

# Junho Lee

Works from  
Advanced Architectural Design at GSAPP

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1. Equity in public transportation

*X- information Modeling*

2. Building Bridges between New Jersey and Manhattan

*Generative Design*

3. Safe Playgorund for all

*Datamining the City*

4 Brooklyn Army Terminal : Back home

*Advanced Architectural Design Studio*

5. Public Infrastructure / Public health : Cross Bronx Expressway

*Advanced Studio V*

6. Young, Wild, and Free

*Advanced Studio VI*

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# 1. Equity in public transportation

Fall 2021

Course: X-information Modeling

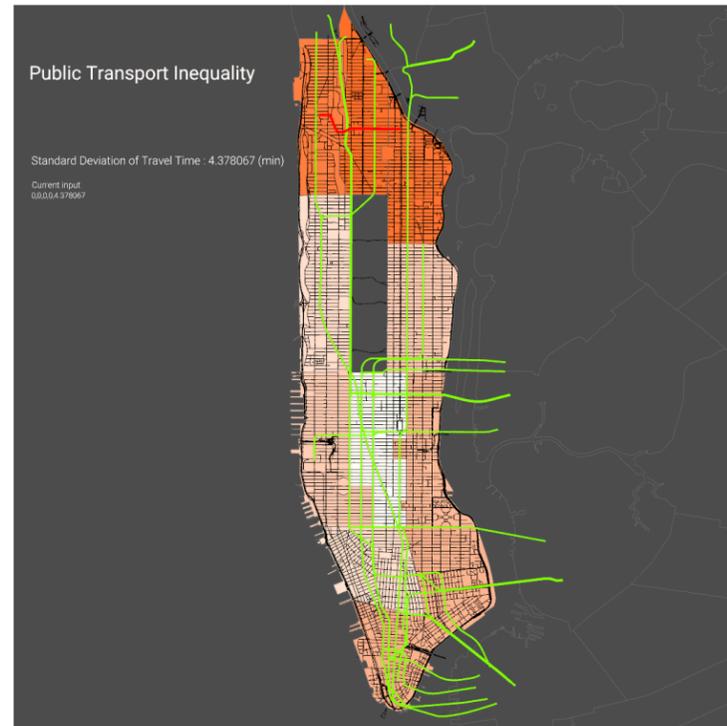
Group work with : An Wang, Yuning Feng

Have you ever thought it is absurd that from Morningside heights, it is easier to go Times Square than East Harlem? While the discussion on racial justice is active, I've never met single individual who complains about this phenomenon.

Therefore, the first goal of this project is to visualize the inequality of public transportation - subway. Secondly, by generating hundreds of design options, I find and suggest the subway line which will ameliorate this problem most effectively.

The main scope of this project is

**Proposing a new subway line in Manhattan to people to have better accessibility to infrastructure like hospitals, schools, etc.**

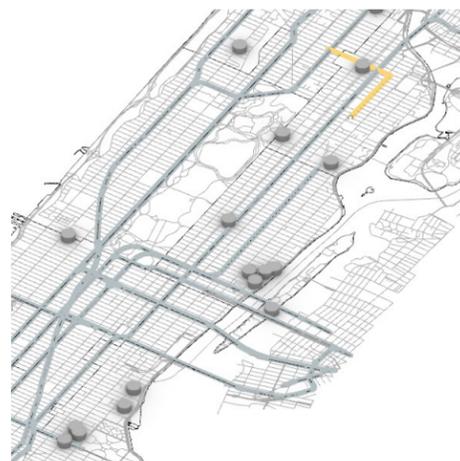


Analysis of travel time inequality. - darker color is worse

Phase 1 \_



1. Locate existing hospitals



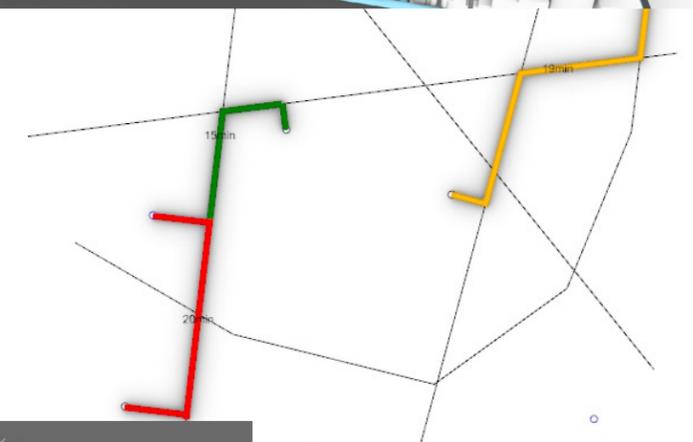
2. Adding a new line - Generative Design



3. Analyze travel time



4. Initial result



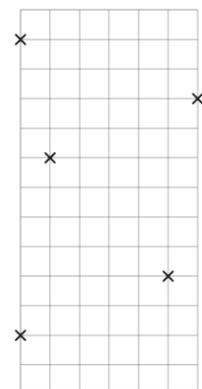
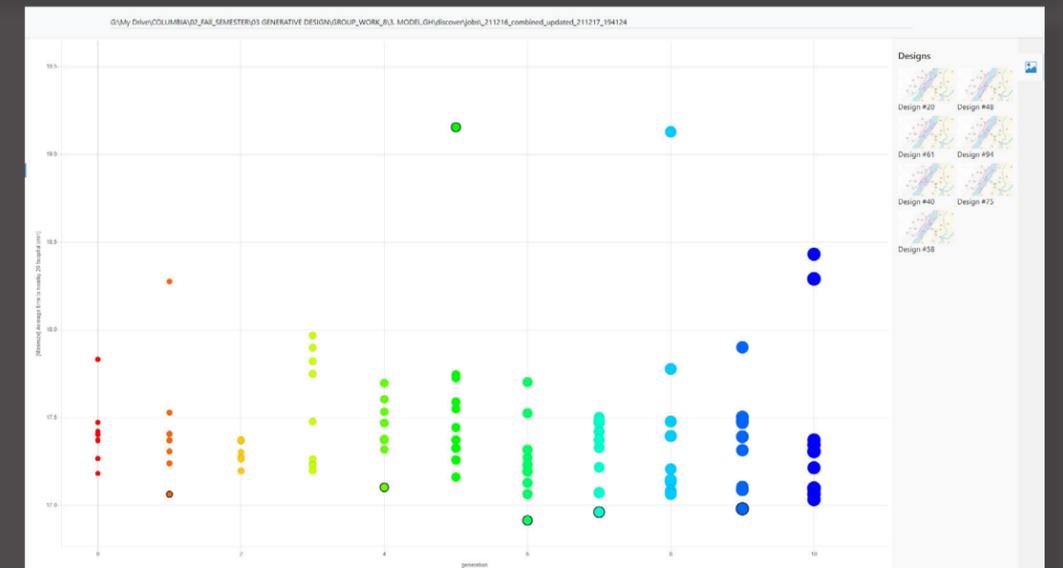
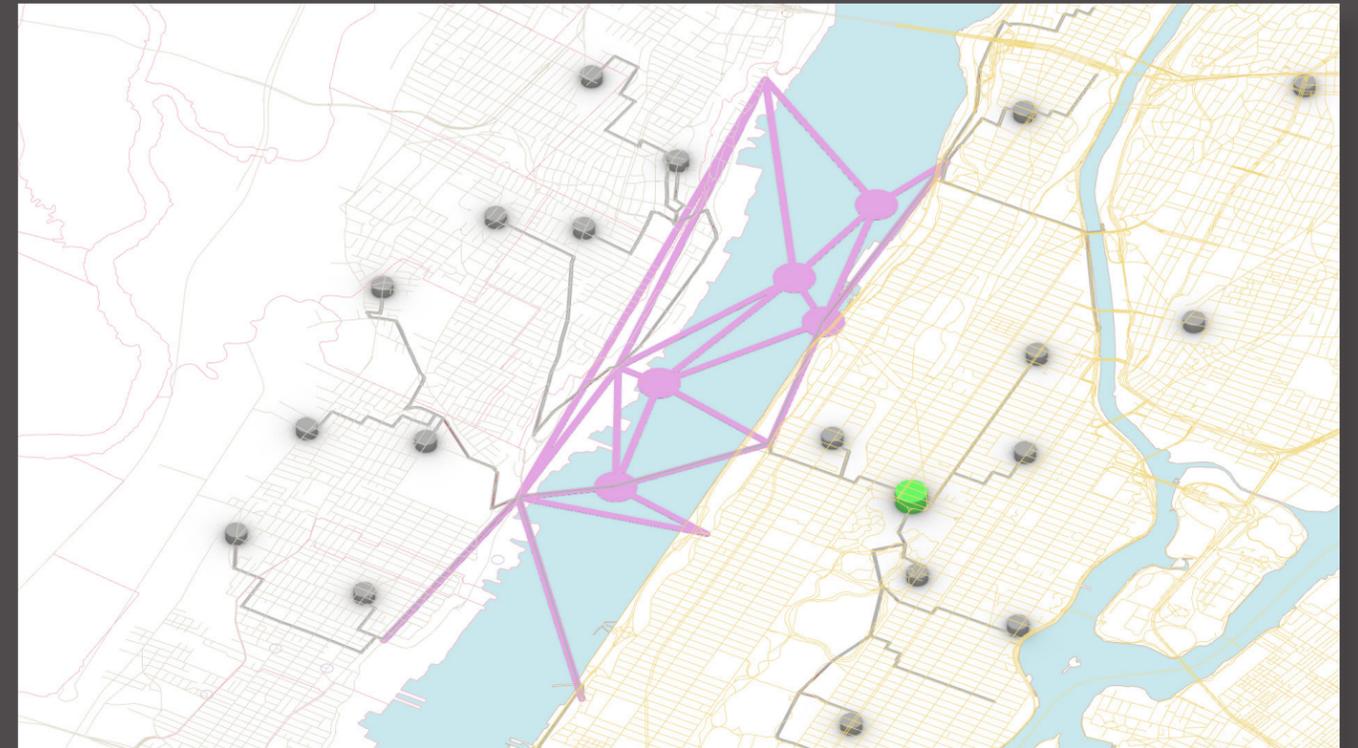
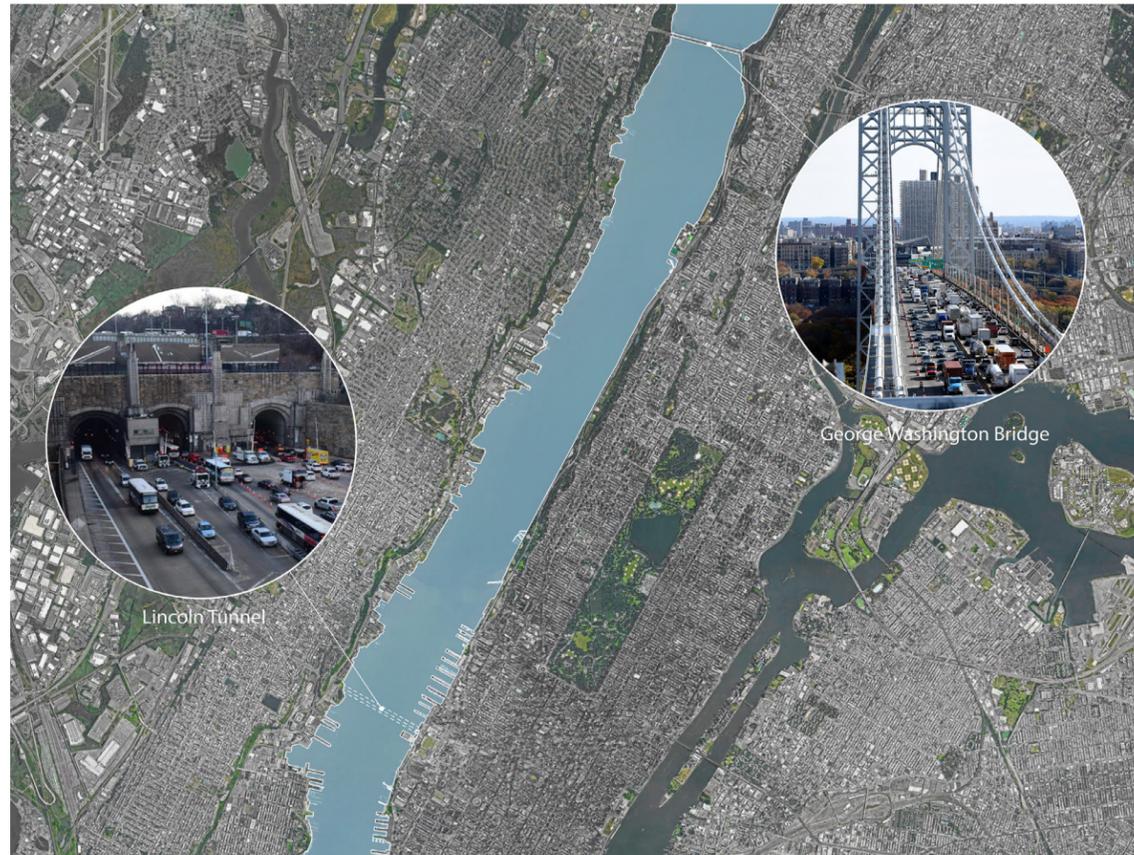


**Number of hospitals in 30mins :** 10  
**Travel time needed to closest hospital :** 3.12min  
**Sum of the visual angle of two exits:** 33°  
**Number of hospitals in 30mins :** 3599m2

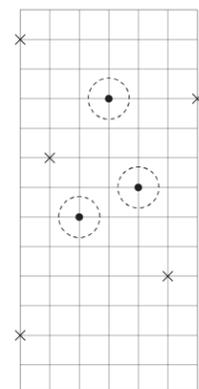
## 2. Building Bridges between New Jersey and Manhattan using Generative Design

Fall 2021  
Course: Generative Design

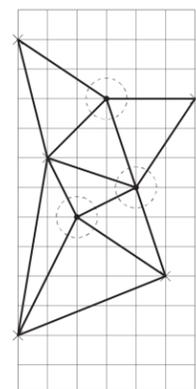
Group work with : Eric Chyou, Hao Zhong, Kyoungwa Lee, Seokhyun Kim, Sunghyun Kim



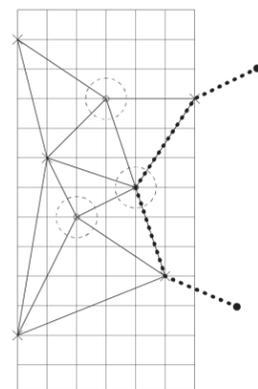
1. Manually Select Initial Points



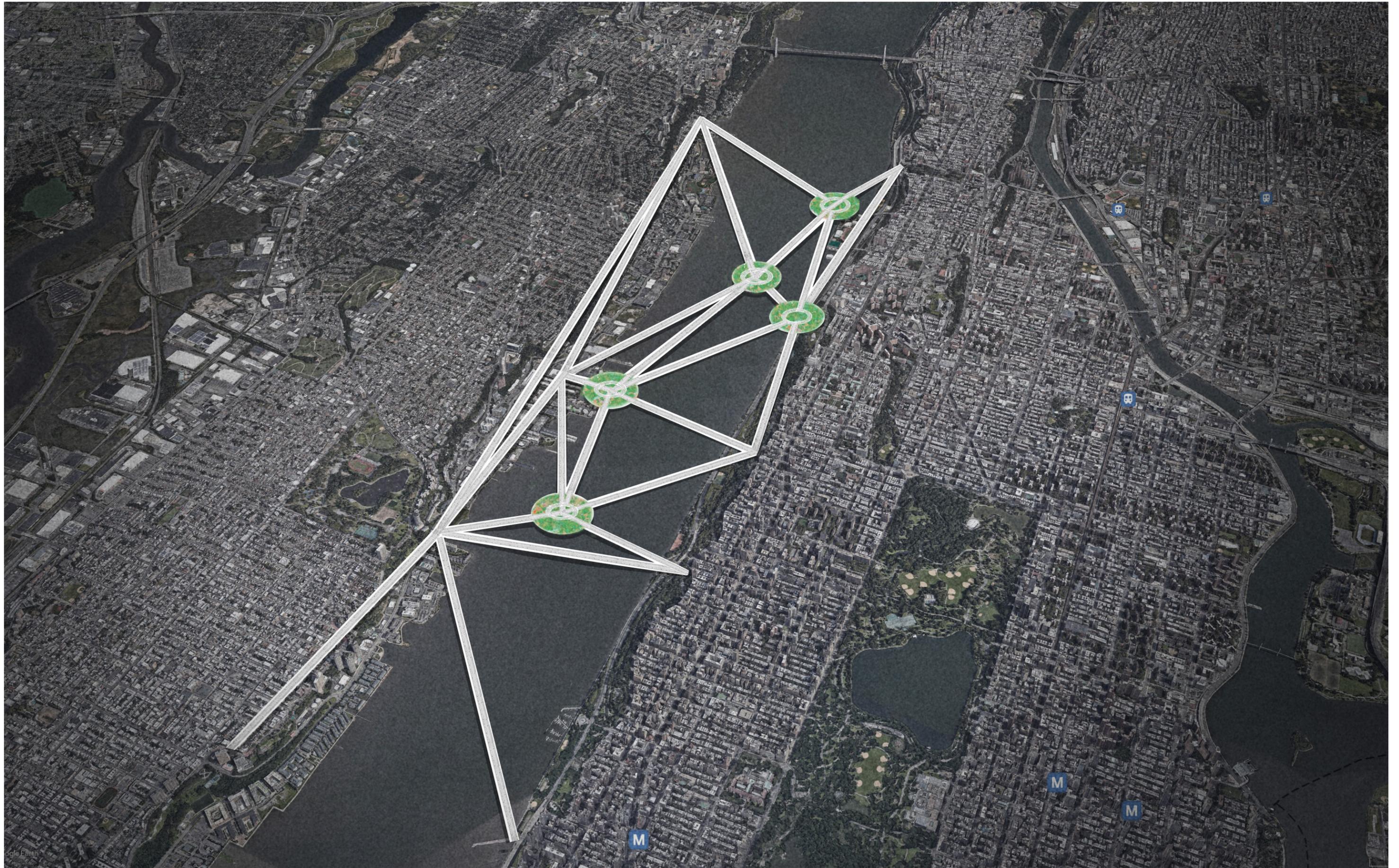
2. Randomly Generate Island Locations



3. Find Shortest Path Connection



4. Evaluate the System



### 3. Safe Playground for all

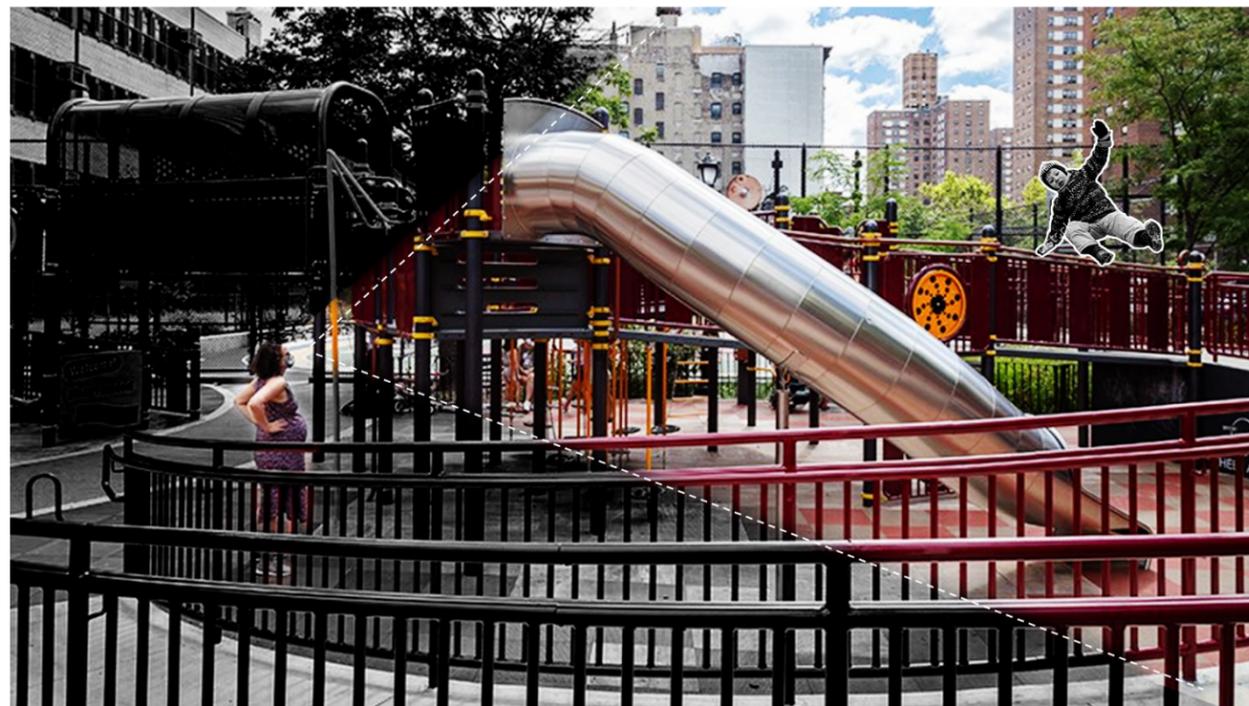
Spring 2022  
Course: Datamining the City

Group work with : Achmad Maulana ,  
Jisoo Kim

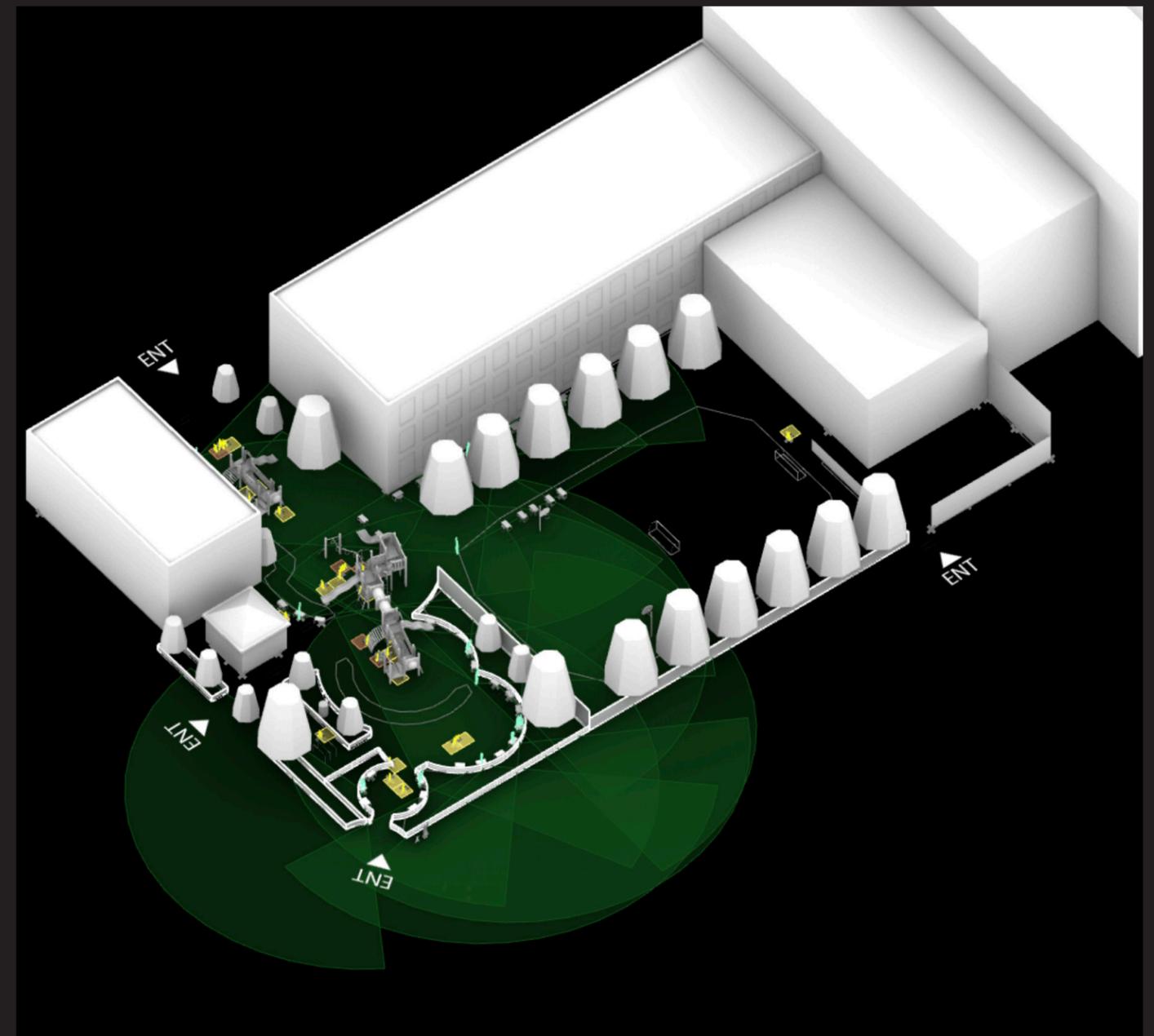
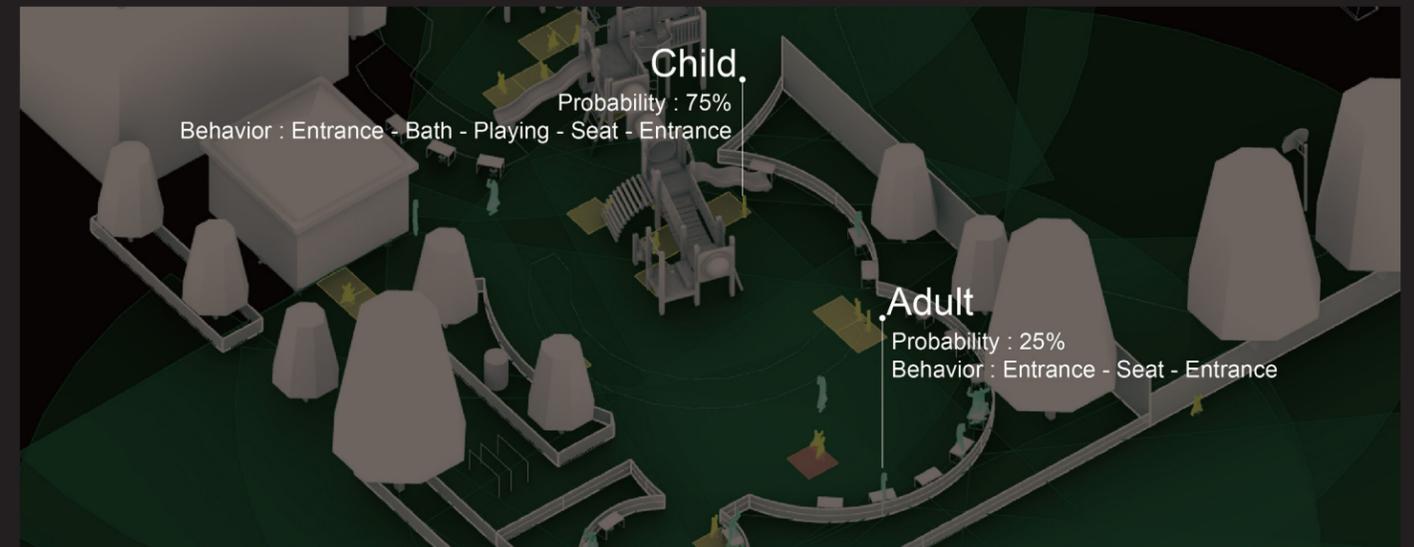
#### Introduction

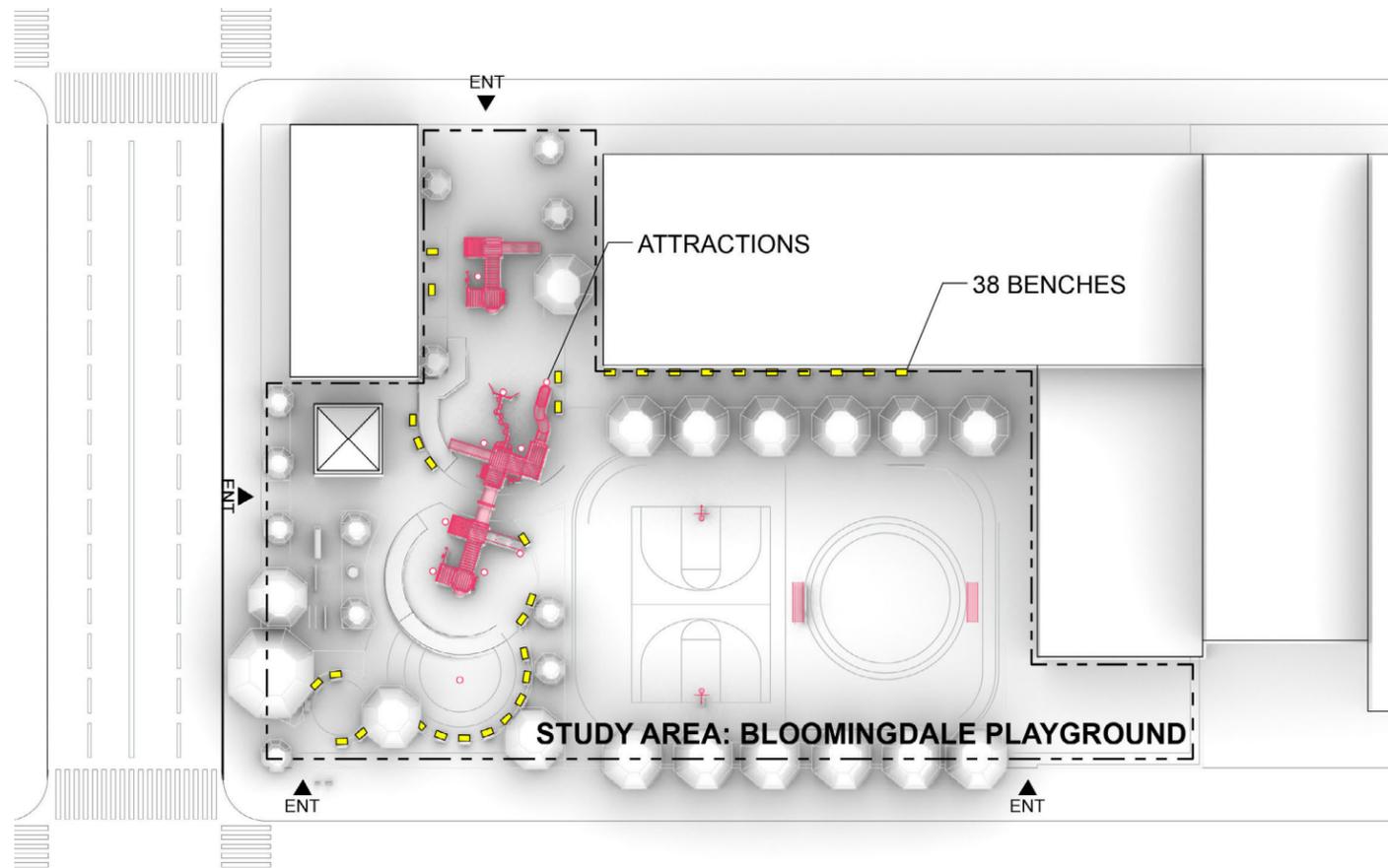
This project aims to explore the visual coverage and reachability coverage, within reasonable timing, in place(s) with high traffic pedestrian movement that require moderate to high level of security due to its nature of activities. In this exercise we take children playground as our case study for our analysis to measure and evaluate the level of safety by factoring the visual coverage

and reachability of the existing design. We use pedestrian flow analysis and visual analysis in our study. We evaluate the high traffic area within the playground to create a “heatmap” of activities, comparing against the location of benches, where the guardians would sit and monitor the kids activities.

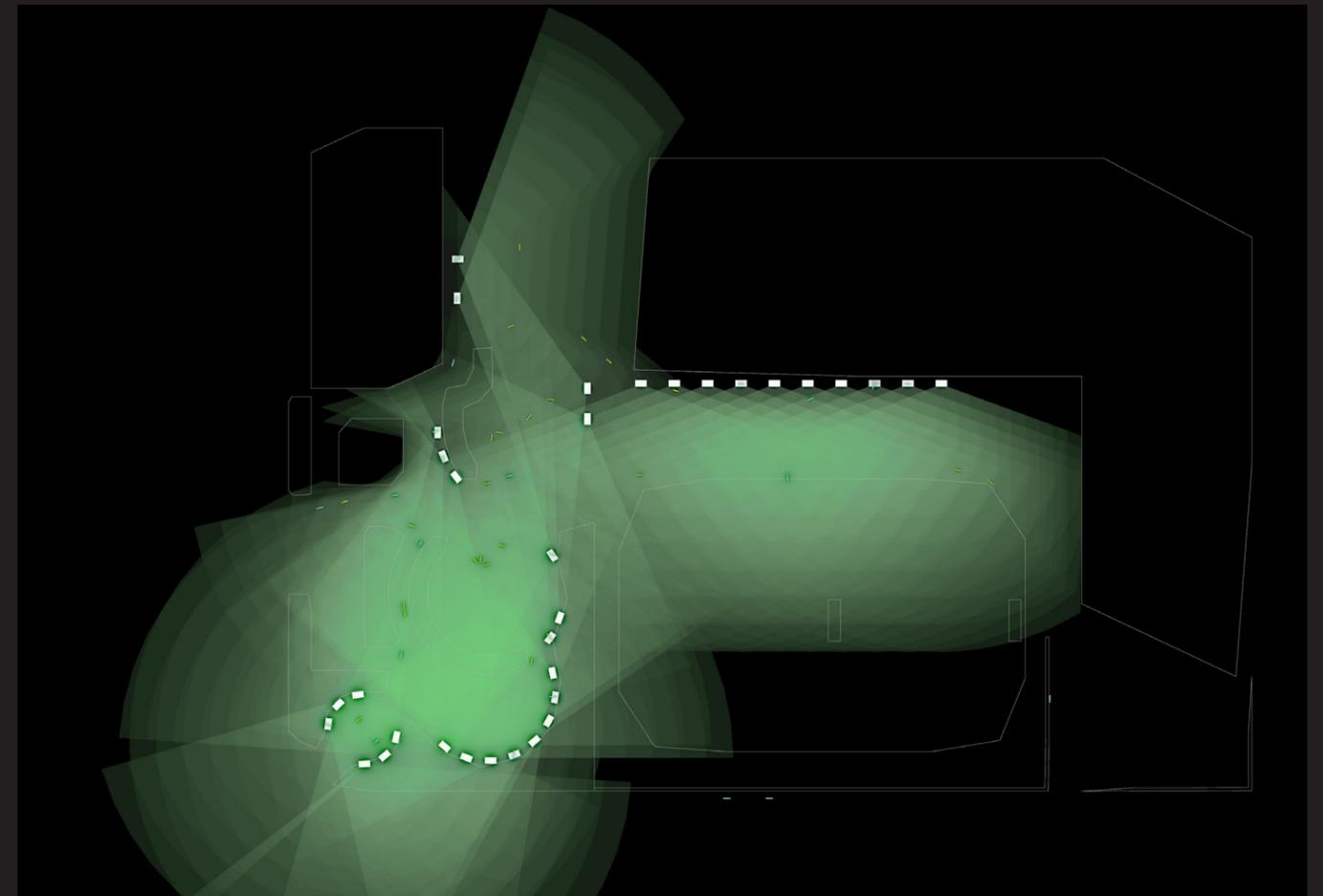


We use Bloomingdale playground as case study. Located at Amsterdam Ave., W. 104 St. and W. 105 St. Manhattan. We evaluate the existing siteplan of the playground, location of benches, defining the amenities (focus only on kids amenities) as well as point of entry.

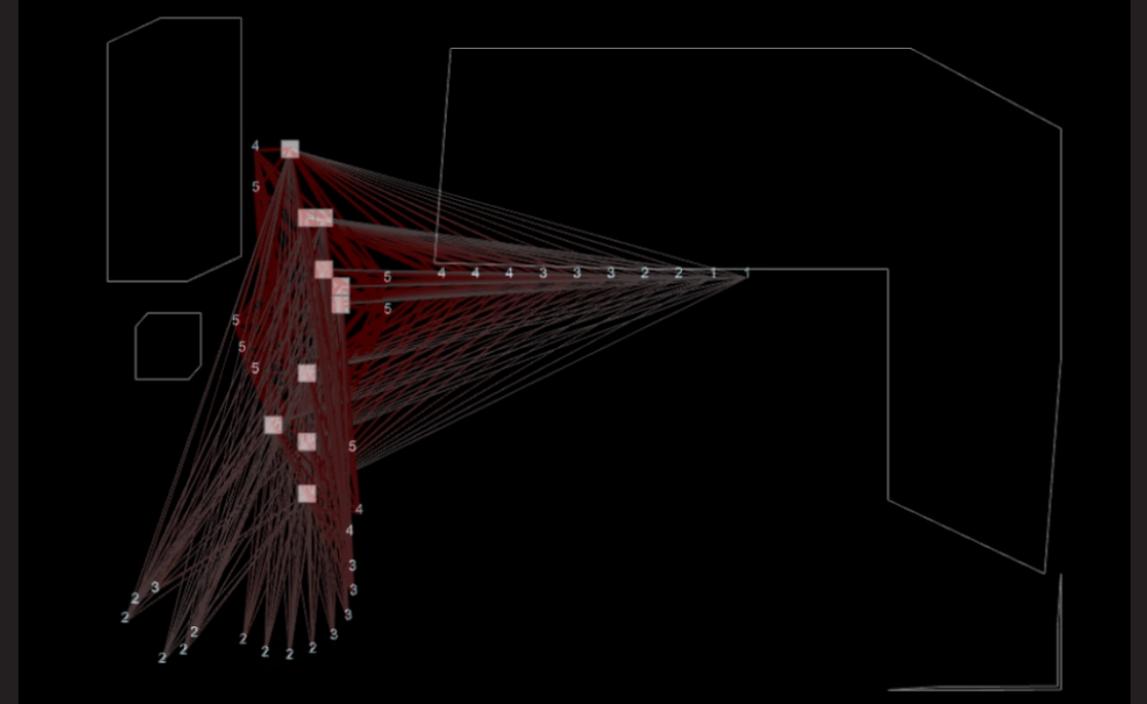




Combining all factors, we use PedSim and Decoding Spaces to simulate the behaviour pattern in the playground as base to define the area with most traffic, creating “heatmap” of activities in the playground.



The next step we do is measuring visibility from the existing benches. We determined the field of view of 140 degree (human sightline) with 80 ft distance with assumption that this distance is a optimum range of view to recognize facial features to identify the kids.



The next step is to measure reachability index. First we identify based on the “heatmap” the top 10 frequent spots of activities as base of measurement with assumption that these spots will likely be having potential collisions / accidents / frictions among children in the playground

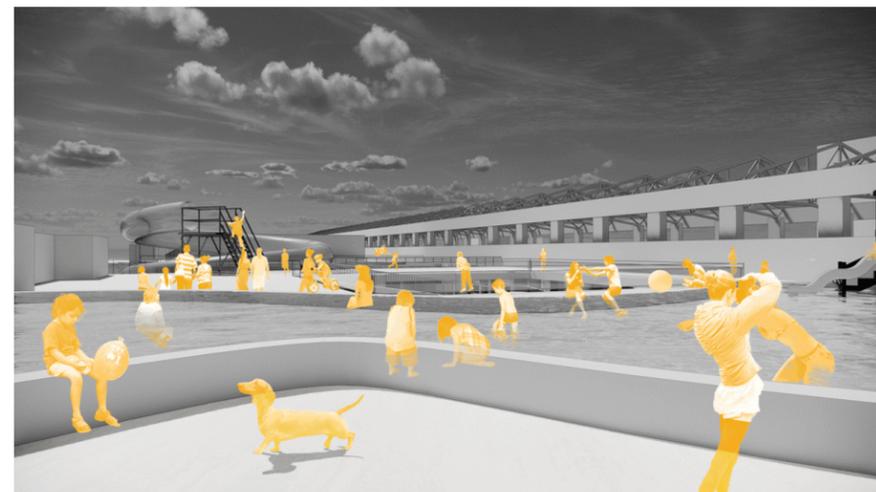
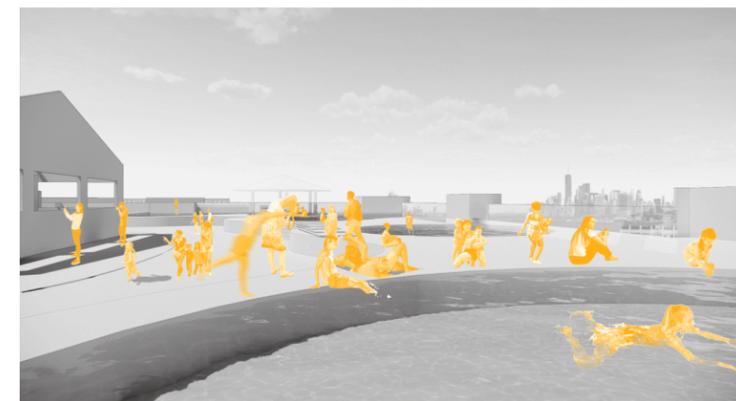
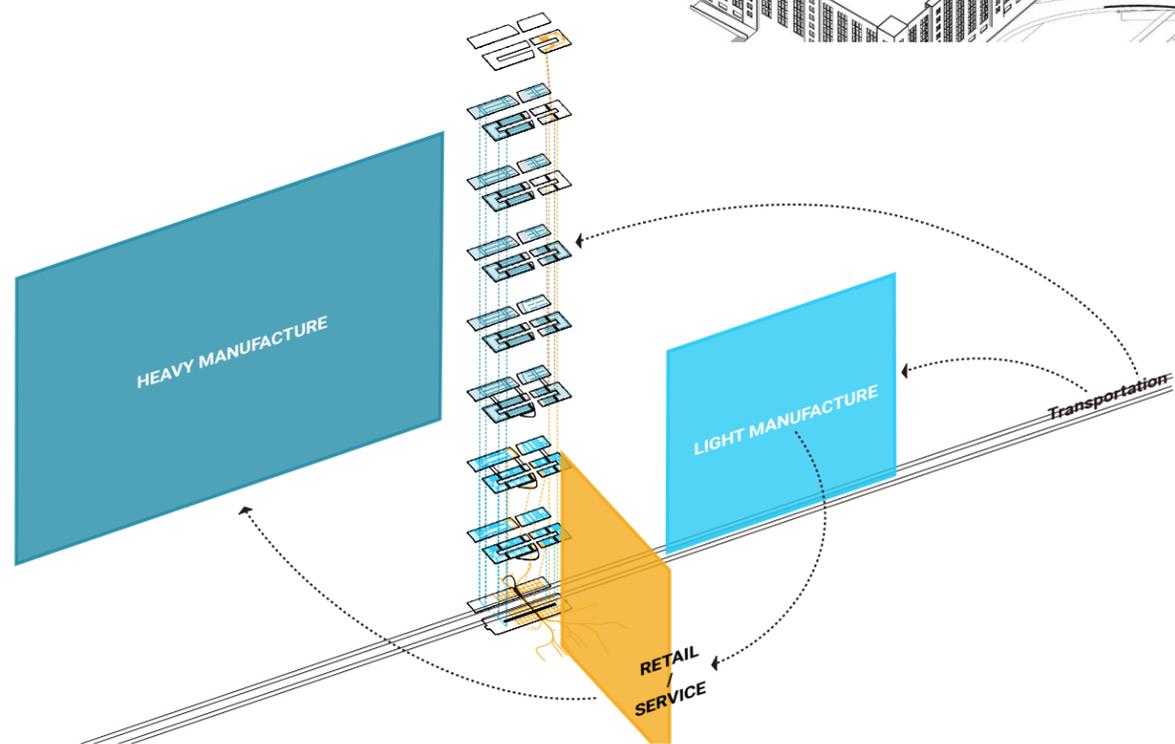
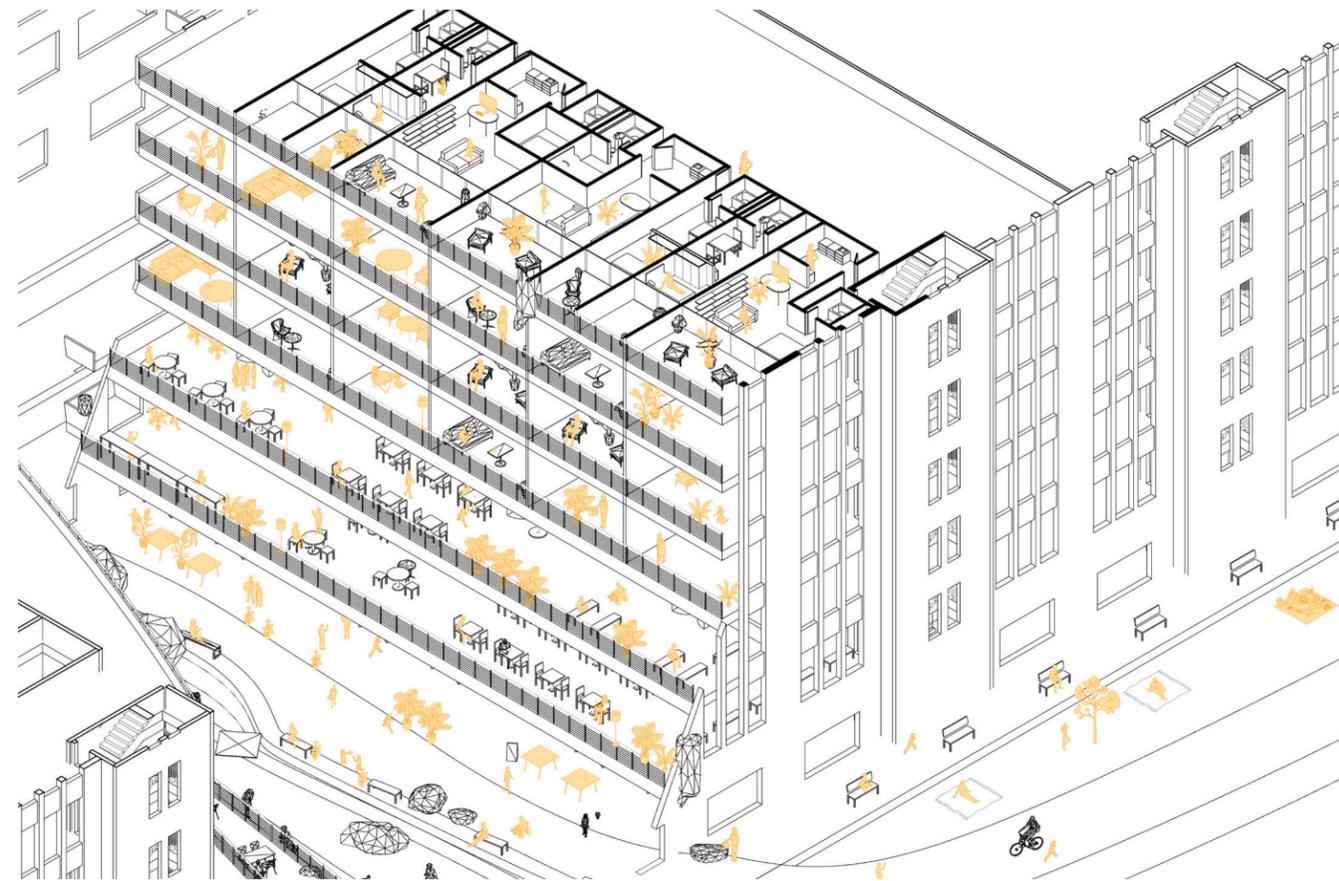
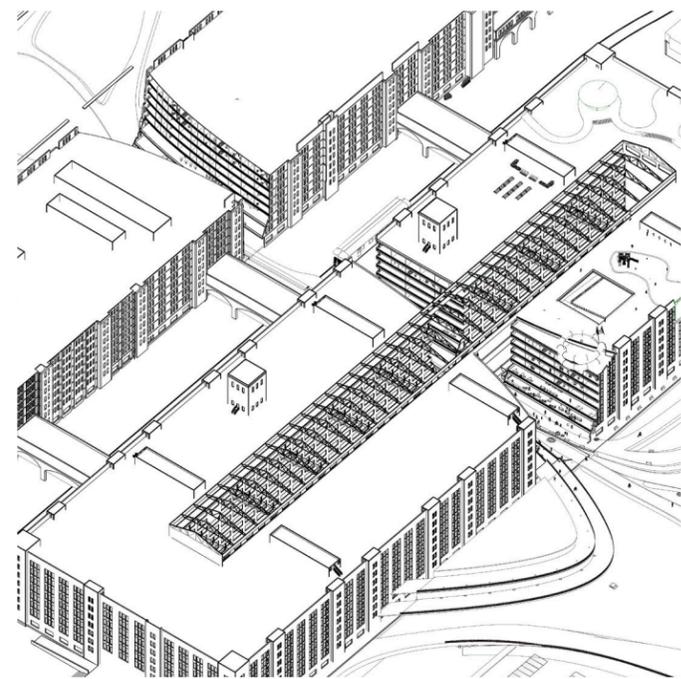


# 4. Brooklyn Army Terminal : Back home

2021 Summer Studio  
Professor : Laura González Fierro

This projects was about redesigning the Brooklyn Army Terminal, which located at the Sunset Park, Brooklyn. Brooklyn Army Terminal was built during world war and used for various purposes.

However, tragically, it has never served for its neighborhood while Brooklyn suffer from lots of problems such as poor housing condition, lack of proper public places, withered local industry/businesses.



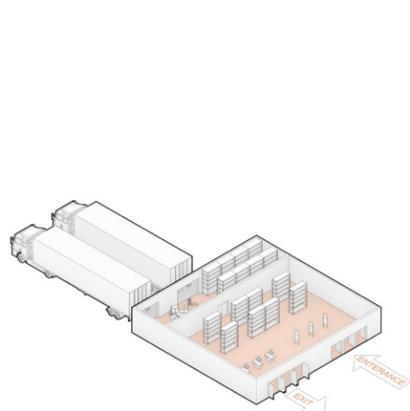
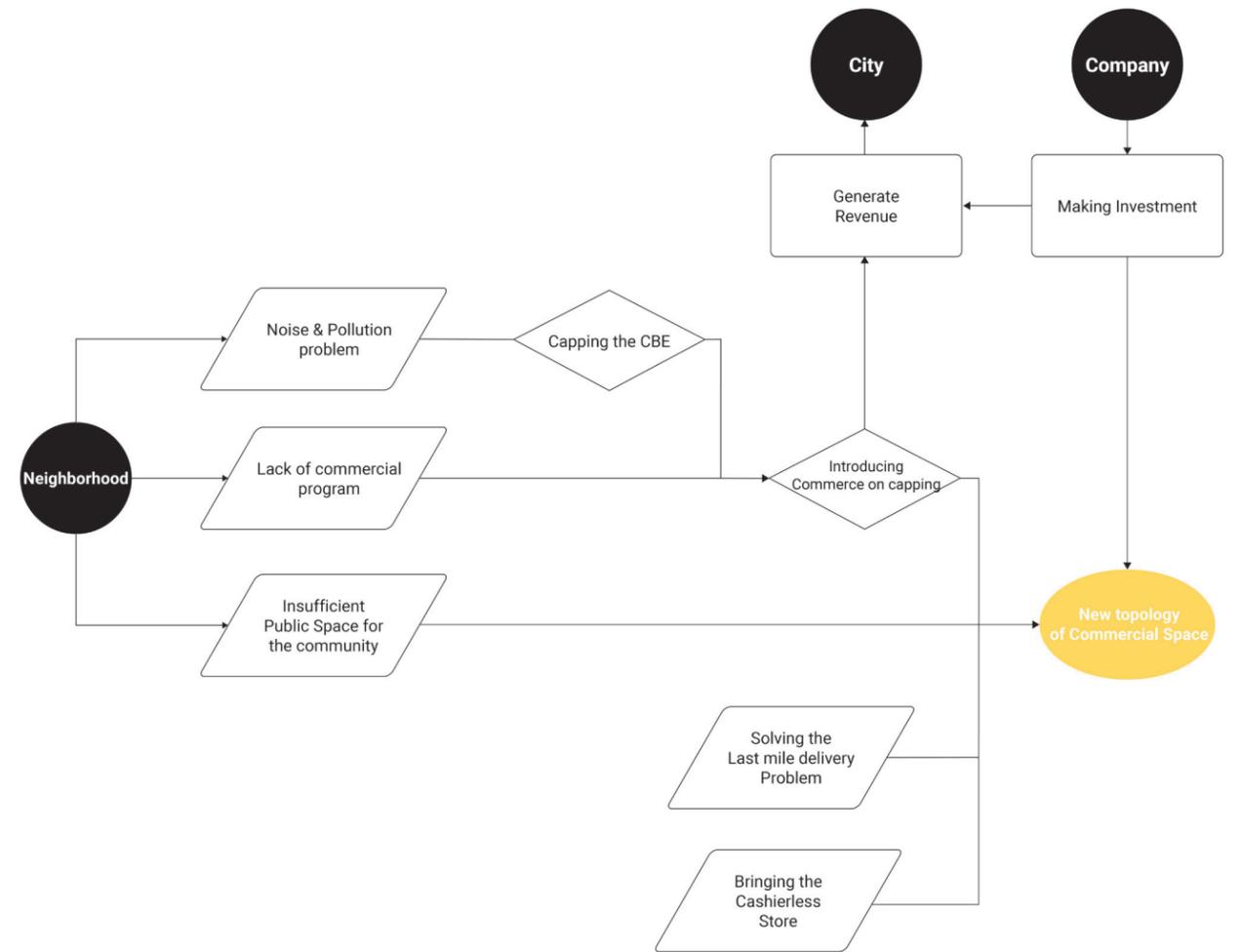
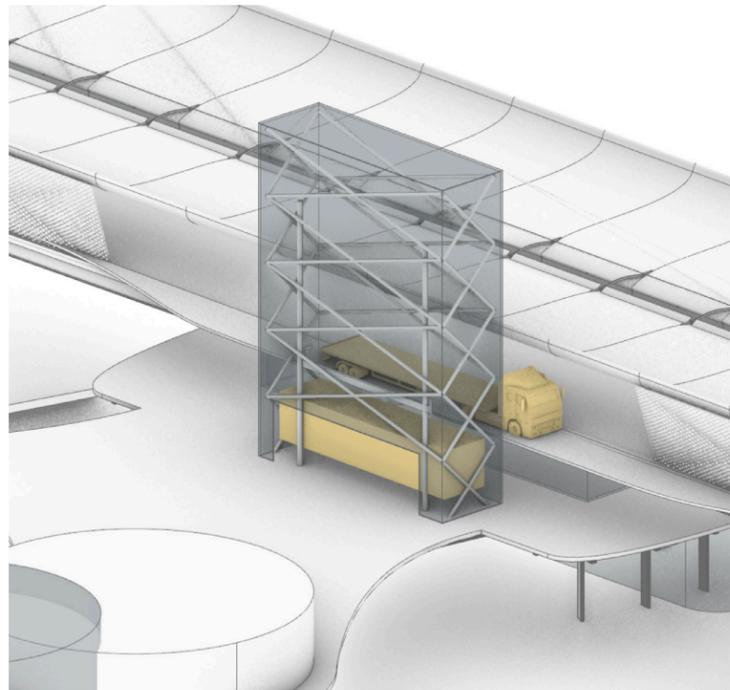


This project suggests opening up the BAT by cutting off its massive volume. Housing for the workers and commercial programs are located at the new perimeter created by the cut. The highlight is the water at the ground level connected to the park and at the roof which used as hot/cool pool for locals.

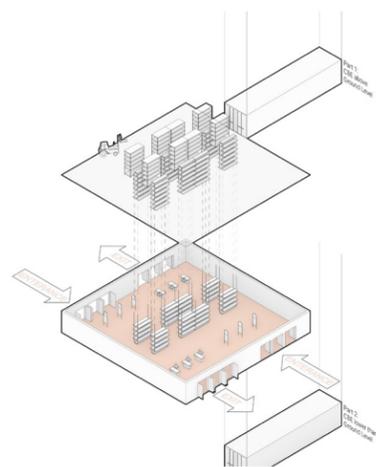
With this programs, like the title of this project, 'back home', Brooklyn Army Terminal is now truly located in and serve its neighborhood.



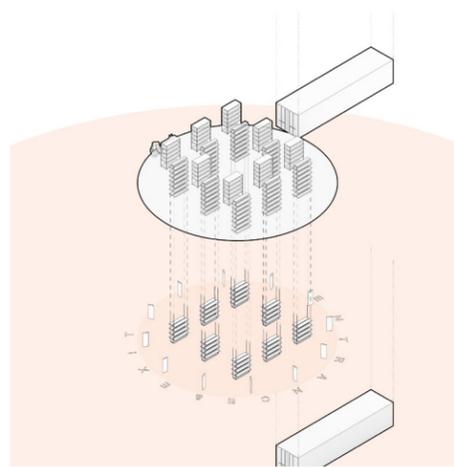
This collaborative course will imagine new ways to collaborate and expand what we see as the intermarriage of social policy and design intended to re-envision infrastructure that has harmed the well-being of those who are of color or socio-economically disadvantaged.



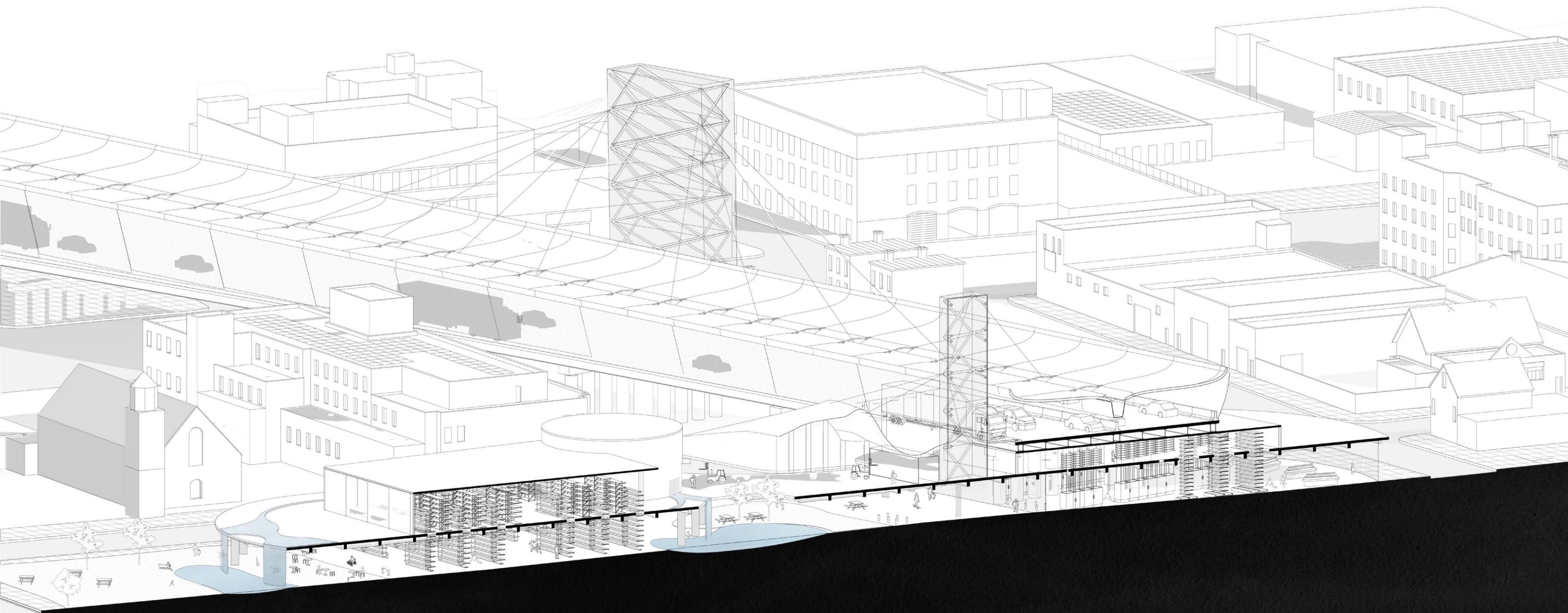
1. Locate existing hospitals



2. Adding a new line - Generative Design



3. Analyze travel time





# 6. Young, Wild, and Free

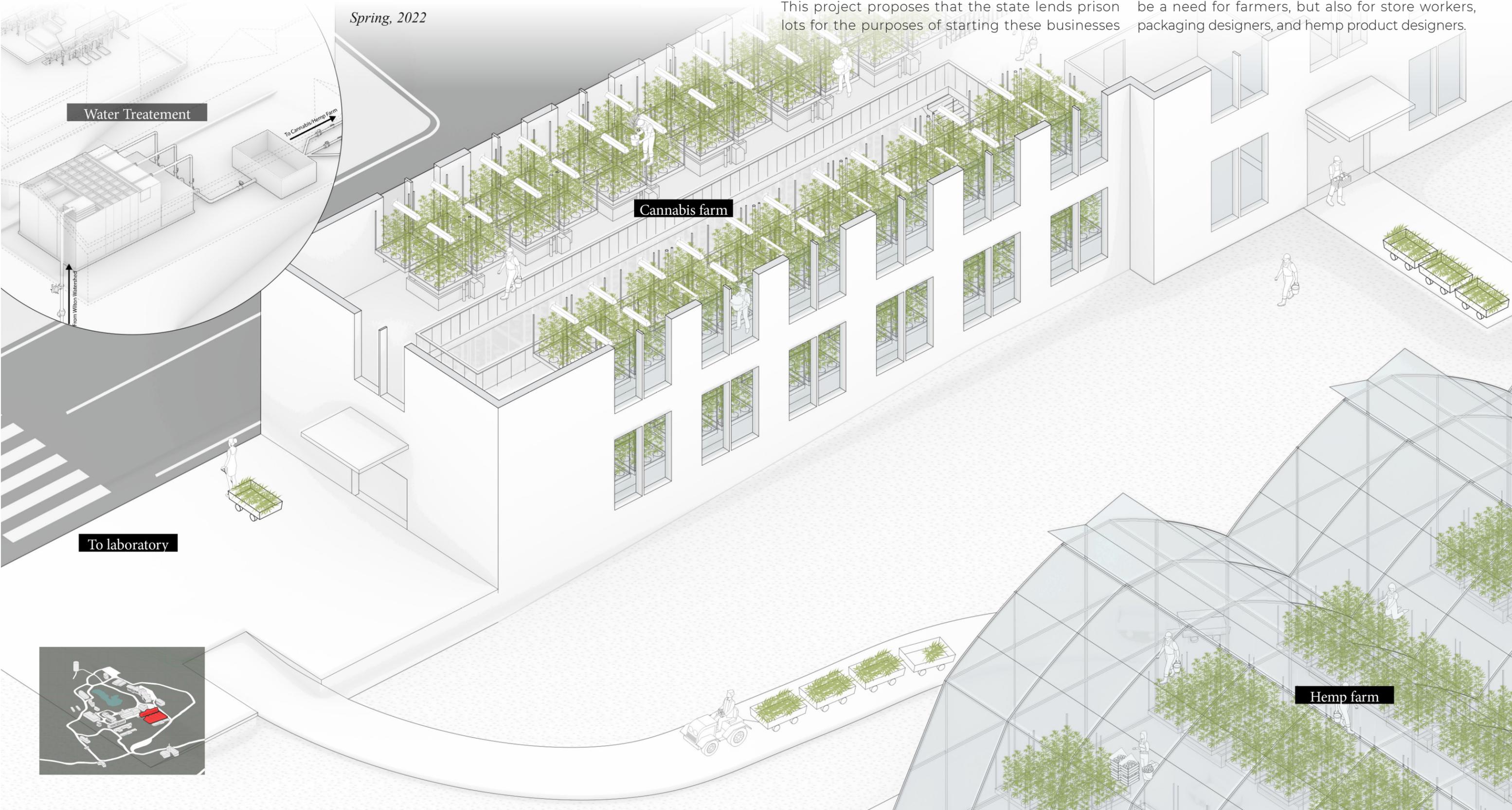
Advanced Studio VI

Spring, 2022

In New York State, 26 prisons are closing, and up until now, the economy of rural towns of New York has relied heavily on these prisons.

This project proposes that the state lends prison lots for the purposes of starting these businesses

– After prisons are retrofitted into cannabis farms and laboratories, dispensaries and stores will be located in nearby towns. This will create more diverse job opportunities than before. There will not only be a need for farmers, but also for store workers, packaging designers, and hemp product designers.



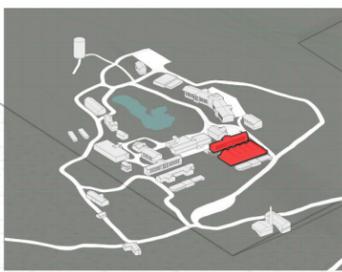
Water Treatment

To Cannabis/Hemp Farm

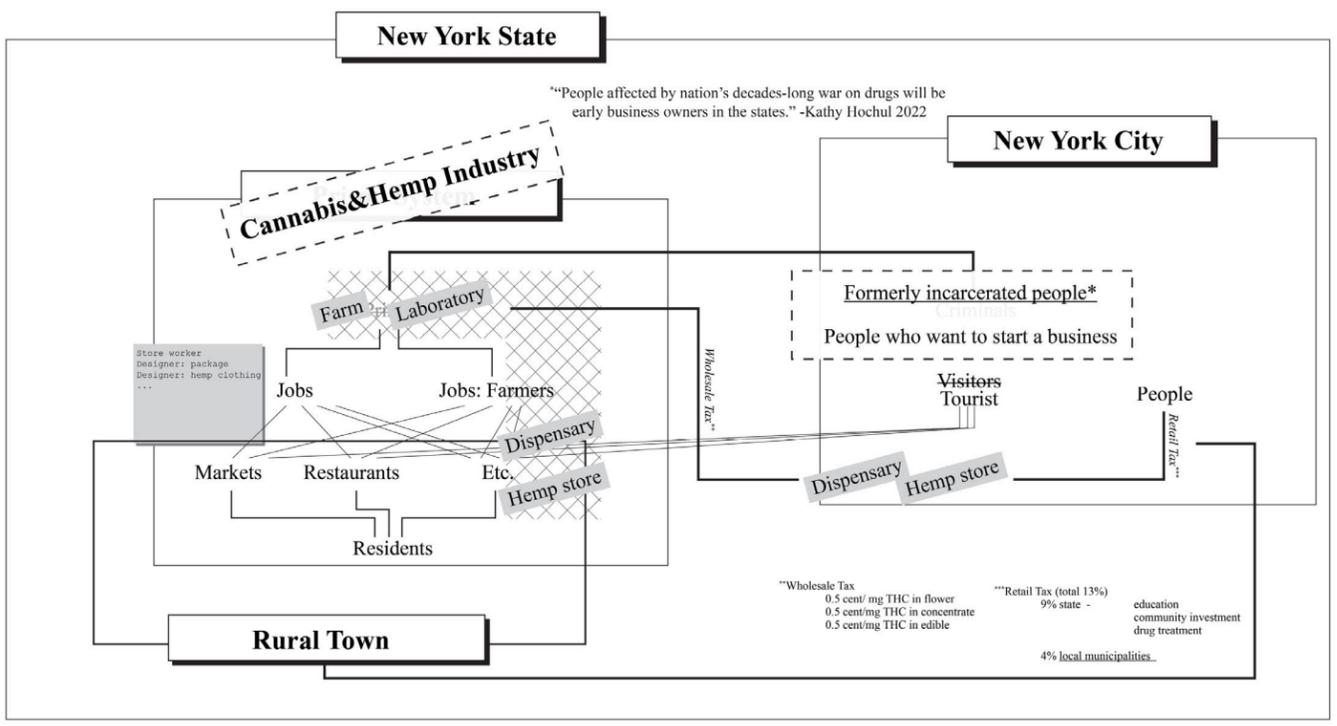
Cannabis farm

To laboratory

Hemp farm

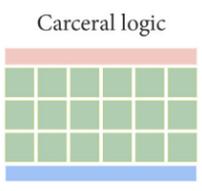


**Cannabis & Hemp Economy and Rural Towns**

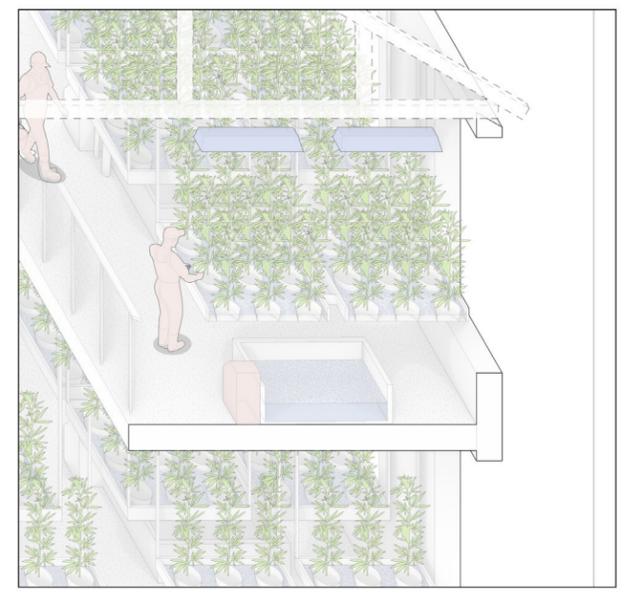


New relationships between the cannabis industry, New York City, and rural Towns of New York State. Governor Hochul has proposed giving some of the first cannabis licenses for formerly incarcerated people - those most affected by the decade long war on drugs.

RESEARCH



Prison



Cannabis farm

The carceral logic in the prison system has similarities with the surveillance and regulations around cannabis farming. Imprisoning people requires surveillance, central control, and infrastructure such as water and heat. Similarly, cannabis farms require surveillance for regulation and security, central control, and heat and water.

# The scale of replacing/replaced economy

## Prison Economy

209 prison guards, 111 ancillary staffs

\$20 M

## Cannabis Economy

Unit values\*

1500 sqft (effective 1300sqft)

0.105 pounds/sqft\*harvest

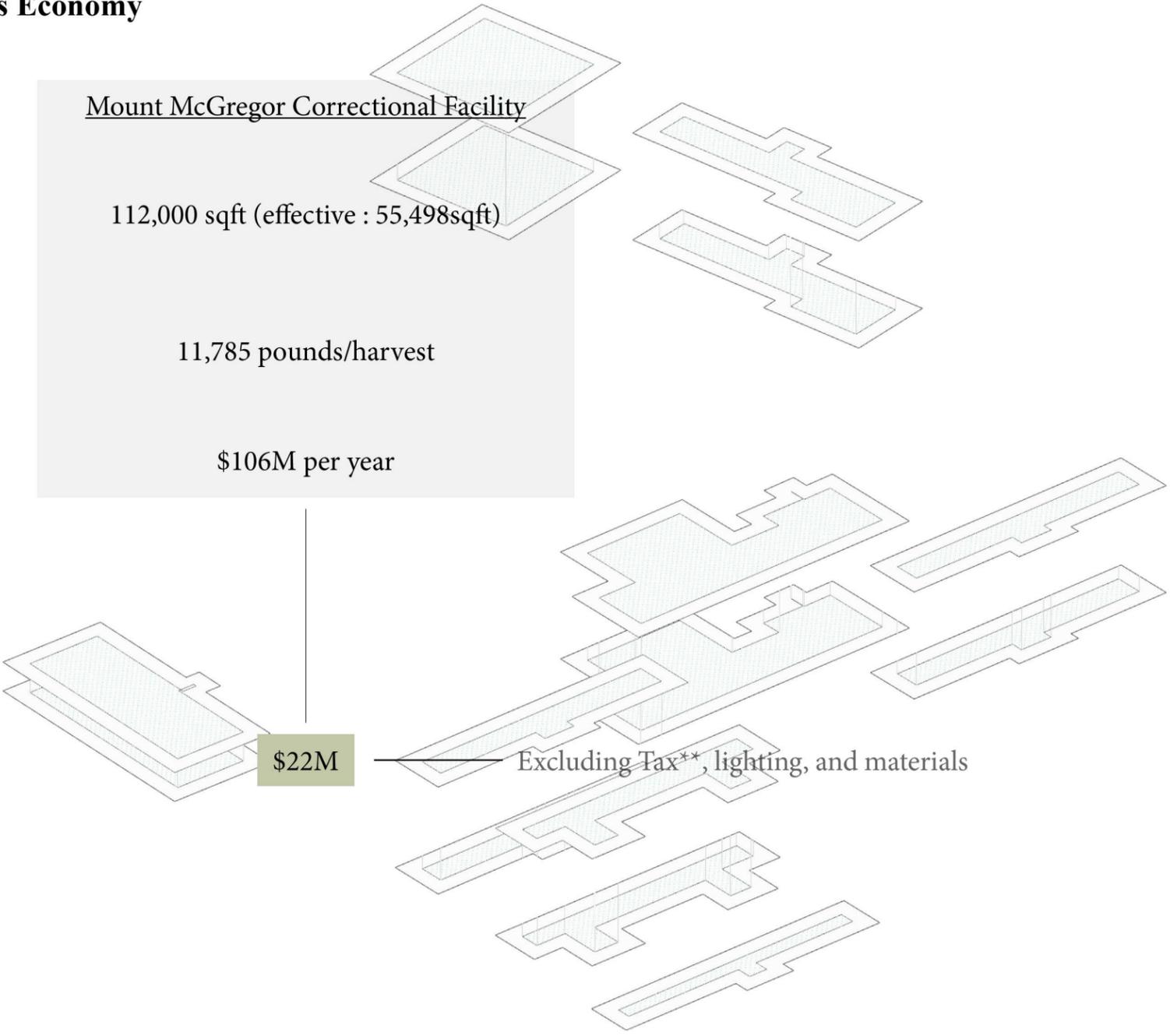
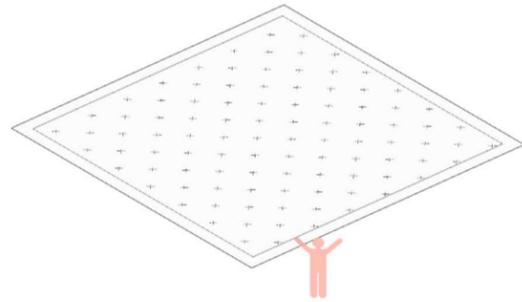
\$3000/pound

Mount McGregor Correctional Facility

112,000 sqft (effective : 55,498sqft)

11,785 pounds/harvest

\$106M per year



\$22M

Excluding Tax\*\*, lighting, and materials

\*JONATHAN P. CAULKINS, Estimated Cost of Production for Legalized Cannabis, Drug policy research center  
\*\*New York State, tax on cannabis

## Watershed system

### Intake pipe

The water used in Saratoga County is from northern Hudson river. There are state regulations to keep the water clean.



### Saratoga County Water Authority



- Coagulation
- Sedimentation
- Disinfection
- Filteration

Hudson River

Hemp & Cannabis Farm - suggested  
Mt. McGregor Correctional Facility - before

### Transmission Line



The transmission line is a combination of 30" and 36" diameter pipes. Extending about 26 miles following roads.

### Hemp/Cannabis Farm

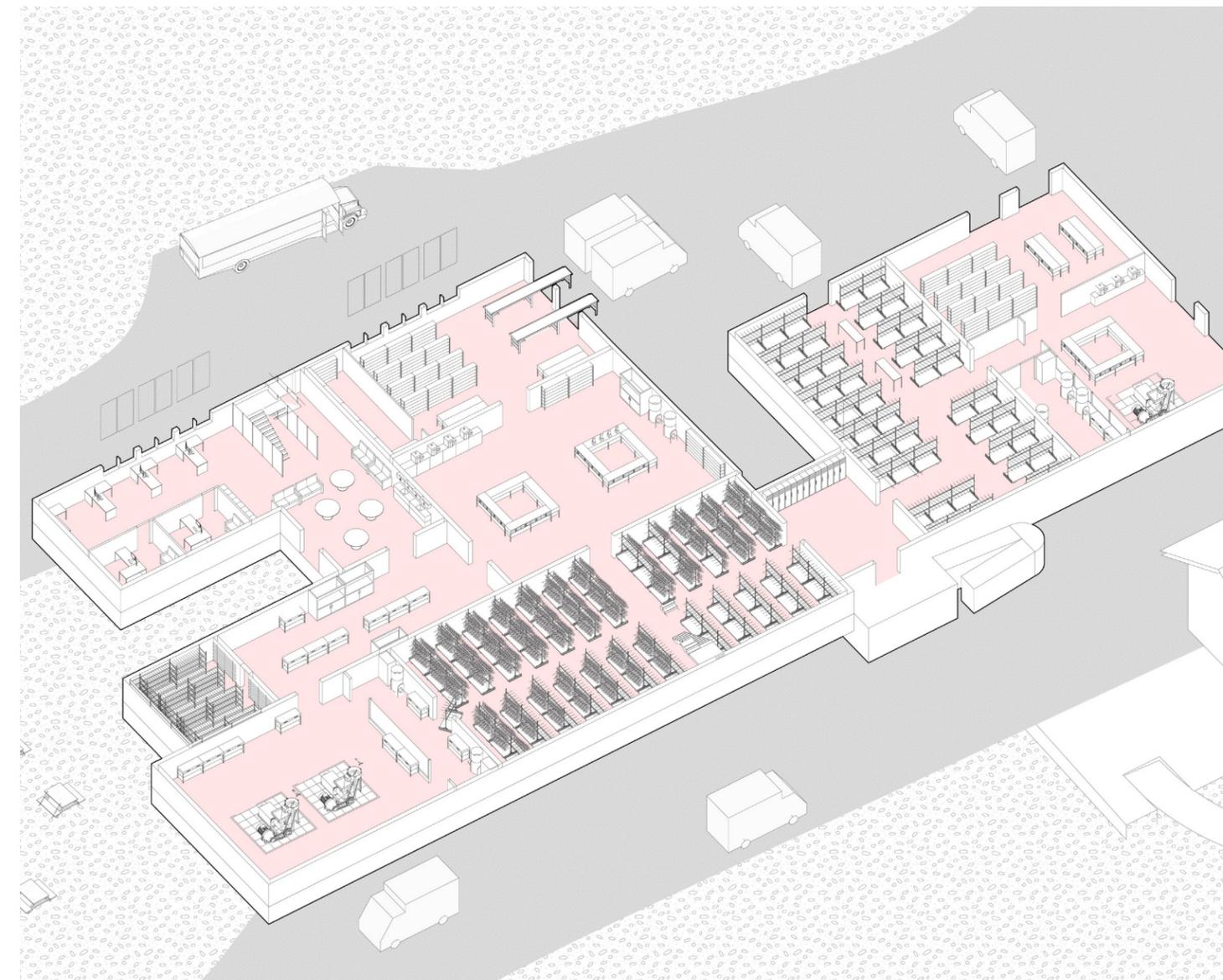
Water is taken from the nearby lakes. Water will be filtered to the level which it is appropriate for agricultural use. After using, it will be treated again and released to the river again.



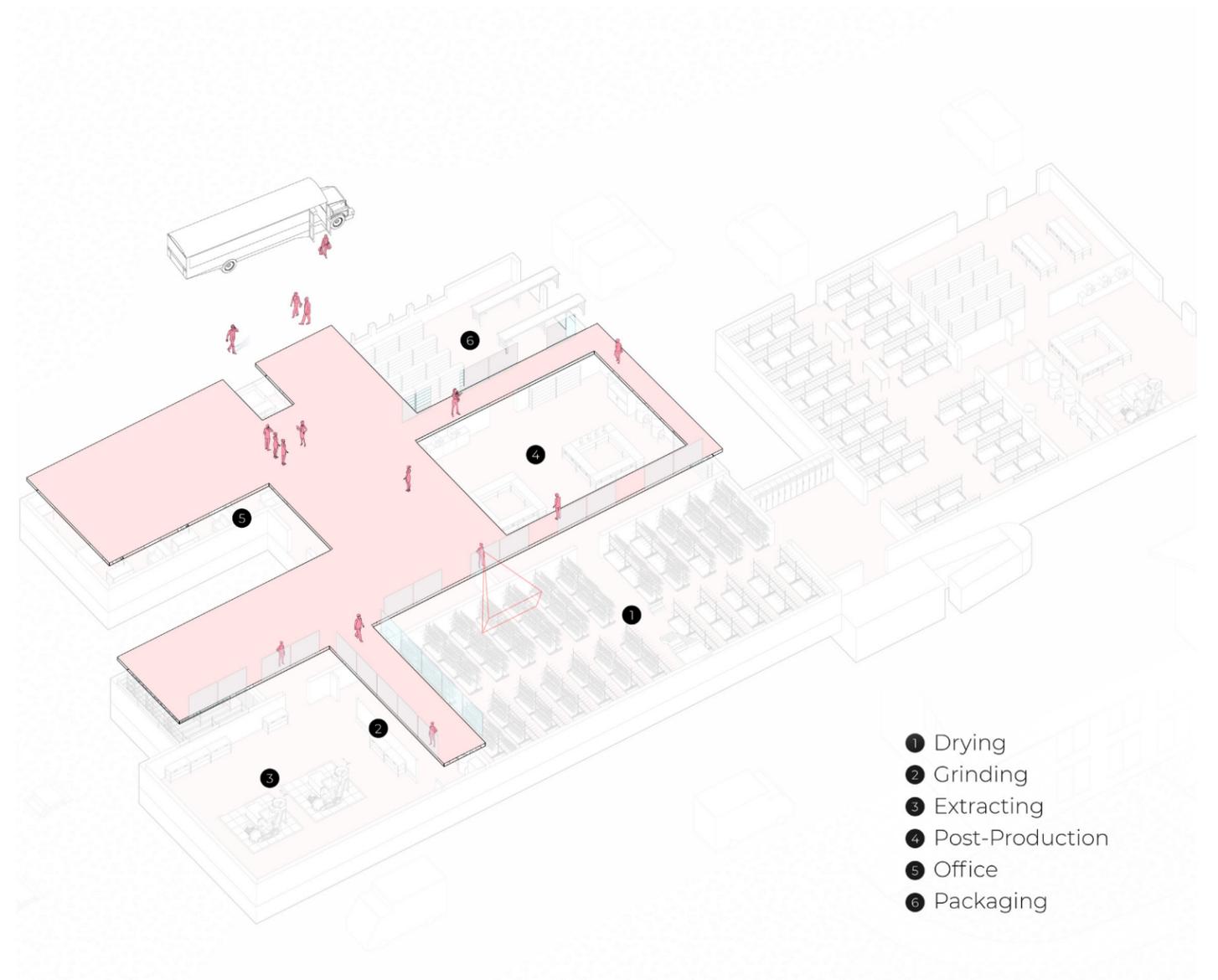
### Customers



Main customers are Wilton, Ballston, Malta, Luther Forest Technology Campus (semiconductor Fab), and etc.



Getting back to the cannabis farm, after harvesting, cannabis and hemp have to be processed under surveillance and certain guidelines. The other buildings which were dining halls before can easily be retrofitted into post-processing facilities for cannabis and hemp.



There is not only a lab and packaging facility in the post-processing building. As we saw in the diagram earlier, closure of prisons means loss of visitors. Toursim program will bring in tourists and allow people to see the history of the building, from its time as a prison to its current form, while simultaneously showing people the process of the cannabis industry.

# Cannabis Campus

Meditation

Dispensary

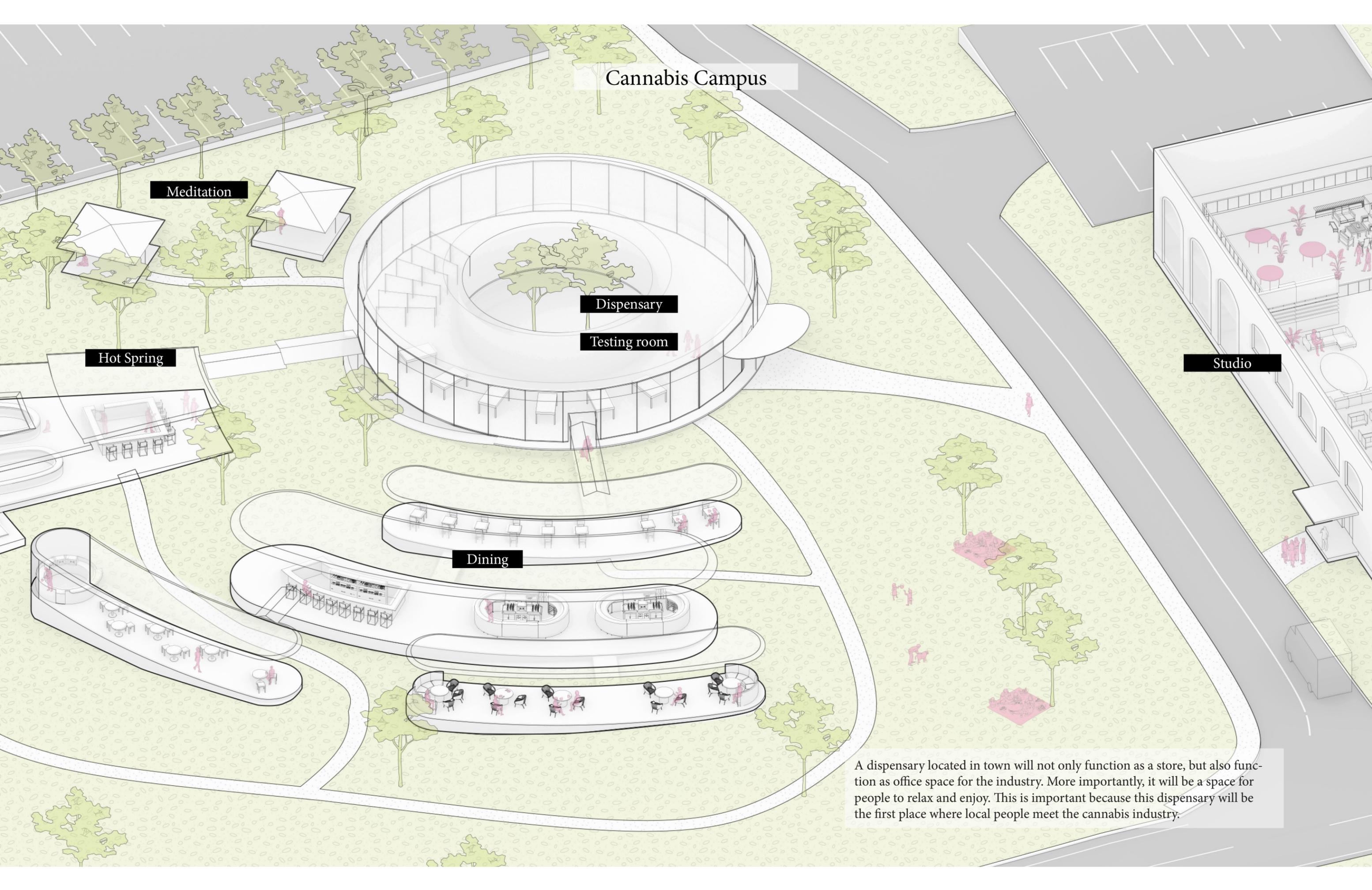
Testing room

Hot Spring

Studio

Dining

A dispensary located in town will not only function as a store, but also function as office space for the industry. More importantly, it will be a space for people to relax and enjoy. This is important because this dispensary will be the first place where local people meet the cannabis industry.



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If you want to see more work, please visit:

<https://github.com/palejelly>

Thank you.