

Aarhus School of Architecture // Design School Kolding // Royal Danish Academy

Sound settlements

Duelund Mortensen, Peder

Publication date:
2013

Document Version:
Early version, also known as pre-print

[Link to publication](#)

Citation for published version (APA):
Duelund Mortensen, P. (2013). *Sound settlements: an interdisciplinary and transnational approach to sustainable building*. Paper presented at NSBB Conference 2013, Roskilde, Denmark.
<http://www.soundsettlements.com>

General rights

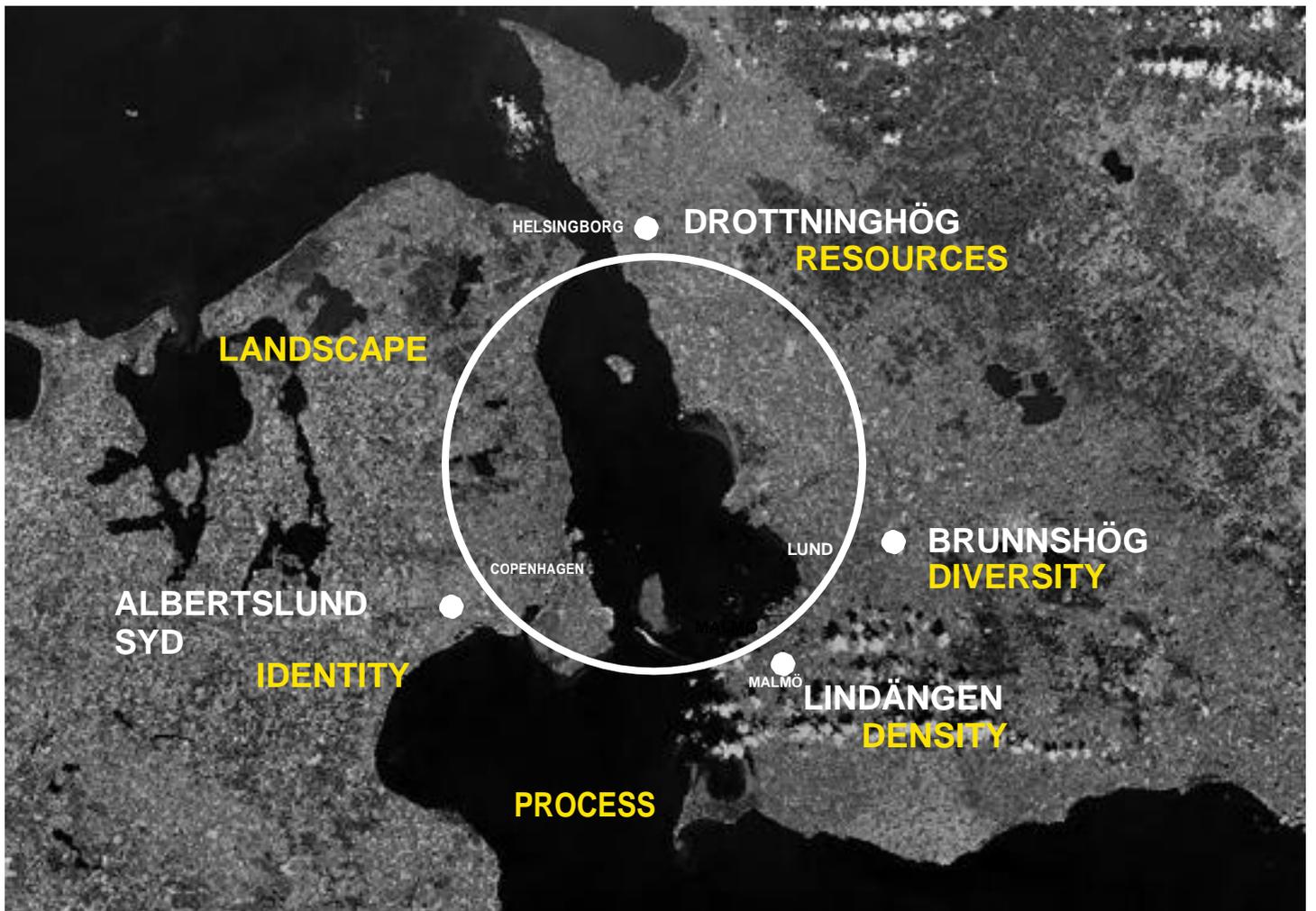
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

SOUND SETTLEMENTS



SOUND SETTLEMENTS | AN INTERDISCIPLINARY AND TRANSNATIONAL APPROACH TO SUSTAINABLE HOUSING

EDITOR AND AUTHOR

Peder Duelund Mortensen, the Royal Danish Academy of Fine Arts, Schools of Architecture, Design and Conservation
peder.duelund@kadk.dk

FOREWORD IN COLLABORATION WITH

Elisabeth Dalholm Hornyanszky, Department of Design Sciences, Lund University
elisabeth.dalholm@design.lth.s

SEE DETAILED ACKNOWLEDGEMENTS ON PAGE 25

1. SOUND SETTLEMENTS	3
FOREWORD	3
2. CASES	4
DROTTNINGHÖG, HELSINGBORG	4
BRUNNSHÖG, LUND	6
LINDÄNGEN, MALMÖ	8
ALBERTSLUND SYD, ALBERTSLUND	10
3. BEST PRACTICE	12
SØNDERGÅRDSPARKEN NORTH OF COPENHAGEN	12
FREIBURG	12
RIESELFELD, FREIBURG	13
VAUBAN, FREIBURG	13
CITÉ MANIFESTE, MULHOUSE	13
TOUR BOIS LE PRÊTRE, PARIS	14
GYLDENRISARKEN, COPENHAGEN	14
HOVSJÖ IN SÖDERTÄLJE WEST OF STOCKHOLM	15
4. TOOLS	16
CONCEPT AND RESEARCH MODEL	17
IDENTITY	18
LANDSCAPE	19
RESOURCES	20
DENSITY	21
DIVERSITY	22
PROCESS	23
5. ACKNOWLEDGEMENTS AND PROJECT PARTNERS	25
EDITOR AND WRITERS	25
PROJECT PARTNERS AND PARTICIPANTS	25
CONTACT	26

1. SOUND SETTLEMENTS

This paper presents the work of an interdisciplinary Danish-Swedish collaboration. The aim is to create new knowledge and ‘best practices’ for sustainable urban settlements, transportation, and decision making processes in the Oresund region. Researchers from Lund University, Institute of Sustainable Development on Malmo University, the Royal Danish Academy of Fine Arts, School of Architecture in Copenhagen and the National Building Research Center of Aalborg University formulates the findings. Associated communities in the region are Lund, Malmo, Helsingborg and Albertslund.

First, the project group with researchers from three universities and practitioners from four municipalities in the region studied and evaluated regional and European projects for sustainable new urban areas and urban transformation. The ambition was to identify various types of approach to sustainable urban development, which could be used as inspiration for the development of ‘best practices’ for the Oresund context. Then, four ‘case areas’ were investigated and analysed, all suburbs or on the edge of city centres in the region. Three of them are facing massive renewal while the fourth area is a city extension still in the planning stage. A survey and in-depth interviews were carried out in the three renewal areas to find out the residents’ opinions about local settlements and housing, the transportation situation, how they use the public space and green areas, their contacts with neighbours and their participation in the transformation processes. The researchers also made interviews with politicians and other stake holders responsible for the processes. Finally, the potential for the areas to be more sustainable was described in terms of scenarios, where the ambition was to combine ideas for future development of the built environment, transportation and governance.

Already from start, it was obvious that the project would not manage to work with all issues concerning sustainable urban development. It also turned out that the focus in the cases varied. Some prioritized the development of greenery and storm water solutions while others preferred to work with densification or energy saving. Therefore, the project group decided to focus on five criteria used in the case areas’ local programmes for change, criteria which are also essential in the general discourse of sustainable urban development: *identity, landscape, resources, density and diversity*. These were used in the analysis of the case areas’ potential to be more sustainable and to discuss the content of a sustainable urban environment in a more general perspective. Further, proposals developed in the case areas and other projects that were identified as ‘best practice’ were presented in a tool box. On www.soundsettlements.com we invite you to find the most important results of the project - information on the four cases, examples of best practice and a draft for tools.

Cases include surveys of the four cases: population, strategies, tools and scenarios for transformation and planning. *Best practice* includes examples of city districts and settlements designed or transformed for sustainability. *Tools* is developed to structure experiences from the process and to combine the five themes of sustainability - identity, landscape, resources, density and diversity with relevant scales in the urban landscape - district, settlement and building. This chapter also includes experiences from the planning processes: how is the process organized, and how are decisions taken? The examples are from Germany, Switzerland and France, and the chapter also include examples from Sweden and Denmark.

Peder Duelund Mortensen and Elisabeth Dalholm Hornyánszky

Project leaders

2. CASES

We have followed 4 cases. Three of these, Drottninghög in Helsingborg, Lindängen in Malmø and Albertslund Syd in Greater Copenhagen are ongoing urban planning and transformation. The aim is to increase the environmental, economic and social sustainability of settlements and housing. The fourth case, Brunnsög in Lund is a new city district in the stage of planning.

DROTTNINGHÖG, HELSINGBORG

Drottninghög is facing massive transformations within the coming years. The settlement is pointed out to become a model for transformations of 8 housing districts all build in the municipality of Helsingborg from 1965 to 1975 as part of the big plans of the so-called Million Program. Drottninghög is situated in the extension zone outside the city center, build during the 1960's and 2,7 km from Helsingborg Central and near the public parks Frederiksdal and Barnens Skog. The architecture is not particular, but the settlement has good apartments and is situated in a recreative, hilly landscape with open air swimming pool, shops, church, school and cultural institutions.

The settlement needs maintenance and is not very attractive although close to the city center, fresh air and good daylight conditions. The flats are homogeneous, causing difficulties for a shift of generations in the population, which could raise new power and dynamics. The public square and shops can't manage the competition with new malls and low price shops in the neighborhood. The municipality faces pressure as owner of the settlement to renew and utilize potentials offered by the situation, recreational values, apartments and residents. The transformation is vital for a positive view on the future in the eastern Helsingborg.

BUILDING STRUCTURE

Drottninghög is a fairly homogeneous area where all the homes are rental apartments in 3 storey blocks built in the late 1960s. The area bounded by three roads that form strong physical barriers. First of all is Vasatorpsvägen perceived as a strong barrier in the area's southern edge. The road is long and wide and crossed only at a single point. Drottninghög is divided into three strands, Blå-, Grön- and Rökulla, all of which have their own entrances from the surrounding roads. Local roads are blind ends. Drottninghög is a green settlement with a car-free zone in the middle of the land. Here is a public swimming pool with users from all over Helsingborg. Central to Drottninghög is a public school with 0-6th class and a church belonging to the Church of Sweden. In the southern part up to Vasatorpsvägen is the area's center with a library, a small supermarket, a few restaurants, bakery etc. There is also a day care center and assisted living facilities in the development. In the neighboring area are a large ICA and a Lidl. A City Gross opens in the near future in the neighborhood. North and south of Drottninghög is Dalhem with housing in mixed scale and Fredriksdal with multi-storey buildings in approx. 4 floors.

POPULATION

About 3,000 people live in Drottninghög, of which nearly 43% are children and adolescents under 25 years. 70% of residents have a foreign background, a large proportion compared to the rest of Helsingborg. Unemployment in the settlement is large compared to Helsingborg as a whole, while the average income and educational attainment is low. Drottninghög have a disease index of 47 against Helsingborg's average of 27.5 - significantly higher among women than men. Studies and interviews carried out in recent years among residents of Drottninghög shows that people mostly thrive in the settlement. Community, diversity and the green highlighted as the best. However, there are many who are not proud of the public image, and media image of Drottninghög is negative. There is often reported about car fires and vandalism. This has contributed to a negative view from the outside, and the settlement is considered one of the least popular residential areas of Helsingborg's inhabitants.

STRATEGY

The plan has three key concepts: To open, to connect and to condense. The existing, large parking areas are proposed to be replaced by covered car parks. Parking areas are converted into building sites for new housing types and other functions around an urban and green street, and breakthrough are proposed for a new public transport line, a tram from the southwest up through the settlement to adjacent districts. New development is planned in connection with the breakthrough. The goal is to double the number of homes and creating good business premises without losing open spaces and recreational values; accessibility, the coupling to the environment and the green, child-friendly environment is planned to be improved. Opportunities for intervention are suggested in housing structure and center by demolition, conversion and extension. The challenge is to create organic links between new buildings in border zones and the existing. And to realize changes in stages which in the short term could provide a significant boost and confidence to the future of the neighborhood and the environment. Can buildings be split and made visible as neighborhoods, each with its own attractions and interaction with neighboring districts? And can the changes be made on the land released and then ad hoc in smaller units, with different objectives and expressions created in dialogue with residents?

TOOLS

Goal is to change the building's identity and enhance the reputation of the settlement by opening the area to the outside environment, by renewing the building structure and strengthening shops, enterprises and service facilities. The existing qualities of the landscape, sense of security and road safety will be maintained, developed and made visible. The settlements resource consumption must be reduced by reorientation of transportation towards public transport and by the inclusion of parking spaces for new purposes. New buildings can be scheduled less resource-intensive and followed up with energy savings in the existing building structure. Density and population is increased by the addition of new buildings within the site especially at the parking areas and the possibility of additions on existing roofs. At the same time the diversity is increased by new types of apartment, enterprises and renewal of the center, where the increased population and the opening to the surrounding neighborhoods can improve the background for shops and services.

SCENARIO: THE FUTURE DROTTNINGHÖG

One scenario could be a phased development and reinterpretation of the development's main features and individual neighborhoods potential characters and structures. Different neighborhoods and identities could occur around a single, active park and sports ground with a school, library, a stage, open-air bath and church; with paths connecting to the surrounding neighborhoods and parks, and with clear, public transport lines. In example can a neighborhood with balcony homes and roof gardens around the western Vasatorpsvägen be shaped with wide sidewalks, cafés, small shops and offices; to the east a creative neighborhood with flexible and temporary buildings and robust urban spaces around i.e. bazaar, offices and workshops. To the North a quiet garden district build along Drottninghögsvägen and Regementsvägen with terraced housing around the existing open-air bath interacting with potential future housing and urban spaces around the big stores. The existing building blocks can be extended with a floor for housing and roof gardening, and partially converted into new types of housing such as 2 floor apartments with balcony and lift access. Some of the blocks may be demolished and replaced with less dense, low-rise garden estates within the existing building pattern. The cost can be fully or partially covered by sale of land in a process that brings together existing dwellers and new in minor units.

BRUNNSHÖG, LUND

Lund municipality is planning an extension of the town and surrounding villages with 1,000-1,500 new homes per years coordinated to the development of new, large commercial areas and research centers. The area of Brunnshög is 225 ha. When the area is expanded, approx. 50,000 people will live, work and study in this new district northeast of Lund's old city center. The ambition is that the district must offer a good research and innovation environment while being a role model for sustainable urban planning. When fully developed, the area holds approx. 4,000 homes and 30,000 jobs. The currently known new companies are ESS, Science Village and MAX IV. The buildings are a mix of housing, workplaces and services built up in a street and block structure. The coupling to the central Lund is via the so-called street of Knowledge including a tram line from the Central Station, through the University Park and up to the ESS in the district's northern end. The tram line will be the backbone of the transport system and the new town.

STRATEGY

Aim of the plan is to create a dense and urban city where the green and water elements contribute to the identity. The district connects to surrounding neighborhoods, parks and open spaces. Brunnshög is planned in stages with different characters. Large companies located in the edge along the highway form together with the new urban district a complex city with homes, offices, service and trade. The public space consists of parks and green passages layered with an urban build structure with squares and streets. Larger open spaces are planned including a recreational park, cultivated land and Lund World Park. The goal is a city with different companies, different ages, social and cultural groups and various types of building. The ratio of utilization is set at min. 1.0, but housing density will vary from area to area. Property sizes vary with the density with smaller flats in the dense areas and larger apartments and households in the less dense areas: villas at 6-700 m² land, townhouses at 2-300 m² densely built in 2 floors in a mixture of urban villas, multi-storey buildings and house blocks of 5-6 floors with businesses at street level.

TOOLS

Brunnshög finds its identity through traditional urban patterns and high density in a street-block structure. The pattern detailed with green features: planted squares, public gardens and facilities for use of rainwater resource. Landscape elements closely integrated with surrounding parks are in focus of the area's character. Resources for private car transport are reduced with the construction of a backbone of public transport, but the area is also directly linked to the highway - with the big companies ESS Science Village and MAX IV closest to the highway surrounded by parking areas. Density in the first stage of Brunnshög in Solbjer is high, estimated 1.37. The new district's goal of diversity is to be realized through a mix of architectural forms, dwelling types and functions. The population is organized in relatively small units, in the first stage with 700 dwellings and a number of jobs. This provides probably only the basis for a single convenience store, café etc. The plan includes also two schools.

SCENARIO: THE FUTURE BRUUNSHÖG

The first stage is Solbjer of 12 hectares, building density 1.37 with 700 dwellings in residential houses and townhouses, 42,000 sqm of offices, 20,000 sqm parking garage and 10,000 sqm new park. The ground-floor along the main street is planned for two pre-schools for a total of approx. 100 children and 4,000 sqm of business and commerce. Solbjer will consist of 9 blocks of 2-6 storey street houses in an irregular network of streets with cars. The blocks have mixed content and form, perhaps even a 10 storey block with hotel or offices. The main street follows the hill with passages up in the district to a central garden square. The main street contains tram line, 2 car lanes, bike paths and sidewalks as well as one or two rows of trees with parking in between. Access is from the street by two major roads that define the neighborhood and inner streets. Parking is in 2 blocks at the edge of the neighborhood, and the plot is divided into private and communal gardens. The goal is a green settlement with urban identity, but the high building density, block shape and road restrictions might result in a tight, closed enclave. In the first years the buildings stand "on open field" presumably with windswept and shady streets. Perhaps the vision points more at a building concept fitting to the position on the city's edge; in a scenario where there is no distinction as sharply between urban and green layer.

LINDÄNGEN, MALMÖ

Fosie is one of 1970's major urban areas in Malmo characterized by the ideal of park settlements like machines with an ideal hierarchy, functional separation of residential and commercial and small local shopping centers, schools and institutions. The flats rise above the landscape with views, light and air. By the edge of Fosie at the landscape and highways is the district Lindängen. The building was built in the last stage of the Million Program with single-family neighborhoods as neighbors. The most enthusiastic citizens had already moved into new buildings, recession struck before the district was completed, and the homes were from the beginning difficult to rent out. Today the district has heavy social problems of insecurity, unemployment and a physical structure needing maintenance. Urban growth is facing Malmo municipality in the center districts, the harbor and the new station centers, while Lindängen is distressed. The building comprises 6,000 residents in blocks of 3, 8 and 16 floors. The apartments are good, although many viewed as family homes are small compared to today's standards, with small living spaces and traditional kitchens.

BUILDING STRUCTURE

Lindängen is dominated by high-rise buildings from the 1970s, a large scale and with blocks of 3 and 8 storeys. A block of 16 floors is landmark of the district. The settlement divides the urban landscape in a rectangular pattern around a single strait of open space that connects Fosie from north to south. Lindängen is bounded on the north by Inre Ringvagen and to the east, south and west by a 4-track street Munkhättegatan-Lindängsvägen forming a strong barrier around the district. At the edge of the park is a public open-air bath, Lindängen center and 2 schools, all with renewal needs. The park strait and the main pedestrian path leads from Augustenborg in the north to the recreational and valuable Lindängelund in the south. Lindängelund plans for the development of Malmo Botanical Garden. Car traffic is completely separated from pedestrian and bicycle traffic. From the main path leads smaller paths to the eastern and western settlements connecting to the shopping center and institutions. Parking is in garages between the blocks. The density is relatively low - 0.42.

POPULATION

6,000 people are living in Lindängen, nearly 30% are children and young up to 25 years. Compared to the rest of Malmo, the proportion of children, young people and older is slightly larger, and the proportion of inhabitants of foreign origin is high. Compared to Malmö as a whole the unemployment rate is high, the average income slightly lower and education significantly lower. Within Lindängen there are considerable differences between social and economic conditions in the area's rental housing to the east and owner occupancy to the west. The two types of housing form separate enclaves around a common stroke of open spaces, schools, institutions and shopping center. The annual emigration in Lindängen is above 20%, the highest in Malmö. The number of inhabitants per square kilometer pr. ha is estimated at 90 with higher average of owner occupancy than in the city as a whole. The district is characterized by insecurity and a lack of attractive public places that can create meetings between different age and ethnic groups both in terms of business houses and in public spaces. Particularly desolate recreational area, paths with poor lighting and hidden by vegetation, the car street barrier effect, unemployment and lack of activity in the center are highlighted as problems.

STRATEGY

Transformations in Lindängen is the first stage in Fosie south. Being part of the vision for Ökostaden Fosie, the goal is to increase security through urban transformation with greater activity in the open spaces and the center. To improve coordination with neighboring areas with new public spaces and to supplement with apartment and commercial types that are missing today. The strategy is by limited efforts

and step by step to complement with new construction on undeveloped land, street and parking spaces followed by smaller renewal efforts in existing buildings. The major road and parking areas around Munkhättegratan are planned into plots for residential and commercial buildings while Lindängen Center is renewed and condensed. This is estimated to 400,000 m² of new building structures, an additional 5,000 inhabitants, 3,000 jobs, 5 new pre-schools and a new elementary school. There is interest in supporting the small businesses to increase employment in the area i.e. jobs in music and media. The vision is to create a new, urban street profile with a tram line leading from the city center to Lindängen Center and further south to Lindängelund and possibly to Svågertorp.

TOOLS

Lindängen's identity can strengthen with the opening of the area to the outside world, the renewal of the city center and the construction of new residential and commercial buildings. Renewal of existing homes are not included in the plan, but a renovation with a focus on energy saving can be expected within a few years. The landscape and the connection to Lindängelund is a potential source to new qualities, but a plan for the renewal of open spaces and connections is not ready. Visibility and improvement of public transport with tram line from Malmö city center to Lindängen Center and closure of parking spaces can reduce resource consumption for passenger transport, and new settlements can be scheduled less resource-intensive. The plan is in this stage limited to Lindängen Center and the closest surrounding areas across Munkhättegratan. The area density can be increased and create a larger and more diverse base of operations. It is not clear how many residences and other features that can actually be financed, but there is potential to increase the social, functional and architectural diversity with new types of housing, commercial and public institutions that can increase the economy for shops and services. Existing institutions could be strengthened and renewed as part of the plan.

SCENARIO: THE FUTURE LINDÄNGEN

The program for the renewal of Lindängen Center seems like a good strategy - there is everything to win if trust and investment can be created. A coordinated movement of enthusiastic local persons and external resources could result in a strong master plan for transformation of the central Lindängen: an association of shop owners in collaboration with the school, gardening interests, sports and with the participation of the surrounding neighborhoods. Costs could likely fully or partly be covered by profits from the sale of land or right to build. The vision could be a live, local center with housing, bazaar and small enterprises around a new Munkhättegratan "avenue". Extension of block ends with new, large and bright, accessible family homes, student dormitories and townhouses along the avenue; and with tram line in the avenue within walking or biking distance from all apartments and direct access to common functions. The park can be converted into a revitalized and productive open space, crossing through ground level of the big apartment buildings, schools and institutions. Ground floors, some places in existing buildings and new building opened and adapted to communal areas, lobby and institutions with robust land in front of the body active, recreation and culture. Current underground car parks can be demolished and replaced or transformed into workshops and offices.

ALBERTSLUND SYD, ALBERTSLUND

Albertslund Syd is the largest and most complete new town in Denmark from 1960-70's and a recognized part of the Danish cultural heritage. Throughout the years a strong identity is created, a clear sense of *us and them*. The walls are around the district and the individual home, one image of the home and the family can do. A communal 'we' was consolidated through the struggle for non-profit day care institutions for the children, "we knew that we could, and we did it!" At the same time the buildings were part of a young and enthusiastic municipality, with its own blooming city center surrounded by public park, open land and culture. The settlement was active in politics, an alternative and icon among the large public housing of the time. But Albertslund Syd is also a large and very uniform settlement - monotone, need maintenance and with a lack of strength to do the necessary renewal. The idealistic guarantee of personal liberty "within the wall" limits individual and common expression of differences in culture and openness to the world. There are still people on the waiting list to rent an apartment, but there is a relatively high degree of emigration, and it is often less resourceful moving in. The shopping center has letting problems. The district is now undergoing a major renewal. Housing blocks along the canal is renewed, transforming of row houses is in progress and planning of the one family patio houses rebuilding is planned.

BUILDING STRUCTURE

Albertslund Syd was built in the late 1960s. The district is located south of the railroad by Albertslund S-Station and the main line to Jutland. Here is also the municipal center with town hall, public and cultural functions and shopping center. The settlement is crossed from east to west by a channel, a main path and bicycle route. Along the canal are some small shops, a café and communal areas. High school is located near the center, day care institutions partly by the school and partly edging a large open space in the middle of the settlement. There are approx. 3,000 apartments, most in one floor patio houses, some in 2 floor row houses and a few in 3 floor blocks. The 3 floor buildings are renovated and the terraced houses under renovation. Patio houses are angled around a small garden, closed by fences and sheds. The building structure was renovated in 1980's and is now facing a radical renewal due to lack of insulation, roof and floor damages. Concrete elements of the houses is planned to be preserved and insulated, while roof, facade, floor, interior walls, kitchen and bathroom is completely renewed. There are alternatives for redevelopment and to individuals to initiate. Parking norm is 2 parking spaces per house - relatively high and could be reduced. There is a plan coming up for transformation and expansion of the city center in connection with the release of the existing state prison just north of Albertslund Station.

POPULATION

6,000 people is living in Albertslund Syd. The average income is relatively low compared to the municipality as a whole and rate of unemployment is high. The proportion of residents of foreign descent is 25 %, slightly higher than the municipal average of 23%. The district image perceived by residents is well, they are happy to stay in the "South" and eager to explain why. They carry the district history and see Albertslund South as "the city". Seen from the outside however, Albertslund Syd is only an element of the metropolis suburb, "on the suburban edge". What happens in neighboring suburbs over the years become just as important for the perception of the district, its image and local life. The cooperation among municipalities in western Copenhagen is weak, the former focus at a joint municipal strategy is only alive, when it comes to business development. Emigration is relatively high, but there are households ready on the waiting list for an apartment.

STRATEGY

The winning entry to the competition for redevelopment of Albertslund Syd from the architect office Vandkunsten is seriously addressing the renewal of the patio houses. The proposal is in line of the row houses renewal, with clear opportunities and intentions to let go and take the full step to open for differences in lifestyle, form and expression. The walls can be broken and varied to the access side and to the small paths in the back. With loggias, small sheds and gardens that open and grow into common spaces. The private can extend, remain common ground but managed individually if the residents want. The patio houses entrance zone can be adapted and utilized individually from house to house depending on individual needs, the wishes and solar orientation: hall, shed, covered balcony or deck living space. A "new" link in the hierarchy between home and town is proposed, formed as a community house in each quarter of the settlement, each with different profiles and duties. It opens for exchange among the quarters, charity, services and "do it yourself". It could relate to landscape maintenance, greenery, water collection, cultivation, work, sports and recreation.

TOOLS

Identity of Albertslund Syd is renewed by the redevelopment plan, financed by funding from the National Building Fund and smaller rent increases partly covered by estimated lower heating costs. The boundaries of each house are fixed, but the interior is renewed and provides acquisitions and individuality in the interior, access spaces, facades and garden walls. A renovation in the future of sewer and storm water drainage can become a set off for renewal of surfaces and architecture of the landscape. The starting point is to insulate and renew building materials and techniques into less resource consumption. There is no direct plan to enhance the use of public transport, but some of the existing parking areas are proposed to be transformed into a common, and the access to the S-train station can be improved in relation to the urban development of the state prison.

The density increases only slightly with the present plan - from 0.4 to 0.5 within the settlement. The population density is expected to increase slowly with possible larger households moving in. The diversity can be increased by attracting new people to the renewed housing. And there are plans for the renewal of the city center possibly with relocation of the high school into center buildings, which can increase the center population and diversity.

SCENARIO: THE FUTURE ALBERTSLUND SYD

The transformation can build new bridges in the settlement hierarchy. With a fresh layer in the hierarchy in the form of a revitalized neighborhood concept and renewal of the great potentials such as the channel, the city center and the surrounding landscape can Albertslund Syd regain the position as an experimental platform for the "new public" and "new suburb" of the welfare state. The recipe is new connections, culture and rituals, to allow differences, individuals and cultures, renewed building types and neighborhoods. At the same time extended to the private sector to create new patterns of living and housing types such as units for age-integrated communities, collective facilities etc. The relatively low population density and character of the garden city is preserved. The social, cultural and functional diversity is after all relatively large. Competitiveness will still be limited, and the center draws already almost all activity out of the housing settlements. Renewal of the center depends primarily on urban development north of the station. The visibility of a change to a more sustainable environment depends on integrating a successful approach to the diversity of open spaces and landscapes.

3. BEST PRACTICE

Can a new paradigm for sustainability and the transformation of the suburban public housing settlements be formulated by learning from the holistic thinking, humble and architectural strength found in Nordic examples of *the functional tradition*; for example as found in buildings dating from the postwar period like Søndergaardsparken north of Copenhagen? Can observations here be used as a critical measure for the best new examples of sustainable neighborhoods and settlements in Europe i.e. in Freiburg or Nordic projects for the conversion of large prefabricated buildings from the 1960s-70s such as Gyldenrisparken in Copenhagen and Hovsjö in Stockholm?

In the spring of 2011, the 15 participants of the Sound Settlements project arranged a study trip to Freiburg in southern Germany and further on to Cité Manifeste in Mulhouse and Tours Bois le Prêtre in Paris. Freiburg became the primary destination because the city since the 1970's has worked with sustainable urban development, planning and construction resulting in the new neighborhoods Rieselfeld and Vauban, an effort and settlements perceived as best practice in Europe.

SØNDERGAARDSPARKEN NORTH OF COPENHAGEN

Søndergaardsparken from 1949-50 is structured of low-rise housing around a common green in contrast to the dominant form of post-war and in the 1970's industrialized and subsidized multi-storey settlements. Søndergaardsparken is inspired by the English garden cities from the early 1900's, but the simple building types and tectonics are associated with the functional tradition. The open space reinterprets the English village green in form of a Danish landscape: a hilly terrain with recreational areas and free standing trees in a "valley" and buildings on sides of the slopes. Private gardens with hedges frame and give shelter to the common space. The blooming and diverse gardens bring diversity in the use, expression and biology to the extensive and simple stroke of landscape. The houses are however minimal brick architecture with constructive and material expressivity. Pergolas, sheds and garages complement the houses archetype. The houses are small and informal, combine dining and sitting in a room, opening the living conventions and adapting to differences in lifestyle and need.

FREIBURG

Sustainable development in Freiburg has its roots in history. Freiburg was part of a major industrial development in the EU in the 1970's resulting in a rapidly growing need for energy. For the citizens of Freiburg the identity was closely connected to agricultural and architectural qualities of the area. The industrial development caused serious concern and environmental attention, most of all to the development of nuclear power. The environmental awareness in Freiburg has thus home in an engagement among citizens, and participation is still considered an important element of sustainable development. The city's position in the cultural landscape is important for the city's restrictive land policy that draws clear boundaries between the built and the surrounding open land. The urban growth is directed into relatively dense neighborhoods and focuses on public transport, cycling and walking. Zoning, isolation and segregation has been replaced by an idea of exchange between local identities, urban growth in the suburbs has been replaced by transformation of areas within the city's edge forming dense quarters, and construction of large centers outside the city center is prevented. The political pressure on municipal planners to allow low density

settlements with single family houses were particular in the 1990's counteracted by the construction of two new, denser neighborhoods Rieselfeld and Vauban.

RIESELFELD, FREIBURG

Rieselfeld in western Freiburg seeks its identity in a sustainability profile. The architecture of landscape and housing focusses on density, public and urban life. The various components linked by a main street with light rail, commercial and public institutions. The town plan is zoned, with large institutions, school and high school close to the urban spaces. Church and media center is located by the center square. Along the square is the main street with shops on the ground level and residential above. The light rail has several stops within the district loop. The rest of the district is dominated by housing - quiet, harmonious and with many children. The identity of Rieselfeld is connected to a clear distinction between public and private. The distinction is softened however, by a spacious and complex avenue profile with trees and front gardens. The individual touch is fold out on each house. The architecture is complex due to a relatively diverse program for housing and secondary functions, small owner units and a desire for visual expression of livability and openness. The complexity is dominating the view, but blurs at the same time differences in building construction, materiality and differences developed during lifetime. The expressiveness may therefore occur postulating.

VAUBAN, FREIBURG

Vauban in the south of Freiburg is built around a path and an avenue with light rail. Common functions such as shops, markets with local and regional agricultural products and institutions are located around the avenue, within walking distance of all apartments. Across the avenue are residential areas with common open areas and paths connecting the buildings to the surrounding open land. The settlement is reserved for pedestrian and with limited car access. The house ends are formed like short arcades and connected by secondary buildings like bazars along the avenue forming a continuous and accessible street space. The building form consists of simple blocks in the same height with apartments oriented to the east and west. Ground level and surfaces at entrances, passages and paths are designed for stay with personal expressions. The simple architectural concept of the building masses and the urban form is the basis of the urban area's diversity and diversity. There is thus a clear scale division in the architectural idea with simple and strong features in the larger scale, diversity in constructive structure and materiality. Secondary building structures complete the primary with special, simple and inexpensive buildings with shorter lifetime for particular purposes such as common rooms, studios, recycling, storages, maintenance and cultivation.

CITÉ MANIFESTE, MULHOUSE

In the central Mulhouse homes are renewed to reduce energy consumption and to get a more mixed population in age and economy. The existing facades and sections are preserved while spatial interventions are performed in the plan to get diverse apartment types. A new social housing district, Cité Manifeste from 2005 follows the surrounding urban fabric of the neighborhood from early in the 19th century: buildings located along roads of approx. 3 m in width with row houses on either side built back to back with front gardens, workshops and private parking on each parcel. Lacaton & Vassal designed the new building in Rue Lavoisier in an architecture creating continuity with the neighborhood street structure and dimensions. The buildings are dense with very small front gardens, even smaller than in the

old neighborhood. The functional division and form of the new dwelling break with the classic garden city forming types similar to townhouses in inner city and reminding of Le Corbusier's early townhouse projects: workshop, storage room and garage on ground floor with gate from the alley, lounge and rooms on the 1st floor and a large green house. The budget is low as well in basic constructions and adaptation. The new building in Rue Lavoisier can be seen as a reinterpretation of the Dolfuss neighborhood but organized within a "gross volume", a column-supported and flexible warehouse 20 m deep with facades of corrugated metal, PVC cladding and movable gates. Residents have the opportunity to equip as they wish, while the exterior is kept simple, uniformed.

TOUR BOIS LE PRÊTRE, PARIS

Tour Bois le Prêtre in Paris is an apartment building from the 1960's, renewed in 2005-11 by the architects Frederic Druot and Anne Lacaton & Jean-Philippe Vassal. The aim is to maintain and reinterpret the values of the modernism with light, air and comfort. In the transformation the primary structures are recycled, but the building are opened and complemented by new layers of balconies. The ground floor is transformed into lobby and common space. The old balconies are converted into a temperate zone for living, and new terraces are added outside. House depth increases, while allowing the facades to open completely with sliding glass windows, as well in the line between existing inner spaces and the new "winter garden" as in the line between the winter garden and balcony. Tour Bois le Prêtre show, that there is a potential for economy and energy saving by reuse of existing structure. The transformation separates the building from the area's contemporary buildings forming a landmark for the neighborhood.

GYLDENRIS PARKEN, COPENHAGEN

Gyldenrisparken is one of Copenhagen's major public housing estates built in the middle of the 1960's. A park settlement with an open space in the middle, flats in 4 floor blocks built as prefabricated buildings and a small shopping center. The settlement has recently undergone a renovation and transformation into sustainable and social housing objectives. It is today regarded as one of Denmark's best examples of transformation of 1960'-70's subsidized housing. Architects are the offices Vandkunsten and Witraz. The settlement consisted of 432 apartments with approx. 900 residents. The residents had predominance of single people and one-parent families, while the proportion of young people was lower than average. 49 % of residents were immigrants or descendants of immigrants. Gross income per year was 179,000 DKK compared to the average 256,000 DKK in Copenhagen, and the proportion of unemployed was 40% - now reduced to 33%. Building construction had concrete damages and missing insulation. The buildings are after insulation outside on the original concrete elements covered with a new shell of white ferrocement with a corrugated surface. The balconies are renewed, extended in depth and protected by railings of glass. Windows are replaced with mahogany and glass bay windows. The typical horizontal architecture of the 70's is maintained and added new quality in detailing and materiality. Daylight and spaciousness is enhanced with simple interventions realized while the residents have continued their life in the apartments. The garden is renewed coordinated with additions of new nursing homes and day care institutions built as passive energy houses. The addition divides the free area into smaller, functional areas for play and stay and diversity in scale and materiality. Along the main path is a series of pavilions constructed as a secondary structure used as workshops, studios and common functions maintained in dialogue with residents. The cost of renewal has been about 1 million DKK per apartment, funded by the National Building Fund and rent increases at a level of 500-1,000 DKK per month.

HOVSJÖ IN SÖDERTÄLJE, STOCKHOLM

Hovsjö was built in the 1970's as part of the "Million program". There live about 6,000 persons in 2,200 apartments, 1,950 in three- and four-storey concrete blocks and the rest in 250 terraced houses. Four neighborhoods in total 1,450 homes have "bostadsrätt"- shared owner occupancy, the majority owned by TelgeHovsjö AB. The company is also owner of the terraced houses, schools, pre-schools, laundries and car parks. One neighborhood is rental housing owned by a private company. Many homes have been occupied by the same tenants for many years, some since the buildings were constructed. There is a super market, small shops, restaurants and care center, all owned by a local, private company. Apartment types are mostly 2- and 3-room apartments, while as well larger as smaller apartments are missing. Car and pedestrian traffic is completely separated. At the edge of Hovsjö is a recreational open space with lake Måsnaren. In the middle of the settlement is a park, and there are good open spaces in each neighborhood. Many of Hovsjö's problems can be recognized in other million program areas: High proportion of emigrants, about half of the adult population is unemployed including several with higher education. Average income is low and the proportion of transfer income high. The building structure need maintenance, it is rather isolated from the urban context, crime is high and many feel unsafe. The area has low status in the surroundings.

Hovsjö has the potential to be a good area due to proximity to recreational areas, the proportion of residents with higher education, a dominant and strong real estate company and political consensus: something radical must be done in the area. The company's ambition is to engage primarily the youth in changes "from bottom up". Instead of large, expensive and time-consuming projects, many small and visible improvements are realized in cooperation between local associations and young people i.e. in the public park and open spaces taking advantage of resident's skills and labor reserve, simultaneously with creating the conditions for local start-ups. 150 young people have participated in the restructuring of the park, more young people are employed in the housing company, income has increased and building cost decreased. The strategy is to break the negative spiral and increase the status and attraction of the settlement. To open for new populations, increase the basis for shops and services - to improve the investment climate in general, while the current residents can stay. Now 6 years after first steps the physical transformation process start with new home-building, school, cultural and commercial center building followed by demolition of some existing buildings and car park structures.

4. TOOLS

Sound Settlements questions: Can we get diversity into the project's four cases and inspire future transformations in the Oresund region in settlements from the 1960'-70's build in the light of postwar rationalism and industrialization without loss of qualities from the Nordic modernism, the functional tradition? When equality was a principle in architecture! We commit the current mistake, that social ideals of diversity can be translated directly to the architectural space. With Foucault one could point out, that there is a crucial difference between the architects produced space, and lived everyday spaces. The diversity comes to fulfillment in lived space, but can unfold in many architectural forms - perhaps it is most beautiful when diversity unfolds in a rigorous setting? Can a clarified architecture open to cultural and individual differences in everyday life – and to sustainability now and in the future?

THEME	SCALE	DISTRICT	SETTLEMENT	BUILDING
IDENTITY			 scenario Drottninghög	
LANDSCAPE			 	
RESSOURCER			scenario Brunshög	 scenario Lindängen
DENSITY			 	
DIVERSITY			 scenario Albertslund Syd	
PROCESS				

CONCEPTS AND MODEL

In Sound Settlements we have proposed a toolbox of concepts and a model for the project. A draft is used in the research and in the development and presentations of scenarios for each case examined through workshops in the settlements. The concepts arise of the discussions and individual programs for the planned transformations in the cases. The concepts are also inspired by the series of visits to European examples of best practice for new, sustainable housing and current building renewal practices. The model contains two approaches, a thematic and a scaled.

The thematic concepts are identity, landscape, resources, density and diversity. A separate layer is added for experiences and research related to planning and decision making processes. The themes are described in the scales of district, settlement and building.

The concepts structure a field for observations, discussions and suggestions. The concepts are illustrated with diagrams outlining a basis for the case studies in the Oresund region illuminated with observations from European settlements.

The tools are used in description of each of the four cases: Drottninghög, Brunnhög, Lindängen and Albertslund Syd.

	DISTRICT	SETTLEMENT	BUILDING
IDENTITY	 <p>THE NARRATIVE CITY</p>	 <p>WINDOWS TO LIFE</p>	 <p>OPEN, FLUENT, COMMON</p>
LANDSCAPE	 <p>BEACH, PLAIN, HILL</p>	 <p>STRAIT, GARDEN AND PLACES</p>	 <p>BUILDINGS IN LANDSCAPE</p>
RESOURCES	 <p>CITY OF SHORT DISTANCES</p>	 <p>RAINWATER FLOW TO THE GREEN</p>	 <p>OPEN TO SUN</p>
DENSITY	 <p>STOP THE SPRAWL</p>	 <p>HORISONTALITY</p>	 <p>GARDEN, BALCONY, ROOFING</p>
DIVERSITY	 <p>ON EDGE</p>	 <p>LIGHT, HEAVY, SPECIEL</p>	 <p>PRIMARY, SECONDARY, AD HOC</p>

IDENTITY

If identity is awareness of individuality, might identity then be promoted by opening to differences, acting upon them and making them visible? If views from within on characters of the settlements are questioned and more fundamental values identified and developed as alternative to not carefully reflected reproductions of external views on the settlements, could existing characters then be strengthened? What is it about and which kinds of “spaces” are required? Discussion on cultural heritage is now in Albertslund and municipalities west of Copenhagen tending to draw on local references. Characters depend on both tangible and intangible values such as do-it-yourself construction and collective decision-making, the establishment of independent day care centers in Albertslund, recycling etc. In Lindängen and Drottninghög examples like Styrkoteket, model railway, “nightwalking” and allotment garden initiatives. The relationship between these initiatives and the homogeneous uniformity reflected in the architecture provide a strong character in the settlements behind the surface. It shows that the buildings are open to the development of identity over time when administered with awareness of these options.

IDENTITY

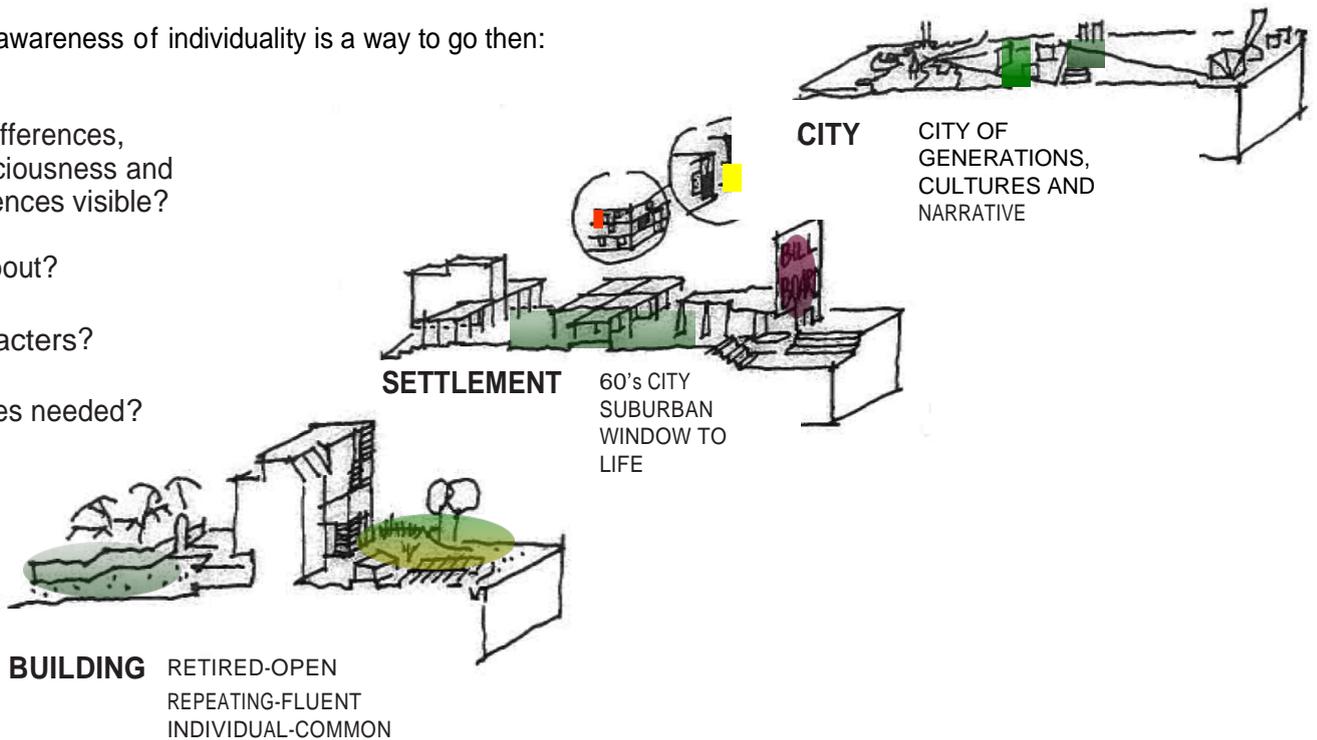
If identity is awareness of individuality is a way to go then:

To loosen differences, create consciousness and make differences visible?

What is it about?

Which characters?

Which spaces needed?



LANDSCAPE

Is the landscape identity in any way reflected in district parks, open spaces and courtyards? Can you see that you are in the south-west of Skaane or eastern Zealand by looking at the vegetation? Are there areas of water contributing to biodiversity? Is access from home and courtyard to larger green areas easy? The green structure of the district is a wonderful resource, especially for human well-being, health and as a meeting place. But also a source to sensitivity and conceptualizing of otherwise rather abstract goals of sustainability. Play, movement, pedagogy, body, re-use, change of seasons. The feeling of ownership increases if you take part in the care and development of the courtyard, green common or park. Having your own outdoor space in front of the apartment on the ground floor can create individual character and variety in everyday life and architecture. For urban ecology is green a resource for storm water management and cleaning, biodiversity, air purification and microclimate. When you want to reach residents to engage in dialectic and anchoring processes can a start with the outdoor environment be productive. The design and maintenance of the green is vital for the ecological value of the green.

LANDSCAPE

Green structure is a source to identity, sensitivity and conceptualization of rather abstract goals for sustainability:

Is landscape identity reflected in the district park, green common and courtyards? Is it possible to see from the vegetation if you are in Skaane or Zealand?

Does the settlement have wet land and biological diversity?

Are recreational and green spaces accessible from the apartments?



DISTRICT
BY THE BEACH, ON PLAIN OR HILL



SETTLEMENT LANDSCAPE AND PLACES
HA-HA FENCE STRAIT/AVENUE/GARDEN



BUILDING BUILDING IN LANDSCAPE

RESOURCES

Land is not a renewable resource. Therefore, the proportion of open space is an indicator of the city's sustainability. Land requirements for traffic and the division of the land contribute to the loss of life value and architectural quality in green area and recreational spaces. Traffic pressure, noise and barrier effects are a serious threat to biodiversity. Can improved public transport and frameworks that increase the use of collective and soft types of traffic be followed by reduction of road and parking areas? Can public transport such as trams built in existing greenways along with bike and walking paths reverse settlements introvert character into identity bearing elements for settlements? And can reduction of road and parking areas open to green connections to surrounding neighborhoods and features? Transport structure requirement grows when traffic increases, but the negative effect can be reduced with more efficient means of transport with planning for cycling, walking and public transport. A compact and mixed-use development can to some extent replace the need for physical mobility by providing shorter distance.

RESOURCE

Land is not a continuous resource, thus the share of open land become an indicator for urban sustainability. Can improvement of public transport be followed by reduction of street area and parking? Can public transport i.e. tram line be realised in existing, green straits and reverse covered surface into green - and connect to neighborhood?

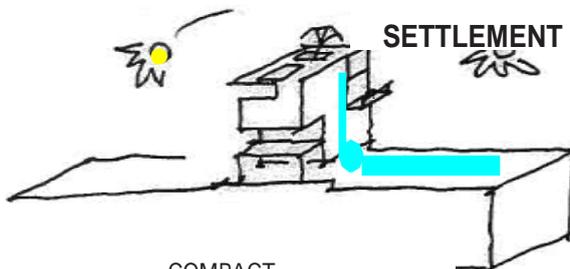


CITY OF SHORT DISTANCES



SETTLEMENT

SHORT STREETS
A MINIMUM OF COVERED
LAND
RAINWATER COLLECTION



BUILDING

COMPACT
EASY TO MAINTAIN
OPEN TO SUN

DENSITY

When talking today about the "dense city" and "densification", what do we refer to - close compared to what, to inner city, to the 60's and 70's settlements or to garden cities? Today urban density often refers to density in the inner city as a kind of norm. Does density at the same time refer to quantity and to sensual experience? Low/dense and high/open can give the same figure for density, but are experienced differently. Should and can the city have same density everywhere? Density means ratio of built and open space, while the density of the built structure is about the relationship between street spaces and courtyard or open space, and the experienced visual density is linked to openness in the space you live in. Population density gives background for shopping economy, but trade and service is on the other hand also related to level of income etc. How does people live, are single people or large families dominant? Can you plan based on info from the home page: many single rather than mother, father and two children - and learn from the settlements' own experiences: as soon as the residents move in, preferences and needs change.

DENSITY

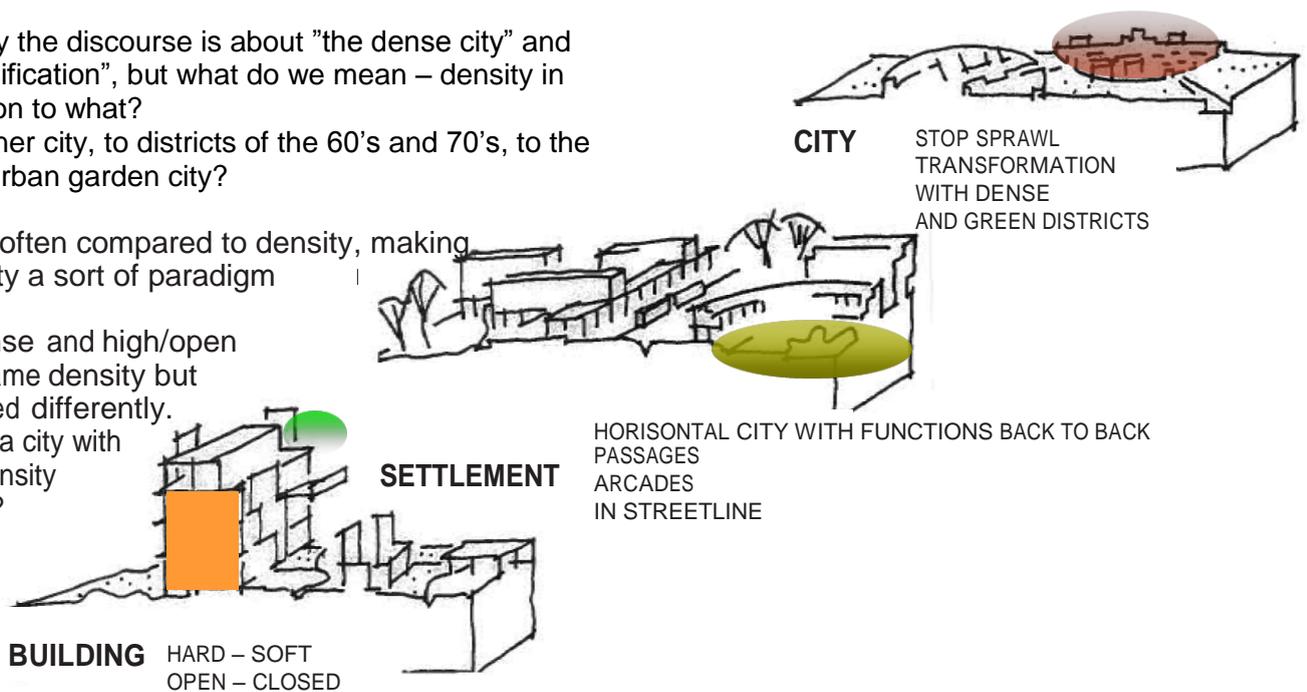
Today the discourse is about "the dense city" and "densification", but what do we mean – density in relation to what?

To inner city, to districts of the 60's and 70's, to the suburban garden city?

Urbanity is often compared to density, making the inner city a sort of paradigm

But low/dense and high/open can have same density but is experienced differently.

Do we want a city with the same density everywhere?



DIVERSITY

If current efforts to establish the abundance and diversity should be seen as a break with the postwar focus on average, functional needs with mass production of good housing as a goal, can we solve the problem of the new introduction of mass-produced building systems? Or can we organize renewal in ways better reflecting the ongoing development in the neighborhoods? Should we develop diversity by architectural expression - or is it other forms of diversity that must be reflected? And are we, sure that the 'uniform' is the problem? Or is the problem of spatial relationship and scale, and in the settlement the structural and material quality? Does the issue perhaps have more to do with post-war focus on functional qualities and contemporary focus on the average needs? And finally: is diversity not major in public housing, where residents from different ethnic backgrounds live next door, than elsewhere in the housing market? Do “we” in fact want diversity, or is it a trend among planners and architects?

DIVERSITY

Are we sure, the problem is in simplicity? Or in spatial diversity, in scale and in materiality and structure?
 Is diversity not major in social housing, where cultures live next to another?

Is it possible to give space to existing differences in everyday life?

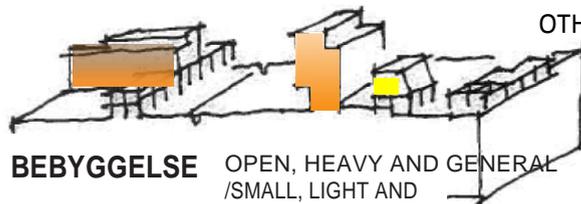
Do we really want diversity, or is it a trendy idea among architects and planners?

“There is so much more to it”



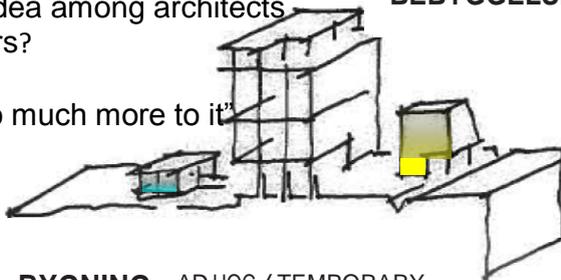
CITY

ON THE EDGE, AROUND THE GARDEN OR BACK TO BACK WITH OTHER BUILDINGS



BEBYGGELSE

OPEN, HEAVY AND GENERAL / SMALL, LIGHT AND SPECIAL



BYGNING

AD HOC / TEMPORARY
 PRIMARY/SECONDARY

PROCESS

Sustainability is about environmental, economic and social conditions. Environmental sustainability means less resource consumption for energy, attention to public transport, cycling and walking. Economic sustainability means balance between income, living cost and maintenance. The economy includes homes, but also access to malls, institutions and recreational facilities - and to large open spaces, roads and paths. Social sustainability relates to households' ability to manage your life. There deployed because the municipal spending has grown over the municipal average, followed by crime, insecurity and social exclusion. Problems may be related to a lack of ethnic, social and economic integration. Sustainable transformation must be long-termed and have multiple simultaneous goals: to make settlements more diverse i.e. attractive to new, self-supporting residents, to improve density and integrate with the surrounding city. And finally: to improve housing and energy standards. Finance and processes are fundamentally different in the Swedish and Danish cases; the Swedish transformations are municipal and privately owned, financed by the sale of building rights and new homes, while the Danish are public non-profit housing companies and transformation partly financed by funding from the National Building Fund.

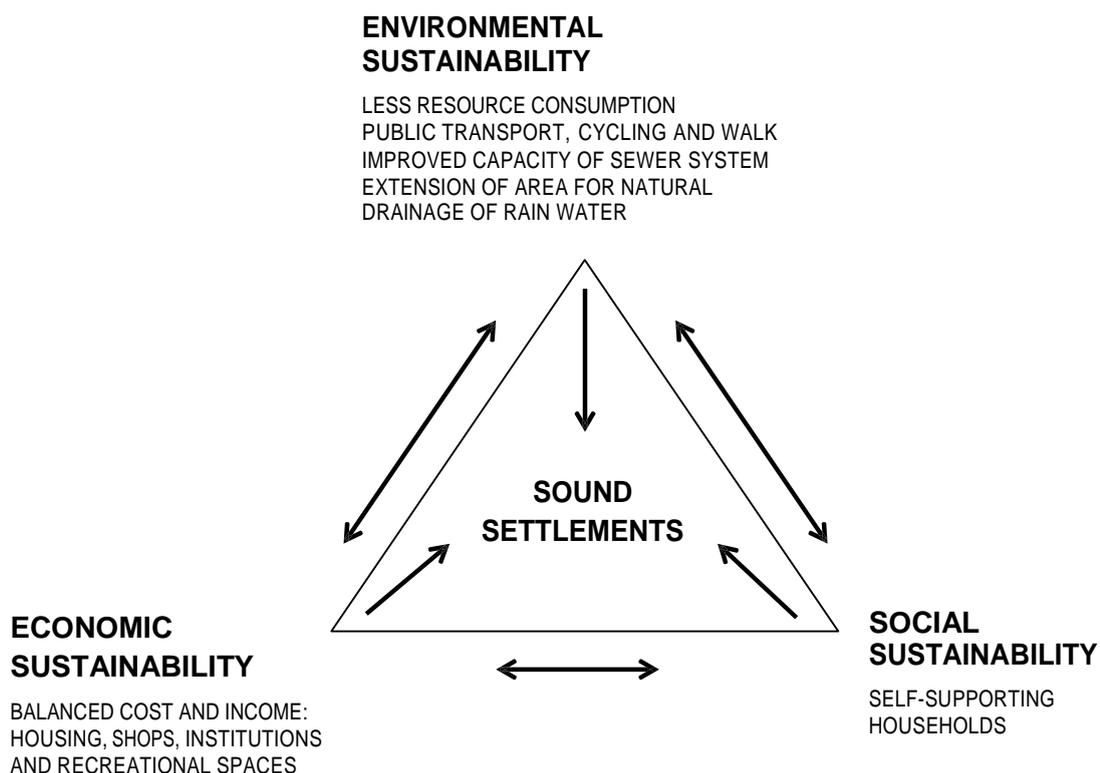
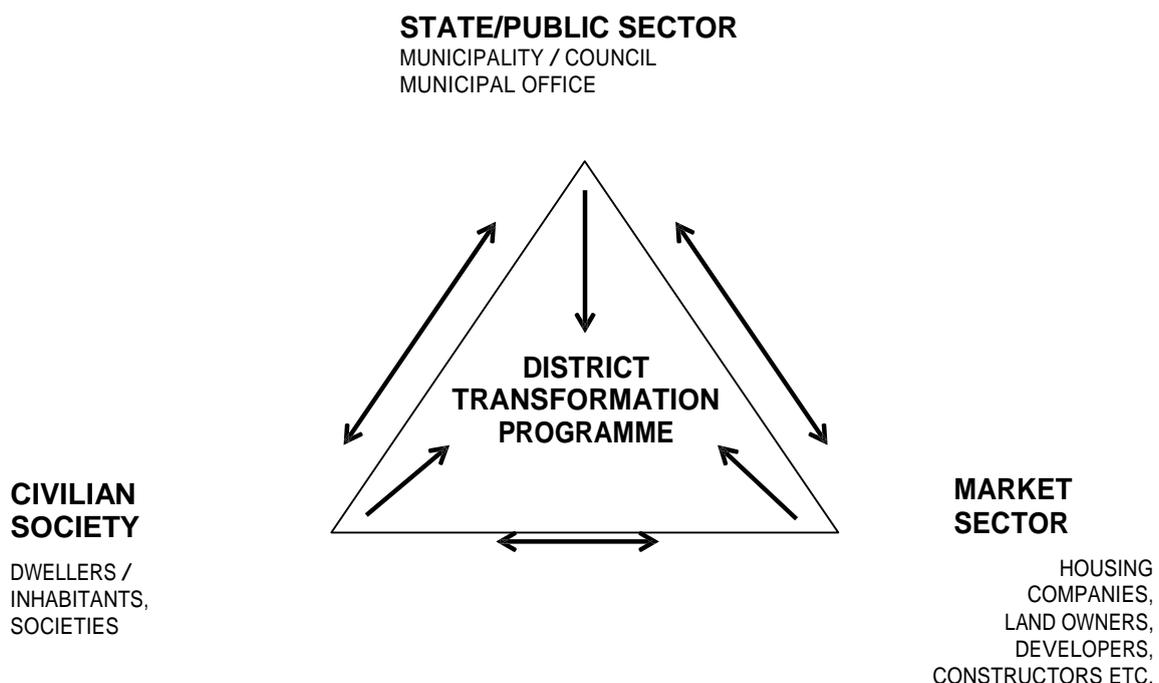


Diagram: Jacob Norvig Larsen

The municipality is the primary driving force in ensuring housing estates and city to long-term sustainability and good cooperation between several actors: local authorities, politicians, administrations and institutions, market players such as landowners, developers and consultants as well as residents, citizens and associations in the civil society. There may be agreement on the challenges and goals, but not always on how to manage and give priority. The dilemma is that there are not always harmony between solutions that work well locally and solutions of the cities or municipality's strategic challenges. Both perspectives must be recognized and taken into account simultaneously. Another dilemma exists between the short term and the long term. The local authority and housing association focuses on the long term, such as adaptation to new standards and rising energy prices. Cost of improvements will result in rent increases affecting the current residents, while the benefits may not appear until new residents have moved in. It is difficult to find evidence, that more extensive physical transformations can solve social problems for the existing residents, they are often linked to change of the composition of residents. Therefore, listening to residents is needed and short-term here-and-now needs must be met by "soft" interventions.



*Diagram:
Jacob Norvig
Larsen*

5. EDITOR, WRITERS AND PROJECT PARTICIPANTS

EDITOR AND WRITERS

Peder Duelund Mortensen, editor and writer

Elisabeth Dalholm Hornyánszky, writer of chapter 1, Preface p. 3 and drafts to case Brunnshög p. 6,

Hovsjö p. 15 and to tool Density p. 21

Jacob Norvig Larsen, writer of chapter 4, Proces p. 26-27

Katarina Carlsson, Daniel Wasden, Stellan Westerberg and Bjørn Emil Hertel writer of drafts to chapter 2, Cases/settlement, population and strategy p. 4-12

Annika Kruuse writer of draft to Tools/landscape p. 22

Claus Bech Danielsen writer of draft to chapter 4, Tools/diversity p. 25

Graphics and photo without any rights mentioned: Peder Duelund Mortensen

RESEARCHERS, LUND

Elisabeth Dalholm Hornyánszky, associate professor, Institute of design research, Lund University.

Project leader

Olof Kolte, associate professor, Institute of design research, Lund University

Annika Kruuse, ecologist, Environmental Planning, Malmö Municipality

András Várhelyi, professor, Institution of technics and society, Lund University

David Lindelöw, phd fellow, Institution of technics and society, Lund University

RESEARCHERS, COPENHAGEN

Peder Duelund Mortensen, associate professor, The Royal Danish Academy of Fine Arts Schools of Architecture, Design and Conservation, Copenhagen. Project leader

Claus Bech Danielsen, professor, senior researcher, The National Institute of Building Research, Aalborg University

Jacob Norvig Larsen, senior researcher, The National Institute of Building Research, Aalborg University

Heidi Svenningsen Kajita, phd fellow, The Royal Danish Academy of Fine Arts Schools of Architecture, Design and Conservation, Copenhagen.

FROM THE MUNICIPALITIES

Katarina Carlsson, architect planner, City planning office, City of Helsingborg

Carl Welin, architect planner, City planning office, City of Helsingborg

Mats Ågren, architect planner assistant, City planning office, City of Helsingborg

Daniel Wasden, architect planner, Stadsbyggnadskontoret, Lunds Kommun

Christer Källqvist, leading architect planner Stadsbyggnadskontoret, Lunds Kommun

Stellan Westerberg, architect planner, Stadsbyggnadskontoret, Malmö Stad

Sadiye Altundal, district developer, City of Malmö

Peter Håkansson, trafic planner, City of Malmö

Andreas Nordin, trafic planner, City of Malmö

Bjørn Emil Haertel Jensen, city planner, Albertslund Municipality

6. CONTACT

If you want more information on the Sound Settlements project, paper and web page please contact:

Peder Duelund Mortensen: peder.duelund@kadm.dk

Elisabeth Dalholm Hornyánszky: elisabeth.dalholm@design.lth.se

Copenhagen September 1st 2013