

# ENSURE – European Sustainable Urbanisation through port city Regeneration

Targeted Analysis

**Annex 4.1 – Case Study Report:  
Aalborg (DK)**

## **Annex**

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**Annex 4.1 – Case Study Report – Aalborg (DK)**

**ENSURE – European Sustainable  
Urbanisation through port city  
Regeneration**

**Version 29/04/2020**

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The final version of the report will be published as soon as approved.

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## Abbreviations

A/S	Aktieselskab – Shareholding company
DAC	Dansk Andels Cement – Danish Cooperative Cement factory
DK	Denmark
DKK	Danish Kroner
EC	European Commission
EEC	European Economic Community
ENSURE	European Sustainable Urbanisation through port city Regeneration
ESPON	European Territorial Observatory Network
ESPON EGTC	ESPON European Grouping of Territorial Cooperation
TOC	Theory of Change

# 1 Introduction

This case study report for the port city of Aalborg (DK) has been prepared as a key input to the ESPON project ENSURE – European Sustainable Urbanisation through port city Regeneration.

The project consists of three tasks:

- A task 1, based on a desk-based survey and descriptive analysis of small and medium-sized port cities in Europe to identify the trends, outcomes, impacts, risks and challenges of port city regeneration.
- A task 2, based on a case study comprising four European small and medium-sized port cities of Aalborg (DK), Brest (FR), Catania (TI), and Cork (IE), with the aim of collection and analysing the experience of the port regenerations in their territories
- A task 3, based on the outcome of task 1 and 2 to develop a framework of good practice for implementing sustainable port city regeneration in small and medium-sized European port cities

This case study is thus one of four case study reports under task 2.

The purpose is to describe and analyse the process of relocation of port activities and the regeneration of the port areas in the city of Aalborg (DK) and to identify main drivers and challenges of this process on the background of the specific geographical, urban, social and economic context in order to contribute to an overall assessment of what best practise is for cities like Aalborg (DK).

In connection with the overall project, a research framework has been developed to indicate the main questions to be raised during the project activities. The main questions of the research framework are shown in the following Table 1.1. The more detailed research questions are shown in Annex 1.



Table 1.1. Research Framework

Questions
<b>Impact</b>
What are the impacts of port services relocation on small/medium size port cities?
What are the impacts of brownfield regeneration on small/medium size port cities?
What are the main challenges of small/medium port city regeneration?
<b>Policy and governance</b>
How can policy, support small/medium port city regeneration and mitigate challenges?
How can regulation support small/medium port city regeneration and mitigate challenges?
How can governance support small/medium port city regeneration and mitigate challenges?
What are the risks of port city regeneration?
<b>Finance</b>
What funding models support city regeneration? What works, and why?
What is the role of public finance in port city regeneration? How is value for money achieved?
<b>Implementation</b>
How can city visions for city dockland district regeneration be implemented? What works, and why?
<b>Citizens Involvement</b>
How can citizen be involved in the regeneration process? What works, and why?
<b>Catalysts</b>
What type of catalyst developments are employed to transform and provide a focus for citizens and economic activity? What works, and why?
What other important synergies should be considered?
<b>Knowledge Transfert and Lessons Learned</b>
What solutions exist to inspire/implement port city regeneration?

Source: Authors, ENSURE (2019)

On the basis of the four case studies, a synopsis will be prepared with the aim of providing an overview of similarities and differences in the experiences of the four case cities and hence to get a basis from which to develop inputs from the case studies to a framework of good practise.

The case study has been prepared on the basis of interviews with relevant stakeholders and on existing planning and other documents and literature. The process of data collection and reporting has currently been coordinated with the other case studies in order to ensure a common approach and reporting structure. The City of Aalborg (DK) has currently been

involved in the process and has read and commented a preliminary draft before submitting the final draft case study report.

## 2 History and context

### 2.1 Scope of the case study

Aalborg is the capital city of the northern region of Denmark, North Jutland (North Denmark Region), and the fourth largest city in Denmark with a population of 139,000 in 2019, which is 65% of the population in the municipality of Aalborg.

Aalborg Municipality is one of eleven municipalities within the North Denmark Region. With a population of 215,300 as of today, it contains 36% of the population and 14 % of the area of the region. At the same time, it represents 3,7% of the national population and 2.7% of the total area in Denmark.

Aalborg harbourfront, which is the focus for this case study, includes the harbourfronts of both Aalborg and Nørresundby (in the following Nørresundby). Aalborg and Nørresundby together constitute the total urban area of Aalborg along the Limfjord.

Aalborg is located south of the Limfjord, while Nørresundby is north of it. Since a municipal reform in 1970, Nørresundby has been part of Aalborg Municipality, and the two cities have now been connected with a railway bridge, a road bridge, and an E45 highway tunnel for more than fifty years. Furthermore, in 2017 a bridge for cyclists and pedestrians linked to the railway bridge was opened.

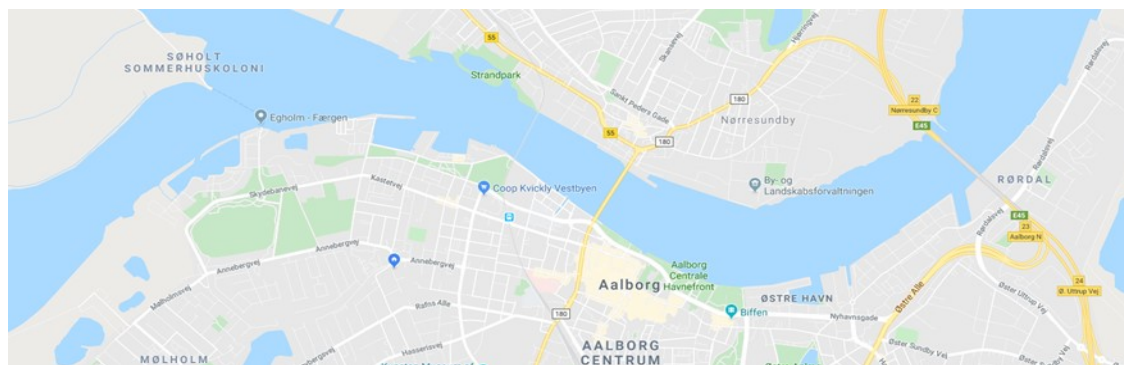
The waterfront within the urban area of Aalborg/Nørresundby ranges from the former DAC cement factory in the western Nørresundby and the newly renovated beach park west of Aalborg to the tunnel in east. Further to the east in Rørdal is the Oil Harbour and the port of the Portland cement factory south of the fjord. The major part of the harbourfront within the urban areas have been owned and operated by the “Port of Aalborg A/S” that had activities on both sides of the Limfjord since the municipal reform of 1970.

Figure 2.1: Municipality of Aalborg in North Denmark Region



Source: Danish Municipalities (Danske kommuner) 2019.

Figure 2.2: Harbourfronts of Aalborg (south) and Nørresundby (north).



Source: Google, 2019.

The Port of Aalborg established in the 1970s a new port at the southern shore of the Limfjord about 10 km to the east of the central port and hence closer to the Sea. Like the port of the Portland Cement Factory and the Oil Harbour, the new Aalborg East Port is outside the scope of the case study. The case study addresses the development since 1990 until today, a period of almost 30 years, where the waterfronts of Aalborg and Nørresundby have undergone great changes.

## 2.2 The history of Aalborg and its port

Aalborg started as a viking settlement along the Limfjord more than 1.000 years ago, and the location with an easy access to the sea made it an attractive and hence growing city during the middle ages, where Aalborg controlled the trade in all the Limfjord area. It is no coincidence that the city was built here. At this narrow part of the fjord, it was easy to establish a crossing point, and there was here an ideal place for small ships and boats. Aalborg developed around this place, where the present city centre is, and Nørresundby grew up at the point of call for the boats on the opposite bank.

Fishery of herring, the export of cattle to Germany, and of grain to Norway were important factors for the wealth of the city during the 16th and 17th centuries, where Aalborg was the largest Danish city outside Copenhagen.

In the late seventeenth century, the port consisted of a number of private wharfs, but the permission to trade with foreign countries from 1682, which was given to Aalborg as the only port along the Limfjord, boosted the growth of the city. <sup>1</sup>

Aalborg is an important transport junction between Scandinavia and Germany with good infrastructural connections today both by motorways, airport, railway, and the harbour. The port of Aalborg has always been important for the development of Aalborg and its twin city Nørresundby, north of the fjord. The types of port activities have been changing over time, and have been dominated by fish, agriculture, shipbuilding, minerals, and energy.

<sup>1</sup> Port of Aalborg, 2019: <https://aalborghavn.dk/history.aspx>

Throughout most of the twentieth century, Aalborg has been primarily known as a manufacturing city, dominated by the shipyard, the production of cement and other heavy industry. At the same time, Aalborg still served as an agro-industrial centre with slaughterhouses and unloading of agricultural inputs in the harbour.

After the oil crises in the 1970s and 80s, a negative trend in industrial activities started in particular in the port area. Many industrial companies closed down or moved away from the harbour, which was partly due to a trend during this period where freight transport moved from ships to trucks, and industrial companies became less dependent of a location close to a port.

The shipyard, which was the largest workplace in the city closed down in 1988, and the unemployment increased drastically. However, due to employment opportunities in spin offs from the yard, other local enterprises, programmes to assist workers in finding new jobs in their fields of expertise, as well as support from the EU regional and social funds, the unemployment impact became of a rather short-term nature. Since the mid-1990s high-tech electronic industries with a rather consolidated production of information technology appliances and associated services has increasingly been a dominant business activity in Aalborg.

As mentioned, the ports of Aalborg and Nørresundby merged in 1970 as a consequence of the municipal reform. The new "Port of Aalborg A/S", which was owned by the municipality, established shortly after the new Aalborg East Port about 10 km to the East of the central port and hence closer to the Sea. The new port was intended for hosting the Greenland trade, and was named "The Greenland Port" for many years. With the location outside the city, it had the advantages of deeper water and plenty of space in the port and in the hinterland for further development. It has seen a considerable growth over the fifty years, and it is a large, busy harbour today.

In addition to the central harbour and the East Port, there is also a harbour of the power plant (Nordjyllandsværket) north-east of Aalborg, the main part of which was bought by the "Port of Aalborg A/S" in 2016, and the Oil Harbour as well as the private port of 'Aalborg Portland cement in Rørdal, that are both located east of the tunnel on the southern shore. The total annual cargo of the ports of Aalborg was about 5.6 million tons in 2014.

During the last half of the 20<sup>th</sup> century, some of the dominant industries in Aalborg were the ship building industry and the production of cement, where Aalborg was a dominant global player. Other main industrial activities were the energy production with power generation, heating and household gas production along the harbourfront. A major part of the industrial activities closed down or moved to other locations around the change of century due to the general business development, the industrial decline, and industrial restructurings. This is the background for the political focus on the need for a regeneration of the waterfront. Only very few activities at the central port have been relocated to the new port, and the growing amount of activities here is mainly the result of its attraction of new activities and their growth.

There is still one major industrial company left in along the urban harbourfront, Hedegaard Agro, which is located east of the Limfjord Bridge in Nørresundby. Hedegaard Agro is an important feed and seeds company with production and trade activities with ships calling at the last piece of the old Port of Aalborg. Hedegaard Agro has still a rental period of up to 20 years before it probably will have to leave the port.

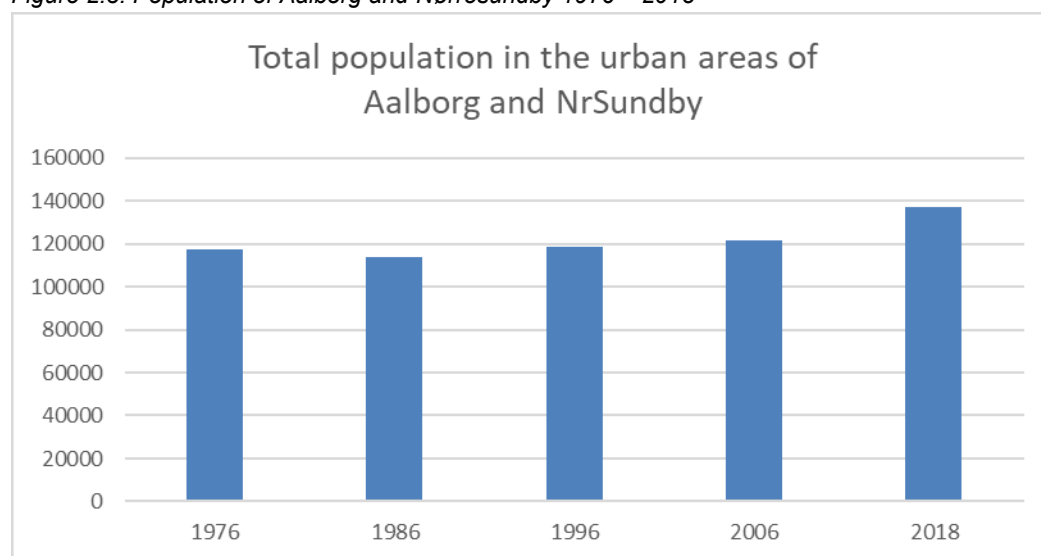
The development at the central port in both Aalborg and Nørresundby made room for alternative structures and functions along the waterfront. The ideas for a new waterfront developed in this context, both as a result of processes at the administrative and political levels, but also in a cooperation with and among groups of citizens. Some saw the opportunities for new employment opportunities by attracting new types of industrial activities, and some saw the attractive areas along the waterfront as an opportunity for defining cultural projects that might be attractive for potential investors. Others saw opportunities for building attractive housing and establishing new urban spaces with recreational amenities along the fjord. This was increasingly discussed after the close-down of the shipyard, and the first steps were taken during the 1990s. Since then, the regeneration of the harbourfront has been planned and a large part of the plans have been implemented.

### 2.3 Demography and socio-economic context

Aalborg is the the fourth largest city in Denmark with a population of 115,900 in 2019. Together with its twin city, Nørresundby, north of the Limfjord, the total urban population is 139,000, which is almost two thirds of the total population of the municipality of 215,300 in 2019. Aalborg is the regional capital city of the North Denmark Region with a population of 590,000 in 2019.

The population of Aalborg and Nørresundby was not much higher in 1996 than it was 20 years earlier in 1976, about 117,000. The growth rate has been positive since then, and as it is seen from Figure 2.3, growth rates have increased after 2006.

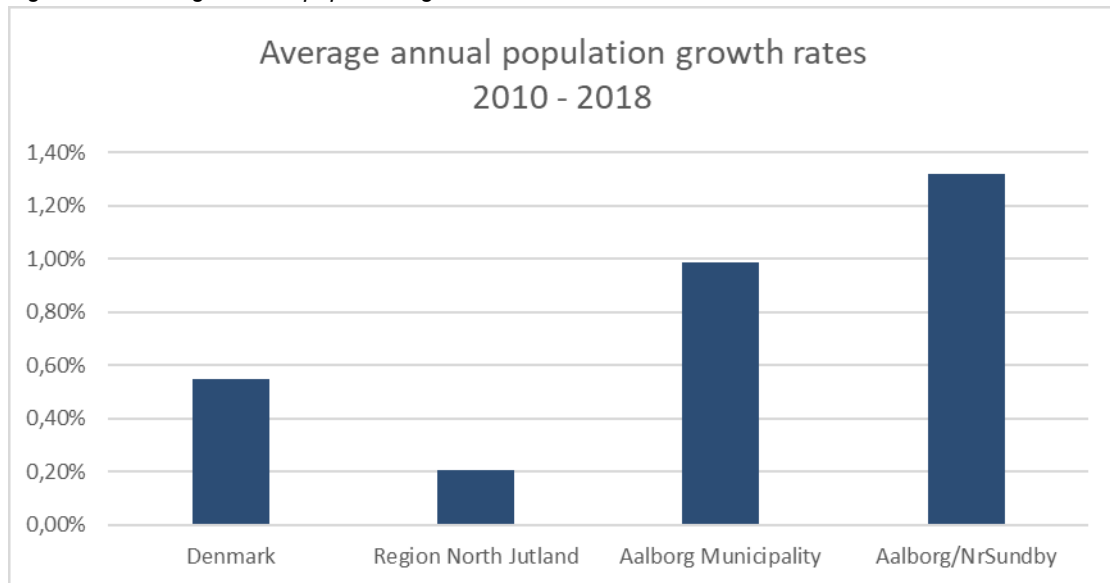
Figure 2.3: Population of Aalborg and Nørresundby 1976 – 2018



Source: Statistics of Denmark, "Statistikbanken", 2019.

A comparison of the average annual population growth rates between 2010 and 2018 of the urban area of Aalborg and Nørresundby with the growth rates of the municipality, the region and the country as a whole shows that the population growth rate of the urban areas of Aalborg and Nørresundby was the highest. It has exceeded the growth rate of the municipality, which again was higher than that of the North Denmark Region and the national average growth.

Figure 2.4: Average annual population growth rates 2010 - 2018



Source: Statistics of Denmark, "Statistikbanken", 2019.

The large difference between the average annual growth rates of Aalborg/Nørresundby and the North Denmark Region (including Aalborg Municipality) may be explained by an influx of citizens from other parts of the region to Aalborg. A similar comparison with municipal figures cannot be done for the period before 2008 because of the municipal reform in 2007, where neighbouring municipalities merged with Aalborg Municipality.

The total employed labour force in Aalborg Municipality was 103,063 in 2017, of which 79 % had a job in the Municipality and 21 % commuted to other municipalities. 5.6 % of the labour force was unemployed in 2017, which has fallen to less than 5 % in 2019.

The number of jobs in Aalborg was 110,913 in 2017, distributed by economic sector as shown in table 2.1. 73 % of these were occupied by citizens of Aalborg, and 27% by commuters from other municipalities. This means that Aalborg had a surplus of jobs of almost 8,000 jobs in the sense that the number of commuters from other municipalities exceeded the number of commuters from Aalborg to other municipalities by this amount.

As mentioned, Aalborg is the commercial, administrative and geographical centre of the region. This is reflected in the distribution of jobs offered in the municipality as compared with the entire

region. It is seen from the table, that there is a overrepresentation of jobs in the sectors of trade and transport, information and communication, finance and insurance, business services, and public administration.

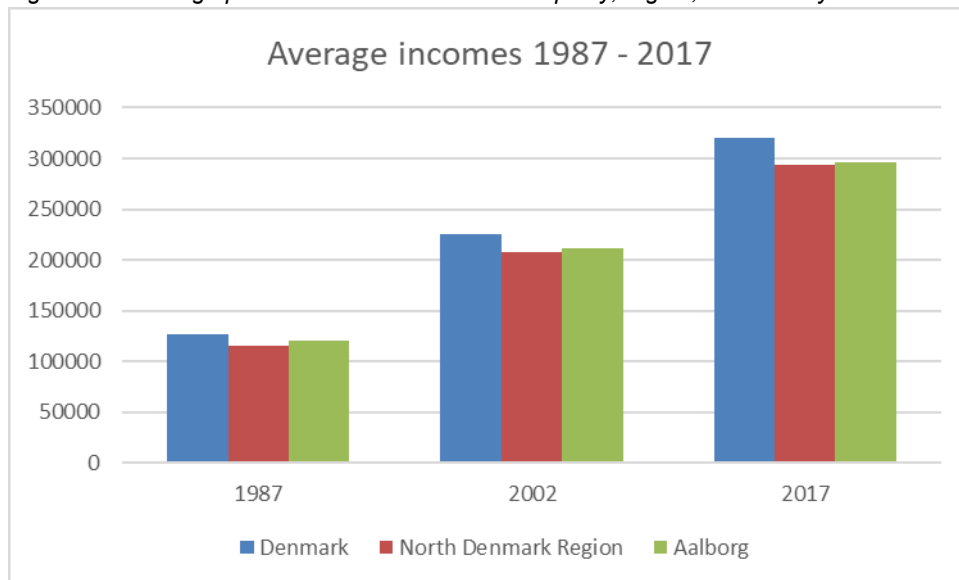
Table 2.1: Jobs in the municipality of Aalborg, percentage distribution

Economic sector	Job per sector Aalborg Municipality	Jobs per sector North Denmark Region
Agriculture, forestry, fisheries	1,4%	4,7%
Industry and utilities	10,5%	15,0%
Construction	6,1%	6,6%
Trade and transport	23,8%	22,8%
Information and communication	4,6%	2,7%
Finance and insurance	2,2%	1,8%
Real estate	1,7%	1,6%
Business services	9,7%	8,0%
Public administration	35,8%	32,7%
Culture, leisure, services	4,1%	4,0%

Source: Statistics of Denmark, Statistikbanken 2019

The economic development in Aalborg and in North Denmark Region is illustrated with the development of incomes in the following figure, where the average personal incomes in Aalborg Municipality, North Denmark Region, and Denmark is shown over the 30-year period 1987 - 2017. It appears that the income level in Aalborg Municipality has increased at a lower rate than in the region and in Denmark as a whole.

Figure 2.5: Average personal incomes in the municipality, region, and country



Note: The data have been affected by the municipal reform in 2007, where the municipality increased by merging with neighbouring municipalities. The regional data have also been affected by this, but to a very limited extent.

Source: Statistics Denmark, "Statistikbanken", 2019.

This development, however, may be seen on the background of the structural developments that have taken place, where the weight of agriculture has decreased in the region, which may



have reduced the difference between the income levels of the region and the municipality. At the same time, the number of university students in Aalborg has increased considerably, which has adversely affected the average incomes in Aalborg, at least in the short term. The number of university students almost doubled from 10,500 in 2005 to 20,700 in 2017.

### **3 Laws, plans, and policies**

The physical planning system in Denmark is rather decentralized. This has been the case during the entire period within the scope of this case study. Some minor modifications have been done, but on the whole, the system is unchanged, and the following presentation of the planning system reflects the current situation.

#### **3.1 The national, urban planning system**

According to the Danish Planning Act, the Minister for Industry, Business and Financial Affairs sets the overall guidelines in national planning reports and is obliged to object to municipal plans, if they are inconsistent with overall national interests.

The overall purpose of the Planning Act and the physical planning is to ensure a desirable development at all geographical levels. In the Planning Act, Denmark is subdivided into three overall zones: city zones, summer cottage areas and land zones. Through the zoning, a clear boundary is created between the city and the open land, and the Planning Act is a good tool for conservation of valuable buildings, urban environments and landscapes as well as open coastal areas. It also serves as a prevention of air, water and soil pollution, and noise nuisance, and it ensures a high involvement of the public in the planning process<sup>2</sup>.

The government presents its long-term considerations on Denmark's geographical structure, and how to realise these in the National Planning Report. An overview of national interests in municipal planning is published every four years by the Minister for Industry, Business and Financial Affairs.

In addition to the Planning Act, mainly the Harbour Law and the Local Government Act set the framework at the national level for the development of the ports and the waterfront.

#### **3.2 Regional planning and regulations**

The five regions in Denmark have been responsible for a strategic development planning through the regional growth and development strategies and raw material plans for their areas. The regional development strategies are reviewed every 4<sup>th</sup> year. The existence and the roles of the five regions that are governed by the elected regional councils and funded by the state have been debated for some years, but after the change of government, it seems that they may now continue as previously.

The regional growth and development strategies has had their main focus on business development, and they have served to combine and coordinate development initiatives in areas

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<sup>2</sup> Danish Ministry of the Environment (2012): Spatial Planning in Denmark.

such as commerce, information technology, education, tourism, culture, nature, environment, site contamination, raw materials and infrastructure<sup>3</sup>.

### **3.3 Local planning and regulations**

The 98 municipalities in Denmark are responsible for overall land-use regulation at the local authority level with legally binding guidelines for property owners. The spatial planning is done by the municipalities through municipal, local authority plans that are reviewed at least every 4<sup>th</sup> year and implemented through the detailed local area plans.

The municipal plans shall provide a comprehensive overview of the development of a municipality and the plans for housing, workplaces, transport, etc. as well as for protection of the natural environment in the area of the local authority. They consist of a general structure, guidelines for land use, and a framework for the contents of local area plans.

The municipal plans in Aalborg are prepared on the basis of plan strategies, indicating overall development directions, and they consist of three different elements:

1. A structural plan (Hovedstrukturen), which is the overall plan for all the municipality
2. Long term guidelines for the individual urban areas
3. Planning frameworks, indicating how the various areas may be used.

These are all binding for the more detailed local area plans, but changes in the municipal plan can always be done by the city council through addendums to the municipal plans.

Local area plans are tools for regulating the land use, the constructions, and access conditions of an area. They describe how a smaller area can be developed and used. They are seen as the foundation stones of Denmark's spatial planning system.

The local area plans are used for regulating many different factors related to use, size and location of buildings, roads and paths, as well as the architectural features of an area. They are legally binding for property owners, who are given clear rights and obligations in connection with the developing and use of property, but the plans do not oblige the property owners to act. The local area plans state what is permitted and what is not, but property owners are not generally entitled to compensation for any perceived loss due to the planning. The planning process ensures that the various interests of citizens, enterprises and other property owners can be expressed before the final local area plan determines how an area shall be regulated.

The local authorities can make a local area plan for an area at any time, as long as it complies with the overall municipal plans, but local area planning is mandatory in connection with the

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<sup>3</sup> North Denmark Region: Regional Development, <https://rn.dk/service/english/regional-development>

implementation of major development projects with substantial changes to the existing environment, such as waterfront regeneration projects.

There are different types of local area plans. Some local area plans cover a new urban district, and others regulate land use on an individual property.

### **3.4 Planning of the waterfront in Aalborg<sup>4</sup>**

The negative trend in industrial activities along the waterfront started already after the oil crisis in the 1970s and 80s. Aalborg's waterfront at that time appeared worn down with many empty buildings and facilities without any functionality. This was a result of the closure or moving away of many industrial companies and the trend of freight transport to move from ships to trucks.

When the largest workplace in Aalborg, the shipyard, closed down in 1988 with a huge increase in unemployment, the situation was really serious. The EEC supported Aalborg and 5 surrounding municipalities, and the urgent question was if Aalborg could take on a new industrial role. Aalborg was known as a city of traditional heavy industry dominated by blue collar workers.

A university was established in Aalborg in 1974, the Knowledge Park, NOVI, was inaugurated in 1989, and it was increasingly realized that there might be a potential for a new development within the high-tech and more knowledge-based industries.

#### **3.4.1 The first regeneration planning**

In the late 1980's, Aalborg City Council realized that the central harbourfront might be valuable for the city in alternative uses, and many new ideas developed. In 1989, the city launched a competition for the area along the fjord in Aalborg between the railway bridge and the Nordkraft heat and power plant. A first stage was defined as the area between the Limfjord Bridge and the distillery factory (Spritte) for which a physical development plan should be prepared. Already before, in the late 1980s, the city planned and established a beachpark along the western waterfront in Nørresundby. After the construction of modern treatment plants both east and west of Aalborg the cleaner water made it again advisable to bath in the Limfjord, which was the background for the idea of developing a large area close to the city as a beachpark.

#### **3.4.2 The City Catalogue**

A City Catalogue was prepared in 1993 in an attempt to innovate the urban planning in the city centre. Instead of the former zoning, the aim was now to obtain a high degree of functional mix in the city, and the process was characterised by a high degree of stakeholder negotiations rather than the former framework planning. The City Catalogue focused on the "holes" to be

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<sup>4</sup> Based on Galland and Hansen (2012), A.J.Andersen (2013) Byplan (2011) and interviews with local stakeholders in 2019.

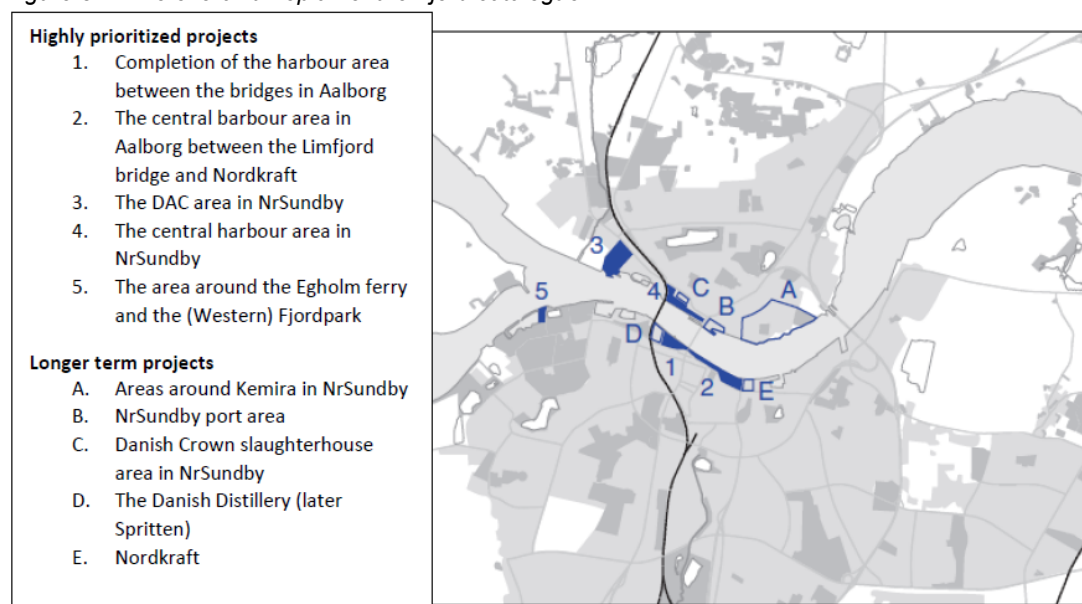
filled, and the idea arose to prepare a Fjord catalogue covering the urban areas on both sides of the Limfjord.

### 3.4.3 The Fjord Catalogue

The city council decided in 1996 to develop an overall Fjord plan to serve as a basis for a positive development along the waterfront. The comprehensive document, The Fjord Catalogue was then prepared as part of the municipality plan, addressing the regeneration of the waterfront in Aalborg and Nørresundby. Before submission, the draft document was discussed in the public from June to September 1998, and the final version was also subject to an organized public debate in 1999.

The vision for the waterfront and the goals of the regeneration of the urban areas along the fjord were formulated in the Fjord Catalogue, in which the planned timing of the overall regeneration plan was indicated by distinguishing between the highly prioritized and the longer-term projects. Areas that were still occupied by industrial enterprises without any plans to retreat were reserved for longer term projects. Most of these areas became available for regeneration before expected as industries closed down.

Figure 3.1: The overall timeplan of the Fjord catalogue



Source: Aalborg Kommune (1999): *Fjordkataloget (The Fjord Catalogue)*.

The Fjord Catalogue presented an overall plan for an urban transformation as well as an overall policy for the areas close to the fjord with a framework for the urban development. The framework for the areas along the fjord laid the principles for the use of the various areas and for how much could be built and for what purposes.

## 4 Main stakeholders

The key stakeholders in the regeneration process have been:

- Port of Aalborg A/S is owned by the City of Aalborg. The Port of Aalborg owns and operates the ports in both Aalborg and Nørresundby, but it has moved its main activities to the new port 10 km. east of the city. Because of the Harbour Act, the Port of Aalborg had to sell the areas before regeneration, as harbours are not allowed to be involved in non-port activities. In the planning process, the Port of Aalborg has had a clear interest in maximizing the sales value of the harbour areas, e.g. by achieving higher plot ratios in the local area plans before selling the land to the city of Aalborg, to developers or to future users.
- Aalborg City is an important stakeholder concerning the regeneration of the waterfront in Aalborg. It has different roles and responsibilities that may in different ways affect and be affected by the development along the harbor front. The City is the planning authority, and at the same time it is the 99% owner of the Port of Aalborg with the city mayor as the chairman, and in some cases, it is also the buyer of land from the Port of Aalborg. Although these functions have been taken care of by different departments of the city council, this combination of roles inevitably raises questions about potential conflicts of interests internally in the city. The key interests in relation to the regeneration of the waterfront are:
  - Aalborg city council may be assumed to have a general interest in an increased number of jobs and residents in the city, thereby increasing tax revenue and the regional importance of the city;
  - Aalborg City as the planning authority, and as the committee for urban areas and landscapes, has an overall interest in and is responsible for the development in the city as a whole. This includes an interest in and the responsibility for creating attractive residential areas and city spaces as well as a good infrastructure, but also a broader interest in a high-quality urban development, a good environment, and a broad supply of cultural activities and institutions etc. All of this involves many different municipal departments;
  - Aalborg City was the owner of a large part of the areas along the waterfront after taking over from the Port of Aalborg. As the owner of an area, the city therefore has had a potential financial interest in higher plot ratios to the extent that these increase the urban density and the value of the land. When the Port of Aalborg has sold land to developers, the city as the owner of the Port of Aalborg has had the same, but indirect interests;

These different roles and interests, as mentioned, might imply some conflicting interests although they are the responsibilities of different departments of the city

administration, and although such roles and considerations according to law must not be confused;

- Private actors, including landowners along the fjord, developers, housing associations, construction enterprises, architects and planners as well as major foundations and investors are important stakeholders, who may see business opportunities in the waterfront regeneration, and who may be attracted by the conditions, that are offered through the local planning, and who may compete with each other within this planning framework;
- The cultural institutions and companies that have been established at the waterfront or have activities in the area, the successes of which to some extent are mutually dependent;
- Educational institutions and in particular Aalborg University has had an interest in the transformation of the waterfront and the attractiveness of the city to be able to attract students and researchers to the university. The university has also played an active role in key parts of the regeneration process;
- Citizens that have been involved in hearings, citizens' meetings, pilot projects etc. may have different interests as residents in the neighbourhoods, as interested in the urban development of their city as such, or as interested in certain specific activities;
- Various associations have played a role and participated in the process where relevant for their respective areas of interest. This involves the trade association, groups of car owners, cyclists, and others;
- Citizens, who are going to make use the waterfront after regeneration may be of many different categories concerning the ways, they are using the waterfront as local residents, employees in the area, participants in temporary projects or just as citizens.

## 5 From vision to realization

### 5.1 Visions and goals for the waterfront

The Fjord Catalogue defined the areas along the fjord that were seen as having major regeneration or urban development potentials, see the figure below in figure 5.1. As mentioned, an overall time plan was outlined, and the more detailed planning of the various areas was postponed for later master planning, local area plans, and if necessary, addendum to the municipal plan.

Figure 5.1: Areas with major regeneration or urban development potentials in 1999.



Source : Aalborg Kommune (1999): *The Fjord Catalogue*

The long-term objectives included general goals concerning the waterfront to the fjord as well as specific visions and goals for the central port area.

The general visions and goals were:

- A more visible fjord;
- Strengthening the city as a regional centre for culture, trade, business and tourism;
- A sustainable urban development through concentration;
- Creation of a new modern business profile of Aalborg;
- A substantial part of the areas along the fjord should be reserved for recreational functions;
- Easier access between the city and the fjord;

The specific visions and goals for the central port areas:



- There shall be room for new regional facilities in the fields of culture, education, and service;
- There shall be room for environmentally friendly businesses;
- There shall be room for housing, local services and cultural activities;
- The new functions shall support the retail trade in the city centre;
- The former port area should act as a natural extension of the city centre;

Visions and goals for the urban areas:

- that the buildings form a beautiful and characteristic façade facing the fjord;
- that exciting urban spaces are interacting with the fjord;
- that characteristic and valuable buildings are preserved, for example when previous commercial buildings are converted into new uses;
- That the marked fix points between city and countryside, i.e. Aalborg Portland and the oil harbour to the east and DAC to the west, must be preserved;
- New buildings must respect the city's profile and existing characteristic profiles;
- emphasis is placed on strengthening Aalborghus Castle as a visual centre;
- It is a goal to create better contact between the city and the fjord with several canals, open streams and stairs down to the water at the high quayside and boat bridges;

According to the Fjord Catalogue, vacant or worn-out port and business areas should be transformed into new urban areas with mixed urban applications.

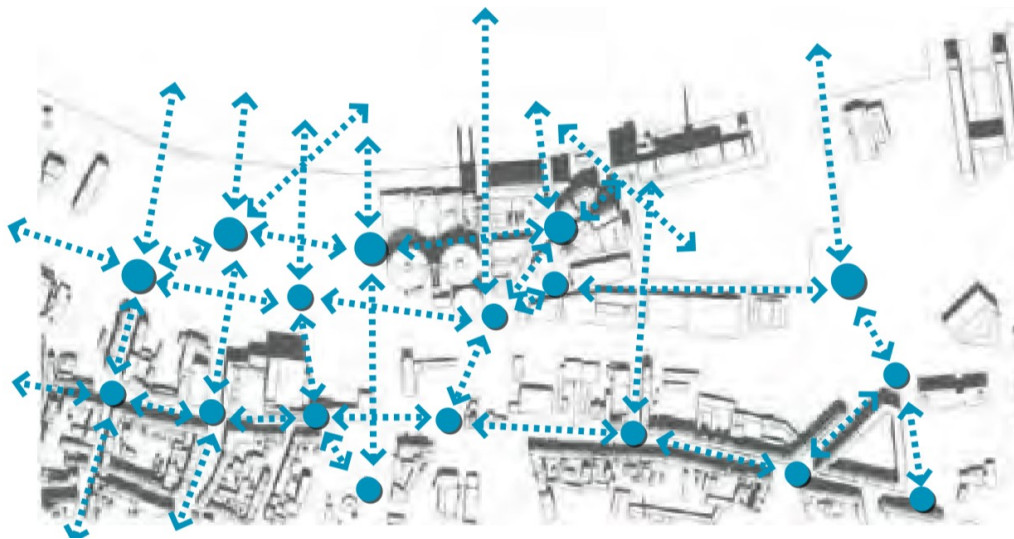
## 5.2 The further planning

In the municipal planning from 2005 and onwards, the goals for the waterfront from the Fjord Catalogue were further elaborated, nuanced and concretized, but the overall ideas of the Fjord Catalogue remained unchanged. The planning of the waterfront has been affected by general urban development policies in the city with an increased focus on densification and housing for youth<sup>5</sup>, development of citizens involvement practices, and the use of wind studies, shadow studies, and sight lines to and from planned buildings and urban spaces. The use of sight lines in the planning is illustrated in figure 5.2.

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<sup>5</sup> A youth housing strategy was adopted in 2010 with the aim of attracting students to the city by improving their housing opportunities in the city.

Figure 5.2: Sight lines in the Eastern Harbour area



Source: Aalborg City

In 2011, the Plan Strategy introduced a new planning with a focus on growth and sustainability. A growth axis defined as a “knowledge corridor” was planned from the airport north west of Nørresundby over the harbourfront and the city centre on both sides of the Limfjord, over new urban development areas via the University Campus to a new University Hospital east of Aalborg, and further to the Aalborg East Port, (figure 5.3).

The structural plan for the municipality in 2013, which was called the Physical Vision 2025, defined the roles of the various urban areas and outlined urban development projects including the continued development along the waterfront on the basis of the former achievements. Physical Vision 2025, which is still in force, focuses on sustainability, climate, and the green and blue aspects of urban life.

Figure 5.3: The growth axis



Source: Aalborg City Municipal Plan, 2013

Sustainability is understood in a broad sense with the inclusion of the sustainability of environmental, financial, natural, social, and local values in the overall assessment of a project or a development. All aspects have been considered in every case, but the weighting of the different aspects has differed. In some cases, the environmental and financial aspects were highlighted and prioritized. This may among other things have led to an urban

densification, which was considered a tool for improving mobility and growth and increasing the urban and cultural life along the growth axis. In other cases, such as along the House of Music area, the focus was on social and local values<sup>6</sup>.

In addition to the various elements of the municipal plans, a hierarchy of local planning is also conducted in the municipality. Master plans are prepared for larger areas such as the central harbour front, the eastern harbour, and other main areas along the waterfront. On the basis of these, the more detailed local area plans are currently prepared, covering local areas of different size. The local area plans serve as a basis and a condition for the subsequent development and construction works. The local area plans are further referred to and described in connection with the description of the detailed planning and implementation in section 5.3.

### **5.3 Roadmap from vision to realization**

The first steps of the regeneration of the harbourfront in Aalborg and Nørresundby were taken in the late 1980's and in the 1990's, when the Lindholm Beach park in Nørresundby, north of the Limfjord, was established and the transformation of the waterfront along the Western Harbour Promenade between the bridges in Aalborg, south of the Limfjord, was initiated. This was followed by the transformation of a former industrial area (Lindholm DAC) in Nørresundby into a mixed area of office and accommodation.

At that time, the plans for the regeneration of the waterfront in Aalborg and Nørresundby were formulated in the Fjord Catalogue in 1998. The Fjord Catalogue was a part of the Municipality Plan focusing on the planning and development of areas along the Limfjord. The regeneration of the port of Aalborg continued based on the thoughts in the Fjord Catalogue and is foreseen over the coming years to continue with the steps as indicated below for Aalborg and Nørresundby.

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<sup>6</sup> Aalborg Kommune, Metopos and Bascon, 2012: Visionprogram, Musikkens Hus området.

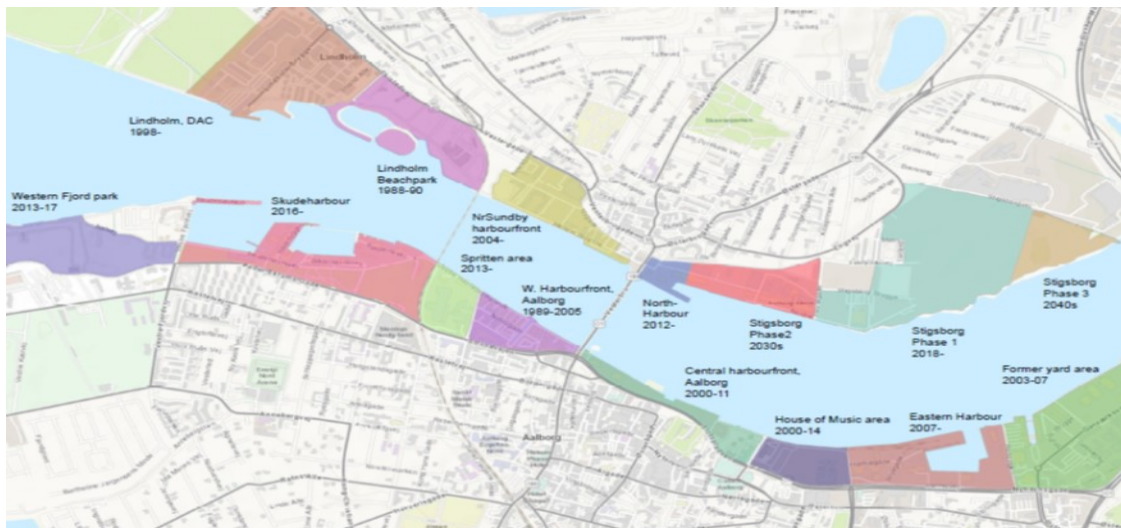
Table 5.1: Regeneration projects in Aalborg and Nørresundby

Time period	Aalborg port sections	Type of use after regeneration
1989 - 2005:	W. Harbour Prom. Aalborg	Mixed office, education, and residential area
2003 - 2007	Former yard area	Mainly business purposes and housing
2000 – 2011	Central harbourfront, Aalborg	Recreational area with cultural functions
2000 – 2014	House of Music area	Cult. and educ. institutions, offices and youth housing
2007 - (2025)	Eastern Harbour area	Residential area with business and commercial functions
2013 – 2017	Western Fjord park	Recreational area with public bathing and water sports
2013 - (2025)	Spritten area	Area with art and other cultural and residential functions
2016 - (2025)	Skudeharbour	Residential area with business activities
Time period	Nørresundby port	Type of use after regeneration
1988 – 1990	Lindholm Beach park	Recreational area
1998 - 2020	Lindholm (DAC)	Residential area with business functions
2004 – 2019	Central waterfront	Residential area with commercial and welfare functions
2012 - (2021)	North Harbour	Residential and commercial area
2018 -	Stigsborg Harbourfront	Residential, mixed uses incl. schools and institutions

Source: City of Aalborg.

Green and recreational areas alternate along the fjord with dense residential areas, areas with mixed uses, and areas with cultural and educational institutions. These areas are connected to the fjord with well-planned sight lines, and they are linked to each other with a waterfront promenade on both sides of the fjord, a recreational connection, that is in most places reserved for pedestrians and soft road users.

Figure 5.4: Main regeneration projects 1989-2019



Source: @ESRI and Aalborg City

Different implementation models have been applied during the process of regeneration. They generally have been based on broad cooperation models with various degrees and models of local participation in planning and implementation. They are all based on the municipal plan, masterplans for the main areas and local area plans, and in many cases with a flexible approach to the implementation.

Several green and recreational areas have been established along the waterfront in Nørresundby and Aalborg. One of these areas is at the central harbourfront in Aalborg, where an open park, the Jomfru Ane Park, with facilities for sport and a public bathing in the fjord is located just next to the city centre. In fact, all the harbourfront from the Limfjord Bridge to the House of Music may be seen as a series of parks and urban spaces. These open areas have been financed by the city, who owned the land after taking over from Port of Aalborg, and the city also has established a promenade along the waterfront and a planned network of clubhouses along the Limfjord for water related sport activities.

The residential areas and the various institutions and office buildings have been funded by investors, including housing associations, developers, private investors, pension funds, and local and national charitable foundations. In cases where housing associations have erected social housing with public support, the city has provided the statutory contributions to the funding as well. This is e.g. the case for most of the youth housing that has been built along the fjord.

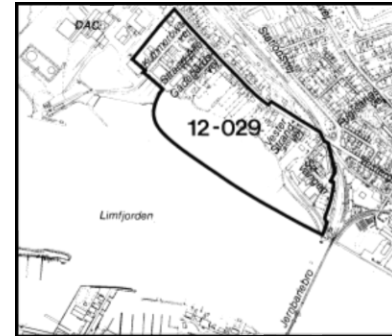
Housing and mixed areas have been developed according to the plans with participation of architects, developers and construction companies. In many cases, pilot projects and temporary activities have been used to open the port areas for the public.

In the following, each of the regeneration projects are briefly described in a chronological order. Depending on the cases, there is a varying focus on the planning, negotiation processes, and implementation models, the involved stakeholders, funding sources, and on the identified challenges and drivers. The small illustrations are maps or photos of the areas, taken from the respective local area plans.

### 5.3.1 Lindholm Beach park, Nørresundby, 1988-90<sup>7</sup>

As a first regeneration project, a beach park was planned and established in the late 1980's. Contaminated wastewater had been an increasingly serious problem and a public issue for many years. Because of this and because of a new environmental legislation, large and modern treatment plants were built during the 1980's both east and west of Aalborg.

The cleaner water made it again advisable to bath in the Limfjord, and this may be seen as the background for the idea of developing a large area in Lindholm as a beach park. A local area plan 12-029 was adopted in March 1989 with the aim of maintaining the recreational character of the area and to ensure a recreational path system along the fjord from the DAC area west of the park to the railway bridge. The target group was not only the residents in the local neighbourhood, but the population of both Nørresundby and Aalborg. Many years later, in 2017, when the Cultural Bridge for cyclists and pedestrians opened along the railway bridge, the access to the park improved for the citizens of the western part of Aalborg.



### 5.3.2 Western Harbour Promenade, Aalborg, 1989 - 2005<sup>8</sup>

The area between the railway bridge and the Limfjord Bridge along the fjord in Aalborg was transformed from an area with port and industrial purposes to an area with mixed uses (business, education, services, leisure, and housing). As mentioned in section 3.4.1, a competition was launched in 1989, where the area along the Western Harbour Promenade was defined as a first stage regeneration. The city bought the 9 ha. area from Aalborg Port A/S in the early 1990's, and a local area plan 09-020, which was based on the results of the competition was adopted in 1992.

The winning proposal suggested a settlement, for the most part perpendicular to the fjord, with canals, marina and small boat ports facing the fjord. The plan was to develop a new, attractive and a relatively open area, based on a block structure with small shops and cafes in the ground floor, and a promenade along the waterfront. The intention was further to create a multifunctional district with high quality public spaces and a distinctive skyline.

The local area plan followed the proposal, but according to Galland and Hansen (2012), who refer to a former city architect, it only provided general sketches concerning building locations and public spaces without specifying exact dimensions. According to the same source, the lack of specificity regarding the plan, was the result of a disagreement between the local politicians

<sup>7</sup> Mainly based on local area plan 12-029.

<sup>8</sup> Based on local area plan 09-050, and Galland and Hansen (2012)

and the planners, and as a consequence of this, it was easier to modify important details during the implementation.

About a year after start of the redevelopment, the city decided to sell the land to a developer, and in this and the following process, the area turned out to be more densely populated than imagined with less open space. The alternative would have been to accept a higher economic loss to the city. Taller buildings were not seen as an option at that time, as there was an intense, critical public opposition against this and because of a soft subsoil that made this an expensive solution.

The result raised a lot of criticism of the high density, the lack of open spaces and the absence of the planned urban life in the streets. Some years later, in 2000, a new local area plan was adopted for the area, 09-050, that made room for a new city park in the area to compensate for the higher density. The small green area was already surrounded by the existing block structures which limits the view to the Fjord, but it is certainly an asset for the entire area today.



The new local area plan decided that at least a third of the buildings in the area should be for housing, and it suggested a capacity of 400 dwellings, of which about 20 % were foreseen as small units for youth housing.

The area as such ended up becoming a denser, more isolated area, blocking the easy access to the waterfront and with much less urban and marine life than originally envisioned in 1989 and 1992. As a result of the market development, two thirds of the area became housing, and the small shops and café's that were planned in the ground floor did not materialize. Apparently, there was no demand for it. This started a new debate on the regeneration of the waterfront, and there has been a general consensus in the city since then that this first main step of the regeneration was not successful.

### 5.3.3 The former shipyard area, Aalborg, 2003-07<sup>9</sup>

The former shipyard that closed in 1988 was in the area between Eastern Harbour and the E45 highway tunnel. The main part is still being used by various industrial enterprises. After the closure, the shipyard site was transformed into a business park that housed some spinoff companies from the shipyard, and the shipyard continued as a real estate company in the business park. A local area plan from 1993 (10-041) aimed at keeping the western part of this area as a business area for many different types of enterprises. Part of the former shipyard area was cleared, and some industry buildings were renovated and used for other industrial purposes. Another local area plan 10-066 for part of the area was approved in 2003 as a response to the demand from the owner who wanted to develop a new urban area in the

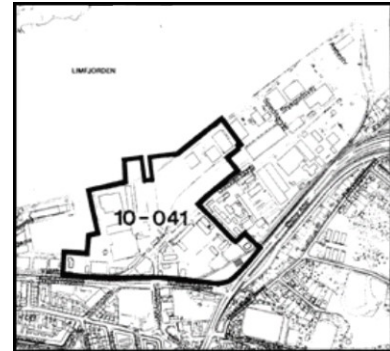
<sup>9</sup> Based on local area plan 10-041, and Holm, Østergaard, and Olesen (2017)



attractive location close to the fjord. The local plan gave room for knowledge based and service businesses and for housing.

A large, 26,000 sqm. floor area office building for an IT company and two housing blocks were then built close to the fjord, but the area closer to the Eastern Harbour with a former shipyard workshop building, designed by the famous architect Packness has been subject to the planning around the entire Eastern Harbour area. This is further described in section 5.1.8.

The area to the east of the local area plan 10-041 is still occupied by various large and small industrial and other business activities, but a group of investors have suggested a high-rise building, "Oktan 8" for housing and exhibitions in the corner close to the Eastern Harbour area. The building would be over 100 m tall and would be the tallest building in Aalborg. The suggestion has not been approved yet, probably because of the environmental conflict that might result from the location close to the test centre of the neighbouring company Alfa Laval and other companies.



In the Fjord Catalogue, the areas further to the east and beyond the highway tunnel with the oil harbour and the Aalborg Portland cement factory, were designated as a marked fix point between city and countryside to be preserved. There are no concrete plans of changing the current activities or buildings, and this is also not allowed by the municipal plan. The local area plan for the area underscores that the Portland cement factory may remain and increase its activities here.

#### **5.3.4 Lindholm Brygge, (DAC), Nørresundby, 1998-2020<sup>10</sup>**

The Lindholm Brygge is the area immediately west of the Lindholm Beach Park. It was defined as a highly prioritised regeneration area, and a new, exciting urban area was envisaged here. This area was owned by one of the two major companies on the site, a cement factory Dansk Andels Cementfabrik (DAC). The cement production stopped at the end of the 1970's, and the area was used for different industrial purposes until the 1990's. The landowner, DAC launched an architectural competition, but the winning project, which was targeted towards high-end residential uses, according to Galand and Hansen (2012) conflicted with the environmental legislation and with the wishes of the city of Aalborg as the planning authority for the following reasons:

- It was considered economically infeasible due to a series of environmental issues from the former activities in the area that would have to be taken care of.

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<sup>10</sup> Mainly based on Galland and Hansen (2012), A.J.Andersen (2013) and various planning documents.



- It required the demolition of all the industrial buildings, whereas the city wanted to preserve the industrial heritage.
- The proposal conflicted with the city's intent to establish a number of recreational areas on the site.
- DAC expected the city to support the regeneration of the site, whereas the city expected DAC to comply with the public interest objectives concerning recreational, environmental and cultural heritage aspects.

A local area plan for a residential area with business functions was then prepared in a cooperation between DAC and the city, according to which, the existing industrial buildings that were deemed worthy of preservation should be protected and work as a backbone of the planned Lindholm Boulevard where new office buildings should also be erected. (Local area plan 12-053 from 2000). At the same time, the local area plan should ensure that the distinct marking of the fix points, as previously the DAC silos were between city and countryside, is preserved.



The area was expected to have a capacity of 70,000 sqm. building area, and it was estimated that it would have room for 400 dwellings. Because of the previous character of the area with 47 m high silos and a tall cement factory building, the “Cathedral”, the area was considered appropriate for high-rise buildings. Two landmark silos at the waterfront were considered impossible or too expensive to maintain, and instead the construction of a 50 m. twin silo with a lift tower. The “Cathedral” was considered “worthy of preservation” and according to the local area plan, it should be preserved and integrated into the future building plan. Ten years later, the building was still standing, but it was in a bad condition with the risk of collapse. Apparently, no maintenance was done during the period. In 2010 a major hotel project was proposed and planned in the building, but soon after, it was realized that the Cathedral was not to be saved, and in 2012, a new local area plan 1-2-106, allowed the tearing down of the building. It was realized that the preservation would become too expensive, but it is not certain if this had always have been the case, or if it was the result of the lack of maintenance. In yet another local area plan 1-2-107 that was presented later in the same year, the regulations were given for a new construction with the same capacity in its place, mainly with housing for young people.

The plan for the DAC area was therefore a mixed-use area with office buildings and all types of housing from low one storey town houses and apartment buildings to high-rise buildings. In 2019-20 a high-rise building, the Horizon, is still under construction in the area.

### 5.3.5 Nørresundby central waterfront, 2004-19<sup>11</sup>

According to the Fjord Catalogue, the area around the former slaughterhouse in Nørresundby “needed visual improvements” The concrete opportunity to address this need came in 2004, when the slaughterhouse closed down.

New housing was already built in the neighbouring area to the east during the previous years, and a public debate on the slaughterhouse area was then launched early in 2005 with the publication of a debate folder, invitation to a guided tour in the area, and an info meeting. The area was bought by a major, local developer and construction company (A.Enggaard). After a competition and masterplan was prepared, on the basis of which, a local area plan for the entire central waterfront area between the bridges on the northern side of the Limfjord was prepared in a close cooperation between the city and the landowner. The local area plan 12-072 that was adopted in 2006 allowed a maximum of 72,000 sqm. new constructions in the area.



The area gradually developed over the coming years, and the last building block was ready by the end of 2019. The area with the former slaughterhouse, which was before a barrier for the urban development, was transformed into a housing area including youth apartments, a nursing home, and shopping facilities, and it is now an integrated part of Nørresundby with access to the Fjord. A recreative promenade with attractive amenities was later established along the waterfront from the Lindholm Beach park and the railway bridge to the Limfjord Bridge.

### 5.3.6 Central harbourfront, Aalborg, 2000-2011<sup>12</sup>

The central harbourfront in Aalborg covers both the House of Music area, the Jomfru Ane Park, the Utzon Park, and the Castle Square. A masterplan was prepared for this entire area after the publishing of a discussion folder “Aalborg Harbourfront for debate” and a public debate in 2001. In 2004, a competition for the area and the street ‘Nyhavnsgade’ was launched among architects and planners. The result was a detailed master plan, prepared by the winning team after an EU tender.

*Figure 5.5: Master plan for the central harbourfront in Aalborg*

<sup>11</sup> Mainly based on local area plan and newspaper articles.

<sup>12</sup> Based on local area plans, stakeholder interviews, Gallard and Hansen (2012), and Brorson, Jungersen and Larsen (2009)



Note: The texts along the waterfront reads from left: The Jomfru Ane Park, Castle Square, The Utzon Centre, House of Music, and Karolinelund

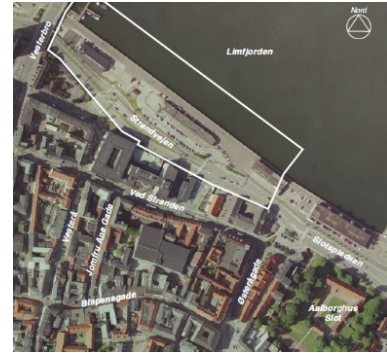
Source: Aalborg City (2006): *The waterfront of Aalborg*

The master plan subdivided Aalborg waterfront in six areas: the Jomfru Ane Park, the Castle Square, and the Utzon Centre that are all part of the central harbourfront in this presentation, and Kvaegtorvet, the House of Music, and Nordkraft.

An important issue was the access from the city to the fjord, which was hindered by Nyhavnsgade, the four-lane road along the waterfront. The solution was found after long discussions in the city council and in the public. The decision was taken after the city council election in 2005, after extensive discussions during the election campaigns. The majority group in the city council finally took the decision and changed the four-lane Nyhavnsgade into a two-lane road with a carriageway. This restricted the road traffic, but facilitated the crossing of the road for pedestrians, which was considered a controversial and radical solution.

### **The Jomfru Ane Park**

The Jomfru Ane Park is the western part of the central harbourfront, next to the Limfjord Bridge. After a vision development process, led by a landscape architect, and with the participation of a planning panel of citizens, a discussion folder “Aalborg Harbourfront for debate” was published by the city. On the basis of this, a local area plan (10-073) for the area was adopted in February 2004.



The local area plan defined its purpose as the creation of an attractive urban district with restaurants, shops, recreative and leisure purposes, and offices, and it aimed at creating a number of interconnected urban spaces that would at the same time work as a connection between the city and the fjord. The local area plan also aimed at an improved visual and functional connection between the city and the waterfront by establishing sight lines, traffic sanitation and a paved waterfront promenade.

### **The Utzon Park / Castle square area**

In August 2006, after the presentation of the master plan for the entire central harbourfront, a local area plan, 10-082, for the Utzon Park and the Castle Square area was adopted. The main aim was to ensure the legal basis for the implementation of the master plan, and in particular the Utzon Centre project, which was an exhibition and knowledge centre. The plan also included separate buildings for student accommodations and gave place for a public park area with an opening to the castle from the waterfront and the park.



The initiative to the Utzon Centre was taken by a group of citizens, who established the Utzon Foundation, as a tribute to the world-famous architect Jørn Utzon, who spent his childhood in Aalborg, and who was the architect of the Sydney Opera Building. The Utzon Centre and the student accommodation buildings were designed by Jørn Utzon and his son, Kim Utzon.

The city of Aalborg and various foundations supported the centre, also financially, and the Utzon Centre was also supported by EU Objective 2 funds that were initially planned for the House of Music. This project was given up in 2007, and the allocated funds from the EU were about to expire. These were reallocated to the Utzon project just before deadline. Therefore, the construction of the Centre had also to be speeded up after the approval of the local plan for the area, and it was constructed over a 12 months period to meet the conditions. The area was purchased from the City by the Utzon Foundation after a brief negotiation process.

The aim of the project was to establish an exhibition and knowledge centre for art, architecture, and design on the basis of the works of Jørn Utzon. The first concepts and ideas for the contents



and the operations of the centre, according to some stakeholders, were relatively weak and unclear. The budgets for the operations were relatively limited, but both the university and the City supported by renting parts of the building, and the capacity of the centre was exactly occupied when the university, which was involved in the initiative, had rented about a third of the available square meters for the studies of architecture and design. This completed the necessary basis for the centre in terms of occupancy, and the construction then started. A few years later, the university moved their activities in the Utzon Centre to the new campus that was established on the neighbouring plot to the east. The financial situation for the centre has been relatively weak during its first years of operation.

Figure 5.6: The Utzon Centre



Note. The Utzon Centre with one of the three blocks for youth accommodation is seen to the left.  
Source: Henning Thomsen, 2018

The Utzon Centre has now entered a management agreement with the local art centre “Kunsten”, and the centre aims at building up an international profile. 20 percent of its visitors are international, while more than 50 percent are from the North Denmark Region and slightly less than 30 percent for visitors from the rest of the country.

A private foundation built the planned three small blocks for student accommodation in 2009 to complete the Utzon plan. The three blocks were also designed by Utzon, and they contain a total of 63 college apartments of high quality.

### **Sport and recreation**

The master plan for all the waterfront from 2006 also suggested the establishment of a sport and activity area, a city garden and a quay for cruise ships, which is located where the Aalborg-Copenhagen ferries were docked (1842 – 1970), in front of the medieval Aalborg Castle, very close to the place of the first harbour in Aalborg. A direct view from the city to the fjord, stairs down into the water, and an open air harbour swimming pool was also proposed as part of the project for the area.

### 5.3.7 The House of Music area and Nordkraft 2000-14<sup>13</sup>

The House of Music area extends from east of the Utzon area and the road Rendsburggade, to the (former) road Stuhrvej to the east where the northern part of the stream Oesteraa has now been reopened. This area and the neighbouring Nordkraft was also covered by the above-mentioned masterplan from 2006.

A local plan for Nordkraft 10-075 was approved in 2006 with the aim of ensuring the conversion of the former heat and power plant Nordkraft into a "power centre for culture and leisure".

A local area plan for the House of Music area (1-1-104) was approved in 2010. It was based on the former planning and on a proposed masterplan for the House of Music area, prepared by Coop Himmelb(l)au, who was the designer of the House of Music. The local plan aimed at:

- Creating an area consisting of both public and private urban spaces serving as frames for visitors the day, the week, and the year around.
- The urban spaces should be able to accommodate major events and they should offer venues, residences, sensual recreation, resting places, outdoor workplaces and playgrounds.
- The opening of a view from the city to the fjord and thereby connecting the two.

Already in 2011, a new local area plan (1-1-111) covering the western part of the House of Music area and aiming at taking new developments into account, was approved. In 2012, a more detailed masterplan, or a Vision Programme, for the entire House of Music area was then prepared in a cooperation between the city of Aalborg and two architectural firms. This was also based on a stakeholder analysis conducted in 2011. It described the visions and requirements of the municipality to the House of Music area



at a time, when the neighbouring area to the west had been developed. The main structure from the master plan was in place, and the approved buildings that were deviating from the plans (see below) were under construction in the entire area, which was thus considered fully developed.

The Vision Document included a stakeholder analysis, and on the background of this, it describes the visions and requirements to the planned buildings, the landscape, the urban spaces, and to the connections to the adjacent areas. The document further describes the main objectives concerning sustainability for this central urban area with very large and dominating

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<sup>13</sup> Mainly based on interviews, official websites of RealDania and Aalborg City, and local area plans 1-1-104, 1-1-111,

buildings. The main sustainability focus was on social and local sustainability of the urban life and less on the financial and nature related aspects.

The eastern part of the area was planned as the location of a House of Music immediately north of the Nordkraft, which is located just across Nyhavnsgade.

### **Nordkraft**

Nordkraft is a former heat and power plant that stopped production in 1999. At that time, there were no plans for a new function of the buildings. It was soon decided to preserve in one function or another, and the city bought the buildings from the power company, who was otherwise obliged to tear it down. After some time the idea of using the large building as a cultural institution and to combine culture and sport developed. With combined efforts from city departments, cultural associations, and sports clubs, it was transformed into a popular place for music, sport, and films, a place with the raw appearance of a power plant, which was inaugurated in 2009. This project is also seen as part of the waterfront regeneration, even if it is south of Nyhavnsgade.

### **The western part of the House of Music area**

According to the first mentioned local area plan (1-1-104), the aim was to build 37.000 sqm. in the western part of the area, which was owned by the city. This included 11.000 sqm. in a high-rise building with a hotel and/or housing and mixed uses in the ground floor. An existing office building along Rendsburggade in the western end of the area was foreseen to remain.

The preservation of a former market building from 1885, Kvaegtorvet, in the southern part of the area and the transformation of this into new uses was also a key issue of the local area plan.

On the basis of the local area plan (1-1-104), a public tender was held for these areas, but there was a limited interest from private investors due to the continued economic crisis, and the result was therefore different from the expected outcome. Only large institutional investors gave bids, and a local housing association in their bid proposed the construction of a youth residential complex with two room apartments with offices in the ground floor. After some political discussions, this was approved. This decision was partly due to the newly revised support scheme according to which the state support for such buildings was increased.

After the tender, the planned square meters were negotiated and moved from the intended high-rise building to the other buildings in the area. Some were also transferred to the area of Kvaegtorvet, as the planned reconstruction and transformation of this building was given up. The House of Music needed place for the access from Nyhavnsgade to underground parking facilities that had to be moved to the west of the House of Music. The decision to give up Kvaegtorvet was taken by the city at a time when there were no concrete plans for the future use of the old market building. There were some ideas of establishing a food market in the house, but a private company that owned it decomposed it without any clear plans for the

reconstruction. The ownership of the area was transferred to the House of Music and compensated with another similar area. These changes necessitated a new local area plan, which was the reason for local area plan (1-1-111).

In addition to the youth residential complex and office space, the western part of the House of Music area also gave place for a new University campus for the University of Aalborg. The university had already facilities close to the harbourfront west of the Limfjord Bridge but wanted a unified city campus. The main university facilities are located about eight kilometres south east of the city centre. The university had been actively involved in the process of regeneration of the central part of the waterfront in connection with the Utzon Centre and the House of Music.

### **The House of Music**

A main feature of the area was the House of Music with a planned modern and an experimental architecture, located over the place of the former coal cellar to the Nordkraft heat and power plant.

Already in 1986, an association called “The friends of the House of Music” was founded. The purpose was to actively work for a cultural and architectural landmark in Aalborg. The aim was to improve the cultural activities in Aalborg, both for those who lived in Aalborg and North Jutland and for those who were about to move there, and to attract visitors to the city. Initially, the planned location was in an area, close to the castle and the present location of the Utzon Centre to keep a certain distance to the animal feed business activities that were still ongoing in the eastern harbour area. In the later planning process, when most of these business activities stopped, the site was moved a couple of times until the present location was chosen.

A main challenge from the outset was the funding of the project. An important step was taken in 1999, when the principal of Aalborg University and the pro-rector of the North Jutland music conservatory got the idea of placing relevant research and education activities in the House of Music and presented it for the city mayor and the chairman of the county of North Jutland (the present North Denmark Region), the process effectively took off<sup>14</sup>. The city council accepted the idea of a location of the House of Music on the waterfront in 2000, and some major private companies also supported the idea. In 2001, the major national charity foundation RealDania that focuses on architecture and urban development decided to cooperate and to donate five million DKK to the project.

In 2002, twelve groups of advisory companies were invited to a project competition, and later in the same year, three groups were selected for a final round, where the Austrian Coop Himmelb(l)au won. The price for the winning design, however exceeded the 460 million DKK budget by almost 30 %. The project was redesigned, and the foundation works that were already started, was stopped in 2005 due to the estimated budget overrun.

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<sup>14</sup>The website of the House of Music:  
<https://www.musikkenshus.dk/om-musikkens-hus/musikkens-hus/profil/om-musikkens-hus/>



The budget was increased at 575 million DKK, and after a tender in 2006, where there was only one bid, the total costs of the project, including those already held, was more than one billion DKK, the city decided to put the project on standby.

Later that year, the Real Dania foundation accepted to take the full responsibility for the construction of the House of Music at the agreed location and with the local budgetary commitments. With a tight building management and by opening up for a more flexible timing, they succeeded in building the House of Music during the construction period 2010 – 2014 for a total amount of 780 million DKK: The total size was 28,000 sqm. over 6 stores and it contains a concert hall with an audience of 1,200.

*Figure 5.7: The House of Music on a summer day, 2019*



*Note: Nordkraft is seen to the right behind the House of Music, and a silo that is still standing in the south western corner of the Eastern Harbour area is seen to the left in the picture.*

*Source: Henning Thomsen, 2018*

In the course of the long process, the development had also started in the Eastern Harbour area, and it was clear that moving the House of Music under these circumstances was a big advantage for both the House of Music and the new neighbourhood east of it.

### **Other elements of the plan**

As planned, the waterfront promenade from west of the Limfjord Bridge through the central harbourfront continues with easy access along the fjord in all the House of Music area. All this area is open to the public (pedestrians and cyclists) with an easy access from Nyhavnsgade and from the waterfront promenade.

As mentioned, the underground parking facilities that was planned in the eastern part of the area had to move west after the presentation of the final design of the House of Music.

Finally, an opening of the former stream Oesteraa as part of a major climate adaptation, environmental, and urban development project is being implemented in 2019 and onwards. This stream ends up in the Limfjord immediately east of the House of Music.

### 5.3.8 Eastern Harbour, Aalborg, 2007-2025<sup>15</sup>

The Eastern Harbour area, east of the House of Music, is presently under construction. It is a significant part of Aalborg's city and harbour profile, and it is a high priority urban transformation area. The transformation of the area has been expected to contribute to strengthening Aalborg as a knowledge city. The focus has been placed on urban life, especially based on the high-rise profile of the area, the industrial heritage, and the potential of the harbour basin.

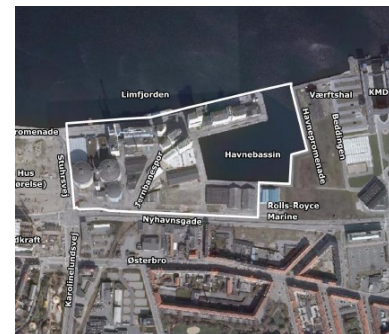
The area consists of two main areas, the western and the eastern part.

#### The western part of the Eastern Harbour

This area was sold by the Port of Aalborg in 2006 to a major, local private developer and construction company (A.Enggaard) at a price of 105 million DKK. The sale was criticized by politicians, citizens, and various experts, claiming that the price was far too low. In a newspaper article from October 2008, where an expert estimates the value at 650 million DKK, the developer argued that the estimate is done on the basis of an assumption of a total capacity in the area of 165,000 sqm. whereas he expects it to be around 140,000 sqm. A main argument for selling the area to the developer and construction company was that very few, maybe only one, would be interested and have the capacity to buy and develop the area with the high uncertainties concerning the business activities that still were ongoing in the area at that time, and that might continue for 10-20 years more<sup>16</sup>.

The planning of the area started in 2007 with a public debate, and an idea competition among five architectural firms. A local area plan for housing and business (1-4-106) was then prepared and approved in 2012 after closure of the feed business activities in the area.

The former buildings in this area were mainly industrial, stores and office buildings of varying ages, sizes, and heights. Silos in the area of up to 75 m. were seen as identity building structures. Some buildings, and other characteristic elements of the area were therefore considered worthy of preservation. The purpose of the local area plan was to create a dense, urban neighbourhood with an exciting urban environment and to let the industrial heritage meet a modern high-quality architecture.



The area was divided in five sub-areas that were allocated different functions and contents. Different mixes of residential and business functions were planned for the four areas, and one of these, the “Star Square area” was seen as the centre of the urban area together with the fifth

<sup>15</sup> This is mainly based on interviews, local area plans 1-4-106, 1-4-110, 1-4-104, 1-4-108, and 1-4-109, Aalborg City (2007): Plan og Projektredøgørelse, interviews, and Nordjyske, october 2008.

<sup>16</sup> Most of the business activities in the Eastern Harbour area terminated a few years later, and the last company is in the process of moving to the East Port in 2019.

area, the dock. The dock was thought of as a special recreational quarter mixed with attractive housing and urban spaces. The maximum amount of floor area was fixed at 150,000 sqm, of which less than half was released, plus parking houses. The other part could not be constructed until an addendum or a new local area plan was approved.

An addendum to this plan, the local area plan (1-4-110) was made in 2016, when the regulated area of the first local area plan were almost filled. The maximum floor area in this western part of the Eastern Harbour was increased at 165,000 sqm, which was possible, mainly by extension of the pier. According to interviewed stakeholders, the increase in the allowed capacities was part of a deal between the developer and construction company, that had a clear financial interest in a higher capacity, and the city that wanted the developer and construction company to accept other changes.

Some of the previous structures and parts of them were considered worthy of preservation. In order to preserve the characteristic appearance of the area with its high silos, the maximum heights of buildings in the area were fixed at between 25 and 70 m with a gradual increase from the south eastern part of the area to the northern part with a high-rise building with a height of 70m at the tip of the pier. The high density and hence the high capacity of the area suited well into the plans of the city for sustainability through densification. At the same time, it made the project financially more viable and hence easier to implement, provided of course, that there was a demand for the planned types of housing in the area.

In connection with the local area plan (1-4-110) an addendum to the municipal plan was also prepared and approved to make the local area plan comply with the overall planning. This also implied an upgrade of the area to become a “town centre” with the possibility of establishing local grocery stores.

*Figure 5.8: Maximum height of buildings in the western part of the Eastern Harbour*



*Source: Local area plan 1-4-110*

### Eastern part of the Eastern Harbour area (Beddingen)

A local area plan (1-4-104) for the 18,000 sqm. eastern part of Eastern Harbour (Beddingen) was approved in 2009. It replaced the local area plan 10.066 that covered the same area and an area further to the east. The purpose of the local area plan was to change the planned use of the area as requested by the owner, while securing a good access for the public, both for pedestrians, cyclists and motorized traffic to the area and to the recreative area along the fjord and the harbour basin. The intention of the plan was to adapt the development of the area to the original scale and structure of the area with large and high-rise buildings primarily for housing and service business. The plan also ensures that an existing old shipyard workshop building from 1918 worthy of preservation in the area is preserved.



A gross built up area of 11,000 sqm. was allowed with a maximum height of 25-35 m. in the area with a gradual increase in height towards the waterfront.

Another local area plan (1-4-109) for the northern part of this area was approved in 2014 to allow the use of the old shipyard workshop building for housing instead of business purposes, which was no longer deemed possible by the owner. The preservation of the building was unchanged. The plan should also ensure both the public access to recreative areas and green spaces for the future residents in the area. The local area plan reserved an area for an accessible waterfront promenade with space for pedestrians and cyclists along the waterfront. Furthermore, it made it possible to land a bridge over the sailing entrance to the harbour basin.



Finally, a local area plan for the 28,500 sqm. south eastern corner of the Eastern Harbour area (1-4-108) between the Eastern Harbour basin and Nyhavnsgade was also approved in 2016. This previous industrial area, like the neighbouring area, should be a place for housing and recreational activities. Relatively high buildings of up to 7 storeys would be accepted close the basin, which would work as a noise insulation for the other buildings. At the same time the view from the buildings and the urban spaces were emphasized in the local area plan.



One remaining company was in operation in the south western corner of the area, when the plan was prepared, and it was therefore necessary to establish a buffer zone to protect against noise. However, it was expected that the company would move to the Aalborg East Harbour later on, which is actually taking place at present (2019). This is not a result of the regeneration of the area but is done with an aim of getting the better operational conditions that are offered by Aalborg East for the continued operations and growth.

### **Development of the Eastern Harbour and the use of pilot projects**

In general, the Eastern Harbour area has been planned as a densely populated area, which corresponds well with the intentions to develop a sustainable, high quality and high-density urban area along the growth axis with recreative facilities along the fjord. In comparison with the Western Harbour Promenade area between the bridges, the intention is to get a more densely populated, lively neighbourhood with less cars and more people in the streets and in the open urban spaces.

In connection with the development of the Eastern Harbour area, many different examples have been seen of user driven pilot activities and facilities, that have been applied to make the citizen accustomed to make use of and stay along the fjord,

During the planning and early construction period, existing buildings were made available for "Platform 4", which was a cultural innovation for young artists that opened in 2008 with financial support from the city and the developer. Platform 4 was supported by the owner, the city, the university, and the local art community, and was operating in the border area between new technology, art and culture, e.g. through exhibitions, talks, performances, concerts, festivals etc.

Another temporary activity was the local association "Byens Rum" (the city's space), which is a user driven centre for urban development that was also provided with premises belonging to the developer.

These activities were temporary and closed when the public support was terminated (Platform 4) and when the premises were taken back by the owner (Husets Rum).

A cable park with facilities for wakeboarding and other activities started in the basin of the Eastern Harbour in 2012 and is still ongoing. It is the intention that this and other water related activities will continue at the dock, run by local, private sports and leisure associations.

Through such pilot projects, this new neighbourhood, which was previously an industrial site was discovered by citizens as a valuable part of the city, also for other activities.

The construction of the area is now progressing, but a planned high-rise building on the pier has been moved back from the tip, and is postponed, probably to take the current market situation into account and avoid empty apartments. The area is expected to provide housing for a total of 4,000 citizens.

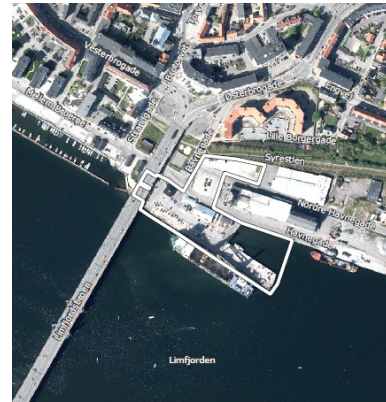


### 5.3.9 North Harbour, Nørresundby, 2012-2021<sup>17</sup>

The North Harbour is the area immediately east of the bridge in Nørresundby. It is part of the Stigsborg Harbourfront that extends from the bridge to the tunnel further east in Nørresundby.

The North Harbour area connects Nørresundby town centre with the eastern waterfront and the eastern and western waterfronts in Nørresundby.

A local area plan for the area (1-2-109) was approved in 2014 after a public debate in 2013. In 2012, the major part of the area had been sold by the Port of Aalborg to a private developer and construction company on the condition of a local area plan being approved that made it possible to build a hotel, a restaurant, a grocery store, and residential and office buildings. This sale thus triggered a planning process where all the Stigsborg Harbourfront from the bridge to the tunnel was discussed.



The aim of the local area plan was to support the goal of a concentrated urban development along the growth axis through a new attractive housing and business area interacting with urban spaces. There were potential conflicts with the neighbouring feed company, Hedegaard Agro, to the east, but as the Port of Aalborg together with the feed company identified ways to solve this within a period of 8 years, the local area plan could be approved according to the Planning Act. The local area plan also required an adjustment of the municipal plan, which was done through an addendum (1.023) that changed the eastern harbourfront into an urban transformation area and allowed the business area to be changed into an area for mixed urban uses. The addendum also changed the city centre area of Nørresundby to include part of the North Harbour area, which made it possible to establish a grocery shop in the area.

The local area plan decided that the North Harbour area may be used for mixed urban functions and recreative areas. A maximum of 15,700 sqm. buildings were allowed, of which 75 % may be residential, and a maximum height of 34 m. was allowed for a small part of the area. A minimum of 30 % of the area should be accessible public space. A maximum of 2,500 sqm. shopping area was allowed of which 1,600 may be grocery shops.

The new owner of the area didn't succeed in doing the planned transformation and sold it to a local developer, who started the constructions according to the local plan.

<sup>17</sup> Based on interviews with stakeholders and the local area plan 1-2-109.

### 5.3.10 Western Fjord park, Aalborg<sup>18</sup>

The Western Fjord park is a public outdoor pool from 1949 in a 165,000 sqm. area owned by the city and located close to the fjord immediately west of the city. It was worn out and old fashioned, and it needed renovation. The uncertainty about a third road connection over the fjord had postponed the works for some years, and soon after the decision was taken concerning the alignment of the new connection, the land reservations were cancelled, and the planning process started for the area. An architectural competition was launched by the city and the national Danish Foundation for Culture and Sports Facilities. After selecting the winning proposal, a local area plan (3-4-102) was prepared and approved.

The local area plan opened up for a number of changes and improvements of the facilities in the area. Instead of being an outdoor swimming pool area open to the public within opening hours three months a year, it was now planned as an open area for swimming, water sport, ball sport and other recreational activities. The plan was to change it from a closed area at the fjord that blocked the access for cyclists and pedestrians along the waterfront into an area with a waterfront promenade, connecting it to the city and to the other parts of the waterfront promenade in Aalborg. The plan was implemented in 2017.



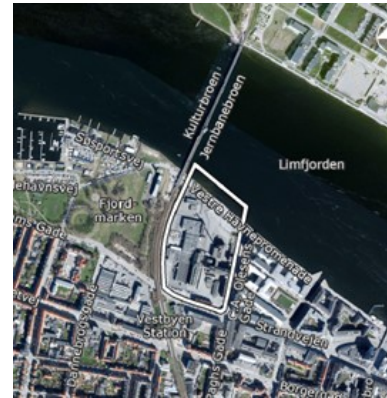
### 5.3.11 Spritten, Aalborg, 2015<sup>19</sup>

Spritten is a popular name for the previous distillery, located at the waterfront in the western part of Aalborg, where an ongoing regeneration project is underway. In 2007 the historical buildings from 1931 were selected by the Danish Agency for Culture and Palaces as one of 25 industrial heritage memories in Denmark, and in 2015, they were officially protected by the agency. The distillery closed its activities in 2015, and the buildings were bought by a major, local developer and construction company (A.Enggaard) and a local investor with the aim of transforming it into an international city for art and culture. The owners prepared an overall plan for the 5-ha area, including the immediate surroundings to the south and west, bordered by the railway to the west and Strandgade to the south. The plan, which was prepared by highly estimated architects, included areas for housing, theatre, an art centre, a micro distillery, a chocolate Exploratorium, shops, offices, a hotel, and a restaurant in a total built up area of 81,000 sqm., including the existing factory. A special feature is the installation of a 32 m. high artwork, Cloud City by the Argentine artist Tomás Saraceno.

<sup>18</sup> Based on the local area plan 3-4-102.

<sup>19</sup> Based on interviews, newspaper articles, and local plan 1-3-113

An addendum to the municipal plan was made in order to allow other uses of the area than industrial, and a local area plan (1-3-113) was approved in 2017 with the aim of allowing the realisation of the plan. The local area plan allows for 7,500 sqm. shops in the area and gives room for mixed uses of the planned buildings, including housing, offices, services, shops, etc. The purpose of the local area plan was further to protect the elements of the industrial plant and ensure the integration of the old buildings in the area in a contemporary way. It also secures the continued access to the waterfront promenade by foot and bicycle in this area and into the area to the west, the Fjordmark, west of the railway.



The use of temporary activities to open up for the area to the public was mentioned in the local area plan. An organic food market operated 2017-18 and was then changed into a centre for events and entrepreneurship.

The project has been further developed, and an architect competition for the planned art centre and the urban spaces in and around the old industrial buildings has been launched in 2019. The intended external funding of the EUR 15 million artwork is in place with contributions from the city and from a number of local and national foundations. The construction works started early 2019.

### 5.3.12 Skudeharbour, Aalborg

The planning of the area west of the Spritten, the Skudeharbour, has begun. According to the municipal plan, the aim of the planning will be to continue the maritime character of the area and to ensure the public access and existing leisure related functions of the area. The intention has been that the area should contain mixed urban uses, and heritage values of existing buildings, and the good connection between the city and the fjord shall be maintained.



The intention is further to have a mixed residential and business area, but a recent revision of the national Planning Act prescribes that greater attention must be paid to existing industrial businesses, which gives new challenges to such a development.

### 5.3.13 Stigsborg Harbourfront, Nørresundby

A new township is planned in the 54-ha area in Nørresundby between the Limfjord Bridge and the tunnel, the Stigsborg Harbourfront. This area is expected to be developed over a 25-30 years period, and the total capacity is expected to amount to 400,000 sqm. in 4-6 and 2-3 floor



buildings with a total of 4000 flats. It is expected to house a total population of 7,500 and to have public institutions like a school, a home for elderly etc.

The area includes at present the above mentioned Nordhavn, the neighbouring area, where the feed company Hedegaard Agro is still operating, and next to this, an office building from 2002, which houses two city departments, a few residential blocks and a large undeveloped area.

Part of the area was the location of chemical industries in the period from 1912 until 1998, where the international company Kemira stopped production of fertilizers at the site. A few years after the closure, Aalborg City bought the area with the intention of securing the area for future urban development. It was known that the area was contaminated, but nobody imagined the extent and severity of the pollution.

The planning of the area started slowly. At first, an external expert was hired for development of ideas, and the resulting material was used for a public hearing. There was not any strong interest for the area, and the developments in other parts of Aalborg seemed to cover the demand for housing. The area was classified as a future urban transformation area.

A thorough environmental study was also undertaken in the area. It was concluded, that it was necessary to do a special effort in the most contaminated area. The establishment of a park became part of the solution. It was decided to encapsulate the worst part of the contaminated area by filling in soil to avoid the risk of people coming into contact with the toxic pollution. In the areas where buildings were planned, the contaminated soil shall be removed, and the area encapsulated to the extent necessary. Coastal enhancement was another part of the solution. The coast will be moved by filling it with stones and sand on the existing beach and shallow waters off the Kemira site. The combination of these remediations should solve the problem of outflowing arsenic to the fjord and thereby ensure that the water in the fjord becomes clean enough to meet the bathing water quality requirements.

In order to start the development of the area, the city built an office building for two city departments in 2001-2002, and in 2016 the city took steps to initiate a more concrete planning. A “parallel assignment” was launched, where the city invited groups of advisors, both architects and market development experts to present their ideas. Three groups were then selected to propose a more concrete spatial, economic, and strategic plan for development of the Stigsborg Harbourfront. They should follow a ‘value and quality catalogue’ with visions for the area. It pointed at the main values that would be observed in connection with the development of the area: The relation to the coast and the fjord, sustainability, nature and well-being, urban amenities to ensure the lively urban areas, and varying types of housing, with a focus on citizenship and a good daily life. The plans were also required to be a realistic business case.

In 2017, an overall development strategy for the Stigsborg Harbourfront was prepared on the basis of inputs from the winning proposal and from some hundred participants in public

meetings in the area. The proposed development of the area was welcomed at the meetings with citizens, but a few suggestions were given concerning the height of the buildings and the view to the fjord. The strategy integrated the main suggestions and it was then finalized and approved by the city council.

In 2018, the city council approved an addendum (1.043) to the municipal plan for a minor residential area in Stigsborg Harbourfront and in 2019 an overall local development plan for phase 1 of Stigsborg Harbourfront is being prepared.

Figure 5.9: Stigsborg Harbourfront with an indication of the planned 1<sup>st</sup> phase



Source: [www.stigsborghavnfront.dk](http://www.stigsborghavnfront.dk)

Phase 2 is the area to the west, where the feed company Hedegaard is expected to continue operating until around 2028. Phase 3 is the eastern area that will be developed in the 2030s and 2040s.

In 2018 a development company, organized as a partnership (P/S), owned by the city, a local developer and construction company, and a national pensions fund, was established and took the ownership and the responsibility for developing the area, in the first instance to implement phase one of the plan, which covers 33 of the total 54 ha. of the area. The choice of private partner to own 51 % of the company was done based on a tender, where a major local developer and construction enterprise (A.Enggaard) and a national pensions fund were the winning partners. The city contributed with the land, while the private partners contributed with capital and expertise and required a first right to buy the land sites for development.

The applied organizational model is an interesting innovation, which has been applied before in a Danish context. The advantage for the city is that by staying involved as a partner throughout the process it has a direct influence on current decisions and may take its part of the benefits from the values that may be created in the process. In addition, the inclusion of private sector economic and technical competencies are expected to benefit the planning and implementation process. However, the negotiations between the developer and the planning authority are internalized, and the model presents new challenges for the city having the

conflicting roles of both planning and controlling authority on one hand and as investors on the other.

## 5.4 The regeneration process

The regeneration of the harbourfront in Aalborg has been guided by the Fjord catalogue and the municipal strategies and plans, as well as by master plans for major areas and local area plans. The process and the challenges have been different among the various regeneration projects and partnerships.

### 5.4.1 Implementation models

The concrete steps have been determined by factors such as ownership to the areas, the nature of the planned regeneration and the need for investment capital, as well as by the availability of funding for the implementation. Four main implementation models have been applied:

1. The city owns the land and is responsible for the development with the assistance from external experts and advisors. (the park areas, the first phase of the Western Harbour Promenade in Aalborg, and the central harbourfront in Aalborg).
2. The land is owned by a private company or by investors, who propose a development plan, which is negotiated and then agreed with the city. (Lindholm, central harbourfront Nørresundby, Eastern Harbour and Spritten)
3. The land is owned by the city, who prepares an overall plan for the development of it before selling it to a developer (and continues negotiations during the construction period) (House of Music)
4. The land is owned by the city, who prepares an overall plan for the development of it before inviting private partners as investors to take part in a development company and thereby sharing the ownership as well as the revenue from selling the building lots to investors (including sales to the private partners themselves). (Stigsborg Harbourfront).

The four models may be described and illustrated like in the table below:

*Table 5.2: Urban planning implementation models (C: City; P: Private developer).*

Model	Land owner	First plan	Final plan	Funding	Planning by:
<b>Model 1: The city as the owner and sole developer</b>	C	C	C	C	Decisions
<b>Model 2: Private developer owns and implements</b>	P	P	C	P	Negotiations and approval
<b>Model 3: The city owns, plans and sells to a private developer</b>	C	C	C	P	Negotiation
<b>Model 4: Public – private partnership</b>	C	C	C	P and C	Negotiations and decisions

*Source: authors' elaboration*

The ideal choice of model must then depend on the strength of the city vis-à-vis the private developers in urban planning and funding capacity, and on the negotiation powers of the city. The resulting weighting of the commercial aspects may be expected to be higher under Model 2, but this depends on the ability of the city to stick to its urban visions and on negotiation powers.

#### **5.4.2 Temporary activities**

In many cases, both in cases, where the land is owned by the city and by private companies, temporary activities have been used to help citizens familiarize with the respective area. This was in particular the case in the Eastern Harbour, but also in other areas, as in Spritten, where it was suggested in the local plan, and in the Stigsborg Harbourfront, where citizens are encouraged to make use of the areas while they are vacant. These activities have had very different characters, but in all cases, they have been effective and cost-efficient ways to open up the harbourfront.

Some interviewees have regretted that the activities have suddenly stopped to the detriment of the involved citizens, when the owner wanted to use the land or the building for more profitable purposes. However, on the other hand, if the activities have been launched as temporary, they must have known that, and should have prepared for a continuation somewhere else in due time, if there was a basis for that.

#### **5.4.3 Public debate and hearings**

All the implemented projects have been discussed in the public as an integrated part of the planning process. Early in the process when the planning starts and the first preliminary plan has been prepared, citizens, authorities and associations are invited to contribute with ideas and suggestion in a “public phase” of the planning. Such public debates may concern a specific small or large area, e.g. along the fjord, or they may concern a subject like e.g. the development of a plan strategy or a structural plan, or it may have a thematic focus such as eg. traffic and parking in the city or the future construction of high-rise buildings in the city.

The public debate may take different form, such as public meetings, panels of citizens, city walks with planners etc.

Both public debates and hearings are mandatory parts of the planning procedures, but the city has invited for public debates beyond what is required, and the direct and indirect involvement of citizens in connection with regeneration projects and other urban development projects has been increasing over the period.

Information on complaint procedures is also mandatory and part of the public hearing. It is the clear impression from interviews that the extensive involvement of citizens has been an important factor for the successfulness of and the general support to the transformation of the waterfront.

#### **5.4.4 Flexible planning**

As it is seen from the description of regeneration projects, the urban planning in a Danish context may be rather flexible. Local plans must of course follow the structures and regulations of the overall municipal plans, but if there is a conflict between an existing municipal plan and a certain desired development in an area, or when the political process necessitates changes in the plans, it is relatively easy to make an addendum to the municipal plan as long as there is a sufficient political support for it.

A high degree of flexibility seems in particular to have been valuable by enabling the city to take advantage of new unforeseen opportunities in the process. In such cases the key issue is to observe the overall visions and goals, which seems to have generally been the case.

Among the four flagship cultural projects along the regenerated waterfront (The Utzon Centre, the House of Music, the Spritten Art centre, and Nordkraft) the three first mentioned have been initiated by and/or driven by private individuals or groups that have promoted the projects in relation to foundations, private companies and politicians. In such cases, the city council and planners have assumed the role of negotiating partner with the initiators and investors in the light of the overall visions and goals for the area. After that, they have supported the project and adapted existing plans to the extent necessary and prepared new local area plans in order to make the projects possible. The city took the initiative to the Nordkraft, but in all cases, private partners have taken an active role.

Some might argue that the approach has been too flexible, in particular in cases where private developers and initiators have prepared and presented their plans and requested a local area plan, and that too much power of influence is given to investors and initiators. The critical point is here, if the planners and the city council show a sufficiently critical sense in relation to the already adopted visions and goals and have the sufficient negotiating power vis-à-vis individual private interests.

A few stakeholders have argued that it is often too difficult for the city council to reject a project if it contributes positively to the development of the city, where other alternatives might be much better and worth waiting for, but at the same time more uncertain. This is a typical conflict without a clear-cut, good solution as long as the planners or politicians never know what the future will bring of better options than the one at hand.

A developer and construction company has also mentioned that in some cases, they find the planning too flexible, when negotiations take place with the planning departments outside formal meetings and without written agreements that are not binding for any of the parties in the end. An extreme example of this has been brought forward in the news media, where the former mayor and a councillor apparently signed a piece of paper to convince an investor that a certain area would not be built on in future. As this promise was never approved officially by the city council, it may not be valid, but a court case is running and will take a decision on this.

The review of the various regeneration projects and the master plans and local area plans for these does not reveal any substantial deviation from the visions and the main goals that were defined in the Fjord Catalogue or in the urban planning documents that were prepared and approved later on. New ideas and urban development principles have developed, but none of the original goals have been bypassed. There was an increased focus on densification, housing for youth, an increased use and new practices for citizens involvement, and more focus on the use of sight lines to and from planned buildings and urban spaces, but the overall ideas of the Fjord Catalogue remained unchanged.

#### **5.4.5 Funding**

Five main categories of sources of funding have been used for the various regeneration projects in Aalborg: (1) the city council, (2) local and national foundations, (3) EU funds, (4) building associations, and (5) private investors. It has often been possible to combine these, which has helped the implementation. In particular, the youth accommodation and the major cultural institutions, Nordkraft, House of Music and the Utzon Centre have enjoyed broad mixes of funding sources with different combinations of national and local foundations and private contributions.

In general, private investors have funded the commercial housing investments and office buildings in the regeneration projects. The expected financial profitability of such projects has therefore been a main condition for their implementation.

Mainly in the context of cultural institutions, but also in the cases of office buildings, an important catalyst has been the practice of public actors, like the university, to engage in long- or medium-term lease agreements, thereby improving and securing future incomes and thus facilitating the financing process.

#### **5.5 Other urban development projects**

During the period that has been focused on here, other urban developments have taken place, some of which may have influenced the regeneration of the harbourfront and vice versa. The existence of such projects complicates the assessment of the impacts of the regeneration of the waterfront. Some of the main urban projects that have been implemented are brownfield regeneration projects in or close to the city centre.

A hub for public transport was transformed into the “Kennedy arkaden” and combined with offices, shops and a cinema centre in 2004, and the neighbouring freight rail area has more recently, after 2010, been transformed into an area with a campus, shops, offices and apartments. The location is only 1,5 km. from the Limfjord.

Two km from the waterfront, south of the city centre, a fiber cement factory “Dansk Eternit” moved away in 2004 and gave room for a new city neighbourhood with residential buildings, shops and offices.

Another ongoing project is the reopening of the “Oesteraa”, which is a natural creek mixed up with drainage from the open land south of Aalborg. Since 1899 the stream was led east of the city centre via canals and pipes, but the reopening of it is seen as a combined urban development-, climate-, and environmental project. It will pass through a former freight train area, which is now an urban regeneration project, and a former amusement park, Karolinelund, which is now a green urban area, and pass the House of Music to end up in the Limfjord. This project is seen as an important driver for the urban development.

Finally, the construction of a “Cultural Bridge”, a bridge for cyclists and pedestrians along the railway bridge over the Limfjord in 2017 has improved the connection between Aalborg and Nørresundby and no doubt also added to the value of some of the regeneration projects.

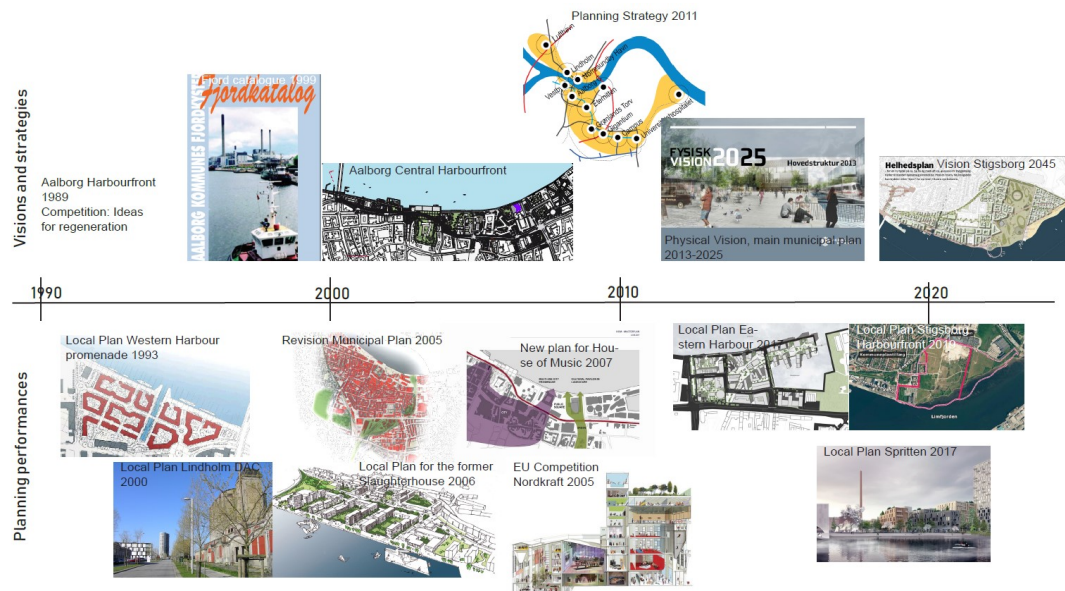
On the background of these parallel urban projects it is clear, that the developments that can be registered over the regeneration period cannot be taken as a good or precise measure of the impacts of the waterfront regeneration projects. Other projects have had similar, but varying impacts over time. The outcomes of the regeneration and the long-term impacts of it will be further investigated in the following sections.

## 6 The outcome of the regeneration process

### 6.1 General observations

It is obvious for everyone, who visits Aalborg, and who lives there, that the waterfront and the city has undergone a radical change since the 1990s. At that time, the fjord attracted mostly anglers and sailors, and large parts of the waterfront were used for parking and for different temporary purposes. Today Aalborg has an attractive waterfront, open to and integrated with the city centre, with cultural institutions, parks and recreational amenities close to the fjord and at the same time in the heart of the city. The regeneration process is illustrated with a timeline as shown in the following figure.

Figure 6.1: Timeline for the regeneration of the waterfront, 1990-2020



Source: City of Aalborg

The waterfront has also given place for a number of attractive neighbourhoods, generally with relatively high densities, but located close to open, urban areas along the fjord. Some of these have a few high-rise buildings with heights of more than 70 m, which has also been subject to a separate involvement of citizens. A discussion paper was prepared, and people were invited to answer some questions concerning high-rise buildings. However, most of the new neighbourhoods are not yet fully developed, in most cases the last buildings are under construction after a long construction period, and in the Eastern Harbour the planned high-rise buildings on the pier have been postponed, probably to await the market demand.



Figure 6.2: The DAC area in Nørresundby with the Horizon building, 2019.



Source: Henning Thomsen, 2018

In general, the regeneration has followed the overall plans for the waterfront, and the outcomes of the process are, and are expected to be in line with the visions, including the ideas that have developed in the course of the process. A few have argued with some strength that Aalborg has overtaken and exceeded the visions and the dreams that were initially formulated<sup>20</sup>.

## 6.2 Definitions of outcomes

In the following, the outcomes are defined as the immediate, direct results of the regeneration process and its projects as they stand now or are expected to be after completion of ongoing construction activities. The outcomes may be either aimed at, unforeseen, and/or unwanted. In the table below, the visions and goals for the waterfront that were either mentioned in the Fjord Catalogue or formulated in subsequent plans are listed, and it is assessed on the basis of observations and interviews with stakeholders, if they have been achieved or not.

As in the Fjord Catalogue, a distinction is made between the general and the more specific visions and goals for the port area and for the urban area respectively. The main question is then, if the regeneration process has resulted in corresponding outcomes. The objectives are shown in the following table, where an assessment of the successful achievements is indicated with a green colour. The goals that have not been fully realised are indicated with an orange colour. Objectives of a longer term, indirect character have been marked with a yellow colour and have not been assessed here, as they are addressed in the next section on longer term impacts.

### 6.2.1 Realised outcomes

Based on the conducted interviews and other information gathered in this case study, it is the clear assessment that all the listed general goals have been met. The fjord is very visible from the city today, and the access between the city and the fjord has been much easier than before.

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<sup>20</sup> CEO for the Port of Aalborg Claus Holstein and professor Henrik Halkier: Viewpoint in the local news: Aalborg, the Limfjord, and the future. (Nordjyske Stiftstidende, 5<sup>th</sup> October 2018).

There seems to be a general consensus that the first major regeneration project, along the Western Harbour Promenade in Aalborg was not successful in the sense that the vision for the area was not achieved. Overall, however along the waterfront in Aalborg and Nørresundby, there is a good balance between the new, relatively dense residential quarters that contribute to a more concentrated city, and the open areas along the waterfront, that are available for recreational functions.

*Figure 6.3: The Western Harbour Promenade waterfront, summer 2019.*



*Source: Henning Thomsen, 2018*

The more specific visions and goals for the central port areas are also considered as fully achieved. Regional facilities for culture, education, and service are well represented at the central harbourfront, and the same is the case for office buildings and other environmentally friendly business activities. The regeneration has also given place for housing and local services, which again has had an immediate positive effect on the increasing retail trade in the city centre. Finally, the area along the waterfront is today a very integrated part of the city centre.

*Figure 6.4: A view to the Limfjord from the city centre.*



*Note: Nyhavnsgade is seen along the fjord. The only remaining industrial company along the fjord, the Feed company Hedegaard is seen on the northern side.*

*Source: Henning Thomsen, 2018*

Most of the specific visions and goals for the urban areas along the waterfront are also considered as fully achieved. Almost all agree that after the regeneration, a beautiful façade faces the fjord, and there is an increasing number of attractive urban spaces that interact well with the fjord. Some have claimed the new buildings are becoming too tall and that the

residential areas are becoming too dense, but the intention has been to build sustainable urban areas through the concentrated housing areas and the outcomes correspond to this intention. Others have claimed that the quality of the new housing areas, not only along the fjord, but in general in Aalborg, is too poor with too much concrete and poor construction material in general. There may be an element of truth in this statement, but on the other hand, it is also necessary to build affordable housing for the existing and potential market to allow for a desired mixed population along the waterfront.

Table 6.1: Overview of the regeneration goals and corresponding outcomes.

General visions, goals, and objectives	Outcomes
A more visible fjord.	Achieved in almost all regenerated sections of the waterfront.
Strengthening the city as a regional centre for culture, trade, business and tourism.	A long-term objective but fulfilled. See section 7.
A sustainable urban development through concentration.	Concentration of housing areas have been achieved.
Creation of a new modern business profile of Aalborg.	A long-term objective but fulfilled. See section 7.
A substantial part of the areas along the fjord should be reserved for recreational functions.	Has been achieved
Easier access between the city and the fjord.	Has been achieved.
Port specific visions and goals:	Outcomes
There shall be room for new regional facilities in the fields of culture, education, and service.	Achieved along the central harbor front in Aalborg.
There shall be room for environmentally friendly businesses.	Achieved, mainly in areas with mixed uses.
There shall be room for housing, local services and cultural activities.	Achieved.
The new functions shall support the retail trade in the city centre.	Achieved.
The former port area should act as a natural extension of the city centre.	Achieved.
Visions and goals for the urban areas:	Outcomes
The buildings shall form a beautiful and characteristic façade facing the fjord.	In general, achieved.
The exciting urban spaces shall interact with the fjord.	In general, achieved.
Characteristic and valuable buildings shall be preserved, fx when previous commercial buildings are converted into new uses.	Successfully achieved in many cases but didn't always succeed.

General visions, goals, and objectives	Outcomes
Marked fix points between city and countryside must be preserved. (Aalborg Portland and the oil harbour to the east and DAC to the west).	Achieved.
New buildings must respect the city's profile and existing characteristic profiles.	In general, achieved.
emphasis is placed on strengthening Aalborghus Castle as a visual centre.	Achieved.
A better contact between the city and the fjord with several canals, open streams and stairs down to the water, and boat bridges.	Achieved.
New focus areas after the Fjord Catalogue	Outcomes
An increased densification	Achieved along the waterfront
More focus on housing for youth	Achieved
More focus on sight lines	Achieved, there has been an increased focus
Increased involvement of citizens	Achieved

Source: authors' elaboration

The Fjord Catalogue emphasized the importance of maintaining the landmarks between the city and the countryside. One of these, the twin silo DAC building for housing, that has been built close to the waterfront in Lindholm in the western end of Nørresundby constitutes a clear change from countryside to the city, and this change is underlined by the Lindholm Brygge area, which has been built up as an area for both low and high-rise buildings.

It is the clear impression that new buildings in general respect the city's profile and former characteristic profiles as desired in the Fjord Catalogue. Examples are seen in Lindholm, Eastern Harbour and in the Spritten area. The development has also made the Aalborghus Castle more visual as the central location in the city.

The Fjord Catalogue had the vision of a better contact between the city and the water in the fjord, and many initiatives have been taken to meet this aim. A canal was built in the Western Harbour Promenade area in Aalborg, and a public bath was established in the fjord, but after some time, none of these seem to be as popular among the users as expected. On the other hand, stairs that have been made down into the water at the central harbourfront, the harbour basin in the Eastern Harbour has been made a place for waterrelated activities, and the Oesteraa stream has been opened between the House of Music area and the Eastern Harbour, all of which has positively contributed to a better contact between the city and the fjord. However, the main contributor to this comes from the harbour promenade that has been made as a continuous connection for pedestrians, ranging from the Western Fjord Park to the Eastern

Harbour. In addition to this, a cyclist and pedestrian bridge connects this to a similar promenade on the northern side of the fjord. This vision is therefore also considered as well achieved. In addition to the mentioned achievements, plans are also in the pipeline to build a network of five clubhouses with a similar and recognizable design for kayaks and other water related sport activities along the fjord.

The new focus areas that have been added or strengthened in planning documents after the Fjord Catalogue have also been achieved. The densification is being achieved in the new neighbourhood in Lindholm, and in the Eastern Harbour as soon as these are filled up, and the same will happen in the Stigsborg Harbourfront. Outcomes in terms of an increased housing for youth, which is also a general urban development objective has also been achieved. The planned number of apartments for youth have been built, and it is worth noting that many of the most attractive areas along the fjord actually have been reserved for youth dwellings in the process. Finally, it is also the impression that the higher focus on sight lines and the increased involvement of citizens has been achieved.

### **6.2.2 Incomplete outcomes**

At one point, the vision as formulated in the Fjord Catalogue has only been partly met. It was the aim to preserve certain port and industrial characteristic and valuable buildings, and this has been done to a high extent with very good examples in Nordkraft and Spritten. This goal has gained an increasing attention over time, but in some cases, it has not been possible for technical and/or budgetary reasons, which is the reason for the orange color in table 6.1. The main examples are the Cathedral in the Lindholm Brygge (DAC), silos in the Eastern Harbour area, and the case of Kvaegtorvet<sup>21</sup>. The wider aim has been to preserve the cultural heritage, and efforts have been done to achieve this in other ways.

The main reason for this shortcoming is seen in the technical and financial limitations. In short, the visions proved to be very expensive. In Lindholm and in Eastern Harbour tall 16-17 floor buildings have been erected instead in order to maintain the historical profile of the areas which has had the additional advantage of creating better business cases for the developers. A deeper analysis of the technical and economic aspects might have given a basis for a better solution, which was also the case in In the Western Harbour Promenade area in Aalborg, where the first plans were based on the visions without the necessary economic considerations that in the end had a strong influence on the final result.

In some cases, time has shown that there was not the demand for some parts of the plans. This was the case In the Western Harbour Promenade area in Aalborg, where there was never the life in the streets with cafes and shops that was originally envisioned. The same was the case with the public bath in the fjord in the central harbourfront in Aalborg, which was used by many during the first year. Later on, the renovation of the popular Western Fjord Park, the

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<sup>21</sup> In the case of Kvaegtorvet, the idea of preserving the building was only fostered after the Fjord Catalogue

nuisances from rats around the Fjord Bath, and the seaweed, grass and other natural waste in the water has resulted in a long period with very few users. however, it is too early to say that there is no need for it.

The main causes for the mentioned shortcomings have been an insufficient knowledge in the planning phase concerning technical solutions, demand from users and the financial aspects. This could probably in some cases have been resolved by further technical, economic, or demand studies.

### **6.2.3 Unexpected outcomes**

In some cases, unexpected outcomes have been experienced on top of the above mentioned realised and incomplete outcomes. This was in particular the case in connection with the areas of the House of Music, in the Eastern Harbour, in Lindholm, and in the case of the Western Harbour Promenade area in Aalborg.

- In the House of Music area things developed very differently from plans and expectations and the development here is a good example of the value of flexible planning. The House of Music was planned at Rendsburggade, close to the old castle and the city centre, but when noisy and polluting business activities suddenly closed down in the Eastern Harbour, the location in the eastern end of the area, close to the planned new neighbourhood was found as a better solution.
- The Utzon Centre was then placed in the central harbourfront with the financial support from the EU regional funds that was intended for and allocated to the House of Music, when this project for a time was given up.
- The House of Music also became much more expensive than expected, which made the city and the promoters stop the project for a while until the funding was in place.
- The planned underground parking for the House of Music was moved, and the existing Kvaegtorvet was demolished.
- Also the buildings for business and housing in the area between Utzon and the House of Music were in the end very different from the initial plans, which was due to a combination of a limited response to the tender, a proposal in the bid of a housing association to build youth housing at this very attractive location, and the decision of the University to build a city campus here. The youth accommodation strategy of the city and the better funding opportunities that were available for social housing during this period did also contribute to this change.
- In the Eastern Harbour area and in Lindholm, it has not been possible to reconstruct and maintain former industrial buildings as planned. Alternative solutions were found in negotiations with the owners of the areas.

- In the case of the 'Western Harbour Promenade area' in Aalborg, the area ended up becoming a denser, more isolated area with less urban and marine life than envisioned. The local area plan was probably too loose, which may be due to a lack of consensus about the area and a political pressure to avoid a budget overrun.

These and a lot of minor changes have been done in the process and new local plans and addendums to the municipal plan have been made to make such adjustments possible. The planning and implementation must be characterised as a highly flexible and agile process, which has contributed to outcomes that are in many ways better than they would otherwise have been, had the first planning versions not be adjusted. On this background, it seems fair to say that the outcomes of the regeneration up until now have corresponded well to the visions and aims.

There are also a few examples of cases, where positive outcomes have resulted from the regeneration process, which is in line with the overall strategy but without a clear connection to the individual regeneration projects.

- One such example is the waterfront promenades in Aalborg and Nørresundby that are now connected with the Cultural Bridge along the rail bridge for pedestrians and cyclists and the Limfjord Bridge. The connected waterfront promenades are a very important outcome of the regeneration across the various, individual projects.
- Another example of an important outcome across the individual regeneration projects is the string of cultural pearls that have been and will be given to Aalborg in the process of regeneration. They include Nordkraft, the Utzon Centre, the House of Music, the planned Art Centre, and probably a new theater in Spritten.
- Another outcome across the regeneration projects, which is also due to other urban development projects over recent years, is the remarkable increase in the amount of attractive youth housing in Aalborg that has resulted from the focusing on and a massive investment by the city of Aalborg in this category of housing. Housing for youth was before a serious problem in Aalborg as well as in other Danish university cities, but this is no more the case in Aalborg.

## **7 Economic, Social and other Impacts**

The analysis of Aalborg's regeneration process has demonstrated the outcomes of the new developments at both sides of the Limfjord and the resulting sustainable urban development that has been a key objective for the planners. To some extent, the maritime and industrial cultural heritage has been maintained in the process.

This section considers the expected and observed impacts, which are here defined as the indirect, medium- and long-term results of the regeneration. The impacts are identified, analyzed, and assessed on the background of a 'Theory of Change' approach (TOC). With the help of the TOC, the logical relationships between initiatives and activities to the resulting and expected outcomes and impacts are identified in order to compare the long-term goals with the outcomes and impacts. In particular, the potential demographic and socio-economic, but also the cultural and identity changes that may be expected as a result of the regeneration and the identified outcomes shall be focused on.

The TOC relates the key inputs and the activities of the regeneration process, described mainly in section 5 to the main intended outputs, outcomes and impacts, discussed in section 0 and 7. As part of the analysis, it is also assessed whether outcomes and impacts are truly incremental, or whether they may have occurred regardless of the regeneration process.

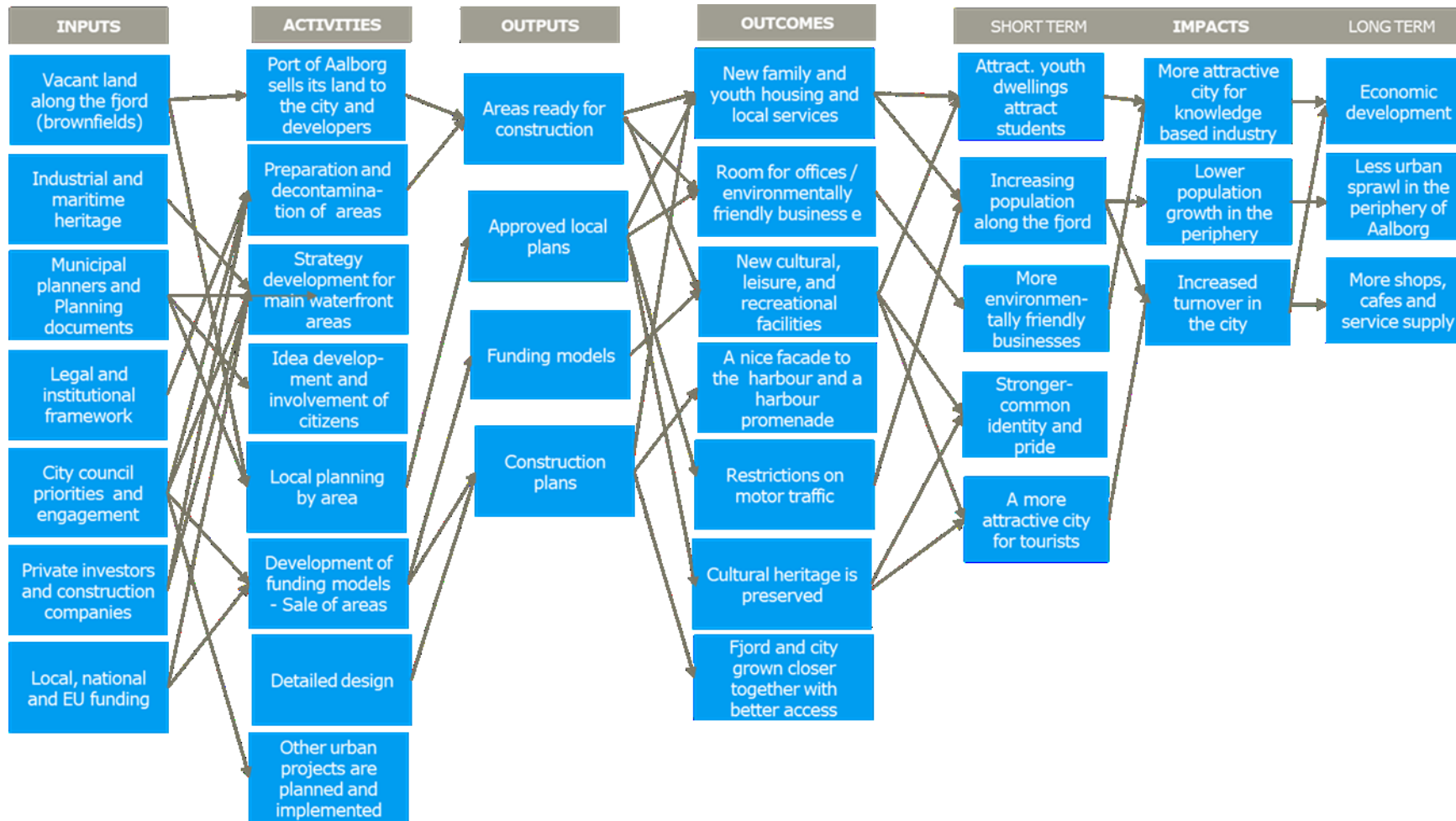
### **7.1 Demographic trends**

If the regeneration makes the city more attractive to live in, it may be argued that the population will increase more than in a situation without the regeneration. On the other hand, this argument may also be turned around, and it may be argued that a previous population increase has increased the demand for housing and made it possible to develop the waterfront and to increase the housing capacity here. According to the TOC, an expected long-term impact may be an increased population as a result of the construction of a varied supply of residential housing along the fjord. The result of regeneration may to some extent be an internal move of local population to the waterfront from other parts of the city or municipality, and in order to get a clearer picture of the impacts of the regeneration process, a distinction must be made between population increases along the fjord, in the city, and in the municipality.

It is obvious that there will be an increased population along the fjord already in the short term, if the construction plans are followed and the planned new apartment buildings are actually built and occupied. This will also be the case in the longer term, when compared with an alternative situation without the regeneration of the waterfront.



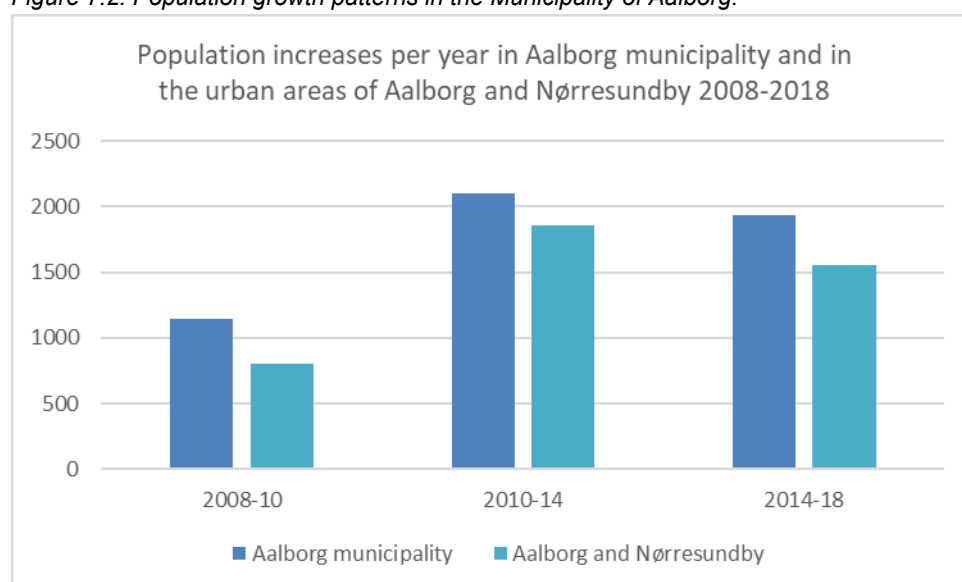
Figure 7.1: Theory of change of the regeneration process in Aalborg.



The medium- and long-term impact of the population in the city as such and in the municipality depends probably more on the attractiveness of the housing in the city, including the waterfront and other urban areas, and maybe even more on employment opportunities, which is also indicated in the TOC. Also, other factors, such as the traffic infrastructure and not least the number of cultural events and the cultural life of a city may be important for the choice of residence.

The annual population increase in the urban Aalborg and Nørresundby amounted to about 1,600 - 1,900 per year since 2010 and slightly more, about 2,000 in the entire municipality. The growth, which includes both the natural growth and the net migration, was lower during the earlier period 2008-10. The city has attracted the major part of the population increase during the whole period since 2008, but the increased capacity along the harbourfront by itself is far from sufficient to absorb all of the population growth of the period.

Figure 7.2: Population growth patterns in the Municipality of Aalborg.



Source: Statistics of Denmark, Statistikbanken, 2019.

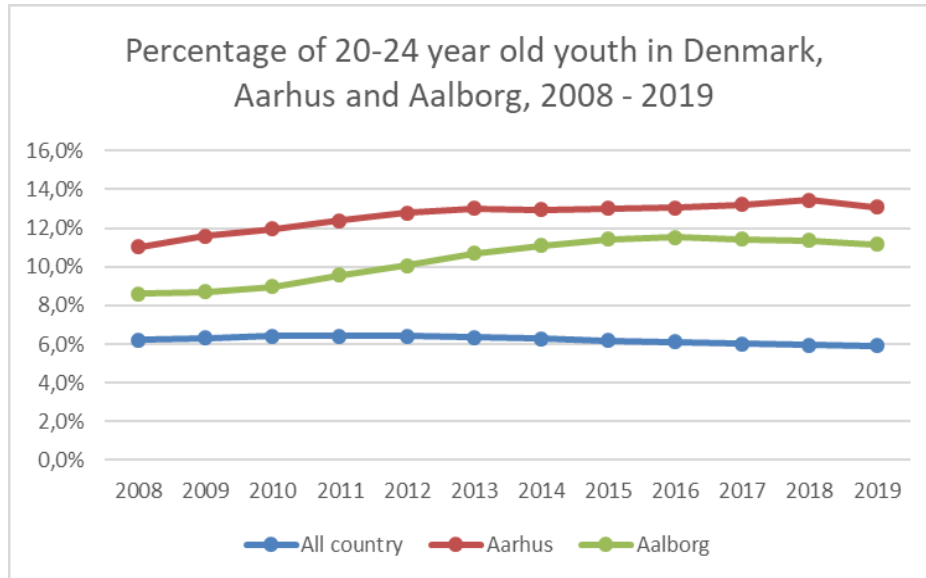
The regeneration projects might thus have had a positive impact and increased the population both by the creation of more capacity and by offering a wider supply of housing and making the city more attractive for potential new citizens. The statistical figures, however, cannot be taken as a clear verification of such a likely long-term impact.

A deeper understanding of the reasons for the development and the importance of the regeneration projects along the waterfront requires a much more comprehensive analysis of population movements and of the housing market.

The age distribution in the population of Aalborg Municipality may have been affected by the regeneration over the last ten years, since a large amount of youth housing has been built. A large part of this has been part of the regeneration of the harbor front, but it has been part of

the general urban development policy and may thus have been affected by other urban development projects as well. This is analyzed by comparing the development in Aalborg and Aarhus, see figure 7.3.

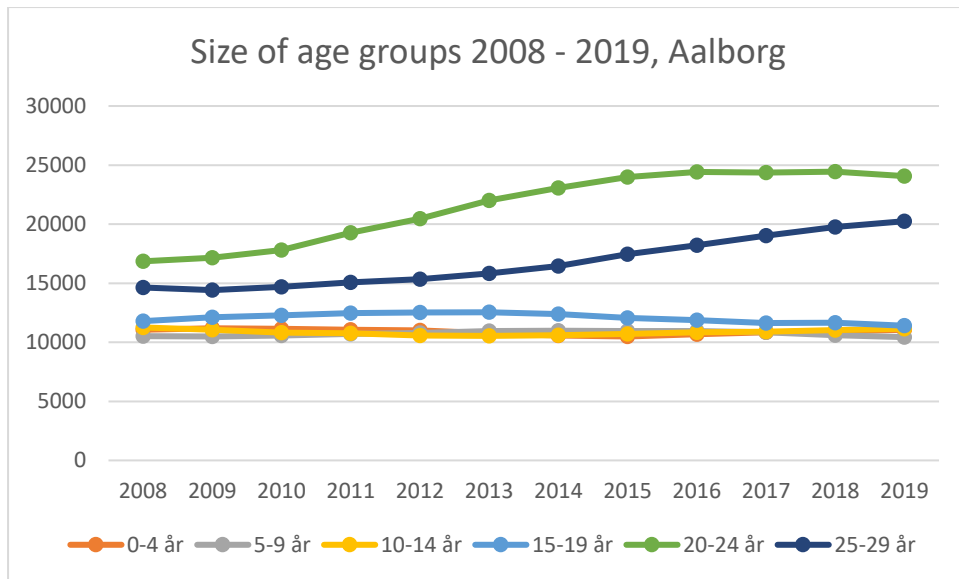
Figure 7.3: Development of the percentage of youth, 20-24 years old.



Source: Statistics of Denmark, Statistikbanken, 2019.

It is seen that the percentage share of 20-24-year-old people has increased from less than 9 % in 2008 to almost 12 % in 2016. This indicates that Aalborg has received a major inflow of young people from the rest of the country during the period 2010 – 2016. The percentage share of this group in the total population comes very close to the similar share in the larger university city of Aarhus. The development of this group in comparison with other groups of children and youth is shown in figure 7.4.

Figure 7.4: Size of selected age groups 2008-2019



Source: Statistics of Denmark, Statistikkbanken, 2019.

It is seen that the immediate effect is clearest in the group of 20-24-year-old youth, but that the elder youth of 25-29 are being affected with some delay. This may be taken as a clear indication of the positive impact of the youth housing strategy.

## 7.2 Attraction and integration of new inhabitants

The regeneration of the waterfront is providing a more varied supply of housing, which is assumed to attract new segments of residents and thus have a long-term impact on the population growth in the city.

As seen above, there has been an increasing number of young people in Aalborg. This was probably caused by the increasing number of university students during the period 2010 – 16, which again might be the result of the many new attractive youth dwellings that have been built along the waterfront as well as in other urban development projects of the city. In many cases, they have been placed as integral parts of housing projects in the city, whereby the integration of youth in different areas of the city has been promoted.

In general, it has been an aim of the urban development projects to promote integration of different groups. This has been done by building expensive private family dwellings, subsidized dwellings for rent, and youth housing in the same neighbourhoods or even in the same building.

## 7.3 Business and employment opportunities

Aalborg has for some time been in a process of transforming its old business profile with the dominance of traditional manufacturing industry into a modern business profile with a large amount of knowledge-based industry and services. The University that came to Aalborg in 1974

and mainly its technical educations has had a very important role in this, but at the same time, the internationalization and the globalization has pushed in the same direction.

The regeneration of the harbor front will probably have a strong indirect effect on the development of a knowledge-based industry in Aalborg. The new harbor front with a varied supply of attractive housing and with the new cultural institutions may help attracting foreign staff to the knowledge based industry in Aalborg and the regeneration has strengthened the attraction of young people by offering appealing youth dwellings in a period where university cities have had difficulties offering just a simple room for the new students at the beginning of the academic year in September. More youth in the city, and in particular more university students is probably playing an important role, when part of them stay in the region after finishing studies, According to Figure 7.4, this has probably been the case. Whether they are staying to work as employees and modernize existing local enterprises or contribute as new entrepreneurs, the regeneration has a positive impact on the development of the knowledge-based economy in Aalborg in this indirect way.

By increasing the supply of highly educated staff in Aalborg, the attraction of the city to potential investors and new business activities may also increase, which will no doubt contribute to a new, modern identity of the city. A side effect is that the attraction also makes newly educated graduates stay in Aalborg, even if they have no jobs. This may have a negative impact in terms of a higher number of unemployed graduates in the city, which seems to be the case in 2019.

## **7.4 Attraction of new functions**

The regeneration of the waterfront in Aalborg has certainly contributed to a positive cultural development in Aalborg and in the entire region. The location of Nordkraft, the House of Music, and the Utzon Centre along the fjord has given these cultural landmarks a good and very visible location, which has helped their establishment as well as their operations.

A question that has been raised a few years after inauguration of the House of Music is, whether there is a demand to absorb the increased supply of music and other cultural events. Nordkraft and the House of Music typically offer different types of arrangements, but on some occasions, there has been close to a conflict situation when the House of Music has had rhythmic concerts, which was considered by the rhythmic club in Nordkraft as its domain. It may of course be difficult to handle a situation with a sudden sharp increase in the supply of cultural arrangements and events, but on the other hand, there might have been an undersupply, which means that the audience may only need time to learn to make use of the increased range and amount of musical and cultural events.

The increase in the supply of cultural arrangements and events may also have a long-term impact on tourism to Aalborg. This is particularly expected after the attention that has followed a presentation in international media such as in the New York Times. The value of this

increased focus depends on willingness of the local businesses to prepare themselves to receive more international guests, and on the city to continuously marketing itself abroad. The Utzon Centre had about 60,000 visitors in 2018, of which 20 % were foreigners and less than 60 % from the North Denmark Region. The statistics have up to recently shown a slightly decreasing trend, at least up to 2016<sup>22</sup>, but the mentioning of the Aalborg Waterfront in the New York Times is expected to contribute to an increased attraction of tourists to Aalborg.

Finally, the impact on the development of a knowledge-based economy via an attraction of students to Aalborg as mentioned may have a positive impact on the attraction of foreign capital. Part of such investments have been the establishment of development departments of international knowledge-based industries.

## 7.5 Preservation of the port and industrial heritage

A main aim of the regeneration planning has been to preserve the port and industrial heritage of the old port and its industrial history. This has been attempted by protecting old port and industry related buildings that have been worth of preserving, or by keeping elements from the old port like bollards and railway tracks in the new environment. In some cases, it has not been possible to keep old buildings that were considered worthy to preserve. In Lindholm and Eastern Harbour, they have been replaced by new high-rise buildings imitating former silos and other industrial buildings.

The real port and industrial heritage have been preserved in several cases, and there are many traces of the historic industry and port activities. And there are not only traces. The visitor to the House of Music or the resident in one of the new neighbourhoods need only to look along the waterfront to the east, where they will see the oil harbour and the cement factory and their private ports to see that this was and is still a port city. On top of that, there is still a company left in the western part of Stigsborg Harbourfront, the supplier to farms in the region, Hedegaard Agro, which is still an important feed and seeds company with production and trade activities and with ships calling at the last piece of the old Port of Aalborg. Hedegaard Agro has still a rental period of up to 20 years before it will have to leave the port.

*Figure 7.5: A view to the east from the central harbourfront*



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<sup>22</sup> North Denmark Region (2017): Turismen i Nordjylland.

*Note: The oil harbour and the cement factory are seen in the middle and to the left on the southern bank. Two large office buildings are seen to the right in the former shipyard area and to the left on the northern bank with two city departments in the Stigsborg Harbourfront area.*

*Source: Henning Thomsen, 2018*

Nordkraft, when it was a heat and power plant was an important element of the harbour front with its intake of coal over the dock. Today the building is still standing with the appearance of a power plant and is one of the main examples of the industrial heritage along the waterfront.

Finally, the preservation of the old distillery, Spritten, will be a visually very clear and a valuable industrial heritage located at the waterfront and garnished with modern structures and art, thereby keeping the old factory building alive for the coming generation.

## **7.6 Urban qualities**

The regeneration has contributed with an architectural boost to the city. The cultural flagships along the waterfront have been designed by internationally renowned architects, and top Danish architectural companies have played the roles in the planning and design of the new neighbourhoods along the waterfront.

No attempt shall be made here at assessing the quality of the architectural results, which would require a balancing of many different aspects, but the general picture is that there is a good variability among different residential areas along the waterfront, from the Western Harbour Promenade area in Aalborg to Lindholm and over the central waterfront in Nørresundby and the central harbourfront in Aalborg to the Eastern Harbour area.

Most of the interviewed stakeholders that have expressed a view on that the architectural results, have appreciated the end result, except for the dense urban quarters on the south side of the fjord that have been criticised by many as being too much affected by commercial interests. Some are criticising the widespread use of concrete and facings with short lifetimes.

The Eastern Harbour has been planned as an area with a high density in order to achieve increased sustainability and to create the basis for an active urban life. In the context of the waterfront east of the Limfjord bridge in its entirety, the overall result along the fjord with parks and open spaces around the buildings at the waterfront, it is a very well-balanced urban solution.

## **7.7 Environment**

In connection with the regeneration of the waterfront, environmental studies have been carried out, and where needed decontamination has been conducted. The need for decontamination was of course the strongest where there are plans to develop new housing areas. It is the polluter and the owner of an area, who is responsible for the decontamination before

construction works are initiated, and if the land is sold, it is the new owner that takes the responsibility. Usually it makes sense to clean up an area before selling it to reduce the risks involved with the uncertain costs of decontamination, which will without doubt be deducted from the sales price. The City is the controlling authority with responsibility for ensuring that the end result is acceptable and meets the legal requirements.

In the case of the Stigsborg Brygge area, a serious contamination, due to chemical industrial activities on the site for many years, was not cleaned up before the land was overtaken by the city. The city bought the land without prior decontamination in order to secure the area for the desired urban development. The costs of decontamination turned out to be much higher than expected, and it became a strong barrier for the regeneration. The most polluted part of the area had to be protected by incapsulating it and a planned major residential area had to be used as a large city park instead. The pollution, therefore, was mentioned by an interviewee as “the present to Aalborg from the former chemical enterprise Kemira”.

## **7.8 The impact on the regional economy**

The regeneration of the waterfront in Aalborg will benefit the whole region in many ways. The increased supply of cultural arrangements benefits all the region, and all, who are living within the normal distance of audience to such activities, and the potential strengthening of the business development will be a benefit for those living in commuter distance from Aalborg. With the actual commuter behaviour this is about all in the region. Both aspects will contribute to a strengthened role of Aalborg as a regional centre for culture, trade, business and tourism.

An increased attractiveness of the city as a home for new citizens as a result of the regeneration may have either positive or negative impacts on the region outside Aalborg. To the extent that Aalborg will attract new citizens from the region or from outside, the result will be a concentration within the region. On the one hand this may be seen as a negative impact, but on the other, it must be considered positive to the extent that the result is a stronger regional capital and a stronger region.

## **7.9 The impact on identity**

The identity of the city in the minds of its citizens and others has been in a process of change for many years. This has been a gradual development since the opening of a Aalborg University, the closure of the ship yard and of other key industrial enterprises of the city, and the opening and rapid growth of the science park, NOVI. The changing profile of the harbour has further contributed to that. The heritage and the various traces from the industrial period, where Aalborg was known as a city of traditional manufacturing industry, dominated by blue colour workers, contributes to the new identity as a modern city with a proud historical background as an industrial port city.



## **7.10 Conclusions on impacts**

The regeneration of the waterfront in Aalborg and Nørresundby has most likely had a positive impact on the attraction of citizens and the economic development in the city. It has contributed to the role of Aalborg as a regional centre for culture, trade, business, and tourism and to a new modern profile of the city with a knowledge-based economy and at the same time with a proud background as an industrial port city.

Very little, however, can be said or statistically verified on the concrete and quantifiable long term impacts of the waterfront regeneration in Aalborg due to various reasons: The first regeneration projects were implemented already before the turn of the century, but the process is ongoing, the major part of the regeneration have only been conducted a few years ago, and many projects along the waterfront are still ongoing. At the same time, other urban development projects, with high development potentials have been planned and are implemented along with the waterfront regeneration, and it is not possible to say what part of the identifiable developments that is caused by the waterfront regeneration.

## **8 Challenges, risks, and drivers for change**

A lot of positive and negative experience has been gained during the process of planning and implementation of the regeneration of the waterfront in Aalborg, many of which are worth analysing further to provide inputs to other small and medium-sized port cities that are facing a possible port regeneration.

### **8.1 Population and demography**

The high population growth that has been experienced in the city of Aalborg and Nørresundby since 2006 and in particular after 2010 has created a good background for housing investments along the fjord as well as for other urban development projects. It has been a driver for the process, without which many of the regeneration projects had been less attractive and feasible. It is likely but it is not possible to verify whether the observed growth is also a result of the regeneration process having added to the attractiveness of the city. In particular the housing for youth at the central harbor front in Aalborg is considered very attractive, but it is unclear, what is cause and effect.

The youth accommodation has been given a high priority in urban development projects in Aalborg in general during the regeneration process. This has changed the age structure of the population and helped the university in its efforts to attract new students.

A broad mix of housing, including large private condominiums and social accommodation, both in high-rise buildings and in low apartment buildings have been built along the waterfront, and more is under construction and planned. There might be a risk of a temporary oversupply of housing in the city, but despite that, new housing projects are still initiated.

### **8.2 Environmental protection**

The need for decontamination of old industrial areas and the resulting costs have become a potential challenge wherever industrial land is converted into modern urban uses. This was particularly a challenge in the DAC area in Nørresundby, where the obligations of the owner to decontaminate the land himself contributed to the delay of the development of the new neighbourhood here. In the Stigsborg Harbourfront area, the high decontamination costs were carried by the city to ensure that the land was not sold to a third person.

Protection against future climate changes has also become a key consideration in connection with the planning and approval of new constructions.

### **8.3 The planning process**

The main driver of the transformation process has been the broad support to the overall planning document, the Fjord Catalogue, and a strong common will among planners, politicians and stakeholders in general to transform the city and its historic industrial image and to make the city attractive for new citizens, students and businesses. In spite of some disagreements along the way, there has been a broad consensus about and support to this development direction and to the main visions and goals that were defined and clearly formulated early in the process and currently adjusted along with the development of urban planning priorities.

Other drivers that have been mentioned by several stakeholders were the strong and stable team of planners, a high confidence by the politicians to the planners, a good culture of cooperation between the various city departments, but also between the city and the private stakeholders. A strong political leadership of the city during the regeneration period has also been mentioned by many interviewees as a strong and important driver, particularly in critical phases of the regeneration.

Finally, the Danish spatial planning system by itself may be seen as a good framework and a positive driver with its concentration of the responsibility for the planning on the city alone and with its combination of fixed planning procedures and great flexibility. However as mentioned a high degree of flexibility is not always a positive driver but may end up in confusion, lack of transparency and conflicts. A high agility shall therefore be combined with strict formal, transparent procedures and the retainment of overall visions and goals.

### **8.4 The role of public policy and governance**

Public-private cooperation has been a key tool and a catalyst for the development. Different cooperation models have been applied, but in most cases the city has focused on its role as planning authority and left the investments with private investors. The city has done substantial investments in road infrastructure, public institutions as well as public spaces, parks and amenities along the fjord, and it has also undertaken major investments in social housing projects according to the statutory rules in this field. In all cases, the city has had a very active role in the planning and implementation process and has involved various city departments in both internal and external negotiations.

As mentioned above, in one ongoing case, the city has entered into a partnership development company with 49 % partnership with a developer and construction company and an institutional investor, where the partnership is responsible for the development of a major, new neighbourhood, Stigsborg Harbourfront. The contribution of the city to the partnership has been the land, and the two private partners have put in corresponding financial contributions.

The public involvement in the initial phases and the public funding from the city that contributes with the land, has encouraged private investors and has reportedly served as a bridge builder between various private investors.

In a few cases, the regeneration has been less successful due to shortcomings in the planning and preparation of a project along the waterfront. Vision plans were done in the earlier phases without a sufficient overview of the technical and economic aspects, and apparently without a good forecast of the demand for the proposed facilities. The planned urban life in the Western Harbour Promenade area in Aalborg, the preservation of industrial buildings, and the public bath outside the central harbourfront are the main examples.

## **8.5 The involvement of citizens**

The transparency of the planning process and the systematic and comprehensive involvement of citizens in the urban planning is an important democratic element in the regeneration process, but it also contributes to a better planning. The involvement of citizens is a statutory element of the planning system, but it is increasingly being used beyond the requirements. The main value of the involvement, however, lies in its importance for the creation of a broader and deeper background for the planning and final decisions for an area. This helps ensuring a decent and in-depth, well timed analysis of the needs and preferences of the citizens and users for potential planning elements. The better the preferences of the final users are known and foreseen, the better the regeneration avoids housing and amenities that will not in the end be used to a satisfactory extent.

A phased approach to regeneration and the use of pilot projects to open up port areas for the public have also contributed to a successful process. These may be seen as alternative ways to improve the frames for the involvement of citizens.

## **8.6 Funding opportunities and initiatives**

Funding has also been an important barrier, particularly for the major cultural projects that were considered beyond the capacity of the city. Such challenges were in many cases resolved by a combination of identifying long term leases as a guarantee for private and institutional investors and by involving large charitable funds with a focus on architecture and local development. The funding of housing projects in general has been left to the private investors, except for the, still considerable, statutory city contributions to social housing.

## **8.7 Physical barriers**

A main challenge in the process of regeneration was the barrier between the city and the central port area in terms of a four-lane road, Nyhavnsgade. In connection with the planning of the central harbourfront and after discussions at all levels, this was solved by following and revising original plans of replacing the existing four lane road with a two-lane road with a carriageway. This restricted the road traffic, but it made it easy for pedestrians to cross the road, which was a strong wish from the planners and the majority of politicians. The final decision of this radical and controversial change was taken after the city council election 2005, where this road was extensively discussed in the election campaigns. The road is not considered a serious barrier today.

## **8.8 Impacts of incentives, catalyst developments, and synergies**

The first success is important for a continued, positive development. The good examples are Nordkraft and the House of Music that have undoubtedly helped to build the confidence in the further development. The same can be said about the popular Jomfru Ane Park and the planned art centre at Spritten. In addition, the municipal planning, the local area plans, and the general consensus on the plans have provided a safe basis for private actors to invest.

## **8.9 The demand for the new waterfront facilities**

A basic condition for success of regeneration projects with the creation of new facilities along the harbourfront is that there is a demand or an expressed need for the new facilities with an investor or with users that are prepared to pay for and use it. This is a condition for all types of projects, whether they are housing projects that need a growing housing market to attract investors, a cultural institution project that requires a sponsor or an investor that believes that the planned types of arrangements will be demanded. The same is true for the creation of leisure areas, where the city may be willing to pay for it. It will only be considered a success, if there is also a sufficient number of citizens that will make use of it.

It is also important to forecast the demand for new buildings and facilities to prepare a good plan and a phasing of the projects. This is complicated by the difficulties in foreseeing the market development and the temporary or longer-term imbalances that may occur in the housing market, whether these are due to local imbalances or general business cycles.

The House of Music was built as soon as there was a good funding model in place. The whole idea was based on the assessment of the founders that such a house was missing and needed in a city like Aalborg. It might have been wise at that time to formulate a cultural strategy and to analyse the market for music and cultural arrangement before investing. On the other hand, the House of Music probably was on the safe side concerning demand.

Time showed that there was a demand for its productions, and the house attracted audience in large numbers. The question is from where this came, whether it was an uncovered demand or a demand that was already covered somewhere else. In the last case, the project may have negative consequences for other supplier of music arrangements. A few years after the inauguration of the House of Music, according to the local newspaper, there has been some conflicts with the suppliers of rhythmic music who see the House of Music as an unfair competitor, and the rhythmic club in Nordkraft has claimed that House of Music has penetrated into their domain, when they organized rhythmic concerts. Another actor in the same field, "The House" in Aalborg complains that the House of Music receives more and more public support at the expense of their own share,

The Utzon Centre has its focus on architecture and on the ideas of the famous Danish Architect, Jorn Utzon, and there was a broad support to the idea of building an architectural centre to the memory of him in his hometown. The necessary funding was raised, but very little had apparently been planned and foreseen when it came to the operation of the house. A considerable part of its volume was rented to the university, but this was not a stable, long term solution. A few years later, the university chose to move into own new facilities on the waterfront. The centre therefore had some difficult years in the beginning and has recently adopted a more viable and sustainable strategy.

As an example of an insufficient demand, the Western Harbour Promenade area may be mentioned. The planned shops and cafes and the planned maritime life in the canals seem not to be demanded in this area. This resulted in a quite different type of urban area than foreseen.

The same can be said about the public bath that was built in the central harbourfront, where the number of users fell for different reasons after an initial period. This however is partly due to the unforeseen renovation of the much larger public bath in the Western Fjord Park and partly to a temporary fall in the demand caused by the nuisances from rats around the Fjord Bath, and the seaweed, grass and other natural waste in the water.

## 9 Conclusion and lessons learned

After having been in the process of regeneration in the waterfront for more than 20 years, Aalborg has achieved almost all the goals that were defined at the start of the process, but the construction activities are still ongoing, and the regeneration and development of the waterfront will continue for at least 20 years more.

Municipal plans for the entire municipality, masterplans for main areas along the fjord, and local area plans for small, sometimes overlapping, areas have been appropriate planning tools in a process where developers, investors, and other stakeholders as well as the citizens have been actively involved.

Different cooperation and funding models have been applied, but the City of Aalborg has done the necessary infrastructural investments and the investments in the planned green areas and parks as well as in social housing. The city's statutory contribution to youth housing has been a major cost, due to the city's strategy in this field. Private investors have been actively involved as planners, developers and investors. There has been very close dialogues and negotiations between the city planners and the private actor to ensure that the developments are in line with the approved plans.

The outcome of the regeneration is very much in line with the visions and the plans for the waterfront. In a few cases, the outcomes have been different from the intentions, which has been due to unexpected developments and the emergence of new information, but the general picture is that the outcomes are at least meeting the goals.

The population growth was relatively high already during the first stages of the regeneration process. This is seen as a possible catalyst for the regeneration, but the continued high growth may also be seen as a long-term positive impact of the higher attractiveness and the more varied supply of accommodation that the regeneration has caused. The regeneration and the increased attractiveness of the city through the increased number of students and skilled staff may have a positive impact on the economic growth. In general, however, the impacts cannot be measured or quantified.

Among other impacts of the regeneration is its contribution to a new modern profile of the city, which has strengthened its role as a regional centre for trade, culture and tourism.

The funding of the House of Music was a main challenge in the process, but the successful implementation with the help of a major national charity foundation RealDania is also seen as an important catalyst for the continued development along the waterfront.

The main driver of the transformation process has been a broad support to the overall plans in the Fjord Catalogue and a common will among planners, politicians and stakeholders in general to transform the city and its historic industrial image and to make the city attractive for new citizens, students and businesses

Public-private cooperation has been a key tool and a catalyst for the development. Different cooperation models have been applied, but in most cases the city has focused on its role as planning authority and left the investments with private investors. As the owner of the Port of Aalborg, the city has had a certain control over the land along the waterfront, which was mainly owned by the Port of Aalborg. As a planning authority, the city has kept a close contact to involved developers through a close dialogue and negotiations.

The city and its private partners are presently testing a new model for funding and implementation of urban developments. In the specific case, the city is the landowner and contributed to a development company with land, while private partners are involved and is pay for certain development costs. The model is attractive for the city as it allows the sharing of profits from the development projects in the area. On the other hand, this might place the city at both sides of the table, as planning authority that controls and negotiates with investors on one hand, and as investor with an interest in an improved business case on the other.

Main lessons from the regeneration are that it is important to have the visions, goals and plans for the regeneration in place and to have a broad consensus and a clear public leadership in case of the challenges that will inevitably come concerning funding and implementation.

At the same time, it is also important to have an agile approach to the implementation of the individual regeneration projects, as long as the agreed vision and goals are retained. The detailed analysis and planning of the regeneration projects are important, and the assessment of the technical, economic and commercial aspects of the investments as well as the subsequent operational phase of the projects must not be forgotten.



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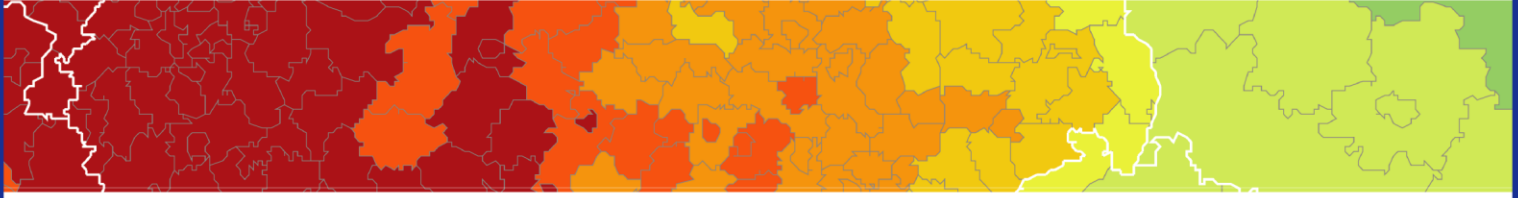
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## Annex 1: The Research Framework

Questions	Sub-questions
<b>Impact</b>	
1. What are the impacts of port services relocation on small/medium size port cities?	<ul style="list-style-type: none"> <li>• How have the port activities in small and medium size European cities evolved over the past decades, in a context of globalisation and concentration of the port industries on small and medium size cities?</li> <li>• Has there been a transformation or relocation of port activities? If so why, how?</li> <li>• What has been the social, economic and environmental impacts of the transformation or relocation of port activities?</li> <li>• To what extent have the transformation or relocation of port activities impacted the relationship between the ports and the cities?</li> </ul>
2. What are the impacts of brownfield regeneration on small/medium size port cities?	<ul style="list-style-type: none"> <li>• What is the economic impact of small/medium size port cities regeneration?</li> <li>• What is the social impact of small/medium size port cities regeneration?</li> <li>• What is the environmental impact of small/medium size port cities regeneration?</li> <li>• What is the impact of brownfield regeneration on the identity of small/medium size port cities?</li> <li>• What are the impacts on the wider region?</li> </ul>
3. What are the main challenges of small/medium port city regeneration?	<ul style="list-style-type: none"> <li>• Note: among possible challenges to be addressed in the study the following are identified from the terms of reference:</li> <li>• Managing and balancing the identity change from harbour city to something new with the preservation of the port heritage and the related urban history</li> <li>• Overcoming the historical barriers separating the port business from the city</li> <li>• Integrating new groups of population while creating a diverse urban environment and avoiding 'gentrification'</li> </ul>
<b>Policy and governance</b>	
4. How can policy, support small/medium port city regeneration and mitigate challenges?	<ul style="list-style-type: none"> <li>• What are the urban public policies, strategies and plans for port city regeneration?</li> <li>• To what extent and under which conditions can the wider policy framework support smaller port city regeneration? Can (a lack of) policy be an obstacle?</li> </ul>
5. How can regulation support small/medium port city regeneration and mitigate challenges?	<ul style="list-style-type: none"> <li>• What (national, regional/local) regulations affect port city regeneration?</li> <li>• To what extent and under which conditions can regulation support small/medium port city regeneration and mitigate challenges? Can (a lack of) regulation be an obstacle?</li> </ul>
6. How can governance support small/medium port city regeneration and mitigate challenges?	<ul style="list-style-type: none"> <li>• Which stakeholders are involved in the regeneration process, and how do they cooperate?</li> <li>• More specifically, which public authorities are involved, and what is their specific role?</li> </ul>

	<ul style="list-style-type: none"> <li>To what extent and under which conditions can governance support small/medium port city regeneration and mitigate challenges? Can (a lack of) governance be an obstacle?</li> </ul>
7. What are the risks of port city regeneration?	
<b>Finance</b>	
8. What funding models support city regeneration? What works, and why?	<ul style="list-style-type: none"> <li>What funding sources and models can be used to support city regeneration?</li> <li>How are funding streams sourced – local, regional and national levels?</li> <li>Are there financial incentives in place to support regeneration of brownfield land and attract private funding?</li> <li>How can funding strategies help overcome challenges and risk? What works, how, and under which conditions?</li> </ul>
9. What is the role of public finance in port city regeneration? How is value for money achieved?	<ul style="list-style-type: none"> <li>What is the rationale for using public finance in port city regeneration?</li> <li>To what extent and under which conditions does public funding effectively contribute to regeneration (e.g. in terms of attracting additional funding or ensuring coherence in the overall urban planning)?</li> <li>To what extent and under which conditions is value for money achieved? Where and how has added value been achieved from private sector development with public sector investment?</li> </ul>
<b>Implementation</b>	
10. How can city visions for city dockland district regeneration be implemented? What works, and why?	<ul style="list-style-type: none"> <li>What implementation strategies can be pursued to implement regeneration and realize visions? What planning models and tools can be applied?</li> <li>Especially, to what extent and under which conditions can incremental/flexible approaches (instead of master planning) be useful? How useful is a phased approach to docklands regeneration and why?</li> <li>Which implementation strategies help to overcome challenges and risks? What works, how, and under which conditions?</li> </ul>
<b>Citizens Involvement</b>	
11. How can citizen be involved in the regeneration process? What works, and why?	<ul style="list-style-type: none"> <li>What is the rationale for involving citizens in port city regeneration?</li> <li>How can citizens be involved in the regeneration process? When and in what form can they be involved? How have cities approached/achieved public consultation around port regeneration?</li> <li>What are the social, economic and environmental benefits in the public interest, which can trigger their participation?</li> <li>What works, how, and under which conditions? What are the good examples / best practise methods used?</li> </ul>
<b>Catalysts</b>	
12. What type of catalyst developments are employed to transform and provide a focus for citizens and economic activity? What works, and why?	<ul style="list-style-type: none"> <li>What type of catalyst developments are employed to transform and provide a focus for citizens and economic activity?</li> <li>How can change be triggered and managed (e.g. changes in uses, population, identity etc.)?</li> <li>What works, how, and under which conditions?</li> </ul>
13. What other important synergies should be considered?	<ul style="list-style-type: none"> <li>Interaction between various functions and uses in the area and in neighbouring areas</li> </ul>

	<ul style="list-style-type: none"> <li>• Interaction between public and private sector?</li> <li>• Interaction between public sector bodies?</li> <li>• Interaction between national, regional and local bodies?</li> </ul>
<b>Knowledge Transfer and Lessons Learned</b>	
14. What solutions exist to inspire/implement port city regeneration?	<ul style="list-style-type: none"> <li>• What solutions are available to inspire and implement port city regeneration (e.g. pilot projects, overarching masterplans, frontier uses, oversight board/committee etc.)?</li> <li>• How can soft drivers / catalysts be utilised to inspire and implement port cities regeneration?</li> <li>• Which solutions help overcome challenges and risk? What works successfully/well, how, and under which conditions?</li> </ul>



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