

Swimmable Rotterdam Harbours

Case study lessons in overcoming urban bathing implementation challenges, following an urban systems-based approach

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Reflection Chapter

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Research topic in relation to MBE and Master programme

In the scope of this research study, the main topic of urban bathing touches upon many different facets that are rooted in the academic environment of Architecture, Urbanism and Building Sciences. The implementation of urban bathing in complex environments requires knowledge from the perspectives of urban- and architectural design, technology, process- and stakeholder management in urban development and societal agenda's on resilience, climate adaptation and sustainable development. The complexity of the urban environments that are subject to this research, appeal to the interdisciplinary character of the built environment. The master track Management in the Built Environment (MBE) explores this interdisciplinarity through the connection between process, product, place and people, which has been an important underlying framework in the design of this research study. Lastly, the City of the Future Graduation Studio has provided a free and experimental environment, where this interdisciplinarity could be explored in direct company of the different disciplines (Architecture, Urbanism, Transport & Infrastructure and Management in the Built Environment), through the context relevant urban transitions.

The relationship between research design and proposed recommendations

This research study is a combination of a more global, holistic exploration of urban bathing and a more case-specific, practical exploration of the topic. While fitted to the case of Rotterdam, written from and for the perspective of the Municipality, the recommendations exceed some of their current systems and practices, thanks to the (inter)national example cases and various stakeholder positions consulted in this research. On the other hand, the recommendations are altered to the background of the City of Rotterdam and their position in the urban bathing movement, which has shaped the initial design of the research through the problem statement, research questions and the case selections that followed. A challenging aspect of the

implementation recommendations tailored for the Rotterdam cases is the fine line between the realisation and operational management or maintenance in urban bathing. While this research was developed mostly from the urban development management perspective, but the Municipality also holds a lot of interest and responsibility in the operational aspects, the final recommendations are an attempt to address both.

Both the research design and recommendations have been developed from a perspective that highlights the positive impacts of urban bathing. However, this does not rule out arguments outside of the scope set by the researcher. Certain arguments against the cause of urban bathing that might occur during the implementation process, could be related to stakeholders that this research does not explore or represent well enough to impact the scope. For example, the consultation of the community and possible opposition from residents relating to expected nuisance. Another sensitive argument in current practice around safe (swimming) waters includes responsibility if any incidents occur.

There are many facets of urban bathing that require a lot more research and expertise (e.g. bathing water quality, site design, community impact) to include in this research scope. The relationship between the research design and recommendations explores the interdisciplinary aspect of it all, from the perspective of urban development management. The purpose of this research therefore focuses on finding justification for these developments through different kinds of urban development agendas - both social and environmental.

Evaluation of methodological framework

As explained before, this research study is a combination of both general lessons in urban bathing practice, as well as very case-fitted implementation strategies. The methodology of this research allowed this combination to exist through the selection of three eligible Rotterdam case study locations, each linked to a complementary (inter)national example case, following the theoretical framework of three urban bathing topologies and their expected implementation requirements. I believe the careful consideration of international case studies to match the opportunities and character of the locations in Rotterdam has added a lot of value in this research study, opposed to an alternative approach where possibly more case studies could have been selected, instead of only one per Rotterdam case. The semi-structured suited this approach, to allow for an extensive qualitative analysis of the case and all its urban systems-based facets. Overall, the framework of urban bathing typologies that was developed after the initial research design for P2 has been helpful for both case study selection processes, finding both challenges and opportunities that apply to implementing urban bathing in general, as well as highlighting the differences in design, place- and actor-sensitivity and proposing recommendations.

Scientific and societal value

The topic of urban bathing 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. The literature that does exist is often written from a specific discipline related to urban bathing, such as bathing water quality, design or technology. And although most literature does include an analysis of international case studies, the interdisciplinary approach in this research, combined with practical, case-specific recommendations, closes a research gap that could contribute to more efficient practice of urban bathing implementation.

By pleasant surprise, the societal value of this research topic has been proven by the professional responses I have received during the graduation project. Most professionals that have been consulted in relation to this research have proudly advocated for their case or discipline. It proves itself to be a very relevant topic and it seems that the global network is still actively working to find ways to build a community, provide handles and collect knowledge, all to put it on the global agenda. 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 urban bathing 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.

Participation in the academic world of urban bathing has included a Knowledge Roundtable with a global network of academics and researchers in May 2025, leading up to the Swimmable Cities Summit organised in Rotterdam June 2025. Since the recommendations could also be of interest to more specific disciplines in the urban bathing narrative, due to the interdisciplinary character of this study, the abstract of this research has been preliminarily accepted for presentation and publication at the World Conference on Floating Solutions in Helsinki, September 2025.

Transferability of project results

One of the most important disclaimers for urban bathing implementation and the results of this research has been the place- and actor sensitivity. The results in this research have been collected to create practical recommendations for three locations in Rotterdam and therefore might be not that valuable for transferability. Furthermore, because of the interdisciplinary approach and urban system framework, the results might lack depth or extensiveness in order to be valuable to certain specific disciplines, such as water quality, financial details or local legislation in relation to urban bathing. However, the two implementation approaches as presented in the conclusion of this

research, could be an interesting asset in further research relating to placemaking strategies and urban development for urban waterfront and port cities.