

Søtorv Kvarteret

an urban city island

by Kim Sund Ingerslev, MSc4-URB-11, May 2015



title

Title

Søtorv Kvarteret - an urban city island

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abstract

This master thesis is about the urban development of Søtorvet in Silkeborg, where the site is to be regenerated from an wast car park into an active part of the inner city. To this development also follows a new museum outside the project area.

The focus of the project is the use of social sustainability and mobilities design as tools in the urban planning and development. As a part of the project is a theoretical discussion on the two themes, and how they cen be influencing each other as design tools is made.

Søtorv Kvarteret is an active city island with a diverse programming and strong contextual connections.

To Mia, Konrad and Bodil, a big thank you for the love, support and understanding.

To Ditte, a big thank you for the excellent supervision and positive energy through the entire process.

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preface

This project is made as a master thesis for the Urban Design candidate at Architecture & Design, Aalborg University in the spring of 2015.

The theme of the project is a combination of social sustainability and mobilities design and deals with an urban development in Silkeborg.

The focus in this thesis is to create a new socially sustainable part of the city that connects to the surrounding neighborhoods. The new development also deals with and has focus on the use of social sustainability and mobilities design as active tools in urban development.

The project is made in the period from the 2nd of February to the 27th of May 2015.

project structure

This thesis project is made as a three phased project.

Phase 1 is the analytical and theoretical phase, where the site, context and theory on social sustainability and mobilities design are investigated. It is in this phase that the parameters for design are identified. This is done through visits to site, meetings with the municipal planning office and a theoretical discussion on social sustainability and mobilities design. The end result of the first phase is a vision and design concept, presented in the phase 2, the design phase.

In phase 2 the design development is presented, along with a presentation of project-cases that have similarities to the project. This part of the project presents how the parameters and elements found in phase 1 are put into the masterplan design.

Phase 3 is the graphic presentation. Here the project is presented in a design plan and through visualizations of key spaces.

motivation

The motivation for doing this master thesis comes from several sources. I have found an interest in the notion of social sustainability and how it is used in urban planning. This interest was sparked by my 3rd semester internship at the municipality of Silkeborg. In my time there I got to see the makings of a highly sustainable local plan. The plan worked together with a sustainability tool designed by the municipality. The core of this tool was not to focus solely on the environmental aspects of sustainability but also focus on the social aspects.

Through my time as a urban design student at Architecture & Design, the term mobilities design have become a fundamental part of my urban understanding. It therefore seemed obvious to integrate this in my master thesis.

The background for the theme of this project, and particularly the theoretical discussion, comes from a course work done in the final part of the 3rd semester, where we studied the art of the academic paper. Here I saw an opportunity in linking social sustainability and mobilities design together and this idea morphed into this project.

1

analysis

In phase 1 a number of registration and mappings are done to make a thorough reading of the site and its potentials.

Alongside this is a theoretical discussion, looking into the link between social sustainability and the mobilities design perspective.

intro

the city and the site

The city of Silkeborg is midscale city in central Jutland. The municipality is inhabited by just above 90.000 people, making it the eleventh largest in the country. [silkeborg wiki]

Silkeborg has a long history of being a production city, which are slowly turning towards sales and office work – it is known as “the car city” as there is a high number of car dealers. Due to the city’s close relation to Aarhus, the educational offers are limited as young adults tend to move out after high school, to attend a university in either Aarhus or Aalborg, Odense or Copenhagen. [jyllandskorridoren]

Right now the city is in a rapid development brought along by the new freeway, connecting the city to both Aarhus and Herning. It is a freeway that has been under way in several years and with the chosen layout that runs right through the northern part of the city, it brings a lot of new urban developments with it, the

biggest of these being the new business corridor. This project details a new business area with direct access to the freeway [erhvervskorridoren], making it a desirable location for companies because of the visibility.

As a part of this development, the central city is also affected, with new projects in several central sites. One of these developments is a new two storey underground parking facility under the central square [torvet 1]. Another site in the central city that holds a potential for development is Søtorvet.

The site of Søtorvet is a very central site, as it lies as an island between some unique areas of the city; the residential area of Alderslyst, the cultural hub on Papirfabrikken and shops of the city center. The island character come from Søtorvet being surrounded all sides by infrastructure and water.

The site is a key piece in connecting the inner city parts together. This is especially evident with the connection between Papirfabrikken and the city center.

It is a site with historic value, as it is part of the industrial heritage of Papirfabrikken. Up until 1974 there where a big slaughter house on the site [søtorvet]. In modern times it has been used as a parking space, with connections to a supermarket in one end, and a gas station in the other.

This project works with an urban regeneration of Søtorvet with focus using social sustainability and mobilities design as active tool in the design process.



ill. 11.1



ill. 11.3



ill. 11.2



ill. 11.4



ill. 12.1

registrations and mappings

municipal plans

This project has been made in correlation with the planning department at the municipality of Silkeborg as the site has a history with municipal plans.

In 2010 the municipality decided to put out an architectural competition on the site [silkeborg competition], to generate ideas of how the site should be developed. The competition had four participants, all invited by the municipality. The teams were Vandkunsten, Adept, Metopos and Entasis.

The winning project by Entasis works with a theme of the site as the city's garden. It sees the site as a green plane, wedged in between the city and Papirfabriken. On this green plane they introduce a mazelike structure og building mass that lies on a ridge. This makes the site a backbone between the waterfronts of Remstrup Å and Silkeborg Langsø [entasis].

The plans for the city's garden project was afterwards used as a frame for the 2013 municipal plan [ramme 10-c-20]. In this plan there is a number of guidelines concerning sights lines, building heights, programming, traffic and parking. The plan, as seen on ill. 12.1, marks out zones for both five storey and three storey buildings. It also mark a zone in the southern end that should be keep free of buildings. This is done to ensure a visual connection to water when coming from the city.

As this project is a master thesis, it will not be over-all coherent with the municipal plan. It will allow itself to have a different view on the plan frames detailing maximal building heights and guidelines.

After the municipal plan was completed, the site lay still until work on a local plan for the site was started in December 2014. At this point the owners of the site

wanted to start the development with an anonymous contractor.

Currently the municipality are negotiating with the contractors about the design that shall serve as a base project for the local plan.



program

The site lies in a zone on the border of the main commercial city center, the cultural hub Papirfabrikken and the mainly residential area to the north. When viewing the near context it becomes evident that the site is surrounded by a very diverse programming. The site itself holds only three functions, a supermarket, a gas station and car parking, meaning that there is a limited amount of activity.

A future planning of the program on the site could with benefit introduce all elements of the near context; cultural, educational and commercial spaces alongside housing units for different social classes, to create a vibrant, diverse area.



public spaces & greenery

One of the only central recreational green spaces at the harbor (strip of grass next to Stryget). Beside the central square Torvet, all of the public spaces are located in the edges of the city or in relation to the waterfront. The programming of these are often mono-functional and therefore lack life and activity in times when the function are not open or used.

Public spaces with space for interaction and recreation. Keep the green structure by the waterside; making them more accessible. Create a space surrounded by a diverse programming, bringing life and activity on all hours of the day.



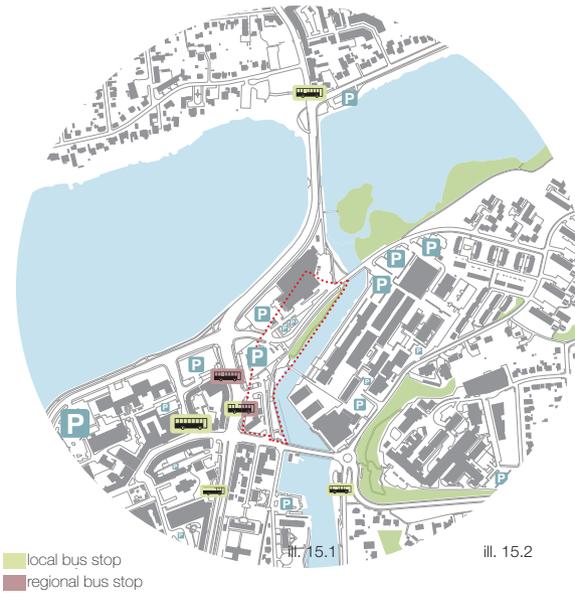
typology

The nearest context, the city center and Papirfabrikken, consists predominantly of block structures or large scale buildings. The old city core was created in a strong grid structure, giving it a character of a block city. On Papirfabrikken, the old industrial heritage shines through in the build structure, which are mostly large scale buildings.

The future planning could with benefit use the block structure as a guide. Even though the site lies between the two main typologies, the connection toward the city center is still the strongest. To keep this connection clear, the block structure will be beneficial.

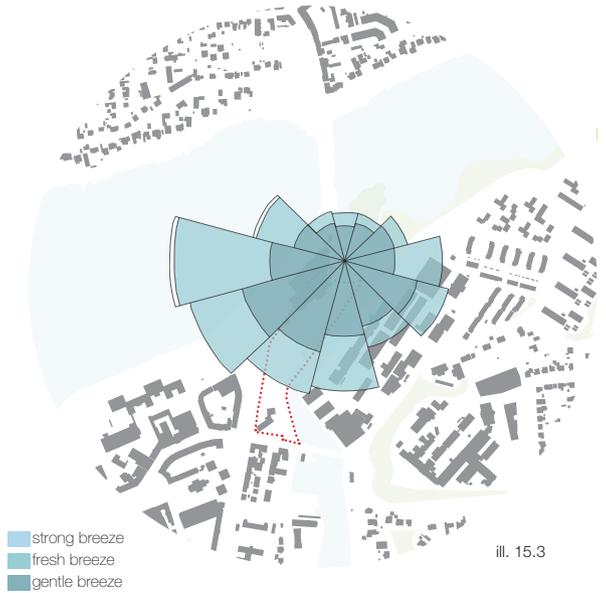


ill. 15.1



ill. 15.1

ill. 15.2



ill. 15.3

flow

The pedestrian and bike flows related to the site mainly follow the edges, due to the heavy car traffic on the site. This is also comes from the current programming on the site. The parking spaces makes the site hard to cross and non-accessible from the roads and creates a hostile atmosphere for pedestrians. There is no clear link between the city center and Papirfabrikken.

There is an advantaged in bringing the flows through the site and thereby use them actively to generate life and vibrancy. The focus should be on pedestrians and bikes and traffic should be dealt with on the premises of these.

public transport & parking

The site is connected to the public transport system by a bus stop in the southern end. From this stop there is busses traveling on both local and regional routes. On and around the site is a large number of parking spaces. Around half of these parking spaces lies in relation to the current programs. The other half have a relation to the city center and Papirfabrikken.

When working on a future development of the site, it will make sense to move the bus stop to a more central location on the site to make it more accessible. As the parking spaces are not only important to the functions on site, the number of spaces should be preserved but moved underground to give way to buildings.

wind and sun

The site is open to the west because of the lake, and with wind coming mostly from there, it can give problems. As the site lies with almost no structures to the west, issues with shadow are very minimal. There can be some problem in the winter-time as the sun is block by buildings.

There is an advantages in shielding the site towards west with buildings. Both to handle the wind from the lake, but also to deal with the traffic.



ill. 16.1

site potentials

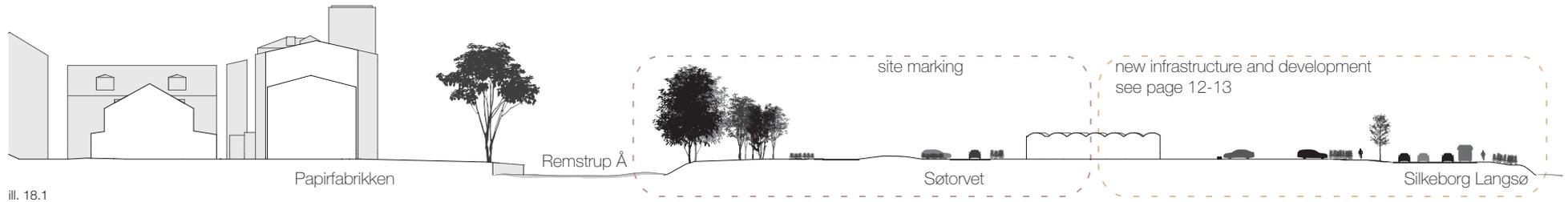
The different neighborhoods bordering the site all hold qualities that can be used in the programming and design of the development. As the site is surrounded by water on, also, both sides, there is a clear potential in using this. On Papirfabrikken, the waterfront/promenade towards Remstrup Å have already been worked on, creating platforms for the restaurants there. Today, part the southern end of the site is programmed for recreational purposes in relation to stryget, an artificial water stream. Further south lies the harbor area where the Silkeborg Liners, or Hjejlebådene, sail from. Amongst these are Hjejlen, the oldest operating steamboat in the old [hjejlen wiki]. The boats are a popular tourist attraction and in summer the harbor draws a lot of people.

Besides the nature features in the area, the context also have a variety in programmatic qualities. As stated before, the water is used for recreational and

business purposes, but at Papirfabrikken there is a number of other functions attracting people. There is restaurants, cafés, an art gallery, a cinema, a fitness center, a hotel and Jysk Music and Theater house, alongside housing units of different kinds. This diversity in programming and functions gives a natural flow of people to and from Papirfabrikken. It is evident that there lies a potential in using these flows for bringing people to the site.

Another place of future potential lies in the new museum on the bank of Silkeborg Langsø west of Søtorvet [silkeborg udvikling & entasis]. This area will be a cultural and recreational part of the new inner city, and it could prove to be a rewarding connection to the development of Søtorvet. This, combined with the cultural programs at Papirfabrikken, makes Søtorvet the center of a cultural axis, thus making it ideal to introduce a cultural programming on the site.

To sum up, the potentials in the site of Søtorvet lies in activating the waterfront, both the promenade to Remstrup Å and stryget, programmatic connections to Papirfabrikken and the harbor and a connection to the new museum and park development at Silkeborg Langsø.



ill. 18.1

section

The site of Søtorvet has a unique context, as it is located between water and water. To the one side is Remstrup Å and Papirfabrikken, on the other Chr. 8's Vej and Silkeborg Langsø.

A section of the site shows the differences in the transition between water and land that are present. On the Papirfabrikken side, the edge is a combination of a natural edge and wooden platforms put up to serve the restaurants there. The opposite side at Søtorvet

is, at the point of the section, a natural edge with trees and greenery all the way to the water. It makes the water less accessible for the people walking by. The site does also have a connection with the water front of Silkeborg Langsø, but this link is cut by the road Chr. 8's Vej as the section shows.

The programming on Søtorvet is now dominated by cars, either traffic or parking spaces. This comes from the build structures present, a supermarket in

one end and a gas-station in the other. As these are the only structures on the site, there is no structures to preserve in relation to a new development. A new development on Søtorvet should therefore build up to the building mass on Papirfabrikken.

On the site there is a clear potential in utilizing the edge to the water of Remstrup Å. The edge could be an interesting counterpart to the promenade of Papirfabrikken.

theory - social sustainability and mobilities design

part I - intro

This part will serve as a theoretical discussion on social sustainability and how it is best utilized in urban design. The background for this comes from a higher focus on the social elements of sustainable design, as stated by The Young Foundation, “*Social sustainability is largely neglected in mainstream sustainability debates...*” [Woodcraft et al 2011, page 15]. The work in this discussion is put into the context of the design project, Søtorv Kvarteret, and the end result will be a specific design tool, developed to promote social sustainability in urban development. Furthermore, the possibilities of using the mobilities design perspective [Jensen 2013] as an active part of this tool will be investigated.

The first part of creating socially sustainable urban developments is to ensure that the build structures can function as a backbone for the elements needed to ensure a high level of social sustainability. But what is and what defines the social sustainability compared to the economic and environmental sustainability? In their paper, *Urban form and social sustainability: the role of density and housing types*, [Bramley & Power 2008] Glen Bramley and Sinéad Power work with

a definition on social sustainability, developed by M. Polese and R. Stren. Polese and Stren define social sustainability as, “... *development (and/or growth) that is compatible with harmonious evolution of civic society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvements in the quality of life for all segments of the population.*” [Polese and Stren 2000 in Bramley & Power 2008, page 31].

Where environmental and economic sustainability can be measured in numbers, regarding CO₂ emission, income level and employment to define their qualities, the measurement of social sustainability as the quality of a community is not that straight forward. The aim of a successful socially sustainable community is to create an environment where the residents feel safe, have access to all the needed amenities and live near-by job opportunities. This is described and collected by Colantonio & Dixon as a list of key themes for the operationalization of social sustainability [Colantonio & Dixon 2011, page 23]. To this list they state that, “*A number of these key themes are listed ... which*

shows how basic needs and equity are consistently being held as fundamental pillars of social sustainability.” [Colantonio & Dixon, page 24]. The list also contain themes like security, cultural and community diversity, safety nets and employment. Several of the key themes identified as fundamental for a community to succeed in being socially sustainable can be achieved through urban planning and development.

the need for social sustainability

The need for social sustainability comes as a response to the evolution of environmentally sustainable development. Focus is shifting from CO₂ emissions towards a future awareness of the social and economic aspects as well. “*Debates within the wider sustainable development literature have moved beyond considering sustainability solely as an environmental concern, to the inclusion of economic and social dimensions.*” [Bramley & Power 2008, page 31]. The guidelines for sustainable urban development have been written and put into actions, now the framework for the good life within has to follow. As the social aspect of sustainability has now been put

on the agenda of sustainable development, the core of the aspect will have to be defined [Bramley & Power 2008].

In their work *Designing for Social Sustainability* [Woodcraft et al 2011], the Young Foundation, with Saffron Woodcraft and others, states this as an opening to why social sustainability is important now: “*Creating cities, towns and communities that are economically, environmentally and socially sustainable, and which meet the challenges of population growth, migration and climate change will be one of the biggest tasks of this century.*” [Woodcraft et al 2011, page 5]. They argue that social sustainability is just as important, and should receive the same amount of attention as environmental and economical sustainability do now. It is an argument that can also be seen in the work of Trevor Hancock, professor at School of Public Health and Social Policy at the University of Victoria [Hancock wiki]. He states this in an article called *Social Sustainability, The “soft infrastructure” of a Healthy Community* [Hancock web] on the case of why physical design are not enough: “*Thus there is a vital need to integrate the physical and social design of commu-*

nities if we are to create communities that are both environmentally and socially sustainable.” [Hancock web, paragraph 3]. As the quote states, design of the physical environment alone cannot ensure that the communities will develop into socially healthy communities with a strong sense of place and safe feeling for the residents. Hancock also states it in this quote, “*But a community is much, much more than its physical form. A community is composed of people as well as the place where they live; it is as much a social environment as a physical environment. Thus, communities must not only be environmentally sustainable, they must also be socially sustainable.*” [Hancock web, paragraph 2]. From this, the need for social sustainability in urban development is clear and in the next part of this discussion, the key aspects of social sustainability will be identified.

what is social sustainability?

Social sustainability covers the thoughts off well-functioning communities, where the residents are happy, safe and have the liberty to live their life as they want to. For this to happen, it is important that all residents

in a community are “connected” to the networks and machinery of the city, described as a “*technological unconscious*” [Thrift 2005 in Ash 2006]. Also, the city should provide adequate public service “*... relating to financial and personal security, education, health care, shelter and so on ...*” [Ash 2006, page 1015]. This is also linked to the thought of free social association, where the urban communities should be able to hold in a diversity in cultural and social groups, as it is said by Amin Ash, taken from the work of A. Pred “*The ultimate test of the good city is whether the urban public culture can withstand pluralism and dissent.*” [Pred 2000 in Ash 2006, page 1018]. This is followed by Ash with the statement that, “*The good city celebrates the aspects of urban life form which spring the hopes and rewards of association and sociality.*” [Ash 2006, page 1019]. What can be derived from both Ash and Pred is that, the good city, the socially sustainable community, most by open both culturally and socially.

If we look back at the definition of social sustainability by Polese and Stren presented earlier it correlates with what both Ash and Pred states here, adding on

one more aspect or theme to the working definition of social sustainability, the encouragement of social interaction, which again is part of the city networks that Thrift argues for. The importance of keeping residents connected with the community.

The final part of the social sustainability definition this paper works with comes from the Young Foundation. In their work, *Design for Social Sustainability* [Woodcraft et al 2011], they argue that social sustainability should be seen as, “A process for creating sustainable, successful places that promote wellbeing, by understanding what people need from the places they live and work. Social sustainability combines design of the physical realm with design of the social world – infrastructure to support social and cultural life, social amenities, systems for citizen engagement and space for people and places to evolve.” [Woodcraft 2011 et al, page 16].

The definition from Woodcraft, alongside those of Ash, Pred, Power and Bramley are set as the framework for the further work in this discussion. The framework can be seen as a set of key words, all part of defining

what social sustainability is about. These key words are diversity, interaction and density.

The first word, diversity, covers the importance of creating an environment where as many different people as possible can live, work and interact. This leads to the next word and the next important theme, interaction. It is essential for a community that the residents and users meet in their everyday lives, when going to and from work, shopping or just using the urban spaces for recreation. That there are spaces designed for these informal meetings. A last key word, and another essential part of social sustainability, is density, or the fact that the amenities and public services have to be present within the community.

It is a density in mass that is important for the success of the social sustainability in the community, as it is a backbone in creating the diversity needed, as Louis Wirth puts it, “Density thus reinforces the effect of numbers in diversifying men and their activities and in increasing the complexity of the social structure.” [Wirth 1938, page 71].

This quote ties the key words together, rendering the three of them all affecting each other – diversity fosters activities, the activities needs spaces to unfold, created by the density of the city mass, and as Wirth states, the density promotes the diversity in people and activities.

The key words of social sustainability presented here, diversity, interaction and density, can be analyzed under a common theme of connection, or mobility. This means that for the social sustainability key words, or features, to be fully utilized, there should be a connection between them. Connections between users and resident, but also connections to the city’s networks, both the physical and technological networks. In the next part, this discussion will look into the link between social sustainability and the mobilities design perspective as it is described by Ole B. Jensen. The mobilities design perspective works on designing with focus on the city networks and their interlocking connections.

part II - possibilities with social sustainability and mobilities design

To investigate the possibilities of social sustainability and mobilities design in urban developments, the discussion will be set in the context of the Søtorv Kvarteret design project in Silkeborg. The following part will try to outline a social profile of the city and the near context of the project site Søtorvet. In this profile the needed actions to achieve a high level of social sustainability in the new development project will be identified.

social profile of Silkeborg and the neighborhoods surrounding Søtorvet

The work of profiling the social status of the city is done on both a professional and personal background. To ensure that the statistic material is understood, there have been a thorough reading of the Contour report of Silkeborg Municipality from 2013 [jyllandskorridor-en]. In this material there is an extensive collection of data regarding employment, educational conditions, income and commuting tendencies within the municipality. On a personal level, signed author have lived in the city up until 2010 and in this time worked in

a kiosk in one of the neighborhoods, Århusbakken, for 3.5 years, gaining a personal knowledge to the people living there. The professional relation comes from a 3 month internship at the municipal planning department, working with local planning and other legislative assignments in the end of the year 2014. These relations, alongside the read material, serve as a comprehensive background knowledge for profiling the city and the near site context.

The site of Søtorvet is surrounded by four very different neighborhoods; Alderslyst, Århusbakken, Papirfabrikken and the central city.

The residential neighborhood of Alderslyst is predominantly a middle to high income area with single family houses. Some of these houses lies with land towards the waterside, making them very expensive. The families living in these houses have a high income and are also likely to have a high educational level.

Århusbakken is another residential district very different from Alderslyst in several aspects. People living in this area has a lower income; they could be called

“low income families”. The housing types is a mix of single family houses and apartment buildings with social housing. The people who live on Århusbakken are also more likely to have a lower educational level, some even without any education, doing unskilled work.

While the main programming of Papirfabrikken is cultural events, business, commercial and leisure, there are some housing units located in the area. These consist of expensive apartments with a view to the water and smaller cooperative housing units. People living at Papirfabrikken do either have a high income job or a sufficient assets to live from. This is an indication of a high educational level. Besides the residents, the area on and around Papirfabrikken has a lot of users from the programs present. These users are of all kinds, as the programming is diverse and mixed.

In the central city area there is a high diversity in the mix of people. In this area there is everything from social housing and cheap apartments to modern apartment buildings and luxurious houses. This mix in residents and housing types in a natural effect of the city

being and old industrial town with a lot of blue collar history. It is also here that the central square, Torvet, is located and where the main shopping streets lie, alongside other professions. The largest office in the central city is Jyske Bank. Their administrative headquarters lies in Vestergade, the main street going through the shopping area. The headquarter employs more than 1000 people. [jyske bank]

The city center is a commercially active area that serve a lot of people through the week. For instance, every Saturday there is a market at Torvet where you can buy fresh fruits, vegetables and fish. [torvet]

The types of users, that a new urban development ought to inhabit, to achieve a high livability, should include a diversity in social and cultural class. It could include students, pensioners, ordinary families and high income career people. All people for whom the city and community serve a different purpose, meaning that they will use it in different ways. As found in the previous part, two of the key words identified with social sustainability is diversity and interaction. The diversity is already present, if you look at the city as an

entity. Also in the near site context. There is a need for this diversity to be put together in one neighborhood. A new urban development should also be designed in a way so that there is a flow of people through the area, both residents and users of future programs. This means that the development must contain a certain density in the built environment, as the final social sustainability keyword, density, states.

designing for social sustainability

The process of creating social sustainability in urban development starts in the planning process where some of the needed gestures can be implemented. For this, Saffron Woodcraft and the Young Foundation, have put together a framework called Designing for Social Sustainability [Woodcraft et al 2011] in which they set up building blocks for designing towards social sustainability. The four main blocks are; *amenities and social infrastructure, social and cultural life, voice of influence and space to grow* [Woodcraft et al 2011, page 23]. *“While all four elements are needed in every new community (alongside good housing, high quality public buildings and spaces, lo-*

cal economic opportunities and design that supports pro-environmental behavior) social success and sustainability cannot be prescribed in the same way that the standards for green building or environmental sustainability can.” [Woodcraft et al 2011, page 21]. The blocks consist of several components, relevant for the design of a community being successful and socially sustainable.

What comes of these four building blocks and their components is that several of these can be put into three themes across them. These themes can all be linked to urban planning, which means that they can be implemented through the planning of an urban development. The themes are density, diversity and mobility. The density theme can be linked to the Young Foundations social sustainability blocks infrastructure, flexible master planning and meanwhile spaces [Woodcraft et al 2011, page 23]. The theme of diversity links to community assets, neighborhood network and participatory decision making [see previous]. The final theme, mobility, are linked to the blocks safe places, collective services and community news [see previous]. These themes are also

found in the definition of social sustainability formed in the first part of this paper, where it is stated that it can be described with the word diversity, interaction and density.

While the themes for designing socially sustainable communities can all be implemented through urban planning, they are also related to the mobilities design perspective, shortly introduced in part I. This next part will outline what the mobilities design perspective is about and at the end describe the connection between designing mobilities and designing for social sustainability.

the mobilities design perspective

The designing mobilities perspective works with an understanding of the city as layers of networks moving people, goods and information. It is about seeing that mobility is more than just movement, as Ole B. Jensen argues in his book *Staging Mobilities* [Jensen 2013], “...mobility is more than movement between point A and B. It concerns how the movement of

people, goods, information and signs influence the human understandings of self, others and the built environment.” [Jensen 2013, page 7].

The importance in working with the mobilities situations and networks, is to create spaces where the networks intersect, thus creating activity and interaction between them and the users. This sort of place are also referred to as a CPC, or Critical Point of Contact [Jensen et al 2012], presented by Jensen et al as follows; “CPCs are to be understood as nodes where points in a network interface in such a manner that mutual exchange between networks and systems are established...” [Jensen et al 2012, page 67]. Whenever there is a CPC present there is a potential for a high quality urban space; lively, inviting and safe. This can be achieved through the CPC concept, developed by Jensen et al as a tool for designing urban spaces with a focus on the complex network layers of the city, “The major strength of the CPC methodology is exactly this; it can identify and make multiple layered networks visible, but also serve as a mind-set for dissecting and focusing on the critical networks.” [Jensen et al 2012, page 72].

The staging mobilities perspective sees these mobilities situations as staged from both above and below, as it is presented in the Staging Mobilities model seen in ill. 21.1. It is also explained by Jensen as, “The idea behind the Staging Mobilities perspective is thus to capture the fact that mobilities are being staged, as well as the social interaction taking place must be understood in the light of a staging process.” [Jensen 2013, page 9]. It can be read, in correlation with the in situ model, as the statement that urban design, and mobilities design, can only provide the “stage”, the setting(s) for life, movement and interaction. The actual social interaction occurs on its own, it cannot be forced. This is also a notion present in work with social sustainability, as stated here by Trevor Hancock, “Physical design cannot ensure that individuals, families and communities will lead environmentally sustainable lifestyles, although it can help to make such environmentally sustainable choices easy.” [Hancock web, paragraph 3].

With the growing interest in social sustainability, the mobilities design perspective becomes more and more relevant to the urban planning process. The

Staging Mobilities model is one of the tools designed to both analyze a mobilities situation, hence the name “mobilities in situ”, and to be used as a design tool when creating new mobilities spaces. The staging from above is the design of the physical environment, buildings, roads, paths and so on. This can be linked to the density theme of social sustainability stated in the previous part. The staging from below is about what goes on in the build environment, how the everyday users move and interact with each other. In this there is a clear link to the themes of diversity and mobility from the previous part. Another tool is the CPC concept, used for identifying and working with the intersection of the multiple layered city networks.

the link between the two terms; where can mobilities design help to promote social sustainability in urban developments?

As the previous part stated, the specific need for social sustainability can be identified in the three themes, density, diversity and mobility. Working with these themes from a mobilities design perspective



ill. 21.1 - Staging Mobilities model [Jensen 2013, page 9]

leads to an understanding of them as layers in the networks of the socially sustainable development. The density-theme provides a physical layer of structures, spaces and paths, where the layer of the diversity-theme can implement a diverse programming. This layer is responsible for bringing people and users to the site, creating the basis for the mobilities-theme layer. This layer serve as an interface, generating intersections and interactions between the different users of the diversity layer.

When the three layers are put together, they create the base for an active, socially sustainable community.

Linking this to the case, the new urban development of Søtorvet in Silkeborg, it raises the question, what is to be done to socially sustianable actions in this new development? The answer can be found in the three themed layers from just before; the density layer, diversity layer and the mobilities layer. Each of them provide decisive elements for promoting social sustainability; the built structure, diverse programming and interaction and movement between and of us-

ers. There have to be focus in the planning process on these three themes, ensuring that the build structure are designed to promote movement and interaction, that the programming of these structure foster a diversity in residents and users and that the flows through and around the area are not segregated but mixed, to promote interaction and activity.

In concrete terms, it means that at the site, the new structures should hold as many different functions as possible. This sets a challenge for the architects to come up with a flexible design that creates spaces for different functions but still feels like a coherent community. For the planners the challenges lies in ensuring a maximum of diversity in users and residents. To overcome this, the planners will have to plan for a mix of housing types and create possibilities for business people. This could be done by putting in youth housing, social housing and penthouse apartment alongside each other, mixed with office spaces. It will also be beneficial for the activity level throuh the hours of the day as different resident types tend to use the public spaces at different times. The final part of the planning challenges lies in creating networks for the

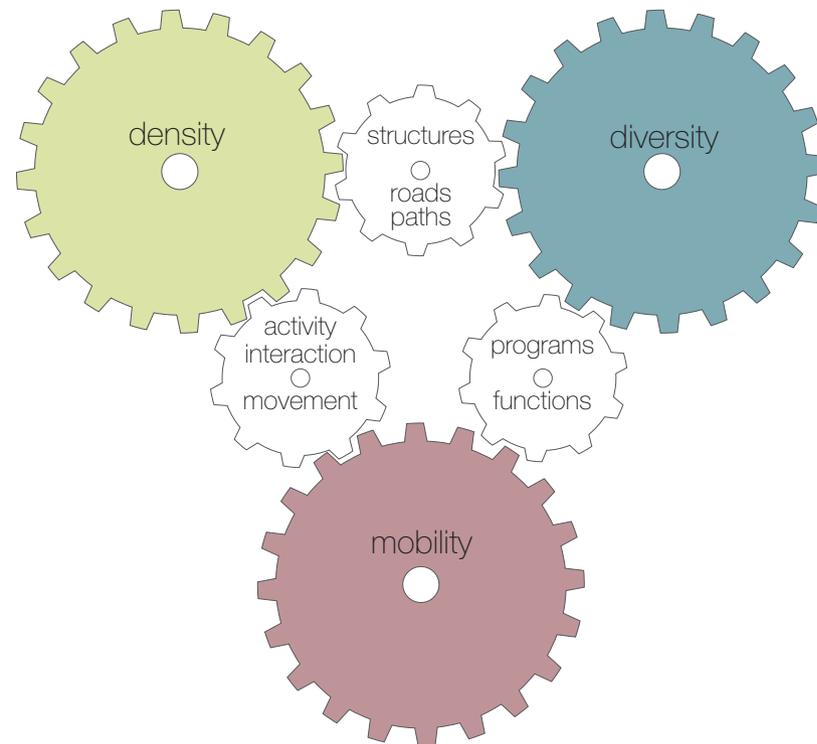
flows to follow, and in these creating critical points of contact between these. This could be done by leading the transit network across other networks such as a shopping area or public square.

part III - Social Points of Contact, a multiple layered network concept

The end result of this discussion on how mobilities design can promote social sustainability in urban design is a conceptual tool. This conceptual tool sees the design of social sustainability as a multiple layered network put into an urban setting, where each of the layers provide elements detailing socially sustainable interventions, or themes as they are described here.

These themed layers are density, diversity and mobility. The main element of the density layer is the built structure; houses, spaces and paths, all part of the physical network of an urban setting. For the diversity layer it is diversity in the programming of the density layer. And for the mobility layer it is the intersections of activity and movement within the diversity layered programs and functions.

The tool is useable in the design process as a guide or framework for promoting social sustainability. It also functions as an analytical tool for identifying and developing elements in the social sustainability network of an urban setting.



ill. 27.1 - Design tool for promoting social sustainability

analysis conclusion

The results that the analytical phase of the project gives is a number of parameters for the design phase. The ones that comes from the mappings and registrations are all factual elements. This part of the analysis sees the site as having a potential for being a new connecting neighborhood in the inner city, with ties to the city center, Papirfabrikken and the new museum development, making it ideal to put in a cultural programming.

The registrations also sees a potential in using the water's edge actively in the design. The section clearly shows the difference in use between the promenade on Papirfabrikken and the current situation on Søtorvet, where the edge is heavily vegetated and inaccessible.

In the municipal plan for the site lies a number of guidelines and height provisions. As stated, this pro-

ject will acknowledge these guides and provisions but break them on several areas. As the timeframe for this project is limited, the plans for the underground parking and supermarket done in the Entasis competition project will be continued in this project on a conceptual level.

In the theoretical discussion on the use of social sustainability and mobilities design as active parts of a design process, the result comes out as a design tool. This sets the social sustainability notion as a multiple layered network that can used as a framework for the development of Søtorvet. Its layers are in each of their functions part of the process of creating a socially sustainable urban development.

2

design

In the design phase the project vision and design concept, case studies, design development, infrastructure and inspirations are presented.

This phase is the outcome of the results found in phase 1, a translation into a design concept.

vision

The vision for this project is to create a new part to the city of Silkeborg - an urban city island in close relation to the existing contexts of the city center and Papirfabrikken.

The neighborhood should be a coherent cityscape with a diverse programming, facilitating movement and interaction between residents and users.

The build structure shall be seen as an addition to the city mass, but still hold its own identity as an entity.

cases

Ny Banegårdsgade, Aarhus

Transform

The concept behind this inner city transformation project is described by Transform as an urban necklace of small blocks, forming one large superblock. The project lies as a connecting part of the city's cultural axis, going from Aros through the city to the Urban Mediaspace. It also integrates with Bruun's Galleri, creating direct access from the new bus-terminal to the shopping center. [transform]

The structure covers a large area, creating an intimate inner courtyard, characterized by the preservation of some of the existing buildings. The "beads" in this urban necklace are all small parts made in a wide variety of forms and sizes. This opens up for mix of programs ultimately giving the site a diverse expression. Some parts of the structure are raised to create gates through from the outside, creating flows in through the courtyard.

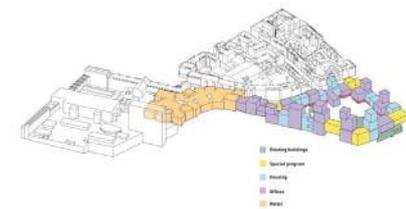
This project is characterized by its theme of re-thinking the urban block. It uses the building mass as a diverse ring of protection to create a calm inner courtyard with a public programming. It is a project that both in thematic and size has a link to Søtorv Kvarteret and the development of the work being done in this thesis.



iii. 33.1



iii. 33.2



iii. 33.3



ill. 34.1



ill. 34.2



ill. 34.3

Albertslund canal area, Albertslund

Møller & Grønberg

The project for the Albertslund canal area includes a renovation of the canal and a revitalization of the surrounding canal area. This also involves promenades, squares, urban spaces and bridges along the canal stretch. The general concept that Møller & Grønberg works with in project is “canal-gardens”. These are implemented alongside the canal to create zones for staying, playing and activities. They are also a part of a larger rainwater handling system. [møller & grønberg]

The zones along the canal changes with the change in programs on the “shore”, from a green park area in connection to residential areas to a hard paved central square by the shopping opportunities. This change is also evident in the canal edge, that on one side in a lowered green garden with spaces for recreational activities and on the other side is a paved biking zone.

The work with altering the waterfront and the edge of the canal is themes that are also present in the thesis project of Søtorv Kvarteret. As the water is in another scale, the project only works with a promenade on one side of Remstrup Å. The promenade is changing in character along with the programming in the structure on land.

concept

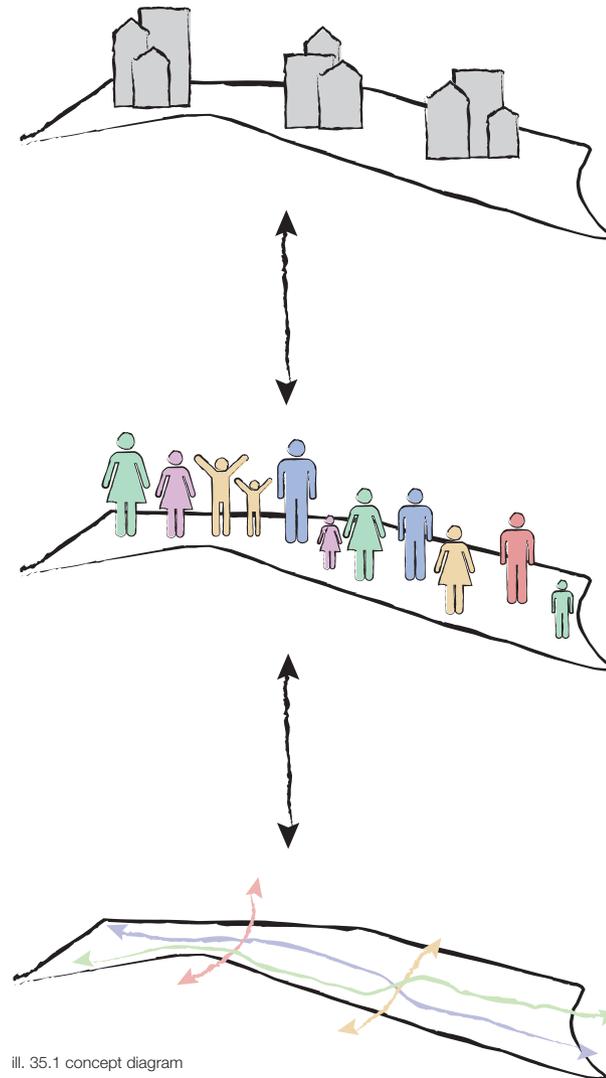
The concept for the design of Søtorv Kvarteret comes from the Social Point of Contact concept, presented as the result of the theoretical discussion. On top of this is the results from the mapping and registrations done.

This all adds up to a design concept that works on three levels, density, diversity and mobility towards the goal of a socially sustainable development.

Density will create a dense new city neighborhood with space for people.

Diversity will bring a variety of programs and functions to the site, creating life and activity.

Mobility is to use the flows and connections present to create spaces where people meet and interact.

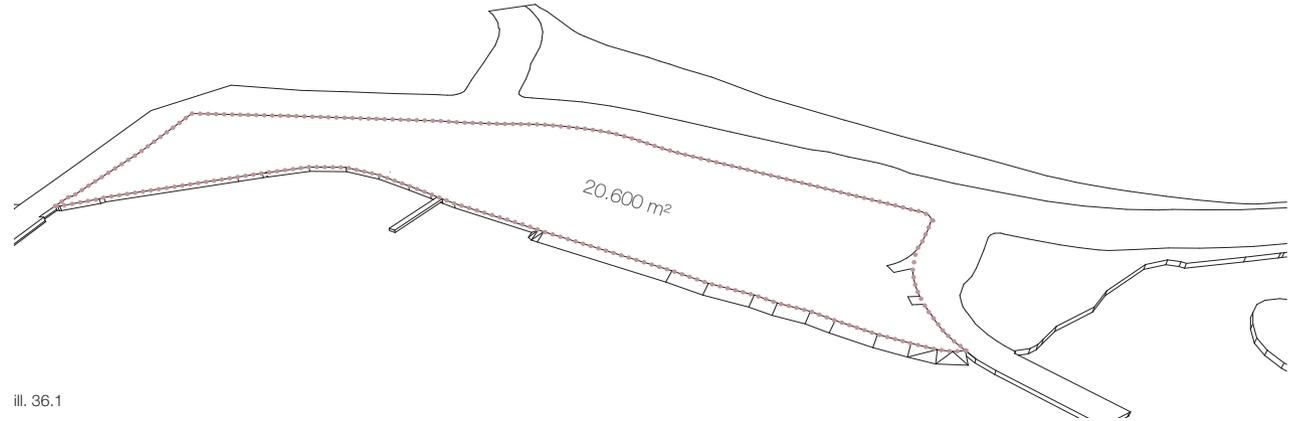


design development

the site

The site for the development of Søtorv Kvarteret is defined by the new infrastructural layout and the current cadastral borders. It has a size of 20.600 m² and is bordered by water on two sides and road on the others.

The existing structures has no real qualities or reasons for preserving. Therefore this project works with the fact that they are to be demolished.

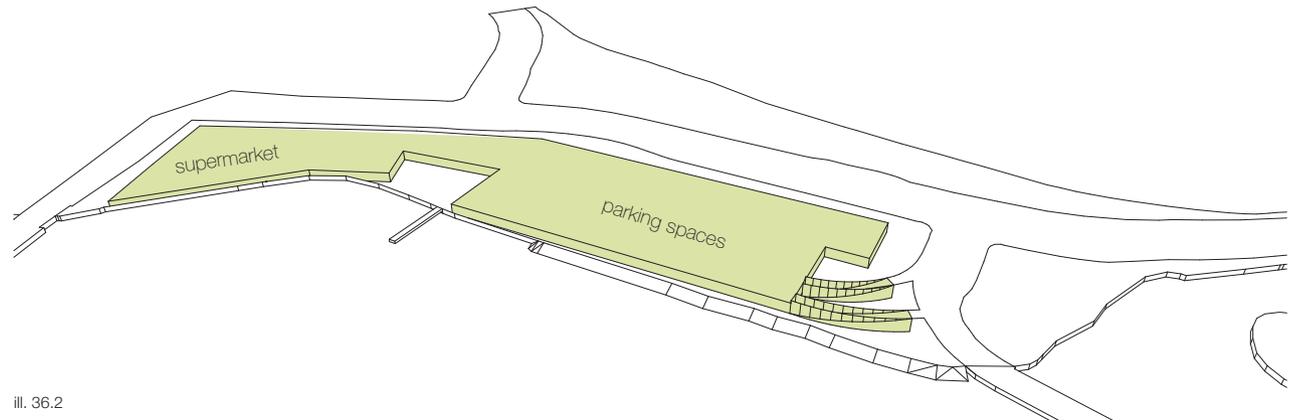


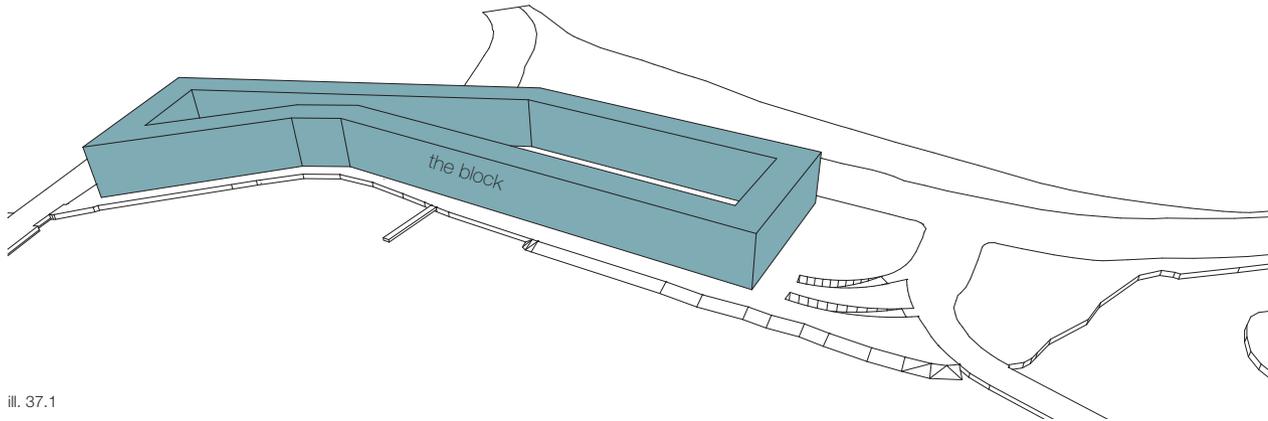
underground

Under the surface of almost the entire site lies a structure, used for both parking and a supermarket. This is done to keep cars of the site by not having any surface parking spaces.

The supermarket shall serve the new development alongside the neighboring areas, Papirfabrikken, Århusbakken and some of the city center.

The detailing of this will remain at a conceptual level.



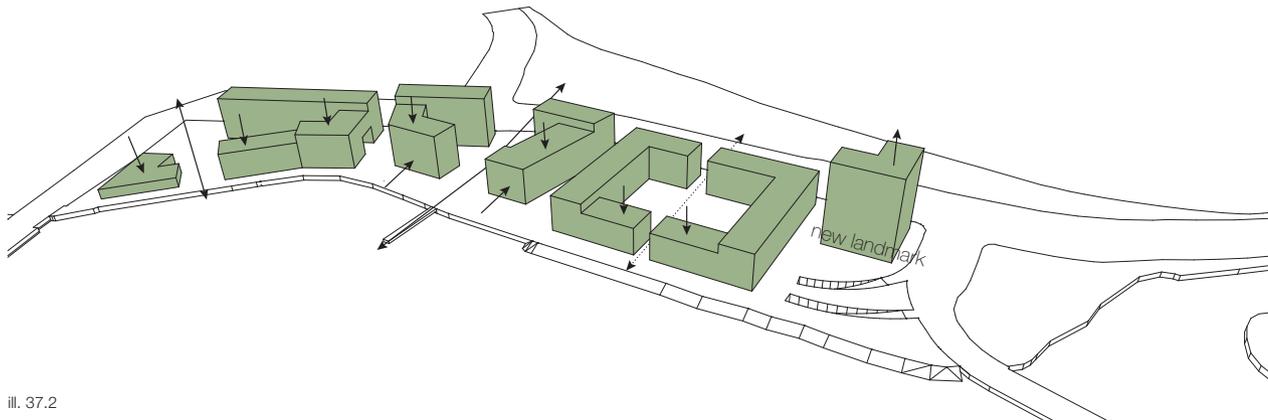


ill. 37.1

the block

The structural design starts of by introducing the block structure to the site. The typology can be seen in most of the inner city. It also bears qualities of creating spaces in and around it that can be varied in privacy.

The starting block is 12 m deep and 21 m high.



ill. 37.2

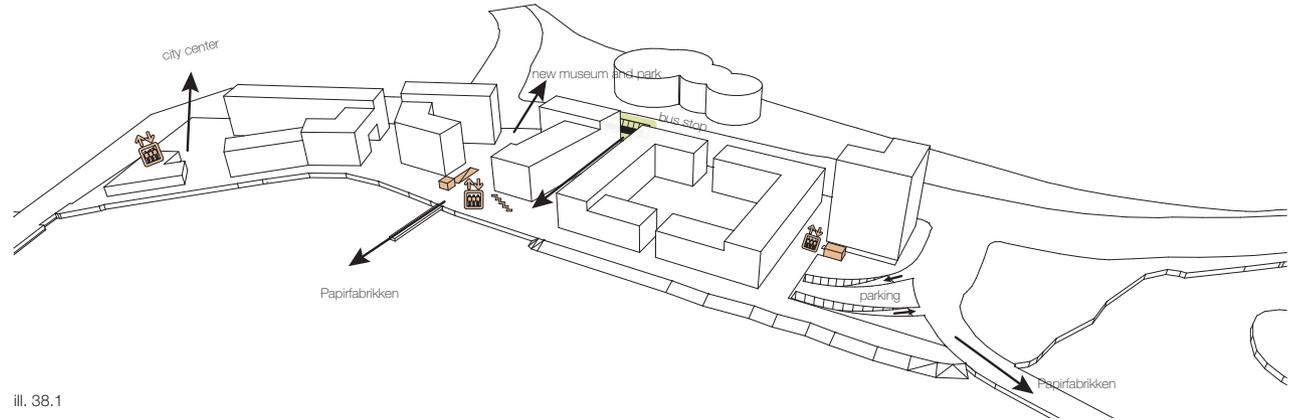
morph the block

To create a variety in spaces and bring the scale down to mimic the surrounding context, the block is put through a number of morphing operations. These create openings, spaces and views through the site, making cross connections between the two water front.

flows and connections

To ensure that the site of Sørtov Kvarteret will be an integrated part of the city, the connections between it and the surroundings have to be strong. The design works with an enhancement of the site as a connector between the city center and Papirfabrikken.

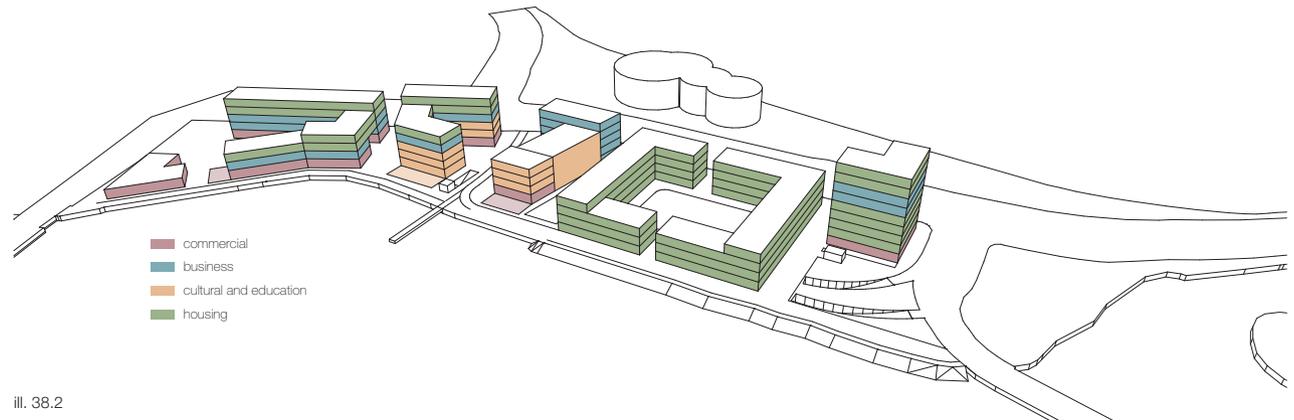
The site also connected to the rest of the city by the bus stop located on site. From the bus drives to the northern part of the city.

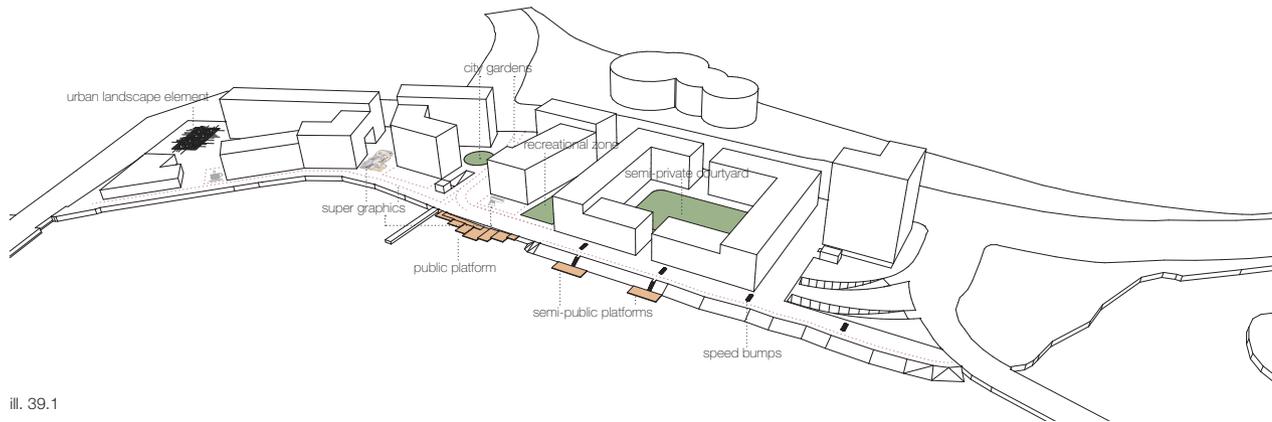


programming

The programming of Sørtov Kvarteret gives space to a large variety of functions. Here it is laid out with a focus on a high rate of residential units, alongside business offices, cultural venues and spaces for commercial shops.

The residential units have not been differentiated in this diagram, but it is to be planned as a mix of social housing, student housing, ordinary units and some penthouse units.



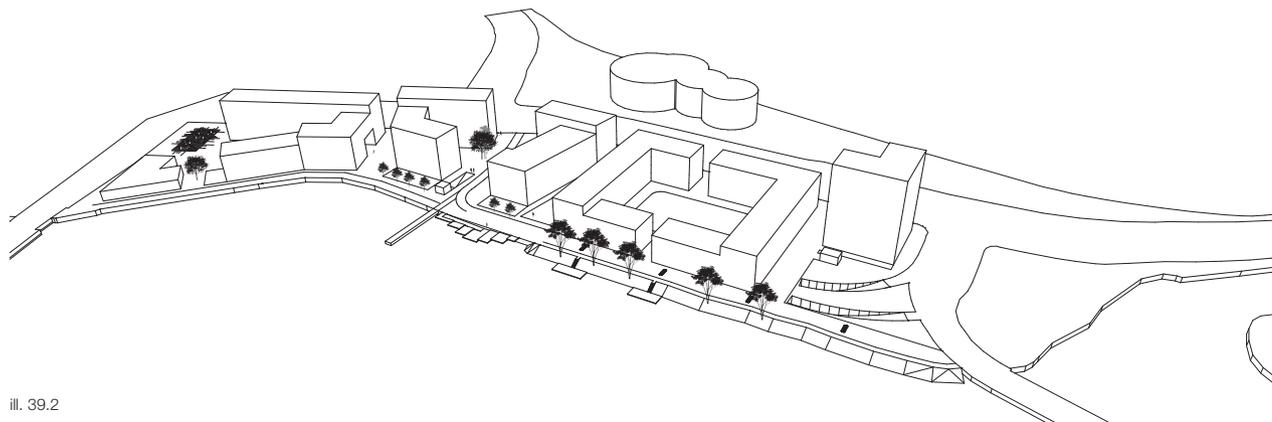


ill. 39.1

urban interventions

The final layer of the design development consists of a number of urban interventions. These include city gardens, recreational spaces and platform, a super graphics layout and an urban landscape element.

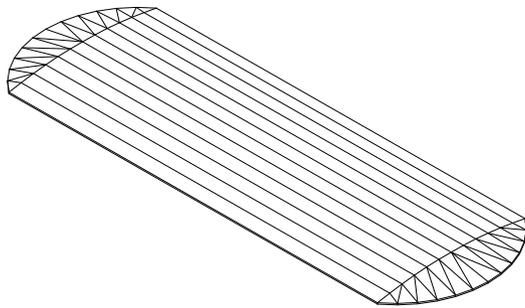
They are all part of the urban programming, there to create life and activity on site by giving opportunities of different uses.



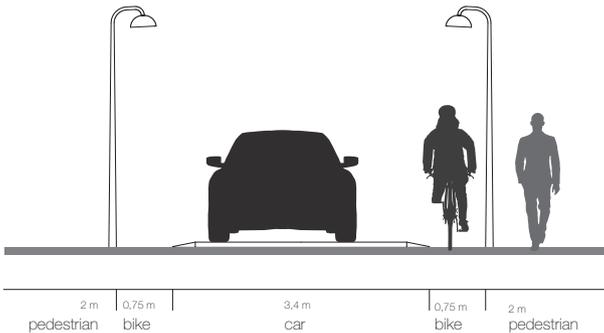
ill. 39.2

final design

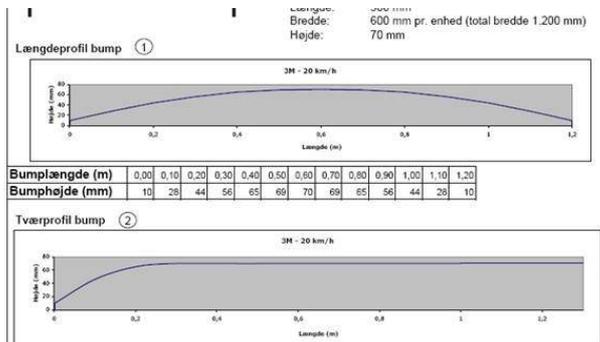
The work with altering the waterfront and the edge of the canal is themes that are also present in the thesis project of Søtorv Kvarteret. As the water is in another scale, the project only works with a promenade on one side of Remstrup Å. The promenade is changing in character along with the programming in the structure on land.



ill. 40.1 isometric drawing 1:50



ill. 40.2 section 1:100



ill. 40.3

infrastructure

The infrastructure of Sotorv Kvarteret is predominantly car-free as all parking are put in underground facilities. This is however not enough to keep the surface totally car-free as the shops and other commercial features located at Jørn's Plads will need to have their supplies delivered by the promenade.

To ensure that the little traffic there might be will not be a nuisance, efforts are made to keep the speed down to 20 km/h. The paving is the same all the way across to indicate that it is a shared space for pedestrians, cyclists and cars. The paving alone can not keep the speed of cars and delivery trucks down. To further slow the traffic down there are laid out a number of speed bumps on the path as well. These are designed to keep speeds down at the wanted 20 km/h. The speed bump type is a prefabricated permanent type 3M [vd] approved by Vejdirektoratet.

The layout of the space, and the placement of the bumps are made to make it difficult to maneuver around the bumps. The space is 9 meters wide and in each side a line in the paving indicates a 2 meter pedestrian zone. In this the street lamps are placed to enhance this notion. These lamps are aligned with a speed bump so that they act like a barrier, forcing traffic to go through and over the bump. This is also shown in ill. 40.2. As the illustration also shows has the width of the bump been so it leaves space for bikes to go around it.

inspiration

visual inspirations of the
city gardens



ill. 41.1



ill. 41.4



ill. 41.2



ill. 41.5



ill. 41.3



ill. 41.6



ill. 42.1



ill. 42.4



ill. 42.2



ill. 42.5



ill. 42.3



ill. 42.6

visual inspiration for the use of super graphics

3

graphic presentation

In this phase to design is presented through a design plan and graphic visualizations.

The design plan is a detailed imaged of all the layers that makes Søtorv Kvarteret an urban city island full of activity and life.

The three graphic visualizations are each telling a story of the everyday life in Søtorv Kvarteret.



Ill. 46.1 - Design plan 1:1000



8's Vej

bus stop

to Alderslyst and the northern city

shop

housing units

play area

housing units

housing courtyard

parking in

parking out

shared space 20 km/h zone

g platforms

Remstrup Å

Slotsholm

to Papirfabrikken



ill. 48.1



the promenade

The promenade next to Remstrup Å is the main route to the centre of Søtorv Kvarteret. It is an active transit space with a close relation to the waterfront and a visual connection to Papirfabrikken.

Here people living in the housing blocks come out to use the platforms as extended terraces, bringing parts of their daily lives into the public space.

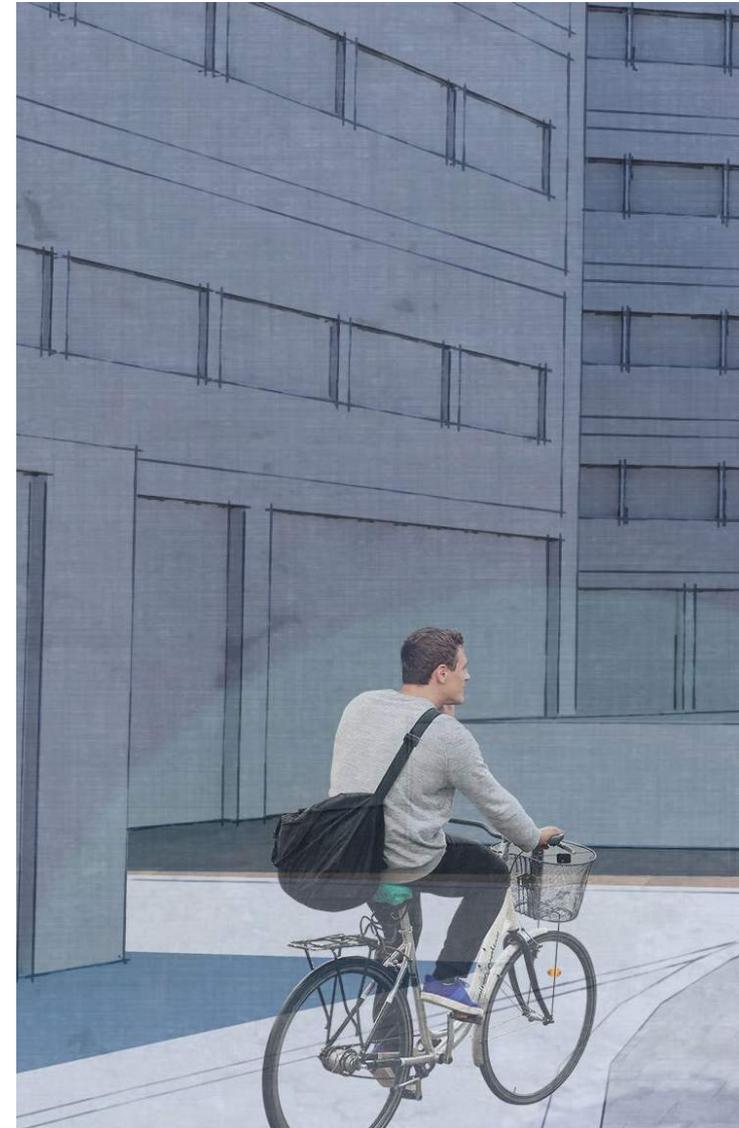
In the space they meet drifters passing by on their walk, transitters rushing through on the way to their destination and an occasional car driving up to the blocks.

Jorn's Plads

Jorn's Plads, named after the great painter and artist, is the heart of Søtorv Kvarteret.

This public space lies as the center-dot on the cultural axis stretching from the new museum on the bank of Silkeborg Langsø to Jysk Music & Theaterhouse at Papirfabrikken.

Jorn's Plads is a space of high activity with its mix of cultural, commercial and business programs and opportunities. Here people come to work, visit the galleries, catch a movie in the cinema or just to use the shops and café.





III. 51.1



iii. 52.1



Søtorvet

The commercial square Søtorvet is entrance to Søtorv Kvarteret from the south. This active public space is programmed with commercial shops in all of the the ground floors. The structures do however also include office spaces and a variety of different housing units.

Søtorvet is a place you go to shop, work, meet up with friends, or just a space you pass through as part of your everyday routine.

epilogue

conclusion

The result of the urban development of Søtorvet is the urban city island of Søtorv Kvarteret. It is a diverse neighborhood with strong connections to its context.

The island is an addition to the inner city of Silkeborg, both in the build mass but also in the programming of it. With Jorn's Plads as center point of the new cultural axis, stretching between museum of Jorn and Papirfabrikken, Søtorvt Kvarteret will be an active neighborhood.

To enhance the qualities of the site, the waterfront towards Remstrup Å is integrated as a visual and recreational feature in the neighborhood, beneficial for both residents and users.

A tool for promoting social sustainability in the development have been create on the basis of a theoretical discussion, linking social sustainability with the mobilities design perspective.

This tool proved itself to be easily translated into a design concept when combined with parameters and findings of the first parts of the analysis. Its multiple layered network frame, with the themes of density, diversity and mobility worked as a step by step guide through the design process.

reflections

For a project of this scale, not all aspects can be considered. As it is, this project does not take into account any considerations of environmental sustainability. This could have been done through a development plan, working on scales one to five years. Such a plan would also open up an opportunity for introducing temporary interventions in the process of regenerating the site. It help to create a sense of being part of the process, keeping people related to the construction site.

If the project was based on a development plan, it would be beneficial to introduce and integrate the building blocks for social sustainability by Woodcraft et al from the very beginning of the process.

In another setting, with a bit more time to spend, it would be desirable to take the form of structures and the programming of these to another level of detail. It

became evident the further the work went on that the programming and the site was especially important for the promotion of social sustainability.

This lead to the thought of doing a much more thorough work on the theoretical subjects, the link between the themes of social sustainability and mobilities design. The result that the discussion in this thesis gave is a specific tool, minded on the location and contextual aspects of Søtorvet. In another time it could be interesting to look at the possibility of making a universal design tool.

list of illustrations

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11.2	http://silkeborgkommune.dk/~media/Erhverv/Byudvikling%20og%20planlaegning/Torvet%20i%20Silkeborg/Torvet%20tilbud%20b/A3-mappe%20P%20under%20Silkeborg%20torv_forslagB.PDF	41.1 41.2 41.3 41.4	Own illustration Own illustration Own illustration https://activecitytransformation.files.wordpress.com/2010/05/dsc_08821.jpg
11.3	Silkeborg competition PDF [2010]	41.5	https://activecitytransformation.files.wordpress.com/2010/05/dsc_08871.jpg
11.4	Own illustration	41.6	https://activecitytransformation.files.wordpress.com/2010/05/dsc_08911.jpg
12.1	http://silkeborg.viewer.dkplan.niras.dk/dkplan/dkplan.aspx?Rammeld=4519	42.1	https://imageshack.com/f/5920110702rotterdammuseumj
14.1	Own Illustration	42.2	Own illustration
14.2	Own Illustration	42.3	http://www.panoramio.com/photo/101745213
14.3	Own Illustration	42.4	Own illustration
15.1	Own Illustration	42.5	Own illustration
15.2	Own Illustration	42.6	Own illustration
15.3	Own Illustration	46.1	Own illustration
16.1	Own Illustration	48.1	Own illustration
18.1	Own Illustration	51.1	Own illustration
21.1	Jensen 2013	52.1	Own illustration
27.1	Own Illustration		
33.1	Transform		
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33.3	Transform		
34.1	Møller & Grønborg		
34.2	Møller & Grønborg		
34.3	Møller & Grønborg		
35.1	Own Illustration		
36.1	Own Illustration		
36.2	Own Illustration		
37.1	Own Illustration		
37.2	Own Illustration		
38.1	Own Illustration		
38.2	Own Illustration		
39.1	Own Illustration		
39.2	Own Illustration		
40.1	Own Illustration		
40.2	Own Illustration		

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