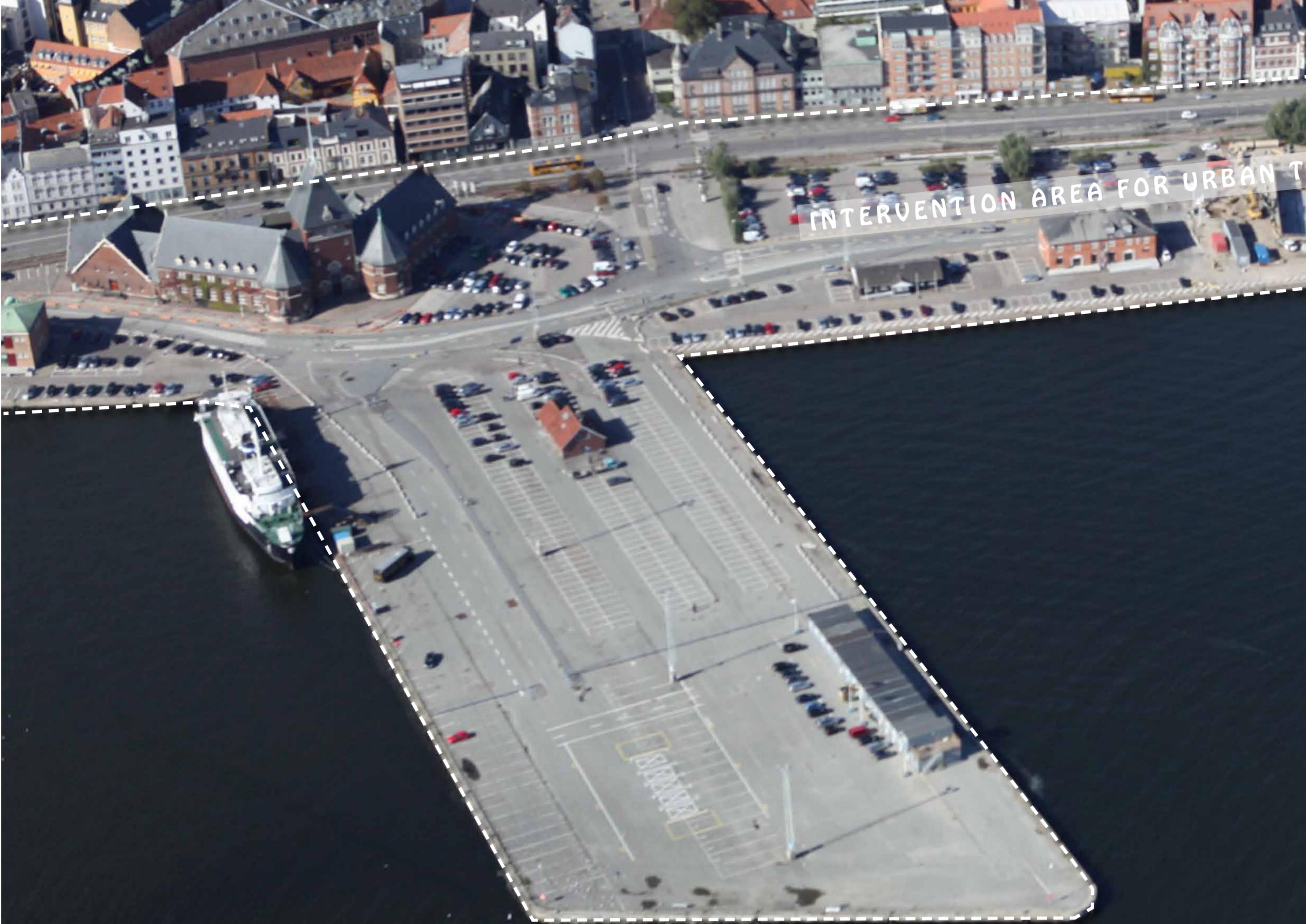
#### LANDMARKS

The two districts different by function and aspect have their each different *landmarks* presented on the map - the historical city district with the Cathedral Church's high tower as landmark and the tall Atlantic Hotel at South; and the cargo – industrial harbor with very tall harbor cranes spread over the harbor district.

-  - EDUCATION AREA EDGE
-  - HARBOR - SEA EDGE
-  - HISTORICAL CITY DISTRICT EDGE
-  - LANDMARK
-  - HARBOR DISTRICT EDGE
-  - GREEN EDGE
-  - NODE
-  - LIGHT RAIL TRACKS LINES
-  - PATHS DIRECTIONS



Fig . 4.1 Present harbor overview map  
 - mental map : edges, districts,  
 paths and landmarks



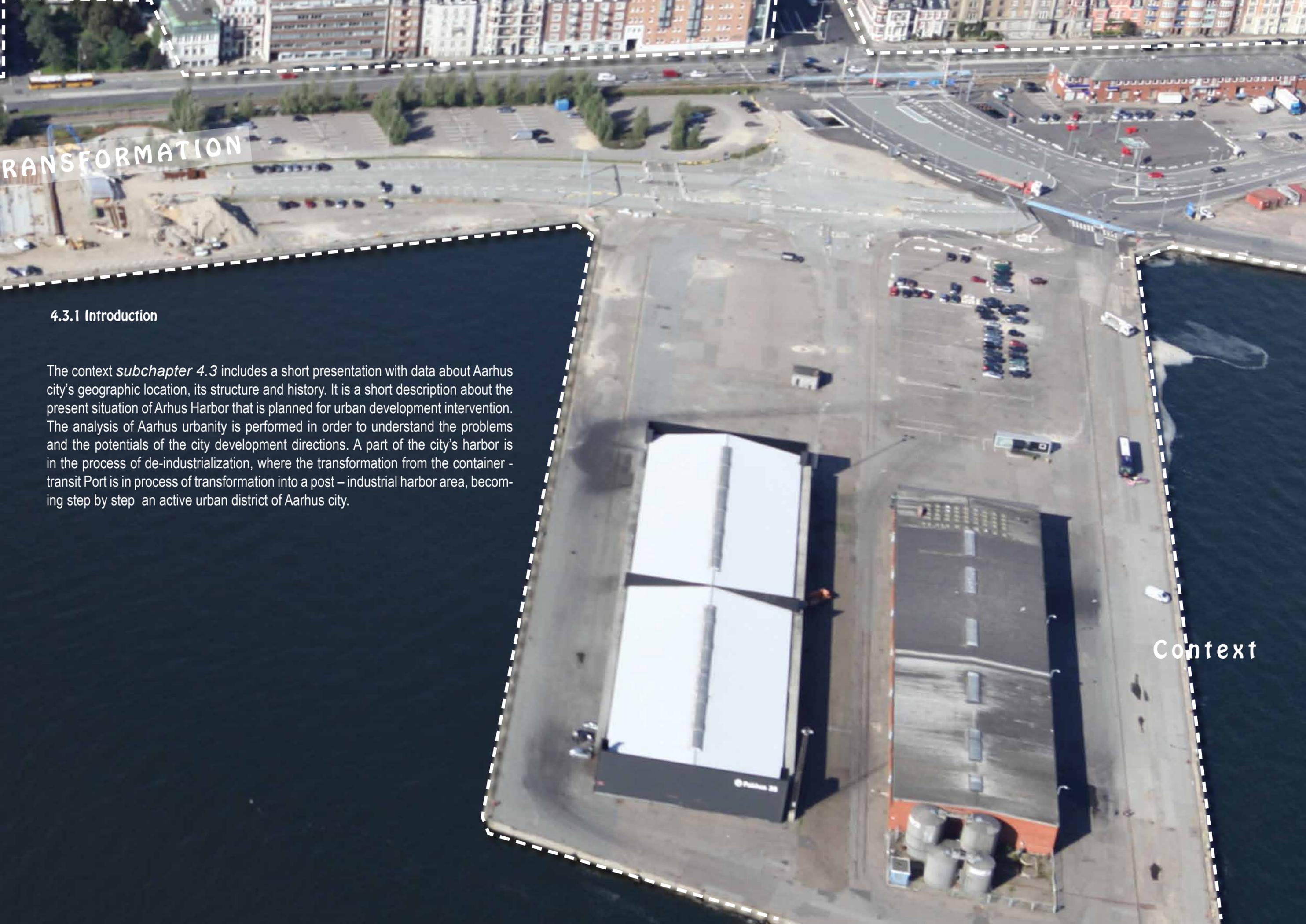
INTERVENTION AREA FOR URBAN T

# TRANSFORMATION

## 4.3.1 Introduction

The context *subchapter 4.3* includes a short presentation with data about Aarhus city's geographic location, its structure and history. It is a short description about the present situation of Aarhus Harbor that is planned for urban development intervention. The analysis of Aarhus urbanity is performed in order to understand the problems and the potentials of the city development directions. A part of the city's harbor is in the process of de-industrialization, where the transformation from the container - transit Port is in process of transformation into a post - industrial harbor area, becoming step by step an active urban district of Aarhus city.

Context



### 4.3.2 PRESENTATION OF AARHUS CITY

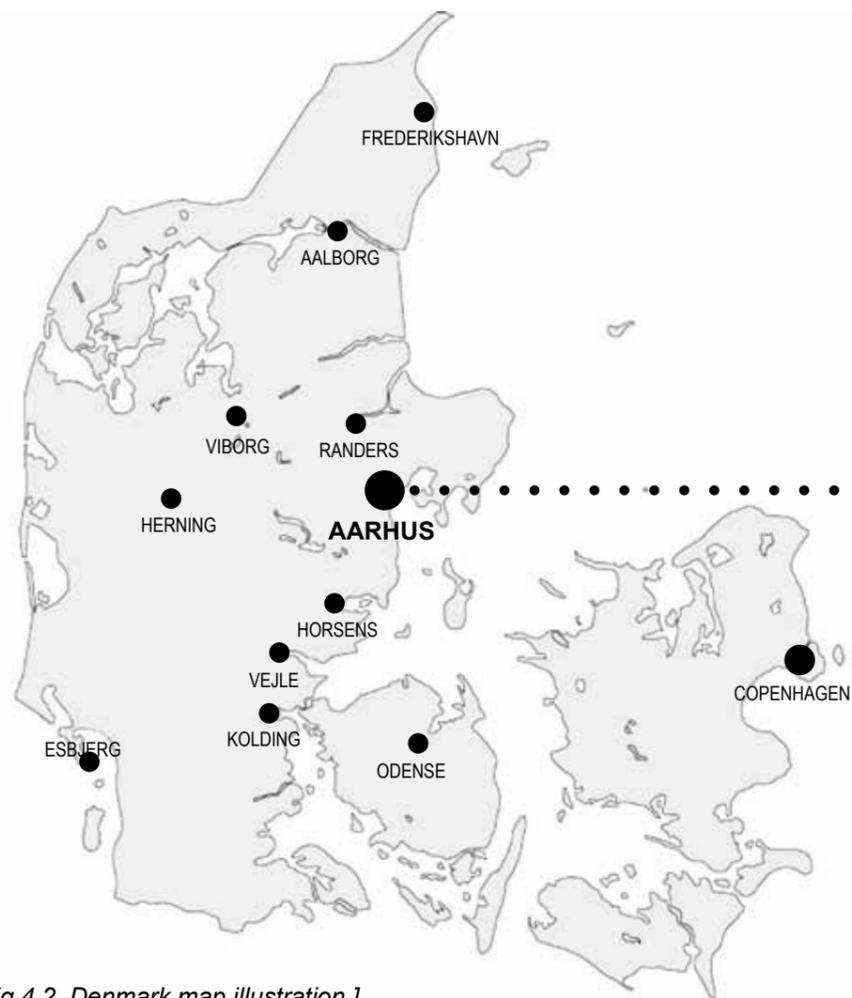
#### - location, history and urban development

Aarhus is Jutland's capital and Denmark's second largest city of more than 300 000 inhabitants, being also Denmark's fastest growing city and leading growth centre.

The town is situated in eastern Jutland near Aarhus Bay with views of the peninsula Mols.

Aarhus is one of Denmark's oldest cities as well, it received town rights of the second July 1441, but can probably be traced back to mid-700.

The city has many suburbs laid on both high and low terrain levels. Not far from downtown, there can be found Riis and Marselisborg Forest in a hilly terrain used for recreational purposes. To the west, there are Brabrand and Årslev lakes and at north, Mollerup Forest and Egå lake also popular destinations for city residents.



[ Fig.4.2 Denmark map illustration ]



Aarhus is Denmark's leading city of knowledge and education with plenty of institutions offering higher education and research (Aarhus University is nr. 63 on the top 100 of the world's 17 000 universities with 40 000 students).

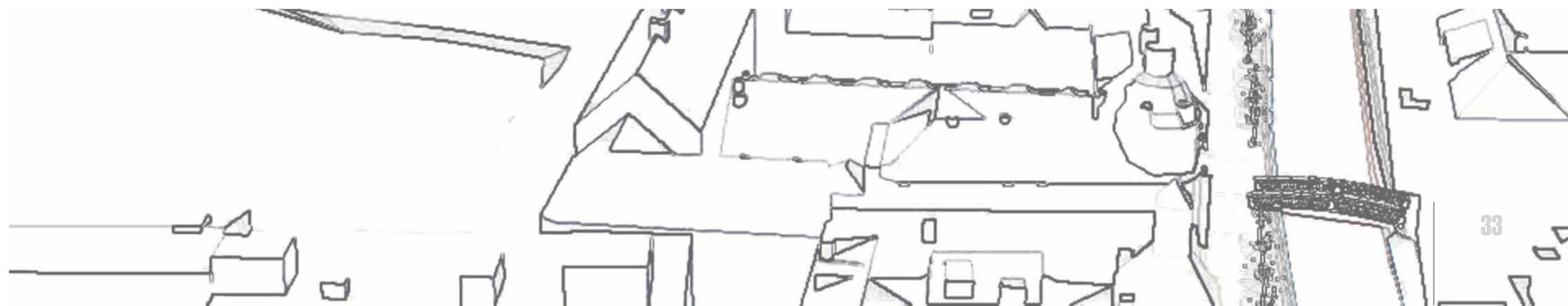
Aarhus grows both in population and employment, and the region is characterized by a constantly increasing number of new and growth oriented enterprises.

As a result of the constant growth of the city, prices of both residential and commercial premises have been high for many years. Therefore, an investment in Aarhus is a premier investment in a growth area characterized by international vision and class.

International businesses have expanded their activities here and until our days, the Port of Aarhus has continuously expanded and is an important container hub to the Baltic sea region at the moment.



**Presentation of Aarhus City**



## 4.4 STORY OF THE PLACE

### 4.4.1 PRESENTATION OF AARHUS HARBOR - Location and functionality

Aarhus Port data :

- located 56 ° 10 'north - 10 ° 13' east
- 9 km quay
- 2.6 million m2 of land
- up to 14 meters water depth
- railway tracks to the terminal
- 1300 metres of container quays
- approx. 750,000 m2 of terminal area
- 3 Post-Panamax cranes
- 4 Super-Post-Panamax cranes
- 1 Panamax crane
- machines such straddle carriers, reach stackers and trucks
- sophisticated computer reporting system and logistics systems
- freezer/cooler facilities
- office and warehouse facilities
- customs warehouses
- repair and service companies
- terminal operators: Cargo Service Container Terminals
- EU border station

**Aarhus Port**, as above described, functions as a port for all purposes at this moment. One of the most important activities at Aarhus Harbor is the naval connection with Copenhagen and its importance of connecting the two biggest cities in the country. In this way the population and the danish business communities has easy access to efficient and reliable transport.

The Port of Aarhus is also the largest ferry port in western Denmark.

In *Fig. 4.3*, the existing Waterfront of Aarhus with an industrial - cargo and transit port character is presented through a serial of pictures. Today, in the end of 2010, the Waterfront still functions as a harbor port, but the northern and immediate part to Centrum are prepared for a long term process of urban transformation from the industrial - cargo character into a cultural – knowledge urban environment.

[ Fig.4.3 Aarhus Harbor Port presented through a serial of pictures ]



### 4.4.2 LOCAL VISION FOR THE WATERFRONT HARBOR'S URBAN DEVELOPMENT

**Aarhus Municipality** development views are that over the next 20 years, the city must continue to grow with 75 000 new inhabitants, 20 000 new homes, 50 000 new jobs and 10 000 extra students. The aim is to create the best possible framework and growth conditions for the business sector. Aarhus wants as well to become Denmark's number one wind power energy city with strong focus on education, knowledge and innovation and to be CO2 neutral by 2030.

Aarhus Municipality, for a number of years, has played an active part in the planning and holding of seminars in different cities. The purpose of the seminars is to exchange experience and to develop attractive, dynamic and sustainable cities.

In 2008, Aarhus hosted this conference on how to promote the good urban life, focusing on the Brownfield areas, the combined heat and power plants in Aarhus, the slaughterhouse area and the rail freight terminal area.

### AARHUS IS A CITY OF CULTURE - A CITY THAT CREATES ITSELF

*“ Culture must be one of the core elements in the identity and future of Aarhus. To this end, the Municipality of Aarhus has decided to apply to host the European City of Culture event in 2017 – an ambitious vision which will require long-term planning and the involvement of the entire city.”* Quote by Martin Robert Nielsen

Aarhus will have to define and create itself as a capital of culture. One of the strengths of the city is its creative sector. The municipality of Aarhus's cultural policy contains several future initiatives aimed at the event in 2017, including the establishment of a new Centre for visual arts, dramatic art and literature – *Visionary Media Library*. Together with a new production centre for rock/pop music in Vester Allé. The old rail terminal will become one of the hubs in the process leading up to 2017.

**The vision of Aarhus as the European City of Culture 2017** is a process which will strengthen and develop the city within a number of important aspects: positive improvements in infrastructure, an enhanced image and brand, a permanent increase in the number of international visitors as well as a larger local culture audience, aesthetic urban redevelopment, integration, business, education, tourism and the establishment of new international contacts and collaboration. The work will involve participants from all environments – artists, students, researchers, trade and industry, decision - makers, citizens, etc.

The transition to more knowledge - based businesses places certain demands on its cultural life and housing, and in this connection developing the urban areas close to the city centre becomes a priority for the city development.

**The Aarhus Harbor urban development - a new maritime urban area** provides a huge opportunity for Denmark's second largest city to develop in a socially sustainable way by renovating its former container terminal. The area is planned to become a new residential district of the city, comprised of a multitude of cultural and social activities with a generous amount of workplaces, and a highly mixed and diverse array of housing types. ( See Fig 4.5 and Fig 4.6 )

*“ In the coming years, containers and cranes will be replaced by world-class architecture in Aarhus's new, maritime urban area: the Aarhus Docklands. Open tenders and international architect competitions are attracting worldwide attention as well as international architects. Right where the city meets the bay, Danish traditions are united with European innovation, and the result is world-class architecture.”* Quote by represents of Aarhus Municipality.



Fig 4.4 Aarhus illustration map with distances in meters from the focus point

Fig 4.4 represents illustratively the city map of Aarhus with distances in meters in relation with the focus point of the thesis project - the crossing intersection of Nørreport street on the city edge with the Waterfront of Aarhus.



[ Fig. 4.5 ]

[ Fig. 4.5 ] is a 3D visualization digital model of the New Central Waterfront proposed by Aarhus municipality. It pictures the new urban environment integrated into the city archaic context. First, the eye catches the preeminent landmarks of the overall context such as the Light House's tall building like a towel which is in opposite direction of the Cathedral Church's towel and other industrial chimneys of the faraway harbor. The icon buildings appear grouped together with each other forming a cluster at the end of Pier 4. More buildings are expected to be designed in the frame of the harbor context in the upcoming period of construction. The Waterfront, being the part most near to the city downtown, will host some spectacular architecture shaped into the two massive buildings of Navitas and Multimedia Library which will function as cultural – educational and research Institutions. It is expected that these institutions will act like “ *stations* ” of spreading and exchange knowing and innovation for whole city.

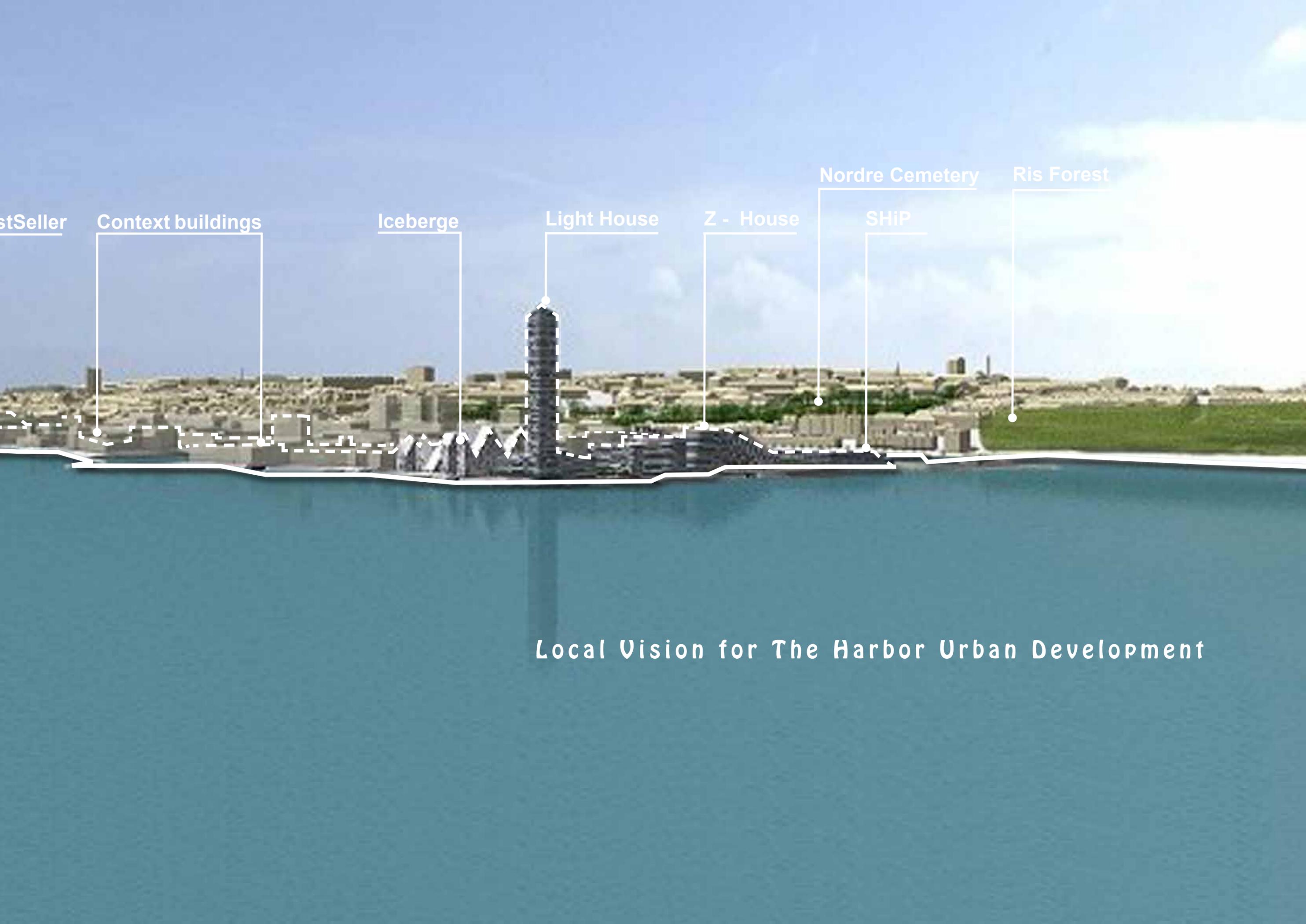


Media House

Cathedral Church

Navitas Park

Bes



stSeller

Context buildings

Iceberge

Light House

Z - House

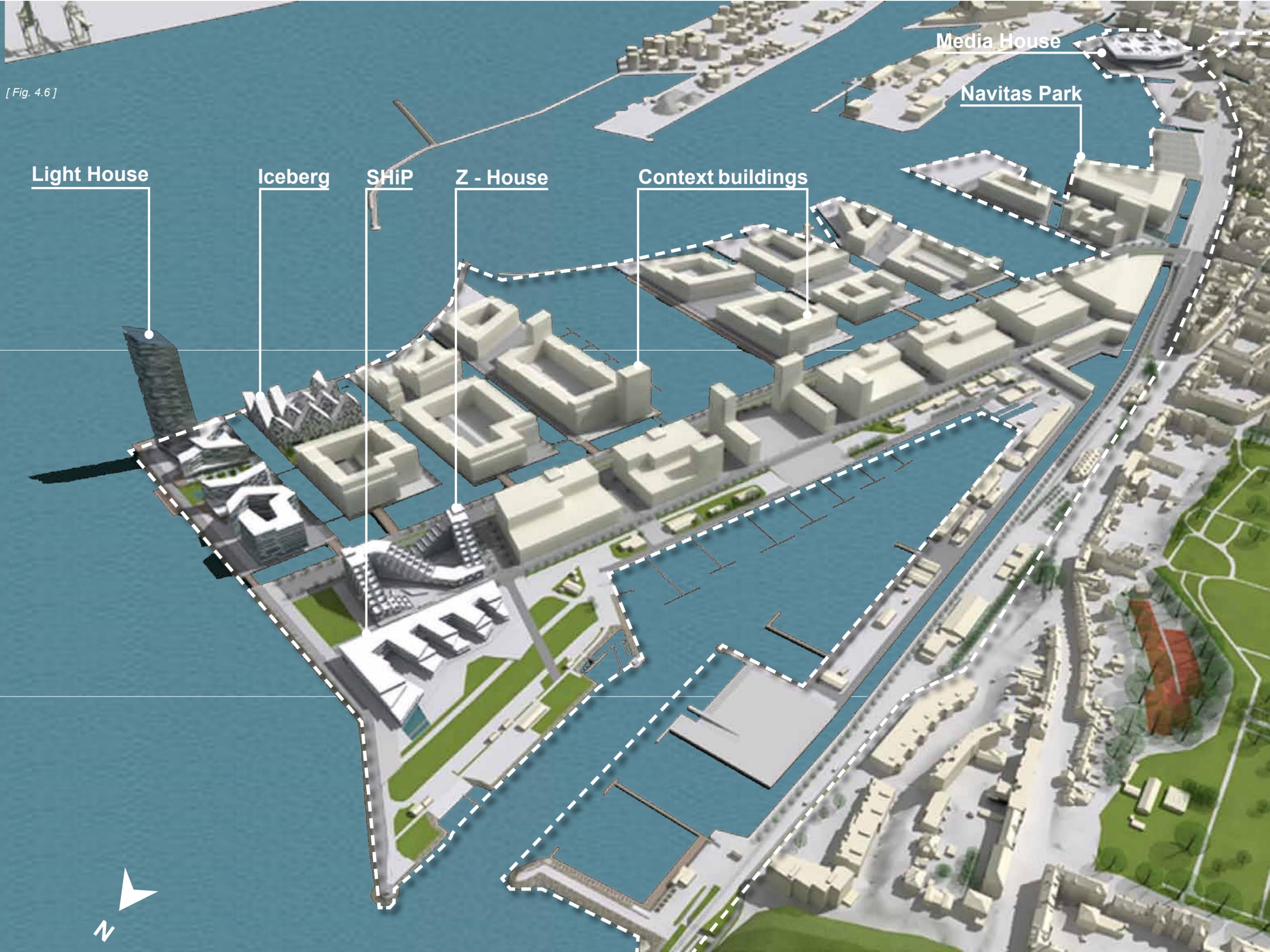
Nordre Cemetery

SHiP

Ris Forest

Local Vision for The Harbor Urban Development

[ Fig. 4.6 ]



Light House

Iceberg

SHiP

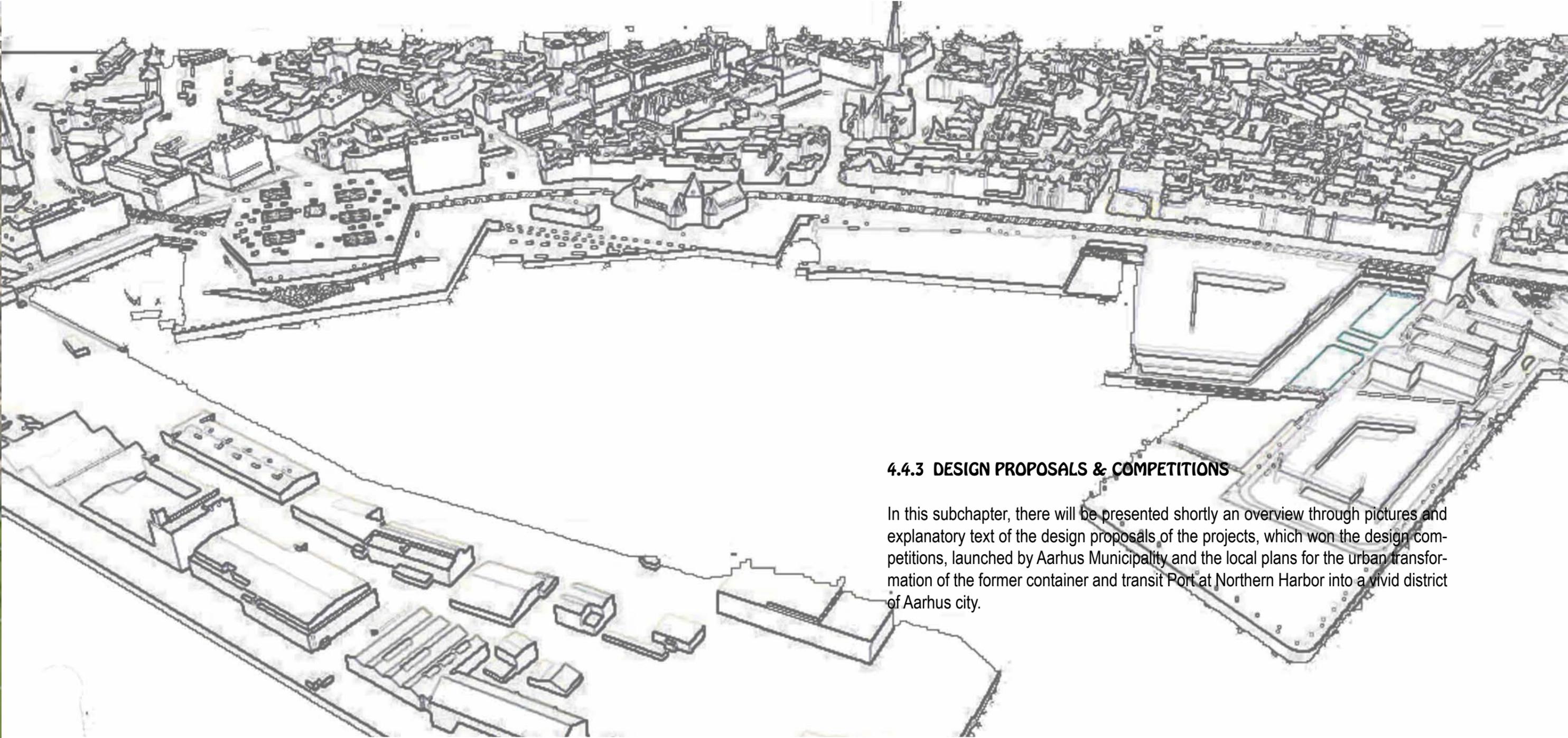
Z - House

Context buildings

Media House

Navitas Park





#### **4.4.3 DESIGN PROPOSALS & COMPETITIONS**

In this subchapter, there will be presented shortly an overview through pictures and explanatory text of the design proposals of the projects, which won the design competitions, launched by Aarhus Municipality and the local plans for the urban transformation of the former container and transit Port at Northern Harbor into a vivid district of Aarhus city.

## **Design Proposals & Competitions**

**LightHouse** is a building for residential and commercial with a high-rise building of 142 m. It will be Denmark's tallest building and at the same time a building of high architectural standard, thereby becomes a landmark for the city of Aarhus.

Located on the outer island of Pier 4 with both residential and commercial spaces, quite close to the motorway network and bus services (and later light rail system) within walking distance.

It will consist of approx. 37 500 m<sup>2</sup> floor area, of which approx. 8 000 m<sup>2</sup> is dedicated to housing for young people and approx. 29 000 m<sup>2</sup> devoted to different business types, such as: office, hotel, cultural center and shops.

On the low part of the building, there will be a hotel and housing associations apartments. 5 000 m<sup>2</sup> is for public housing and 3 000 m<sup>2</sup> for youth residences.

"Comwell Hotel" will have 19 000 m<sup>2</sup> and is planned to be finished on the 1st of January, 2012.

All homes will have access to the sun from the South and the view over the water at North.

LightHouse project was designed by 3XN – Danish architectural company in collaboration with UN Studio from Holland. The consulting engineer on the project will be Grontmij Carl Bro.

The project will be built in two stages, but the construction has not yet begun. At the moment, there are funding problems due to the financial crisis.

Investors in the project:

**Housing associations** have paid their share of 51 million Kr. and **Icelandic Landic Property** is now the only private investor in the project and has also paid its share of 119 million Kr; but got economic problems due to the financial crisis. There is a deadline on the 1st of December 2010 to finance the rest of the money up to 417 million. Kr. for the high-rise construction.

Fig 4.7 LightHouse illustrations



View towards West over LightHouse's bay and public square.



LightHouse perspective view towards West, surrounding by water channels.



Eye - bird view over Aarhus new central Waterfront, towards South – East. The high-rise building of 142 m, becoming a landmark for the area.



View over the water channel besides LightHouse.



Green public spaces between LightHouse's buildings. View towards North – West.



View over the three LightHouse's buildings. The tall tower building rises up at one end.



Architecture details imagine of the green public spaces of the terraced roofs.

"Aarhus will get a fantastic harbor front with unique architectural buildings that both in appearance and functionality prove that we are a city of grand ambitions. Our desire for this area goes beyond just a façade without life and purpose. We want a living city where everybody thrives. Both those who live and those who work in this City near the harbour / De Bynære Havnearealer. Projects of this caliber are a big step towards this goal." Quote by Mayor, Nicolai Wammen.

**Z - House** is one of the new prestige projects that it will be built on the new district of the former container Port of Aarhus. Z- House will be of 42 m tall and consist of residential and commercial rentals. The building is shaped like a Z, sloping down from ten to two stories to optimize the views from everywhere in the building. All apartments are equipped with a large roof garden. The building was designed by the architectur Dorte Mandrup - winner of the Nykredit Architecture Prize in 2007.

Investors in the project:

The two Aarhus real estate *Marselis Properties* and *Søgaard Properties* is behind the project. And *Nordea AS* is funding the project.

The building will be surrounded by the Århus Bay at the North, the Marina at the West and with Jette Tikøb square space besides. Simultaneously, the building with its unique architecture, will offer a beautiful contrast to the high - rise buildings on the Waterfront.

Z - House will be built on Sverigesgade newly built boulevard and it is planned to cover a total of approx. 25 000 m<sup>2</sup>.

The building is designed so that the residential area and the business unit to function as two independent units with their own entrances.

The ground floor will enclose shops, restaurants, cafe, bank office and other public functions. Above ground, at the upper floors, the spaces will be destined for residential purposes with 11 000 m<sup>2</sup> for exclusive homes and 14 000 m<sup>2</sup> for exclusive commercial leases. The business section will be divided into 30 separate leases with high quality design.

Project's characteristics:

- it will be the first project built at the new Waterfront area
- plan to be open for the public in April of 2011
- up to 30 office leases with 400 m<sup>2</sup>
- shop leases with 120 m<sup>2</sup>
- individual private leases with 102 m<sup>2</sup> and rooftop garden
- restaurant space and facilities
- 299 car parking spaces underground

MT Højgaard has signed as a basement contractor for construction and always there are a number of technical challenges in working so close to the water. MT Højgaard AS constructs at the moment, the foundation with a 17 000 m<sup>2</sup> car parking area that will accommodate 310 public and private car parking, storage and equipment rooms.

The construction phases are postponed later than scheduled due to the global financial crisis.

Fig 4.8 Z - House illustrations



Front imagine of the Z - House buildings over the water channel and public spaces.



View over the terraced roofs buildings, shaped in Z form.



View towards South - West over the recreational public square at the bay, aside Z - House.



View towards West - North over the water channel and Bernhardt Jensens boulevard, behind the Z - House's buildings.



Architecture details imagine of the private terraced roofs with wooden surfaces and green spaces.



Architecture details imagine of the green private terraced roofs.

SHiP is a 20 000 m<sup>2</sup> health - culture Center with aqua, wellness and fitness activities, as well as a five star hotel.

It is an unique opportunity for SHiP project to be built at the old Marina in Aarhus, where an extremely attractive and atmospheric environment exists there as Aarhus's best location.

SHiP will bring an unique contribution to urban development and port environment in Aarhus. It will open the opportunity for modern and dynamic companies to treat its employees with an exceptional work environment.

It is an icon building where the building's architecture is inspired by the hand and its five fingers. The intimate courtyard of the "fingers" spaces and the sports areas are all elements of daily life that support and stimulate activities and gathering.

The building will have only 4 floors that opens up and terraces down to the old Marina, with an orientation that provides excellent sun and natural light and a phenomenal view from the terraces to the Marina, City, Ris forest, ocean and Mols island.

The usage will be for offices, conference halls, hotel rooms with a large underground car park. The complex will also include an exclusive spa, wellness and fitness section of approx. 3 500 m<sup>2</sup> and a charming restaurant and cafés.

Arkitema Architects AS has won the competition with their design proposal for the new health - culture Center at Aarhus former Port. And the construction company Olav de Linde will build the new contemporary building "SHiP - Spa & Health Port".

*"Aarhus will have a fabulous waterfront with unique architectural buildings that both in appearance and use proves that we are a city with big ambitions."* Quote by Mayor, Nicolai Wammen

Fig 4.9 SHiP illustrations



View from balcony over the sport courtyards in front of SHiP, towards West.



Eye - bird view over the SHiP and the intimate courtyards between its "fingers" shaped buildings.



Eye - bird view over SHiP in relation with the other buildings at the new central Waterfront.



Front view of SHiP towards East over the water channel and wooden walking lane.



Imagine of the public spaces beside the water channel.



Interior imagine of the health - culture Center with spa and wellness activities.



Imagine of the architecture details of the SHiP interior.

*"SHiP has water, exercise and wellness as main attraction. With Health Culture will field a unique hub that will catalyze the life and activity."* Quote by the engineer Peter Thyssen  
*"At Waterfront Bay, this project adds the Port and the City a strong and distinctive architectural whole with major landmark qualities."* Quote by the representative of the political committee, architectural consultant Kent Martinussen

**Iceberg** is a complex of residential and commercial spaces. The building complex has 10 storeys. The apartments are from 66 m<sup>2</sup> to 248 m<sup>2</sup> with residences at the first and second levels. There will be 155 apartments in total and 6 commercial office spaces from 110 m<sup>2</sup> to 211 m<sup>2</sup>. 2 / 3 of Iceberg are condominiums and 1 / 3 of the 200 apartments will be set aside as affordable rental apartments by Brabrand Housing Association. Its aim is to integrate a diverse social profile into the new neighborhood development at the northern harbor and to provide ocean views along with good daylight conditions.

Iceberg has been designed by four architectural firms: CEBRA and JDS architects from Denmark, SeARCH from Holland and the architect Louis Paillard from France won, in 2008, the competition to build a 25 000 m<sup>2</sup> housing complex in the new Aarhus Docklands development. The complex will feature mixed dwellings and commercial space.

The buildings' shape will allow better views toward the ocean and better daylight conditions and create its own skyline within itself and maybe becoming an "iconic" building for the harbor area. At ground level, a number of apartments are integrated and the peaks of the buildings contain spectacular apartments as well. Between the top and bottom levels, a variety of apartments with different balconies, shapes and orientations can be found. The apartments are destined for a social diversity of people of different ages, incomes and family relations living together.

*"With the Iceberg we get unique housing qualities as well as a city architectural expression of the highest quality."* Quote by Kent Martinussen, administrator director of DAC (Danish Architecture Centre)

Fig 4.10 Iceberg illustrations



Imagine upwards towards Iceberg buildings' triangle tops and the green triangle terraces.



View over bridges crossing over the water channel besides Iceberg buildings and the green public spaces.



View from inside towards connective bridges between the Iceberg's separated parts.



View from inside towards the other triangle tops of the building parts.



Night imagine model of the inside lighting and the effect it creates.



Eye - bird view over buildings group of Iceberg in relation with other buildings at the Waterfront Bay.



View towards North, from the water channel besides the buildings, catching recreational activities with canoes along the channel.

Navitas Park is a new center with no less than 35 000 m<sup>2</sup> for energy, innovation and training on Aarhus Waterfront. The building is planned to be built in mid 2011 and finished in 2014. The Aarhus School of Engineering, Aarhus School of Marine and Technical Engineering and INCUBA Science Park have agreed to establish Navitas Park, a joint building structure with more than 2 300 students, teachers, researchers, entrepreneurs and business people.

Here, the public spaces will encourage education and research to go hand in hand with a strong collaboration with industry.

An environment where the boundaries between private innovation, public research and education are broken down into an open, creative and dynamic campus with communal research park, canteen, laboratories and workshops.

In connection with the building structure, a car public parking lot with approx. 450 parking spaces will be constructed.

Navitas' values are:

- development
- openness
- cooperation
- quality

These values should be reflected in the building structure.

The vision for Navitas :

- a knowledge centre for the development
- innovative environment for energy, environment and building construction
- application of competencies in education, research and entrepreneurship.
- internationally competitive
- attractive environment for students, teachers, scientists and companies



View towards North, from recreational - event square besides the building of Navitas. Recreational public space imagine with trees on the artistic stairs that flows into the sea water.



View towards North from Skolebakken street. Imagine of Navitas's new building and the public squares besides.



Imagine from outdoors cafés towards harbor.



Imagine inside of the building, at one of the common squares.



View towards West from Nørreport street. Imagine of Navitas's new building and BestSeller's buildings.



Night view of the building of Navitas and the lightning effects.



Eye - bird night view over Aarhus city and the new central Waterfront. Imagine of Navitas's building and the lightning effects.

**URBAN MEDIASPACE** will incorporate MULTIMEDIA HOUSE and Scandinavia's largest Cultural Media Library into its landscape. It will be characterized by the digital age architecture of performative tectonics. Performative Tectonics is defined through parametric digital tools. It has an ambitious and challenging structure of 30 000 m<sup>2</sup> with attractive gathering places and citizen service. Schmidt Hammer Lassen Architects and Architect Kristine Jensen won the architecture competition Mediaspace and Aarhus' new Waterfront in March 2009. The project is part of the municipality plan to regenerate the old cargo docks on the Waterfront and to connect the renewal part of the harbor to the medieval city Centrum.

The URBAN MEDIASPACE is :

- an open and informal learning Centre
- a special place for children stimulating play, experiencing and learning
- a building that offers technology information
- the main library of Aarhus with free and equal access to knowledge and culture
- a place for dialogue, information, ideas and inspiration

The plans are the building's inauguration time to be in 2014 and to become a hub of social interaction that hosts multi - media and cultural events.

The heptagonal shape surrounded by public recreational outdoors spaces on platform with stairs towards the seawater is a very distinctive building at the new central Waterfront.

Its interior and exterior incorporates recreational spaces for studying, socializing, and relaxing.

The library's glazed façade will offer natural light for interior and impressive panoramic view over the harbor, making the inside of the library visible and welcoming.

Here, at the underground, an ultramodern arrival area for light rail, cars and buses will be established.



*Imagine of Multimedia Centre's underground station for light rail.*



*View towards South from recreational - event square beside Multimedia Centre.*



*Eye - bird view over the new central Waterfront including the imagine of the Multimedia Centre surrounding by public squares.*



*Indoors imagine from one of the numerous meeting space inside Multimedia Centre.*



*Indoors imagine of a media meeting space.*



*Indoors imagine from one of the inside play - grounds for children.*



*Indoors imagine of inside learning and playing spaces for children.*

**Fig 4.12 Multimedia Centre illustrations**

**BestSeller** - The international fashion giant, BestSeller will bring 500 new jobs into the area when will move in 2013 into the new headquarters on its attractive site at Aarhus Waterfront, location next to Nørreport crossroads intersection. Here, the crossroads intersection becomes the main gateway to the new district at Northern Harbor.

The building will house shopping center, administration office space and showrooms. The plan is to establish the office building on Pier 2, near the Siberia street junction and in the proximity to the upcoming Navitas Park on the northern bastion. ( Fig. 4.13 )



Fig 4.13 BestSeller illustration  
- perspective view towards BestSeller's buildings.

**Recreational - Event Public Square** is the public space between the two bastions, besides the future building of Navitas Park and Toldboden Building. The square is proposed by the municipality to be destined for recreational purposes and temporal events, and eventually few ambulatory kiosks placed on it. ( Fig. 4.14 ) Here, arrival stops for light rail and buses will be established.



Fig 4.14 Recreational - Event Public Square illustration  
- view over the square towards Toldboden Building and Multimedia Centre.

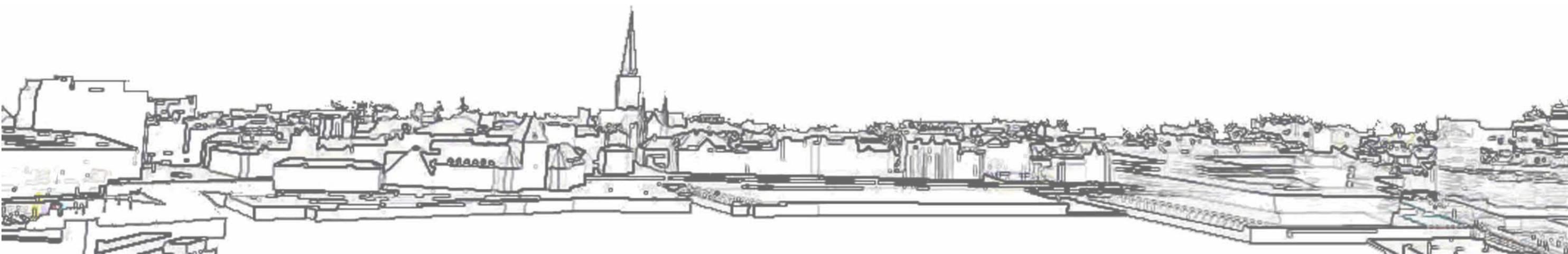
#### 4.4.4 POTENTIALS, REFLECTIONS AND CONCLUSION

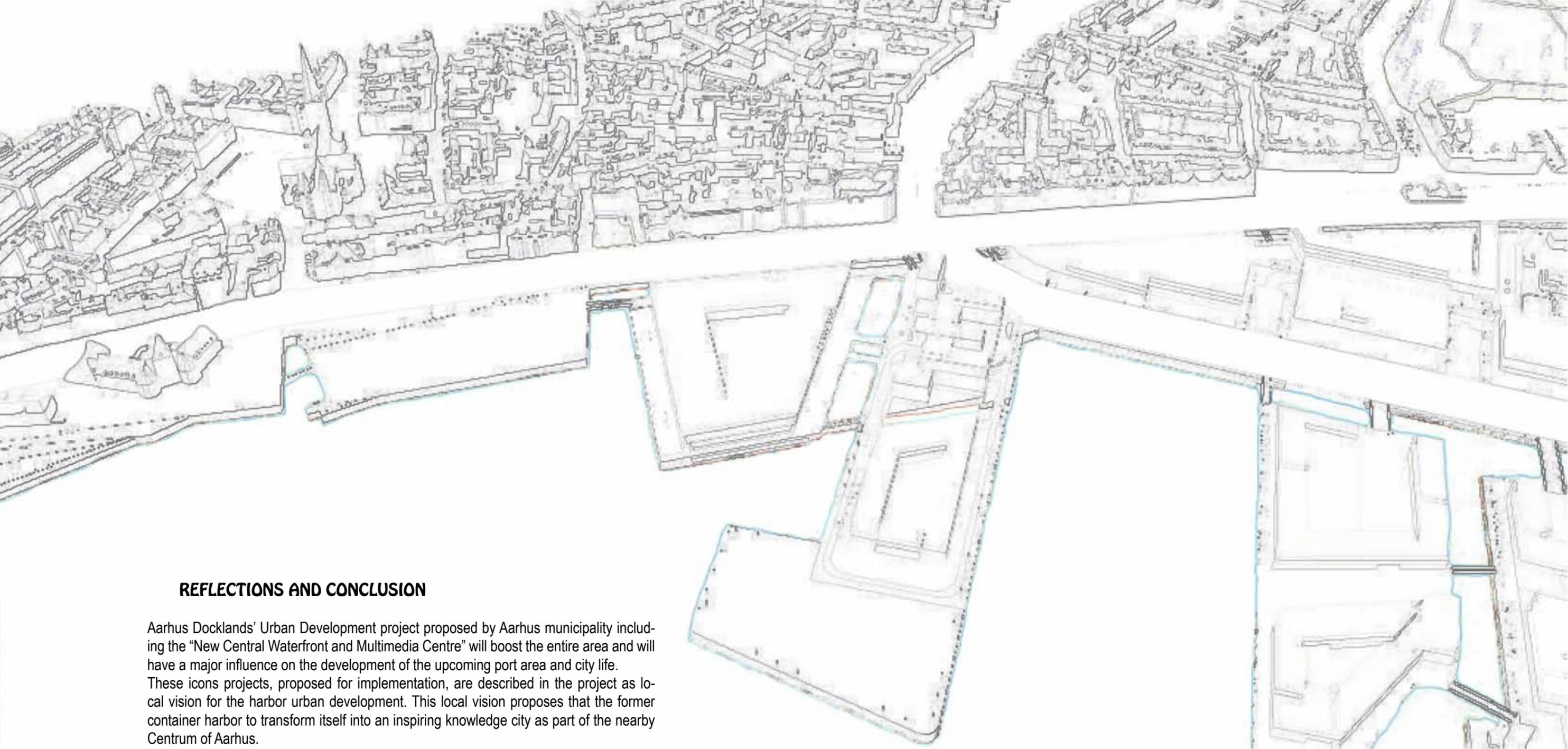
##### POTENTIALS

The physical settings are the medieval city context, the existing and the future infrastructure, the river opening and the new cultural – knowledge environment at the Waterfront.

The implementation of the new recreational connections by means of cycling and pedestrian lanes that bring the commuters to excursion destinations, the proximity to the main railway station, the existing bus stations and the new light rail system as a faster transport means are important potentials that give the possibilities for easy accessibility for experience and gain knowledge. The thesis project will explore further these mobility potentials in the area.

On the other hand, the new river environment of the opening at the Europaplads Square, the Mediaspace with the Cultural Media Library and Navitas with creative meeting spaces and exhibitions are potentials that need to be explored further of the thesis project.





## REFLECTIONS AND CONCLUSION

Aarhus Docklands' Urban Development project proposed by Aarhus municipality including the "New Central Waterfront and Multimedia Centre" will boost the entire area and will have a major influence on the development of the upcoming port area and city life. These icons projects, proposed for implementation, are described in the project as local vision for the harbor urban development. This local vision proposes that the former container harbor to transform itself into an inspiring knowledge city as part of the nearby Centrum of Aarhus.

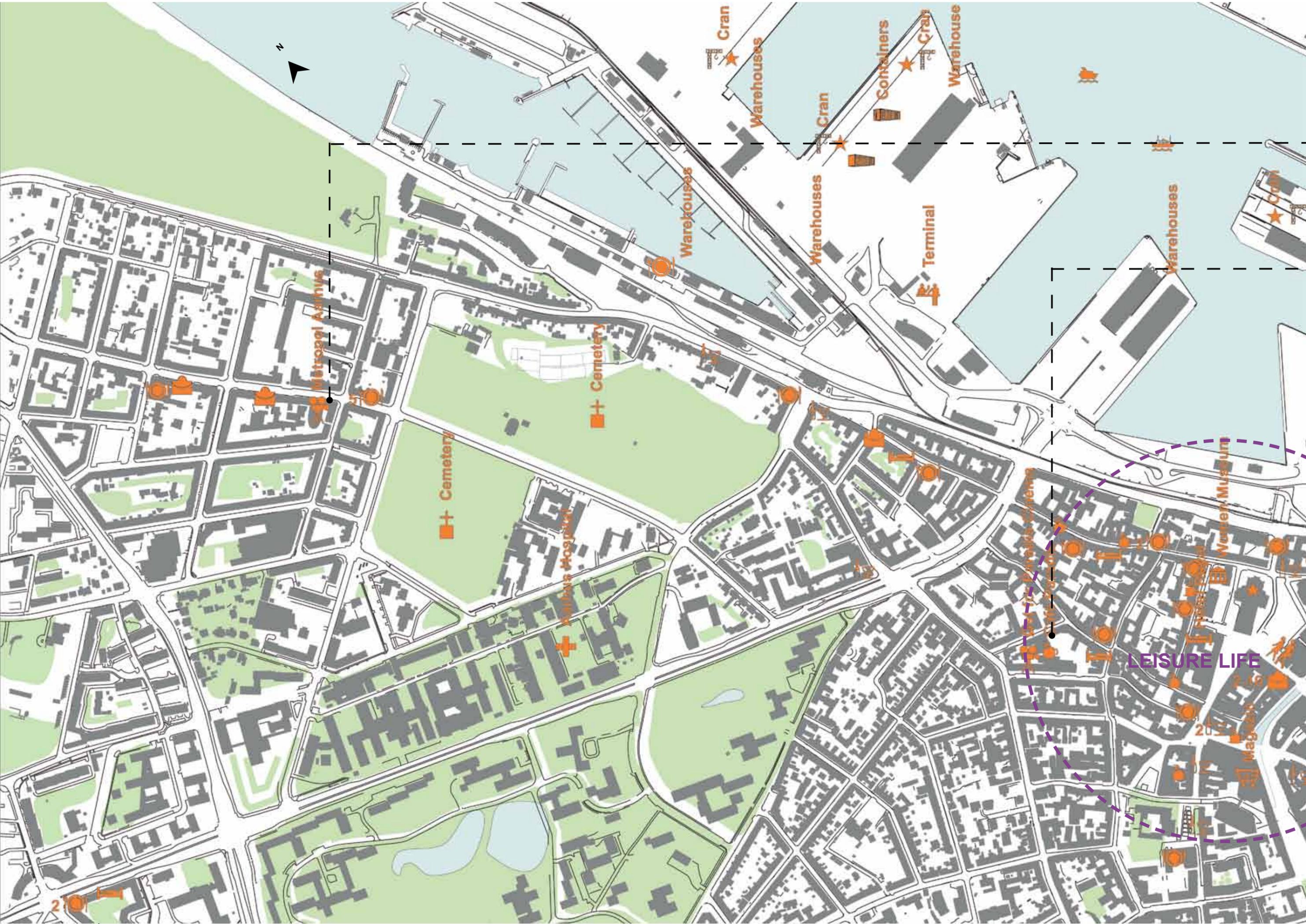
This thesis project will not have a focus on the northern part of the harbor, besides a simple presentation of the overview of the design projects.

These outstanding architectural buildings and their public spaces planned to be built on the Northern Harbor are part of the overall project. Therefore, in this chapter 3, the design proposals, which won the competitions, have been presented through pictures and explanatory text without a critical analysis.

The thesis project will focus further on the icon buildings, planned already by investors in collaboration with the municipality of Aarhus, to be implemented at the Waterfront such as: Navitas, BestSeller, the Urban Mediaspace and the recreational – event public square besides Navitas and the public spaces surrounding the buildings.

The thesis project will work with these public spaces and use them for creating a better connection between the future icon buildings there will be build at the Waterfront and the spaces that surround them. The thesis project will work as well with the relationship between the medieval city context and the cultural – knowledge environment at the new district on the Waterfront and will add urban spaces that will underline the functionality as a new urban district of Aarhus.

Along the next chapters, the project will have a close look on traffic plan and the project for a new light rail system that will bring a more intense and a faster flow in the area, and in the same time a better proximity between the city and the new harbor district.



Warehouses  
Cran  
Containers  
Cran  
Warehouse

Warehouses

Warehouses

Terminal

Warehouses

Metropolitan Assembly

Cemetery

Cemetery

Hospital

Leisure Life

LEISURE LIFE

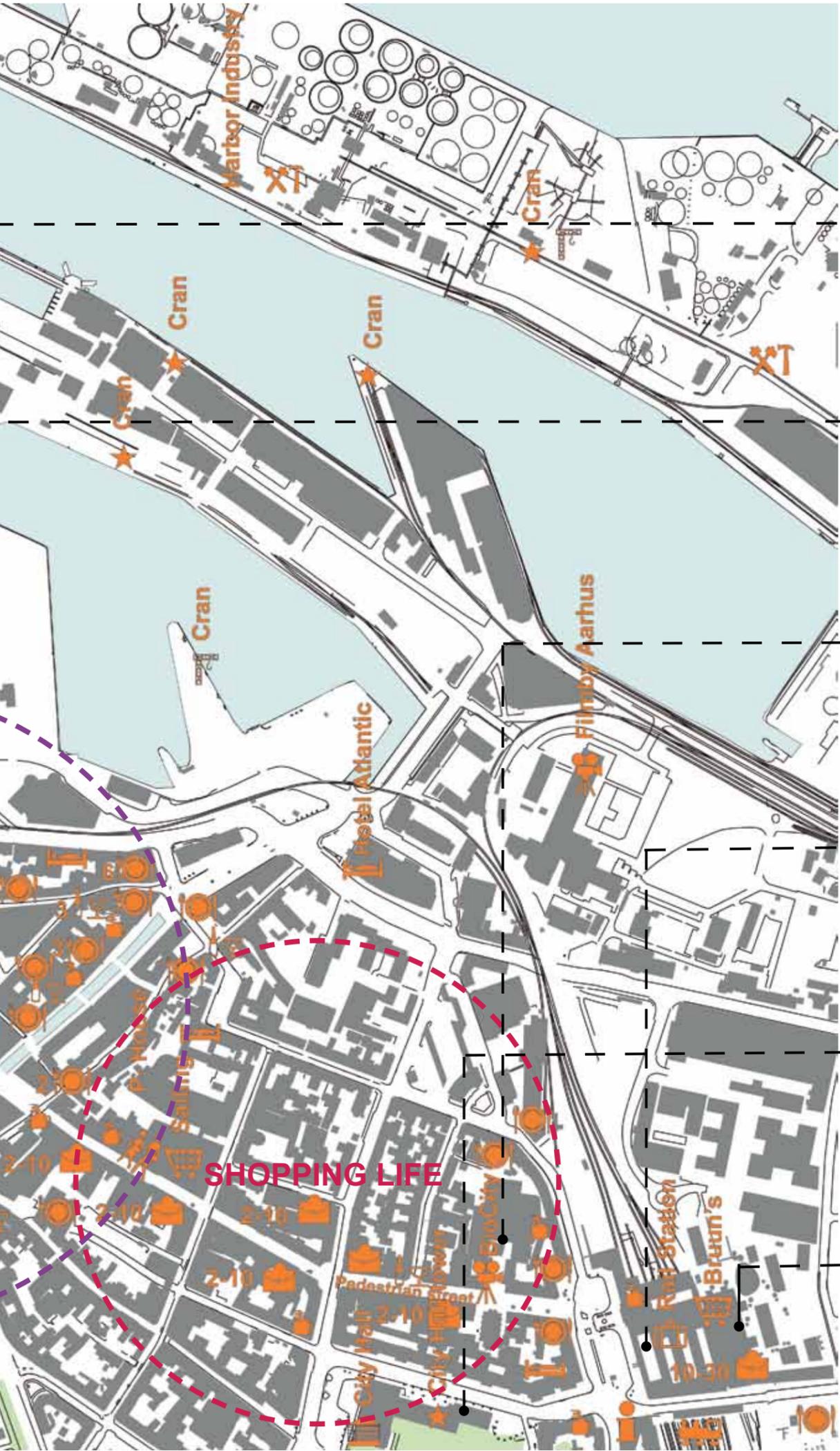
Women's Museum

Magistrate

20

15

20



## ATTRACTOR INSTITUTIONS

### 4.5 PROGRAMMATIC STRUCTURE OF CITY CENTRUM AND HARBOR

#### 4.5.1 EXISTING INSTITUTIONAL FUNCTIONS AND ATTRACTORS

The map of the area illustrated in Fig. 4.15 presents the division of the main institutional functions present in the area. As noticed, the city Centrum is the core of shopping, education and leisure. The downtown has shopping life on the main streets which leads towards the main rail station and bus terminal of the city. ( See Fig. / page..) In this situation, the shopping life starts on Ryesgade from the crossing intersection in front of Rail Station and continues with Søndergade and Skt. Clemens Bro streets and here a bridge passes over the river with Åboulevarden and continues with Bispegade where it forms a Store Torv Square. After my empirical observations, the area of the square right aside the Cathedral Church towards South is a quite spacious area with stairs that brings commuters on the square from the shopping streets. Here, the lack of functions make the Big Square / Store Torv a less attractive and unused square by commuters and residents. It looks like cars parking had been taken informally over areas surrounding the Cathedral Church and the Square. Bispegade street is very used by commuters, that means that there are good potentials of human source for the Store Torv and the spaces on the upcoming Waterfront environment. The Big Square / Store Torv is an urban space with great importance, it links physically and visually the city downtown with the Waterfront Harbor by Skolegyde street. Later in the design phase, the thesis project will have a closer look upon the potentials the Big Square / Store Torv offers for the near area of the upcoming New Central Waterfront. Here it can be noticed that the downtown of Aarhus city has a concentration in retail and recreational facilities

Åboulevarden street plays the role of major attractor for leisure purposes here and provides the city Centrum with very welcoming sceneries of restaurants and resting urban spaces on the river's sidewalks. The potential of Åboulevarden has been explored by the municipality of Aarhus in the development proposal for the New Central Waterfront. The plans are to open the river until Europaplads square and "stretch the leisure life" of Åboulevarden towards the New Central Waterfront's site in order to create an attractive connection between the two urban spaces.

Fig 4.15 Existing institutional functions and attractors map



Cinema "Metropol"



"Øst for Paradis" Art Cinema & Cafe Paradis



Cinema "BioCity"



Rail Station



City Hall



Bruum's Shopping Center

#### SIMBOLS :

- |  |                    |  |                     |
|--|--------------------|--|---------------------|
|  | - INFORMATION OF-  |  | - TRAIN             |
|  | - SHOPPING CENTRE  |  | - WAITING STATION   |
|  | - CAR PARKING      |  | - HOTEL & HOSTEL    |
|  | - CAFE & FAST FOOD |  | - HOSPITAL          |
|  | - SHOP & RETAIL    |  | - LANDMARK          |
|  | - BARS             |  | - CINEMA            |
|  | - RESTAURANT       |  | - THEATRE & MUSEUM  |
|  | - CITY HALL        |  | - WALKING STREET    |
|  | - CEMETERY         |  | - TERMINAL & OFFICE |
|  | - CONTAINER        |  | - SHIPS             |
|  | - CRANE            |  | - INDUSTRIAL AREA   |

1 : 5 000



Risskov Forest

LEISURE LIFE

EDUCATIONAL LIFE

CULTURE

Tennis Courtyard

Canoe Club

Searhens Club

Kulturvingen Association

Jyske Art Akademi

Cathedral Church  
Cathedral School

Aarhus University

Teacher Education

Economical Institute

N. Kochs School

Johannes Church

Cemetery Park

Aarhus University

Medical Library

BIRC-Bioinformatics  
Research Center

University Park

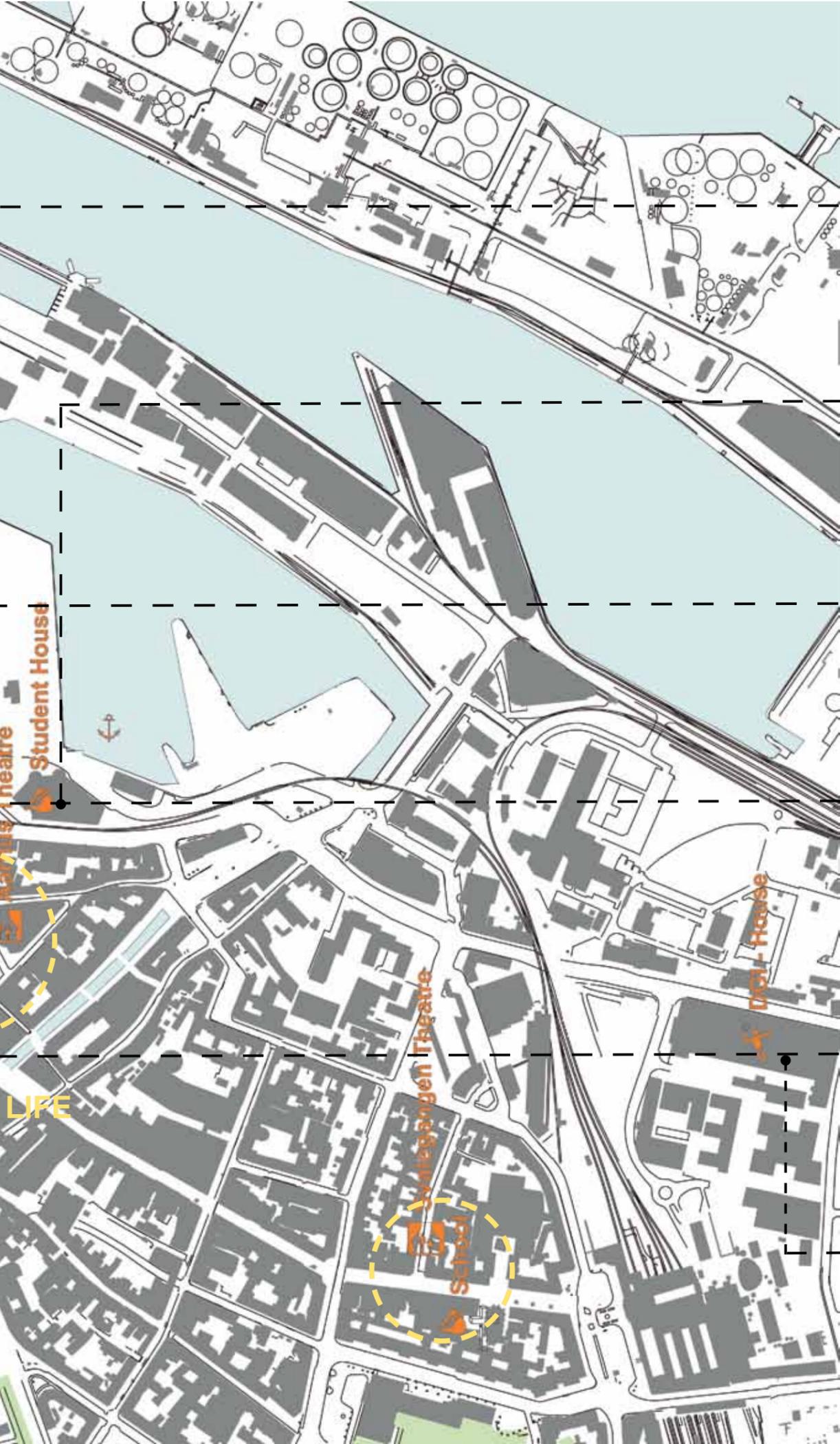
Geological Institute

Laurssens School

Architectural School

Library

Laurssens School



CULTURAL INSTITUTION

4.5.2 EXISTING CULTURAL AND RECREATION FUNCTIONS

The map of the area illustrated in Fig. 4.16 presents culture and recreational functions present in the area.

The central area provides as well with education in different levels. Few schools are located downtown but most are at the educational campus located on the downtown's periphery on Nørreport and Nørrebrogade streets. Here is the most predominant area with educational environment in Aarhus.

Aarhus theatre at the Big Square / Stor Torv is a major cultural institution for the city downtown. As it appears the medieval city Centrum has very few cultural institutions and almost at all green spaces with the use of recreational purpose.

As it can be noticed on the illustrative map that the medieval city downtown has not public green recreational spaces, therefore, very few patches of green appears. Suddenly, large green spaces appears as a park and a forest at the Northern part of the city Centrum.

The combination of educational life with green recreational life has a great attraction factor at Aarhus University Campus with its green University Park.

Further, Kystvejen and Skovvejen streets lead commuters towards Riisskov Forest at North of the city. On the way to forest, there can be found tennis courtyards besides the cemetery public green spaces. The Riisskov forest is a natural dense forest with walking lanes and beach line at the western part.

There is a strong lack of attractive functions addressed for youngsters, and sports facilities are very few.

At South in the area, DGI House offers a part of the sport recreational opportunities such as : badminton, gymnastics, boxing, indoor soccer, dance classes, etc.



Riis Skov



Toldbod - Student House



Architectural School



"Kulturgynge" live music, café cultural activities, restaurant



Chatedral Church



DGI - Sport Center

INTENTION

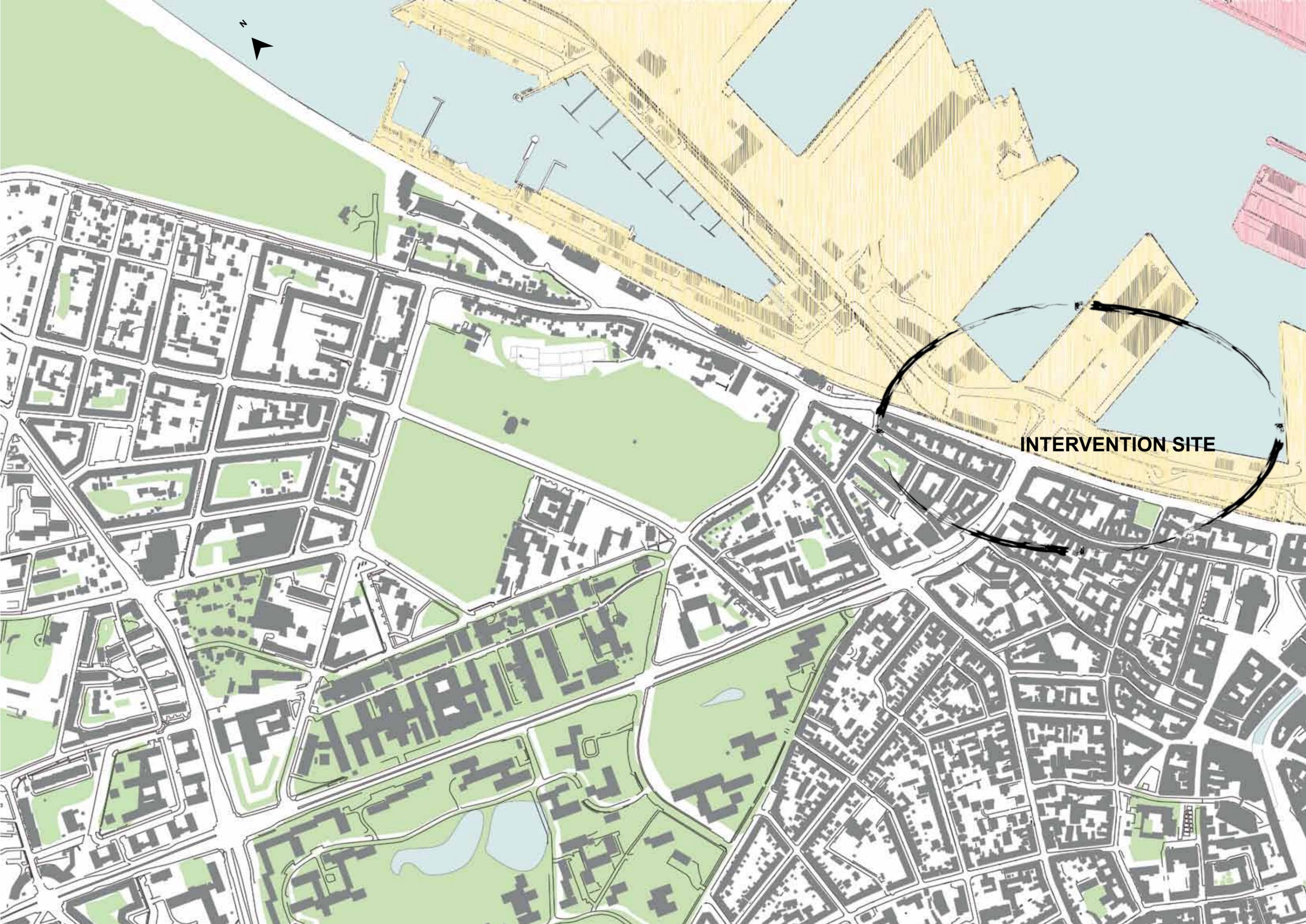
The thesis project intention is to use these great potentials that the near city context offers as educational and recreational facilities viewed as layers that can be incorporated into the new urban environment at Waterfront by the thesis project's proposal.

Fig. 4.16 Existing cultural and recreation functions map

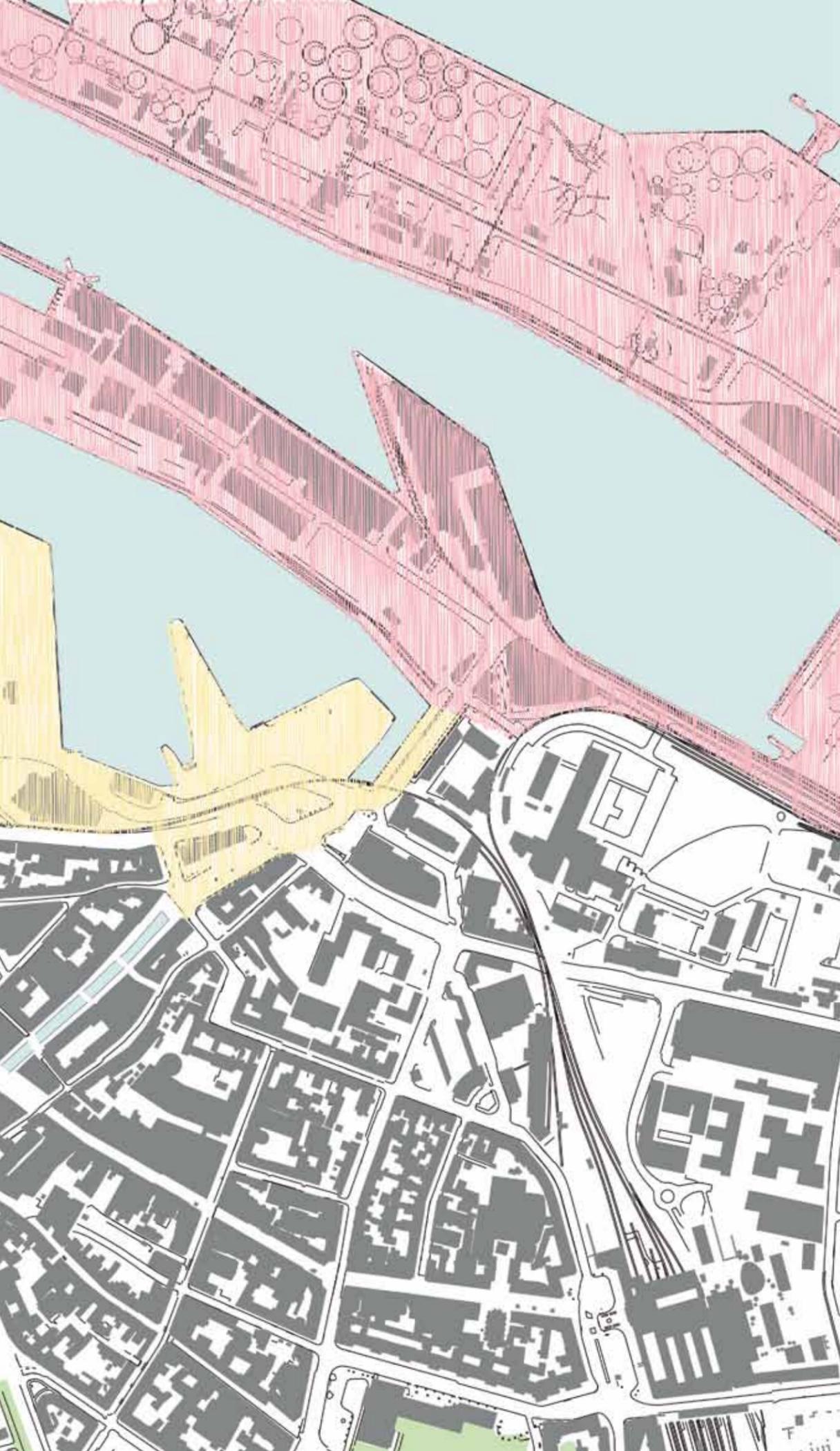
SIMBOLS :

- |  |                       |  |                    |
|--|-----------------------|--|--------------------|
|  | - FOREST              |  | - CHURCH           |
|  | - WALKING LANES       |  | - RESEARCH INST.   |
|  | - GREEN AREA          |  | - THEATRE          |
|  | - PICNIC AREA         |  | - SPORTS HALL      |
|  | - EDUCATION           |  | - BICYCLE ROUTE    |
|  | - LIBRARY & BOOK SHOP |  | - TENNIS COURTS    |
|  | - FISHING HARBOR      |  | - CULTURAL CAFE    |
|  | - FISHING AREA        |  | - CANOE SPORT CLUB |
|  | - SAILING AREA        |  | - SALING CLUB      |

1 : 5 000



**INTERVENTION SITE**



### 4.5.3 TYPOLOGIES OF LAND USE

The illustrative map from *Fig. 4.17* presents the distribution and types of land that overlaps the buildings structure of the city.

The yellow hatched area that includes the Waterfront Harbor and Northern Harbor represents the Docklands project proposed by the municipality of Aarhus. The area has not ground levels and is covered with concrete and asphalt layer. Here, ground – works for creating the water channels and the foundation for Z - House have already been started.

Further at the horizontal line, the industrial Harbor can be seen from the Waterfront area. This part of the harbor will remain and function as in present, but it is possible that it might suffer some modifications in future.

#### INTERVENTION SITE

The area is a harbor area in the present covered with concrete and asphalt layer. Facilities for cargo and port can be still found here. The area has not ground levels and at the moment is used for car parking. A line of tall trees create a visual barrier from Kystvejen street towards Waterfront harbor. The municipality had been already planned the area for major transformations and therefore ground – works for creating the water channels have already been started.

#### SIMBOLS :

-  - WATERFRONT DEVELOPMENT
-  - SEA WATERS
-  - GREEN AREAS
-  - INDUSTRIAL HARBOR



1 : 5 000

*Fig. 4.17* Typologies of land use map

#### 4.5.4 BUILDING TYPOLOGIES, HEIGHTS, STRUCTURE & HERITAGE OF MEDIEVAL CENTRUM

Aarhus Centrum which has been taken in analyze along the chapters is characterized of different types of architecture with a diverse range of functions. ( *Subchapter 3.6 page 23* )

City Centrum with its heritage core part acts like an open - air museum is mostly characterized by medium size archaic building structures with 3 or 4 stories for residential apartments and offices with use of their high roofs and mostly the ground - floors for retail. The buildings are distributed in long rows connected with each other. These facades create the impression of long walls on both sides of the streets.

In downtown area, specially on the walking streets, the ground - floor of the buildings are suited for a range of diverse retail shops, restaurants, cafés, bars, offices and other facilities. University Campus Area is predominant with large and taller buildings in a functionalist style.

In *Fig 4. 18* is presented some of the buildings considered heritage for Aarhus city, Centrum and harbor areas. They are under municipality legislation for protection of the heritage inherit. They also show the different architecture styles and their locations with a certain purpose.

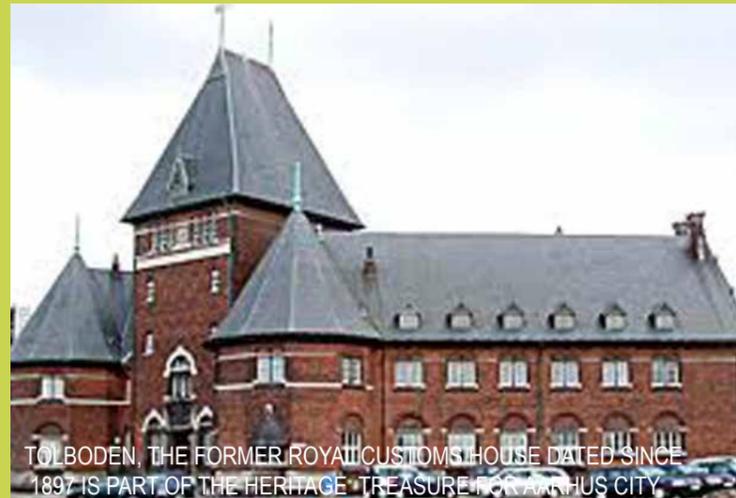
The Cathedral Church acts here for centuries as a landmark for the whole downtown and harbor.

The project focuses the attention towards the preserved remnants of Skt. Oluf Church and the three tomb stones remained of the former cemetery. These remnants are under municipality legislation for heritage inherit protection; this means that no buildings or other facilities can be build here to disorder the protection area.

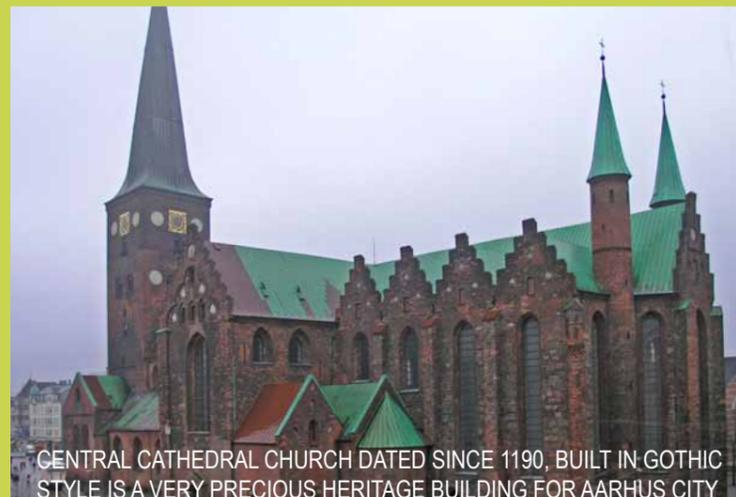
*Fig. 4.18 Different typologies of architecture of Aarhus heritage close to harbor area*



PRESERVED REMNANTS OF SKT. OLUF CHURCH AND AND THREE TOMB STONES OF THE FORMER CEMETERY.



TOLBODEN, THE FORMER ROYAL CUSTOMS HOUSE DATED SINCE 1897 IS PART OF THE HERITAGE TREASURE FOR AARHUS CITY



CENTRAL CATHEDRAL CHURCH DATED SINCE 1190, BUILT IN GOTHIC STYLE IS A VERY PRECIOUS HERITAGE BUILDING FOR AARHUS CITY



TRADITIONAL WOODEN HOUSES ON MEJLGADE ARE PART OF THE HERITAGE INHERIT, UNDER THE MINICIPALITY PROTECTION

The project will consider this small area between buildings one of the focus points and further brings decisions upon redesigning the protected area and takes in consideration the protection and the preservation of the heritage inherit .

#### 4.5.5 REFLECTIONS AND CONCLUSION

In the subchapter 4.5 *Programmatic structure of city Centrum and Harbor*, it had been underlined the existing functions and attractors close to the focus area of the thesis project, which they can use in the further analysis and decisions.

The thesis project will use these existing functions and attractors and strengthen the connection between the most important ones in order to fulfill the aim of the project of connecting and integrating the city Centrum into the harbor context and transform it into an urban district of the city.

The different typologies of land, different functions, heritage inherit as buildings and institutions are considered qualities which the project uses them for its benefit.

The enormous contrast between the present harbor and city Centrum by function and context is considered a problem which needs to be overcome through decisions of design proposal.

( *page 24, 25 - 26* )

The problem formulation is:

- *How to overcome the enormous contrast between the city context and harbor context through design parameters?*



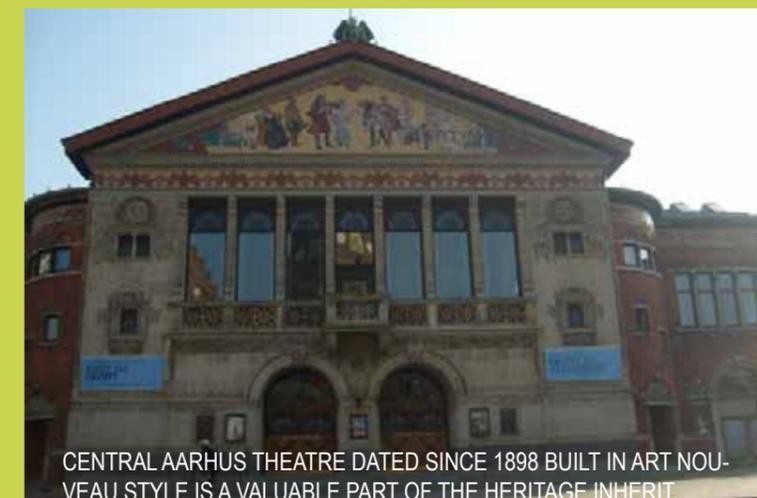
REDISH COLORED FACADE OF TRADITIONAL WOODEN HOUSE ON MEJLGADE. IT IS A PART OF THE HERITAGE INHERIT OF AARHUS.



"KVINDE MUSEET" WOMEN MUSEUM



THE SCHOOL OF ARCHITECTURE



CENTRAL AARHUS THEATRE DATED SINCE 1898 BUILT IN ART NOUVEAU STYLE IS A VALUABLE PART OF THE HERITAGE INHERIT.

## 4.6 SPATIAL DIMENSION - The existing and upcoming characteristics

In this Subchapter four main spatial elements are analyzed:

1. The existing and upcoming characteristics of the building environment
2. The existing and upcoming spaces' identity
3. The existing infrastructure and the upcoming additional traffic networks
4. The existing green and blue structure

### 4.6.1 BUILDINGS ENVIRONMENT

#### 1. The existing buildings and the upcoming municipality proposal for icon buildings at the New Central Waterfront

In Fig 4.19 is presented different typologies of the existing city and harbor context in comparison with the upcoming new Waterfront environment identified by the icon buildings proposed by the local municipality.

The historical medieval city context will be in true contrast with the new building environment proposed by the municipality. The new building environment is described in details in *Subchapter 4.4.3, ( pages 42 – 48 )* through explanatory text and pictures.

The southern part of the harbor will still remain industrial, when the upper northern part including Waterfront will be transformed into an cultural - educational cluster.

#### 2. The existing and upcoming spaces' identity

As explained before the existing space identity of the city Centrum context is a medieval structure characterized by the closed small enclaves formed by buildings with their side walls connected together creating façade walls towards the narrow streets that surround them. They form a common space in the middle of each small enclaves. The access into this closed square or rectangular building formations can be done through gates.

The city structure has a main large square in the middle of it as downtown, Store Torv / Big Square right besides the main church and near harbor that proves the main importance of the church and water element in the citizens life and trade of since early construction.

The city increased in all directions towards West, North, South with narrow irregular streets to walk through. The harbor developed itself as well towards South – East.

This historical outdoors museum will be in contrast by comparison with the New Waterfront Environment based on redefine culture and education into an open oasis of knowledge for the entire city. The plans are that the New Central Waterfront to become a knowledge cluster for the area and Aarhus city. The architecture environment which defines the space identity will be represented by *iconic architecture* and *digital age architecture of performative tectonics*, defined through parametric digital tools. Each individual building will impress and sort of concur with each other by style and elegance.

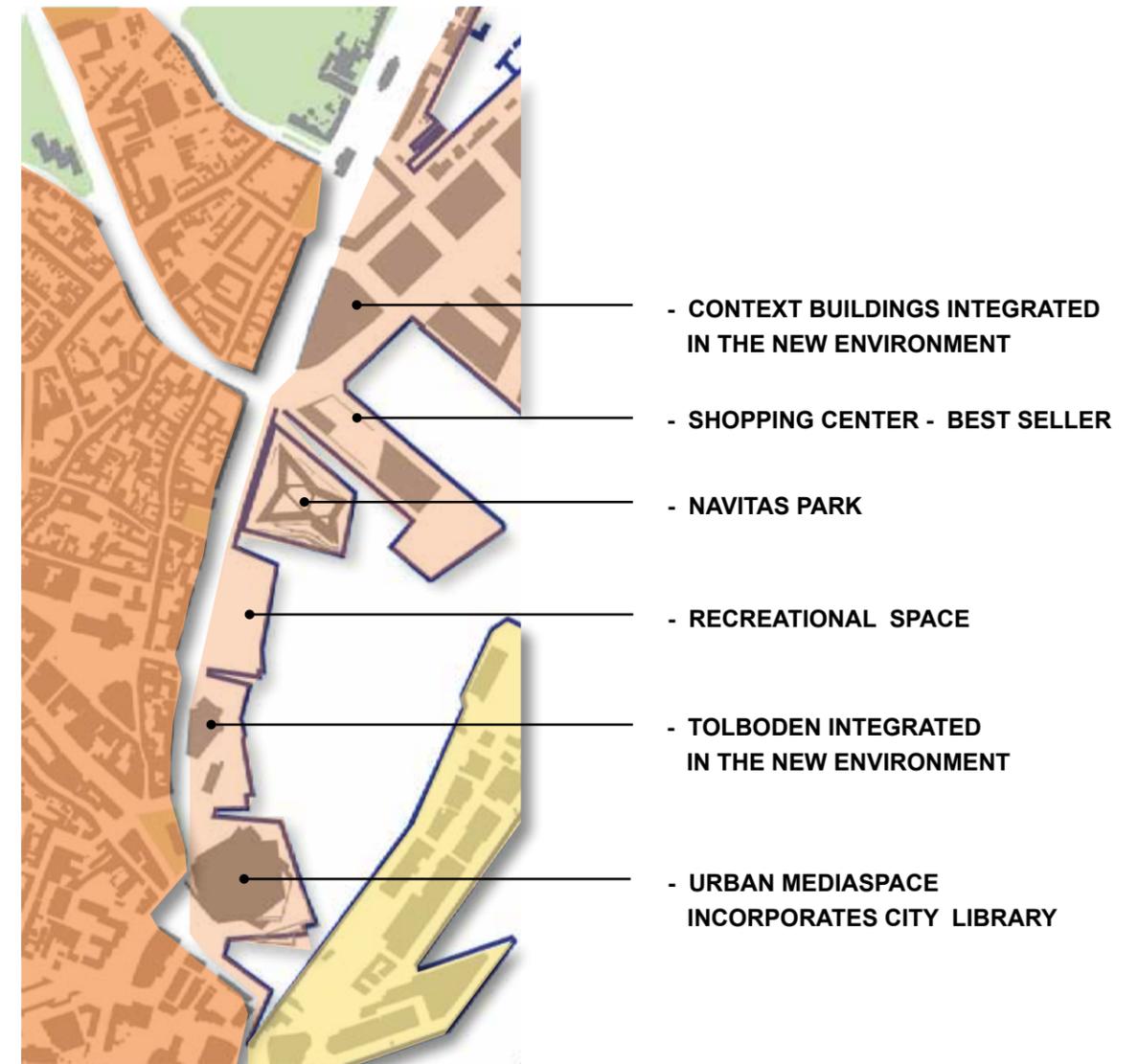
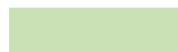


Fig. 4.19 Different building typologies of the existing city and harbor context with the upcoming structure

#### SIMBOLS :

-  - CITY EXISTING CONTEXT
-  - HARBOR EXISTING CONTEXT
-  - WATERFRONT UPCOMING CONTEXT
-  - GREEN CONTEXT



**4.6.2 THE EXISTING INFRASTRUCTURE AND THE UPCOMING TRAFFIC TRANSFORMATION**

**a. The existing road network near and along harbor**

The existing infrastructure in Centrum and at Harbor area is structured mostly of secondary street network that spreads all over the city. As seen in Fig. 4.20 the primary streets in this area, which the thesis project sets the focus on, are parallel with Harbor line and prolong themselves from South to North. It is illustrated as well the nodal points created by the intersect between the primary and secondary streets.

As discussed before in Subchapter 4.2 ( page 30 ) with references to the studies of Kelvin Andrew Lynch upon the subject where the nodes are considered strategic spots in the city, they can be polarizing centers of main importance for the district or area. Most of the time, they act like a junctions between paths or a concentration of different commute modes maybe with different transit speeds, flows or different characteristics of activities.

- SIMBOLS :**
- ..... - MEJLGADE BICYCLE ROUTE
  - - CAR TRAFFIC TOWARDS HARBOR
  - - EXISTING RAIL TRACKS
  - - UPCOMING EXTENSION FOR LIGHTRAIL SYSTEM
  - - HARBOR LINE
  - - NODE WITH SECONDARY STREET
  - - NODE WITH PRIMARY STREET



1 : 20 000

Fig. 4.20 Traffic plan - the existing street network near and along Aarhus Harbor

**EXISTING AND FUTURE STOPS AT ØSTBANE TORVET**

**BESTSELLER FUTURE UNDERGROUND CAR PARKING**

**NAVITAS FUTURE UNDERGROUND CAR PARKING**

**AREA IN FOCUS**

**MEDIASPACE FUTURE UNDERGROUND STOP AND CAR PARKING**

**EXISTING EUROPA PLADS SQUARE**

**b. The existing railway network and the upcoming light rail system**

Fig. 4.21 presents the zoom – in plan of the local traffic plan on the local urban area near site of the project on Waterfront Harbor.

The illustration plan shows the existing traffic plan that is supported by various modes of transport : by car, bus, bicycle and train, leading the commuters from Centrum area towards Harbor. The public transport connections in the area are satisfactory. In this period of time, the public traffic transportation is under attention of local municipality for improvement by implementation of a new 12 km commute track system – light rail lines. The new system will replace the existing rails tracks and will continue with an extension towards West on Nørreport and Nørrebrogade.

It can be seen how the new urban development of the new waterfront district has an major effect on the traffic plan.

Here, the nodes become intensive concentrations of mobility modes, they interact and overlap each other on the new urban environment. Nevertheless, the new nodal points transform Europa Plads Square and form spaces inside of MEDIASPACE building. The underground station and car parking area will act as an arrival centre here.

Municipality plans for URBAN MEDIASPACE is to become a traffic hub :

- with approximately 1000 parking spaces
- 500 bicycle parking spaces
- improved access for cyclists and pedestrians
- taxi stands
- bus stops
- light rail station

The new changes of the infrastructure are not yet known completely, they are going to be finalized during the process of first phase construction estimated to be finished in 2015.

**SIMBOLS :**

- - ENTRANCE TO THE UNDERGROUND CAR PARKING
- P - FUTURE CAR PARKING
- (S) - LIGHT RAIL FUTURE STOPS
- (Bus icon) - EXISTING BUS STOPS
- (Dotted green line) - MEJLGADE BICYCLE ROUTE
- (Yellow arrow) - CAR TRAFFIC TOWARDS HARBOR
- (Blue line) - EXISTING RAIL TRACKS
- (Red dashed line) - UPCOMING EXTENSION FOR LIGHT RAIL SYSTEM
- (Blue line) - HARBOR LINE
- (Yellow circle) - EXISTING NODE WITH SECONDARY STREET
- (Orange circle) - EXISTING NODE WITH PRIMARY STREET
- (Purple circle) - FUTURE CONCENTRATION NODE

1 : 5 000

Fig. 4.21 Zoom - in local traffic plan  
- the existing traffic network with upcoming new traffic changes



Fig. 4.22 LRT municipality overall plan - Aarhus City connected with the towns in its surroundings.

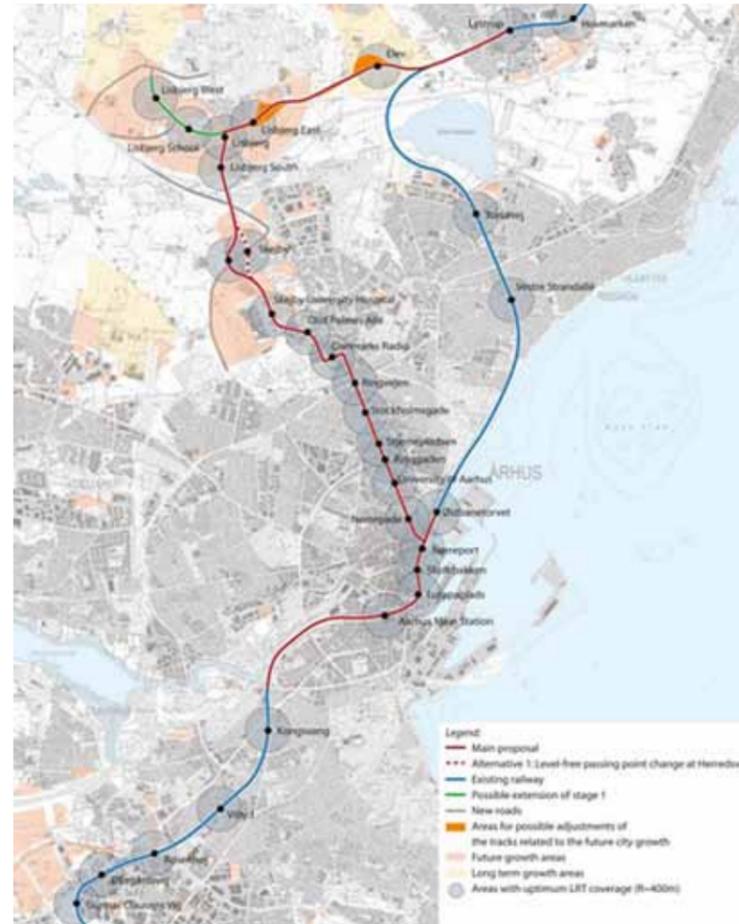


Fig. 4.23 LRT municipality overall plan - future stop stations

part of a green transport policy. Municipality of Aarhus together with municipalities of Randers, Favrskov, Norddjurs, Syddjurs, Silkeborg, Skanderborg and Odder in collaboration with Midttrafik, the public transport company for Middle Jutland Region, plan to establish LRT through a number of stages in order to connect Aarhus city to the towns in its surroundings. In the first stage, the LRT has to be connected to the two existing local railways of Odder and Grenaa and to construct 12 km of new light rails. The new rails route will be settled from Grenaa rail station up along Nørreport and Randersvej, via Aarhus University Hospital in Skejby and through the new urban development area in Lisbjerg. From here the LRT will be reconnected to Grenaa line, south - east of Lystrup. The light rail will also pass along the boulevard to North Harbor terminal.

In 2015, when the first phase of light rail construction is expected to be finished, the commuters can use the modern tram every five minutes from the station via Randersvej to Aarhus Hospital. First stop from the station will be at *Europe Square* in the underground station of URBAN MEDIASPACE building, than on *Skolebakken, Kystvejen, Nørreport, at University, Star Square, Ring Road, Danmarks Radio, Olof Palmes Allé, Aarhus University Hospital*.

### The Super Bicycle Routes

In Aarhus, a number of six high - profile cycling routes projects are planned, fanning out from the city Centrum. ( Fig. 4.24 ) The plans are to encourage increasing numbers of cyclists, that is a win - win situation. The city council agreed to finance the first Super Bicycle Route with 15 million Kr and it will be about 10 km in length as a part of the six cycling super routes.

### The Light Rail Transit project

In Aarhus city, there are new infrastructure and public transport plans in connection with the establishment of the Aarhus Docklands. The intension is to strengthen the collective traffic by constructing

new roads and to extend bus operations. The plans include extensions of existing lines and construct new bus lines, as well to establish a new light railway transit network – LRT, a modern form of tram. There are expectations that on the new route, the first train runs in 2015. The Danish state supports the LRT project with DKK 500 million as



Along the way of the super bicycle route, there will be service stations, drinking fountains, underpasses under the larger main roads to keep the flow moving and a “green wave”, like in Copenhagen where cyclists will hit green lights the whole way, if they maintain a certain speed. On Copenhagen’s “green wave” routes it is 20 km/h. The bike lanes will be double as wide as they are now. The traffic department think that the new super route will be so effective that it will encourage commuters to park their cars.

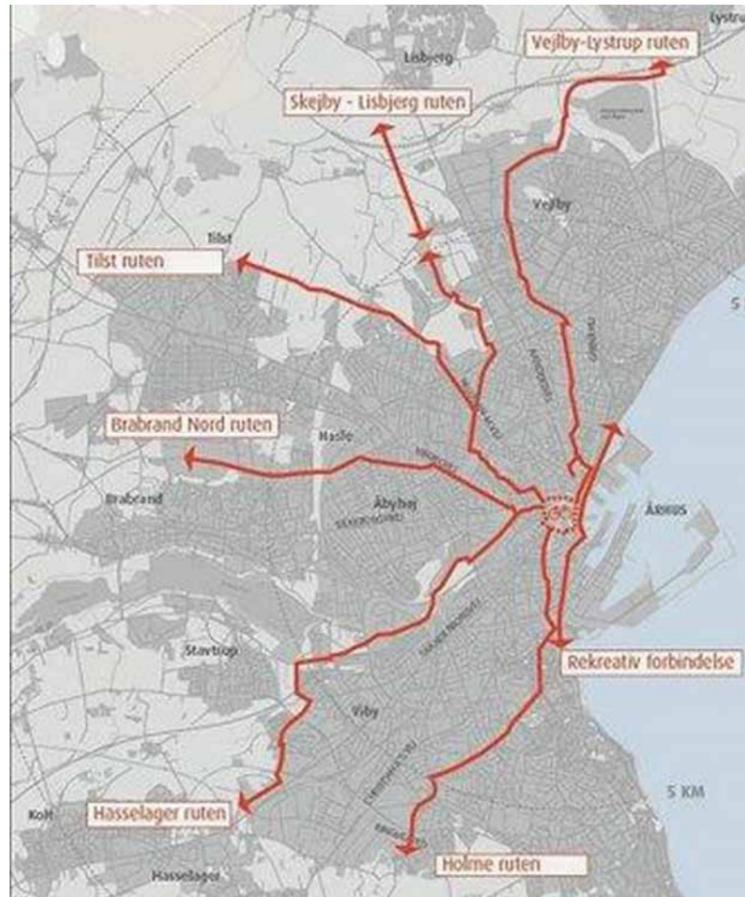


Fig. 4.24 Aarhus municipality plan of the six cycling routes

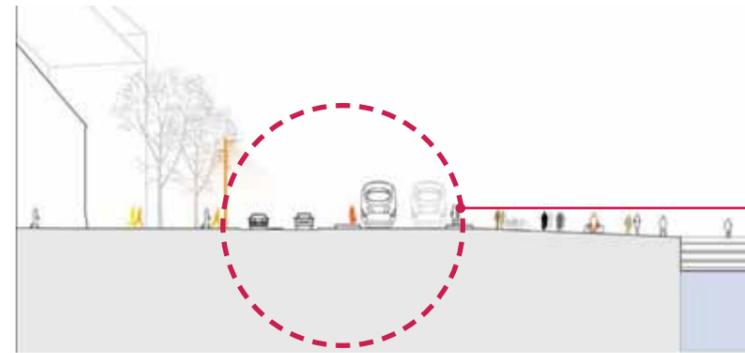


Fig. 4.24 Section on Kystvejen street - municipality proposal

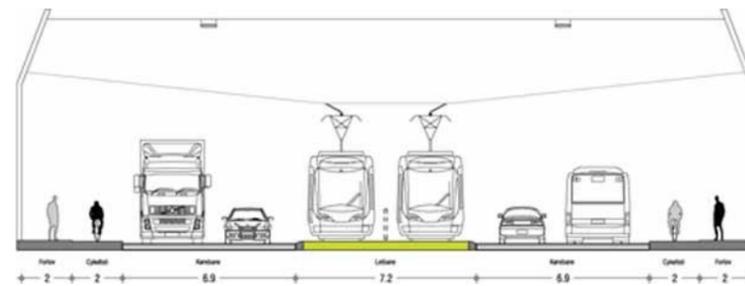
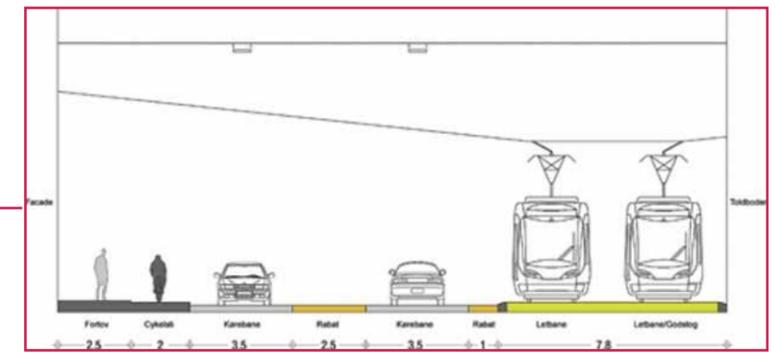


Fig. 4.25 Section on Nørreport street - municipality proposal

### c. Commuting network and flow at the intervention site

The two illustrations from Fig. 4.24 represent the sections of the roads’ construction towards North and the way the traffic is distributed on them. As seen, the LRT has two lines aside two car routes. Fig. 4.25 represents the section of the streets towards West - North, here the LRT’s two lines are in the middle of the road with two car routes on both sides. The municipality proposal is viewed in the Fig. 4.26 where the LRT’ route is settled on a symbolic green band.



### FLOW

After my own observations during my visits on the site, the traffic flow is quite high at rush hours in the morning as well in the afternoon. It is expected, that more users are going to come in the area and as a result the commuters’ flow is going to increase drastically when LRT will be established. The implementation of LRT has the meaning of reducing CO2 in the area and to encourage commuters to use public transportation, therefore it is expected that the car flow to decrease in the area after 2015.

### New car parking areas

From 2011 to 2014, at the harbor new urban area, there will be established new car parking areas. Currently, there are temporary car parking spaces on Pier 1 and on a part of the Skolebakken area. The underground P- site of URBAN MEDIASPACE will be the first car parking with automatic facilities in Aarhus and the biggest in Europe and 1 000 new car parking spaces will be available in 2014. Fig. 4.28 visualizes the upcoming underground station. More 900 public parking spaces are opened for use in NAVITAS and BestSeller with 450 P - places each.

Fig. 4.26 Illustration of Nørrebrogade street - municipality proposal

Fig. 4.27 Illustration of Kystvejen street with LRT station - municipality proposal

Fig. 4.28 Underground station of URBAN MEDIASPACE





#### 4.6.3 THE EXISTING GREEN AND BLUE STRUCTURE AND THEIR POTENTIALS

Municipality intends to establish a green promenade at the new urban development. The plans are to bring more green on the Waterfront Harbor by a green connective strip that stretches approximate 3 500 m from Risskov Forest towards South at Marselisborg Forest. ( Fig. 4.29 )

Municipality will provide as well with a good accessibility and a secure environment for walking and cycling on the New Central Waterfront, as a consequence of all these, the cycling and walking will play a significant role for a more sustainable environment in the upcoming new urban district.

#### POTENTIALS

Aarhus city as a urban context lacks the green element in most areas. The idea is to involve more green into the urban spaces of the city by the use of the existing green structure that can be found at North, as well at South of the city as forests.

The proximity to water, the blue element, is considered a potential by the vast relaxing panoramic views that offers and the recreational activities that can provide.

The New Central Waterfront project will use these potentials that the existing green and blue structures offer and use the municipality plans to establish a green promenade as landscape for recreational purposes for walkers and bicyclers of all ages at the New Central Waterfront.

Besides the recreational context, a local path network will ensure a good accessibility throughout the area.

#### 4.7 NOISE POLLUTION

At the present, after my own observations during my visits on the site the traffic on these primary streets at the intervention site is very intense and high noise polluted. After my own assumption is that in the area the noise pollution will increase due to traffic and urban development which will occur at the site, as well the encouragement for car traffic due to the implementation of the new large capacity of car parking that area will host.

The New Central Waterfront project needs to take in consideration the heavy traffic and traffic noise pollution of these primary streets which lay aside the intervention site at the West. This will have a direct effect upon the decisions in the design phase of the areas near the traffic noise polluted streets.

Fig. 4.29 The existing green - blue structure plan

## 4.8 CLIMATE - SUN AND WIND ANALYSIS

### SUN ANALYSIS

After my own observations and estimations, the intervention site is aside from the dense urban city in a vast open area on the edge of the waterfront meeting the water. Therefore, the location of intervention site has the benefit to provide the public spaces indoors and outdoors with an excellent sun light and heat from all directions. Therefore the design proposal needs to take in consideration and use the most of this sun light benefit.

### WIND ANALYSIS

The wind roses for Aarhus area in *Fig. 4.30* presents the dominate winds that blow from West during the whole year. The intensity of the winds changes from a month to another one as seen in the diagrams.

As known, the intervention site is in the proximity of a vast sea water, therefore winds from the sea can be expected here.

The New Central Waterfront project will take in consideration this wind analysis for the benefit of the project to provide shelter for winds where it is needed.

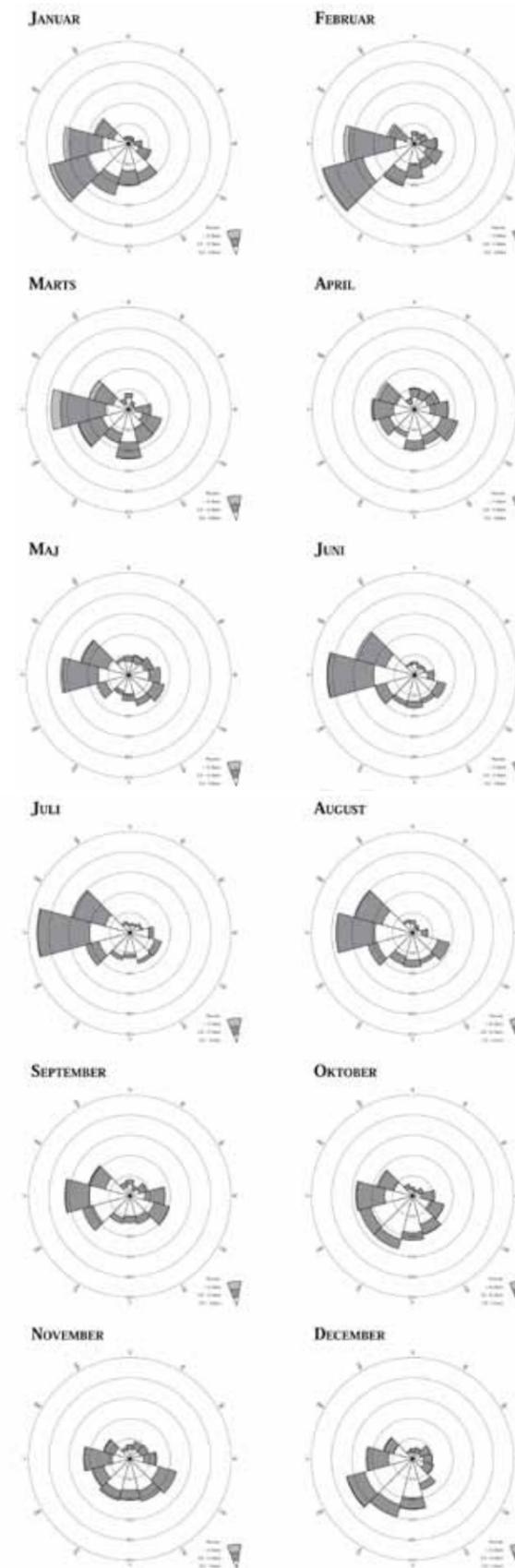


Fig. 4.30 The wind roses for Aarhus area

## 4.9 ANALYSIS REFLECTIONS AND CONCLUSION - PROBLEMS AND POTENTIALS

The reflections upon the whole *Chapter 4 – Empirical Analysis* are that the city of Aarhus is very abundant in physical potentials with a dynamic environment of activities.

The conclusion is that the New Central Waterfront project can strengthen and add more value to the already existing potentials of the area and as well of the upcoming urban environment structure that local municipality proposes.

The actual problem is that the great contrast in comparison of the two city areas will still remain, this time from a different perspective: the historical traditional context in great contrast with the contemporary tectonic context of the new buildings and their functions.

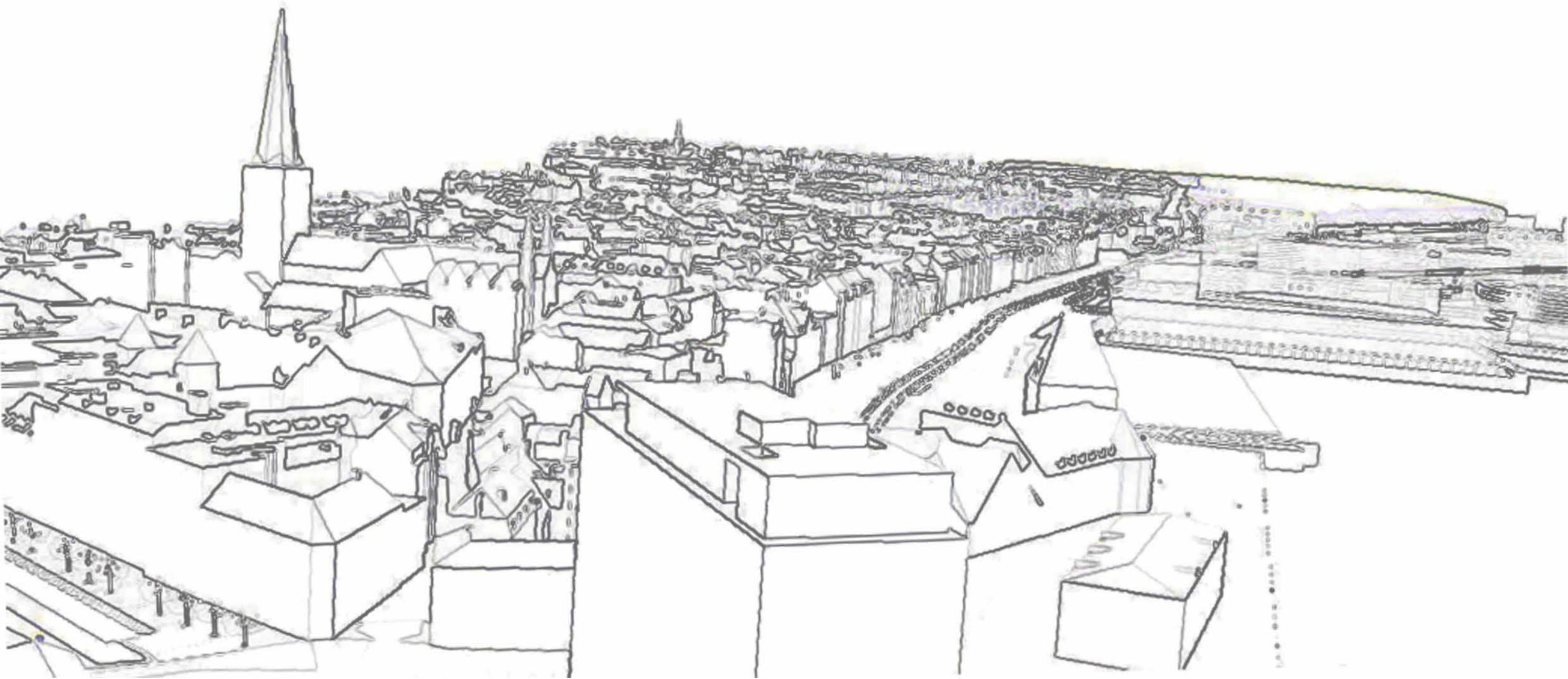
Therefore, the New Central Waterfront project as mentioned before will use the municipality urban development plan as a background for its design proposal. The aim is to create a more integrated environment into the city's already existing context of the upcoming urban cultural - educational development of the new district. Sort of to say "to pull the city to the harbor" thus the new district area to function as a part of the city Centrum.

The New Central Waterfront project will work with two different scales: human scale and high building scale.

The human scale of the new public spaces between the upcoming buildings will have the role of linking institutions and urban spaces on the New Central Waterfront. The aim is to create and integrate these new public space into the existing city landscape with an attractive potential towards users and commuters.

The outdoors public life of the urban spaces need to give shelter against winds and traffic noise pollution and make users to feel protected into their landscapes.

These issues will be discussed and analysis further in the following chapters.



## CHAPTER 5

## 5.1 INTRODUCTION

This *Chapter 5* will present the vision and the overall concept the thesis project approaches the intervention site and its urban surroundings.

The vision for integrating the New Central Waterfront into the city to become and function as a part of the inner city, by “*pulling*” the city context towards present Waterfront Harbor area.

The overall concept proposes to work with two distinctive layers: *the green layer and the cultural - educational layer*.

In this chapter it is presented as well the methods of working with two layers and implementing them into the design phase.

Vision & Concept

## 5.2 OVERALL CONCEPT AND VISION

### OVERALL VISION FOR AARHUS DEVELOPMENT PROCESS

- **The New Central Waterfront new district to become a part of the inner City**

In Fig. 5.1 it is presented the vision plan for the whole Aarhus city Centrum from the point of view of growing and developing in relationship with the new upcoming Central Waterfront district.

The local municipality as well the thesis project have the same aim to achieve of integrating the New Central Waterfront district into the historical Centrum structure. The illustrative map presents the overall vision of the entire new district including Waterfront, southern and northern harbor areas.

The vision idea is to "pull the city context" into the new district. If this is possible by construction urban structure on the new sites, thus these areas of the city will still remain in great contrast by the different building typologies and programs the new district will be structured of.

The problem formulation is:

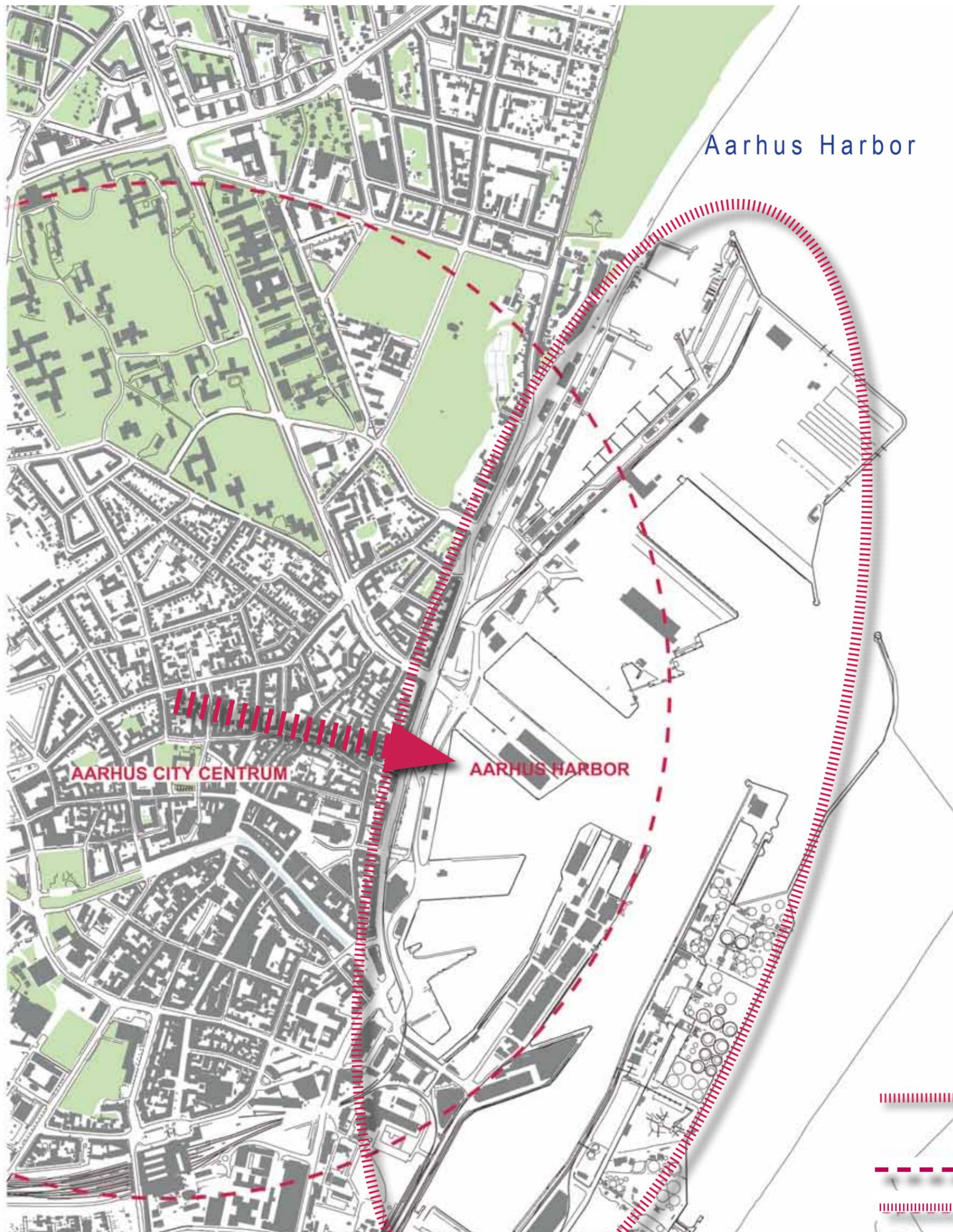
- *How can the design phase create a more smooth interaction between the two distinctive city areas?*

Even if the traffic on the streets on the edge of interference between these two distinctive parts of the city have the role of connect together the areas, concluding it is seen that the high intense traffic creates a barrier and hold them apart as areas.

The problem formulation is:

- *How can the design phase resolve these problems of difficultness of passing the streets, traffic noise and visual disturbance for the new public spaces in the nearby?*

Fig. 5.1 Vision for integrating the New Central Waterfront into the city Centrum  
- illustration map



- AARHUS CENTRUM EXTENSION TOWARDS HARBOR
- AARHUS CITY CENTRUM AREA
- AARHUS HARBOR AREA

## OVERALL CONCEPT

As conclusion of the empirical analysis and mapping reveals the lack of coherence and quality connections of the waterfront harbor site with the rest of the city context. The area is defined in present as a cargo Port being in decline, which by transformation can become a center for knowledge, arts and entertainment as focal points for celebration and inspiration.

As known the site is a small part of the overall northern harbor area proposed for the urban transformation intervention by the local municipality. The site proposed by the thesis project for intervention has the city context at the West and the northern sea waters at the East. Accordingly, an important central location feature characterizes the site between these two great exiting potentials aside. *Therefore, the idea of strengthen and bring quality to the already existing links of the upcoming urban waterfront development with the city urban structure it is seen as the main concept of the New Central Waterfront project.*

The concept works with three layers which overlap each other ( Fig. 5.2 ) :

1. the physical urban layer,
2. the physical green layer and
3. the mental cultural – educational layer

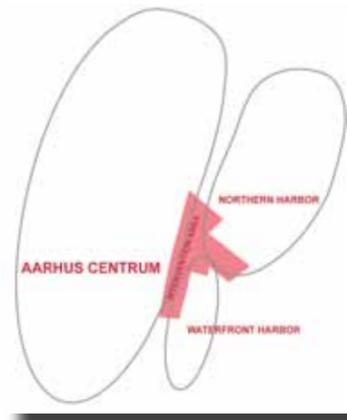
The urban transformation of the harbor site is understood as an operation on the intervention site in order to interconnect and activate the upcoming new built environment into the city structure. The physical connections are already existing, but the thesis project proposes to strengthen the existing ones and create urban spaces that attract the users' perception.

In the same time, the method of strengthen the physical connections between the two areas make use of the concept 's three interrelating layers : *the physical urban layer, the physical green layer and the mental cultural - educational layer.*

*The urban layer* is viewed as a network of paths and buildings new built or existing that makes the urban context of the intervention site and its urban surroundings. The urban network of path spread all over the intervention site has the role to lead users from a place to another, in this situation from a focus point to another focus point and in the same time strengthen the linking between institutions physically.

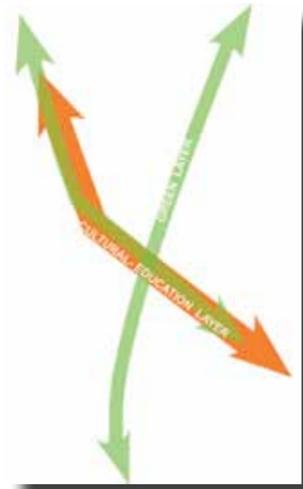
The existing green areas are stretch along the main streets towards the New Central Waterfront area as green layers with the role of linking spaces and bring more green into the area. In this situation, *the green layers* are used as a physical landscape background on the certain paths that links spaces and focus points. It can be by means of trees, bushes, grass patches aside roads, green promenade, parks and recreational green areas.

*The cultural - educational layer* is formed by an existing one found at the Arhus University institutions in the nearby and the upcoming new cultural - educational institutions ( Urban Mediaspace and Navitas Park) of the New Central Waterfront. This layer forms a mental connection between institutions by means of programs an functions that relate to each other, in this way creating a focus point of interests for the researchers and youth from allover the area, encouraging to integrate with each other and function as a whole knowledge hub for all area.



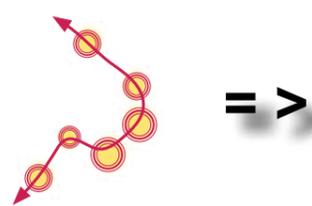
The urban layer of the intervencion site

+



The green and cultural - educational layers

+



The focus points as acupuncture strategy

=>

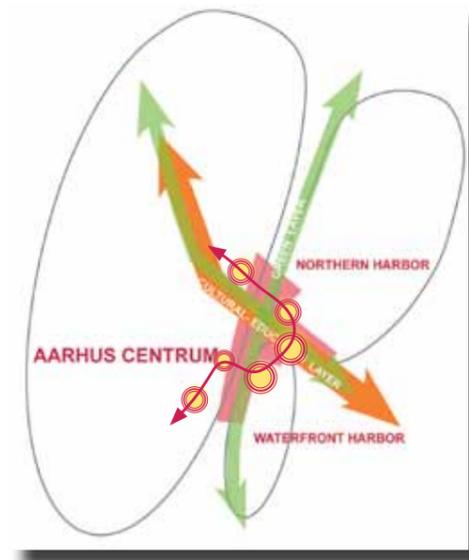


Fig. 5.2 Concept diagram formed by the overlap of different layers : the urban layer overlaped by the green and cultural - educational layers, and being linked together by focus points.

## CHAPTER 6

## 6.1 INTRODUCTION

This chapter is a closer look upon different design approaches and methods as design references of some most relevant projects for being analyzed.

The different projects are references that deal with landscape urbanism, urban transformation of industrial – port areas and creative clusters.

The study of the different cases has the purpose to gain inspiration and a deeper understanding of the potentials of such projects.

The following projects and design references have the focus on these certain subjects: temporality, creativeness, urban spaces, harbor developments, urban flow spaces.

## Case Study Projects



Wooden lanes for run and walk which lead residents through the park. The green color is very rich here.



Wooden boardwalks and grass lawns for sun bathing are very popular among residents and tourists.



Open spaces for sitting, café and other activities surrounded by flowers and plants.

## 1. Hudson River Park - New York - USA

The Hudson River Park stretches from Battery Park City to 59th Street along the western Manhattan shoreline. The park project is an urban transformation of a deteriorating former industrial harbor which provided the opportunity for the creation of a public open space with varied recreational opportunities.

Attractive features within the park are: a granite fountain, a display garden, a lane for run, two comfort stations and a food stand. Various texture make this Park attractive: distinctive granite and



A waterfront promenade in the heart of the new waterfront development in Baltimore, Maryland State.



Green spaces besides water with opportunities for sailing and water activities.



Masterplan of waterfront urban transformation.

## 2. Baltimore - Maryland - USA

# CASE STUDY - POST INDUSTRIAL HARBOR - URBAN TRANSFORMED WATERFRONT



Skateboard ramps bring a lot of fun and entertainment for youngsters.



Wooden platforms in the proximity of the water are great leisure areas.



A long promenade which provides opportunities for cycling, role-skating, jogging and walking.

blue – stone pavements, wooden boardwalks and grass offer a multitude of recreational options. Varied recreational opportunities are to be found on three piers. On Pier 46 there is a synthetic lawn playing field for sports, seats under sunshade structures which give opportunity for picnic. On Pier 45, there are set temporary white tensile fabric sunshade structures and an interactive water feature offer relief from the summer sun. Pier 51 has water features, play structures and a shade canopy.

The Park is popular with walkers and sun bathers and those who love open doors recreational opportunities.

## CONCLUSION

The project gets a great inspiration from all these recreational elements and will try to implement them where is the best place for them in the new urban spaces and, of course, adapted to the project design environment.



Attractive urban spaces between the residential buildings and plenty of recreational activities.



Open - air arena for temporary activities with entertainment purposes.

The project transformed a former industrial site into a mixed-use of development and expansive open space. The harbor is an industrial - zoned brown field dotted with old factories and power plants and cut off from the rest of the city by a highway, a park, a bridge, and some CSX rail tracks. The new development is established to transform a largely abandoned part of Baltimore's Middle Branch, at South of downtown. The project is a 52 - acre site that will include 4.8 million square feet of mixed-use development, with 2 000 residential units, two hotels, 300 000 square feet of retail, and a possible soccer arena.

The Westport site already has a light rail stop at its center; a dense multimodal network, including wide sidewalks and a link to the city's bike trail. The development team proposes two thousand linear feet of wetlands along the shoreline of Baltimore. The masterplan is based on a high-density. Low rise townhouses around a main boulevard will be incorporated into the site. The development will create new access to the waterfront, which for 120 years has been privately owned and blocked by warehouses and factories.

## CONCLUSION

Baltimore is a well-known project with great inspiration for waterfronts developments. The thesis projects will use elements that can be proposed for Aarhus Waterfront district.



Great seasonal temporal water fountain found in downtown of Cluj, Romania.



Interactive water fountains bring a lot of joy and fun.



Pavement interactive water fountain with colorful lights create great effect on travelers.

## 3. Interactive Water Fountain - Cluj Napoca - Romania



Open-air arena for all kind of temporal activities is a great inspiration for New Central Waterfront project.



The green spaces surrounding the public space is in contrast with the grey pavement.



The small lights coming from the pavement structure has a great effect on the skating ring.

## 4. Grand Rapids - Michigan - USA



Glass structure covers the historic ruins in the middle downtown of Cluj city.



The glass structure offers sitting opportunity as well.



A pleasure transport is offered by the electrical ramp.

## 5. Antiques Ruins - Downtown Cluj-Napoca - Romanis

## 6. Bilka Horsens - electrical ramp



Light structure temporal shelter which leads users through spaces and protect them in the same time.



Great effect gives the green reflections from the grass and trees upon the shining structure.



The organic shape of the pavilion structure fits perfectly in the surroundings of the park.

## 7. Serpentine Gallery Pavilion - London - UK

## CHAPTER 7

## 7.1 INTRODUCTION

The following chapter presents the design proposal for urban transformation of the post – industrial port harbor site.

The design is the staging process, where the different chosen theories, design methods and strategies are tested in order to fulfill the aim of the project as an overall design proposal for the vision plan of the intervention area.

The first stage of the design will have the focus on the acupuncture interventions both permanent and temporary.

The next stages are going to experience different design ideas through sketching models as a design catalogue in order to put together a vision plan for a more holistic approach of the area in transformation. The focus is to create new open public spaces full of qualities and have the role to link spaces and institutions on the intervention area.

**Design**

## 7.2 DESIGN METHODS AND THEORIES

The main method of work for the New Central Waterfront is landscape urbanism.

The thesis project makes references to James Corner regarding design approaches for the former cargo harbor spaces and to enhance the urban experience of the new public spaces, as well to propose more integrated buildings into the new urban landscape.

Another design approach is the urban acupuncture based on pinpointed small interventions of certain urban spaces in order to link distant points, which can be accomplished quickly to release energy and create a positive focus point effect. Urban acupuncture need not be limited to physical interventions; strategies to reduce noise pollution or to encourage nightlife and temporal outdoors activities. The urban acupuncture is the best method for quick interventions, it achieves sensitive effects in shorter time periods with respect to planning and operates within structured contexts.

The approach of design for the site under urban transformation is the multilayered application of design parameters. The different layers of the design parameters are not only describing different solutions for the problems in the spaces, but also they bring new qualities, creating the special character and the identity of the place.

## 7.3 FOUR ELEMENTS STRATEGY

Fig. 7.2 illustrates the four elements strategy of the project approach.

The strategy is thus outlined as an overall approach and has a flexible character in order to be applicable in new context of the post – industrial transformation.

### 1. Use of the site background qualities

The post – industrial port character, natural recourses, waterfront harbor landscape and the historical heritage of near urban structure are the existing qualities features of the project's background which are going to be used in order to build up a new identity upon and create a new narration of the space.

### 2. Acupuncture – focus points

The acupuncture intervention involves in choosing some strategic spots of specific qualities with great importance, or very problematic small areas where the intervention brings a great improvement and transform these spots in focus points that generate energy.

### 3. Physical linking

Linking the urban spaces and institutions in the new district by a physical system of lanes for walking and biking in the frame of short distances is an attractive invitation for commuters and residents to explore the new spaces.

### 4. Conquest of the new urban spaces

The sites consist of narratives and perceptions. Human perception is very important in defining the spaces. Programming the new public spaces accordingly with the human needs by means of fix and temporary use, temporary events or involvement of the citizens into the design and the physical creation of the place.

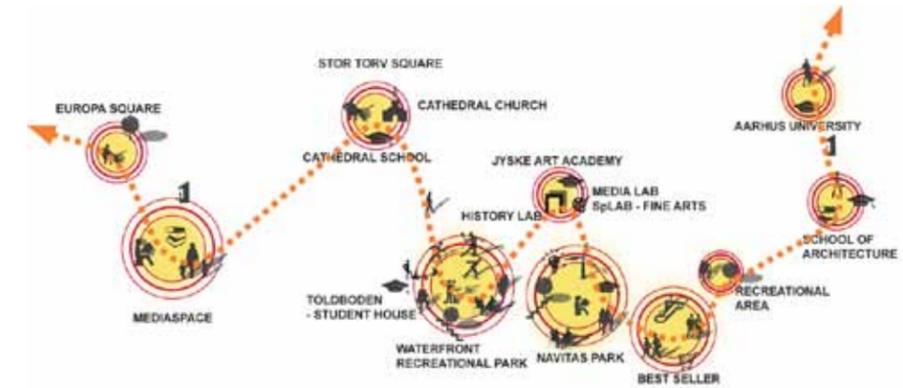


Fig. 7.1 Acupuncture strategy diagram

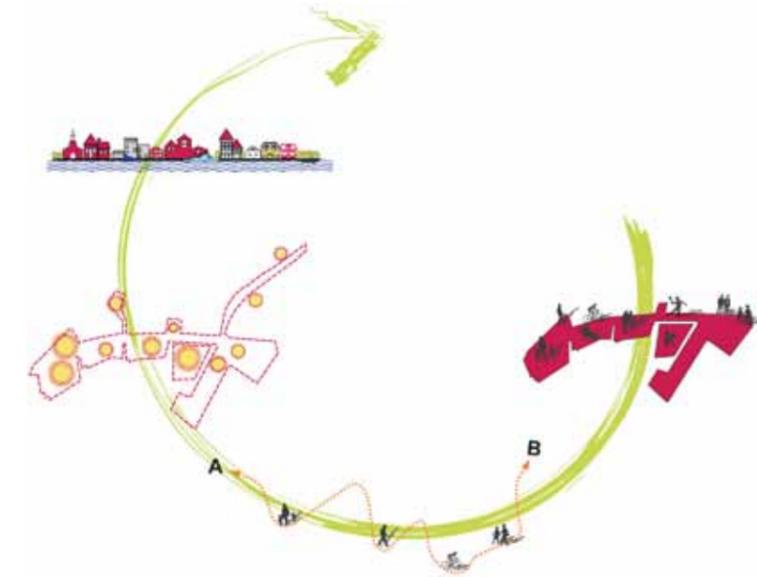


Fig. 7.2 The four elements strategy

## 7.4 DESIGN PARAMETERS

### 1. City life and urban spaces

- programs and functions along the intervention site of New Central Waterfront will support and attract activities that bring life into the new area and will contribute to its development.
- the proposed activities in the area should have both temporary and permanent character and make sure that they have a flexible structure adapted to all categories of users and their needs and demands.

### 2. Users

The area is a central and peripheral in the same time, but due to the plan of transformation into a vivid cultural - knowledge cluster, the area have to take the leading place becoming a central space of whole city. The area is used by all kind of residents and users of all ages, but the most category is made of intellectual youth who study in the area at Aarhus University in the existing buildings and as well will study in the new upcoming ones.

#### STRATEGY

The New Central Waterfront project will encourage all categories of users from young children to use its playgrounds to the elders who can relax on its recreational green public spaces.

### 3. Infrastructure and walkable distances

#### EXISTING

The intervention site are characterized by an existing network of secondary streets connected with the rest of the city by some existing primary streets. The existing primary streets will be improved further by implementation of light rail system and bring a higher speed flow of pedestrians into the intervention site.

#### STRATEGY

- the New Central Waterfront project will strengthen the existing and the upcoming infrastructure in the area, as well will implement a new network of paths for walkers and bicyclers with the role of linking spaces and institutions.
- the strategy of the project is to facilitate users with access to shopping, learning, relaxation, meeting places, spots and other useful needs in the distance of 5 to 10 minutes of walk, so the walk through the new public spaces to be pleasant and interesting.
- the main feature of the new urban spaces is the accessibility over short and walkable time.

### 4. Squares and connections

- Havnegade, Skolebakken, Kystvejen, Nørreport and the new boulevard Bernhardt Jensens are the primary streets for the project and other secondary streets are attached to them to create physical and visual connections with the area.
- the visual connections from the Mejlegade and Bispetorvet towards the principal streets help the users with an easier navigation and understanding of the correlations between spaces in the area.
- the principal street Havnegade starts from Europlads Square at South where Urban Mediaspace will be built.
- Store Torv Square besides the Cathedral church has visual and physical connections with the area under development by the secondary streets Bispetorvet and Skolegyde.
- the new light rail system will be a public flow space for the area and will be in connections with the primary streets and Europa Plads Square.

#### STRATEGY

The intervention area under development on the waterfront should be linked to the primary streets with high transparency and the public urban spaces between BestSeller, Navitas Park and Urban Mediaspace to act as transition zones.

### 5. Focus Points

The focus points are considered in the project as places of great interests, for meeting, sitting, playing, experience, exercise, for knowledge exchange, places for transit change modes or change of activities. These focus points are expected to become centers of attention in the area and generate attention and energy around them.

### 6. Green and blue structures

- the existing green found at the University park and other green spaces in the near surroundings are the basis of the green structure of the intervention site.
- the existing areas will provide the new urban spaces with green by stretching it along the streets and forming recreational qualities as green leisure areas and parks on the intervention area at the New Central Waterfront.
- the green structure will act as well as linking element between spaces and institutions on the New Central Waterfront.
- the water - blue structure will create new canals on the intervention area and will have the role of linking with downtown at the new opening of Åboulevarden at South from Europa Plads Square.
- new landscapes will be formed on the New Central Waterfront.

---

## 7. Port - industrial background landscape

### EXISTING

The area is strongly influenced by the port - industrial function background such as the visible cranes, machinery, rail tracks, cargo – ships, fishing boats, tall factory chimneys which can be found and seen on the harbor site. The harbor areas from South – East will still function as industrial fields.

### STRATEGY

Even if the new district under the new urban transformation will transform the area radically and none of the former harbor buildings are going to be reused or rebuilt, the new urban structure and new landscapes of the New Central Waterfront district will have and use the background of the port – industrial character combined with the new identity of the space.

---

## 8. Integrate the city into new spaces

### EXISTING

As mentioned before the city structure is divided on this harbor area in two distinctive areas: the central historical structure which ends on the edge of interference with the port -industrial harbor.

### STRATEGY

The physical integration of the existing city structure into the new urban spaces of the post industrial harbor is the project strategy for the area development. The physical conquest of the city over the harbor is the first visible step towards integration of the city and its citizens.

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## 9. Pavements and facades

- the port - industrial character of concrete materials and other elements will be removed from the area.
  - a new layer with new pavement and façade materials will be use on the upcoming waterfront district in contrast with the original rough concrete surfaces of the former port site.
  - new materials like wood and new pavement tails of different color shades will create an unique look.
  - the new materials and patterns use will find inspiration in nature with different organic shapes.
- 

## 10. Lighting

- the new lighting installation in the area should be at the sustainable and high innovation standard
  - the area should be set up for the lighting research experience of Navitas research program
  - lighting should give a new experience and identity of the area.
- 

## 11. Functions and programs for indoors and outdoors public spaces

- mix function and use of residential apartments, retail, businesses, conferences halls, educational institutions, city library, spaces for sport and recreational activities.
- indoors and outdoors activities with 24 hours opening
- implemented measurement for security
- various programs with temporary or fix seasonable activities such as: skating , skateboarding platforms, music stages, outdoors sport fields, playgrounds for children, outdoors history lab, experimental labs.

### Temporality

- flexible and adaptable programs and installations that ensure temporal activities and attract people in the new area.
  - testing research programs to give the opportunity to adjust the profile of as it develops.
- 

## 12. Buildings

- high density is requested with eight and higher stories.
- preferably all buildings have green areas and public spaces with public access at the ground levels.
- mix functions and programs is recommended for all buildings in the new district.
- contemporary architecture for all new buildings in the area with diverse expressions.
- Best Seller building with glazing facades for a transparent look of the buildings.

## Users

The workers, residents, researchers and students will use the area daily from the morning to late in the night. The area becoming a tourist attractor, it is expecting a high flow of tourists and visitors in the area as well. The new shopping center Best Seller will attract a high flow of shoppers and workers as well. Concluding, in the area, there will be a lot of people in transit and the roads, paths and parking will have main priority.

Visitors using the public urban spaces due to the upcoming activities and leisure spaces. It is expected high concentrations of users on weekends, evenings and summer.

### STRATEGY

The project proposes to strengthen the daily use of the promenade and the park, giving the possibility that all users can get close to nature and water. The transformation from harbor activities into knowledge - creative cluster for the creative users who can use their creativeness to transform spaces.

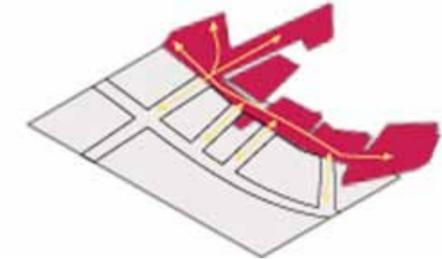
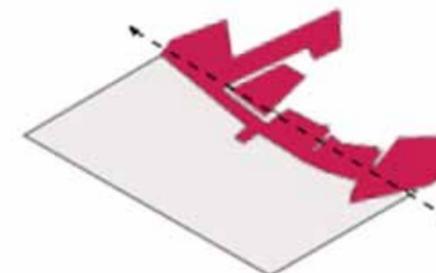
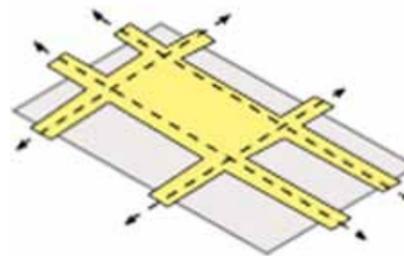
The project will bring together in mix functions the cultural, the educational, the private and the public, sport activities, shopping, non-profit organizations, clubs, businesses, outdoors spaces for creative users.



## Connection structures

These are the connective structures found at the site.

- the classic structure surrounding the buildings in straight lines.
- the promenade line which links urban spaces and institutions in a creative way.
- the walking narrow lanes that forms a net through the area.

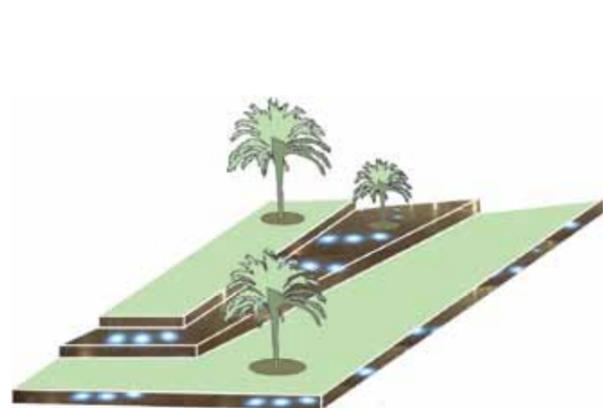


## 24 Hours activities through whole four seasons

Various programs with activities suitable for all users of all ages and with public service 24 hours is an attractive proposal for the new central area. The temporal activities should be suitable the four seasons to bring fun and gathering between users.



### Green layer as different green elements for the design



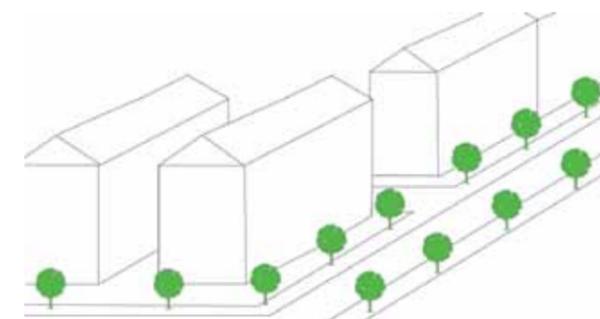
Green layer invades the stairs of Navitas and of Waterfront Park's



Green layer as a patch of grass at outdoors History Lab



Green layer as hills and leisure areas at Waterfront Park



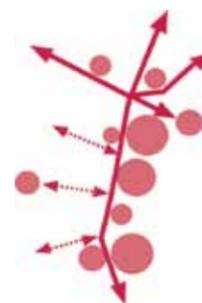
Green layer as rows of trees on the sidewalks

### Network and focus points

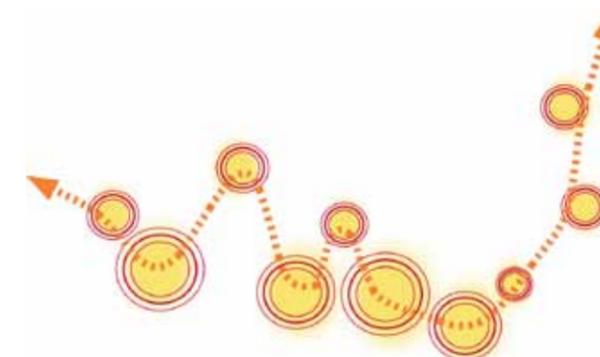
Clear division and hierarchy of streets and public spaces acting as focus points.

#### STRATEGY

- the project will strengthen the existing links and will create new ones in connection with the new public urban spaces.
- the project will connect the upcoming promenade with the continuous public urban spatial sequence and the fluid border between these public spaces and their link.



Activities on the public spaces acting as focus points for the intervention area.



The public urban spaces and their activities act like focus points, they appear like pearls on a string. Such as, from A to B point walking stretch.

### Protection against traffic noise

Glassy structures fixed with screens for open - air activities and gatherings. As seen in picture it is a scene during a night event .



## 7.6 INTERVENTION SITE INTRODUCTION

Nørreport street plays a great role here as a connector street between the existing educational institutions found at Aarhus University and the Architectural School with its open for public exhibition halls, and the upcoming institutions with cultural - educational character of the modern urbanity environment of The New Central Waterfront. The crossing intersection between Nørreport, Kystvejen and the new Bernhardt Jensens Boulevard is an important street junction of three distinctive areas. Is a crossroads with great importance for the focus area of intervention site in the design process of the thesis project, playing the connector function and linking spaces and institutions.

Waterfront as today is planned for urban transformation into an attractive recreational area. The plans from the municipality do not include specific design decisions upon the area between Pier 2 and Pier 1. Their intention is to transform the area into a recreational square for temporal activities.

In the thesis project, it is used the opportunity that this vast empty square of approximate 175 m long can be used as a space, where the three layer which the thesis projects work with :

1. the urban layer
2. the cultural - education layer
3. and the green layer

The three layers will meet here and create an inspirational public space environment that will link further the upcoming public spaces and institutions on The New Central Waterfront.

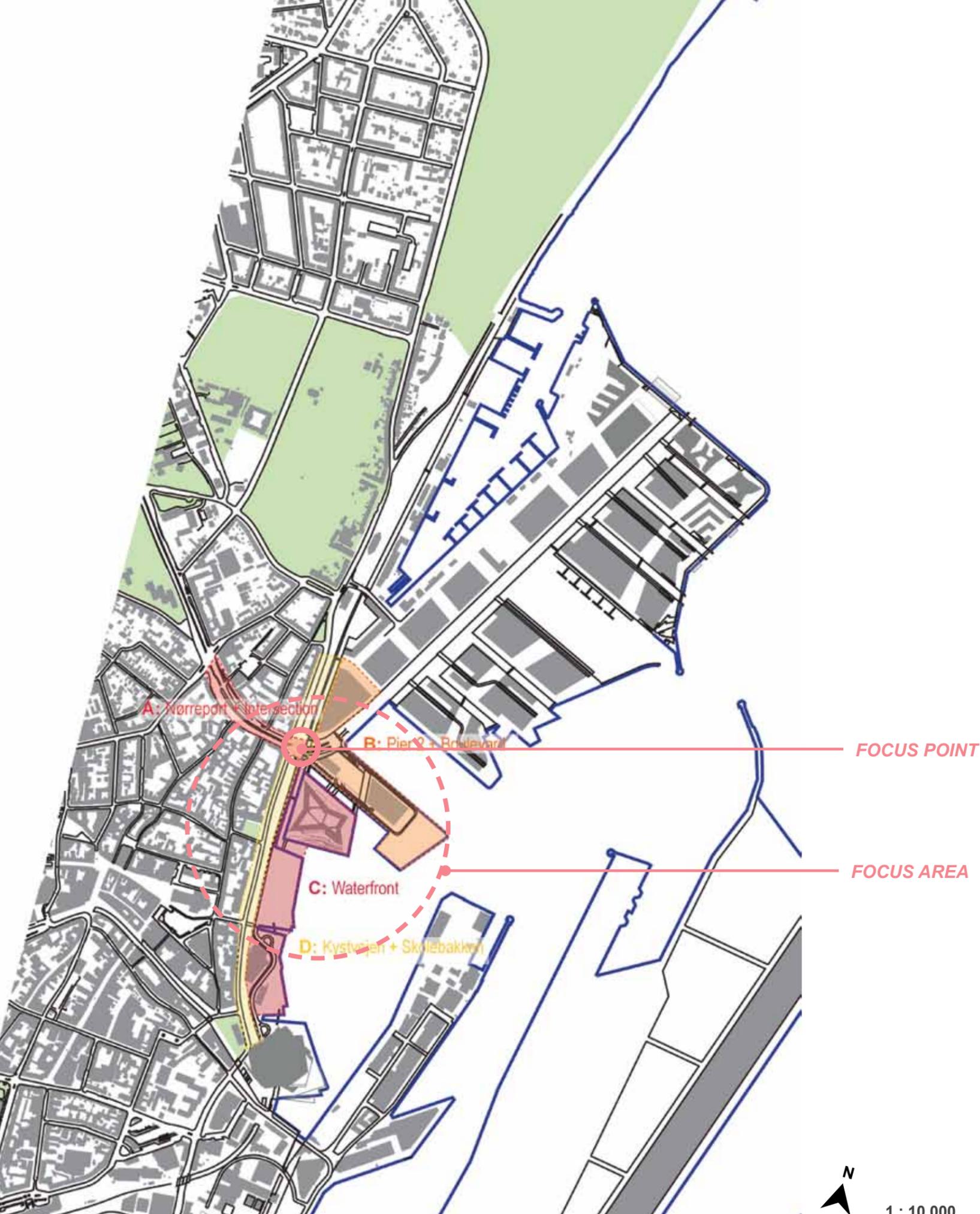


Fig. 7.3 Aarhus Waterfront Map of upcoming urban development intervention - focus area and focus point of the intervention site of thesis project

## THE SCHOOL OF ARCHITECTURE

- FOCUSPOINT
- ACUPUNCTURE INTERVENTION

As an acupuncture strategy, the thesis project proposes the refurbishment of the School of Architecture's common courtyard and to transform it into an attractive outdoors recreational area for meeting, café –restaurant and other gathering activities with the purpose of creating a more attractive and welcoming atmosphere.



## SHOPPING CENTRE - BESTSELLER

- FOCUSPOINT
- ACUPUNCTURE INTERVENTION

As part of the acupuncture strategy, the shopping center Bestseller comes as a connective structure and a place of upcoming great interest in the shopping life of the new waterfront district. Bestseller building will function here as a focus point for thousands of users as visitors and shoppers. Concluding, Bestseller will be a human source for the whole area bringing various users of all backgrounds and ages. Bestseller will act like a pivot of great importance on the New Central Waterfront area.



## WATERFRONT RECREATIONAL PARK

- FOCUSPOINT
- ACUPUNCTURE INTERVENTION

As a new upcoming focus area, the Waterfront Recreational Park is planned to play a role of rest and play. The urban public spaces of the park invites people to interact with each other creatively. Elements from Navitas Science Park such as outdoors energy lab can be found on the park space. The thesis project involves in modifying the local municipality's original plan for this open space square. The municipality intentions for this part are to create a space for temporary events and use such as sports fields and different cultural temporary events.

The thesis project has seen the opportunity in this vast open space of an area with great potentials for the upcoming urban development. The area being proposed for radical transformation from a vast concrete platform into a mini park where green and wooden are the dominant elements. The thesis projects takes the change of transforming this space into a transit space for the users who are invited to walk or bike this recreational public space.

The park is also an open space towards the water not being obscure by any tall building it plays the role of visual connector of the city with the further harbor horizon line.

Glassy protection structure against traffic noise are fixed at the edge line of the streets.



## THE OPEN - AIR HISTORY LAB

- FOCUSPOINT
- ACUPUNCTURE INTERVENTION

The open - air history lab is the area where the remnant of an antique church Skt Olufs and its cemetery with three tomb stones are preserved. The thesis project proposes the transformation of the small green area into a creative space becoming a one of the focus points of the project.

First, the need of protection of the antique remains has been the main concern. A glass structure which is built around the remains provides protection for it, as well can provide a great view for those who want to study more about the history of the place and Aarhus city. The glass structure is provided with sits for resting and eventually watching the screens which stand there for the opportunity of exploring further historical information regarding history of Denmark and the place.

The space is also proposed for temporal small cultural events of all kind.

## STORE TORV SQUARE

- FOCUSPOINT
- ACUPUNCTURE INTERVENTION

Store Torv Square is a focus point itself already for the inner city. But, unfortunately the lack of creative activities had left the area empty without any attractive interests of daily base. Car parking took over some marginal spaces blocking the walking flow around the Cathedral Church. The thesis project sees the great potential into the front square of the main church which is the central focus for hundred of years. The visual and physical connections with the harbor through the secondary streets have great importance as well the walking distance between the central inner city and the new waterfront district.

By transforming the main square of the city into a vivid space for temporal cultural events and other daily important activities like street trade by temporal kiosks, this will give the opportunity of a better connection with the new waterfront area and it will give the chance for the users to explore further the new spaces.

## PUBLIC RECREATIONAL GREEN AREA

- FOCUSPOINT
- ACUPUNCTURE INTERVENTION

The small residential area, the thesis project proposes at the base of the northern part of the new urban district is adorned with green elements of the nature such as grass, trees, small hills, walking lanes. The space invites for rest and play.

The busy traffic flow of the streets surrounding the area are noise polluting the small recreational space. Few solutions for noise protection are implemented such as : plating trees and fix glassy protection structures against traffic noise which stop and send back the noise waves.

This public spaces provide the direct connection with one of the electrical " sky ramp " which brings up and down the users from Bestseller. As mentioned before it is a quite space which invites busy shoppers to sit and rest on attractive benches or grass.





1 : 2 000

Fig . 7.4 The New Central Waterfront Development Plan - programs

## SHOPPING LIFE

Bestseller shops  
Cafes  
Restaurants  
Education  
Clubs  
Experience

## MUSIC LIFE

Temporal musical events  
Gathering spaces  
Outdoors arena  
Seasonal cultural events

## STUDING LIFE

Educational Institution  
Learning spaces  
Research labs  
Innovation exhibitions  
Conferences  
Creative spaces  
Sitting common areas  
Cafes and restaurants

## SPORT LIFE

Outdoors fields for football, handball, tennis, basketball  
Skateboard ramps field  
Temporal sport events  
Seasonal temporal skating ring  
Outdoors gymnastics  
Running and biking

## PARK LIFE

Grass fields  
Hills with flowers & trees  
Recreational spaces  
Walking lanes  
Temporal seasonal water fountains  
Playgrounds  
Outdoors gathering spaces

## MEDIA LIFE

Multimedia technologies  
City Library  
Learning spaces  
Play spaces  
Cafes  
Offices  
Internet common rooms

## TRANSIT LIFE

Different modes of public transportation:  
LRT, buses, trains  
Biking route  
Promenade  
Boulevard, streets, "sky ramps"  
Bridges

## LEISURE LIFE

Indoors and outdoors leisure spaces - seasonal adapted  
Outdoors cafes & restaurants  
Sunbathing spaces  
Indoors and outdoors gathering spaces



## ACTIVITIES LIFE

Various activities for students  
Gathering spaces  
Media spaces  
School public library  
Activities clubs

## NIGHT LIFE

Outdoors and indoors night - clubs activities  
Seasonal adapted activities  
Cityscope structures for temporal use

## PLAY LIFE

Playgrounds for children  
Interactive games  
Outdoors recreational activities  
Interactive water fountains

## RECREATION LIFE

Various outdoors and indoors recreational activities for adults and children  
Fix and temporally use recreational activities

## PROMENADE LIFE

Recreational spaces for recreational activities such as:  
walking, jogging, biking, fishing, sailing, swimming, sunbathing.

## CULTURAL LIFE

Cultural events and conferences  
Exchange experience meetings  
Exhibitions

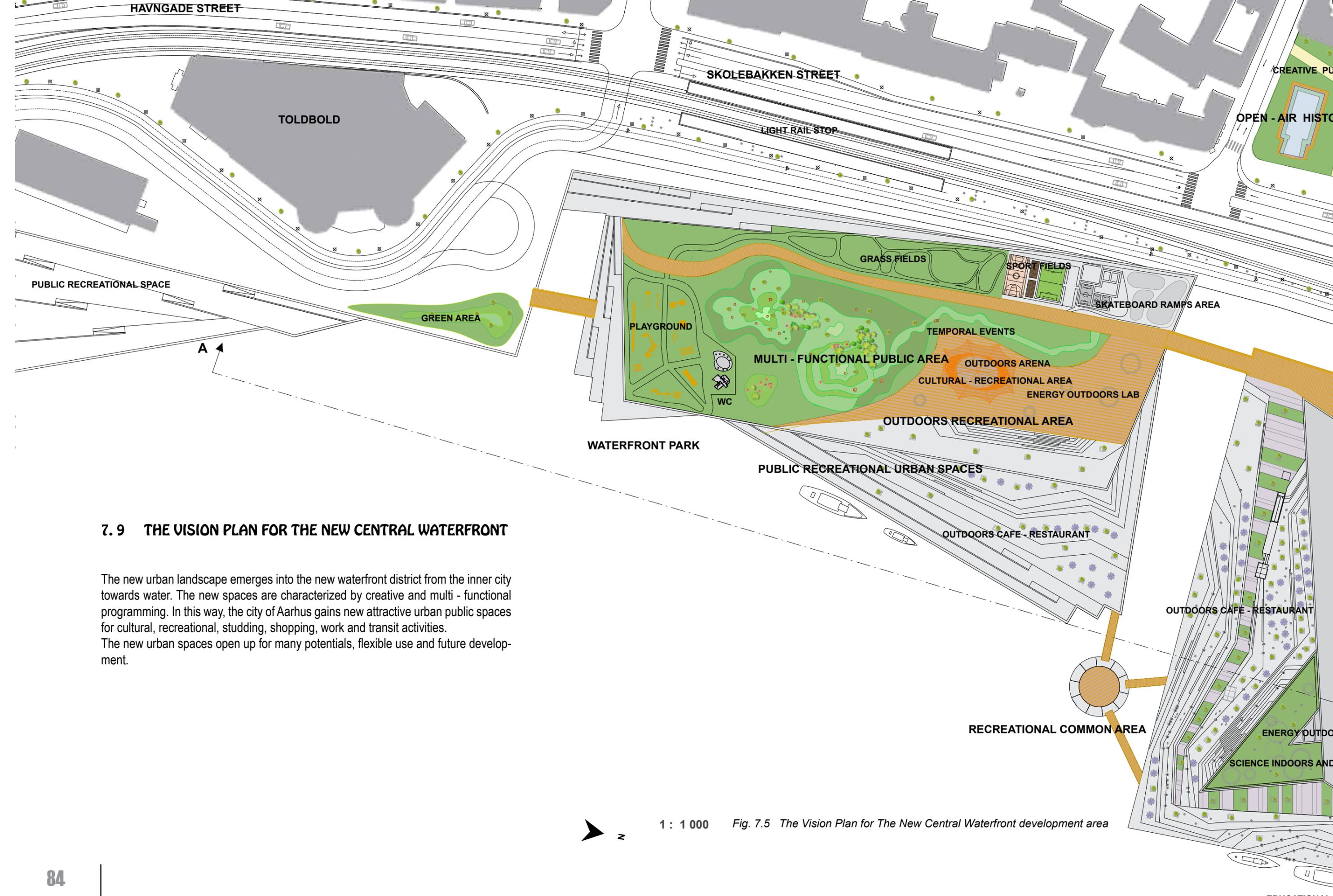
## NETWORKING HUB LIFE

Multimedia spaces  
Internet network club  
Studying together  
Hang-out common spaces  
Night Clubs  
Activities Clubs  
Exhibitions

## SCIENCE LIFE

Fix and temporal labs for science research  
Exchange experience meetings  
Spaces for access to data

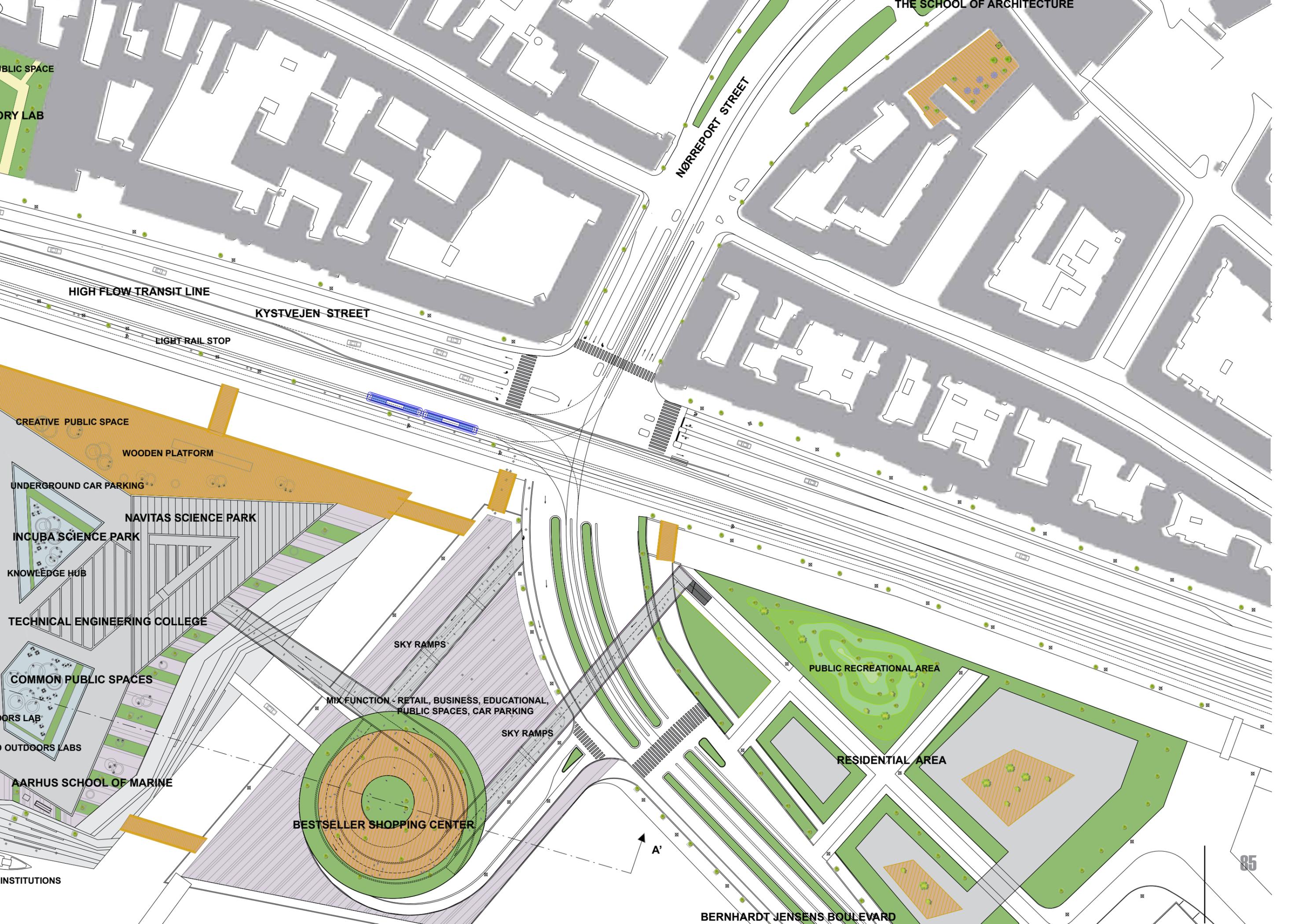




**7.9 THE VISION PLAN FOR THE NEW CENTRAL WATERFRONT**

The new urban landscape emerges into the new waterfront district from the inner city towards water. The new spaces are characterized by creative and multi - functional programming. In this way, the city of Aarhus gains new attractive urban public spaces for cultural, recreational, studding, shopping, work and transit activities. The new urban spaces open up for many potentials, flexible use and future development.

1 : 1 000 Fig. 7.5 The Vision Plan for The New Central Waterfront development area



PUBLIC SPACE  
DRY LAB

NØRREPORT STREET

HIGH FLOW TRANSIT LINE

KYSTVEJEN STREET

LIGHT RAIL STOP

CREATIVE PUBLIC SPACE

WOODEN PLATFORM

UNDERGROUND CAR PARKING

NAVITAS SCIENCE PARK

INCUBA SCIENCE PARK

KNOWLEDGE HUB

TECHNICAL ENGINEERING COLLEGE

COMMON PUBLIC SPACES

LABS

OUTDOORS LABS

AARHUS SCHOOL OF MARINE

INSTITUTIONS

SKY RAMPS

MIX FUNCTION - RETAIL, BUSINESS, EDUCATIONAL,  
PUBLIC SPACES, CAR PARKING

SKY RAMPS

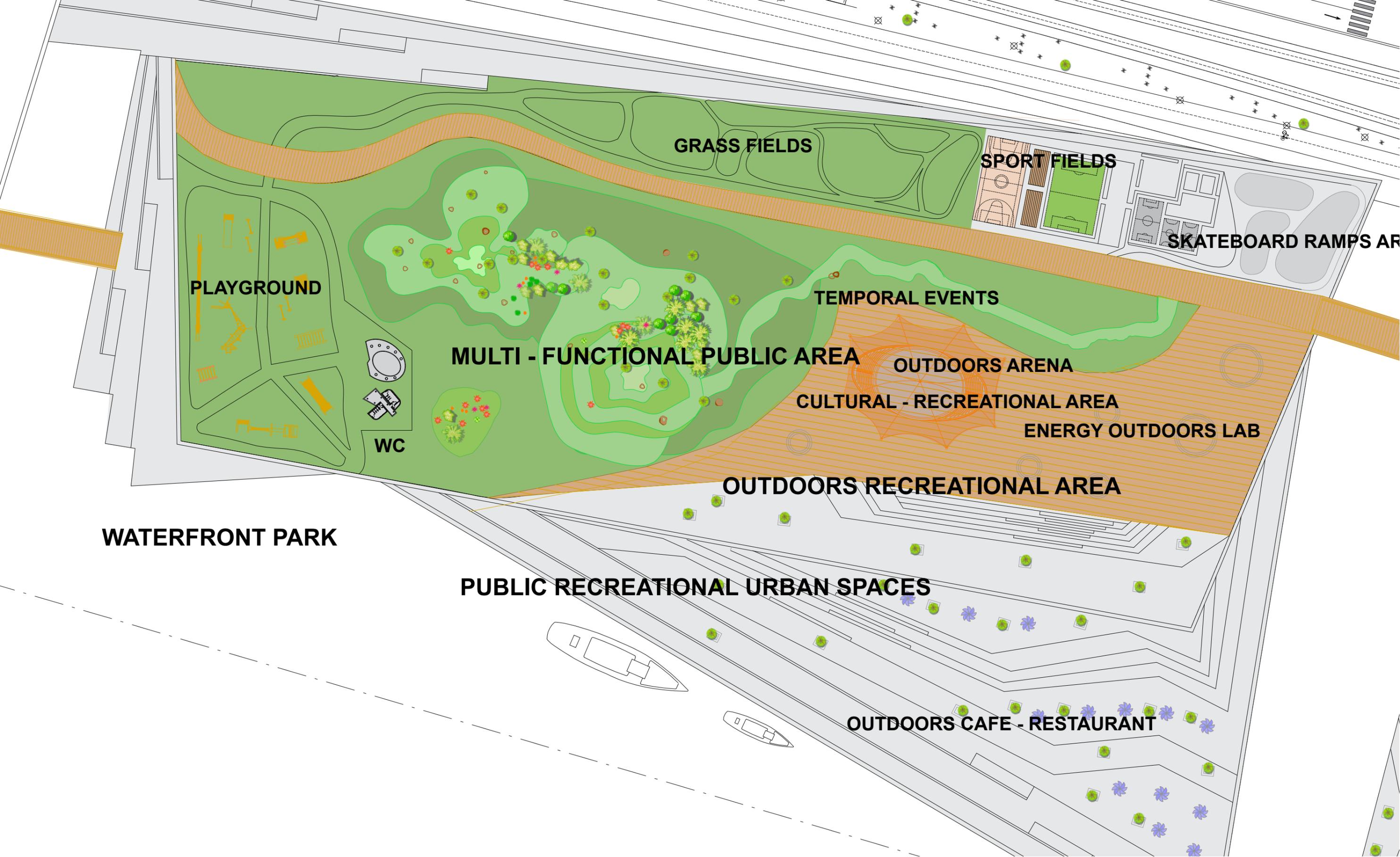
BESTSELLER SHOPPING CENTER

A'

PUBLIC RECREATIONAL AREA

RESIDENTIAL AREA

BERNHARDT JENSENS BOULEVARD





## 7.11 THE NEW CENTRAL WATERFRONT'S SECTION A - A'

The section is split into the New Central Waterfront urban development, facing West and the inner city of Aarhus.

The building environment of the new area is formed by the historical buildings of Aarhus heritage in contrast with the contemporary buildings structures of Urban Mediaspace, Navitas Science Park and Bestseller.

The thesis project takes the municipality development plan proposal and add more value to it and propose a new vision for design of the new waterfront district.

The Section reveals the project's proposed structure of Bestseller building for a better integrated building into the waterfront environment. The tall round glassy building springs up like a chimney at the base of Pier 2 and allows the landscape of the horizontal harbor line to be seen through its large window facades. The building provides with three electrical suspended ramps named here "sky ramps" for shoppers and visitors to enjoy and experience to a higher level the area with attractive views over the harbor and over the city.

The "sky ramps" are introduced in the building structure for a better and a quicker access over the busy new boulevard Bernhardt Jensens. The electrical band will bring the users to a higher level and form like "a round-about shape", a third ramp will connect Bestseller building with Navitas's building. The "sky ramps" have glassy cover for weather protection.

Bestseller building is proposed as a mix multi-functional building formed by three parts: the bottom and middle part are destined for shops and commercial offices; and the upper part is proposed for diverse educational spaces and clubs.

The front large space can be used not just for transit, but for commercial purposes and outdoors commercial events.



1 : 1 000

Fig . 7.7 Section A - A' facing West

## CONSIDERATIONS AND REFLECTIONS

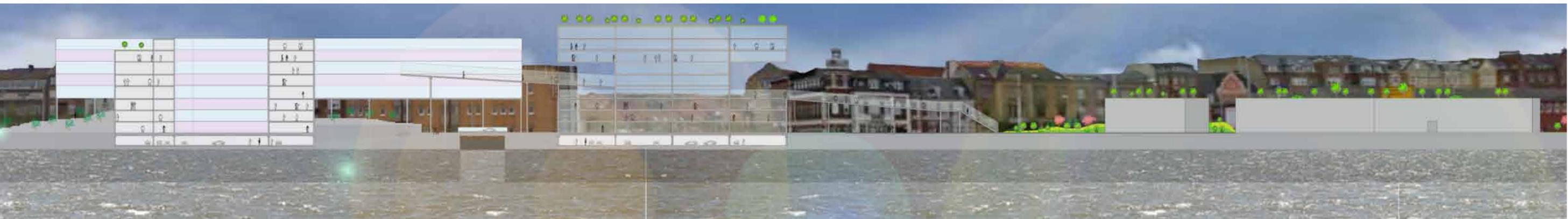
The thesis project does not involve into the Urban Mediaspace building structure and its surrounding public spaces. The project refers to Urban Mediaspace in the way it is proposed by the local municipality and uses it in relation with The New Central Waterfront's design proposal for the Vision Plan of the new urban development.

The thesis project also do not involve into Navitas Science Park inner environment and building structure. The project uses the local municipality design as it is proposed with the exceptions of the outdoors urban public spaces where the thesis project involves in some beneficial modifications.

As it is noticed in Vision Plan and Section, the thesis project merges the urban spaces of Navitas Science Park with the new recreational landscape of the Waterfront Park; in this way creating a visible physical link between the new urban public spaces as well a mental connection between the institutions created by their functions and impression upon the users.

Merging design, materials and elements of Navitas Science Park into the Waterfront Recreational Park and other nearby public spaces creates the effect of continuity and connectivity between these new public spaces.

Due to limited time, the thesis project does not involve in presentation of the interior structure and how it functions. The focus is just upon the connection between these two buildings and the nearby area and how it functions and integrates itself into the waterfront new surroundings.



## Chapter 8

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## **Illustration list**

- [ Fig. 2.1 Project structure diagram ] : self made map illustration, page 10  
 [ Fig. 3.1 & 3.2 Site pictures ] : self taken, page 14  
 [ Fig. 3.3 Map of intervention site ] : self made map illustration, page 15
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## Appendix

