

# Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



## Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners ([Examencommissie-BK@tudelft.nl](mailto:Examencommissie-BK@tudelft.nl)), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

Personal information	
Name	Tjeu Adrianus Petrus de Gouw
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Studio	
Name / Theme	Adapting 20 <sup>th</sup> century heritage   Police real estate
Main mentor	Lidy Meijers   Architecture
Second mentor	Frank Koopman   Building Technology
Third mentor	Hielkje Zijlstra   Research
Argumentation of choice of the studio	<p>My interest for heritage buildings in architecture started during my Bachelor studies at the TU Eindhoven. In the third year, we had to work in multidisciplinary teams on the transformation of the Schellensfabriek in Eindhoven. Part of this building is listed as municipal monument and other parts of the complex have cultural-historical significance. During this project, we just fitted in a new use in the existing spaces of the monument and left the building untouched for the rest, while the thought we could not do anything to it. We decided to demolish and rebuilt the other part of the complex completely. This way of working raised questions on how to deal with listed buildings, why these buildings are listed and what are the possibilities of such buildings besides leaving them untouched as much as possible.</p> <p>This interest developed further and led to the choice for earlier Heritage and Architecture studios and electives when I switched to Delft for the Master and in the end led to the choice for this Graduation Studio.</p>

Graduation project	
Title of the graduation project	Publicizing vacant heritage – Combining a public interior with elderly housing in the Koudenhorn in Haarlem to stimulate social interaction.
Goal	
Location:	Koudenhorn 2, Haarlem
The posed problem, research questions and design assignment in which these result.	

Since the establishment of the National police in 2013, the police force in the Netherlands is facing a significant real estate challenge. During the upcoming years, around 700.000 square meters of real estate will be divested and up to 30% of the real estate objects needs to be redeveloped. The police provided a list with a total of 10 buildings for this graduation studio that have a chance of being divested by the police in the upcoming future. I selected the Koudenhorn in Haarlem for my graduation project from this list of ten while it is one of the oldest buildings on the list and its size and location within the historic inner city of Haarlem.



East facade of the Koudenhorn (own image).



Old and new volume south facade (own image).

The complete research for this graduation studio consist of two parts. The first element is a collective research of the Spatial Building Typology (SBT) of eight buildings of the police real estate selected from the list of ten buildings. Traditional research methods in typologies in architecture almost always assume typologies based on function, however the function and use of the original buildings change nowadays. This research focusses on the similarities and differences in spatial characteristics of a group of buildings and how this influences the options for redesign (Meijers, et al., 2021). The main research question for the SBT research is formulated as:

*“How and why do specific series of spatial aspects on four scale levels influence the design possibilities regarding the redesign of a specific group of buildings erected for a specific function?”*

For this graduation studio, this question relates to buildings that are part of the police real estate and the scale levels are set as inner city, building block, building object and building envelope.

During a first site visit to the Koudenhorn building, and with a small research conducted during the MCs2 studio on the interrelationship between buildings and public space in the back of my mind, the enclosed character of the building and its disconnection with the public space caught my attention. The quay along the Nieuwe Gracht for example is only accessible by the police, so this facade with two important entrances can only be experienced from the other side of the water. On the other side of the building, a part of the windows of the facade are filled in with masonry again related to the interior use. These observations made me question how this building could function if it had a public use.

Next to this, the activities in inner cities shifted towards more commercial activities since the last decade of the past century. This movement is particularly visible in the city centers of historic cities and these places turned into locations for leisure with an increased amount of activities, cafes and restaurants and shops. Due to this movement, the use of public spaces in the inner city changes. Transforming the Koudenhorn into a building with a public interior, could create a new public space for the inhabitants of Haarlem and add to the diversity of public spaces.

These observations led to the main research question for the second part of the complete research, the individual research:

*"How could the Koudenhorn building in Haarlem be transformed into a building that will be perceived as a public interior by future users?"*

The goal of this research is to come up with a framework of architectural aspects that have an influence on the public feeling of interior spaces and strategies that can be applied to transform Koudenhorn into a public interior. This framework can be used as input and a way to reflect during the design process.

The following sub-questions contribute to the development of results for the main research question:

- What is a public interior and what is the relevance of such spaces in cities?
- How does the concept of public interiors relate to the current and future use of a building?
- What are the architectural aspects that influence the public feeling of a building on city, building block, building object and building envelope level?
- What strategies can be applied when transforming a building into a public interior?

To get to the design assignment, an additional problem should be addressed. According to a research of the Ministry of the Interior, the housing shortage will remain a problem in the Netherlands in the upcoming years (Diender, 2021). Part of this problem is a lack of suitable housing for elderly with or without additional healthcare, causing elderly to stay in social housing. Next to this, the ageing population will increase the demand for elderly housing in the future. According to ABF research, the amount of clustered elderly housing needs to increase with 115 thousand (Willems & Faessen, 2021). Combining elderly housing with additional public functions could stimulate the interaction not only between the inhabitants of the building, with also with the people in the neighborhood. This matches with one of the goals of the municipality of Haarlem for 2045 to strengthen the social basis and places for meeting in Haarlem (Gemeente Haarlem, 2021).

Therefore the main design question is formulated as:

*"How could the Koudenhorn building in Haarlem be transformed into elderly housing that includes a public interior to stimulate social interaction both amongst inhabitants of the building and with the neighborhood?"*

## Process

### Method description

The methodology also consists of the collective Spatial Building Typology (SBT) and the individual research, both related to the design methods and process.

For the SBT research, a total of eight buildings that are part of the police real estate in different locations will be examined at four scale levels, with three aspects linked to each scale. This yields results per location and across all locations per aspects. Conclusions are drawn from spatial typological features that are ultimately important for the redesign option for one location or for more locations in general.

The research consists of five steps. The first part is a location specific document of each of the location with an elaboration on all twelve aspects. In the second part, the results per aspect are compared to conclude on generic spatial typological aspects. The third part includes the various individual research topics. In the fourth step the redesign options for the location are added and in the last part these options are compared to distinguish the types of redesigns of the building complexes (Meijers, et al., 2021).

The methods for the SBT research are the following:

#### - Literature and archival research

A first step of the research is gathering information on the various locations by literature and archival research. This information will then be collected, selected, ordered and shared.

#### - Drawing analysis

For the analysis of the information, drawing methods are used as much as possible to create an overview of all aspects on the four scale levels. Maps, floorplans, sections, reduction drawings and diagrams will be the final result of this method. All the drawings will be produced in a similar style and format based on the 'Hausmann Method' (Jallon & Napolitano, 2017) and the 'SBT Method' (Zijlstra, et al., 2021).

#### - Model study

The study and production of physical models of the essence of buildings is a third method in this research. After studying the spatial aspects of the locations, the characteristics for each location are selected and represented in physical models.

The SBT research provides an overview of the current situation of the Koudenhorn building in Haarlem that can be used during the individual research and the design process.

Alongside the collective SBT research, is the individual research. This part of the research focusses on the concept of public interiors and the architectural elements that contribute to the public perception of these spaces by the users of a building. This research includes various research methods.

- Literature research

The first two sub-questions stated before deal with the concept of public interiors, the relevance of such spaces in cities and the relation to the current and future use of a building. Another question relates to the architectural aspects of that have an influence on the public perception of a space by the users on various scale levels. These scale levels include the connection of the building with the city, the relation with the buildings in the urban block and aspects of the building and building envelope itself. Literature research provides the theoretical base on the topic of public interiors and the relevant architectural aspects.

- Case study research

Next to the use of literature, the research of case studies will be a method to link the gained theoretical knowledge from the literature to physical examples. This case study research provides results for the last sub-question on strategies to transform a building into a public interior related to the architectural elements that influence the public perception researched in the literature.

The buildings selected for the case study are all heritage buildings that are transformed into a building with functions used as public interiors during the adaptive re-use design. The collection of case studies has a mix of functions, also including buildings or complexes where public interior functions are mixed with housing, relating to the design assignment.

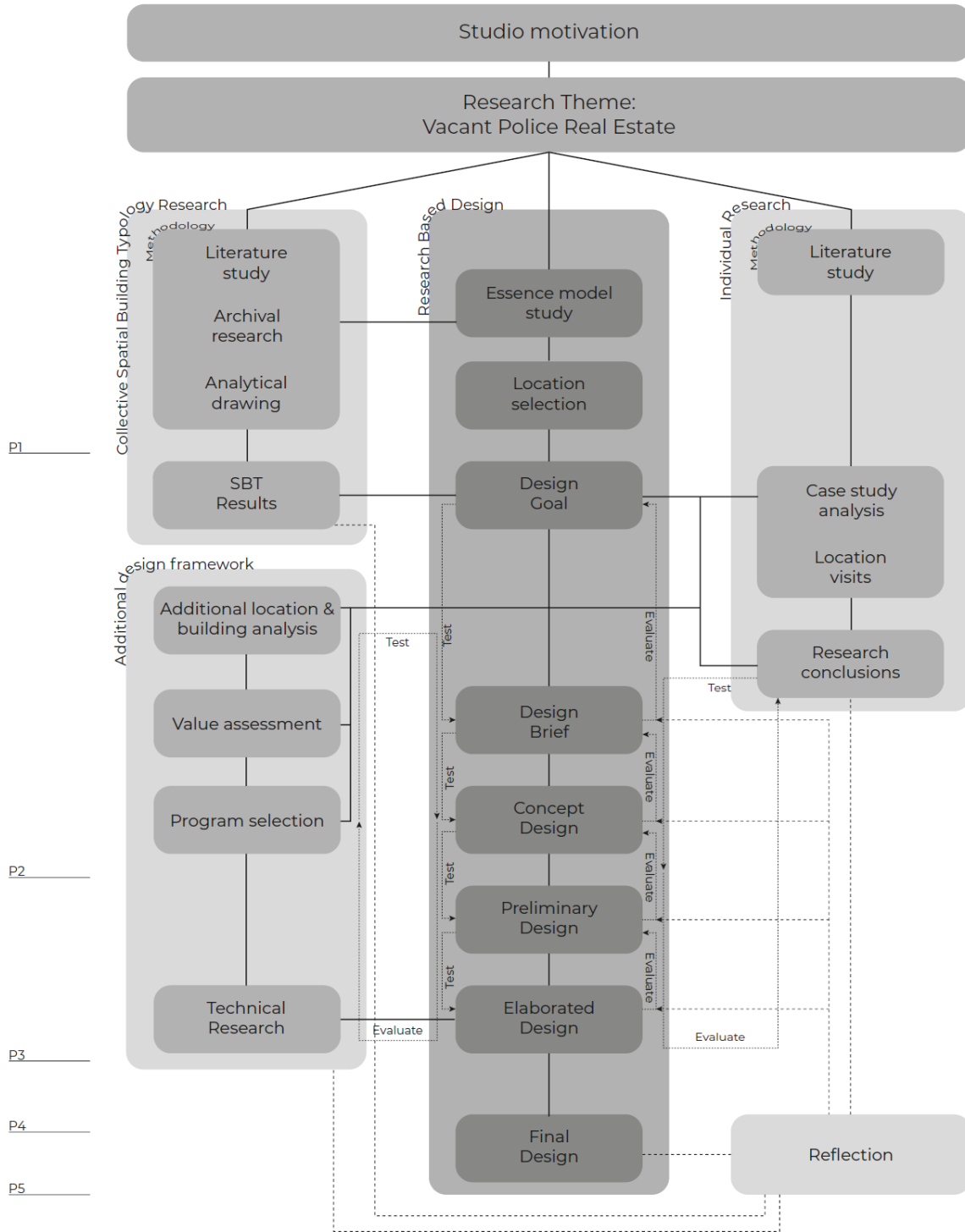
The case studies will be analyzed by drawing analysis with plans, sections, elevations and reduction drawings as result. Next to this, location visits combined with onsite research into the behavior of people in these public interiors with the use of pictures, maps and written texts will be used as methods for the case study analysis.

The case study analysis will result in various strategies on multiple architectural aspects that can be compared for the case studies, but also with the current situation of the Koudenhorn retrieved from the SBT research. This results in an overview of strategies for architectural elements and aspects that can be applied or used as inspiration during the design for the transformation of the Koudenhorn.

Simultaneously with the research, the design process starts. Next to the SBT research, which already provides insight in a part of the current situation of the Koudenhorn building, an additional location and building analysis will be conducted on other relevant topics not yet included during the SBT. This will be followed by a value assessment for the Koudenhorn building as the basis for the redesign. This value assessment results in a transformation framework based on the book '*Designing from Heritage*' by De Jonge and Kuipers.

The previous steps, together with the research and selection of a program will lead to a first design goal taking into account the architectural and historical values of the building. This design goal will be elaborated further into a concept design and finally an elaborated final research based design. During this process, earlier mentioned and some new methods will be used, such as research by design with the help of sketching, model studies, (3D) visualizations and research on building technology

aspects of the building itself and information needed for the redesign assignment. The relation between the multiple parts of the research and the design can be seen in the research and design diagram.



Research and design diagram (own image).

## Literature and general practical preference

The literature selected for the theoretical research mostly focusses on the concept of public interiors to create a general understanding of the concept, the related functions and typologies and the architectural elements that determine public interiors. Other literature starts from an urbanistic point of view. The theories of Jan Gehl elaborate on the use of public spaces and elements needed to stimulate this use. These theories are based on outdoor public spaces, however it could be possible that element that play a role for outdoor spaces also could stimulate the public perception of interior public spaces. The literature research therefore consists of research into the following sources:

- Boer, M. d. (2012). Binnen in de Stad; ontwerp en gebruik van publieke interieurs. Haarlem: Trancity
- Hartevelde, M. (2014). Interior Public Space: On the Mazes of the Network of an Urbanist. Delft: Delft University of Technology
- Hartevelde, M., & Brown, D. S. (2007). On Public Interior Space. Delft: Delft University of Technology
- Pimlott, M. (2016). The Public Interior as Idea and Project. Prinsenbeek: Jap Sam Books
- Gehl, J. (2011). Life Between Buildings. Island Press
- Gehl, J., Kaefer, L., & Reigstad, S. (2006). Close encounters with Buildings. Urban Design International.

The other part of the research consist of a case study analysis. Beside the heritage status of the buildings, the case studies are also selected to get a mix of functions ranging from a building transformed into a public interior as the only function and buildings that mix public interior functions with housing or office functions.

The case study analysis consist of research into the following buildings:

- De Hermitage, Amsterdam, transformed by Hans van Heeswijk Architecten
- Blokhuispoort, Leeuwarden, transformed by TWA-Architecten
- Neherpark, Leidschendam, transformed by Enjoy Building and Van Heerden & Partners
- Fenix I, Rotterdam, transformed by Mei architects and planners
- Timmerhuis, Rotterdam, transformed by OMA

## Reflection

1. 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 graduation topic is about trying to combine public interior functions with elderly housing to stimulate social interaction within the re-design of a building that will be divested by the police in the near future. The Koudenhorn building selected for this design assignment is listed as monument and therefore suits to the Heritage and Architecture studio focusing on vacant heritage. This architectural studio with the



focus on heritage and re-design is one of the possible graduation studio of the Architecture master track and which is therefore part of the master Architecture, Urbanism and Building Sciences

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

First of all, the SBT research yields result on the researched aspects and scale levels for the eight buildings in various locations that are part of the real estate of the police. Conclusions are drawn from spatial typological features that are ultimately important for the redesign option for one location or for more locations in general. This research with the following steps of comparisons, individual research topics and redesign options will be combined and published in the second volume in the SBT series about vacant police real estate following on the first edition regarding the vacant shopping malls of the V&D.

The study focusing on public interiors and how to implement such functions within elderly housing to stimulate social interaction both within a building and with the surroundings has relevance on various aspects.

On one hand, the transformation of an existing building into elderly housing partly helps in the need for more elderly housing, without the construction of a new building. Designing specifically for elderly thereby also helps with the flow within the housing stock. Incorporating public interior functions, that not only serve for the building itself, but also for the neighborhood or wider area, stimulates the social interaction amongst the elderly and with the surrounding area preventing from loneliness amongst elderly. Next to this it could create a new form of elderly housing with functions for elderly that stimulates them to take part in society or keep working a side-job while living in an elderly complex.

On the other hand the project deals with the transformation of an existing building, built or used for another function throughout history. The research into architectural elements that influence the public character of a building and the design assignment to include such functions in the Koudenhorn provides strategies with architectural elements to open up or improve the public character of buildings that could originally have a more enclosed character or while taking into account other architectural values of heritage buildings. Research into these strategies with physical examples aims to add on the existing literature on public interiors and the physical characteristics, also by adding the point of view of dealing with these aspects during the transformation of existing buildings. Using existing buildings provides chances, while if a building like Koudenhorn is added to the network of public spaces, the spatial characteristics such as the courtyard and interior spaces become part of the public realm as well.

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