

# Graduation plan

## Personal information

Name	Jelle van Boggelen
Student number	4453867
Telephone number	X
Private e-mail address	X

## Studio

Name / Theme	Architecture & Dwelling New Amsterdam – between standards and ideals	
Main mentor	T. W. Kupers P. S. van der Putt	Architecture Architecture
Second mentor	F. Adema M. J. Hoekstra	Architecture, Engineering and Technology Architecture and Urbanism

### Argumentation of choice of the studio

Housing has always had my interest. I can spend hours walking through a new built neighbourhood and view the architecture and try to understand the choices the architects have made. City trips to cities where I have never been awaken my fascination for architecture. I think it's wonderful to see how buildings could be adapted to the local context and culture.

After my studies, I expect to stay in the Netherlands and I hope to be able to focus on designing houses then. I think this is a pleasant scale to design for, because I can form a good picture of the human dimensions and the demands and requirements that people have for their home. Furthermore, a house is

a place where people should feel at home, so beside technical aspects, also the experience of the users is very important, which I see as a challenge.

Technical aspects are important for a residential building. So, structural and climatic properties should be designed correctly. But it is just as important to create a pleasant living environment that meets the demands and requirements of the residents. For me, this combination of technology and ambiance is very interesting. The Dutch Housing Graduation Studio fits my interests and I like the Minervahaven as design location. I see it as a challenge to design an attractive high-quality building in this high-density area.

## Graduation project

Title of the graduation project	The Active City – Stimulate movement in an active environment
Location	The Netherlands, Amsterdam, Minervahaven

## The posed problem

“The human body needs movement, but the modern world makes us move less and less.”<sup>2</sup>

The technological developments of the last decades seem to be focused on making the daily life of people easier and easier. ‘Making daily life easier’ seems to translate itself in the fact that people worldwide are making less and less physical efforts, while exercise and movement have a positive influence on human health.<sup>2</sup> Many people sit more than seven hours a day, as is shown in figure T.1. Dutch people sit even more than people in other European countries.

Car use has increased enormously, which means that people walk and cycle much less. There are even shopping malls which are only accessible by car.<sup>1</sup> The use of social media, such as WhatsApp, Facebook and Skype, can no longer be ignored in everyday life, which means that people have to go outside less often to meet other people. Online games make it easy for people to get in touch with others without leaving their seat.

There are much more examples of modern developments that make the daily life easier and make people move less. Lifts and escalators are appearing everywhere, and electric bicycles are becoming increasingly popular. There is a remote control for almost everything. Vacuum cleaners and lawn mowers move automatically, and groceries are delivered at home by new services such as Picnic.

It already starts with young people. Children play outside much less than before. In their free time they spend a lot of time at home in front of the television or behind the computer. And when they are in school, they sit as well. Often school money is saved by skimping on gym classes which are often replaced by an extra hour of math.<sup>2</sup>

## Research questions

The main research question is:

- What is the importance of movement for a healthy city?

This research question is divided into sub questions:

- What is a healthy city?
  - What is the history of healthy cities?
  - What is the healthy city of today?
  - What is the healthy city of the future?
- What is the influence of movement on human health?
  - What is the influence of movement on physical health?
  - What is the influence of movement on social health?
  - What is the influence of movement on mental health?

The target group for the design is: empty nesters (people whose children have grown up and no longer live at home). Empty nesters will be specifically addressed in above mentioned questions about the influence of movement on human health. In addition, this target group arises new questions:

- What is the relevance of designing for empty nesters?
- What are characteristics of empty nesters?
- What are demands and requirements for houses of empty nesters? (Will be researched by analyzing reference projects)

## design assignment in which these result

After proving the importance of movement for human health, the design assignment will focus on how movement can be stimulated in an active environment. The main design question therefore will be:

- How can a residential building for empty nesters stimulate movement and activity?

1. De Rek, 2018  
2. Scherder, 2014

## Process:

### method description

For the research part, mainly literature research is used in order to answer the question: What is the importance of movement for a healthy city? Scientific articles and books will be used, but also documentaries and interviews. Facts and scientific findings will be compared to interviews showing how people actually experience it.

To find the characteristics of empty nesters, statistics will be used, because the definition (people whose children have grown up and no longer live at home) does not give any information about the age, the income or the education level of the target group.

Reference projects are analysed to get information about the demands and requirements for suitable houses for the target group. The chosen reference buildings are De Klencke and De Prinsendam located in Amsterdam and Park Hoog Oostduin and De Zilverzijde located in The Hague. The analysis focus on the floorplans, the facilities in the neighbourhood and the possibilities for social interaction in and around the building.

Existing examples will be researched to find an answer on the design question: How can a residential building for empty nesters stimulate movement and activity? A lot of examples are mentioned in the book "Beweeglogica in Gebouwen".<sup>3</sup> In this book four main topics are mentioned that stimulate movement in a building: routing, goals, active program and building within the context. In the analysing part, these four topics are mentioned and researched for the chosen reference projects. For the graduation project, the goal is to bring this research a step further by researching more examples that can be added to the mentioned examples. It is mentioned in the book that architects can influence people's choices, for example by making them aware of the presence of some functions in the building. In this graduation project, the goal is to make people aware of

the importance of movement for their health. In that way not only short term choices will be influenced by architecture (taking the stairs or elevator), but also changes in lifestyle can be encouraged then (more daily exercise).

### Literature and general practical preference

The reference list is added in a separate chapter. The references used for the graduation plan are mentioned at the bottom right of the page.

## Reflection:

### What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

The project topic is the Active City with the goal to stimulate movement in an active environment. The central question in this graduation studio is: "How do we want to live in the future and what kind of buildings do we need to make that possible?".

Creating a healthy living environment is one of the main starting points, mentioned in the development strategy of Amsterdam,<sup>4</sup> created for the project location. So, in the future people want to live in a healthy environment. For a healthy city, healthy people are indispensable and therefore questions about human health are very relevant in this graduation studio. In this research, it becomes clear that movement has a direct connection with human health. Not only physical health, but also social and mental health turn out to be positively influenced by movement. So in order to contribute to a healthy city, buildings are needed that stimulate movement and activity.

This graduation project is linked with the master track Architecture, because after creating an urban proposal, a residential building will be designed for a relevant target group. Local regulations will be taken into account. Even as the orientation, the urban

context and the requirements and demands of the target group. There will be a design for the supporting structure and for the climate organisation of the building. Material use will be thought out in detail and of course sustainability will get a lot of attention. These architectural components together will form a coherent whole that fits in its environment. The building will be unique and will have a clear character of its own and last but not least: attractive dwellings will be created in the building that will be loved by its future inhabitants and users.

### **What is the relevance of your graduation work in the larger social, professional and scientific framework?**

Every year there are as many people worldwide who die as a result of smoking as people who die as a result of inactivity.<sup>8</sup> These are the two major risk factors for non-communicable diseases worldwide and both are responsible for more than 5 million deaths a year. Many organizations, such as the government, invest heavily in campaigns to combat smoking. But much less effort is being invested in campaigns that point to the consequences of inactivity.

Too little exercise can have serious consequences for human health. For example, low exercise increases the chance of getting diseases and disorders, such as cardiovascular disease, cancer, high blood pressure and type II diabetes.<sup>7</sup> What subsequently ensures that the risk of dementia increases. Moreover, a lack of exercise has a negative effect on people's metabolism, because skeletal muscles, the largest organ in a human body, need less energy. The excess energy is then converted into body fat, which can lead to overweight and even obesity. More exercise not only has a preventive effect, but is also increasingly being used to treat cardiovascular diseases, diabetes, asthma and COPD. Movement reduces the risks on several diseases like cardiovascular diseases, coronary heart disease and stroke. The risk on high blood pressure, non-insulin dependent diabetes, osteoarthritis and some forms

of cancer are reduced. It helps people to maintain a healthy weight and helps to build and maintain healthy bones, muscles and joints. So, for the physical health, movement has lots of benefits.<sup>6</sup>

In the field of social contact, movement has a positive influence as well. Since movement leads to more possibilities for interaction, social skills will increase. By participating in physical activities, people get more control over their own lives, because a wider social network increases their community spirit.<sup>5</sup> So, the chance of loneliness and social isolation will reduce.

Movement promotes mental and psychological well-being. It improves sleep patterns and reduces depressive symptoms, feelings of anxiety, frustration and stress. It generates fun and gives people motivation. The memory is improved even as people's self-esteem, while social isolation is reduced.<sup>5,7,9</sup>

Because movement has so many consequences, stimulating people to exercise more in their daily life will have be noticed in other professions as well. When people are healthier, less people will get sick. So possibly the costs for health care will decrease and people who work in this field will have more time for their patients, so that health care quality can improve.

The combination of the target group (empty nesters) and the link between movement and different aspects of health will make this research distinctive from existing work and therefore this graduation research will be very relevant.

3. BETA, 2016
4. Gemeente Amsterdam, 2017
5. Bailey, 2013
6. Braubach & Grant, 2010
7. De Greef, 2009
8. Wen & Wu, 2012
9. Pillay, 2016

# References

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