Thesis
Reflection

Studio Topic: Midtown Change
Thesis Topic: A transport hub for innovation
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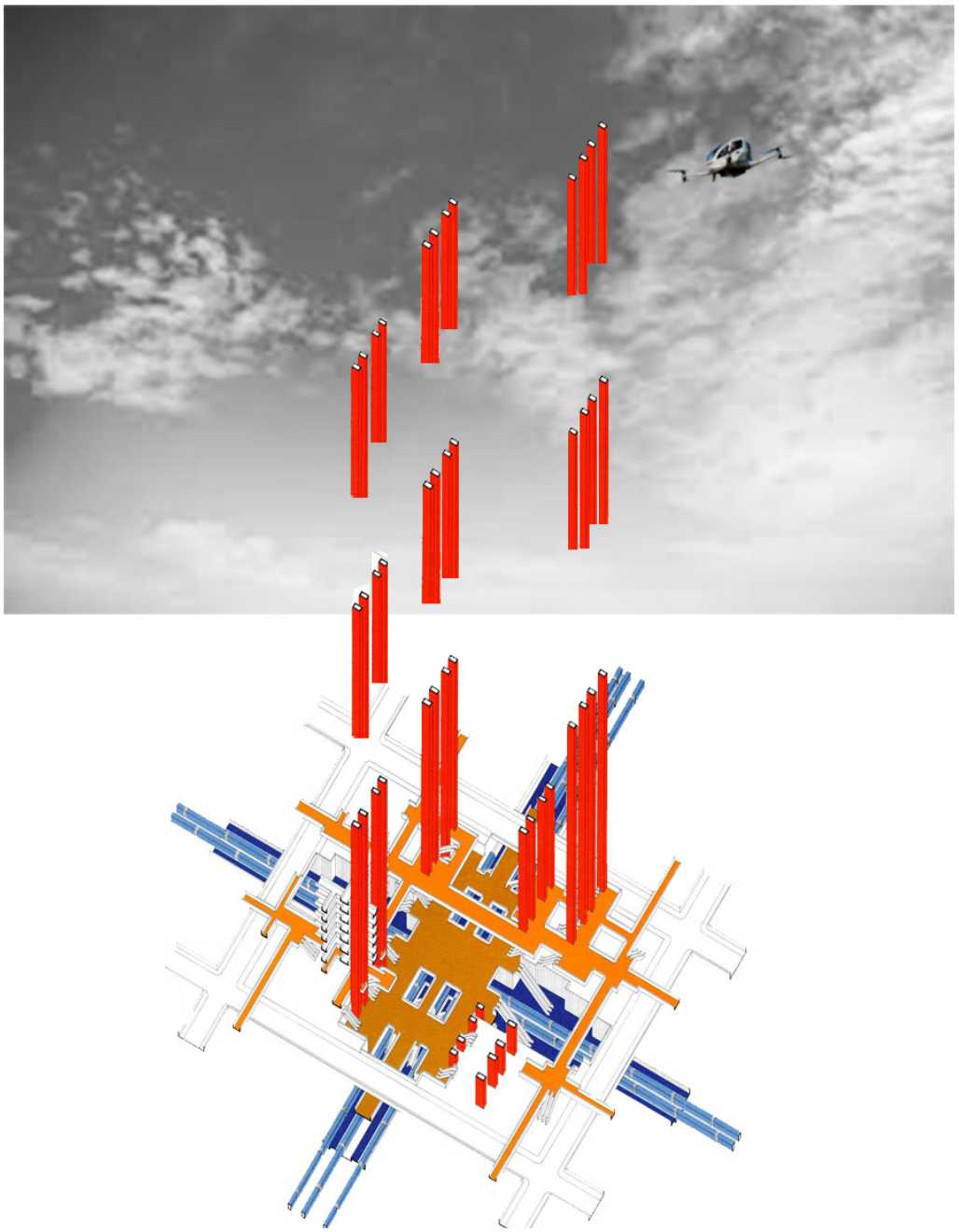
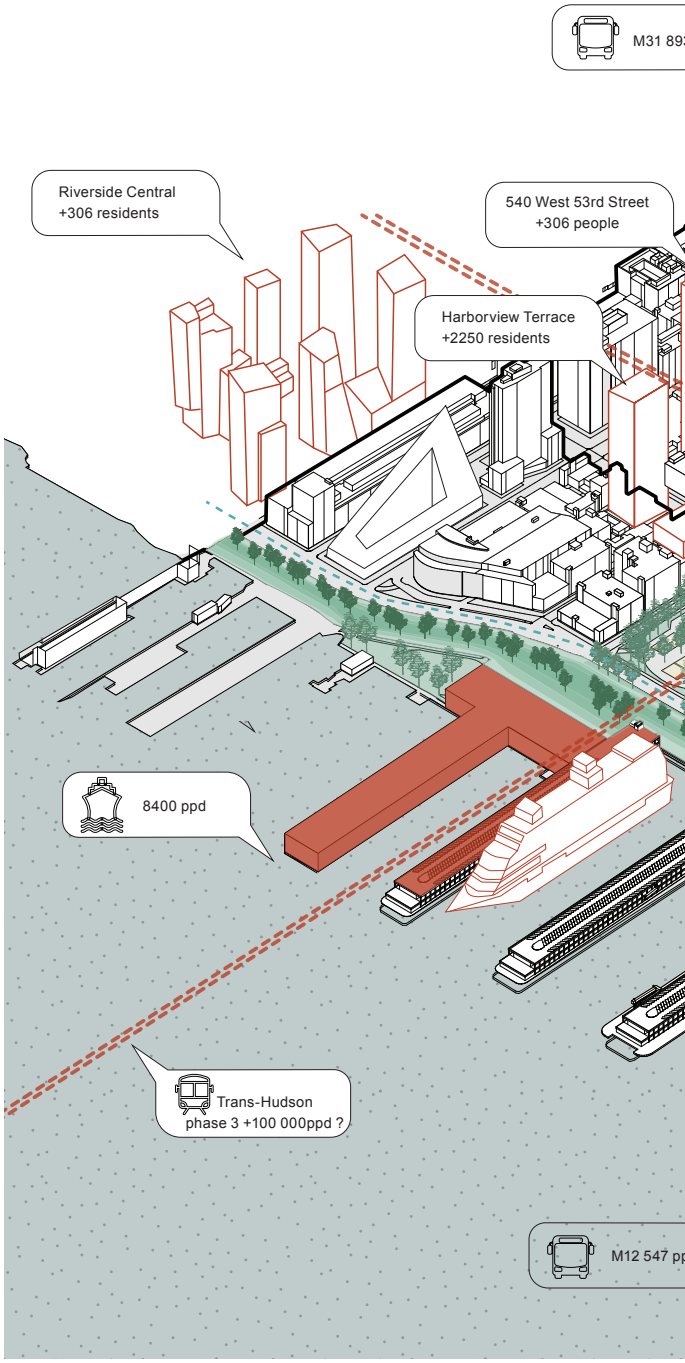


Project description:

"The nomads traditionally studied by ethnographers have a sense of place and territory, a sense of time and of return. This nomadism is thus different from the metaphorical nomadism of our current mobility; that is, "overmodern" (surmoderne) mobility. The meaning of "over" in the adjective "overmodern" or "supermodern" has carries the same meaning as in Freud's and Althusser's expression "overdetermination," where it indicates the profusion of causes in a particular phenomenon that complicates the analysis of its effects. Overmodern mobility expresses itself in the movements of population (migrations, tourism, professional mobility), in immediate general communication and in the traffic of products, images, and information. It corresponds to the paradox of a world where we can, at least in theory, make everything without moving and while moving all the time[1].

In this project, I propose an innovative transport hub for the area of Hell's Kitchen in New York City. This neighbourhood is undergoing a wide-ranging redevelopment and rediscovering its relationship with the water of the nearby Hudson River. My project argues that this transformation needs to be properly integrated with New York City's existing transportation network. I build on existing infrastructure—in particular the underground freight link known as the Empire Connection—to create an electrified Metro line which services the west of Midtown through three new stations at Riverside Park, De Witt Clinton Park and 44th street. Yet my project negotiates wider urban challenges, responding to changing patterns in development, population and traffic, and looking ahead to the future of urban mobility.

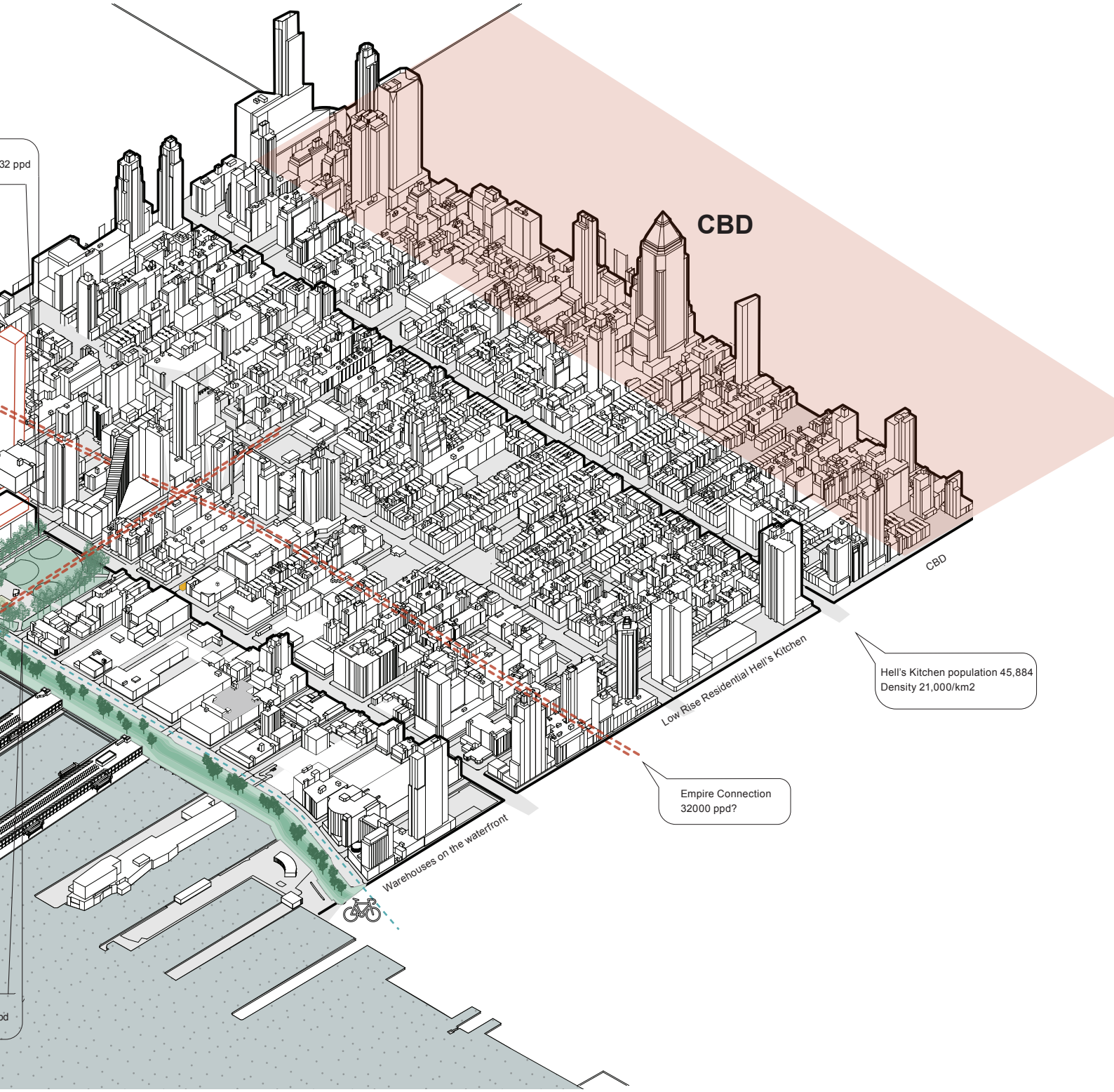
In designing, I confronted an essential question: will Manhattan continue to play the leading role in the future development of New York, or will the region expand around new sub-centres outside the island? At the moment, the city is developing new transit connections to support a mutually beneficial relationship between New York City and the constellation of urban centres surrounding it, which are growing and becoming centres of prosperity in their own right. The last regional plan involves plans for three new tunnels linking the city to New Jersey, repairing and improving the existing infrastructure and expanding capacity in response to the ever-growing number of people commuting from suburban areas to Midtown[2]. One of the proposed tunnels that bridges the Hudson to New Jersey, passing below the Empire Connection. The transformation of the rail link



Ridership prediction and site location in relationship with Midtown

1 Augé, Marc Per Un'antropologia Della Mobilità. Milano: Editoriale Jaca Book Spa, 2010.

2 The Fourth Regional Plan, "Trans Regional Express: Transforming TheRegion" December 10, 2019, http://fourthplan.org/reports/trans-regional-express-transforming-the-new-york-regions-commuter-rail-system-into-an-integrated-regional-rail-network.


32 ppd
CBD
CBD
Low Rise Residential Hell's Kitchen
Hell's Kitchen population 45,884
Density 21,000/km2
Empire Connection
32000 ppd?
Warehouses on the waterfront

into a metro line and its correspondence with the tunnel creates a new node, located below 11th Avenue in the proximity of the Manhattan Cruise terminal, and it is here that my transportation hub is located.

Beyond the creation of a new transportation node, my project involved researching how New Yorkers move around today to identify and facilitate future trends. Thus, I strove to create a project which responds to the city's ever-changing needs and is successfully integrated in a wider urban and regional network. Today Midtown presents a heavily congested grid. Yet in recent years there has been a decrease in the use of taxis and personal cars in favour of new systems of shared mobility facilitated by technology. Companies like Uber and Airbus are studying the network of metropolis in order to promote efficient, smart ecosystems. During my research, I identified vertical landing drones as the most promising new transportation technology emerging from recent studies.

As a result, this project strives to combine public transportation with an air mobility system. The sky is connected with the ground and with the underground in a innovative way responding to a changing urban setting. Public-facing in nature, my project also involves the local community. The accessibility of the proposed mobility hub transforms it into the perfect location for the integration of local activities and programmes, effectively establishing a new meeting point in the neighbourhood.

My decision to link together the underground and the sky responds to the needs of our mobile society. Indeed, the acceleration of transport systems has contributed to changing our social behaviours, promoting a more mobile/ flexible way of working as well as promoting tourism around the world. COVID-19 has accelerated an existing shift in our working patterns, promoting more dynamic networked structures. My project contains co-working spaces, which are part of a world network and therefore benefit from their location in the centre of a transport hub, a place of high connectivity in the city. Yet to overcome the paradox of 'surmodernity' presented by the anthropologist Marc Augé it is necessary to integrate fast transportation with its urban context; in other words, the implementation needs to strengthen and expand the scenarios for social interaction. My project responds to this challenge by combining public transportation with other shared facilities. The underground level connecting the Cruise Terminal with the proposed metro node features retail and recreational facilities. Above ground, a 100m span bridge provides hotel, housing and co-working facilities, which are directly linked with the drone landing area through an elevated public platform.

- **Aspect 1 the relationship between research and design.**

This project is underpinned by the belief that research offers an expanded field of possibilities with the potential to inform design at every level, from the consideration of large-scale urban systems and communities, to the conception of small spaces for retail and accommodation. As architecture is a multifaceted field of study, I eschewed a narrowly focused approach, drawing instead on a multiplicity of insights ranging from contemporary anthropology, philosophy and physics, to current research on the future of shared transport.

I began my research with an exploration of the context of the city of New York in Midtown West. This area was deeply shaped by its industrial past[3]. My analysis leads to a prediction of the possible future of the Midwtown area. Due to the advent of containerised shipping, industries and industrial traffic have relocated to New Jersey and Brooklyn. Industrial plots along the waterfront are now being redeveloped as mixed-use and residential buildings[4].I therefore envision a drastic change in the lived experience of this area and in the role it will assume in the development of the city at large.

My research focuses on how new transport could be implemented in the network, minimising last mile trips and creating a welcoming and inclusive neighbourhood for people with different backgrounds. The research evolved from quantitative to qualitative data analysis in order to accurately grasp what the city is and how it is experienced by its inhabitants. This analysis was borne out through interviews during my visit to the site. In-person encounters with the location and its users were essential to test the assumption made during the initial research process, helping me to understand how the city is experienced by its inhabitants establishing the importance between he physical and the anthropological. Yet beyond the personal experience of the city, New York is also a metropolis with its own architectural history, punctuated by a number of real and utopian proposals grounded in changing needs and aspirations. During the design process, I continued to refer to these precedents. This continuous and intensive process of research strengthened my design not only by revealing how my project may be successfully implemented in its urban context, but also by foregrounding elaborate and original approaches to architecture, which I strove to adopt in my own design practice.

3 Ann L. Buttenwieser, Manhattan Water-Bound: Planning and Developing Manhattan's Waterfront from the Seventeenth Century to the Present (New York: New York University Press, 1987), 12.

4 "The Wasted Waterfront," City Journal, December 23, 2015, https://www.city-journal.org/html/wasted-waterfront-12041.html.

- **Aspect 2 the relationship between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master program (MSc AUBS).**

My project developed in direct response to the topic of the studio, which investigates different settlements that are going through the process of change. A core argument of the studio is that architects need to see the world from different perspectives, grounding projects in their city-wide context. In this context, the studio encourages a comprehensive approach, where the built environment is explored through a social, economic and environmental lens, and changing realities are confronted through an approach which is at once technically innovative and sustainable.

In the Chair of Complex Project students are free to develop their vision and design scenario. However, such vision needs to fit in the larger discourse of the group. Specifically, as a group we discovered that this area of Midtown will soon be subject to flooding as a result of climate change, and decided to raise a 9m berm on top of the existing 12th Westside Highway. The 9-lanes highway will be reduced to 5 lanes. This will generate a range of beneficial outcomes: it will increase access to the waterfront and create new recreational areas, as well as mitigate air pollution and noise. The group needs to answer this new green infrastructure in different ways. As the main transportation hub, my project is of central importance to the successful integration of all other projects in the citywide context. Hence, its position was chosen carefully, not only on the basis of existing infrastructure, but also in relation to projects developed by my colleagues, notably the Cruise Terminal and the Food Hub.

The project effectively addresses current issues in the architecture and urban design of modern metropolises, striving to create more sustainable and “lovable” centres. My attempt to interweave traditional forms of public transport, such as the Metro, with innovative drone technology is an essential means to this end. Air transport has the potential to integrate remote urban areas and disadvantaged neighbourhoods without the need for expensive infrastructural works. Beyond New York, my project proposes an innovative mobility system which could benefit countries that lack an efficient transport network.

- **Aspect 3 Elaboration on research method and approach chosen by the student in relation to the graduation studio methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.**

My research was deeply informed by the context-led approach promoted by this studio, which considers architecture’s physical, social and historical setting to be essential for new design. Practically, the studio was divided into four groups tasked with research on a different area of Midtown Manhattan. My group was assigned a region extending from 58th to 42nd street, a section which we examined from a range of viewpoints. Comparisons between this area and other sections of the city were essential to our analysis, as we believe that a nuanced understanding of the area’s specific features could only emerge from a contextual and comparative study of its ‘uniqueness’.

The chosen approach was particularly fruitful as ‘context’ is an ever-changing set of parameters in a constantly renewing city like New York, where the urban landscape can change beyond recognition in the space of a few years. This calls for a nuanced approach where geography and technology are considered in parallel with the pressures of population, politics, pollution, and wider socio-economical considerations.

Building on the orientation of the studio, my research method placed an emphasis on an inductive process of open-ended research questions that developed during the investigation to reflect the increased understanding of the context. The focus of the research was shaped after data collections and observations on a range of different topics. The use of mapping was an essential instrument in the understanding of the lived space and categorisation of quantitative data. Mapping was used not only to understand and mirror the urban reality but also as a tool to reveal the hidden potentials of the urban fabric[5].

Such methodology led to the formulation of different research questions: how did the impact of transport infrastructure affect the development of Manhattan? How does the limitation of different network flows affect the life of the citizens as well as the future development of the area of study?

After gathering data through mapping, I proceeded to the modelling of possible scenarios for the development of the area of interest. Here prediction accompanied trend analysis based on historical data and the observation of ongoing change. One scenario sees future job and population growth in the area of Manhattan slowing to half its rate due to an inadequate development of housing production and infrastructural capacity. The second scenario is based on

5 Professor Denis Cosgrove, Mappings (Reaktion Books, 1999), 214.

an approximately constant growth rate accompanied by a re-centralised organisation of the city, regardless of the limited crossway and roadway capacity. If no steps are taken to ease traffic congestions for commuters reaching Manhattan from New Jersey, it is likely that people will increasingly prefer to locate their home and work outside the existing urban centre, contributing to the creation of new foci of interest and the expansion of New York's suburbs[6]. My project develops the housing and infrastructure required by the first scenario in a way which responds directly to the challenges of the second scenario. The introduction of air mobility will drastically change the way we experience cities, transforming the mono centric line-based networks of ground mobility into a polycentric point-based network.

The data gathered during my research is contextualised in a theoretical framework that sees contemporary urban society as so unprecedented in the speed and flexibility of its mobility to require a radical redefinition of urbanity[7]. The continuing diversification and growth of mobility is both a consequence and an instrument of our contemporary lifestyle, to the extent that the right to work and live now incorporates an implicit right to mobility[8]. In responding to both the envisioned scenarios, my project integrates anthropological theories of contemporary mobility to promote a more mobile way of working and living the city.

- **Aspect 4 Elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.**

Mobility is an essential aspect of the way we approach the urban context as success and prosperity of cities are directly related to their efficiency as hubs. Currently, public transport can respond to only a fraction of the urban demand for movement, while the rest is satisfied by private vehicles. The emerging sharing economy can improve the efficiency of transport networks, opening urban spaces previously occupied by cars to human interaction, and reducing carbon emissions, noise and danger[9]. Moreover, new technologies promise to conquer the sky, introducing flight as a new mode in the existing transportation network. The implementation of new systems within existing networks and their consequences for socially interaction are essential challenges in designing cities adaptable to the future.

Contemporary design techniques still need to find adequate ways to portray and creatively respond to the dynamic character of time and space in today's urban settlements. Ideas about spatiality are moving towards a variety of political and social processes that flow through space and time[10]. In the book Non-places. Introduction to an Anthropology of Supermodernity (1992), Marc Augé defined the concept of "non-places"[11].Typical of western societies, such places are associated with "Supermodernity," a period beginning at the end of the twentieth century and characterised by specific social, cultural and economic phenomena. "Supermodernity" is strongly linked with the concept of globalisation and is a result of postmodernity and post-industrialism. Faster, cheaper and more flexible systems of transportation lead to the development of transit spaces, destined to solitary individuality, to a provisional and ephemeral passage, inhabited by people that are alone or that avoid relating with each other in the moment of transition. Non-places inhabit the time-frame of actuality, of the here and now. As new fast means of transport are increasingly integrated in the urban context, the architect needs to understand how they can be implemented efficiently while at the same time creating scenarios for social interaction rather than paralysing human encounter. In my project, I have placed the design on the axis of 53rd Street to quite literally question the role of the street in a future where the number of cars is reduced. The internal circulation of the building provides for west-east connectivity from the water to the city (and thus between different transportation networks) while allowing for social interaction.

Many architecture studios are exploring ways to implement new air mobility in the city, responding to commissions from such companies as Uber and Airbus. The new infrastructure saves significant ground space, as it does not require vectorial ground connections. Yet the landing pads still need considerable space (21 x 21m minimum landing), and need to be intelligently inserted into the city network in order not to produce additional trips which nullify the efficiency of the new technology. In my project I investigated how such mobility system will further contribute to the annihilation of space-time that is affecting the contemporary society and to which new technologies are strongly contributing[12]. Confronting an important societal trend, my project offers results which can be transferred to both congested metropoles and to areas with less developed transport systems; moreover, it focuses on the interaction between design, community, and development.

6 The Fourth Regional Plan, "Trans Regional Express: Transforming The…," text/html, The Fourth Regional Plan, December 10, 2019, http://fourthplan.org/reports/trans-regional-express-transforming-the-new-york-regions-commuter-rail-system-into-an-integrated-regional-rail-network.
7 Luca Bertolini, "Fostering Urbanity in a Mobile Society: Linking Concepts and Practices," Journal of Urban Design 11, no. 3 (October 1, 2006): 319–34.
8 Luca Bertolini, "Fostering Urbanity in a Mobile Society: Linking Concepts and Practices," Journal of Urban Design 11, no. 3 (October 1, 2006): 319–34
9 Carlo Ratti and Matthew Claudel, The City of Tomorrow: Sensors, Networks, Hackers, and the Future of Urban Life (Yale University Press, 2016), 18.
10 David Harvey, The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change (Oxford [England] ; Cambridge, Mass., USA: Blackwell, 1989), 242
11 Non-Places: Introduction to an Anthropology of Supermodernity. London ; New York: Verso, 1995.
12 David Harvey, The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change (Oxford [England] ; Cambridge, Mass., USA: Blackwell, 1989), 220

- **Aspect 5 Discuss the ethical issues and dilemmas you may have encountered in (i) doing the research, (ii, if applicable) elaborating the design and (iii) potential applications of the results in practice.**

Mobility is a matter of equity and equality. As the former Bogotá Mayor Enrique Peñalosa stated, great inequality in developing countries makes it difficult to see that an advanced city is not one where the poor use cars, but rather one where even the richer use public transport[13]. A smart approach to planning and transport should be a priority for architects as it is critical for improving the quality of life of the inhabitants, promoting productivity by eliminating congestion, and reducing pollution. Well-planned cities are the only solution to a manageable growth striving to limit carbon emissions and sprawl. An informed and effective architectural approach goes hand in hand with with changes at governmental and federal level, for example hikes in the price of petrol in order to promote the use of shared vehicles and public transport[14]. Yet as cities like New York where essentially designed for cars, the public sector needs to be ready to sustain the change. Change needs to go beyond the construction of new infrastructure, to allow for a more equitable access to such infrastructures. Providing an integrated and inclusive transport hub was central to my belief that the way we move through cities is determinant for our quality of life, as it has a massive impact on real estate values.

New technologies are now able to serve the existing transport systems by integrating public and shared systems. While this development has the potential to improve and equalise the urban environment, elaborating a new infrastructure for an innovative air system led me to reflect on an upside-down dystopia. What if the sky was completely clogged by a heavy network of flying cars? In our constant quest for innovation and productivity the balance between the underground, the sky and the ground would be distorted. Only the rich would afford to see above the clouds of drones. And what if unprecedented levels of ground pollution prevented humans from inhabiting the surface of the Earth, leaving a network of empty streets where everything happens underground? [a bit like HG Wells The time machine] Buildings are accessed only through underground tunnels that link the entire city together. Technologies allow us to bring the light to the tunnel in order to survive growing plants. How do we move from New York to the other underground cities in the world? A system of sealed elevators brings the travellers from the underground through the drone port, in the drone to the sky and away where another system of sealed elevators will conduct the traveller back to an underground network.

While working on this project, I encountered many dilemmas on a design level, mainly concerning the flow of the people through the building and the role of the park in the design. If at first I envisioned the design as a system merging with the greenery, I eventually decided to separate the two realms, touching the park as less as possible and effectively imposing the rigidity of the grid of New York to the green environement. Eventually the amount of green created by the project significantly exceeds the existing area, which is at present occupied mainly by sport facilities. Moreover, the project effectively links with the mostly green infrastructure along the water that is part of the group vision.

13 https://www.forbes.com/sites/jeffmcmahon/2015/05/28/mastercard-ceo-the-rich-should-ride-the-bus/#5e1a4eb0142a accesses:18/05/2020
14 https://www.forbes.com/sites/jeffmcmahon/2015/05/28/mastercard-ceo-the-rich-should-ride-the-bus/#5e1a4eb0142a accesses:18/05/2020