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	Thomas Kaasschieter
Student number	4696956

Studio		
Name / Theme	Architectural Design Crossovers Studio	
Main mentor	R. Cavallo	Design mentor
Second mentor	F. Eckardt	Building technology
Third mentor	J. Kuijper	Research mentor
Argumentation of choice of the studio	ADC allows for integrating a high level of urban problematisation and design into the graduation, whilst still being an architectural studio. When I had to choose my master track, I doubted between architecture and urbanism. I eventually chose architecture, as it is a bit more tangible. The studio allows me to do a project, where I can also include my urban interests.	

Graduation project	
Title of the graduation project	Rethink the Mobility Hub
Goal	
Location:	Ilford, London
The posed problem,	The outer parts of the Greater London Area have a high rate of car usage in the streets. This results in polluted, noisy, and unsafe streets. Cars take up a big chunk of the street, and cars contribute to climate change. This must change. Cycling might be a solution, but London has a long way to go to implement that. Removing the car out of the city requires quite a bit of urban and architectural design. Mobility hubs will help aiding the change but must be defined.
research questions and	• **How can cycling and public transport infrastructure best be used to connect London's outer neighbourhoods to the rest of the city?** • What is the current situation in London on the shift to sustainable transport, and how does that relate to the literature?

	• How can architecture and urban design be used to implement cycling infrastructure with a complementary public transport network? • How can these design handles be implemented on the design site?
design assignment in which these result.	A new mobility hub near an existing station, that will form the bridge between the new cycling infrastructure and the existing public transport network. It will also have to promote the cycling and contribute in a positive way to the neighbourhood by also being a cultural hub.

Process

Method description

The research and design will be split in two parts, that are very much intertwined. An urban part and an architectural part. The urban part will be mostly covered by the research paper and the architectural part by the design. The goal of the research is to find out what is needed to remove the car out of the city and implement infrastructure for slow traffic. The design will focus on the mobility hub, that will form the bridge between the cycling and public transport infrastructure.

The research (the urban part) is done by literature review. This will be mostly to examine concepts on urban design, such as the 15-Minutes City. It will also be used to find out specific design handles to redesign streets.
Then the city of London will be cartographically mapped. More precise, the exact locations of cycling infrastructure, in combination with demographic information about the usage of bicycles. These findings are extended with experience from the field work. The goal is to get a grip on the current situation and find the place that is suitable as a design site, so the place where the situation for cyclists is not good, but also has a high potential.
The research will then focus on urban precedent projects, where the car was successfully removed out of the city. They will be analysed with cartographic mapping, with the old and the new situation. Out of this will follow a set of design handles, which will be added to the findings of the literature review. These design handles will then be implemented in the design site. This will form the urban basis of the design.

The architectural design will first look at architectural precedents of mobility hubs, which can be stations, but also more. This is to get a grip on the aspects that are involved in such a place. This will then be implemented (so designed) at the site. Because the urban design was also done, the design can optimally be placed in the urban fabric, reacting to it as much as possible.

Literature and general practical preference

Literature:

Allen, S. (1999). *Points and Lines: Diagrams and Projects for the City*. Princeton Architectural Press.

BNA. (2014). *Onder weg! : Vijftien ontwerpen voor transit oriented development aan de Zaancorridor.*

BNA. (2019). *De Stad van de Toekomst*. Blauwdruk.

Bruntlett, M., & Bruntlett, C. (2018). *Building the Cycling City: The Dutch Blueprint for Urban Vitality* (Illustrated). Island Press.

Colville-Andersen, M. (2018). *Copenhagenize: The Definitive Guide to Global Bicycle Urbanism*. Amsterdam University Press. https://tudelft.on.worldcat.org/oclc/1030307082

Ibraeva, A., Correia, G. H. D. A., Silva, C., & Antunes, A. P. (2020). Transit-oriented development: A review of research achievements and challenges. *Transportation Research Part A: Policy and Practice*, *132*, 110–130. https://doi.org/10.1016/j.tra.2019.10.018

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

Moreno, C., Allam, Z., Chabaud, D., Gall, C., & Pratlong, F. (2021). Introducing the "15-Minute City": Sustainability, Resilience and Place Identity in Future Post-Pandemic Cities. *Smart Cities*, *4*(1), 93–111. https://doi.org/10.3390/smartcities4010006

RISE & Arup. (2020). *Mobility Hubs of the Future: Towards a New Mobility Behaviour*. https://www.ri.se/sites/default/files/2020-12/RISE-Arup_Mobility_hubs_report_FINAL.pdf

Shadar, H. (2016). The linear city: linearity without a city. *The Journal of Architecture*, *21*(4), 564–601. https://doi.org/10.1080/13602365.2016.1192427

Shannon, K., & Smets, M. (2016). *The Landscape of Contemporary Infrastructure*. Macmillan Publishers.

Villwock-Witte, N., & van Grol, L. (2015). Case Study of Transit–Bicycle Integration. *Transportation Research Record: Journal of the Transportation Research Board*, *2534*(1), 10–15. https://doi.org/10.3141/2534-02

Wendel, D. D. B. (2011). Infrastructure. In *The SAGE Handbook of Architectural Theory*. SAGE Publications.

Urban precedents:

Barcelona superblocks; Rotterdam Alexander; Coolsingel, Rotterdam; station area, Delft

Architectural precedents:

Coffee and bikes, TU Delft (IDE); Stenpiren, Göteborg; Rotterdam Centraal; KJ Plein, Den Haag Centraal; Nørreport station, Copenhagen

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)?

In the ADC studio there is quite a bit of freedom in the choice of topic. The design site is set to London, which the site and research is set to. The research and design integrate larger urban topics with architecture, which is in line with the studio. The master track (A) is focused on the architectural design of buildings and how people use them, the design will be a (or several) building(s), with a focus on how mobility hubs are used. The larger master program is integrated with urban design and building technology.

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

Although the notion of cycling and the infrastructure surrounding it might seem obvious for people living in the Netherlands, it is not the case in the UK (and other countries). The research and design specifically focus on implementing an optimised version of the 'Dutch' model in the UK. The result will lead to an example design which can also be used in other places in London. Hopefully leading to a shift out of the car onto the bicycle and other more sustainable forms of transport.