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Through additional cells

THROUGH ADDITIONAL CELLS

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SPRING 2018
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“All material, including photographs and maps,
unless otherwise stated is by the author.”

TABLES OF CONTENTS

1. Introduction, topic and thesis

| | |
|----|--------------------------------|
| 6 | Thesis and Topic |
| 12 | Schedule |
| 14 | Analysis of regulations |
| 18 | History of single family-homes |

2. Densities:

| | |
|----|--------------------|
| 27 | 2.1 Neighbourhoods |
| 43 | 2.2 Single houses |

3. Siting analysis

| | |
|----|-------------------------|
| 57 | 3.1 Territorial mapping |
| 69 | 3.2 Site |

4. References

| | |
|----|-------------------------|
| 82 | References: Litterature |
| 94 | References: Buildings |

Let the development flow.

I have been working from the assumptions that there is a desire for densification, that it is natural and that it already is happening. Trying to chart out the ways this densification is happening under the current rules, I want to take these as starting points to develop types/typologies to add in to an existing neighbourhood of single-family homes.

My research in this document has gone into understanding how this happens, and which patterns densification follows. The findings indicate that there is a pattern of houses having plots, that these plots gets divided into smaller plots or the houses expand to meet new demands. This process we allow to continue until a set density. At that point the regulations demand a change in the scale of building.

Through a reading of the history of these regulations, an alternative way reveals itself: Before we started regulating, the endpoint was one of total saturation of small houses in an area. That highlights how arbitrary the current regulation is, density is set to be limited at a certain cap.

In certain areas, there is political will for the densification of the city. My thesis is that we could achieve much of the desired densification without changing the typology from small houses to large houses if we remove the cap to density.

Introduc-
tion

Planning
regimes



Image 1: Grefsen, 2018

TOPIC:

Oslo is growing, adding population every month. The area available for building is restricted by the sea on one side and the Markagrensa protecting the forest on the other side. Between these two barriers lies the already built up area: This is where the new residents have to be accommodated through densification.

Densification of the suburban areas around Oslo is directed by three separate planning regimes: The redevelopment of former industrial areas under an areawide plan, the redevelopment around “knutepunkter” with a degree of municipal control and the densification of the areas under “Småhusplanen” in a piecemeal fashion. The “Småhusplanen” has as a goal to preserve the morphology of areas of single-family homes in their current state of density. It clearly states that there is a roof to the density of areas of small scale housing, thus it leads to the densification of all areas under it to the same level of density.

This leads to a situation where the densification of Oslo mainly happens through the replanning of existing areas into a “Knutepunkt” or redevelopment. They both lead to densities and planning rules suited mainly for either suburban midrises or urban midrises. High density in the form of further densification of low-rise structures are restricted by current planning.

This breaks with the existing morphology of the areas under development. In areas where the former use were industry, this might be accepted. The increased value of the land often goes toward relocation to areas further out. In areas built up with small scale housing it

Introduction

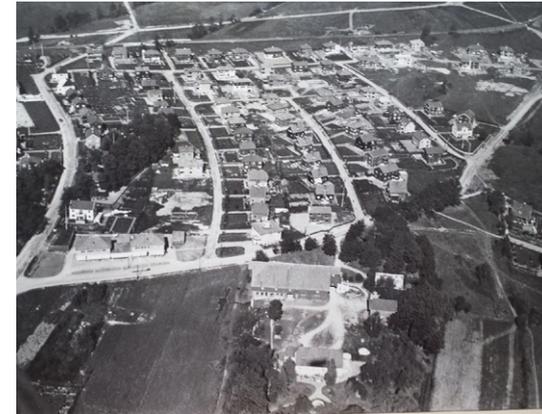


Image 2: Tåsen, 1937

Planning regimes

Current densification schemes



Image 3: Tåsen, 2013

Conflict

it creates more conflict. People feel their neighbourhood is being razed around them, which has led to the organization into neighbourhood groups to protest the development. This could be read as a “not-in-my-backyard” tendency, but it could also be read as a genuine frustration with the situation and loss of social connection (Dagsavisen.no, 2018).

In neighbourhoods of single-family homes, the basic morphology is the structure of one plot, one house and one entrance. In my research (p.25-56) I found that in areas with big plots or without regulation, there has been a significant number of houses appearing in gardens. In Rodeløkka, which for most of its history wasn't regulated as a suburban area, this process resulted in houses forming an almost continuous wall along the streets. In areas under småhusplanen this is regulated with set-backs from border of the plot, maximum densities, parking norms and rules for maximum heights of roofs. This results in a limit that density cannot increase beyond.

This enforces a certain view of the typology, rather than focusing on the accesses to the ground and the independence of the house, it focuses on the spacing of houses. Every house comes with an set amount of plot that handles the parking of cars and the distancing to neighbours. If we remove this landing space from the house, it becomes more about the scale of the building, the attachment to the surroundings and the connection in between the houses. All of these change as the density of the environment changes.

There are different ways of densifying the same morphology. They double as ways to relate to what is already existing. One is to replace the existing with a new structure, to erase and then rebuild. Another is to add a new layer, that enforces a new logic on top of the existing layer and thus changes the original mor-

Change of urban structure

How does small houses densify?

Approaches to densification

The structure of low-rise housing



Image 4: Tyslevveien 1962



Image 5: Tyslevveien 2015

phology into something new. A third is to follow along the lines of the existing morphology, and densify/increase it in the way it naturally allows for.

In the case of single-family homes, this would be either the subdivision of the lot or the swelling of the original house depending on the size of the plot and the cause for the desire for densification. Where the rules allow it, these kinds of densification are already happening, in a process that stops only when we limit it by regulating it. This regulation is itself dependent on our view of the house; is it a unit in itself, or does it come with a certain space? In dictating the amount of space, we have

My thesis is that it is possible to increase the density of an area of single-family housing without changing the underlying typology by abiding to the concept of the plot as the underlying unit. Densification here is understood as an increase in FAR. By following the precedent of adding additional units or by swelling the existing units we can achieve most of the goals set out by the government without altering the typology.

The ongoing process of densification

Thesis

FAR= Floor area ratio. The ratio of built space vs. the area of the plot

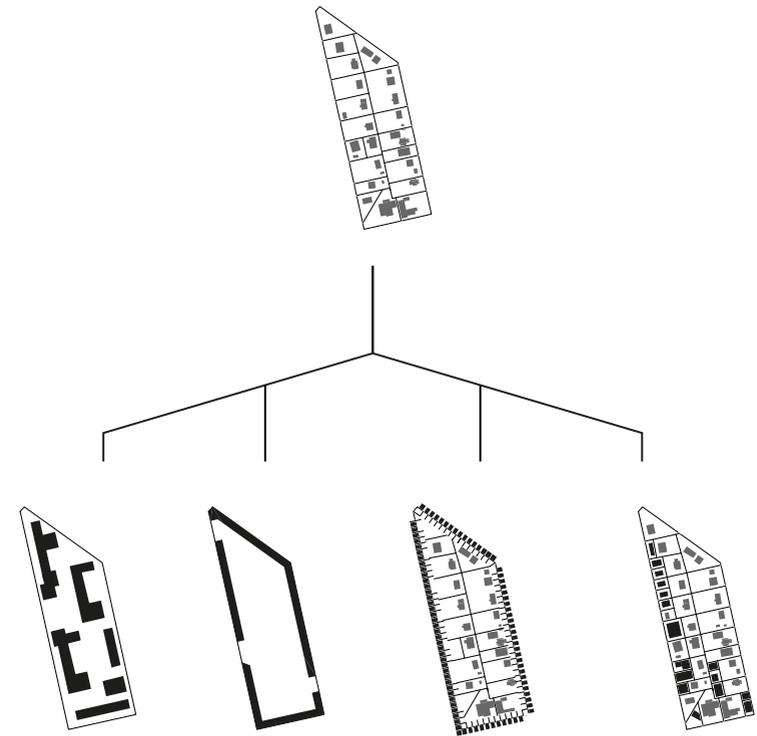


Image 6: Ways of densifying

APPROACH

I want to approach this task in different ways in three different scales: Neighbourhood, Block and House. At the Neighbourhood level I want to approach it in a more zoomed out manner, on the strategic level. The submissions I plan for this scale is strategic plans and analysis of the result of my strategy on a larger scale. At the block level I want to illustrate how the strategy plays out in a more physical way through models, floorplans of the neighbourhood, streetfaçade and axonometric drawings of the block as a whole. At the house scale At the house scale I want to explore in more detail the relationship between house, street and neighbours.

DELIVERIES

NEIGHBOURHOOD:
Strategic plan: 1-2000

Analysis, written + Diagrams

BLOCK:
Street façades

Model of final strategy

Miniature models of tested strategies

Plan of ground floor 1-500

Axonometric drawing of neighbourhood

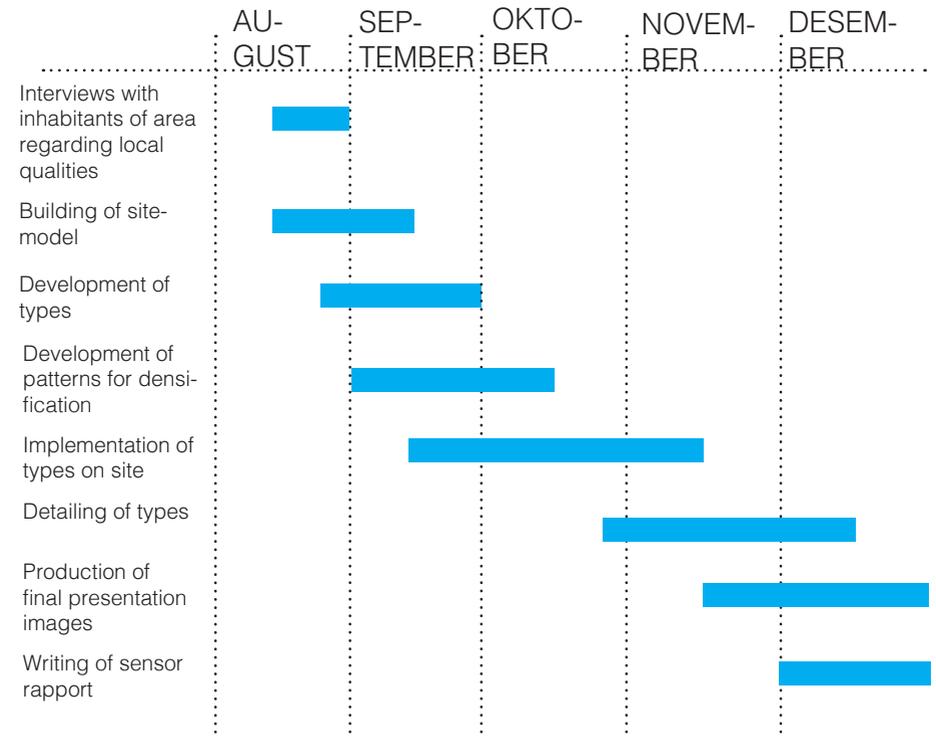
HOUSE - TYPES:
Plans of types 1-100

Section of types 1-100

Axonometries of types 1-100

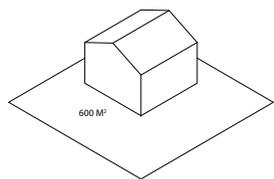
Images of selected scenes

SCHEDULE OF DIPLOMA

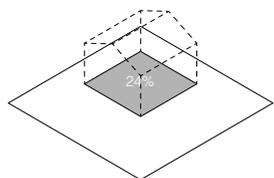


SMÅHUSPLANEN

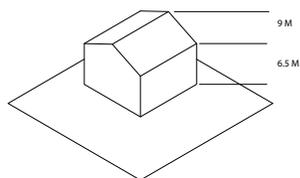
The main regulation for single-family housing in Oslo is the "Småhusplanen", a regulation that deals with the houses through the tools of set-backs, maximum heights, maximum occupancy of the site and by detailing the amount of landscaping you are allowed. The regulation provides further rules for planning for several units on the same plot. All of these illustration is based upon Oslo kommune (2006).



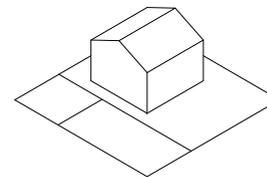
The minimum plot size for a new plot is 600 square meters.



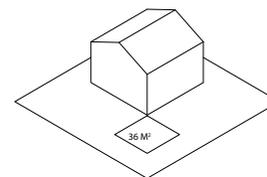
A maximum of 24% of the site can be occupied. This includes parking, balconies and many terraces.



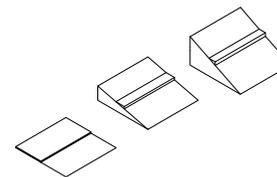
The max height for a house from the average level of the ground is 6.5 to the eaves, and 9 m to the top of the roof.



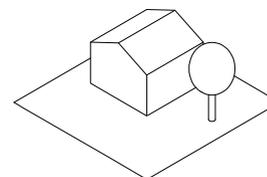
There needs to be a least 200 square meters of "occupancy area" outside. Of this, a square of 8 m by 8 m is to continuous.



A house needs two parking spots, each being 18 square meters. In addition it is necessary to be able to turn a car on you property.



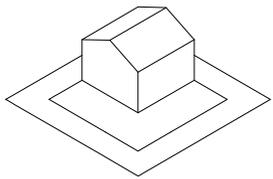
The amount you can alter the terrain is regulated by steepness of the plot. If it is $< 1/3 = 1,5$ m, if it is between $1/3$ to $1/6$ it is 1 m. If it is less you are allowed to alter the terrain by 0,5 m



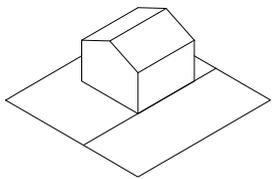
Trees with trunks above 90 cm in diameter 1 m above the ground can't be felled without extraordinary reasons.

OTHER REGULATIONS

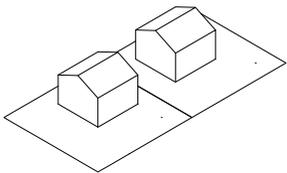
In addition to the regulation of the specific areas under småhusplanen, there is certain regulations that apply to the whole of Norway except for those areas that are exempted/regulated in other ways. These are divided between the TEK 17, authored by Direktorat for byggsikkerhet (2017), the regulation of technological standard in buildings, and the Veglova (1963), the law the regulates matters regarding roads.



TEK17 regulates a setback of 4m from the plot line on all sides for any structure intended for permanent inhabitation.



The law regulating roads, dictates that you have to apply for dispensation to build closer than 15 m from the middle of a municipal road.



TEK17 Dictates that there should be 8 m in between buildings for inhabitation if they don't have firewalls facing each other.

HISTORY OF THE VILLA

The word villa has its roots in the rural palaces of the Roman elite. In the renaissance the Villa was resurrected by Palladio and his contemporaries as a place for leisure, outside the bustle of the city.

The first suburbs in our understanding of the word, started in the 1700s in England. These first districts of villas outside the cities differed from the earlier Italian examples in that they were envisioned as places for leisure whereas the Italian examples had been positioned in the middle of the rural landholdings of aristocratic urban elites. For the urban elites, they did their business in the city centre before they returned home to a peaceful existence outside it (Fishman, 1987).

In Oslo the first villas appeared behind the royal palace, inhabited by the rich elites of the city. At first the villas spread along the roads leading out from the old city centre around Kvadraturen. With the introduction of tramlines and railroads the villas went further away, into Nordstrand and out towards Vestre Aker. With more efficient transportation, new groups of people started to enjoy the villa as a space for leisure. (Astrup, 1998).

At the same time, along the edges of the city, clusters of small, self-built houses grew into village-like clusters. Coming from the countryside with the necessary skills to build their own houses, workers arrived in the city and set out to create their own homes. These homes had more in common with the medieval city centres than the modern villas being built on the western and southern outskirts of the city. Their plots often were small and tightly packed with different houses

Roman origins

First suburbs

Oslo context

Farmhouse to city-house

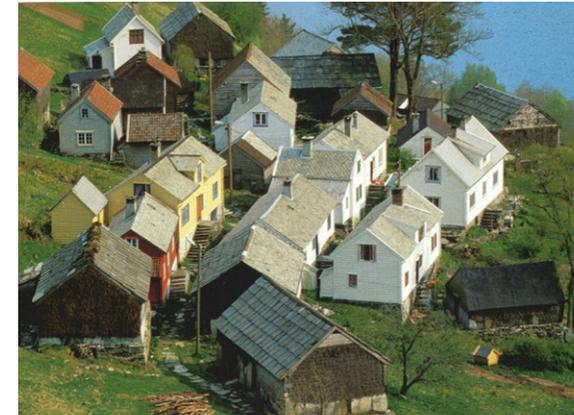


Image 7: Havråtunet on Osterøy



Image 8: Homannsbyen around 1870

occupying the same plot. Living areas were in no way separated from working areas, and each neighbourhood contained a variety of trades and often were situated next to the main factories.

These village-like neighbourhoods were the first to be removed in the name of progress. The very first was the so called “Røverstatene” that was removed to make place for “Victoria Terrace. At the same time neighbourhoods of villas for the well to do grew outside the city limits. After the second world war the social democratic state promised its citizens access to a new lifestyle with leisure, healthy environments and new material possessions as integral parts. The dominant image of this new life became the independent single family house providing a little piece of land with a house as the backdrop for newfound leisure time. This created a process were the denser neighbourhoods of small houses were torn down, while new neighbourhoods of small houses spread out over larger distances grew outside of the city centre (Brekke, Nordhagen and Lexau, 2005).

The common pattern for all of these developments were based on the thoughts espoused in the garden city movement, adapted to be represented by single-family homes: a single home on a spacious plot. Around each house, a set back to all sides, with ample space for garden in front of the house.

Guided by political limitations to the use of land, the spread of suburban homes pressed against each and every land use regulation, absorbing the unused space

Socialdemocratic leisure

The spread of suburban structures

Mark-agrensa and limitation to growth



Image 9: Røverstatene



Image 10: Victoria Terrasse

in a pattern fanning out from the city along the main roads. Today, the areas around Oslo boasts some of the most expensive real estate markets in Norway.

As the value of the surrounding real estate markets have trended upwards, the dream of getting a single-family home within commuting distance of Oslo is becoming harder to achieve. The government, faced with the environmental costs of commuting in a spread out city and increasing cost of infrastructure works has implemented policies to curtail the further sprawl of the city (Vaart Oslo, 2018).

For the individual this leaves the option of either not going for a single-family home, buying an existing one or building one in the garden of an existing house. All of these options are limited. Under the current regulations, based on Unwins model of light, space and air, there is limited potential for further densification in the gardens of existing houses. The desire for single-family homes is strong enough that prices increase even when the rest of the real estate market declines (Aftenposten 14.06.2017). Maybe one could conclude that the time has come to modify the model inherited from the British precedent? To allow for further development of the typologies and the morphology of the plot structure involved?

Sprawl

The increasing population spilling outwards

Time for a change in the way we plan for small houses?

2.1 MORPHOLOGIES

In this chapter I will analyse four different areas with small scale housing in Oslo. These will be analysed as to whether they have densified, and if they have densified; what kind of densification have they undergone?

I will try to systematize the ways of densification into 5 categories: Swelling, Backpacking, Spawning, Cloning and Replacement.

Swelling: is when the houses increase in girth or height, expanding outwards from the original house in some way.

Backpacking: is the addition of a new house in the backgarden or the front garden of an existing house.

Spawning: is when there is a mother house, that gets a series of babies in her gardens.

Cloning: is when the densification takes the form of the addition of a series of new units, each identical to each other.

Replacement is when the entire structure is replaced with a new structure. This one doesn't figure heavily in my examples, but is prevalent elsewhere.

What happens to the original house when new buildings are added to the plot? How are access to each home handled? How can one achieve a certain degree of privacy? What kind of relation does the houses have to the street? What kind of green spaces exist? What are the ideal distance between houses? Can houses touch? In short, how do they behave?

MORPHOLOGIES: RODELØKKA

Findings: The maps and photos show a gradual densification through the subdivision of the original plots, through the extension of existing buildings and through the addition of new structures on existing plots such as sheds.

This is the one example with the most densification. It runs through a longer timeframe, which allows it to go through more generations of densification than the other examples. In first two generations there is a lot of backpacking and spawning while in third generation the most dramatic change is from a garden to series of four story suburban apparent buildings.

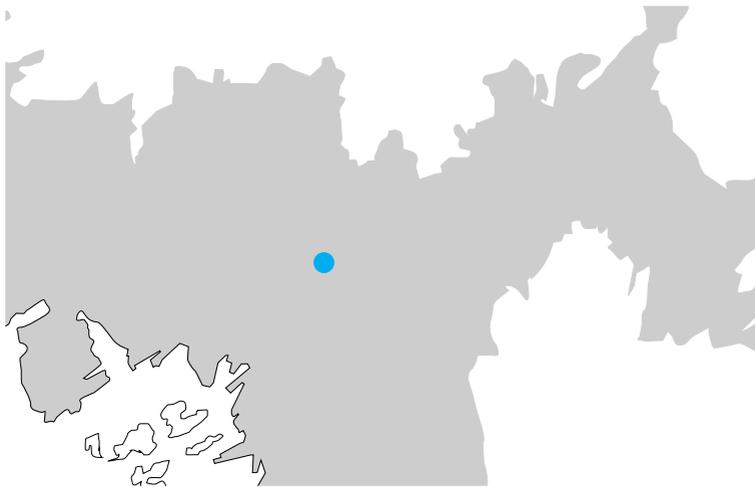


Image 11: Blue circle showing Rodeløkka



Image 12: Rodeløkka

TYPES OF DENSIFICATION

Swelling: Especially in the two older frames.

Backpacking: In the two later frames a lot of the empty spaces fill in.

Spawning: In the start, this is occurring, with large lots being spawning grounds for further densification.

Cloning: None

Replacement: In 1984 two rows of housing blocks appears in a former green space

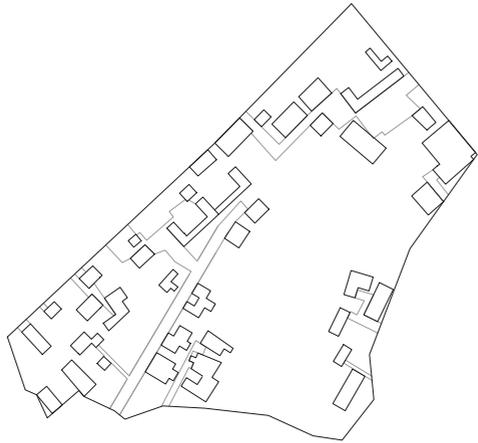


Image 13: 1880

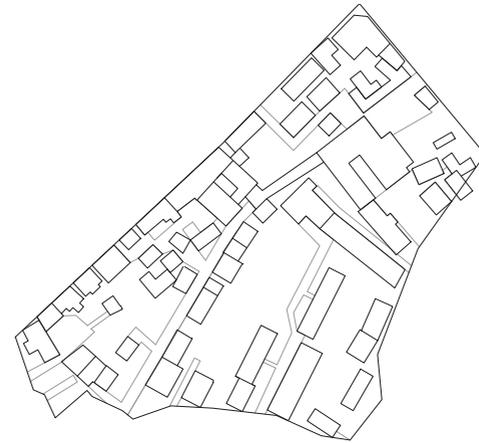


Image 15: 1984



Image 14: 1937

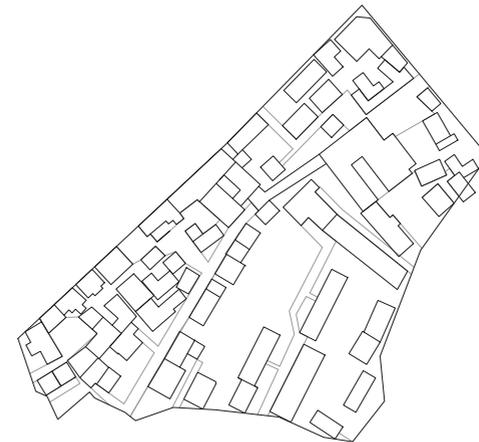


Image 16: 2017

MORPHOLOGIES: NORDSTRAND

Findings: The first single-family homes came into the area with the introduction of the tram, in the first wave of suburbanization. The first map is from 1894, and as you can see there is few buildings, with each of them being a big villa sitting in a small park. In the 1937 map the development of the first houses in the former parks have started. Then, in each subsequent map you can see more and more houses. In the last picture, from 2017, you can see a new development in the upper left corner of the map consisting of a series of row houses. This marks the introduction of new and denser typology into an area of single-family homes.

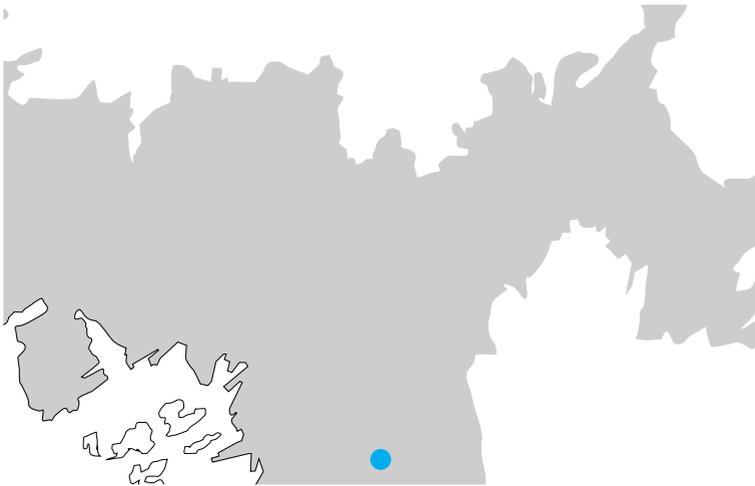


Image 17: Blue circle show Nordstrand



Image 18: Nordstrand

TYPES OF DENSIFICATION

Swelling: Some, but little.

Backpacking: In each of the three later frames it occurs in at least one lot.

Spawning: This is the dominant form of densification, occurring in the parks around the big villas.

Cloning: In the last sample, from 2017 it occurs.

Replacement: None.

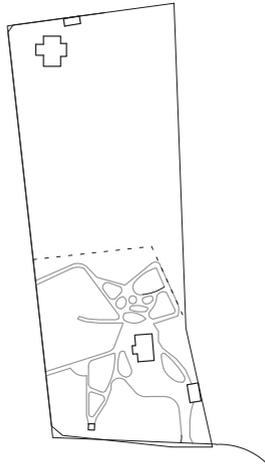


Image 19: 1894

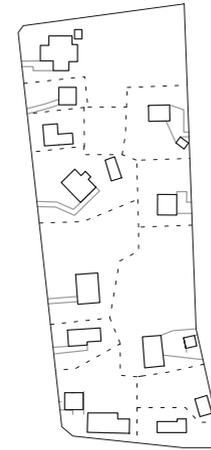


Image 21: 1971

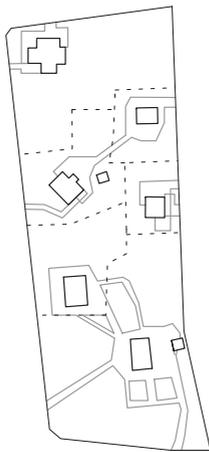


Image 20: 1937

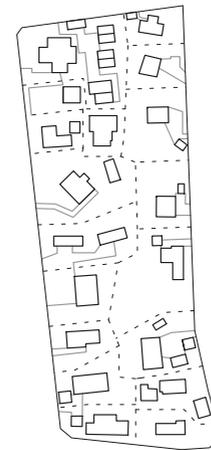


Image 22: 2017

MORPHOLOGY: GREFSEN

Findings: This sample from Grefsen has plots that is of medium size, they allow a single extra unit to be built on each plot. At the corners, there are larger plots. In the upper corner these generates cloning, a collection of identical houses. Towards the main road, these support other uses; as an electrician shop and a funeral home. The original and new homes also grow as time progresses and the desired space increases.

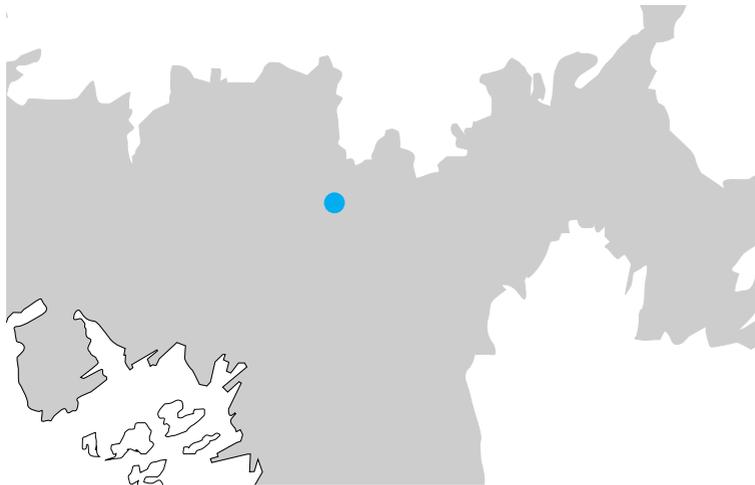


Image 23: Blue dot showing Grefsen



Image 24: Grefsen

TYPES OF DENSIFICATION

Swelling: Some, especially towards the main street at the bottom of the frame.

Backpacking: This is the dominant form of densification.

Spawning: Little

Cloning: In the last sample, from 2017 it occurs.

Replacement: At the easternmost plot towards the main road it occurs in 1984.

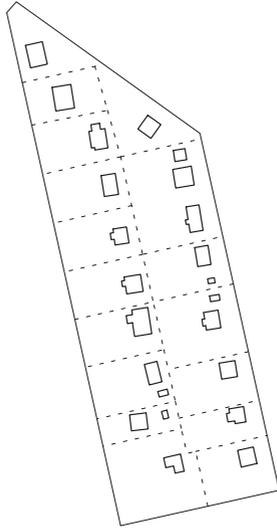


Image 25: 1937

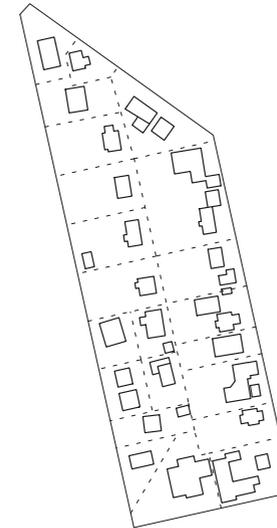


Image 27: 1997

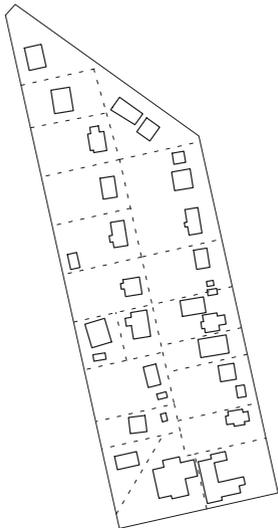


Image 26: 1984

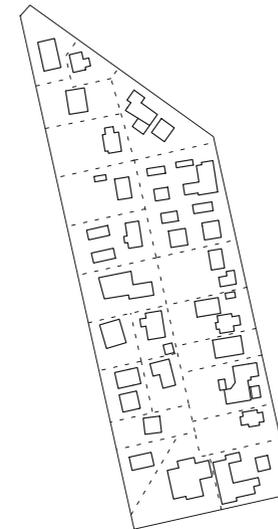


Image 28: 2017

MORPHOLOGIES: TÅSEN

Findings: This area started with the parcellation of agricultural land into small plots that were then sold to individuals. These individuals then built modest villas. These villas have been expanded and extended through the years, but with little subdivision of the original plots. What increase in the number of dwelling units there has been has come in the form of the conversion from single-family home to a house containing two dwelling units. This might very well come from the interaction with the planning regimes, which has always had a minimum area for plots. In this pattern the houses swell, they increase in size to allow additional inhabitants.

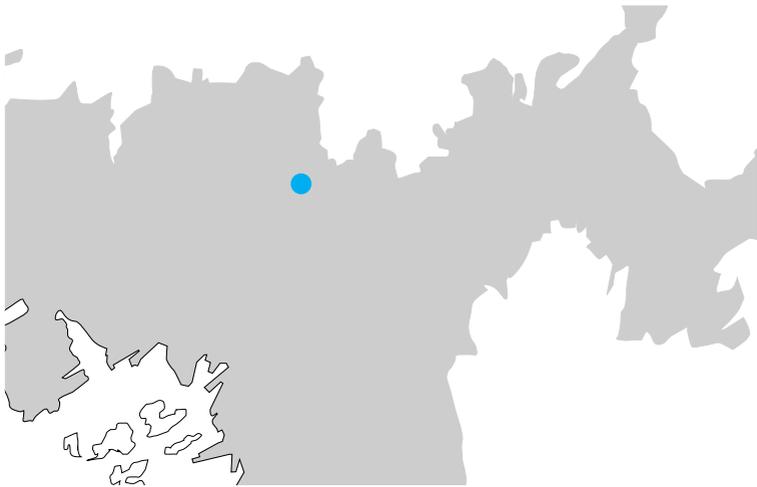


Image 29: Blue dot showing Grefsen



Image 30: Tåsen

TYPES OF DENSIFICATION

Swelling: This is the dominant form of densification

Backpacking: None.

Spawning: None.

Cloning: None.

Replacement: In the first frame, agricultural land changes to being filled with single-family homes.

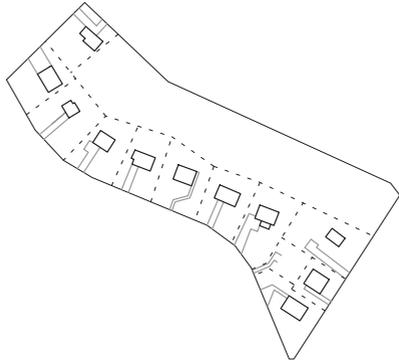


Image 31: 1947

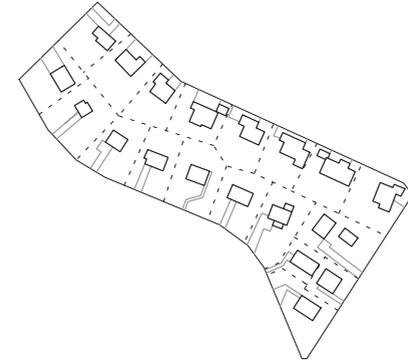


Image 33: 1997

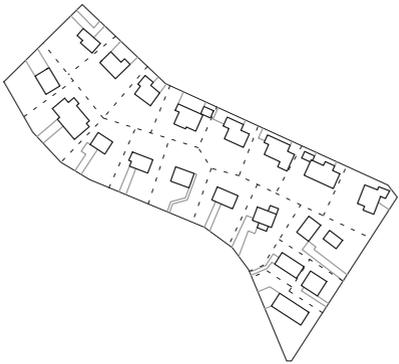


Image 32: 1997

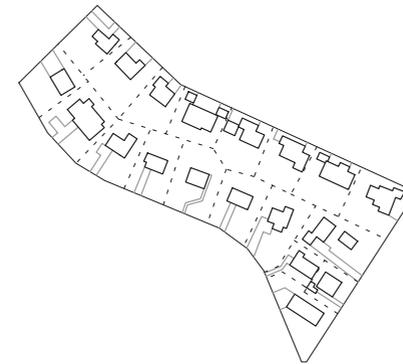


Image 34: 2017

All plans in this subchapter is based upon imagery found through the mode for historical aerophotos on kart.finn.no.

2.2 INVENTORY OF INCREASED DENSITY:

In this chapter I will collect a series of different types of increased density in suburban areas with a focus on the densification happening through extra structures being added to existing lots, rather than the subdivision of lots. These houses represent swelling rather than spawning, they represent the granularity of houses gaining girth without gaining new neighbours.

I will analyse the development over time of the structures on the lots, to exemplify which patterns they follow, and how they change over time. The types will be based on excursions into areas of single-family housing, prior knowledge and tips to different houses/developments.

The houses in this study all fall within three categories: Replacement, Swelling and swelling in place. Swelling in place indicates that the footprint of the house does not increase, but either the number of inhabitants increases or the FAR of the house rises through vertical expansion.

REPLACEMENT

POCKET DRABANT

Adress: Kongsveien 86

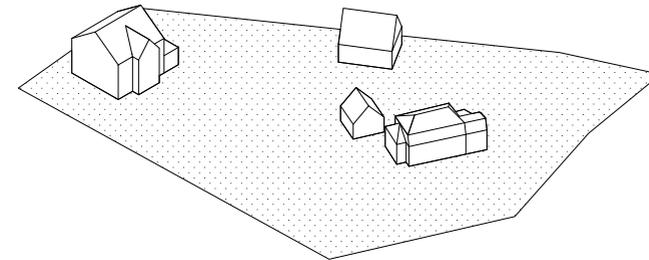
Findings: Three houses were situated close to a tram stop in an area undergoing densification through re-planning. This means the developers have been able to densify further than they would at other spots. Thus the houses are torn down to make space for a new development, in effect replacing the former structure with a new one. (201608724 - Byggesak (2018)).



Image 35: Kongsveien 86 - Perspekt

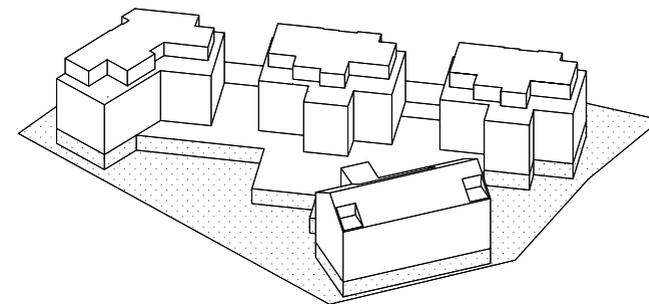
2015: Three existing single-family homes on individual lots.

BYA: 20
BRA: 769
FAR: 0,17
Number of dwellings: 3
Parkingspaces: 6



2018: Four new buildings built with 47 units

BYA: 30%
BRA: 4852
FAR: 1,1
Number of dwellings: 47
Parking spaces: 52



SWELLING

ALGEAL HOUSE

Adress: Bjerkealleen 28

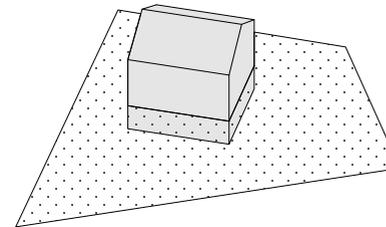
Findings: This house has gone through a series of renovations, swelling in each generation to a different direction. First they had the intention of affording more space for cars and family members, later for the partitioning into two separate units. The way they have done this is through the addition of square boxes with different sorts of roofs according to use. (199000415 - Byggesak (2015)).



Image 36: Bjerkealleen 28

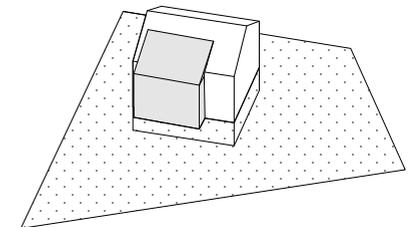
1937: Original house: A single family filling the entire house.

BYA: 12%
BRA: 362
FAR: 0,36
Number of dwellings: 1
Parkingspaces: 2



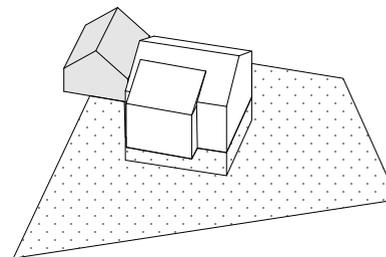
1985: Addition adding interior space.

BYA: 14,8%
BRA: 391
FAR: 0,387
Number of dwellings: 1
Parkingspaces: 2



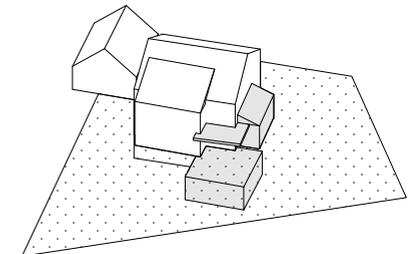
1990: The addition of a new two car garage shared with a neighbour.

BYA: 16,5%
BRA: 410
FAR: 0,407
Number of dwellings: 1
Parkingspaces: 3



1990: Addition new interior space, a new garage and a division into two dwellings

BYA: 22,2%
BRA: 473
FAR: 0,47
Number of dwellings: 2
Parkingspaces: 5



SWELLING:

ROOF AS THE WORLD

Adress: Nils Bays Vei 9

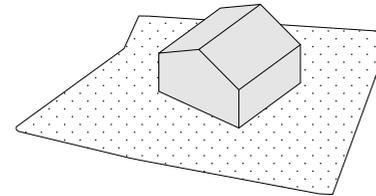
Findings: This house is swelling in an interesting way; it always swells to the side while maintaining the same roof. This is an interesting take on the overall tendency to apply the direction of the roof as the direction for extension (200109948 - Byggesak (2003)).



Image 37: Nils Bays vei 9

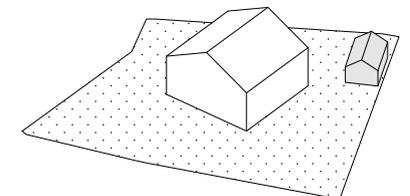
1950: Original house: A single family filling the entire house.

BYA: 11%
BRA: 260
FAR: 0,28
Number of dwellings: 1
Parkingspaces: 2



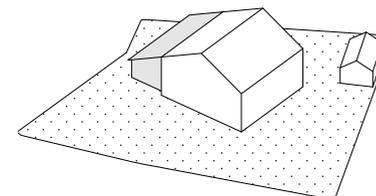
1954: The addition of a small garage.

BYA: 13,5%
BRA: 269
FAR: 0,31
Number of dwellings: 1
Parkingspaces: 2



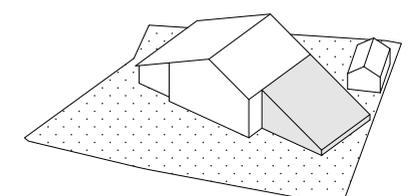
1955: The lengthening of the house outwards.

BYA: 18,5%
BRA: 336
FAR: 0,37
Number of dwellings: 1
Parkingspaces: 2



1990: New addition containing garages and sleeping rooms.

BYA: 26%
BRA: 409
FAR: 0,44
Number of dwellings: 2
Pakingspaces: 4



SWELLING

SKIRTED HOUSE

Adress: Almeveien 31

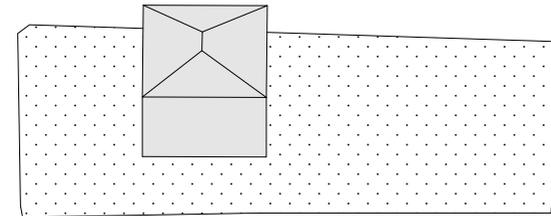
Relevance: This house has been swelling in the fashion of getting a skirt. Answering to the problem of expanding from a hip roof, that has no clear direction, they have extending by creating a new ring of buildings around the original house, with each of the new roofs leaning towards the walls of the original house (198604060 - Byggesak (2015)).



Image 38: Almeveien 31

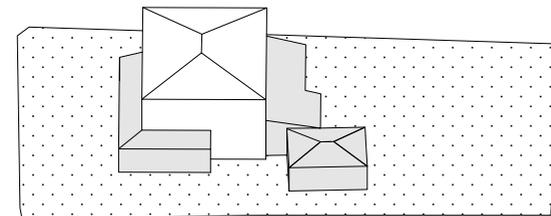
1955: The lengthening of the house outwards.

BYA: 11,5%
BRA: 300
FAR: 0,23
Number of dwellings:
1
Parkingspaces: 2



1990: New addition containing garages and sleeping rooms.

BYA: 20%
BRA: 420
FAR: 0,31
Number of dwellings:
1
Parkingspaces: 3



SWELLING IN PLACE

VERTICAL STRETCH

Adress: Velliveien 34

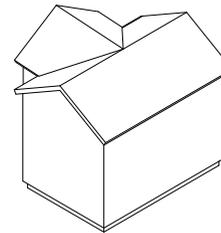
Findings: This house has gone through a series of renovations under its current owner, but the overall shape has remained the same. Starting from an old single-family home and gradually increasing the number of units in the building. The first of these renovations is lifting the roof to allow a new floor and the splitting of the house into two units. This operation is preconditioned on a change in the level of the ground (16/38405 - Byggesak (2017)).



Image 39: Velliveien 34

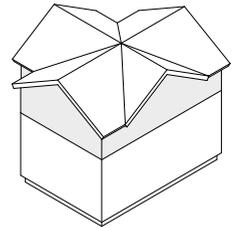
1954: Original house: A single family filling the entire house.

BYA: 22%
BRA: 200
FAR: 0,21
Number of dwellings: 1
Parkingspaces: 2



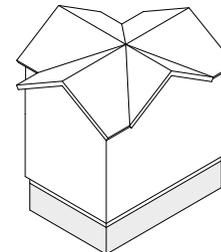
2010: Roof raised, extra roof light, enabling a fully usable third floor.

BYA: 24%
BRA: 300
FAR: 0,31
Number of dwellings: 2
Parkingspaces: 4

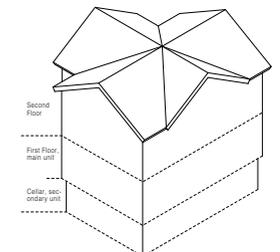


2017: Lowering cellar floor 1,5 meter to add a liveable floor.

BYA: 26%
BRA: 380
FAR: 0,4
Number of dwellings: 3
Pakring spaces: 5



After the last renovation the house is divided into three dwelling units, occupying the same ground area as one house and conforming to the same form factor.



SLUMIFICATION

Adress: Vardeveien 14

Relevance: This building shows how the number of inhabitants might swell without the house itself swelling or through the of building new houses or extending existing ones, but also through the subdivision of existing houses to allow for more intense utilization. Built as an single-family house and used as such for three generation this house provided a spacious home for a family from 1929 to 2006 (200603679 - Byggesak (2006)).



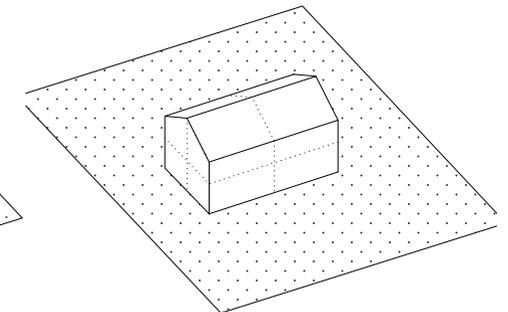
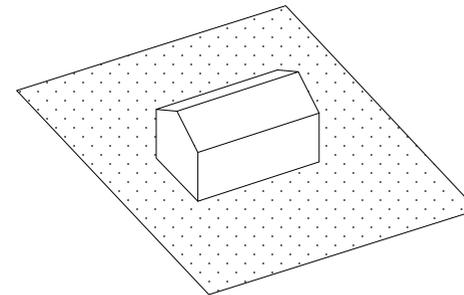
Image 40: Vardeveien 14

1929: Built as an single-family house providing a spacious home.

BYA: 8,6%
BRA: 288
FAR: 0,26
Number of dwellings: 1
Parkingspaces: 3

2006: The house is occupied by six separate households within the same footprint

BYA: 8,6%
BRA: 288
FAR: 0,26
Number of dwellings: 6
Parkingspaces: 3



3.1 TERRITORIAL MAPPING

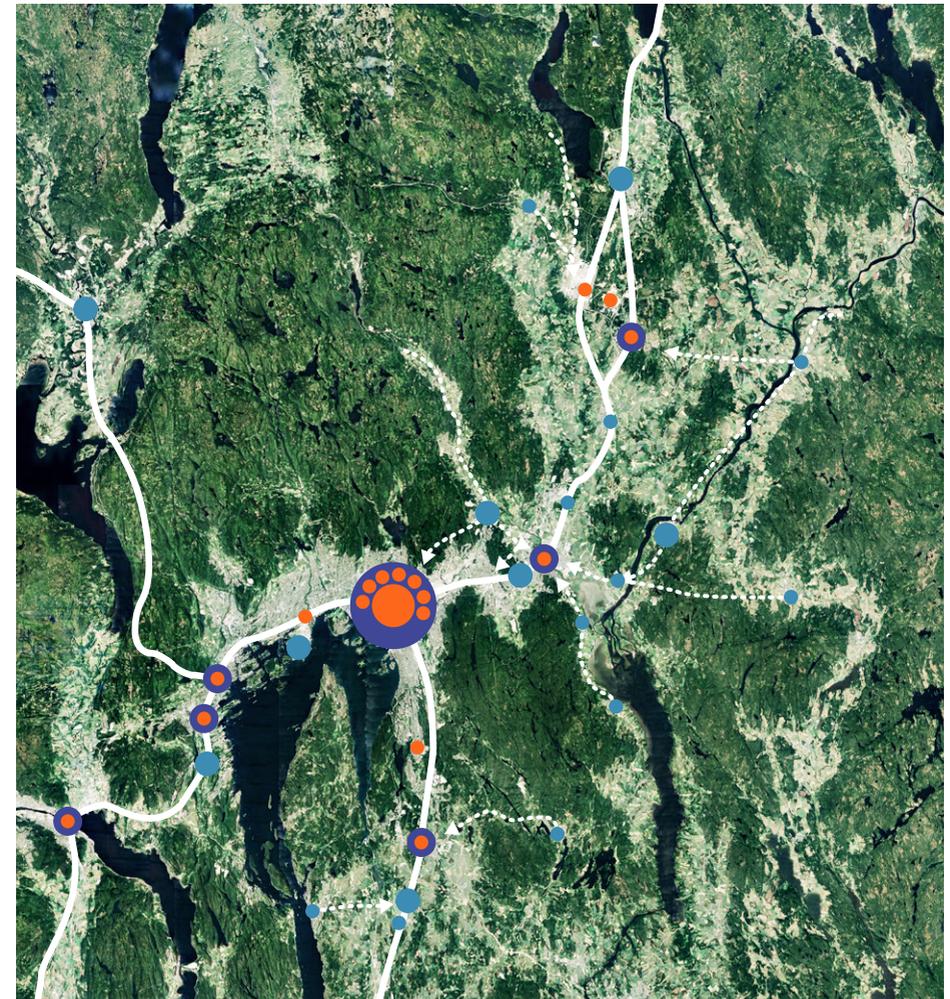
In this chapter, I will try to address the questions: Where are the areas of single-family homes located? Which of these areas are under pressure for densification? How do these areas densify/develop over time?

The goal of answering these questions is to make a clear selection of a sub-area.

KNUTEPUNKSPLANEN

On the opposite side is the "Knutepunktsplanen" overlaid on an areal photography to show its interaction with the Oslo and its surroundings. The aim of the plan is to concentrate densification around transportation nodes/hubs. It shows the densification nodes on a regional scale (Oslo og Akershus fylkeskommuner (2015)).

- Regional urban areas
- Local urban areas
- Hubs
- Main lines
- - Secondary lines





SMÅHUSPLANEN

As you can see, the existence of small scale housing (defined by the grey forms), and the plan called "Småhusplanen" have a good correlation. This map is based upon data from FKB storby and Oslo Kommune, accessed on 10.05.18

- Småhusplanen
- Small scale housing
- Water

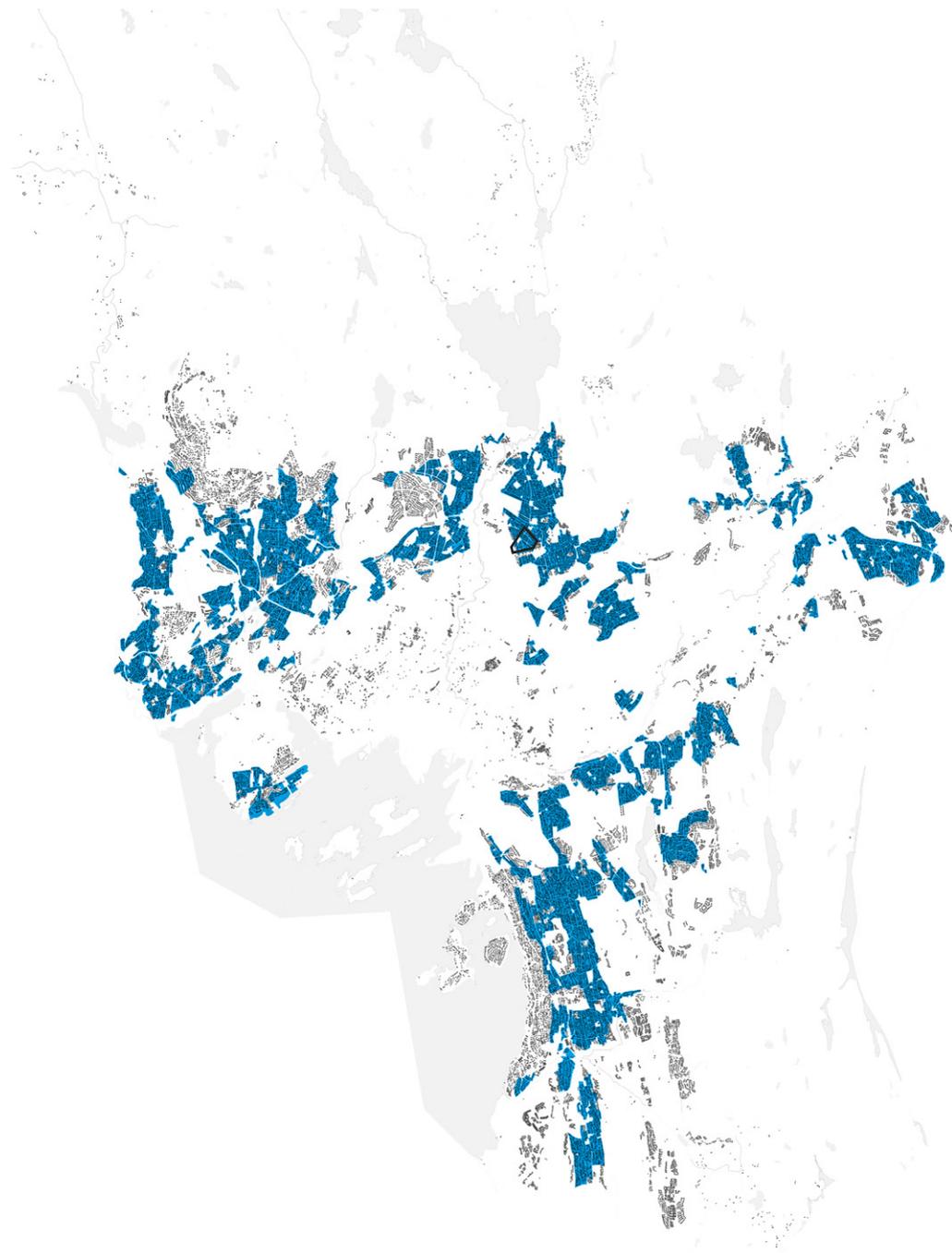
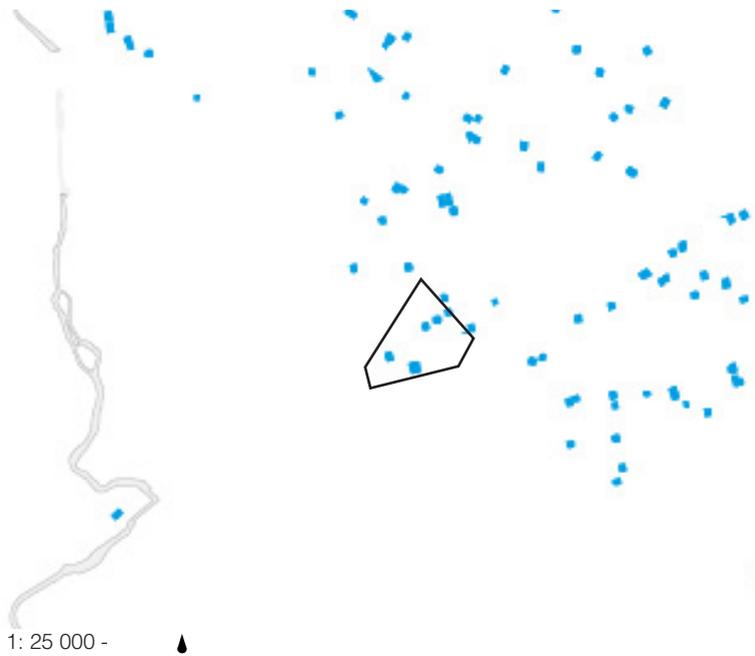


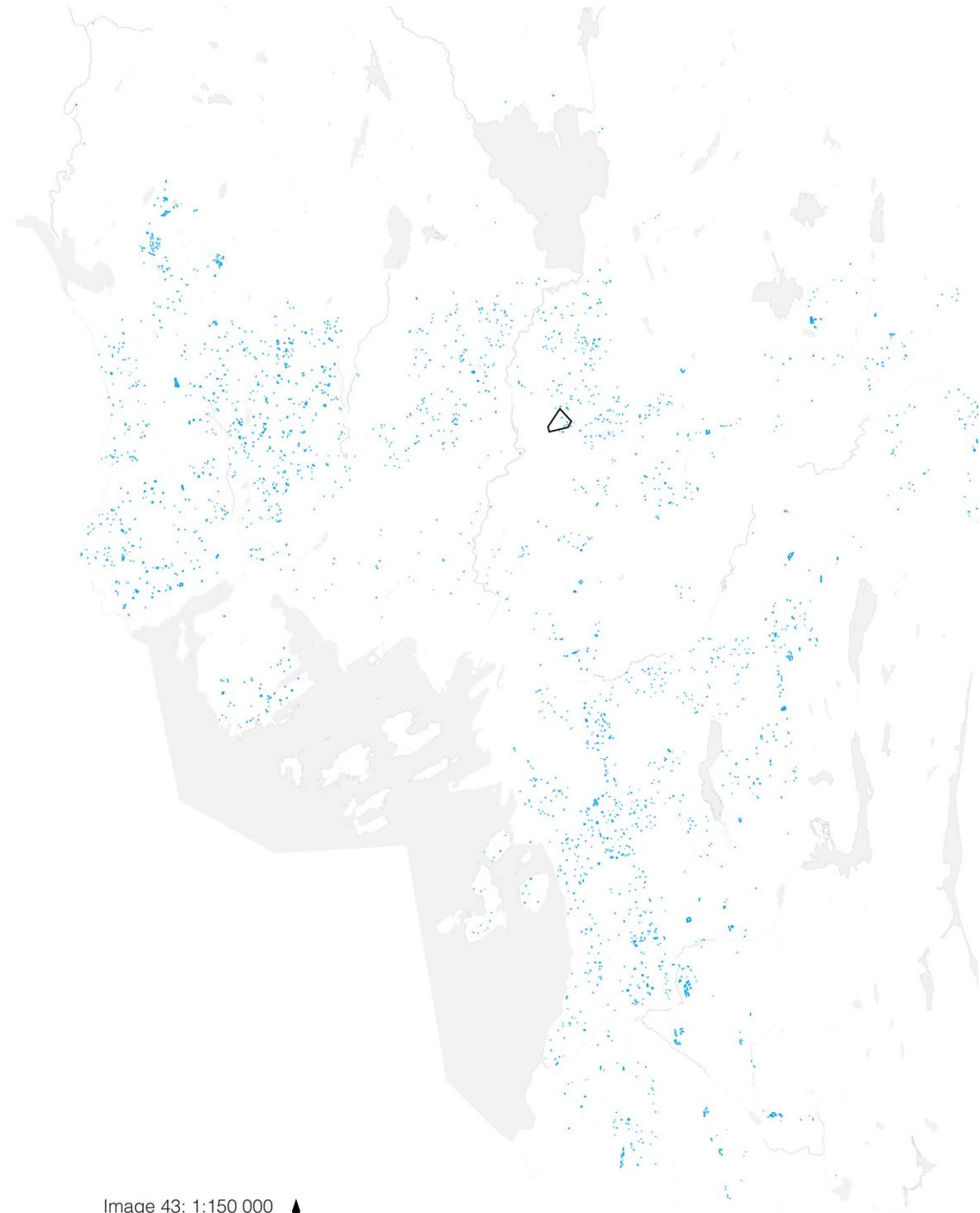
Image 42: 1:150 000



NEW HOUSES

As you can see, the existence of small scale housing (defined by the grey forms), and the plan called "Småhusplanen" have a good correlation. This map is based upon data from FKB storyby and Matrikkeldata, both accessed on 15.03.18.

- Småhusplanen
- Small scale housing
- Water

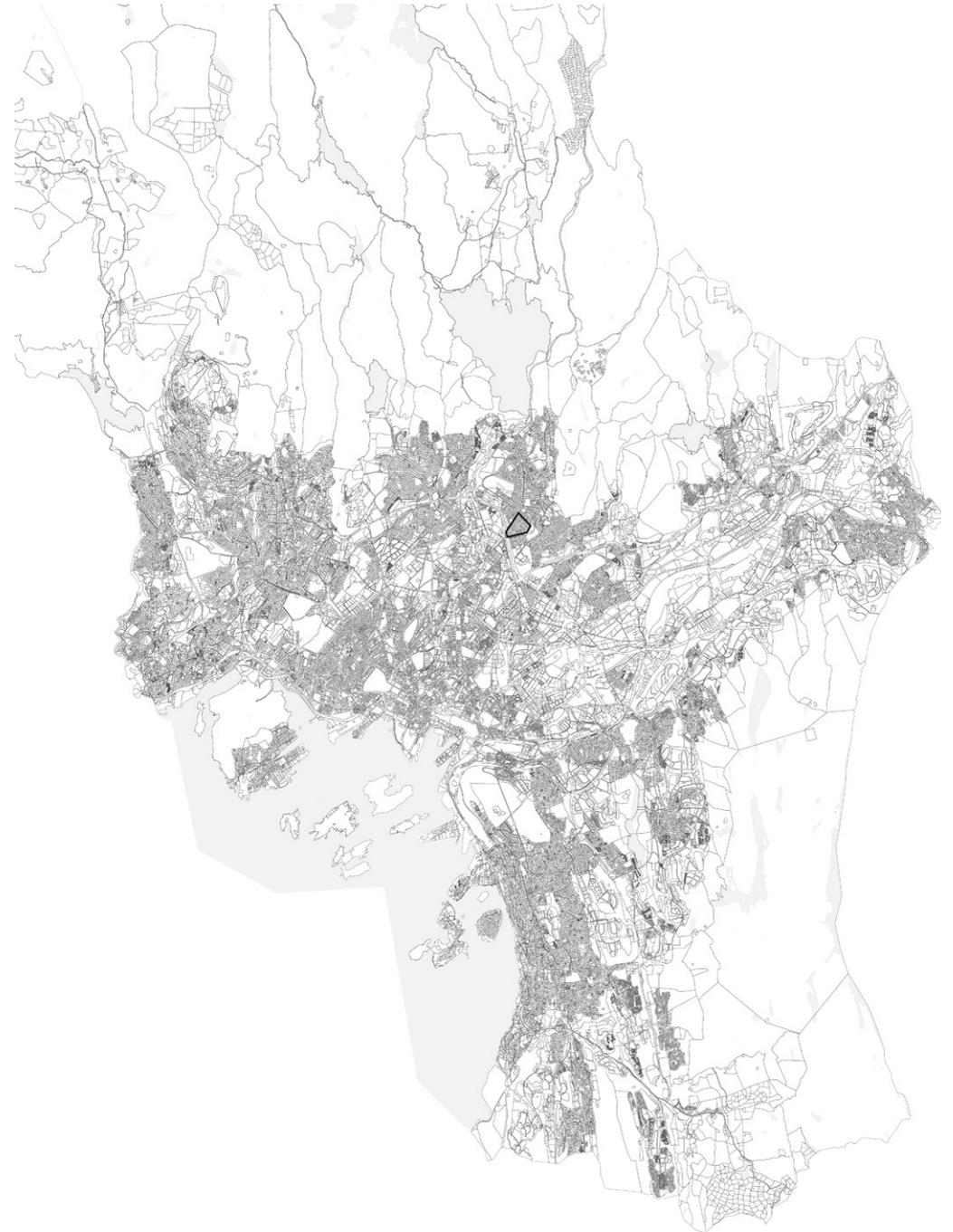




PLOTS

This map shows small scale housing built between 2010 and 2015. The pattern shows a general spread of the building activity throughout the area regulated for small scale housing. This map is based upon data from Matrikkeldata and FKBstorbj, both accessed on 15.04.18.

-  New small scale housing
-  Water





SMALL HOUSES, DEVELOPMENTAREAS AND TRANSPORATION HUBS

Here I have overlaid the areas that are scheduled for redevelopment, the designated knutepunkt and the small scale housing units This map is based upon data from FKBstorbry and Oslokommune accessed on 10.04.18.

-  Small scale housing
-  Redevelopment areas
-  Knutepunkt
-  500 m radius from Knutepunkt

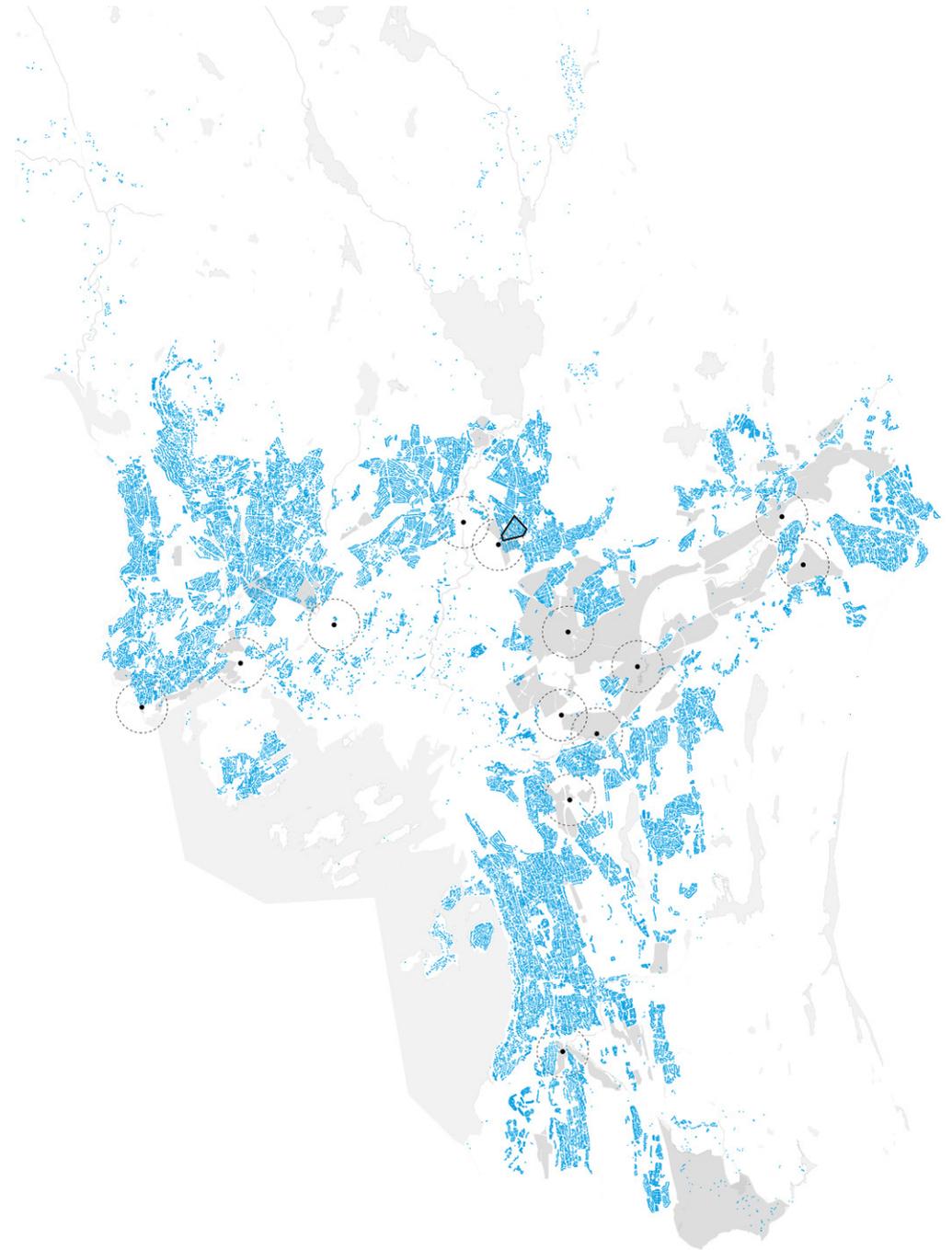


Image 45: 1:150 000

3.2 GREFSEN

Through the last sub-chapter I made several analysis that pointed toward the lower parts of Grefsen as being the best site. It had a combination of municipal pressure towards densification, proximity to transportation options and it fell under småhusplanen/consisted of small houses. Upon venturing there I found that the inhabitants had organized themselves into a group, posting stickers on their fences declaring that their houses were not for sale. Motivated by a desire to keep the neighbourhood as it is, they wanted to present a clear front towards the developers. This provides an entry-point for my an discussion of alternative and less intrusive ways of densification.

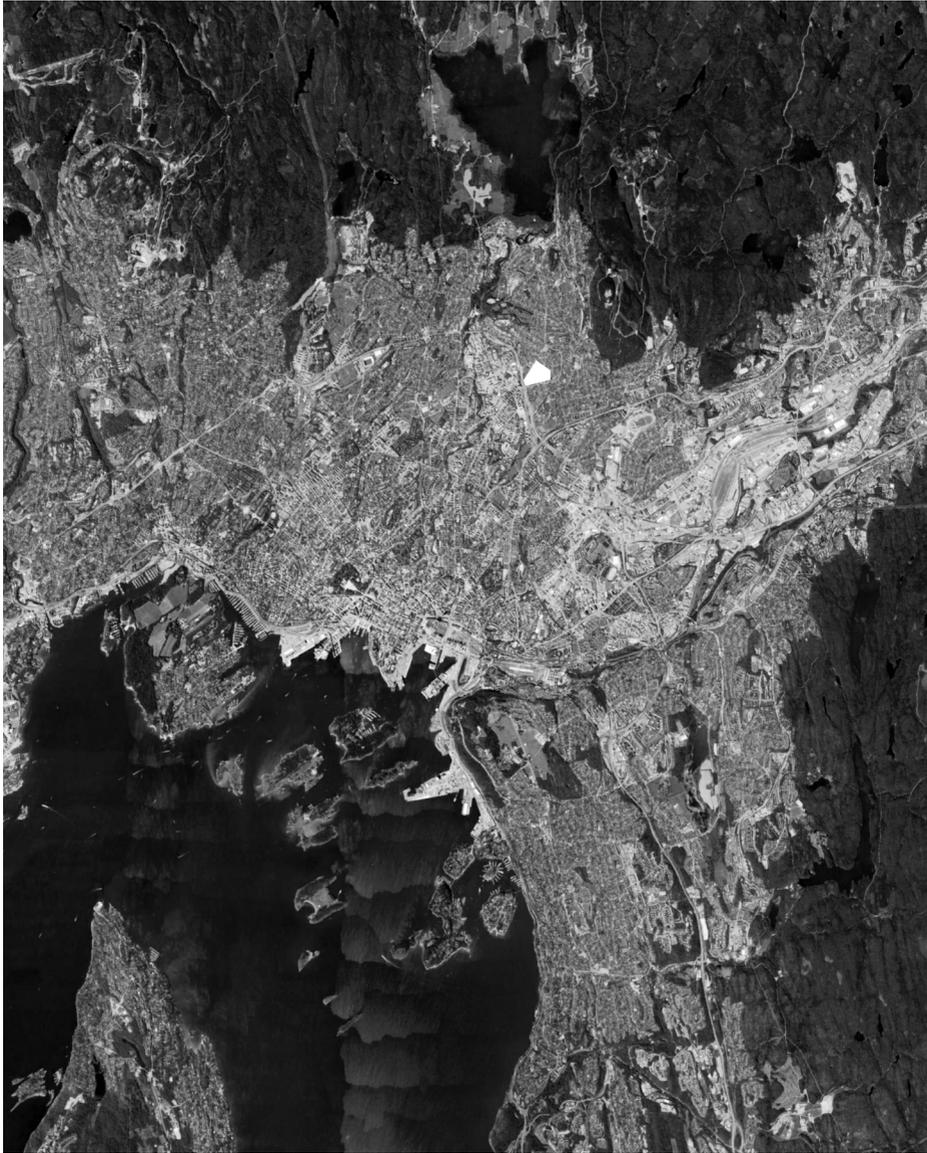


IMAGE 46: MAP OF GREFSEN IN THE GREATER OSLO AREA - 1: 125 000 ▲

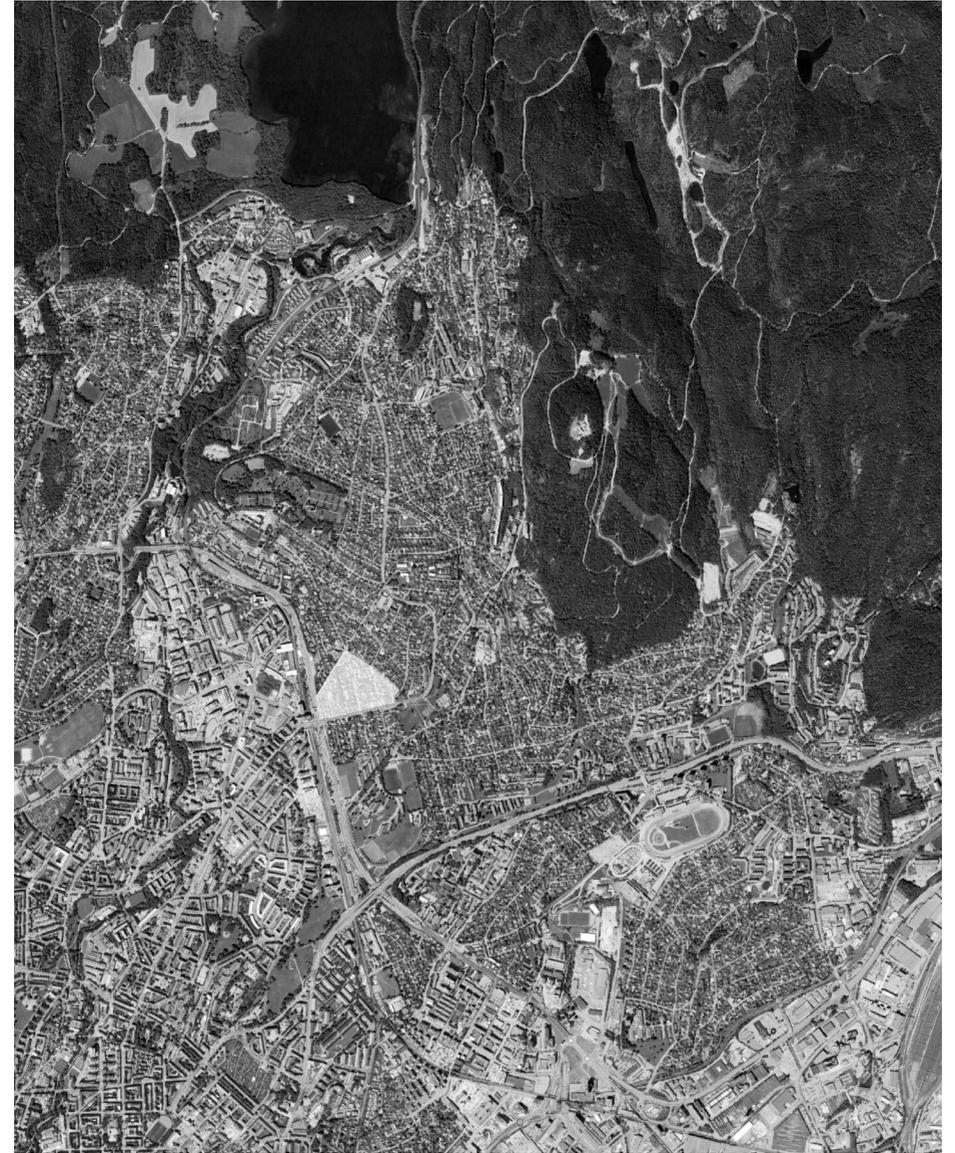


IMAGE 47: MAP OF GREFSEN IN THE GREATER OSLO AREA - 1: 40 000 ▲

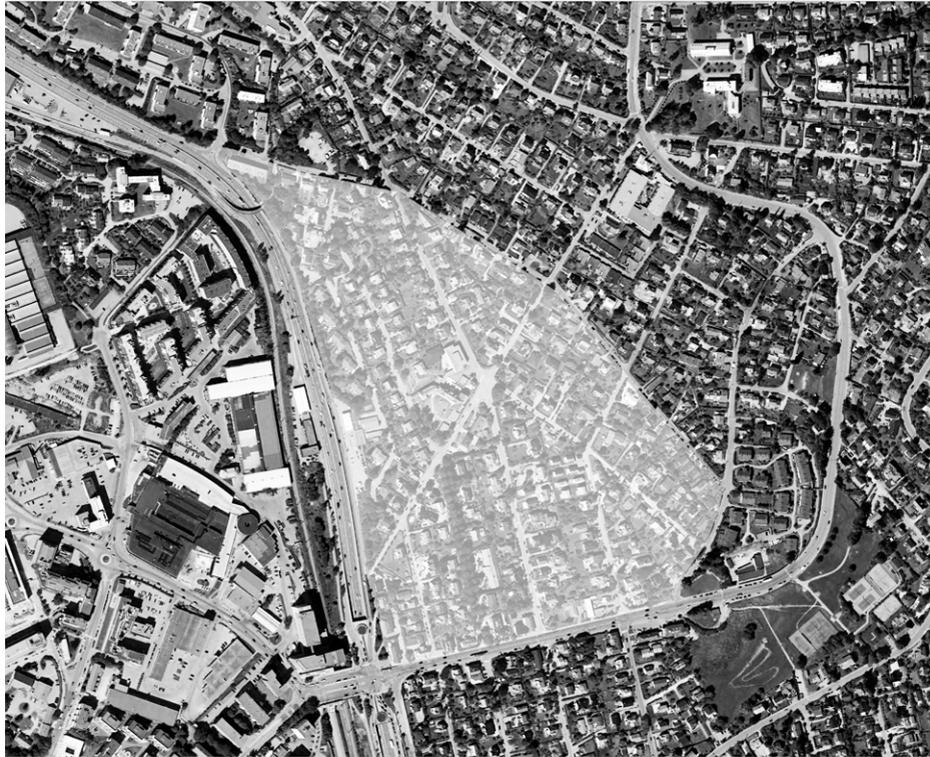


IMAGE 48: MAP OF GREFSEN IN THE GREATER OSLO AREA - 1: 10 000 ▲

SWELLING

GREFSEN

This neighbourhood is border by Ring 3, Grefsenveien and Glads vei. During rushhour the traffic is dense down through Grefsenveien, which works as the main route down to Ring 3 and the city centre from Kjelsås and Grefsen.



Image 49: Main road up from Ring 3, forming one border of Grefsen

The side streets are quite wide, often with space for parking cars on two sides. Some, such as this one are treelined.



Image 50: Bjerkealleen, with its birtrees.

Many houses have stickers, stating that they are not for sale. This is part of a campaign organized by “Aksjonsgruppe for nedre Grefsen” to protest the recent planning changes. There is a process at the moment to evaluate whether Grefsen will be regulated for small houses or apartment buildings.



Image 51: Typical house, with sign notifying that it is not for sale.



Image 52: View down kappelveien

4.1 BACKGROUND AND REFERENCES



Image 53: View down towards Storo

Fumihiko Maki: Collective form-three paradigm

Relevance: I want to work with a series of buildings, conforming in a way that creates a unity. For me the concept of group form seems to make this addition possible. This poses a new question; How can one create this form of unity in single act of design?

Synopsis: In these two texts Maki and his colleagues considers several ways of shaping collective form. Collective form is form made up of multiple separate elements. Collective form is divided into three types: Compositional, Mega-structure and group form.

Compositional form consists of forms preconceived and predetermined separately. They are then in a functional, visual and spatial relationship to each other on a two-dimensional plane. This approach often leads to a static composition, because the act of creating the composition tends towards complete formal statements.

The mega-structure is made up a large frame, or a set of frames. It is grounded in a view of our built environments as consisting of a series of systems such as roads, water-pipes, houses and furnishings. These systems have different lifespans, and the mega-structure aims to provide a platform for shaping society according to this. The more permanent systems form a frame to which the less permanent structure attaches themselves.

Group form evolves from a system of generative elements in space. The quintessential example is the medieval town or the Greek village. In these examples there is unity between the elements because of a repetition of a single unit; the dwelling house. These elements are repeated in accordance to a pattern, to create a larger form. In this mode of creating form the focus is on the individual unit. Whereas in a mega-structure the small units cannot exist without the skeleton of the larger frame, in a group form it is the opposite; the larger structure cannot exist without the smaller units (Maki, F. (1964)).

Image 54: Compositional form:
Horyuji, Japan.



Image 55: Mega-structure:
Kenzo Tange:
Community for 25,000

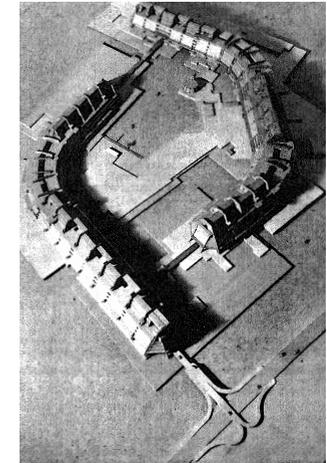


Image 56: Group form: A Greek Village.



RETROFITTING SUBURBIA

ELLEN DURHAM-JONES AND JUNE WIL- LIAMSON

Relevance: This particular chapter considers ways of increasing the diversity of dwelling units available in a sprawling landscape and ways of increasing the amount of built space without changing the basic structure of the neighbourhood. Their solutions range from fourplexes mimicking larger homes through granny flats in the backyard to garage-apparments being leased out to provide entrylevel housing.

Synopsis: The book considers several ways of retrofitting suburbia. The term is used to connote ways of improving the performance of suburban structures such as subdivisions of single-family houses, strip malls and office parks. Performance is framed through urban qualities of walkability, social diversity and density of social connections. To achieve these qualities the proposal is to add more dwelling units through smaller apartments buildings, row houses, four- and two-plexes, back buildings, forebuildings and housing above garages.

The relevance for my project comes through the desire to work with the existing morphology, adding in new units either through adding of extra buildings within the same basic grammar (garages getting an extra floor, outbuildings being turned into apartments or the volume of a large house containing several dwelling units).

They present two thesis for diversity: One is that social diversity starts to grow after natural diversity is at a minimum. The other is that social diversity compensates natural diversity, with total diversity remaining the same throughout. This first occurs in typical, contemporary areas of single family houses, with a large monocultural grassland growing between the houses and all houses being filled with habitants from the same social range. The second is a more ideal situation wherein one seeks to retain more biological diversity through conscious design decisions and social diversity is increased through the addition of more diverse dwelling units (Durham-Jones, E. (2011)).

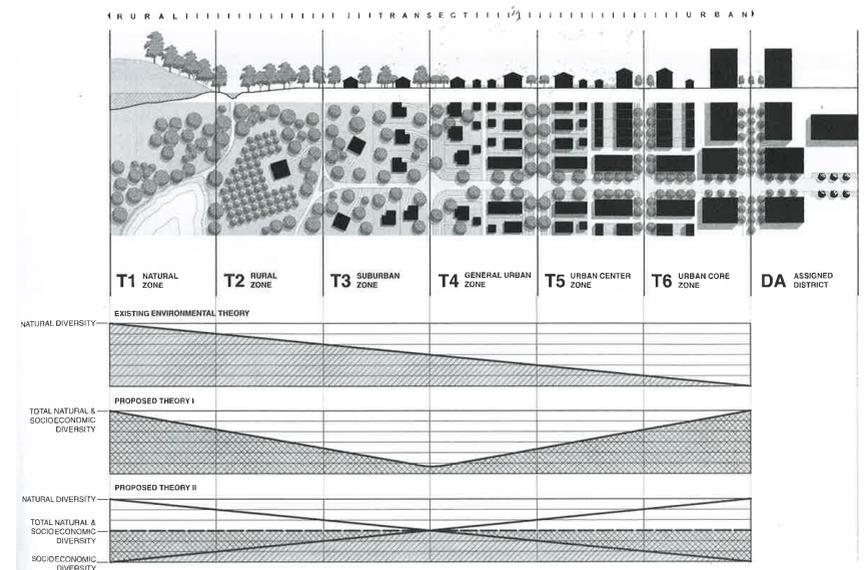


Image 57: Illustration of the social and biological diversity meeting in the middle and the sinking/rising.

DENSIFYING THE SUBURBAN METROPOLIS: ARCHITECTURE AS AN INSTRUMENT FOR URBAN PLANNING:

Per Johan Dahl

Relevance: This article examines a typology they call ADU, Accessory Dwelling Units. These units are a way of densifying areas of single-family houses. They analyse how this typology is developing in Los Angeles through three images and three architectural projects.

Synopsis: The article starts with detailing the history of the regulated areas of single-family homes, and their role in the ideological framework of early modernism. Connecting the start of the sprawl into the zoning rules introduced with modernism, the authors further a thesis that neither urbanism or architecture has been able to counter the entrenched procedures in planning. The result is large, sprawling areas occupied by single-family homes where the defining aspect is that each house is to be inhabited by a single family and is to remain the single residential structure on its plot.

Through the images, the authors explore the spread of Los Angeles until it meets its limits, mountains and sea, water shortage and distance. The first of the three images, William A. Garnett's "Finished Housing" shows row upon row of suburban houses in a newly finished neighbourhood. The next image, by Pierre Koenig and Julius Shulman shows a sprawling city in the background, stretching a long distance into the picture. The last picture, by Andreas Gursky shows Los Angeles in 1998, sprawling until the earth curves.

The article goes on to explore the ADU as an urban addition but also as an architectural challenge to this hegemony of the single, independent unit. Each plot is structured into part, a front yard occupied by cars, garages and representational gardens. The main part where the building sits, and a back yard. This back yard often makes up half the plot area, and sits mostly empty, filled with grass.

The origin of the ADU lies in illegal conversions of garages and back-buildings into residential use, either for family or as a source of supplementary income. In the state of California, the



Image 58: William A. Garnett: Finished Housing, Lakewood, California, 1950

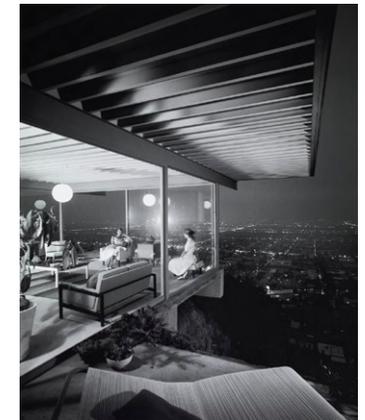


Image 59: Pierre Koenig and Julius Shulman, Case Study House No. 22, 1960



Image 60: Andreas Gursky, Los Angeles, 1998

state government passed a law regulating and allowing ADU's, while the individual counties/cities often practice their zoning according to the concerns of neighbours.

The current status of ADU's in California is that the owner must occupy one of the units, prohibiting subdivision. This is meant as a counterforce to gentrification.

The three casestudies are meant to describe the architecture of the ADU in different ways. The first, Morphosis' 2-4-6-8house from 1978 is conceived as a singular volume, sitting atop a garage. This volume is articulated by heavy, external, yellow window frames. The windows is in a dialogue with the main house, allowing both houses a degree of privacy. The house is drawn in a manner that makes it look a bit random, which enters it in a dialectical relationship with the tradition of selfbuilding it enters.

Frank D. Israel's Baldwin Residence from 1992 is an unbuilt project that includes the ADU as an integral part of the main volume, connected by a roof. The composition is divided by a brick wall, orienting the main unit towards the front yard and the secondary unit towards the back yard. This maintains a clear hierarchy between the main unit and the secondary unit.

In Daly Genik Architects' remodelled Palms Residence shows two buildings with the same formal language, but separated into different zones of the plot. In this case, the main unit occupies the back of the plot while the secondary unit sits in the front of the lot, atop the garage. The design of the walls of the buildings are made in a fashion that affords light while blurring the life going on in the inside of the house (Dahl, P.-J. (2014)).



Image 61: Morphosis, 2-4-6-8 House, Venice, California, 1978



Image 62: Frank D. Israel Baldwin Residence, 1992.



Image 63: Daly Ghenik Architects, Palms Residence, Venice California, 2006-2009

YES TO ADU

Competition hosted by L.A.C.A.C

A competition hosted in jurored in May 2018, it featured a focus on the ADU, auxillary dwelling unit. How to utilize the ADU to create low-cost housing was the focus of the competition. The winning proposal by Lilliana Castro, Allen Guillen, and Cheuk Nam Yu focused on the border inbetween the units/plots. To get at this they removed all fences, and created a shared green space in the now common backyard.

Many of the other proposals worked with ways of utilizing pre-fab to create cheap and customized additional units. Many of the proposals also tried to tie in with resilience towards environmental change through the addition of passive cooling/heating, garden spaces and wind mills (Archpaper.com, 2018).

Description of winning proposal and runner ups



Image 65: Overview of winning proposal

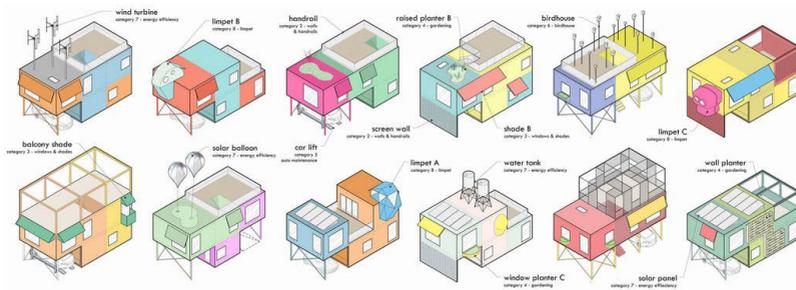


Image 64: The types of the runner up by Simon Storey. Showcasing different ways of meeting different needs within the same design language/module this



Image 66: Closeup of winning proposal

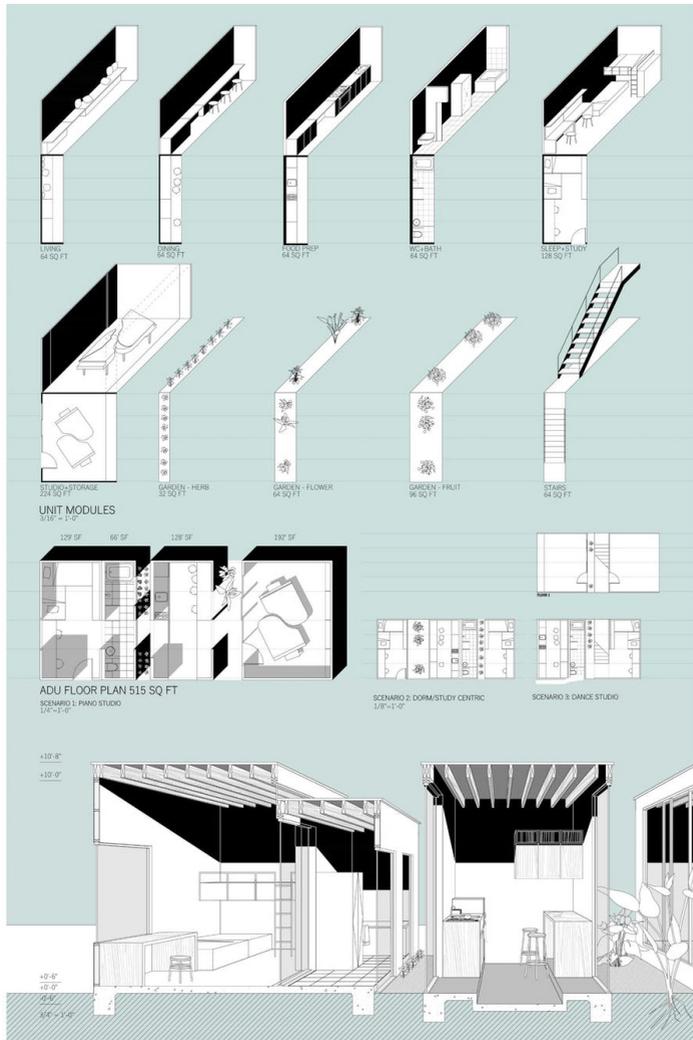


Image 67: Runner-up by Esther Ho showcasing a minimal prefabricated module and how it can be used to allow for a series of different uses.

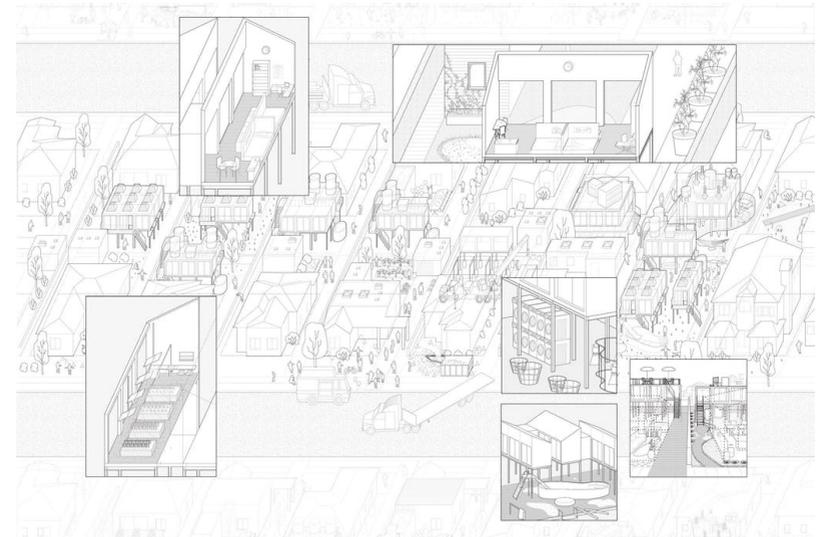


Image 68: A honourable mention in the competition showcases a different approach, inserting both additional housing and additional functions such as laundromats into the block. The way of representing a block both as a whole and in detailed zoom-ins strike me as efficient

YES TO ADU

Competition hosted by L.A.C.A.C

A winning entry into a european competition by Thibaud Babled Armand Nourvet and Marc Reynaud. The goal was to revitalize a decaying city centre in a small French town. The winning team proposed to build accessible units for the older inhabitants in backgardens of the existing urban housing. Thus they solved two problems at once; they created and financed accessible housing for the elderly by selling the front houses and they managed to make room for a more diverse population while densifying the existing structures (European-europe.eu, 2018).

Description of winning proposal and runner ups



Image 70: Overview of roovescape



Image 69: Showing the infill in the backyard and the existing row of houses that line the street.



Image 71: Closeup of new entry into the interior of the block

OFFSET HOUSE

Other Architects

This project was part of an exhibition at the Chicago architectural triennial in 2015. It highlights the manner in which our ever expanding houses could contain different realities. It does this through peeling of the outermost layers of the houses, rendering the balloon frame as porches or semi-climatized spaces. Through these manoeuvres they visualize new spaces wherein one can be inbetween indoors and outdoors: not fully exposed to the social or climatic reality outside but not fully contained within the comfort of the home. As such it becomes a critique of how suburban homes function as a closed units, isolated from each other. Through their work of peeling of the skins of existing buildings they expose a series of different porches, terraces and balconies that could be used as inspiration (Other Architects, 2015)



Image 72: Plan over neighbourhood contrasting exposed homes and traditional homes



Image 73: Home undressed



Image 74: Streetscape showing new relations

WHOLE HOUSE

Hayhurst and company (2017)

The house is situated on a small lot in south London where no outward-facing windows were permitted. To solve this the architects used a lightwell that allows natural light to enter living spaces on two different levels and several roof windows throughout the house. The faces of the house are done in brick, with no windows, replicating the former garage in volume.

The way the architects has solved the need for daylight while keeping within the restrictions on outwards facing windows, could be a good stepping stone in the development of types to be inserted in areas of single-family housing (Hayhurst and Co. (2018)).



Image 76: Central light well



Image 77: Rooflight

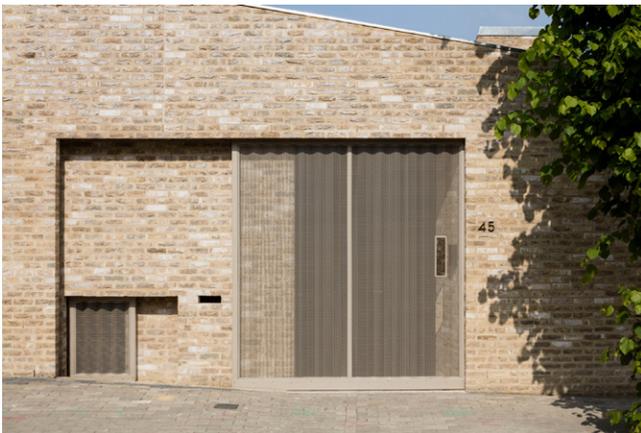


Image 75: Exterior

SOLVANGEN

Marie og Gullik Kollandsrud (1967)

This project encompasses a collection of atrium houses. Each of these are drawn out in a way that creates a sense of independence. This is achieved through opening out towards a private outdoors space that is shielded with fences. Most of the windows are on the façades that face towards this space, with smaller and higher windows on the façades that face towards the common spaces.

The relevance for the development of my project is the controlling of visual access and of the interconnection between outside and inside in a tightly built environment (Kollandsrud, M. og G. (1967)).

Description

Relevance

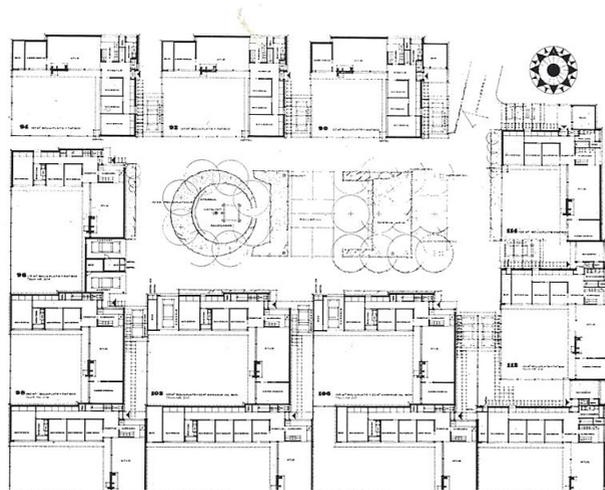


Image 79: Exterior



Image 80: Entrance

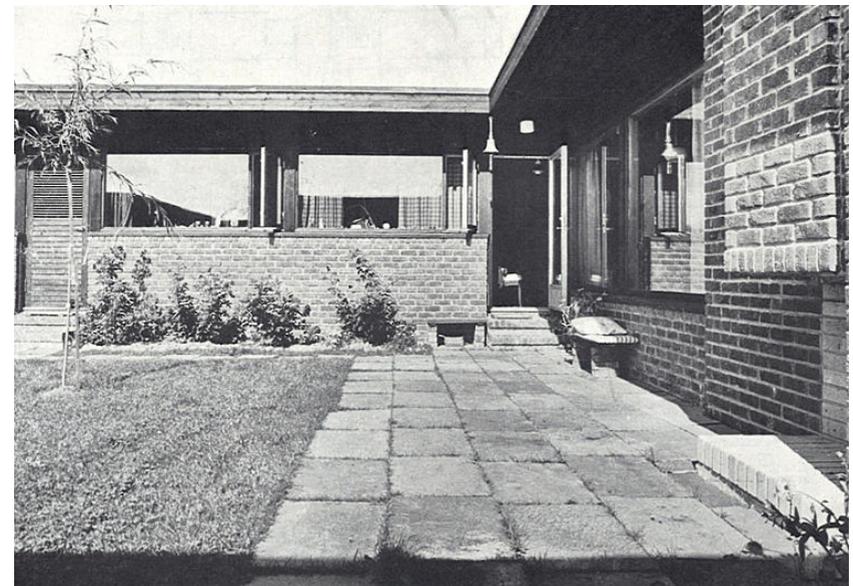


Image 81: Atrium

BOOKS

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Image 1: Blekastad, H (2018). *Grefsen*, Photograph. Oslo. Private collection

Image 7: Myhr, S. *Havråatunet, Osterøy*, Photograph, Samfoto.

Image 8: *Homannsbyen* (1867), (Nordiska Tavlör, 1967).

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Image 10: Knudsen, K. c. 1890, *Victoria terrasse*, Kristiania. Oslo bymuseum

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Image 40: Blekastad, H (2018). *Vardeveien 14*, Photo. Oslo. Own collection.

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Image 42: Blekastad, H. (2018), *Småhusplanen*. Map. Oslo.

Image 43: Blekastad, H. (2018), *New houses*. Map. Oslo.

Image 44: Blekastad, H. (2018), *Plots in Oslo*. Map. Oslo.

Image 45: Blekastad, H. (2018), *Development areas*. Map. Oslo.

Image 46: Blekastad, H. (2018), *Foucs area*. Map. Oslo.

Image 47: Blekastad, H. (2018), *Focus area*. Map. Oslo.

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