

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examenscommissie-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	Max Tomás Douma
Student number	5083591

Studio		
Name / Theme		Public Building / Public Condenser
Main mentor	Henk Bultstra	Project Design
Second mentor	Florian Eckardt	Technical Building Design
Third mentor	Sien van Dam	Theory & Delineation
Argumentation of choice of the studio	The choice of this studio is driven by a passion for combining architecture and design with a human-centered approach, where a social problem forms the foundation of the design. The idea of truly immersing myself in the lives of the residents within the project area to develop a meaningful design was intriguing. This studio seemed like the ideal opportunity to explore and implement these ideas.	

Graduation project	
Title of the graduation project	Urban Continuum_A Story About Continuity
Goal	
Location:	Copenhagen - Sønderbro - Sundholm
The posed problem,	<p>In contemporary urbanism, there is a growing recognition that cities must be resilient and adaptable to remain livable. Climate change, demographic shifts, and evolving cultural patterns ask for more flexible approaches to architectural and urban design (Holling, 1973; Brand, 1994).</p> <p><i>'In our neighborhood, we have the artists, the kids and the crazies.'</i></p> <p>Sundholm is a fragmented neighborhood with a very clear but often disconnected identity. Sundholm. A place where Denmark sends its problems to disappear. Out of sight, out of mind seems to be the approach. Surrounded by walls with access gates, big windowless facades of</p>

	<p>apartment buildings, and forgotten spaces. Sundholm exists as a place where the seemingly unwanted layers of Copenhagen are placed. But beneath its bad reputation lies a delicate coherence. An intricate combination of cultures, identities, and characteristics that make this part of Denmark unique.</p> <p>The identities present in Sundholm are not weaknesses, they are its greatest strengths. And, like the neighborhood itself, these identities are fluid. They are constantly shifting and evolving. Not only when walking through the area, but also as time passes. Many traditional urban renewal strategies focus on homogenization, but in Sundholm, this would make the very character of the area vanish and would go against the wishes of the residents.</p>
research questions and	<p>Main question: How can architecture embrace change as a defining characteristic rather than an obstacle?</p> <p>Sub-questions:</p> <ol style="list-style-type: none"> 1. How can a Public Condenser establish a shared, yet fluid, identity in a fragmented urban context? 2. What are the architectural strategies that support a sense of continuity? 3. How can spatial boundaries be used to enhance, rather than erase, identity?
design assignment in which these result.	<p>Instead of imposing a top-down vision of identity, the Public Condenser creates a setting where residents can shape their environment over time, creating an architecture that reflects both the past and the emerging future of the neighborhood. By integrating seasonal adaptability, adaptive re-use, material transformation, and evolving light conditions, this project redefines the relationship between architecture and identity, making change a central design principle rather than an afterthought. The findings of this project will not only influence the design of Sundholm's Public Condenser but also offer a model for future urban interventions that try to work with, rather than against, the fluid nature of cities.</p>

Process

Method description

Research by design, design by research: Morphology Analysis: Mapping physical barriers, typologies, and transitions. Environmental and Seasonal Analysis: Light studies: Evaluating daylight and seasonal shifts to integrate adaptive lighting strategies. Microclimate mapping: Studying wind patterns, temperature variations, and solar exposure. Material and Vegetation Adaptation: Testing materials that transform over time and identifying seasonal vegetation that emphasizes change and continuity.

Prototyping allows for the exploration and testing of adaptive architectural elements, such as responsive facades, dynamic lighting, and modular spaces. It enables the evaluation of how these elements interact and can give an idea on how they will react to changing environmental and social conditions in Sundholm.

Interviews: Interviews offer insights into the strategies and challenges of incorporating light into design.

Precedents: Casestudies provide a clear view on solutions that have already been thought of. In this case the key focus areas are on spatial transformation, material adaptability, integration of light and vegetation, and community participation.

Literature Review: Research of concepts of (urban) identity (for example Kevin Lynch, Aldo Rossi and Manuel Castells), theories on adaptive architecture and resilience, precedents of public condensers and participatory urbanism and studies on seasonal adaptation and material transformation

Historical and Policy review: To give a clear image of how the neighborhood has become the way it is and to incorporate important data from the municipality.

Literature and general practical references

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5. Brand, S. (1999). Clock of the Long Now: Time and Responsibility. Basic Books.
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22. Morales-Bravo, J., & Navarrete-Hernandez, P. (2022). "Enlightening Wellbeing in the Home: The Impact of Natural Light Design on Perceived Happiness and Sadness in Residential Spaces." *Building and Environment*, 223, 109317. <https://doi.org/10.1016/j.buildenv.2022.109317>

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Reflection

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 relation between my project, the graduation topic (Public Condenser) and the master program is that all three have taught me that architecture serves only as a dynamic mediator of sorts and is never a project on its own. Within the studio, the assignment for the Public Condenser is used as a design strategy to approach a solution to a perceived problem in Sundholm. Architecture functions here as a medium to help finding this solution. My project aims to reconnect Sundholm with Copenhagen and recreate a sense of continuity that it now lacks. In this case we are talking about rhythm, re-connection, flexibility (for future change) and creating an urban oasis in the middle of it all. A place where time finally moves forward instead of the current stagnation in now experiences. My project intends to dive deeper in this approach. The proposed architecture program with the mandatory courses and different studios teaches the different ways to address such an assignment. It all revolves around the notion that architecture is a means to and end and not an 'end' in itself.

How do you assess the value of your way of working (your approach, your used methods, used methodology)?

The design project addresses adaptive and resilient design by creating architecture in a neighborhood that restructures the area itself and its surroundings. It re-connects a forgotten place while incorporating progressive architectural methods and approaches

reuse in a different way than it is normally viewed. Instead of fixed-function buildings, the Public Condenser evolves with its users, challenging traditional ideas of permanence in architecture. It offers innovative ideas for sustainable urbanism and flexible/changing design, particularly relevant for architects and urban planners working on dynamic urban areas like Sundholm. During the project I shifted a lot my opinion about what I considered as the 'core concept' for designing, but my ideas around the neighborhood remained unchanged. The area was fragmented, forgotten and neglected, but it had a lot of unused potential. This potential was yet to be unveiled, but it was there. Whilst a couple of adjustments had been made by the municipality to make the area a better place, it was just not enough. And it is there where I feel I can make a difference with the project. The idea of (re)using elements of 'Fabrikken building' as a starting point for designing has been important throughout the year. However, I've figured out that the most important thing is that my way of thinking during the design process has been inverted over time. Usually, I start with ideas and then I try to put those ideas into a context. However, the key for developing this design remained cloudy to me for a long period. It was really frustrating at times. But in this case I really learned to understand the effectiveness of having multiple perspectives by the tutors in different sectors of expertise. The way of tutoring has been different than in my previous projects, and this experience has been way more enlightening.

What is the academic and societal value, scope and implication of your graduation project, including ethical aspects?

The project itself is about designing for a neighborhood in the southern part of Copenhagen called Sundholm. Sundholm is an area where the so-called 'problems' of society are put away. Homeless shelters, housing for drug addicts, youth detention centers, and housing for migrants have all found their place here. While the area was built for 'problem solving', it made it into an area going into disrepair. In the past couple of years, the municipality has partly acknowledged their mistakes and put up a target group to find out how to establish a healthier living space for the inhabitants, alongside a project to transform the central factory into a place for artists to rent a small studio for their work. These changes and ideas are of course a small step in the right direction, but there still is a lot to be done. Social Relevance: The project addresses the challenge of connection in a fragmented neighborhood like Sundholm without erasing cultural and social differences. It creates a form of continuity by re-involving the neighborhood. By acknowledging and enhancing diversity rather than forcing uniformity, the Public Condenser promotes inclusivity, interaction, and adaptability. In this way a stagnated area can be re-connected and made future proof. A sense of continuity is created. It can be looked at as a model for creating spaces that encourage social cohesion, important in today's context of increasing migration and urbanization. Scientific Relevance: This research explores urban resilience through architecture, integrating concepts like adaptability and participatory design. By using tools such as light and vegetation, the project contributes to sustainable architecture and public space theory. It creates a view on how architecture can be used as 'glue' between fragmented communities, supporting dynamic identities in rapidly changing urban environments.

How do you assess the value of the transferability of your project results?

The diverse dynamics within the project really worked well for me and gave me clarity on how to approach future projects. The Public Condenser promotes inclusivity, interaction, and adaptability. My project creates a sense of continuity. It can be looked at as a model for creating spaces that encourage social cohesion, important in today's context of increasing migration and urbanization. In this way a stagnated area can be re-connected and made future proof.