

# SubUrban Renewal

A Future for Post 65 Aesthetic and Spatial Identity  
in Suburban Housing Renovation and Densification



P4 Reflection Paper

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# SubUrban Renewal

A Future for Post 65 Aesthetic and Spatial Identity  
in Suburban Housing Renovation and Densification

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**Master of Science Architecture, Urbanism and Building Sciences**  
Track: Architecture

**Heritage & Architecture**

AR3AH115 Graduation Studio Revitalising Heritage  
'New Heritage'  
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# Introduction

In this reflection paper a short explanation is used to account for the preliminary results of the graduation project *SubUrban Renewal. A Future for Post 65 Aesthetic and Spatial Identity in Suburban Housing Renovation*. This paper will start with relevant personal background information, a reflection on the process and the research question, followed by reflections on the relationship between research and design, the relationship between the graduation topic, the studio topic, master track and my master's programme (MSc AUBS), elaboration on research method and approach, relationship between the graduation project and the wider social, professional and scientific framework and lastly some of the ethical issues and dilemmas I have encountered.

## Project Description

This graduation studio is aimed at revitalising heritage. 'How to bring new life to abandoned or dilapidated buildings or areas? What combination of architectural interventions and functional program leads to preservation by revitalisation? What is the capacity for change?' (Studiegids TU Delft, 2021) More precisely the studio focusses on so called 'New Heritage':

'Buildings and areas that are relatively young and usually not regarded as heritage. However, the assumption of the studio is that these areas can be seen as our future heritage. We think that exploration of their characteristics, assessment of values and problems—in combination with the education of academics, professionals and users—is necessary to prevent a disregard of the qualities and values of this housing stock' (Clarke & Spoormans, 2021, p. 3).

The possible case studies were the expansion area Amsterdam Zuid-Oost –with focus on the Bijlmerplein neighbourhood– and new town Almere Haven –here focussing in on the Goedewerf cluster. We, as students, were asked to explore the potential of existing urban structures and buildings for creating more homes

or making those that already exist more suitable to contemporary and future needs. The studio's aim is to discover the qualities of what could possibly be new heritage and to use these qualities in a sustainable redesign (Clarke & Spoormans, 2021, p. 2).

## Research Question

How could an adapted version of the '1965-1989 urban renewal' approach, i.e contextualistic architectural approach in renovation and densification, be a strategy to revitalize Post 65 neighbourhoods, such as Goedewerf (1978) in Almere Haven?

This projects tests if through utilisation and strengthening of the Post 65 architectural aesthetic and spatial vocabulary more holistic sustainability can be achieved in suburban housing renovation. The research and design aim focuses in particular on the categories of 'Aesthetic', 'Integrity' and 'Identity' of Kamari's wheel of 'Holistic sustainability decision-making support framework for building renovation'. These categories need extra attention in today's renovation practice because these are in danger of being left unacknowledged.

The hypothesis is that a sustainable future for Post 65 suburban housing partly lies in to what extent existing Post 65 aesthetic and spatial identity is acknowledged. This is based on the group analysis and personal research in this studio. I argue the heritage value of this housing partly lies in the aesthetic and spatial attributes that are part of the Post 65 architectural vocabulary. A research informed design is the output of this graduation project where I developed an approach for revitalisation of Post 65 where aesthetic and spatial identity of Post 65 is not disregarded. The approach enables designers to incorporate the vocabulary of the existing housing: strengthening existing attributes but also the introduction of new attributes that improve the quality.

# Background

After I finished my bachelor's degree Bouwkunde at TU Delft, I pursued my interest in heritage and architectural history. During my time at Utrecht University (UU) I was able to study the Post 65 architecture. I then got acquainted with the work of Amsterdam pioneering urban renewal architects such as Theo Bosch and Aldo van Eyck, but also young architects from their immediate circle, like Jouke van den Bout and Paul de Ley. I decided to delve deeper into this contextual architecture by Van Eyck and Bosch and it became the topic of my master thesis for the Architectural History at UU. When I continued studying in Delft and I had to choose a graduation studio, I wanted it to be about architecture from this same period. The big difference right now is that it deals with suburban residential areas, instead of inner cities.

## Relationship between graduation topic, studio topic, master track, master programme

Because of both my interest in architectural history and architectural design I decided to choose the Architecture master track, and within this I chose to follow the heritage and architecture design studios and courses. I think these courses have given me a lot of insight in dealing with existing buildings and offer a great preparation for this graduation studio. With regard to my previous education at UU, I think that is an added value when designing. The importance of architectural history is that we do not keep trying to reinvent the wheel. For example, the search for qualitative mass housing, that is something we have been doing since the history of mankind. And I think the efforts in the field of architectural history should not be solely focused on conservation practice and listed monuments. It is the most important source for designers to fall back on, for theoretical background, but also for inspiration. What worked and what didn't?

# Process

At the start of the graduation phase, advice was offered by the course coordinator of the course that is part of Q1: Research Plan, on how to approach your graduation research. Within the context of the chosen studio, of course it helps if you choose something that really fascinates you and a topic or direction that you are intrinsically motivated about and are willing to deal with for an entire academic year. We were told that if your tutors were not completely convinced about the initial topic or fascination, we should not give up too early. We were advised to try to find out what it is about a particular subject that makes you care about it and try to get to the essence of your interests. If you feel strongly enough about the fascination, then pursue that interest because you can trust your intuition enough and believe there must be a good reason to follow it.

I have held on to this advice when at times it may not have felt enough to pursue this fascination. In the beginning and later on, it was not clear to my tutors, but maybe also not to me entirely, where exactly my project would go. And at times I felt like I had taken a 'risk' with my topic of choice.

Furthermore, I found it difficult to operate on a more multi-disciplinary level. We are trained as students in architecture but it was also our task to think about future proofing the neighbourhoods in a more holistic way. We had to invest time and energy to understand the interests of multiple other stakeholders. Of course this enriches the project all the more and makes it a valuable learning experience, but it can be difficult because these are fields with which I am less familiar. It takes more time and energy to understand and weigh up all these different interests and points of view. It meant that at times I felt a little overwhelmed in the complexity of the current housing challenges.

# Research method and approach

The first part of the collective studio work was dedicated to developing renovation models. In preparation for this an analysis of Goedewerf in the domains of architecture, building technology and culture was made collectively by the New Heritage group. In addition to this, the results of the 'Speurtocht' survey for the research project 'Renoveren met Respect'<sup>1</sup> were examined. The 'Speurtocht' results consist of what different stakeholders mention what they think is valuable about the neighbourhood, public space and complex. Based on the knowledge gained, a preliminary value assessment of Goedewerf was made using our own adapted version of Kamari's 'Holistic sustainability decision-making support framework for building renovation' (2017, p.344). Through a brainstorm session two or three Kamari criteria were combined and renovation models were created with the aim of achieving a higher score in these areas. The renovation model that comes closest to this project's aim was the model called 'Beautification' where the categories 'Aesthetic' and 'Energy efficiency' were combined to focus on strengthening aesthetic value while improving the energy efficiency. I chose to do this model with Goedewerf because it showed similarities with a some of the urban renewal architecture I was familiar with, for example the 45 degree angle sloped roofs, but I was confronted with insecurity in terms of how to relate to this existing aesthetic identity and spatial aspects in the redesign. What is the value of this aesthetic and spatial identity? And how far can we go with exterior insulation and additional building volumes in this neighbourhood for example? This renovation model however does not take into account possible heritage values in aesthetic or spatial attributes. Therefore additional Kamari criteria will be paid attention to in this project: 'Integrity' because this category includes the sub-criteria 'Site protection - Cultural heritage privacy', and 'Spatial' because next to 'Aesthetics', this is

an important component to be able to identify the characteristics of the architectural Post 65 vocabulary.

I feel we risk erasure of an entire period of this particular architectural appearance just because the dominant opinion about it is that it is ugly. An example of this is the renovation of Stedenwijk Noord where the existing Post 65 aesthetic identity was disregarded. Stedenwijk Noord was renovated in 2012, a 1970s neighbourhood consisting of 750 houses, with mixed ownership, both social housing and private owners. Perhaps due to popular opinion, architects taste, lack of knowledge or the urgency of energy-driven renovation which often consists of exterior insulation the architects chose to change the aesthetic into an Amsterdam School style. To protect the overall Post 65 architectural integrity, I think it is necessary to avoid forcing a new aesthetic or spatial identity and vocabulary onto the existing housing. As was done in Stedenwijk Noord unfortunately, because this creates an unsettling effect and there is the risk of having produced an unsustainable renovation, because in terms of the façade design existing Post 65 aesthetic and spatial identity was not acknowledged in the renovation design. When significant characteristics of this architecture are not recognized and valued they will be disregarded in renovations and we lose potential embodied cultural energy. Instead, with my project I want to show the endless aesthetic and spatial richness Post 65 has to offer.



Fig. 1 Renovation Stedenwijk Noord (Waldijk, 2022)

<sup>1</sup> <https://www.tudelft.nl/en/2021/bk/respectful-renovation>

Looking at the existing literature only brief summaries of Post 65 architectural aesthetics can be found (e.g. exploratory research reports by the RCE). These publications do not delve into the origin and refrain from explaining on what basis the lists of aesthetic elements were compiled. Furthermore, the literature that presents overviews of Dutch architecture through the past centuries (e.g. Bosma et al, 2007), only give brief general descriptions of Post 65 architecture. And in the available monographs of prominent Dutch Post 65 architects only background on individual developments of architectural aesthetics is outlined. This research aims to solve this problem by combining the existing knowledge together with new additional analyses, and creating a more complete picture and knowledge of the Post 65 Aesthetic and Spatial Identity. In my research I tried to make a contribution to this literature by systematically taking account of every element that was mentioned and how often it was mentioned.

In addition, I came up with the idea to use the real-estate marketing website 'Funda'<sup>2</sup> to get a more trustworthy image of Post 65 suburban housing. I looked at hundreds of houses that were built between 1965 and 1989. From this visual selection of various aesthetic and spatial elements and aspects the Visual Lexicon of Post 65 housing Aesthetic and Spatial Identity was created. It consists of schematic drawings of each aesthetic or spatial element or aspect and they are accompanied by multiple examples of projects where they were used. The collection of elements and aspects provide an overview and a source of inspiration which can be used to achieve richness in spatiality and aesthetic quality with Post 65 aesthetic and spatial identity.

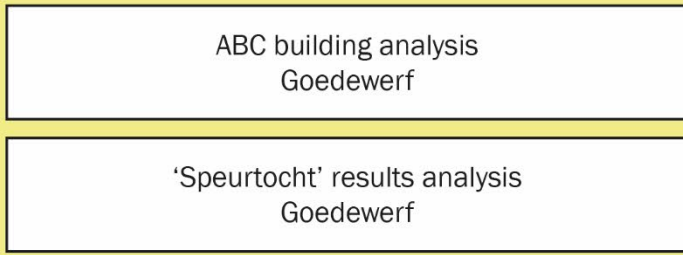


Fig. 2 Examples of 'Roof', 'Façade feature' and 'Window' aesthetic and spatial elements and aspects from the Post 65 Visual Lexicon (Waalwijk, 2022)

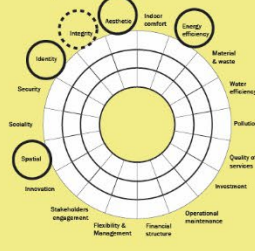
<sup>2</sup> <https://www.funda.nl/>



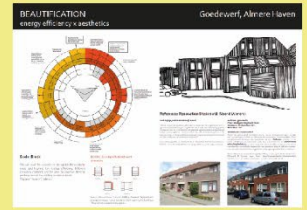
# Research and Design Diagram



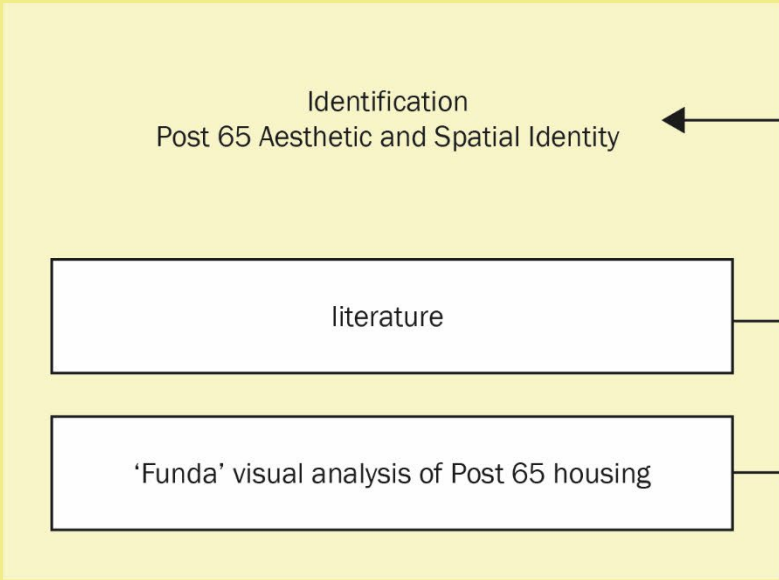
Adapted 'Kamari wheel'



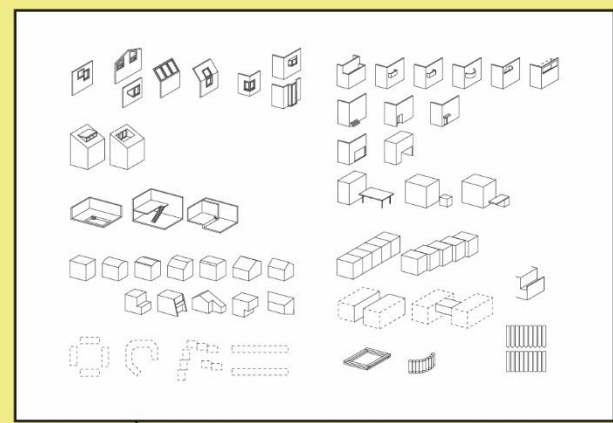
renovation model



GROUP



'Integrity'  
How could renovation and densification strengthen qualities and help solve current problems, without compromising heritage values and identities?



INDIVIDUAL RESEARCH

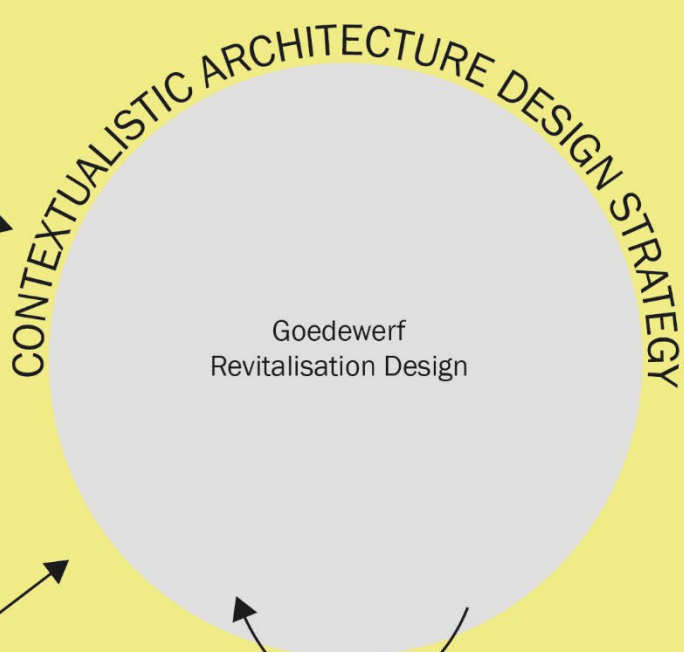
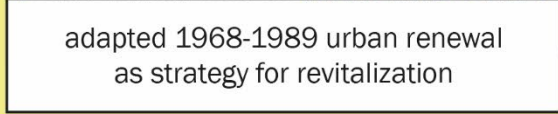


## PARALLELS AND INSPIRATION

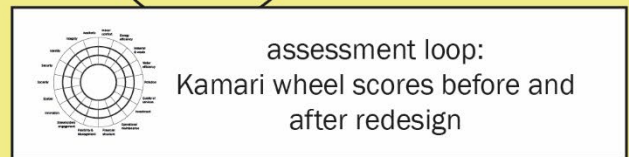
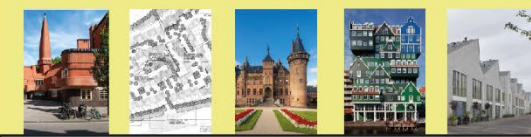
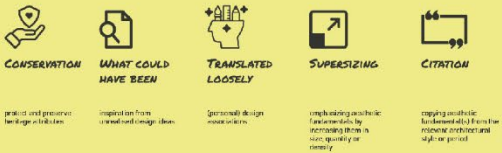
Urban Renewal  
Stadsvernieuwing  
1965-1989

contextualism

contemporary translation of the existing architecture to protect or restore the urban fabric



RESEARCH INFORMED DESIGN



## Research results

From the individual research results, I have drawn the following conclusions:

- The available literature gives an incorrect picture of the aesthetic and spatial elements and aspects present in Post 65 suburban housing architecture.
- Generalisations are not suitable to describe Post 65 suburban housing architecture. It is not clear from existing literature that Post 65 housing actually has many different aesthetic families. Negative terminology to describe this architecture like 'schuin en bruin' or 'nieuwe truttigheid', does not help its reputation.

Within the relatively short period of time that the master's graduation project covers, I have tried to let this project be a plea for expanding knowledge of the aesthetic and spatial qualities that Post 65 suburban housing possesses. The aim is to upgrade this existing housing stock by focusing on strengthening aesthetic and spatial qualities and addressing weaknesses, such as the energy performance, public space, lack of smaller housing (40-65 m<sup>2</sup>). The output of my project consists of a research-informed design of a representative type of these neighbourhoods, Goedewerf in Almere Haven.

With my project I test if this way of intervening can be a successful way of future-proofing the Post 65 neighbourhoods. My hypothesis is that using this contextualist approach in the revitalization of Goedewerf, can be just as successful in its outcome as it was in the urban renewal revitalization of existing urban tissue between 1968 and 1989.

To determine if the approach is successful, it will be assessed on the basis of the Kamari wheel scores before and after renovation. The preliminary results show positive impact in almost all categories, except at 'Material and waste' for example, because the necessary new building materials. At P5, I plan to make a more precise assessment of these results.

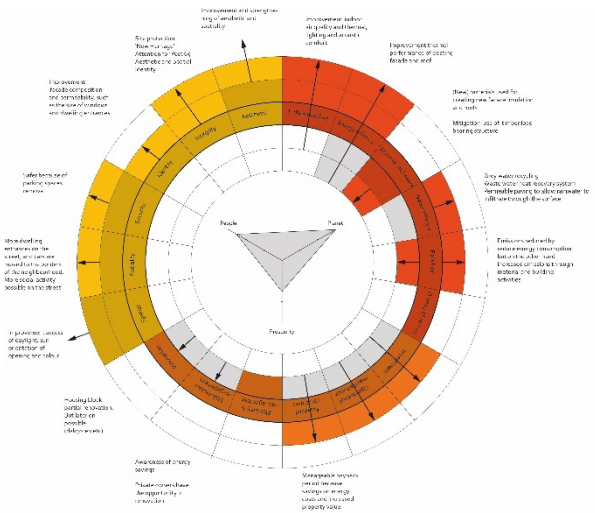


Fig. 3 Preliminary result redesign impact on each category (Waalwijk, 2022)



# Relationship between research and design

In order to safeguard the heritage values present and ensure a sustainable future, the Post 65 housing can have similar approach to that of urban tissue in Dutch inner cities during the urban renewal period (1968-1989). Why? Because residents are also rooted in neighbourhoods and the architectural and spatial characteristics of the 'woonerf' and 'bloemkoolwijken' are to be protected and strengthened as is clear from the research<sup>3</sup> done.

## Research Informed Design

The revitalisation design of Goedewerf consists of splitting homes and infill development:

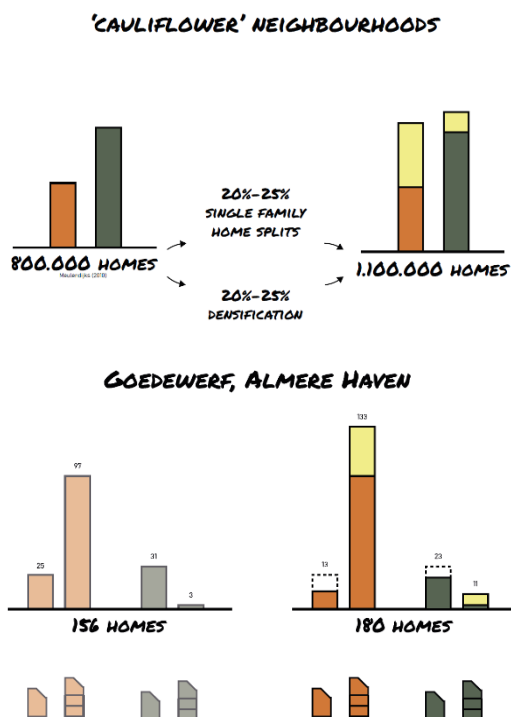


Fig. 4 Density concept (Waalwijk, 2022)

New built housing is built in places where there is room. The parking is moved to the borders of the neighbourhood so the quality of the public space can be utilised by residents.



Fig. 5 Infill development in yellow (Waalwijk, 2022)

For the architectural design of renovation of existing housing and the new infill architecture I strived for a contemporary translation of Post 65 architecture, in other words using the same vocabulary as the existing architecture. Which elements or aspects were chosen to include in the redesign of Goedewerf were picked intuitively and by testing them in sketches and digital models.

<sup>3</sup> Visual Lexicon Post 65 Aesthetic and Spatial Elements and Aspects, 'Speurtocht' analysis, ABC analysis (group)

To illustrate the design process an elaboration on two different design aspects is provided:

### 1. Exterior insulation

I aimed for exterior insulation but still achieving aesthetic cohesion in the façade design when private owners would not participate in the renovation. It ended up being a kind of compromise. I decided to not insulate the ground floor level because the ‘Speurtocht’ results showed the brickwork is valued and through test drawings aesthetic cohesion can be achieved by leaving the brickwork on ground floor level visible. By leaving it exposed there is no problem with the ‘boeiboord-roof’ detailing complications and the visual relationship with the brick is the strongest: a win-win. In addition, accentuating the ground floor creates a balanced composition and brings more plasticity to the façade, which was lacking in some places.



Fig. 6 Impression of half-circular domed roofs (Waldijk, 2022)

### 2. Spatial richness in relatively small homes

Another design aspect that I would like to highlight here is the roof shape. As you can see in the previous figure, the roofs have been expanded with new circular domed roofs. I was inspired by the domed roofs I found in my Post 65 Lexicon research. During the sketching it became clear that I could introduce new spatial richness by means of a different roof shape, but at the same time highlight the original 45 degree angle sloped roofs, since they are characteristic for this type of Post 65 housing. However, there was a problem with these roofs: the new roof on the first floor level would be very costly and invasive in relation to what it would ultimately bring. Secondly, the round roofs on the second floor level would produce impractical window shapes. This came up several times in the tutoring, so I decided I needed to redevelop this design aspect. The round roofs on the first floor disappeared and all the roofs are now fitted with a different domed roof which does not cause any problems but still provides spatial richness, perhaps even more than the previous version.



Fig. 7 Façade elevation on new vaulted roofs. Right: new built infill development would have the same vaulted roof to create aesthetic cohesion



Fig. 8 Spatial richness created by vaulted roof on second floor (Waldijk, 2022)

# Relationship between the graduation project and the wider social, professional and scientific framework

The academic relevance of this project is characterised by the critical historiographical perspective on existing literature that discusses Dutch Post 65 architecture. The research output is a contribution to this still developing body of knowledge on Dutch Post 65 architecture.

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Goedewerf has a broad validity and is therefore suitable as a case study. The neighbourhood represents a subset of Post-65 housing architecture that strived for small scale and complexity. Furthermore, Goedewerf has a number of characteristic features that are representative of Post 65 neighbourhoods: low rise, sloped roofs, mixed ownership, relatively low density, surrounded by nature, relatively many single family homes.

The graduation project addresses the societal relevance of the increasingly urgent sustainable renovations of a significant part of Dutch housing stock (31%) (CBS, 2022). The combination of aesthetics and building envelope renovation is particularly relevant in the light of the necessary improvement of energy performance (e.g. insulation, detailing). Through testing the urban renewal approach and development of know-how for contextualist design that uses Post 65 aesthetic and spatial vocabulary in renovation this projects creates guidance for future-proof renovations for a lower probability of compromised heritage values. And with reference to the Kamari's et al. framework for 'Holistic sustainability decision-making support framework for building renovation' (2017, p. 344): the categories 'Aesthetic', 'Integrity', 'Identity' and 'Spatial' in particular are addressed in this project. These are categories that stand a good chance of being underexposed in renovation practice because of the lack of public appreciation of Post 65 architecture and the still developing body of knowledge.

# Ethical issues, dilemmas and potential applications of results in practice

This graduation studio addresses the current urgent issues of housing, i.e. the housing shortage and the energy performance and energy transition of existing housing stock. According to the Ministry of the Interior and Kingdom Relations the housing shortage in 2021 was estimated at 279,000 homes, 3.5% of the housing stock. Although the number of new homes will increase significantly in the coming years, the number of households will grow faster, causing the housing shortage to increase (BZK, 2022, p. 7). Therefore the Netherlands needs to build 900.000 homes before 2030, of these 600.000 need to be affordable homes, of which 300.000 need to be built by the public housing associations.

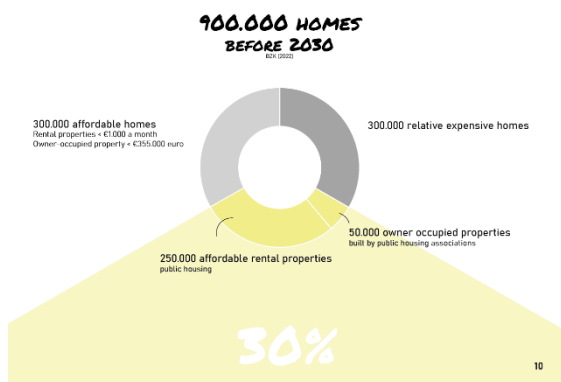


Fig. 9 Housing that needs to be built before 2030 (Waalwijk, 2022)

The other major challenge in housing is the energy transition. According to the IPCC sixth assessment report drastic reduction in our environmental impact needs to happen. Every year, just under a thousand buildings are upgraded to energy-neutral or energy-positive. To meet the 2050 targets this needs to be at least a thousand (TNO, n.d.). Although due to the crisis in the early 1970s,

more demands were put on the energy efficiency of homes, the Post 65 housing does not meet the current standards on energy performance. Typically, the cavity walls (60- 80 mm) in this housing of were often only partially insulated with 30-40 mm of insulation (EnergieLoket, 2022).

A significant part of the entire building stock is the Post 65 building stock. 31% of the entire housing stock in the Netherlands, was built between 1965 and 1985 (CBS, 2021).

Because of the extent and impact of intervention to solve the problems of housing shortage and energy performance some ethical issues and dilemmas arise. I will elaborate on two dilemmas.

In relation to the housing shortage, I decided to look at the possibilities of densification. Since the density of Goedewerf is representative of Post 65 neighbourhoods there is potential applications of the results in practice. How many extra houses is Goedewerf able to adopt? Post 65 neighbourhoods in general have relatively large spaces for infill development without affecting the characteristic structure. But building extra homes brings a new dilemma. Because is this the smartest way to solve housing shortage? On average, we have 65 square metres of house per person in the Netherlands (van Bockxmeer & de Korte, 2021). That should be enough, it is just not distributed properly. A lot of single family homes are owned by relative small households. It would be more efficient to redistribute the square metres more equally. Whereas the average household size in the 1970s was 3.5 people, nowadays the average number of people living in a home is 2.2. The original density of Post 65 housing estates could perhaps be achieved again by splitting the dwellings. This would also benefit the surrounding infrastructure and facilities that may have been designed for the same density of residents at the time. This

could also prevent the closing of local libraries or swimming pools for example. But how do I know if this is feasible and if people actually want it? To try to answer these questions I tried to find projects from current practice and relevant research. Research conducted by the (Kooiman, 2020) has shown that 19% of people of the age of 60 and older are actually willing to move but do not want to stay in the same neighbourhood. Dividing their house and selling half could be a solution to this, since finding a suitable home in the area only rarely happens. This applies to private owners, but home splitting could also be feasible within social housing according to what is happening in practice. A trial with splitting up houses is currently being conducted in Woensel (Eindhoven) by Woonbedrijf (Theeuwen, 2022).

Given the arguments for house splitting and room for infill development, I decided to consider these measures as legitimate solutions for the housing shortage. Besides, serious problems sometimes require radical measures.

With regard to the energy transition insulation was unavoidable. Interior insulation would take away too many square meters and to use the thermal mass structures of (sand-lime) bricks and concrete to save energy. I wanted to see to what extent exterior insulation would be achievable. Not only did I want to take the aesthetic and spatial identity into account, but Post 65 neighbourhoods like Goedewerf often have mixed ownership. This brings the issue of potential loss of aesthetic cohesion. We cannot force people to participate in renovation. How far can I go? And what is justifiable? To solve that, I looked at what has been done in other renovations in similar neighbourhoods. The renovation of Stedenwijk-Noord by 19HetAtelier proved to be a very useful example. Not only because the issue of mixed ownership also plays a role there, but also because it was explained that

it is, for example, feasible to replace all the roofs anyway, even if certain private owners do not participate, because it would be more expensive to build and dismantle scaffolding. Moreover, there is greater aesthetic cohesion in this way and perhaps it is worth the price anyway.



Fig. 10 Sappemeerstraat, Stedenwijk Noord, Almere (Google Street View, 2018)



## Literature

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