

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), 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	Marilotte Stemerding
Student number	5082838

Studio		
Name / Theme	Crossover Studio - City of the Future (MBE track)	
Main mentor	Aksel Ersoy	Urban Development Management (MBE)
Second mentor	Kristel Aalbers	Environmental Technology & Design (U)
Argumentation of choice of the studio	My personal motivation for graduating within the crossover studio 'City of the Future' finds itself in my interest in the interdisciplinary aspect of Management in the Built Environment and the challenges that occur when so many different stakeholders are involved in a project, especially in urban environments that change so rapidly. The City of the Future studio allows us to find a relevant and personal graduation topic within these environments and challenges us to find solutions through different perspectives, which I believe is a necessity for systematic, sustainable development management in our built environment.	

Graduation project	
Title of the graduation project	Swimmable Rotterdam Harbours; case study lessons in overcoming incorporation challenges, following an urban systems-based approach.
Goal	
Location:	Rotterdam, NL
The posed problem,	The inconsistency in facing the complex implementation challenges in realising swimmable harbours in the inner city of Rotterdam can be considered yet unused potential for improving the quality of life and urban resilience.
research questions and	<u>Main research question:</u> How could the Municipality of Rotterdam learn from the Marineterrein and Rijnhaven to

	<p>overcome actor- and place-specific challenges in incorporating swimmability in the inner city harbours, following an urban systems-based approach?</p> <p><u>SQ1:</u> What urban system-based aspects define and enable swimmability in the inner city harbours of Rotterdam?</p> <p><u>SQ2:</u> What place- and actor-related challenges are leading in incorporating swimmability in the inner city harbours of Rotterdam?</p> <p><u>SQ3:</u> How should the place- and actor-related challenges be managed from the urban system perspective to incorporate swimmability in the inner city harbours of Rotterdam, learning from the Marineterrein and the Rijnhaven cases?</p>
design assignment in which these result.	No design assignment – final product will be an implementation guide for the Municipality of Rotterdam
<p>Abstract</p> <p>Ever since the mega project of cleaning the Seine in preparation for the Paris 2024 Olympics gained world-wide attention, a global movement is inspiring urban policymakers and designers to reclaim urban waters in becoming a 'Swimmable City'. As in many of these cities, the city of Rotterdam, the Netherlands, sees a growing demand for reconnection with water and nature, while simultaneously facing the effects of climate change on the city. The Municipality of Rotterdam has the ambition to create and facilitate more 'swimmable' places in open-air urban waters, among which many of the inner city 'havens' (harbours) are considered eligible areas. However, the city notices an inconsistency in practical and systematic obstacles in the implementation of these plans. This study is framed by on an urban systems-based approach, in order to identify the place- and actor-related challenges and their urban system nature through a set of comparative case study interviews. Lessons from two more mature cases of swimmability will be leading in finding the conclusion to this study, which will propose solutions for civil servants to approach current and future implementation opportunities for swimmability in Rotterdam.</p>	
Process	
Method description	

The main research question will be answered through three sub questions. The first sub question will be answered mainly through a literature review and possibly supported by conclusions and quotes from the case study interviews. The consulted literature will consist of scientific literature required through Scopus or Google Scholar, policy- and (European) regulation documents, information or documentation provided by NGO's and news articles.

The second sub question will be answered through a set of in-person, semi-structured case study interviews with professionals from the two main research cases. The interview transcripts will be used for a qualitative analysis, using the Atlas.ti coding tool to identify the place- and actor-related challenges mentioned by the interviewees.

The third sub question will be answered through a comparative case study analysis with two more mature swimmability cases in the Netherlands. Through in-person, semi-structured case study interviews with professionals from these example cases, the data will be collected and afterwards analysed qualitatively using the interview transcripts and the Atlas.ti coding tool.

The main question will eventually be answered in the shape of a practical strategy for incorporating swimmability in the inner city harbours, written for the use of civil servants at the Municipality of Rotterdam.

Selecting the case studies

The two main research cases will be inner city harbour locations selected from the list of eligible outdoor swimming areas in Rotterdam, which have been identified by the Municipality and shared for this research. The selection criteria for the cases include:

- The (surrounding) area is relatively large and comparable in size;
- The (surrounding) area can be considered complex, relating to the quantity and variety of stakeholders involved;
- The (surrounding) area can be considered complex, relating to the physical characteristics of the area and the variety of use and functions in the area (residential, commercial, etc.).

The two 'mature' example cases used for the comparative case study analysis need to apply to the same selection criteria.

For now, I have selected the Coolhaven and Nassauhaven as the main case studies for future implementation. It is possible that one or both cases will be changed, in case consultation with the Municipality suggests this.

The Marineterrein (Amsterdam) and the Rijnhaven (Rotterdam) have so far been selected as the two 'mature' example cases.

Literature and general practical references

The consulted literature consists of scientific literature required through Scopus or Google Scholar, policy- and (European) regulation documents, information or documentation provided by NGO's and news articles.

Key search engine terms include:

- 'Urban bathing' and 'urban swimming'
- 'Swimmability' and 'the Swimmable City'
- 'Urban systems framework' and 'urban systems-based approach'
- 'Place' and 'actor' in 'urban development management'
- 'Area development' in 'port cities' or 'water front' or 'city harbours'.

Noteworthy non-scientific sources into 'swimmability' and its urban system-based context include:

- The EU directive for safe urban bathing water
- The Swimmable Cities network
- 'Ambtelijk Handboek Zwemmen' by the Municipality of Amsterdam
- 'Wegwijzer Wildzwemmen'

The literature review in this research provides theoretical context on the topic of swimmability and urban bathing, using international examples to understand different kinds of practical translations of swimmability in urban context. Additionally, the literature review touches upon the theoretical context of place/area- and actor/stakeholder-related complexity and resulting challenges, and how these occur in urban development projects. Again, international swimmability cases are used to relate the theory to examples from practice. The final part of the literature review provide theoretical context on the topic of urban systems and frameworks from literature, understanding their ecology and linking this to the challenges from international examples.

Particularly for the executive phase of the research, a graduation internship position at the Municipality of Rotterdam (Stadsontwikkeling, Project Management Bureau) will provide the right environment to use the existing research on the case studies and contact relevant professionals for the case study interviews.

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 City of the Future studio is a crossover studio with graduating students from different perspectives relating to the built environment. Besides MBE, students from the Architecture- and Urbanism track, and the MSc Transport, Infrastructure & Logistics are included this edition. For me, the interdisciplinary aspect of Management in the Built Environment has always been a personal interest during my master programme. I was drawn to the City of the Future studio, because it would allow me to be in a suitable study environment to explore this aspect further myself. For my

graduation, I also wanted to address a topic that was relevant to underlying topics such as sustainable development and (climate) resilience building in cities, as well as the possibilities of bringing different perspectives together in the management of urban (re)development projects. Incorporating 'swimmability' in cities has so far proved to be complex because of the many different urban systems – and therefore also stakeholders - that are involved in the implementation of these particular projects and often catalysing urban (re)development projects.

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

The topic of swimmability can be considered quite contemporary, and while the topic has been receiving increasing attention among global media, urban designers and - policymakers, it is yet relatively underrepresented in scientific literature. A closer gap between research and incorporation plans could contribute to more efficient practice of swimmability incorporation.

The global movement of 'swimmable cities' has a lot of affirmation with the increasing need for cities to become more resilient to current and future environmental- and societal challenges. Translating swimmability ambitions into real-life developments – and its additional complex activities such as improving the water quality in urban rivers - has proven to be a challenging task for many cities around the world. Hopefully, the outcomes of this research cannot only be valuable to the City of Rotterdam, but all kinds of municipal bodies and built environment professionals in the development of swimmable places in their cities.