

# 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:

<b>Personal information</b>	
Name	Stefan Vermeulen
Student number	4604881
Telephone number	xx
Private e-mail address	xx

<b>Studio</b>		
Name / Theme	Urban Fabrics	
Main mentor	Claudiu Forgaci	Urban Design
Second mentor	Remon Rooij	Spatial Planning & Strategy
Argumentation of choice of the studio	The studio is design oriented which benefits my project. The ability to focus on the small (eye-level) scale, while considering the larger (neighbourhood/city) scale is something that interests me. The Urban Fabrics studio combines topics of my interest and provides new knowledge.	

<b>Graduation project</b>	
Title of the graduation project	Sustainable mobility in post-industrial development
<b>Goal</b>	
Location:	Merwe-Vierhavens (M4H), Rotterdam
The posed problem,	Industrial sites need to be redeveloped as the (heavy) industry is moving out and the current urban structure is not fit for the new functions. This challenge, together with densification and other environmental challenges cause pressure on open space. This results in social, economic, and environmental unsustainability. The mobility shift towards sustainable principles can be a way to steer this development towards a sustainable environment.
research questions and	'How can sustainable mobility principles influence the redevelopment of post-industrial sites towards a sustainable environment?'
design assignment in which these results.	The research results in 3 expected outcomes: a decision-making tool (general), a development strategy and spatial design interventions (for the case M4H)

## Process

### Method description

Different methods are used to answer the sub questions of this research. The methods used to answer SQ1 are literature review and reference cases. These methods are used because in this question it is about generating knowledge about the different mobility principles. This can be done by literature review as there is much research done by others on these topics, which then can be used for this research. If the literature review lacks on generating a complete overview of knowledge, reference cases will be used to complement.

For the second research question the same methods of literature review and reference cases are used. However, in this case the method of fieldwork is used, to visit different project locations and research the spatial transition. The fieldwork for answering this question will be, because of travel limitations, mostly done virtual.

The third and fourth question are related to the case study of M4H. In SQ3 there is also fieldwork, but in this question it could be physical. Fieldwork is used to analyze and research the project location. This is also done by mapping and spatial/network analysis, to research the other spatial urban conditions related to the transition. The use of quick design experiments on the location are used to analyze different effects and search for other relations.

Methods used in SQ4 are again literature review and design experiments. The literature review is needed to research ways of translating specific case outcomes to a general framework. The design experiments are again used to research how different factors influence the location.

### Literature and general practical preference

The concept of mobility stands central in this research topic and is therefore the focus point of the theoretical framework. Different theories are used to research and elaborate the concept of sustainable mobility on its own, but also in combination with two other concepts. The first combination is mobility and development, leading to the strategy of transit-oriented development which connects sustainable mobility to urban redevelopment. The combination of mobility and environment is researched through the strategy of the two networks, connecting to urban resilience. The two strategies are the starting points to further research the different concepts and guide further analysis.

### 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 studio topic (densification) relates to the graduation project as one of the urban challenges dealing with. The project addresses the densification challenge of Rotterdam by researching the redevelopment of M4H. The graduation topic focusses on urban development and urban design, two concepts related to the master track. The graduation topic is set in the built environment of cities, relating to the master program AUBS.

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

Scientific resources are used as a base in the graduation work. It contributes to the scientific framework by researching accurate topics. The graduation work provides a decision-making tool, development strategy and spatial design interventions applied to the case of M4H, which could be used by the municipality of Rotterdam in further research. In this way it shows its relevance to social and professional frameworks.