

# 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	Donne Gerlich
Student number	4537203

Studio		
Name / Theme	Design of the Urban Fabric	
Main mentor	Teake Bouma	Urban Design
Second mentor	Machiel van Dorst	Urban Studies
Argumentation of choice of the studio	<p>I have chosen the Design of the Urban Fabric studio because I believe it to be the best fit for the themes I am exploring in Rotterdam-Zuid. DoUF was explained in the beginning as a studio that focuses on the relation between space and in-tangible structures in cities, like socio-cultural and psychological layers. These (in-)tangible structures and their mutual relations are very apparent in my project and location in my opinion, as my thesis explores the relation between gender (a socio-cultural structure) and the built environment (a spatial structure). The Planning Complex Cities studio has some similarities and thus could've also been a good fit, although the more strategy- and policy-focused approach of PCC didn't resonate with me as much. I envisioned the end-product of my thesis to be something more spatially applied. Besides, the approach of DoUF, which is about looking into alternative futures and scenario-building, is something I think fits well with the future-focused approach Rotterdam seems to follow. Besides, I think I am the most comfortable with that approach as well.</p>	

Graduation project	
Title of the graduation project	A female future: developing gender inclusive neighbourhoods in Rotterdam-Zuid
Goal	
Location	Rotterdam-Zuid, focusing on the neighbourhoods Hillesluis and Zuidwijk
The posed problem	Gender inequality has been written into society for many centuries. This is apparent in many fields, like in medical research, sizes of phones and design of air bags in cars.

	<p>In urbanism, male-centeredness is prominent in the design of cities by and for men. Examples like the system of measurements from le Corbusier in the 1940s, which was based on 6 feet tall British policeman, and the book 'the measure of man' from the 60s, created a base for the way cities were designed with a gender unequal view.</p> <p>These ideas made sense in the past, since society had the traditional idea of households in mind; one where men worked and women took care of the household at home. However, these ideas have changed over the past decades, making women more equal in the built environment.</p> <p>Since cities have a very permanent structure, the parts of cities that were built with the old ideas of gender roles are still mostly the same, even though society and a woman's role in it have changed.</p> <p>There was, and still is, little research done on how someone's gender impacts their use and perception of the built environment, but there is evidence that there is a difference. It has been found that women feel less safe in some parts of cities, and that girls and boys play differently in public spaces. This gives the indication that cities in their current situation are not suitable for women.</p>
Research questions	<p><b>Main question</b> How can cities be redesigned to be gender inclusive?</p> <p><b>Sub questions</b></p> <ol style="list-style-type: none"> <li>1. (In which way) does gender relate to the built environment?</li> <li>2. Focusing on the case of Rotterdam-Zuid, in which ways does the built environment currently cater to gender inclusivity?</li> <li>3. How can gender equality in Rotterdam-Zuid be achieved through urban design?</li> <li>4. In which ways can the framework and principles used in the design be applied to all urban environments?</li> </ol>
The design assignment in which the questions result	<p>The aim of this project is to gain a better understanding of the relation between gender and the built environment, and to uncover how the design of cities impacts the gender inequality in the city. Lastly, the aim is to learn how urban design can contribute to gender equality in urban environments.</p>

	<p>After using research to investigate the relation between the concept of gender and the built environment (the social and spatial structure of the city) a design framework and principles will be created to physically test in the form of a case study. The location chosen for this case is Rotterdam-Zuid, since it has a diverse set of identities from different cultures, which also has an impact on gender inclusivity, thus it will make the framework more reliable. Rotterdam-Zuid is also known for having higher poverty rates, less social cohesion and being less safe, which I believe could also be improved by creating improvements in gender equality. There will be a focus on two neighbourhoods on the smaller scale, which both have different building ages. This is done to see the impact the implementation of the framework can have on different spatial structures.</p> <p>The testing of the design will hopefully lead to new discoveries that support or alter the findings of the research, which enables the improvement of the framework. The improvements will form a framework that is applicable in a variety of environments, to ensure gender equality in urban design and transformation. Through this approach, research and design will be intertwined in this project. Research will feed into the framework, thus into the design. The design will then allow me to test and find new evidence and research, thus knowledge. This way, research for design and research through design are used interchangeably in this project to answer my research questions. In the end, I hope this project will create a framework and set of principles that helps urban designers take into account gender inclusivity in their urban design- and transformation projects.</p>
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**Process**

**Method description**

In my first research question, I will explore the possible relation between gender and the built environment. To firstly prove that there actually is a relation between the two terms, I will do a historic analysis on gender and the impact it has had on ideas in the built environment. Creating a historic timeline of the social climate and spatial design ideas, and overlapping it with video analysis of actual use and perception of the city by men and women, will hopefully prove that there is a relation, and also prove that gender inequality was prominent in design and development of cities in the past.

Adding to this, in my first research question I want to discover what the actual relation between gender and the built environment looks like. To do so, I will conduct research by letting both men and women from different backgrounds draw cognitive maps of their use and perception of the city. This will hopefully reveal trends that

show how someone uses and/or perceives the city differently depending on their gender. If added data is needed, this will be collected through interviews and/or surveys. At the end, this will give me a set of design principles that can be applied to the different scales of the location.

Lastly, since Rotterdam-Zuid is very culturally diverse, this might also be an important factor in the earlier mentioned methods, thus it could affect outcomes. To help take this into account, some literature and reference studies will be done, more specifically on the application of theories on intersectionality.

My second research question will be about if and how gender inclusivity is currently catered to in the design of my project location. My methods to answer this question will include a deeper historic and spatial analysis, to reveal how the earlier found design ideas in the past were applied to my specific sites. This analysis will be done on multiple scales, and will end with some findings and conclusions on what aspects of the structure are in need of changing. Adding to this, observations will be done on location to support the findings on a lower scale. This will consist of counting the amount of men and women and a site-specific analysis to find out why this is the case. All findings will be summarized in a SWOT-analysis.

My third research question will combine my earlier findings into a vision for Rotterdam-Zuid, together with designs for Hillesluis and Zuidwijk, while zooming in on some public spaces there. This will be done through experimenting and research by design, with application of the design principles and outcomes of the SWOT-analysis. Together, this will lead to a vision and designs that make a more inclusive Rotterdam-Zuid, and principles that can hopefully also be applied on other projects. Finally, my fourth research question will use the design of Rotterdam-Zuid to synthesize and analyse the framework to be applicable to all urban environments. This will be a back and forth together with the third research question, and will be revealed through continuous analyses using the new design of Rotterdam-Zuid.

The images shown below give a visual explanation of the methodology for my project, and clarify how the methods are related in answering my research questions. The last image shows the relation between research and design and the use of research for design and research through design in my project.

*"How can cities be redesigned to be gender inclusive?"*

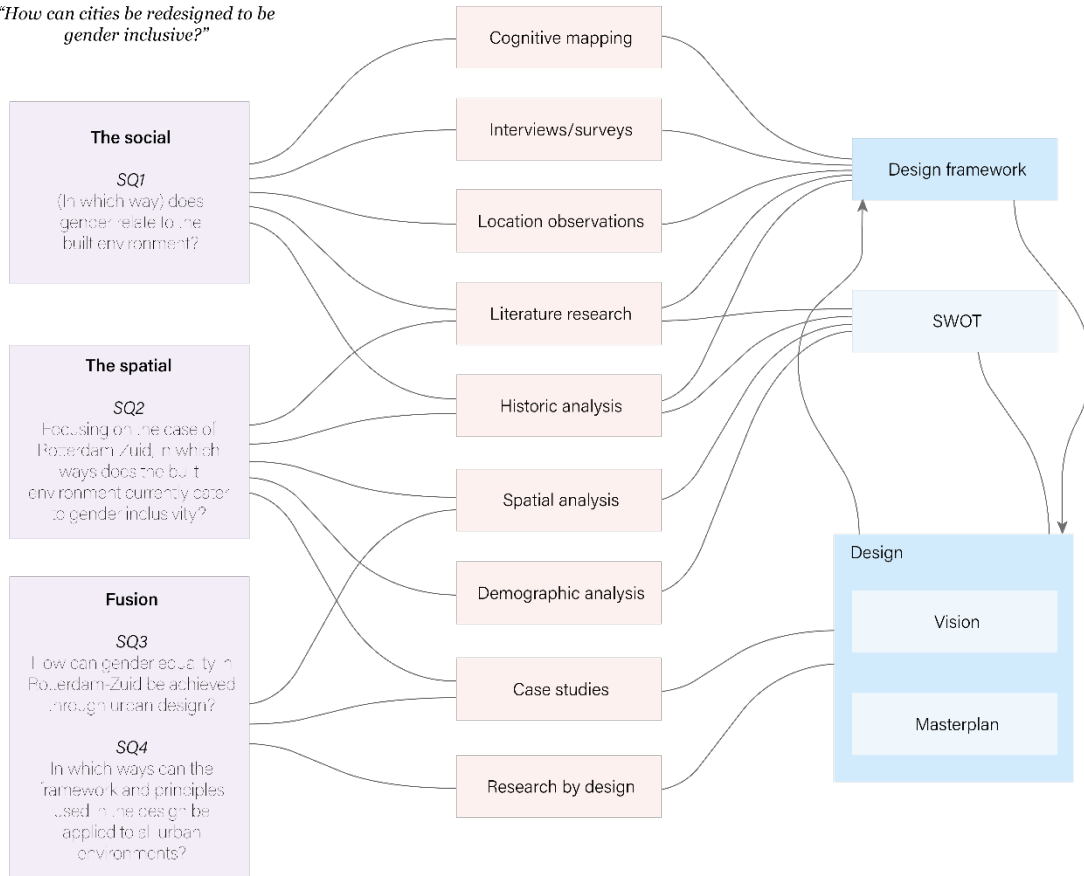


Figure 1: Overview of methods to be used in the project (Author, 2023)

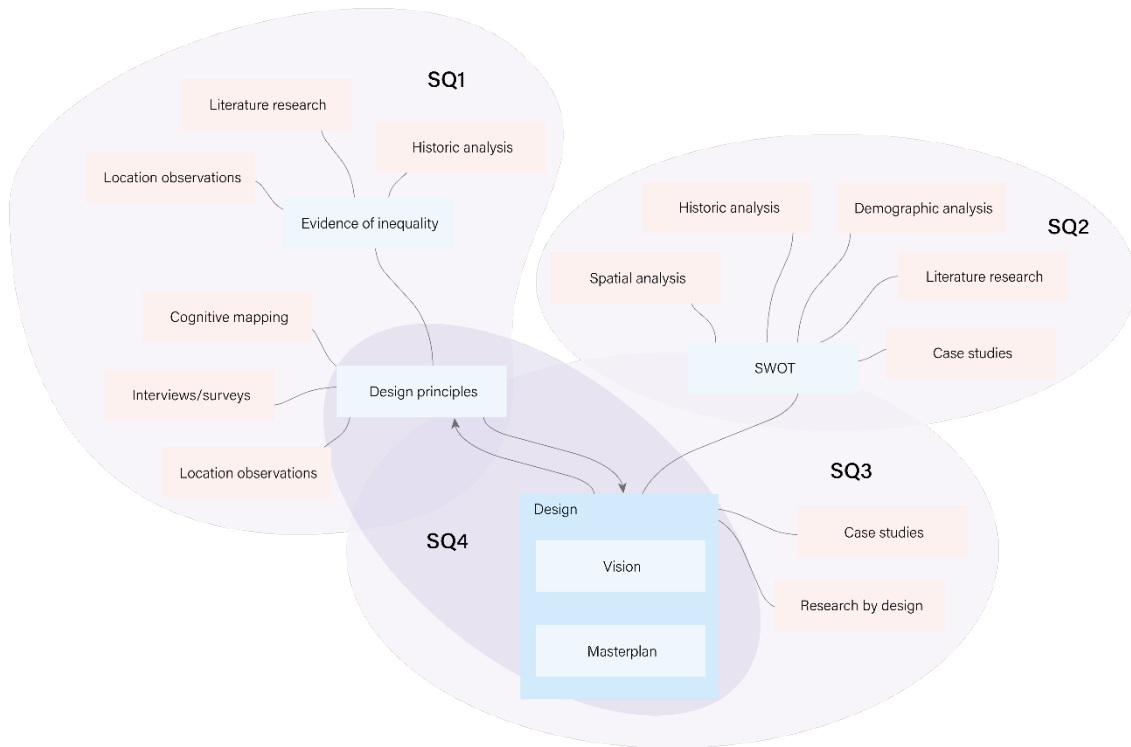


Figure 2: Relation between the methods to be used in the project (Author, 2023)

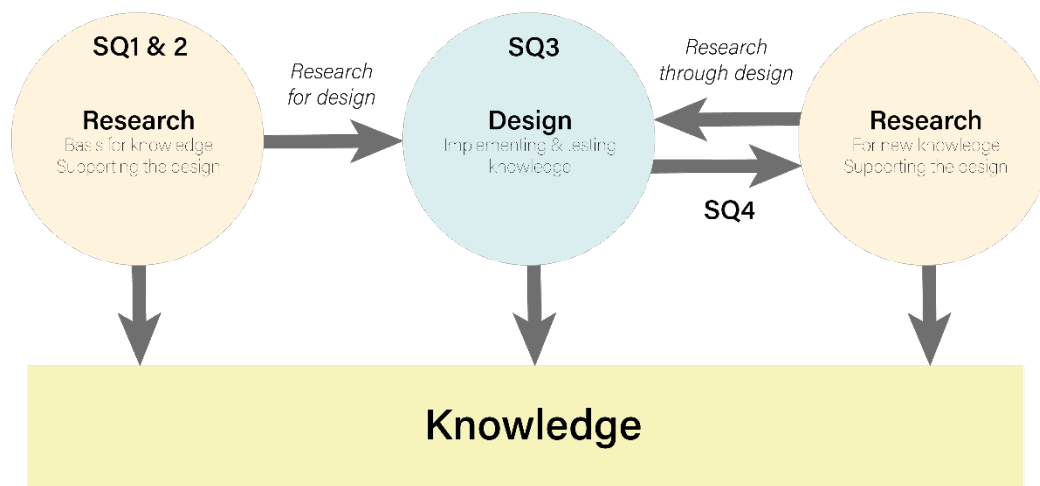


Figure 3: Relation between research and design in the project (Author, 2023)

### Literature and general practical preference

The themes of literature and data I intend to consult, and already have consulted, is listed below. This mostly consists of theories and information on gender first, with after it making the relation with the built environment. Since some of these themes together didn't give any useful literature for me, I also looked into some relating topics, for example in designing for safety in public spaces. Together, this hopefully creates a broad sample of literature that I can connect to support my thesis.

#### Literature

- On gender inequality and inclusivity
- On minorities in public space
- On historic ideas of gender
- On historic ideas of urban design (e.g. de wijkgedachte)
- On the relation between gender and space
- On designing for safety
- On intersectionality

#### Other sources

- Feminist platforms (e.g. Women in Urbanism, Vrouwen Bouwen Wonen)
- Professors with expertise in gender studies or social sciences in urbanism
- Previous experiences in projects with Rotterdam-Zuid

#### Research data

- General demographic data of the location
- Historical data
- Spatial data (for example QGIS)
- Data gathered from cognitive mapping/interviews/surveys

### **A selection of the intended sources**

- Blokland-Potters, T. V. (1998). *Wat stadsbewoners bindt: sociale relaties in een achterstandswijk*. Kok Agora.
- Criado Perez, C. (2021). *Invisible Women: Data Bias in a World Designed for Men*. Abrams Press.
- Darling, E., & Walker, N. R. (Eds.). (2019). *Suffragette City: Women, Politics, and the Built Environment*. Routledge.  
<https://doi.org/10.4324/9780203702628>
- Hage, K., & Zweerink, K. (2005). *Van Pendrecht tot Ommoord: geschiedenis en toekomst van de naoorlogse wijken in Rotterdam*. Thoth.
- Kern, L. (2020). *Feminist City: Claiming Space in the Man-made World*. Verso Books.
- Komossa, S., Meyer, H., Risselada, M., Thomaes, S., & Jutten, N. (2005). *Atlas van het Hollandse Bouwblok*. Thoth.
- Luten, I. (2008). *Handboek Veilig Ontwerp en Beheer*. Thoth.
- Massey, D. (1994). *Space, place and gender*. Polity Press.
- Whyte, W. H. (1980). *The social life of small urban spaces*. The Conservation Foundation.

### **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)?*

My thesis explores the relation between gender and the built environment, thus the connection of social and spatial layers in the urban fabric. The theme of the DoUF studio also explores a similar relation between tangible and non-tangible structures. Moreover, this years theme of the studio is "embracing plurality, growing porosity". With the way I have interpreted this theme, my ambition for inclusivity in my thesis connects to this theme quite well. In hopefully achieving my aim of gender inclusivity, the city will be better equipped to embrace plurality in the dense city of Rotterdam, with its growing porosity and diverse identities, often leading to polarisation and conflict. Furthermore, my thesis focuses on a city- and neighbourhood scale, and explicitly concerns designing and transforming the built environment. This thesis will hopefully further encourage the discussion of the implementation of (gender) inclusivity in the masters programme.

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

In recent years, people have vouched for more gender inclusivity in cities, which has thus made it a more prominent discourse since then. This need for discourse in urbanism is strengthened by the fact that over the last decade or so, traditional gender roles of a household have shifted significantly with the increased percentage of women working and focusing on a professional career, which impacts how the city is used and perceived by men and women. In practice, when observing and researching use of public spaces, it is known and seen that girls and women use certain spaces in the city differently, and feel less welcome to use others. It is striking that while women make up half of the world's population, they don't have the same



amount of power in the city they live in and move through. This has made me passionate in finding out what can be done to create a more gender inclusive city. Of course, it would be too idealistic to think a design of a city could suddenly make the world gender inclusive, but I certainly think having a better understanding of how our urban designs can impact it, can cater to and strengthen the impact of societal changes.

The main discourse that is currently being held on my subject mainly focuses on creating safer public spaces for girls and women. More specifically, this mostly concerns the theme of safety, caters to a younger age group, and is applied on a quite small scale so far. However, I also believe there to be larger-scale changes that can be implemented to encourage gender inclusivity. Small-scale changes can only impact the bigger whole of the city if they are implemented in a larger-scale coherence, while city-scale implementations could also impact the smaller scale. Some aspects I think could impact gender inclusivity could be found in mobility networks, structures of urban blocks and streets, and placement of amenities. This also means part of the relevance of this project lies in the knowledge gap that still exists about the relation between gender and the spatial layers, more specifically on the bigger scale. This project hopes to contribute to revealing and partially closing this knowledge gap, as well as generate awareness for the knowledge gap, the problem and its possible solutions.