

# 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	Vera Verweij
Student number	5449049

Studio		
Name / Theme	Architectural Wood Studio   Timber for Urban Density	
Main mentor	Gilbert Koskamp	Architectural design
Second mentor	Max Salzberger	Technical building design
Research mentor	Anna-Lisa McSweeney	Academic research
Argumentation of choice of the studio	<p>The primary reason I chose Architectural Wood is that I believe building with wood represents the future. Although I have mentioned it often in previous projects, I never really researched what is truly possible with wood as a building material. It's a combination of my belief that it is the future, my interest in learning more about it, and my curiosity about all the possibilities wood has to offer.</p>	

Graduation project	
Title of the graduation project	From Industry to Community
Goal	
Location:	Minervahaven, Amsterdam
The posed problem,	<p>Cities worldwide face a growing housing shortage, leading to increased demand for space. Traditionally, this is tackled by adding more homes within urban areas. However, with limited space, repurposing industrial areas and unused spaces for housing offers a sustainable solution without compromising green spaces. The challenge lies in adapting industrial zones, which are designed for</p>

	<p>production and logistics, to meet the needs of residential neighborhoods. This research explores how industrial areas can be transformed into hybrid spaces that integrate living, working, and social functions. A key focus is on creating neighborhoods that foster social cohesion and community well-being by incorporating communal spaces, recreational facilities, and multifunctionality. The project aims to find innovative design strategies to repurpose industrial sites into livable, sustainable environments that balance the needs of industry with those of residential life, contributing to a thriving, connected community.</p>
<p><b>research questions and</b></p>	<p>"How can the transformation of an industrial area into a functional neighborhood integrate living, working, public, and retail spaces to enhance social coherence and foster a thriving community?"</p>
<p><b>design assignment in which these result.</b></p>	<p>"How can the tactility of wood, through biophilic design, enhance the quality of shared spaces in a neighborhood, promoting social interaction and well-being while contributing to the overall functionality of the urban environment?"</p>
<p>The development of a design strategy for a neighborhood on industrial land, where living, working, and social interaction come together in a natural environment, enhanced by the tactile qualities of wood. This strategy aims to balance these different functions without disrupting ongoing industrial activities. The goal is to create a vision where these functions complement each other, resulting in an attractive and livable environment where people would want to live.</p>	

## **Process**

### **Method description**

#### **Research**

The main methodology of this research will primarily involve an extensive literature analysis. By examining existing articles, academic papers, and relevant publications related to the main research question and subcategories, such as densification, mixed-use development, working neighborhoods and the integration of natural materials in urban environments. I will use academic databases such as Google Scholar and JSTOR, to gather relevant sources, focusing on studies published within the last 10 years to ensure up-to-date information. By critically examining and comparing these various sources, a solid foundation will be established for critical argumentation on the thesis topic. This will lead to a deeper understanding of the current research question and inform the development of design strategies.

In addition to the literature review, this research will include a comparative case study analysis. This analysis will focus on case studies of successful mixed-use urban transformations, especially those that incorporate natural materials such as wood in outdoor public spaces. The criteria for selecting case studies will include their relevance to industrial site repurposing, the integration of sustainability principles, and the social cohesion fostered by these developments. These case studies will serve as sources of inspiration for how to balance industrial activity with residential and public spaces in a way that supports vibrant, sustainable communities.

#### **Design**

The design process progresses through various sketches, trial and error, and continuously searching for additional case studies that align with my research. Throughout this process, I keep revisiting the key insights from the research.

Step 1 is returning to the location. The chosen site wasn't easily accessible; an appointment had to be made to experience the size of the area and the project in person. While on site, sketches are made, which can later be further developed. Subsequently, model making helps clarify the scale and ideas of the project. In this way, with the research always in mind, the design process unfolds.

## Literature and general practical references

Abdrabo, K. I., Hamed, H. S., Fouad, K., Shehata, M., Kantoush, S. A., Takemon, Y., Elboshy, B., & Osman, T. A. (2021). A Methodological Approach towards Sustainable Urban Densification for Urban Sprawl Control at the Microscale: Case Study of Tanta, Egypt. *Sustainability*, 13(10), 5360. <https://doi.org/10.3390/su13105360>

Alexander, C. (1979). *The Timeless Way of Building*. New York : Oxford University Press.

Amer, M., Mustafà, A., Teller, J., Attia, S., & Reiter, S. (2017). A methodology to determine the potential of urban densification through roof stacking. *Sustainable Cities and Society*, 35, 677–691. <https://doi.org/10.1016/j.scs.2017.09.021>

Amsterdam Institute for Advanced Metropolitan Solutions (AMS).

archdaily. (2021, februari). 15 minute City. Architonic. Geraadpleegd op 10 januari 2025, van <https://www.architonic.com/en/story/archdaily-15-minute-city/2017319>

Bakker, M. M., & Van de Poll, F. M. (1992). *Architectuur en stedenbouw in Amsterdam 1850-1940*. WBOOKS.

Browning, W. D., Ryan, C., & Clancy, J. (2014). 14 Patterns of Biophilic Design: Improving Health and Well-Being in the Built Environment. *www.terrapinbrightgreen.com*. <https://www.terrapinbrightgreen.com/reports/14-patterns/#material-connection-with-nature>

Encyclo. (2025). Encyclo.nl. Geraadpleegd op 8 januari 2025, van <https://www.encyclo.nl/begrip/buurt>

Gemeente van Amsterdam. (2021). Transformatie Burgemeester Röellstraat: Nota van Uitgangspunten. In <https://www.amsterdam.nl/projecten/burgemeesterroellstraat/#h95012e01-e15b-446e-a5cd-5dac812f9604>. [https://www.amsterdam.nl/projecten/burgemeesterroellstraat/downloads/?PagClsIdt=16718622#PagCls\\_16718622](https://www.amsterdam.nl/projecten/burgemeesterroellstraat/downloads/?PagClsIdt=16718622#PagCls_16718622)

Gren, Å., Colding, J., Berghauer-Pont, M., & Marcus, L. (2018). How smart is smart growth? Examining the environmental validation behind city compaction. *AMBIO: A Journal of the Human Environment*, 48(6), 580–589. <https://doi.org/10.1007/s13280-018-1087-y>

Haaland, C., & Van Den Bosch, C. C. K. (2015). Challenges and strategies for urban green-space planning in cities undergoing densification: A review. *Urban Forestry & Urban Greening*, 14(4), 760–771. <https://doi.org/10.1016/j.ufug.2015.07.009>

Hein, C. 2019. Scales and Perspectives of Resilience: The Atomic Bombing of Hiroshima and Tange's Peace Memorial. *Architectural Histories*, 7(1): 6, pp. 1–12. DOI: <https://doi.org/10.5334/ah.304>

Jacobs, J. (1961). *The Death and Life of Great American Cities*. New York: Random House.

Jenks, M., Burton, E. A., & Williams, K. (2003). *The compact city*. In Routledge eBooks. <https://doi.org/10.4324/9780203362372> KadastraleKaart. (2023). Buurt: Slotermeer Zuid. <https://kadastralekaart.com/buurten/slotermeer-zuid-BU03637700>

Kellert, S. R. (2018). *Nature by design : the practice of biophilic design*. Yale University Press. Retrieved 2023, from <https://ebookcentral-proquest-com.tudelft.idm.oclc.org/lib/delft/detail.action?docID=5340626>.

Leby, J. L., & Hashim, A. H. (2010). Liveability Dimensions and Attributes: Their relative importance in the eyes of Neighbourhood Residents. *Journal of Construction in Developing Countries*, 15(1), 67–91 [https://www.researchgate.net/publication/46817848\\_Liveability\\_dimensions\\_and\\_attributes\\_Their\\_relative\\_importance\\_in\\_the\\_eyes\\_of\\_neighbourhood\\_residents](https://www.researchgate.net/publication/46817848_Liveability_dimensions_and_attributes_Their_relative_importance_in_the_eyes_of_neighbourhood_residents)

Muir, J. (1877). *Mormon Lilies*. San Francisco Daily Evening Bulletin, 19 July 1877.

Vazquez, L. (2012). *Creative Placemaking: Integrating Community, Cultural and Economic Development*. Social Science Research Network. <https://doi.org/10.2139/ssrn.2474862>

Loomans, T. (2015, February 2). 5 Ways to Add Density without Building High-Rises. Blooming Rock. <http://bloomingrock.com/2015/02/02/5-ways-to-add-density-without-building-high-rises/>

Moreno, C. M. (z.d.). *Urban and Territorial Transitions*. In CHAIRE-ETI. [https://www.eiturbanmobility.eu/wp-content/uploads/2020/06/Carlos-Moreno\\_15-MinuteCity\\_EITwebianr\\_25-06.pdf](https://www.eiturbanmobility.eu/wp-content/uploads/2020/06/Carlos-Moreno_15-MinuteCity_EITwebianr_25-06.pdf)

Mouratidis, K. (2017). Is compact city livable? The impact of compact versus sprawled neighbourhoods on neighbourhood satisfaction. *Urban Studies*, 55(11), 2408–2430. <https://doi.org/10.1177/0042098017729109>

MVRDV. (2021). *Rooftop catalogue (2de editie)*. Rotterdamste Dakendagen.

Reiter, S. (2010). Assessing wind comfort in urban planning. *Environment and Planning B: Planning and Design*, 37(5), 857–873. <https://doi.org/10.1068/b35154>

Satu, S. A., & Chiu, R. L. H. (2017). Livability in dense residential neighbourhoods of Dhaka. *Housing Studies*, 34(3), 538–559. <https://www.tandfonline.com/doi/epdf/10.1080/02673037.2017.1364711?needAccess=true>

Towers, G. (2013). *Introduction to urban housing design*. In Routledge eBooks. <https://doi.org/10.4324/9780080454627>

van der Lugt, P. (2021). *Houtbouwmythes ontkracht: het onderscheid tussen fabels en feiten*. [https://pure.tudelft.nl/ws/portalfiles/portal/101366747/AMS\\_Institute\\_Houtbouwmythes\\_ontkracht\\_update\\_202111\\_.pdf](https://pure.tudelft.nl/ws/portalfiles/portal/101366747/AMS_Institute_Houtbouwmythes_ontkracht_update_202111_.pdf)

Wicki, M., & Kaufmann, D. (2022). Accepting and resisting densification: The importance of project-related factors and the contextualizing role of neighbourhoods. *Landscape and Urban Planning*, 220, 104350. <https://doi.org/10.1016/j.landurbplan.2021.104350>

Quality Of Life Foundation. (2024). *LEmpowering Healthy Places Unveiling the powers and practices of local councils in fostering healthy neighbourhoods*. Geraadpleegd op 23 Oktober 2024, van <https://www.qolf.org/>

## 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 relationship between my graduation project and the design studio is based on the given requirement to either go for optoppen or to elevate. I chose the option of optoppen because, as mentioned in my plan, it doesn't take up additional space in relation to nature. The use of wood fits into this as a light construction material for building upwards. However, the main focus of this research/project is exploring how the tactility of wood can be used to make an environment more attractive for social interaction, which in turn can contribute to a more functional neighborhood.

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

The relevance of my graduation project lies in its potential to address both social and environmental challenges within urban development. Socially, it explores how the tactile qualities of wood can enhance environments to promote social interaction and well-being. Professionally, it focuses on transforming industrial area into sustainable, mixed-use neighborhoods, aligning with trends in urban planning and architecture. Scientifically, it contributes to biophilic design by studying how tactility of wood influence social behavior and quality of life.