Reflection Paper P5
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Complex Projects Graduation Studio

30-06-2020

1: Relation between research & Design

During the first semester, the complex projects graduation studio has researched the Midtown Area in Manhattan, New York. This was done in 4 groups of 9, each researching their own corner. Whilst the studio tutors set an aim for this research (the topic of Change), the students were free to research their own topics.

As we were the second set of students researching this area, we had the work of the previous semester to build upon. We chose our research topics based around their work, with the aim to expand our knowledge and not repeat work that was already done.

Within our group we choose to research the site in subgroups, all students researching 1 or 2 more specific topics. The topic I've been researching for the research book was History and Mobility. However, as a part of making the model I also researched recent developments and construction in the area. This is where I found out about the controversial nature of the famous needles, and the fact that not everyone in New York is happy with that recent development. Since this topic is closely related to the affordable housing crisis, I wanted the students of our group that researched people/demographics and real estate, to also dive into this topic. But since the previous semester already somewhat discussed the topic, and the crisis affected area is much bigger than just the research site, it was decided not to do so.

To me this topic is a very important issue, where we as architects/developers can have a big influence, and are part of the solution. Because of this I chose to research this topic myself for the personal essays, and from here my graduation topic started to form. Since I also researched the history of Zoning in New York, these two topics started to have a clear relationship to me. Books like Form-Follows-Finance gave me a clear understanding on the way New York was developed in the past, and I felt that you could continue this narrative to the new developments as well; The Needle skyscrapers are just the next logical step in the development of the city. As these luxury supertalls are hugely profitable, they are almost inevitable in a city like New York. No matter what the residents feel like, the development of the city follows where money is found. The citizens have almost no say in it.

This loops back to the controversial issues I came across when researching the new developments in the area. One of these skyscrapers in particular highlighted the issue very well; Sutton 58th. The developers of this project took an underdeveloped plot in an old small scale neighborhood, and are building a 260+ meter high luxury apartments skyscraper on it. Sutton 58th is possible due to a combination of small issues in the New York Zoning code.

The first being that the area has had the highest density designation since the 60's, when the new bulk zoning rules were laid out. Back then this was a logical designation, as the area was already quite densely populated. A few larger buildings popped up since then, but it only became an issue in the early 2010's. Unlike a lot of other neighborhoods in Manhattan with similar old brownstone buildings, this area never got a historical designation, nor did they impose a direct height limit.

In the late 80's, developers started to figure out loopholes in the New York zoning code that allowed them to purchase and transfer unused air rights above New York Monuments. This allowed developers to build higher than the bulk limits on their plot should allow. Mostly office projects took advantage of this new development, with the average height of skyscrapers in the center of Midtown going up a lot. For residential buildings these tricks could also be used, but that wasn't done a lot, as the size of the needed building core would be out of proportion compared to the size of apartments inside the building, making housing projects like this unprofitable.

Over the last decade, with improved technical capabilities, and better understanding of tuned mass dampers, needle-like supertall residential skyscrapers started popping up all over the city. These skyscrapers are designed with a minimal core size, and to maximize the usable floor space. Resulting in very thin, and very tall skyscrapers. The prices of apartments inside these buildings start in the millions, and the residents are willing to pay huge premiums for a higher view.

For the Sutton neighborhood, these developments are a huge threat, as the area has a lot of underdeveloped 'soft-sites'. These allow developers to purchase the land (and the existing buildings) for relatively cheap, and then make huge profits by building 30 - 40 times the amount of rentable Floor Area.

Sutton 58th is the first of this type of development in the neighborhood, but will likely not be the last. As the development market in New York always takes advantage of such opportunities.

From this research into the Zoning issues, and the housing crisis, made me rethink the usage of these soft sites. What if you were to use one of these soft sites to construct high-density affordable housing? Would it be possible to make a profit on the creation of a lot of affordable housing? This led to the research question: **How can high-density affordable housing be built in Midtown NE?**

Design concept:

My project is a very Un-American / social take on these soft sites and development opportunities. Instead of maximizing the financial profit of a building, it maximizes social profit. This is my vision for the future of the city. And I do concede that it is not entirely realistic in the way the american market works. But by taking this approach you do learn a lot about what is possible if we were less profit focussed as a community.

Because I didn't want to go all out into a fantasy world, I did set myself the limitation that it should be financially viable. Thus for my P2 presentation I did basic financial calculations, and throughout the development of the project I did research and design this skyscraper to actually be possible. This shows what kind of project could be realized in Manhattan if the developers that run the city were less fixated on maximizing financial profit.

Thus the design is a direct reaction to issues found in the research, and the research shaped the design goals set out in P2. Further research during the design process was all done to make sure the design stayed somewhat realistic. This includes research into minimizing the size of the skyscraper core, research into affordable facade design, and most importantly research into how skyscraper construction costs can be minimized.

Whilst the affordability aspect of the design is designed around the local conditions of New York City, the technical measures as well as the social aspect of the design also apply to many other cities. A lack of affordable housing is not unique to New York, although the severity can differ quite a lot.

2: Relation between graduation topic and chosen studio

The overarching theme of the Complex Projects graduation studio was the topic of change (in Midtown, Manhattan). More specifically, change in demands. As Midtown NE is aging, a lot of older skyscrapers are becoming increasingly vacant. As our group research explained, this is mostly because of newer office buildings, like the skyscrapers in Hudson Yards, offering more flexible and open workspaces. Another large change in demand found by our group is the aforementioned Affordable housing crisis, as in recent years developers have been fulfilling a decreasing demand in luxury housing, whilst demand for affordable housing crisis has increased a lot.

One of the main focuses of our group vision is to find new uses for the vacant office space in Midtown NE. It is therefore necessary to explain why this affordable housing project doesn't use one of the existing office buildings. Firstly, the fact that almost none of the office buildings is ever completely without tenants. Then the fact that office land is much more expensive than residential land, even with the high vacancy rates. Thirdly you probably won't have a chance convincing developers to stop building overly luxurious and expensive towers if you convert an existing building.

I feel like this type of large scale visionary project works well in the Complex Projects graduation studio. The theme and story of the project work well in the broader context of the

city, and the project is strengthened by the projects of my fellow group members. The graduation studio allows a very free choice of topic and research area, and this helps create some very unique projects. A broad range of different perspectives from the different nationalities of the students create interesting discussions about the types of projects needed in the city. An interesting duality that existed in the graduation studio was the projects of Benjamin Evans and mine, as we both started from the same controversial issues that follow the Sutton 58th story. His approach was instead to try and change the way New York regulates its projects, with the aim to give local residents more say into the development in the neighborhood. Whilst his projects set out to eliminate the possibility that all of the soft sites in the Sutton-Place neighborhood will become mega skyscrapers, my project tries to change the types of projects that inevitably would develop on the same sites. Whilst I do not think my project is completely realistic or achievable in the New York market, I'm not sure his project would be achievable in a city almost run by the developers. If it would be possible to change the way New York develops with his project, it could also help to force developers to make projects like my affordable housing project.

3: Methods and approach:

Complex projects is a graduation study which enforces an approach on students of constant presentations. The aim is to develop the project from presentation to presentation. This results in the student taking a lot of time to continue to develop their story each week, and presenting their progress to a tutor every week. With an approach like this it takes a lot of time and effort to keep every aspect of a complex project up to date and does not allow the student to take deep dives into one part of the building for too long. Therefore this approach did not particularly work for myself. The student finds themself constantly juggling many different topics not being able to finalize or take conclusions in any part of the research. As a result some conclusions have been taken too quickly, leading to backtracking and redoing parts at a later stage. Whilst it is great for constant iterations on a small element, it takes away (the feeling of) actual progress and project development.

However some elements of this approach also did work for me. The approach forces you to think about things as an integral whole, this helps with developing for example the climate system as a part of the building instead of as an afterthought. The approach also worked a lot better when we were working on group research for our research book. This leads me to conclude that it might work really well in a larger office setting with a lot of architects working together on a larger project.

With the current Covid-19 situation, we as students are forced to work from home. This unfortunately also means the approach of the tutors and studio kind of fell apart. Transforming instead to weekly zoom meetings with the tutors and sometimes fellow students. The hardest part of adapting to working from home, is the isolation. To me it was sometimes very difficult to keep a positive mindset about the progress. As the one person working on a project you know all the issues, and everything that needs to be done. Without the option to just chat with the students/colleagues next to you, it can be very hard to make small decisions or to discuss options. Another issue that arose because of the self isolation during the second semester is the lack of group coordination. It happened multiple times

that the tutors of the studio decided that it would be nice to organize a multi group zoom meeting to keep each other up to date on our progress. However, this was often announced shortly before, with too little time to actually coordinate group work to make something nice. Because of this, the group meetings end up being pretty useless.

4: Relation between the graduation studio project and the wider social profession.

Although the specific solution proposed in the project is catered to work within the context of Manhattan, issues with lack of affordable housing are widespread. Affecting not only New York but many cities over the world. Take for example the Netherlands where there is a lack of about 200.000 houses. Just like in New York this has increased the prices of rent and land inside the cities or nearby towns. A highrise solution like proposed in this project might be very suitable for a city like Rotterdam, which is already increasingly turning into the New York of the Netherlands. The context of New York, where land prices are so extremely high, made it necessary to go higher to achieve the desired number of apartments. For a context like Rotterdam, it would not make sense to build a skyscraper of this height, or a skyscraper at all. However, the methods researched during the development of this affordable housing skyscraper can of course be adapted to most urban contexts, and adapting it to the local differences should make the projects stronger.

Besides the focus on developing affordable housing, this project has taught me a lot about working within a different architectural context, Namely the very chaotic and gigantic metropolitan context of New York. As well as the project has taught me a lot about different viewpoints on development. Whereas in the Netherlands development is a lot more democratic and social, with a lot of opportunities for neighborhoods to speak out, especially compared to New York. It has taught me to take the dutch mindset I've been subconsciously developing during my bachelors and masters 1-2, and rethink certain aspects of it.

Sustainability and adaptability of the design were also huge topics in the research and development of the graduation project. The main sustainability goal of this project was to create a skyscraper that would last for at least 200 years. For this the projects should be able to be adapted in the future. In my project this can be done because of measures taking into the floor plan design; like columnless spaces. But also because of a demountable construction and facade panel design. The research done to make this achievable is also adaptable to other projects, and in some ways is already being done in scandinavia.

5: Ethical issues and dilemmas:

Throughout the development of the design brief, and later during the designing of the tower, one aspect of the financials kept bothering me. It would be a much easier and simpler project if I were to split the tower, making only part of the building affordable apartments, and then using the height of the tower to build expensive penthouses. This would make the financial side of the project much easier, probably a bit more realistic as well, but it lessens the message of the project. Another issue with a split building like that is that it increases social segmentation. It reduces the opportunities for the poor to find a suitable place whilst it would give the super rich another place to waste their wealth.

To me, the current trend of super expensive luxury housing seems to be just that, a trend. Maybe in the future, most of these super rich people find new trendy places to live, and abandon their expensive homes in the New York Skyline. This is what is happening to the offices in Midtown right now, as new and more trendy offices in Hudson Yards open. It is however likely that the developers of the current luxury projects wouldn't care, as they already made their investments back a long time ago. A future trend in the city could be to adapt the skinny luxury apartment buildings to smaller and more affordable units, but then it is the question who would fork the costs of that.

Another issue that lays at the foundation of this project, but also many others is the issue of material use. Why is it so important that this building fits well within the neighborhood if this means it would use more materials than if it were its most basic and efficient form. This building could be much more efficient in terms of the amount of material used if it were just a basic block, with a simple and efficient facade and structure. Why do architects, but also the general public, put so much importance in the aesthetic qualities of a building?

This of course is a dilemma that is facing the entirety of the faculty, or build environment. And that makes it very hard to answer. Of course the buildings would never be completely reduced to their most basic form as most likely these would not be spaces people would want to live in, thus it becomes a matter of where you draw the line. For this project the aim was to reduce material use as much as possible, but use material in such a way that it lasts for many years. The most realistic solution to this problem is to create things people would not want to destroy, thus making materials last effectively forever. However trying to answer that question is very difficult.