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	Hailey Su Lei Yadanar
Student number	5998204

Studio		
Name / Theme	City of The Future	
Main mentor	Agnes van der Meij	Architecture
Second mentor	Ruurd Kuijlenburg	Building Technology
Argumentation of choice of the studio	Maurice Harteveld (Urbanism)	

Graduation project	
Title of the graduation project	Reimagining Dubai's Underused Transport Infrastructure

Goal	
Location:	Dubai, United Arab Emirates
The posed problem,	This research explores the potential for car-reduced planning in Dubai's neighbourhoods, challenging the traditional car-oriented model and advocating for a gradual shift towards sustainable and inclusive urban development.
research questions and	How can Dubai's existing car-centric infrastructure at metro stations be repurposed to support walkability and public spaces?
design assignment in which these result.	At the core of this research is the proposal for an inverted green deck, a design intervention that repurposes existing infrastructure, such as linkway bridges and spaces beneath metro tracks, to create sheltered green spaces that promote communal engagement and social interaction in areas typically neglected in Dubai's urban landscape.

The hypothesis is that repurposing the underused spaces in the current transport infrastructure can provide a pathway to integrating multi-modal transportation systems, enhancing public spaces, and promoting green infrastructure, thereby creating a more sustainable urban environment.

Process

Method description

This research adopts a mixed-method approach, combining both qualitative and quantitative methods to explore Dubai's urban context and underutilized infrastructure. The qualitative approach identifies factors influencing human behaviour on pathways, while quantitative data from traffic and government statistics inform the analysis. The qualitative phase then deepens the understanding of these numbers. By combining these methodologies, the research aims to create an informative and multi-faceted knowledge of Dubai's urban mobility challenges and opportunities for improvement. The methodology will include several components:

1. Literature Review: A thorough review of existing scholarship and research related to urban planning, mobility, and infrastructure in Dubai to establish a foundational understanding of the subject matter.
2. Archival Research: Plans and drawings of existing buildings and transport infrastructure on-site
3. Geospatial Analysis: Utilizing tools such as Google Earth and Geographic Information Systems (GIS) for imagery to visualize and analyze urban spaces and infrastructure.
4. Ethnographic Fieldwork: Conducting on-site observations to gather first-hand insights into how residents interact with public spaces and transportation systems, employing methods developed by Jan Gehl, a renowned Danish architect and urban designer known for his human-centred approach to urban planning.
5. 3D Modeling: Creating 3D representations of specific urban areas to better illustrate spatial dynamics and human interactions within the environment.
6. Design Experimentation: mixing traditional and modern aspects found through literature review, enabling the creation of climate-responsive spaces

Literature and general practical references

Alawadi, K. (2017). Rethinking Dubai's urbanism: Generating sustainable form-based urban design strategies for an integrated neighborhood,
Cities. *Annual International Conference on Architecture and Civil Engineering*. *Vol. 60, Part A.* https://doi.org/10.1016/j.cities.2016.10.012.
Notes: The article recommends that Dubai's urban planners aim for a balanced approach to social, economic, and environmental sustainability to ensure practical solutions that support the city's long-term resilience and goals.

Butler, C. (2012). *Henri Lefebvre: Spatial Politics, Everyday Life and the Right to the City*. Routledge.
Notes: Lefebvre argues that space is socially produced and reflects power dynamics. His concept of the "right to the city" advocates for all urban residents, especially marginalized groups, to have a role in shaping their cities, promoting inclusivity and democracy in urban planning.

Easterling, K. (2014). *Extrastatecraft : the power of infrastructure space*. Verso.
Notes: Easterling uses Dubai as a key example of extra statecraft to illustrate how infrastructure and urban development in the city operate beyond traditional state mechanisms, driven largely by global economic forces and corporate interests.

Forsyth, A. (2015). What is a walkable place? The walkability debate in urban design. *URBAN DESIGN International*, *20*(4), 274–292.
Notes: Defines walkability

Gehl, J. (2013). *How to study public life*. Island Press.
http://ci.nii.ac.jp/ncid/BB15519072
Notes: Reference for methodology and site studies

Kanna, A. (2011). *Dubai, the City as Corporation*. U of Minnesota Press.
Notes: This book offers a more critical view of Dubai's urban development, focusing on the city's pursuit of corporate interests and global prestige at the expense of social equity and cultural authenticity. It challenges the celebratory narratives around Dubai's rapid modernization, offering insights into the social costs of its corporate urbanism and its implications for global cities following similar paths.

Menoret, P. S. (2014). The Superlative City: Dubai and the Urban Condition in the Early Twenty-First Century ed. by Ahmed Kanna, and: Dubai Amplified: The Engineering of a Port Geography by Stephen J. Ramos, and: Demystifying Doha: On Architecture and Urbanism in an Emerging City by Ashraf M. Salama, Florian Wiedmann (review). *The Middle East Journal*, *68*(4), 642–645.
https://dialnet.unirioja.es/servlet/articulo?codigo=4873918
Notes: This book analyzes Dubai's urbanism beyond its gentrified architecture, exploring planning strategies and overlooked areas like worker camps, offering a holistic view of the city.

Trancik, R. (1986). *Finding Lost Space: Theories of Urban Design*.
http://ci.nii.ac.jp/ncid/BA03906744
Notes: Trancik's theories offer valuable insight into how these spaces can be repurposed to improve urban life, enhance social cohesion, and foster a stronger sense of community. It is especially applicable to cities like Dubai, where large-scale, car-centric developments and high-rise buildings have created many isolated and underutilized spaces.

Reflection

1. The project examines the intersection of urban mobility, infrastructure, and social equity within a rapidly growing city like Dubai. It highlights the role of transport systems in the urban fabric, which is a critical aspect of architectural and urban studies. The metro and roads are not just functional elements; they are also key components of how the city functions, interacts, and evolves. The design aims to considers how underused transport infrastructure (common in many global cities) can be designed to integrate with the built environment, enhance mobility, and influence urban life.

2. The graduation project is relevant in multiple frameworks. Socially, it addresses urban mobility and inclusivity, focusing on improving access to transport for marginalized groups, such as migrant workers, and enhancing overall quality of life in Dubai. Professionally, it contributes to urban planning and architecture by offering insights into integrating transport infrastructure with sustainable urban development and advocating for policies that prioritize public transport and walkability. Car-dependency is a trend that most global cities are steering away from yet its practicality is not critically addressed in some car-dependant cities. Scientifically, it advances urban mobility and behavioural studies, providing valuable data on transport use patterns and the socio-economic factors influencing them. Globally, it offers lessons for other rapidly urbanizing cities across the world in similar harsh/arid climates, particularly those in arid regions, contributing to the broader conversation about sustainable urbanization and the need for more equitable and resilient cities.