

Back to the City!

Urban development study for the elderly in Oud-Charlois



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Index

1 - Introduction

2- Photographic Survey

3- Sustainability

3.1 - Issues to address

3.2 - Biological sewage research

3.3 - Density Study

3.4 - Preliminary Design

3.5 - Sun light and shadow studies

4 - Design

4.1 - Study of Possible Variations

4.2 - Definitive Design

4.3 - Section

4.4 - Courtyard Renderings

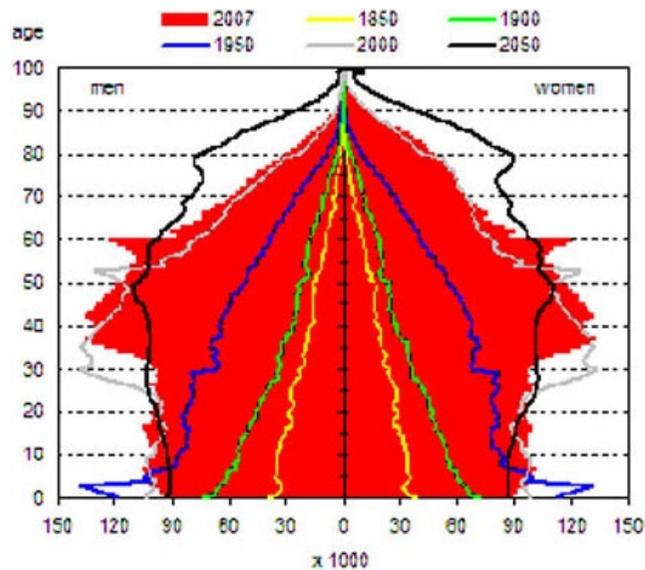
4.5 - Street rendering

Introduction

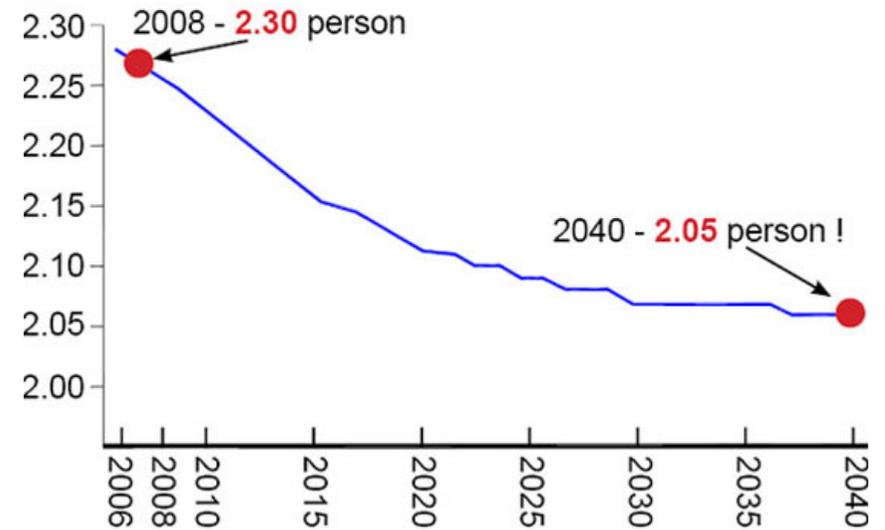
Towards denser and mixed-use environments

In the coming years the Dutch elderly population will dramatically increase. This growth is being accompanied by a decrease in the number of people living in each household in the Netherlands. This is due to the fact that less traditional families are being formed and more people are living alone or with one parent, one child, etc. These two parallel demographic changes are responsible for an enormous demand of new homes in the Netherlands, as the houses that would become vacant after the elderly's passing away will not be and because less people will be living together.

At the same time, the world faces pressing environmental concerns due to the global warming and the threat of rising sea levels, specially dangerous for the Netherlands due to the low level of its territory and its fragile, man-made landscape.



Aging of Dutch population. Source: www.cbs.nl



Decreasing of the Dutch household size, Source: www.cbs.nl

This issues call for the containment of urban growth within the cities, so that the open land can be used for water buffers, forestry, agriculture, etc - activities that reinforce the environment instead of depleting it (as we see in the VINEX sites) and create opportunities in the service economy as well (such as leisure and tourism). The containment of urban growth within the cities, through the redevelopment of brown fields, points to the densification of the Dutch cities and contribute for more efficient and feasible public transportation systems. Denser cities turn mixed-use developments possible as well, promoting walking, cycling and public life in the city.

Hence, the question that permeates my research is: **how to increase density and, at the same time, enhance the spatial quality? How to make inner city living more desirable and appealing?** The issue seems to be more difficult in relation to families but, according to the demographic changes, there will be an increase in singles, young couples, elderly and single parents - social groups that are more likely to live in inner city areas anyway.

The sustainable city “must be a form and scale appropriate to walking, cycling and efficient public transportation, and with a compactness that encourages social interaction.”

(Tim Elkin, in Jencks M., *The Compact City: A Sustainable Urban Form?*, Spon Press, London, 1996, p.131)

“We need to re-invent the dense city model!”

Rogers R., *Cities for a Small Planet*, Faber and Faber, London, 1997, p.32

Planning for the Elderly in Oud-Charlois

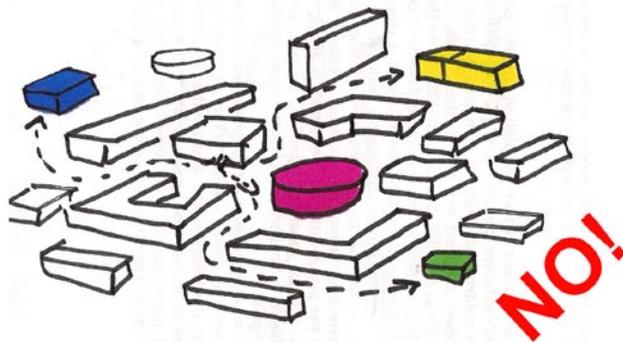
One could argue that keeping the elderly people where they are now is the most sustainable thing to do, because doing minor interventions (such as inserting ramps and elevators) is the best way to spend less energy. Nevertheless, this minimalistic approach fails to offer high quality living environments for the elderly in the city, and end up contributing to suburbanization. **Clustering** elderly people in certain spots of the city creates opportunities for unique conditions and is quite feasible and sustainable, for the following reasons:

1- Services can't be scattered everywhere, as the elderly face mobility constraints. This doesn't mean big towers with services inside, but can be worked out in a more integrated way in the city. I speak of an **"in between"** situation: neither total dispersal nor total concentration. Elderly people in the city, but in certain places where services (public facilities for the entire neighborhood and not hospital like) would be concentrated.

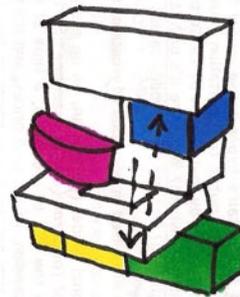
2- The renovation/adaptation of actual homes for the elderly doesn't seem to be adequate for the actual need of new households. The present homes are too big for their current needs. After their kids left home, they could live in smaller apartments, closer to other seniors, sharing public facilities and participating in activities. This doesn't mean expensive buildings full of facilities inside, but *buildings over facilities*, open to the city, so that everyone can use. This contributes for the financial feasibility of such developments and also for the social integration of the elderly people in the neighborhood.

3- This strategy is not exclusive, but inclusive. This project is not about radicalism, it's much more soft, intertwined, careful intervention: nice buildings in the area can be renovated and bad buildings should be demolished - fair enough!

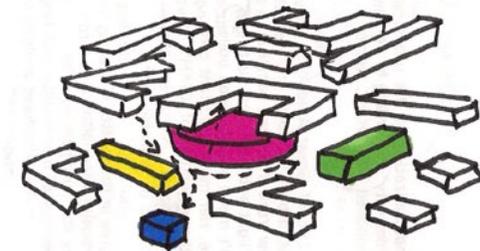
The idea is that the services should be public, so that the elderly have a life in the city and not within an odd "hospital-like" building.



TOTAL
SCATTERING
(SERVICES ARE
TOO FAR AWAY)



MODERN
(HOSPITAL LIKE)
TOWER



IN BETWEEN
MIX
(CLUSTERING BUT
INTEGRATED IN
THE CITY!)

Photographic Survey:

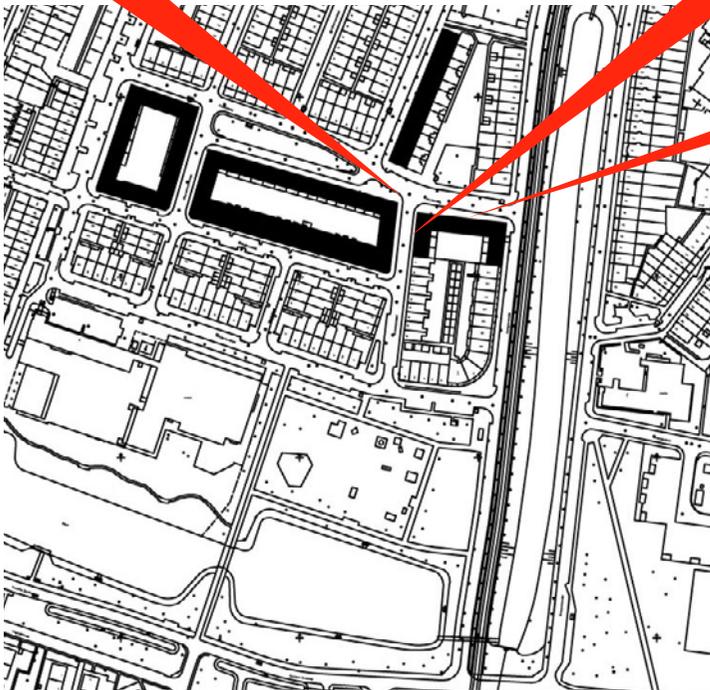
- Accessibility
- Building stock
- Landscape qualities

Accessibility - sidewalks



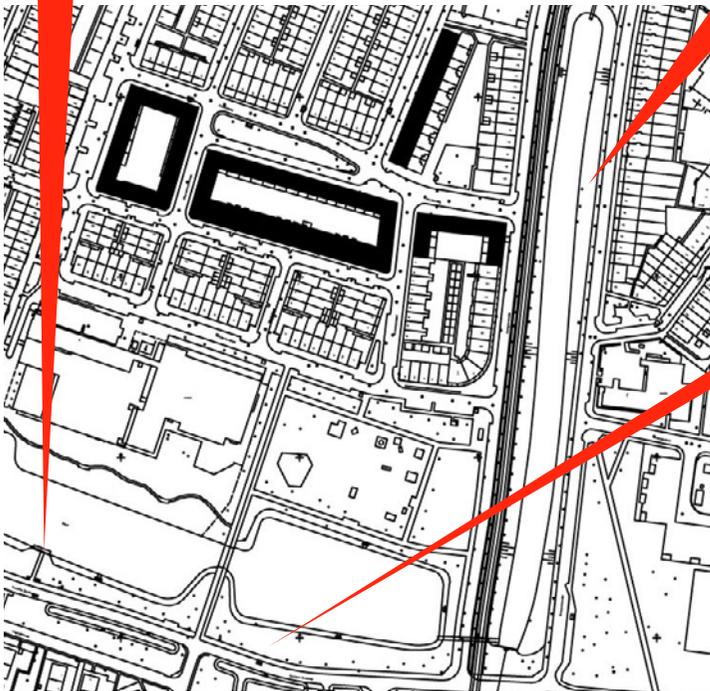
The accessibility along the streets is very good and adequate for elderly people. The sidewalks in the area are always lowered at pedestrians routes, allowing wheelchair people to cross the streets, access the tram stop and use the garbage deposits.

Accessibility - buildings:



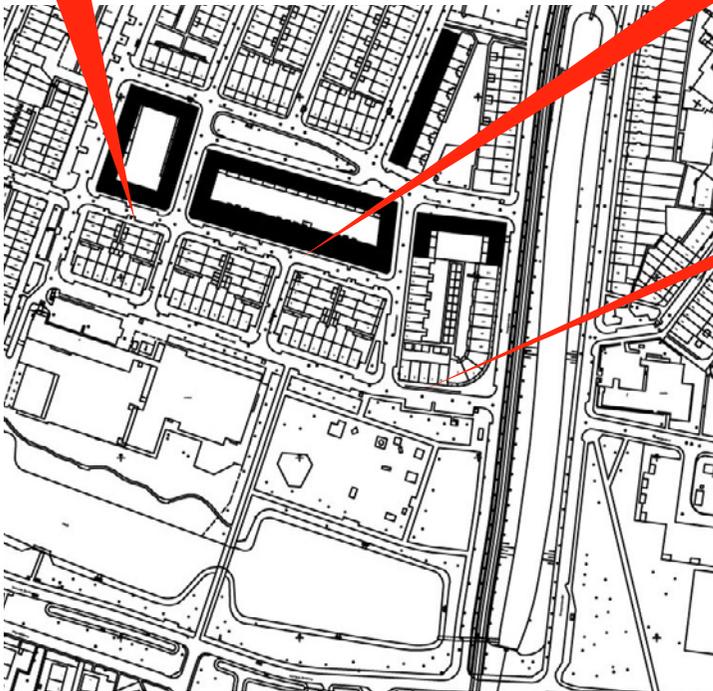
In general, the accessibility of the units is far from ideal. The typical situation is shown in picture four, where access is impossible for those using wheelchair. In the third picture we see a ramp installed for the local shop, which, even though makes possible to access the shop, interrupts the sidewalk route. In the fifth picture we see a good example for the units in the ground floor, but this is an exception that gives access to only two households.

Landscape qualities:



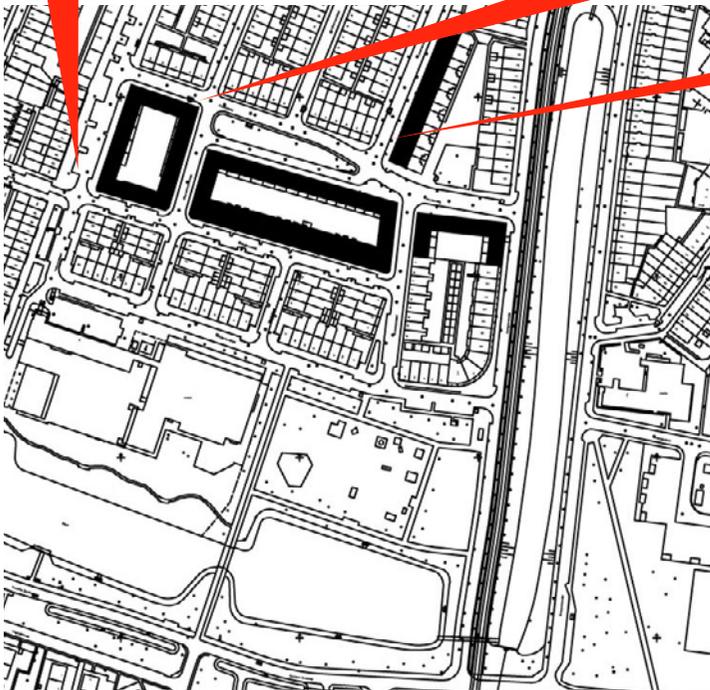
The landscape around the site can be said of as high quality in terms of green and water availability. The site is very close to the Zuiderpark, giving lots of leisure opportunities. In between the site and Wielewaal there is a strip of the Zuiderpark that is more intimate and full of ducks, ideal for elderly people to hang around. Actually, Wielewaal itself is very much a “park living” environment, an in between condition of built and unbuilt, and therefore very desirable for the Dutch.

Building Stock Evaluation - good:



Part of the buildings have a good quality, like the row houses in picture 10, which emanate a sense of historical character. The building in picture 9 is interesting too, even though it needs urgently to be renewed, it fits well with the row houses next to it. The new building in picture 11 is quite nice as it looks like a good quality construction, and is well integrated with the historical ones.

Building Stock Evaluation - bad:



Those three buildings, from my point of view, have a deteriorating effect in the area. The one in picture 12 is brand new, but maybe because of the brick type, it looks very low quality and cheap. The building in picture 13 is extremely bad quality and it doesn't look like to be worth renewing it. The building in picture 14 looks almost all right, but it needs a lot of repairs (such as in broken windows and doors).

Building Stock Evaluation - summary:



GOOD QUALITY / RENOVATION

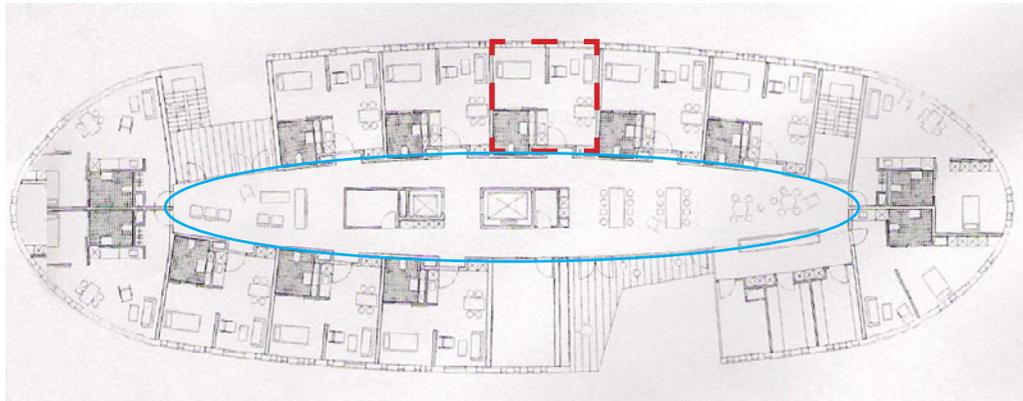
BAD QUALITY / DEMOLITION



I thought the best would be to keep the row houses as they are and renovate the other two buildings in orange. The buildings in purple don't seem to be worth keeping - they can give space to new, differentiated housing stock, built according to sustainable techniques. In those spaces we have the chance to introduce new collective programs and above them housing specially designed for the elderly, served by elevators.

In buildings designated to renovation, ramps should be installed

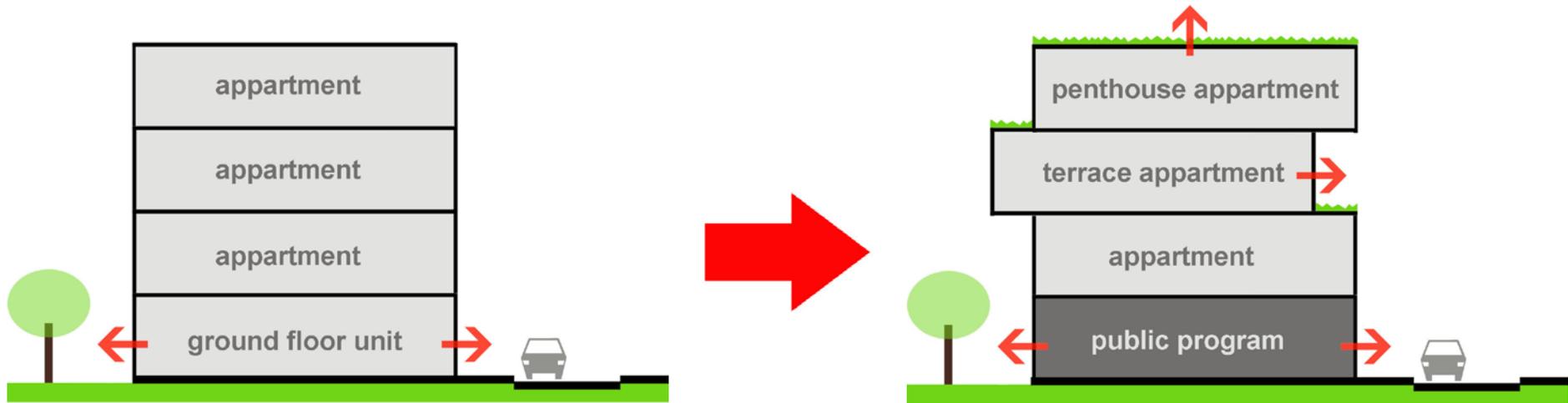
Reference of elderly building



UNIT: 36 m²

COLLECTIVE SPACE

Current examples of buildings for the elderly shows very small units connected to collective spaces where the inhabitants gather to play, eat, etc.



The making of new buildings is an opportunity to offer better quality living in the area. New buildings with terraces, smaller units for elderly people (around 36 m²) and public programs in the ground floor, open to the city.

Sustainability

- Issues to address
- Biological sewage research
- Density Study
- Preliminary Design
- Sun light and shadow studies

SUSTAINABILITY: ISSUES TO ADDRESS

ECONOMICAL

- 1- Services, such as medical and leisure, are proposed to be public. This turns their operating costs lower.
- 2- Densification of inhabitants makes cost of services smaller.
- 3- Renovation, due to labour costs, should happen only in buildings that are worth it.

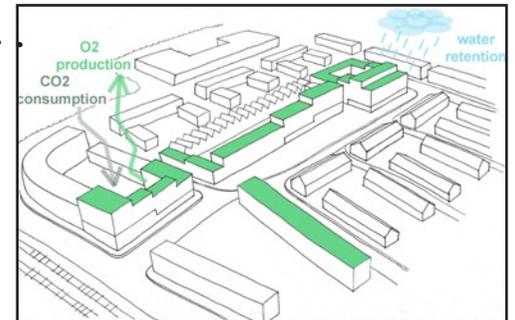
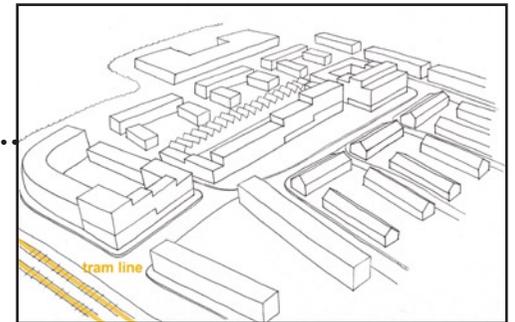
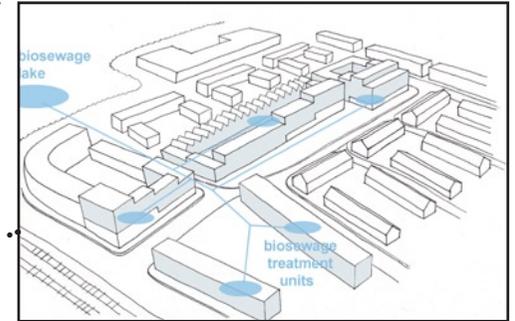
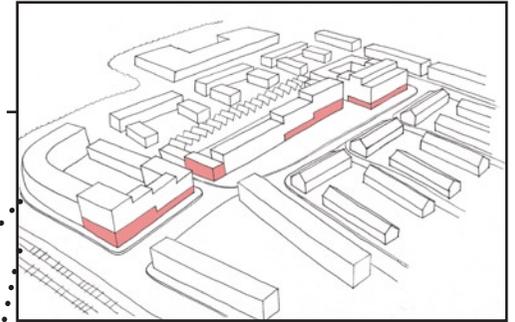
SOCIAL

- 4- Making services public contributes for social interaction between the elderly and other age groups.
- 5- Mixing different unit types in one building creates conditions for a variety of groups to coexist.

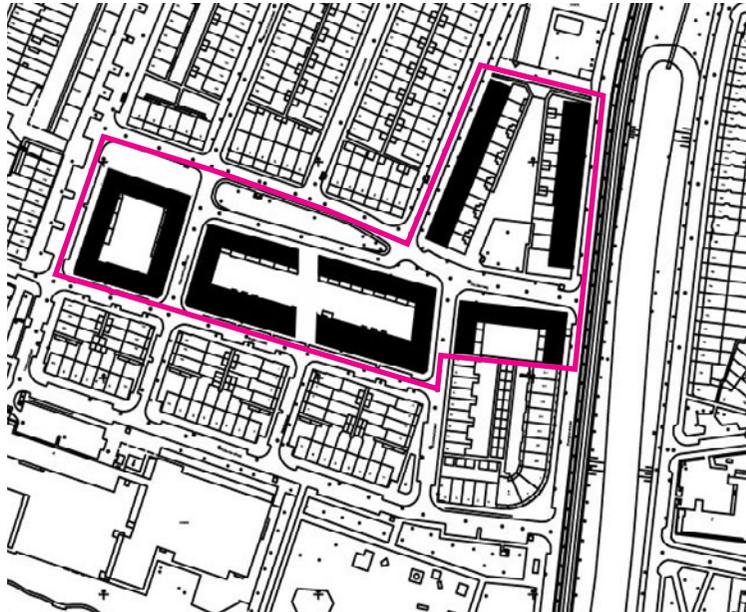
ENVIRONMENTAL

- 6- Make new units oriented towards the sun light
- 7- Create a biological sewage system.
- 8- Enhance clean forms of mobility (trains, trams and bikes). Densification was a good option here, as the site is served by a tram line.
- 9- Local shops diminish the need to use transportation modes. Densification makes local shops feasible.
- 10- Green roofs generate oxygen, absorb carbon dioxide, retain rain water and offer desirable terrace apartments.
- 11- Create water buffers as lakes in the courtyards
- 2- Make buildings with materials of low embodied energy (reforested wood bricks and concrete structure instead of metals and plastics, for instance).
- 7- Harvest rain water and solar energy.
- 4- Recycle gray water.

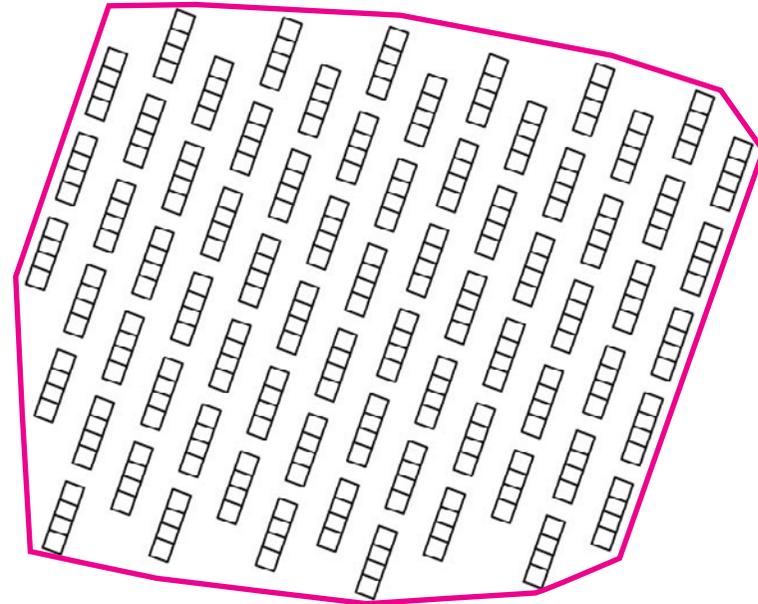
architectural issues as recommendations for architects and developers



Density Study:



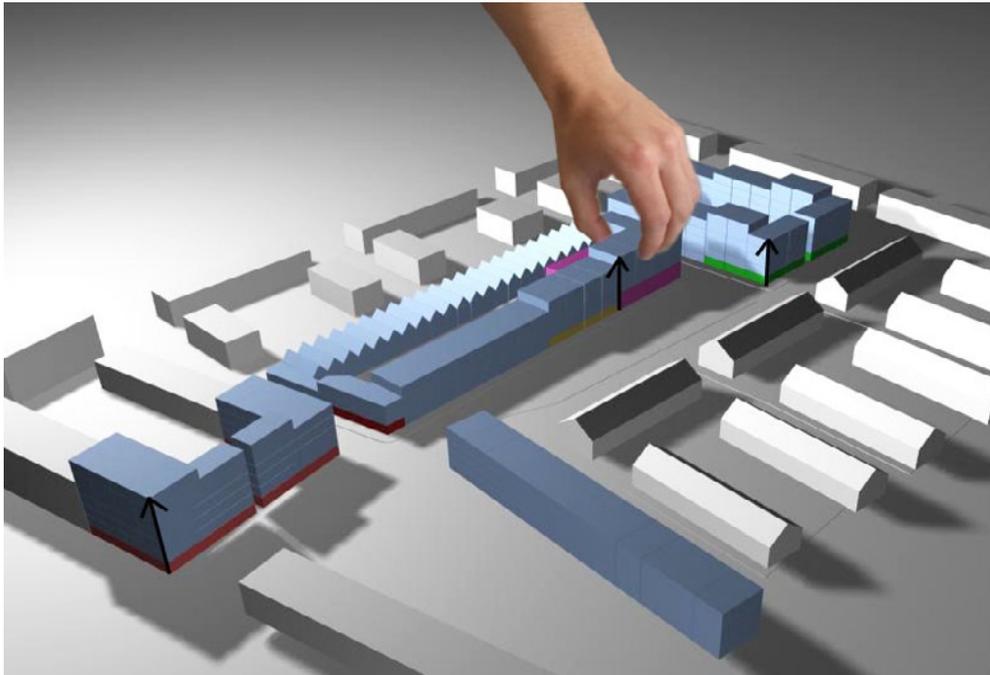
25.500 m² / 450 people
176 persons/hectare



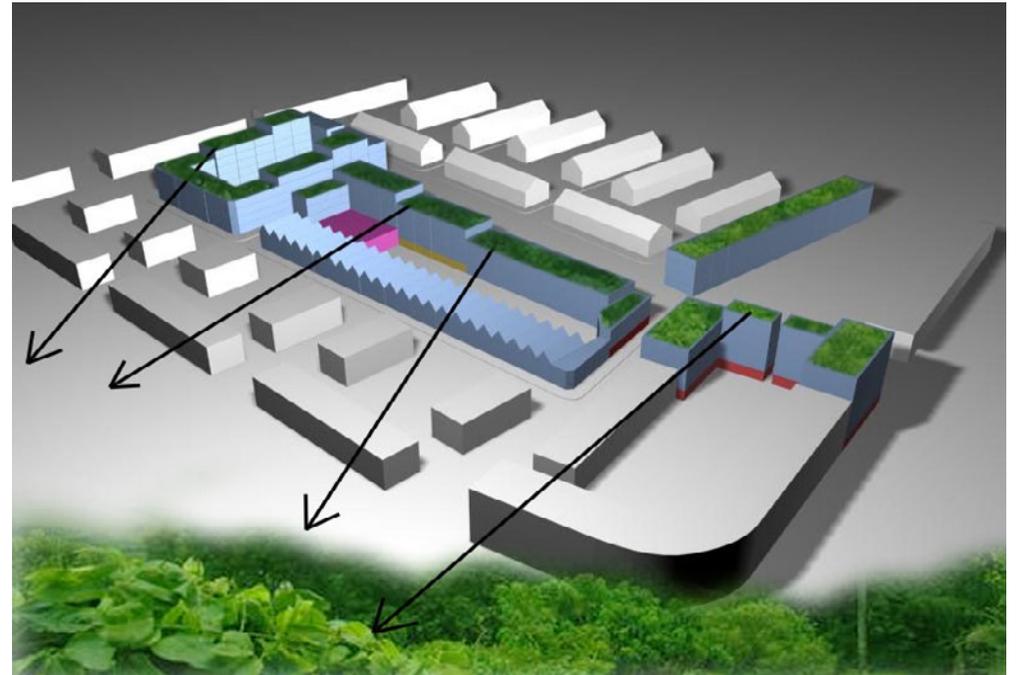
90.000 m² / 450 people
50 persons/hectare

To build a denser living environment is a way of avoiding city expansion over the greenfields. These two maps show the different areas needed to accommodate a same population of 450 people. Denser environments make feasible local shops, contributing for less mobility. Therefore, we could say that density contributes to more sustainable cities.

Preliminary Design:

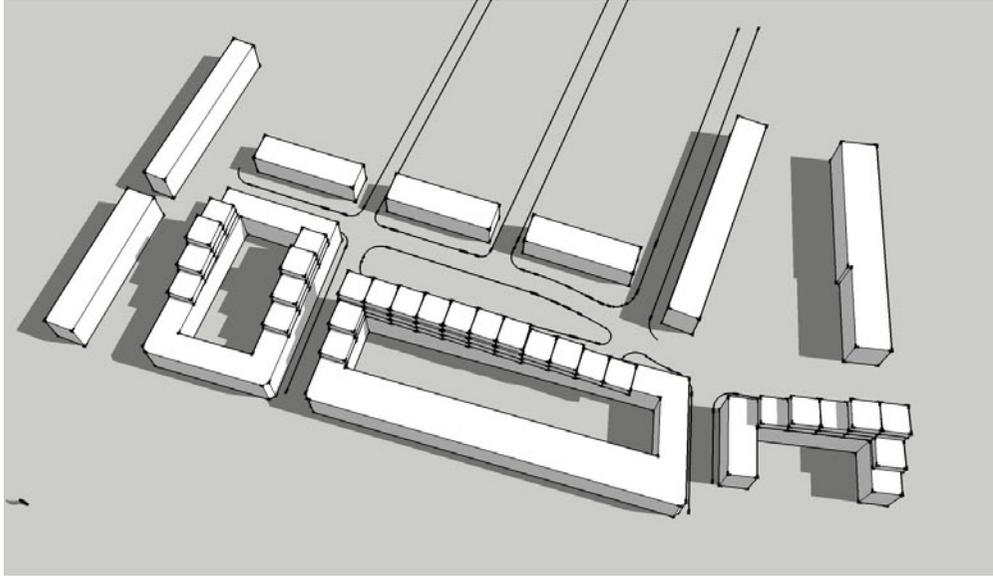


If we lift up the housing units, services can be placed underneath, and terraces are offered above.

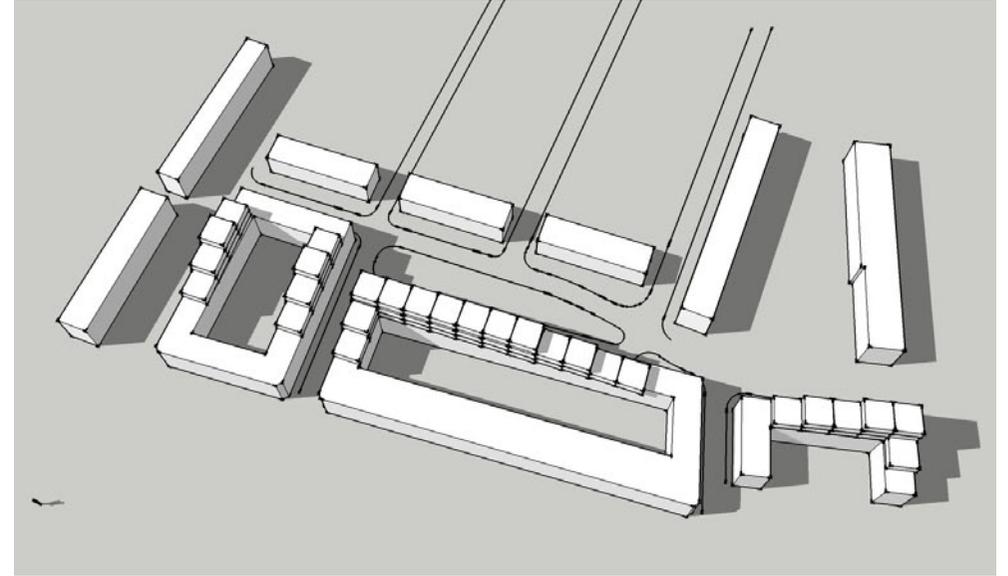


Terraced apartments, higher than the surrounding buildings, offer views to the Zuidpark.

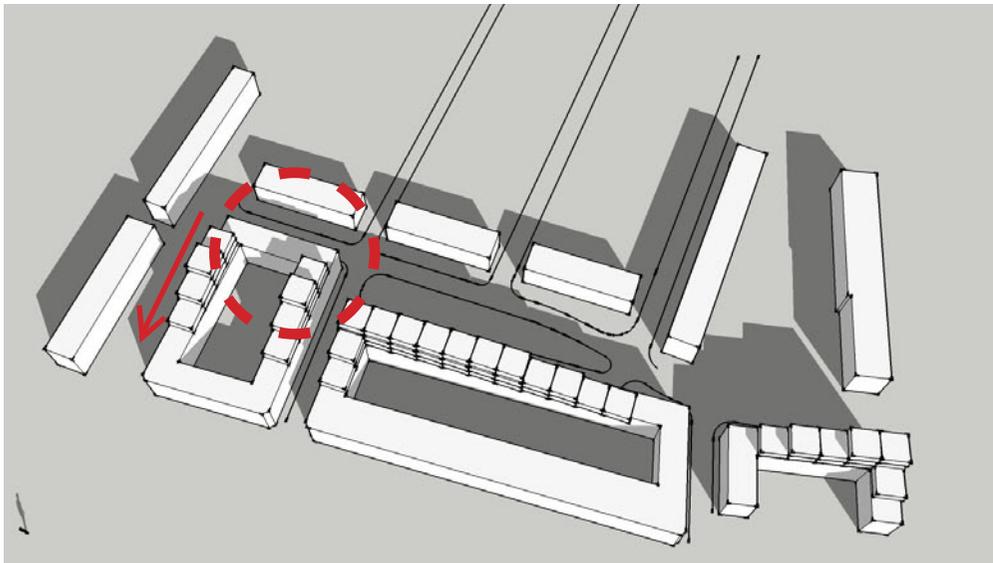
Sunlight study:



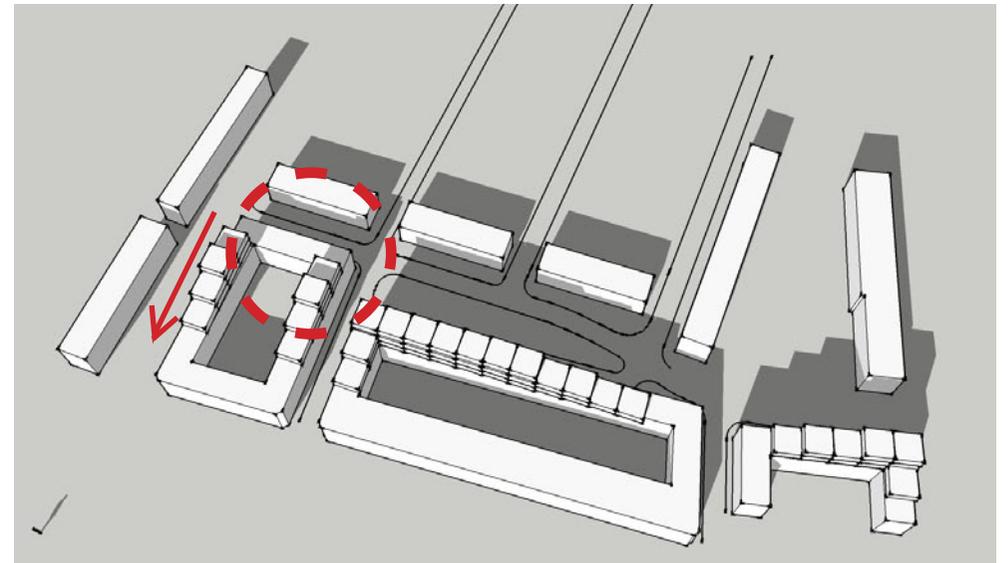
Summer / Morning



Summer / Afternoon



Winter / Morning



Winter / Afternoon

If we keep the actual boundary of the perimeter block in the left we can not make it higher, because of the shadow that it creates over the housing behind in the winter. Thus, in order to make this block higher, it's essential to compress it to the south.

Design:

1- Study of Possible Variations

2- Definitive Design

3- Section

4- Courtyard Renderings

5- Street rendering

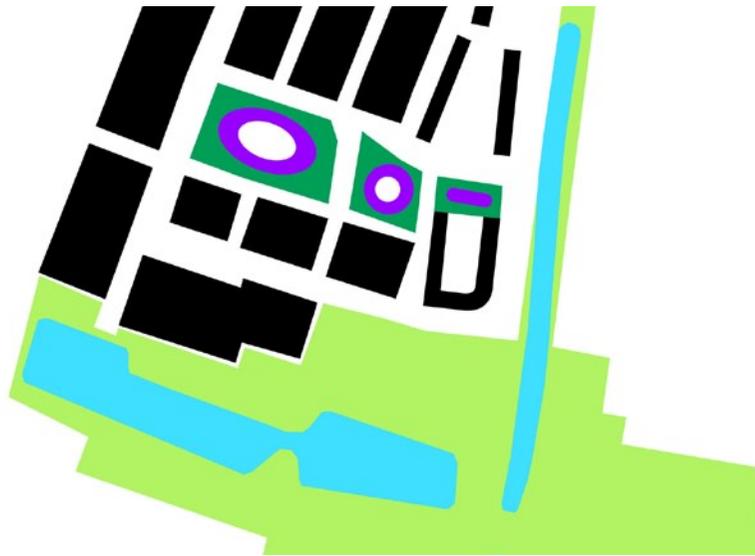
Study of possible variations:



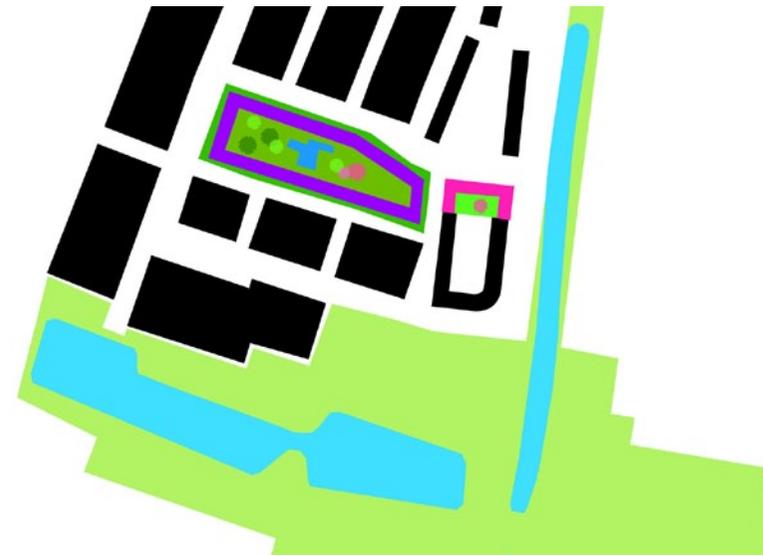
Keeping existing good brick buildings and infiltrating greenery from behind doesn't offer ideal conditions for an urban mixed environment, but gives the development a more suburban character.



In a more aleatory arrangement a open green space offers naturalistic pedestrian paths, but the relation public and private ends up not so well defined. These arrangement creates more opportunities for vandalism.



"Flooding" the site with greenery and setting the building masses as autonomous islands creates density within a park living condition, but this arrangement makes local shops difficult to survive.



Perimeter block constructions at maximum size, framing large courtyards, creates conditions for local shops and a lot of green, safe spaces, but because it's too big, the street net is not so well connected.

Design:

How to combine environmental quality in a well defined, dense space, suitable for thriving local shops?



The proposed scheme combines perimeter blocks that define well the public and private domains and create an urban condition where local shops can exist with “landscaped” courtyards that offer greenery and quietness. These blocks assume different characters in order to give the future inhabitants choices: one has a lake in the middle, the other is a lake with a deck and benches, the other received trees with red flowers, while the open one has a playground to attract middle class families to the area.

Section:



The section shows the variation in building heights, offering terrace apartments and standard ones as well (more affordable). The creation of a continuous public space connected to collective programs (leisure, work spaces, medical etc.) offers possibilities for social interaction in the area, between the elderly and families living around. The courtyards enhances the overall quality.

Courtyards renderings:



Flooded courtyard (reference: Steven Holl Architects)



Red trees courtyard

Street rendering:

