

# 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.

The graduation plan consists of at least the following data/segments:

| Personal information |                |
|----------------------|----------------|
| Name                 | Roos Bolleboom |
| Student number       | 4809076        |

| Studio                                |   |                         |
|---------------------------------------|---|-------------------------|
| Name / Theme                          | AR3AH105 Graduation Studio Adapting 20 <sup>th</sup> Century Heritage   |                         |
| Main mentor                           | Lidy Meijers  | Heritage & Architecture |
| Second mentor                         | Federica Marulo   | Heritage & Landscape    |
| Argumentation of choice of the studio | Heritage has been my main interest since even before I started the study 'Bouwkunde'. In the Master's AUBS, I further developed my knowledge in the Heritage field by choosing Heritage courses. I want to use and test this knowledge for my graduation project. Within the Heritage & Architecture, I chose the studio Adapting 20th Century Heritage studio, because I think adapting shopping malls is a very challenging task and will continue to play a major role nationally and internationally. |                         |

| Graduation project              |  |
|---------------------------------|--|
| Title of the graduation project | <p style="text-align: center;"><b>Biophilic Shopping Mall</b></p> <p style="text-align: center;">Transforming the shopping malls into a biophilic design while preserving the spirit of place</p>  |
| Goal                            |  |
| Location:                       | Winkelcentrum Leyweg, Den Haag (Research & Design case) and Shopping Mall Bogaard, Rijswijk (Research case)  |
| The posed problem,              | More and more stores are becoming vacant in the Netherlands. It is a complex problem with several causes, the main problems being changes in consumer behavior, the rise of online shopping, and the impact of the COVID-19 pandemic (Butink, 2015). The impact of online shopping, in particular, has been significant (CBS, 2022). |

According to CBS, in the second quarter of 2021, approximately 7.3% of total retail space was vacant (CBS, 2022a). Once a vacancy occurs in a shopping mall, other stores also suffer as visitors tend to avoid the area with the vacancy, which also affects the neighboring shops (NOS, 2022). These problems are mainly visible in the shopping malls in medium-sized cities and the shopping malls in the core of residential areas (Figure 6). This is because people only visit them for daily groceries. Other purchases are done online and/or people go to shopping malls that offer cultural, recreational, and/or historical entertainment in addition to shopping, such as old city centers of large cities (Zandbergen, 2018). If no action is taken regarding the increasing vacancy of shopping malls, these places will become deprived spaces. Taking action concerning the vacancy of shopping malls is therefore crucial to the quality of life in and around shopping malls (NOS, 2022).

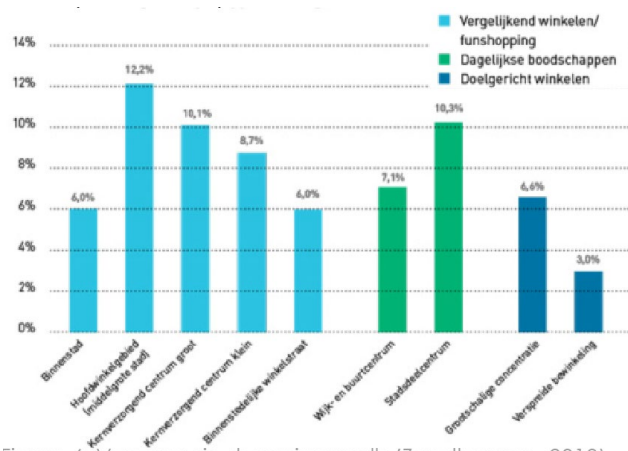


Figure 6. Vacancy in shopping malls (Zandbergen, 2018)

At the same time, the built environment is turned into stone, leaving no space for greenery. Research of Natuur & Milieu (2022) shows that 53 percent of 3.5 million neighborhoods lack green space (Figure 7). The shortage of green space creates several problems. The built environment is less climate-adaptive, more and more we face flooding and heat stress in the built environment.

Also, there is no biodiversity in the stone areas which causes an imbalance in nature. As a result, air quality is declining and plagues such as oak processionary moth are becoming more common. Lastly, more and more studies on human health indicate that nature, from our biophilia, is crucial for the mental and physical health of people. The need for nature was highlighted during the COVID-19 pandemic, as parks became overcrowded and had to restrict access because too many people went to the park (Natuur & Milieu, 2022).

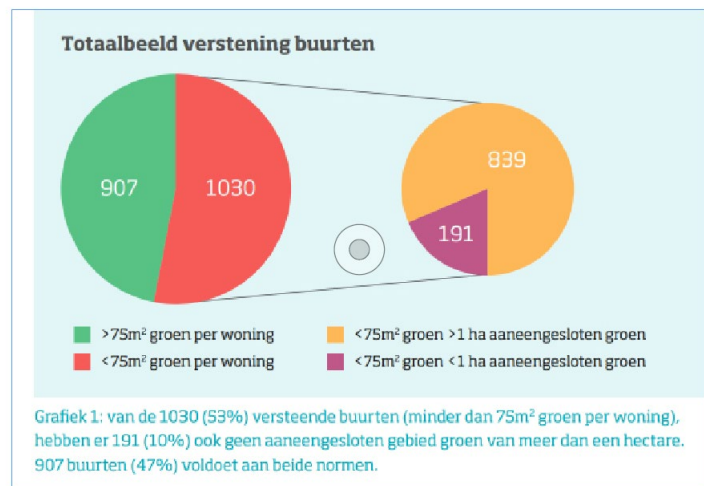


Figure 7. Amount of stone in neighborhoods (Natuur & Milieu, 2022)

The problem of vacancy in shopping malls and the need for more nature provide opportunities for creating more nature in vacant shopping malls. In order to make this transformation as optimal as possible, it is important to consider the value of a shopping mall and the way nature is implemented. As Relph (1976) emphasizes in his book 'Place and Placelessness', meaningful connections between people and their built environment are important with regard to fostering a sense of identity and community. Relph argues that placelessness is a significant problem in modern society due to the homogenization of the built environment, which can lead to feelings of disconnection and disorientation (Relph, 1976). It is therefore

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|------------------------|--|
|                        | <p>important the spirit of place is not affected by the green transformation. It is also important that these green uses are done carefully because not all green uses have positive effects on mental and physical health (Zakrisson, 2022). That makes it important to do the green transformations based on the concept of biophilic design.</p>  |
| research questions and | <p>In order to carry out the complex task of the biophilic transformation of a shopping mall, while taking into account the spirit of place, further research is needed. Therefore, the question this research aims to answer is:</p> <p>'How can residential shopping malls be transformed into a biophilic design while preserving their spirit of place?'</p> <p>The sub-questions are:</p> <ol style="list-style-type: none"><li>1. What is the societal significance of shopping malls?</li><li>2. How can the layers of brand be categorized in the context of shopping mall?</li><li>3. How can the cities undergo a transformation into biophilic cities, and what potential effects might these transformations have when considering the shearing layers of brand?</li><li>4. According to Edward Relph, what is 'the spirit of place'?</li><li>5. What is the spirit of place in a shopping mall in a residential area and how can this spirit of place be categorized into the Shearing Layers of Brand?</li></ol> |

|   |   |
|---|---|
|   | <p>6. What are the strengths/weaknesses/opportunities/threats for the biophilic transformation of a shopping mall taking into account the spirit of the place?</p> <p>In the research, several choices were made to narrow down the scope of the research. The research will mainly focus on the shopping malls in residential areas as the scale of these shopping malls is more manageable in the limited time available to conduct the research.</p>   |
| <p>design assignment in which these result.</p> | <p>From the research into the spirit of place of Winkelcentrum Leyweg in combination with the research into how cities can be transformed into a biophilic design, result in a SWOT analysis. This SWOT analysis provides insight into how the biophilic transformation goes together with the spirit of place of the Leyweg.</p> <p>There are aspects that are a strength because the spirit of place fits biophilic design or even offers opportunities. But Leyweg's spirit of place can also be a weakness or a threat because it can't be changed into a biophilic design. So, the SWOT that emerges from the research into the spirit of place of the Leyweg in combination with the biophilic design transformations serves as the starting point for the design. It offers tools to transform Winkelcentrum Leyweg into a biophilic design while preserving the spirit of place.</p> <p>For example: the clarity of the space plan is according to the visitors of Winkelcentrum Leyweg a quality. This can be seen as a strength. At the same time it can be a threat when transforming the space plan into a biophilic design with for example an urban forest, a park or agricultural. The visitors can lose clarity of the space plan which can result in feeling lost and this affects the spirit of place. So for the design it is important to keep the space plan clear when implementing biophilic elements.</p> |
|   |   |

## **Process**

### **Method description**

The first sub-question will aim to clarify the meaning of the term "shopping mall" and the role it has played in society throughout history in order to understand its social value and its relevance. It will be achieved through a literature review of sources such as 'Machine en Theater' (Kooijman, 1999).

The second sub-question the definition of the Shearing Layers of Brand are explained. These definitions are then used to categorize the shopping mall. This categorisation will be used later in the chapters to be able to make biophilic design and the spirit of place comparable to each other, this will be further explained.

The third sub-question explains the concept of biophilic design and the importance of biophilic design in the cities. Subsequently, different transformations on how to make a city biophilic are explained according to the book 'Biophilic Cities' by Beatley (2011). Also the impact that these biophilic transformations can have on the different shearing layers are described.

The fourth sub-question will examine the meaning and significance of 'the spirit of place' as defined by Relph (1976) in his book 'Place and Placelessness' through a literature review. From this, a framework for the research follows in the next chapter. This framework consist of physical form, activities and meaning and together are the spirit of the place:

- > Physical form: refer to the tangible aspects of a place or environment. They include the natural and built elements that shape the physical characteristics of a location
- > Activity: : Activities refer to the human actions and behaviours that occur within a particular place.
- > Meaning: relates to the subjective and symbolic interpretations that individuals or communities attach to a place. It encompasses the emotional, cultural, and social significance that people associate with a particular location.

The fourth sub-question uses the framework of the previous chapter to analyze 'the spirit of place' in two shopping malls, namely: Leyweg Den Haag and Bogaard Rijswijk. These shopping malls where selected because they have similarities like the size, they are located in residential areas and they have a similar development history. But they also have differences like their placement in the neighborhood: Winkelcentrum Leyweg is in the middle of a neighborhood and Winkelcentrum Bogaard is in the middle of multiple neighborhoods. This makes it interesting to compare if there are similarities in the spirit of place of these shopping malls or

differences and why these differences may occur. This comparison is especially interesting for the academic field.

Different techniques are used to find out the spirit of place. Edward Relph argues that distinctive elements are essential for creating meaningful places and fostering a sense of identity and belonging. To research what people find distinctive, different research methods are applied: questionnaire, interview, sketching and photo recognition:

- Questionnaire is used for the general questions about the social background of the respondent.
- Interview is a suitable technique because by asking question the respondent has to recall from memory to be able to answer the question. What they recall are the things they find distinctive.
- Sketching is used because sketching involves asking people to draw from memory and identifying some of the major components of the places of interests. These sketches are the mental representations of the shopping mall. They can show what the respondents see as a landmark, node, path and/or edge.
- Photo recognition is a used method because there are representations of things that a person could not externalise through drawing or verbal recall but will be recognised if shown in a photograph.

At least 10 visitors per shopping mall are questioned using these techniques to make qualitative research possible.

The information gathered from street interviews is then coded and categorized into the physical form, activities, and meaning, as well as the shearing layers of brand. This process creates an overview of the spirit of place and identifies the specific layers it encompasses. From this, it becomes clear on which layers the spirit of place is relevant.

In the sixth sub-question, the findings from third sub-question about biophilic transformations and fifth sub-question about the spirit of place of a shopping mall are compared. As both chapters conclude with the findings in 'The Layers of Brand', they can be compared. To structure this comparison, a SWOT (strengths/weaknesses/opportunities/threats) analysis is used. The SWOT analysis serves as a recommendation for the biophilic transformation of the shopping mall taking into account the spirit of the place. The SWOT analysis will be made for Winkelcentrum Bogaard and Winkelcentrum Leyweg to see if the biophilic transformation in combination with the spirit of place has similarities and/or differences, these conclusion can contribute to the academic field. (See Appendix 1 for the diagram)



The SWOT analysis of Winkelcentrum Leyweg will be used as starting point for the redesign of this shopping mall.

### **Literature and general practical preference**

In order to conduct this study, a number of studies and definitions are assumed. This forms the framework of the study.

To research 'the spirit of place', the term and framework described by Relph(1976) in his book 'Place and Placelessness' are assumed. Relph is pioneer with his book place and placelessness in the phenomenological studies in Geography. His book has been widely cited and is described 'a Classic' in Human Geography (Wikipedia, 2023a).

For research on Biophilic design, the book 'Biophilic Cities' (Beatly, 2011) by Dr. Timothy Beatley is used as a starting point. Dr. Timothy Beatley is an internationally recognized sustainable city researcher and author (Wikipedia, 2023). In his book, he describes how biophilic design can be applied on different scale levels to make cities more sustainable, liveable, and equitable places.

The research uses the categorization 'Layers of Brand' described in the book 'How buildings learn : what happens after they're built' (Brand, 1994). The Layers of Brand helps to structure outcomes and make them comparable. This categorization is a well-known method within TU Delft and is used in several courses as a method for research within architecture/building.

For the research on the meaning of shopping malls in society, the dissertation "Machine and theater' (Kooijman, 1999) is used. This describes the development of shopping malls and how it relates to developments in society.

Research methods from the research of Shamsuddin(1997) are used for the spirit of place. This PhD research has outlined and tested how a survey to find the spirit of place can best be conducted.

### **Literature**

Beatly, T. (2011). Biophilic Cities. US: ISLAND PRESS. <https://doi.org/10.5822/978-1-61091-621-9>

Brand, S. (1994). How buildings learn : what happens after they're built. Viking.

Kooijman, D.C. (1999, November 4). Machine en Theater. 010 Publisher, Rotterdam.  
<http://resolver.tudelft.nl/uuid:667ea131-2cc7-4664-b566-ef9b675a610c>

Relph, E. (1976). Place and Placelessness. London: Pion

Shamsuddin, S. (1997). Identity of Place: A Case Study Of Kuantan town centre, Malaysia. University of Nottingham.

## 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 relationship that the graduation project 'Biophilic Shopping mall' has with the studio 'Adapting 20<sup>th</sup> Century Heritage' is that the biophilic design is a new layer that is added to the shopping mall. The spirit of place of this shopping mall is sought and this is treated as a heritage value when this new biophilic layer is added. So there is a search for what values are of a 20th century shopping mall with the spirit of place as starting point, then making the shopping mall biophilic the new layer that reinforces and adds to the existing value.

The relationship that the graduation project 'Biophilic Shopping mall' has with the studio 'Heritage & Architecture' is that there is a search for how the post-war architecture, which often has no recognized heritage status, can still be valued in a certain way. In the research, therefore, a heritage value is sought and this is taken into account during the architectural redesign.

The relationship that the graduation project 'Biophilic Shopping mall' has with the 'MSc AUBS' is that architecture is used to seek for a solution for social problems.

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

### academic relevance

The vacancy of shopping malls has been a growing problem over the past two decades. What is seen as a more common solution is partial demolition and replacement by housing. This is happening, for example, in Bogaard Rijkswijk (Hoogland, 2022) and in 2024 these are also the plans in WoensXL Eindhoven (Thelesen, 2021) and Megastores The Hague (Triki & Van Son, 2022). There are no studies that take into account the spirit of place in the often drastic irreversible changes. An investigation into the value of the shopping malls can ensure that transformations can take place more carefully while preserving value. Also, by

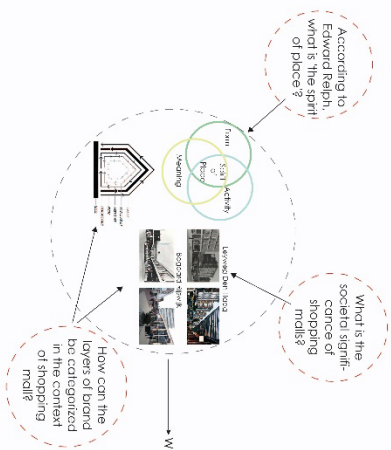
researching multiple shopping malls, it can offer general heritage values and advises on how to deal with the spirit of place of shopping malls of the post-war period.

In addition, there are studies on biophilic design in shopping malls that investigate the psychological effects of biophilic design and the application of biophilic design in a specific situation. It is not clear how these effects can subsequently be reproduced. This research offers tools and a framework on how biophilic design can be implemented while preserving the spirit of place.

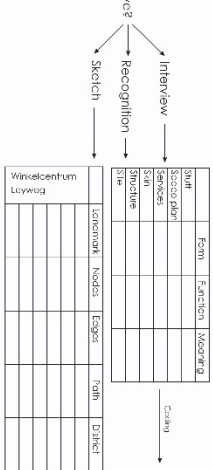
### **Social relevance**

This research explores ways to transform shopping malls so that it improves the quality of life for its users. This is done by exploring and respecting the value and connection that users have with the place when making transformations. These transformations are done from the concept of biophilic design because this concept is known for its positive effects on both mental and physical health and can also contribute to a healthier climate(Kellert, 2018).

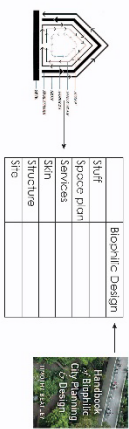
Research: How can residential shopping malls be transformed into a biophilic design while preserving their spirit of place?



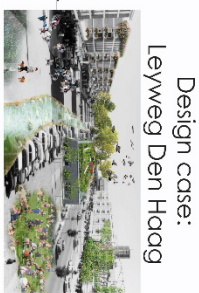
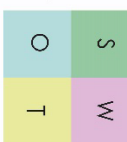
What is the spirit of place in a shopping mall in a residential area and how can the spirit of place be categorized into the 'steering' layer of brand?



How can the cities undergo a transformation into biophilic cities, and who is/are the effect's might these transformations have when considering the steering layer of brand?



What are the strengths/weakness/opportunities/risks for the biophilic transformation of a shopping mall taking into account the spirit of the place?



Design: How can Leyweg Den Haag be transformed into a biophilic shopping mall while preserving the spirit of place?