

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	Alaa Hendi
Student number	5599466

Studio	
Name / Theme	Advanced Housing Design / Densification strategies
Main mentor	Harald Mooji Architecture Design Tutor
Second mentor	Robbert Guis Architecture Research Tutor
Argumentation of choice of the studio	I gained a fascination in finding the interrelation between psychology and architecture on its users; through my personal experience of loneliness for the first time despite living in a densely populated city such as London. This led me in choosing the Advanced Housing graduation studio that tackles the housing shortage in The Netherlands and the reinvigoration of a post-war neighborhood in Inner- city Randstad through densification strategies. The studio considers a new approach in dwelling typologies, social inclusion due to the increased diversification of target groups, biodiversity, affordability and the reduction of our ecological footprint.

Graduation project	
Title of the graduation project	Degrees of Encounter: Densification Strategies to Alleviate Urban Loneliness in Post-War Neighbourhoods.
Goal	
Location:	Groot – IJsselmonde, Rotterdam (NL)
The posed problem,	<p>The housing shortage has become a major topic of discussion in The Netherlands and primarily the proposed building of one million homes in the next ten years to help eradicate the crisis (Caroline, 2021). Statistics indicate that currently 390,000 units considering adults under 25, are needed to meet the demand of the housing market (Boztas, 2023).</p> <p>Multiple factors contribute to the ongoing housing shortage in The Netherlands. A major contributing factor is the growing ageing society, where more than half of the population is above the age of 40 and 3.5 million Dutch citizens are at the age of retirement (Centraal Bureau voor de Statistiek, 2022). This affects the greater housing market due to the limited availability of space and many of the elderly are living alone in houses that are too large and do not meet their needs and wants; with loneliness levels growing rapidly within this target group.</p>

	<p>Despite the growing ageing population affecting the housing market, another factor is the increasing trend of living alone in single households in all target groups. Statistics show that from 2019 to 2030, the number of single-person households is expected to increase by 406,000 with a total of 3.5 million homes.</p> <p>Nonetheless, the population is expected to continue to increase in the Netherlands due to an increase in foreign migration. It has been reported that migration trends from EU countries, Asia and traditional countries of origin such as Surinam, Morocco and Turkey have shown a decline with an increase in asylum seekers (Statistics Netherlands, 2017). In addition, it is predicted that by the year 2060, an estimated 34% of Dutch citizens will have one parent from a foreign background, further impacting the demand for suitable housing (Statistics Netherlands, 2017)</p> <p>The housing shortage poses various challenges, including a growing mental health crisis, particularly in terms of social isolation and loneliness. Statistic gathered by the World Health Organisation (WHO) indicates that an estimated one billion people suffer from one or more forms of mental illness such as depression, anxiety, social isolation, eating disorders or substance abuse (Naím, 2023). While loneliness is known to primarily affect older adults, it also impacts people from all age groups. A 2019 study in the Netherlands shows that 1 in 10 Dutch citizens frequently feel lonely with single parents and people being mostly affected (Statistics Netherlands, 2020). Furthermore, the COVID-19 pandemic in 2020 which forced people to self-isolate and change to a 'work from home' lifestyle further exacerbated loneliness levels globally (Mechelli, 2022).</p> <p>Urban loneliness is a form of situational loneliness prevalent in densely populated cities. Many artists, such as Edward Hopper, have captured this theme in their works, portraying disconnected individuals in urban settings (Mirkovic, 2020). Industrialization in the 19th century led to urban migration and the manifestation of urban loneliness due to the focus on individualism and economic gain in city planning (Winston, 2019).</p>
<p>research questions</p>	<p>Main question:</p> <ul style="list-style-type: none"> • Which design strategies can be utilized to alleviate the effects of urban loneliness on single household target groups in existing post-war neighbourhoods? <p>Sub questions:</p> <ul style="list-style-type: none"> • What were the conditions that allowed for urban loneliness to begin? • Which modernist design strategies provokes urban loneliness? • How does urban loneliness impact different target groups in post-war neighbourhoods? • How can the existing green space in post-war neighbourhoods be revitalized within a housing scheme to create a sense of community? • How can the 'human scale' be used to help reduce the feeling of anonymity through spatial design practices?

	<ul style="list-style-type: none"> • How can the diversification of target groups through Co-Housing be used as a tool to break social barriers?
design assignment in which these result.	The redesign of a stamp on the periphery of in Hordijkerveld in Groot-IJsselmonde
<p>Specifically, the neighborhood of Groot IJsselmonde in Rotterdam demonstrates the consequences of post-war planning. Designed as temporary housing, it followed modernist principles but lacked a sense of community and social interaction (European 15 Rotterdam, 2019). The majority of residents in Groot IJsselmonde are seniors and individuals living alone, contributing to loneliness within the neighborhood (Wonen in Rotterdam, 2023). Moreover, the need to build more homes, the current Dutch housing market values densification strategies that are primarily for profit and not for the needs of the people; which continues the pattern of ‘living together part’.</p> <p>Interventions are thus needed to encourage degrees of social encounter within three scales, urban (green space), building (Human Scale) and dwelling (Co-Living/Housing) that allow for more positive densification for both current and future residents</p>	
<p>Process</p>	
<p>Method description</p> <p>Within the studio, group analysis will be conducted to further develop the previous years’ work on IJsselmonde that focused on the larger urban scale. Therefore, a more detailed study will be conducted on the human preceptive of building and dwelling typologies, differentiation of the different types of green spaces found in the neighbourhood, and historical analysis of the year 1950 and the future.</p> <p>Ethnographically inspired ‘quantitative’ research will be first conducted through the use of both questionnaires and informal interviews of residents in Groot-IJsselmonde by utilizing the research conducted by (Kearns et al., 2015). This method will help identify the different needs and wants that will help design the co-living/housing aspect of the design.</p> <p>Empirical observation will be conducted. The research will use the method adopted by Whyte’s (1980) book ‘The Social Life of Small Urban Spaces’. Additionally, the exploration will also be supported by sensory/perception mapping methods proposed by Canter (1977) that will help give a psychological understanding of the neighbourhood and its residents. The combination of both approaches and multiple visits to IJsselmonde under different weather; will help assess the successfulness of the public space on an urban and building scale in bringing the neighbourhood together.</p>	

Literature and general practical preference

My case studies are:

- Bikuben Student Housing by AART, which is a Co-Housing project for students in Copenhagen, Denmark that promote social interaction through the use of communal kitchens and leisure rooms and courtyards.
- Nexus World Housing by OMA, a housing project in Tokyo, Japan which deals with the theme of solitude.
- Vrijburcht in Amsterdam, The Netherlands which incorporates both co-housing and the integration of work and live within its housing scheme.
- Asahi Facilities Hotarugaika Dormitory by KAEDE.

Literature (books and Journals) by sub-question topic:

History:

Onslow, J. (1990). *Garden Cities and New Towns: Five Lectures*. University of Hertfordshire Press.

Caroline. (2021, March 2). Plan to build one million houses in ten years. Holland Times.

<https://www.hollandtimes.nl/articles/national/plan-to-build-one-million-houses-in-ten-years/>

Laing, O. (2017). *The Lonely City: Adventures in the Art of Being Alone*. Picador.

Al-Sabouni, M. (2021). *Building for Hope*. National Geographic Books.

Mastenbroek, B., Mecredy, E., & Search. (2021). *Bjarne Mastenbroek. Dig It! Building Bound to the Ground*. Taschen.

Green Spaces

Jacobs, J. (2002). *The Death and Life of Great American Cities*. Random House. (Original work published 1961)

Alexander, C. (1977). *A Pattern Language: Towns, Buildings, Construction*. Oxford University Press.

Astell-Burt, T., Hartig, T., Putra, I. W. G. a. E., Walsan, R., Dendup, T., & Feng, X. (2022). Green space and loneliness:

A systematic review with theoretical and methodological guidance for future research. *Science of the Total Environment*, 847, 157521. <https://doi.org/10.1016/j.scitotenv.2022.157521>

Canter, D. V. (1977). *The Psychology of Place*. London : Architectural Press.

Human Scale

Marcus, C. C., & Sarkissian, W. (1986). *Housing As If People Mattered: Site Design Guidelines for the Planning of Medium-Density Family Housing*. Univ of California Press.

Plowright, P. D. (2020). *Making Architecture Through Being Human: A Handbook of Design Ideas*.

Gehl, J. (2013). *Cities for People*. Island Press.

Küller, R. (1973). *Architectural Psychology: Proceedings of the Lund Conference*. Studentlitteratur AB.

Co-Housing / Co-Living

Studio Weave. (2018). *Living Closer: The Many Faces of Co-housing*. Royal Institute of British Architects (RIBA).

Marcus, C. C., & Sarkissian, W. (1986). *Housing As If People Mattered: Site Design Guidelines for the Planning of Medium-Density Family Housing*. Univ of California Press.

Durrett, C. (2022). *Cohousing Communities: Designing for High-Functioning Neighborhoods*. John Wiley & Sons.

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)?

I decided to pursue a Master of Science in Architecture, as architecture has the power to change people's lives. During my Bachelor's thesis at Kingston School of Art where I explored the idea of 'Luxury of Space' in the post-war neighbourhood of Thamesmead and my previous studios and Electives in my Master's degree at TU Delft; I have concluded that architects should always carry a sense of responsibility in producing architecture that makes a difference in people's lives for the better. Additionally, we should design spaces that resonate with architects and regular people alike; rather than producing empty spaces that serve no purpose or function or are being sold for profit only.

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

Loneliness is increasing at an alarming rate throughout the world, posing a risk of early mortality equal to or larger than obesity and air pollution (Soós, 2019). Additionally, housing is a basic human necessity. Through the urgency in densifying our cities, there is an importance in investigating strategies that care to contribute "a little bit more" positively to the mental health of its users that do not repeat the mistakes of the modernist movement's disregarded of the human experience to help build a better future.