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CAP-AND-PLAY

Academic (Summer 2019)

Market Values

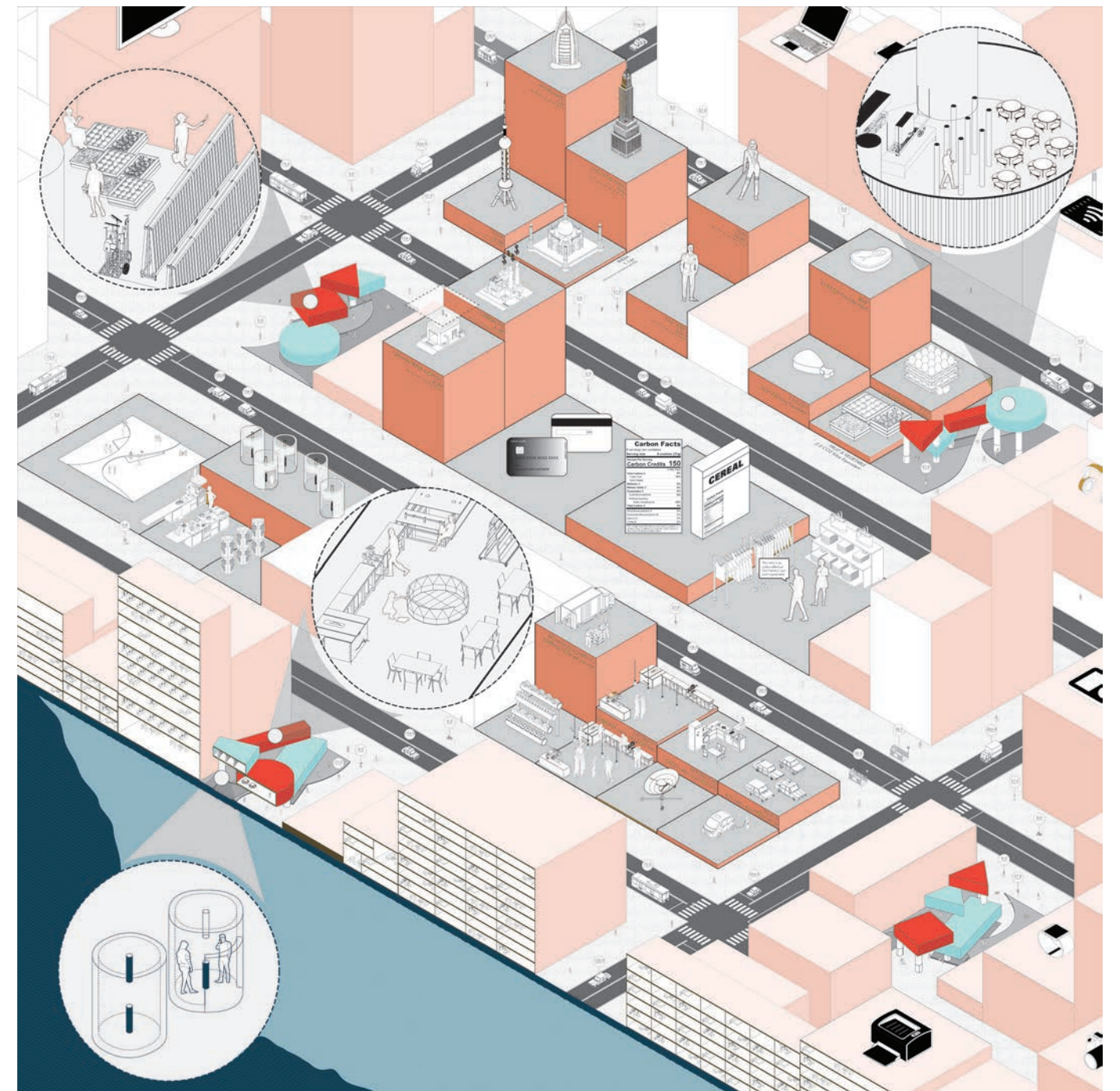
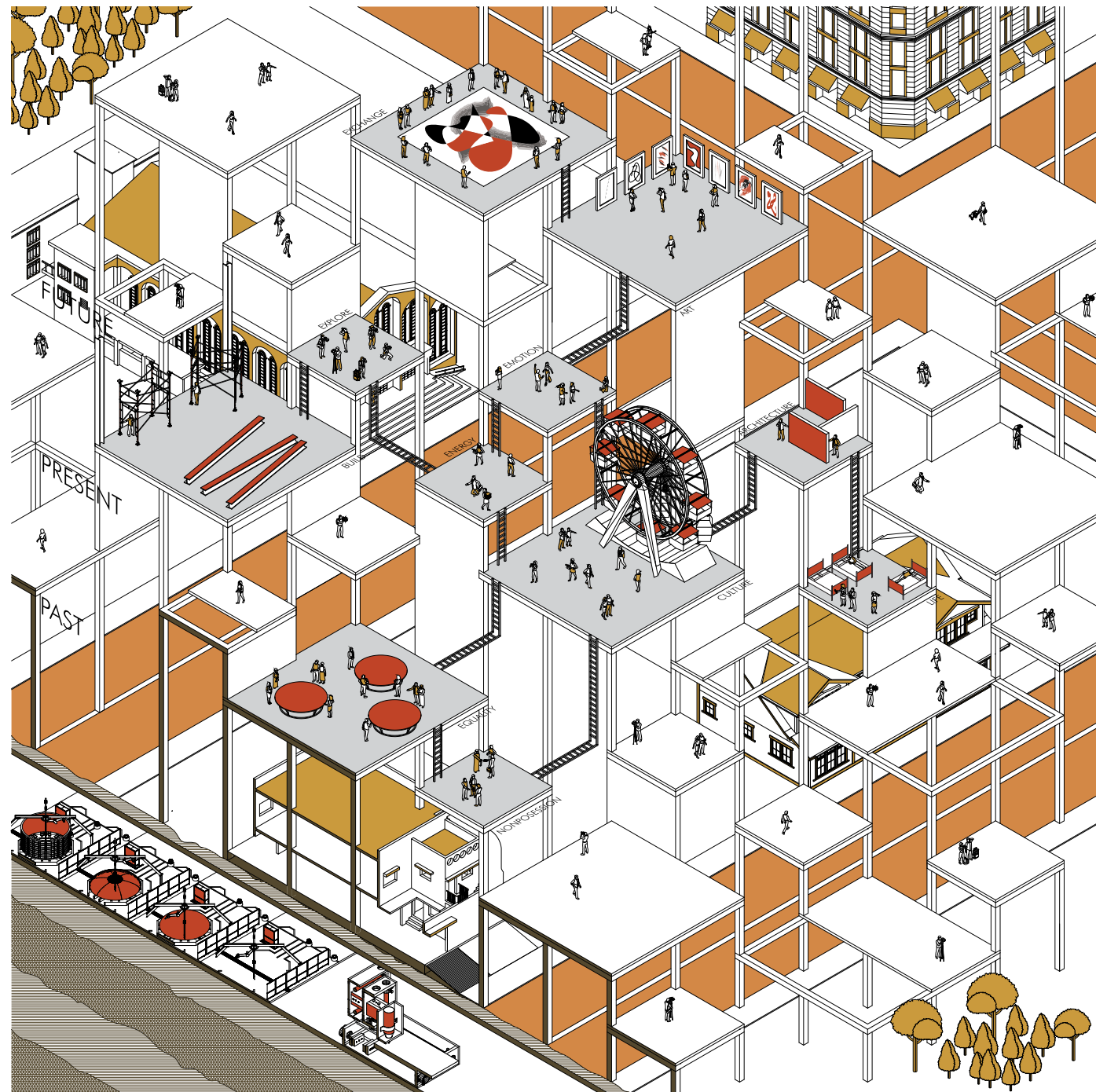
Partner || Sritoma Bhattacharjee

Professor || Tei Carpenter

We have imagined the future. It is a carbon free world where interactions happen through the medium of carbon credits. In a world taken over by over-consumerism, of goods, of energy and exploitation, we will no longer make decisions based on financial gain, rather by the ecological footprint that the goods and services have. Items with high carbon emission become expensive and cannot be owned by all. By translating carbon intensive activities from the individual to the collective scale, we designed a way for people to be able to engage in entertainment and the exchange of cultures from outside their carbon zone. We curate these experiences and encounters in our carbon market.

Our study the utopian theoretical society of New Babylon let us to imagine a new society where individuals would move away from the tradition of labour and into the act of play, while the Living Energy Farm introduced us to a community living off the grid in rejection of over-consumption in America today. It is a community driven by the energy of the sun and relies on each member of the community sharing resources and contributing to the community. In contrast to the world today taken over by over-consumerism, we create a marketplace where the notion of individual ownership is replaced by shared access.

The market allows people to collectively access carbon intensive activities that individuals in a carbon based economy would not be allowed to perform anymore. We have categorized the functions into 4 different types: the embedded artifact, enclosed artifact, activity and festivity space.



3,266 K *market area (sq)* **1454** *opening year*

historic market
GRAND BAZAAR

site plan *exchange*

Istanbul, Turkey

188,723 *market area (sq)* **2005** *opening year*

contemporary market
SANTA CATERINA

site plan *exchange*

Barcelona, Spain

96,961 *market area (sq)* **2010** *opening year*

informal market
IM VIADUKT

site plan *exchange*

Zurich, Switzerland

The form and organization of our market is derived from the aspects we found successful in the market studies. At the Grand Bazaar, for example, the street style market allows people to walk through its maze like spaces with curiosity for exploration and discovery. Using these principles of a sense of discovery, creating a spectacle, a fantastic playful form that is identifiable, we designed our carbon market.

GRAND BAZAAR

organizational diagram

The buildings are based on a loose grid system while parts of the market start to spread into the urban fabric informally.

<i>material</i> Wood, stone, brick & rubble	<i>temporality</i> Closed on Sundays
<i>social structure</i> Kadi, Kethuda, merchants, users	<i>access</i> 21 Gates (4 main)
<i>urban implication</i> Spread into urban fabric	<i>product</i> Gold, copper, leather, carpet
<i>user group</i> 250,000-400,000 per day	<i>coverage</i> 61 Covered streets

Source: Es-Nam

SANTA CATERINA

organizational diagram

The shops are designed to blend into the existing structures with the use of the new roof as its perimeter.

<i>material</i> Concrete, iron, wood & ceramics	<i>temporality</i> Open everyday
<i>social structure</i> Merchants & Customers	<i>access</i> 4 Entrances
<i>urban implication</i> Rejuvenated the vella	<i>product</i> Fruits, vegetables, flower, meat
<i>user group</i> Locals, city residents, tourists	<i>roof</i> 325,000 colourful ceramic tiles

Source: Es-Nam

IM VIADUKT

organizational diagram

The programs are arranged in a linear form, where shops sit right next to one another without interior connection. People could circulate on the path above the shops or along the shop fronts.

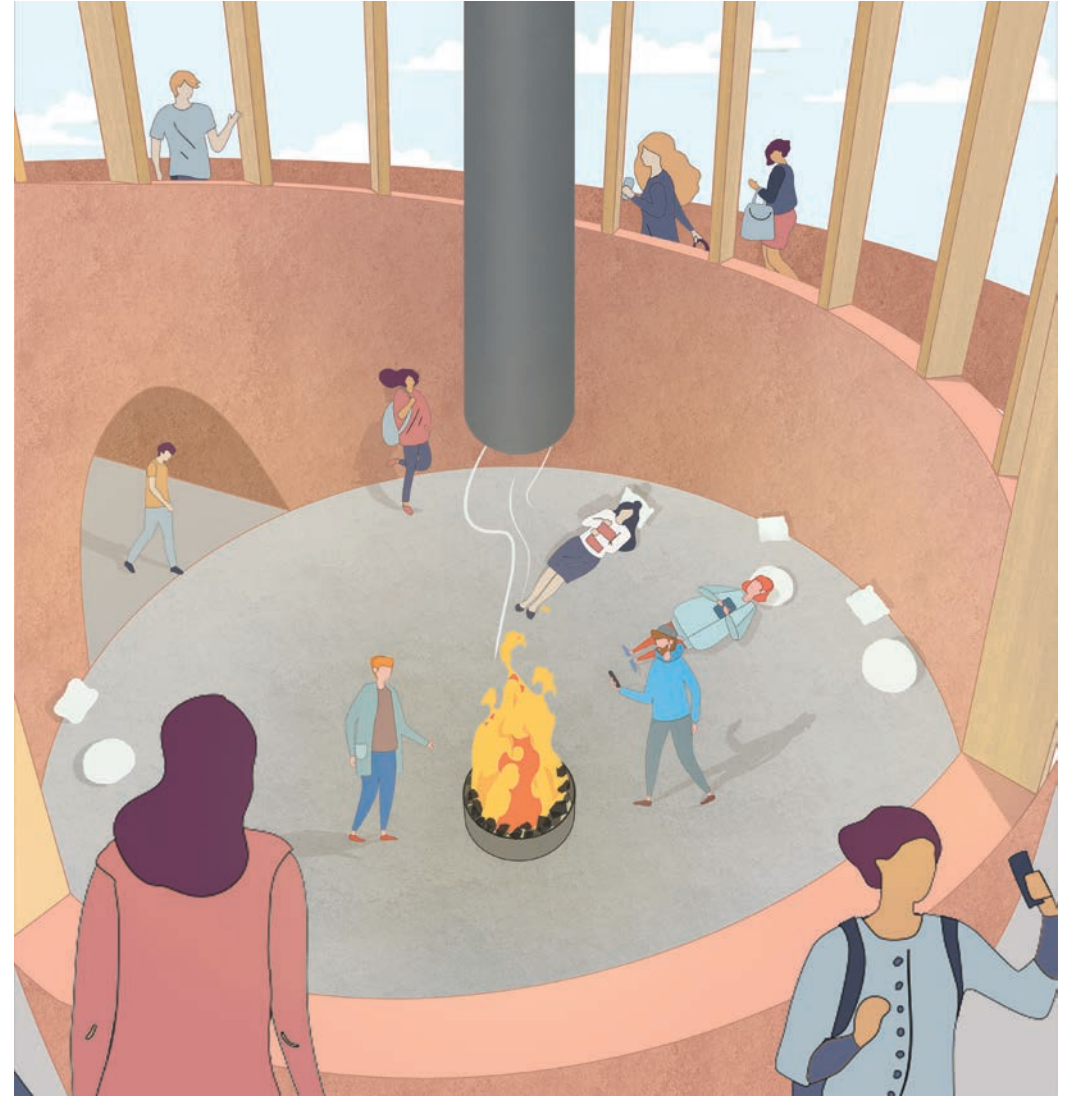
<i>material</i> Steel cladding & masonry	<i>temporality</i> Hours according to program
<i>social structure</i> Foundation, shop owner & user	<i>program</i> Shops, restaurant, sports, bar
<i>urban implication</i> Merge into viaduct	<i>product</i> Fresh ingredients, food, clothes
<i>user group</i> Varied	<i>coverage</i> 53 Arches

Source: Es-Nam



Our relationship with Carbon has had a long history of extraction and exploitation. Through the act of pulling out the very earth that it is a part of, adding and subtracting, we form a landscape of artifacts and lost cultural experiences. In the interstices of this market, new economies are born along with new dependencies and interactions. Curated spaces creating a fabric for informality.

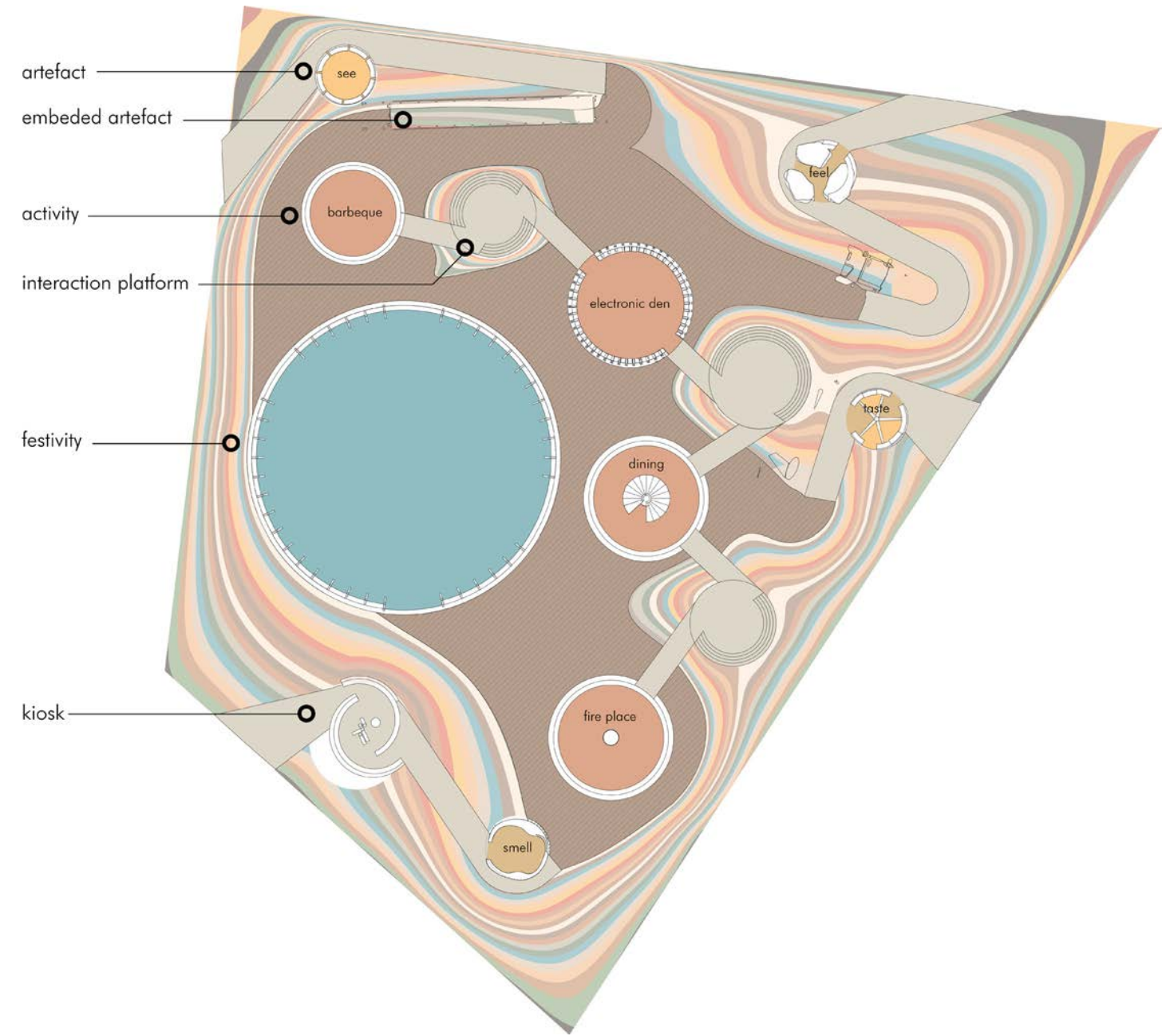
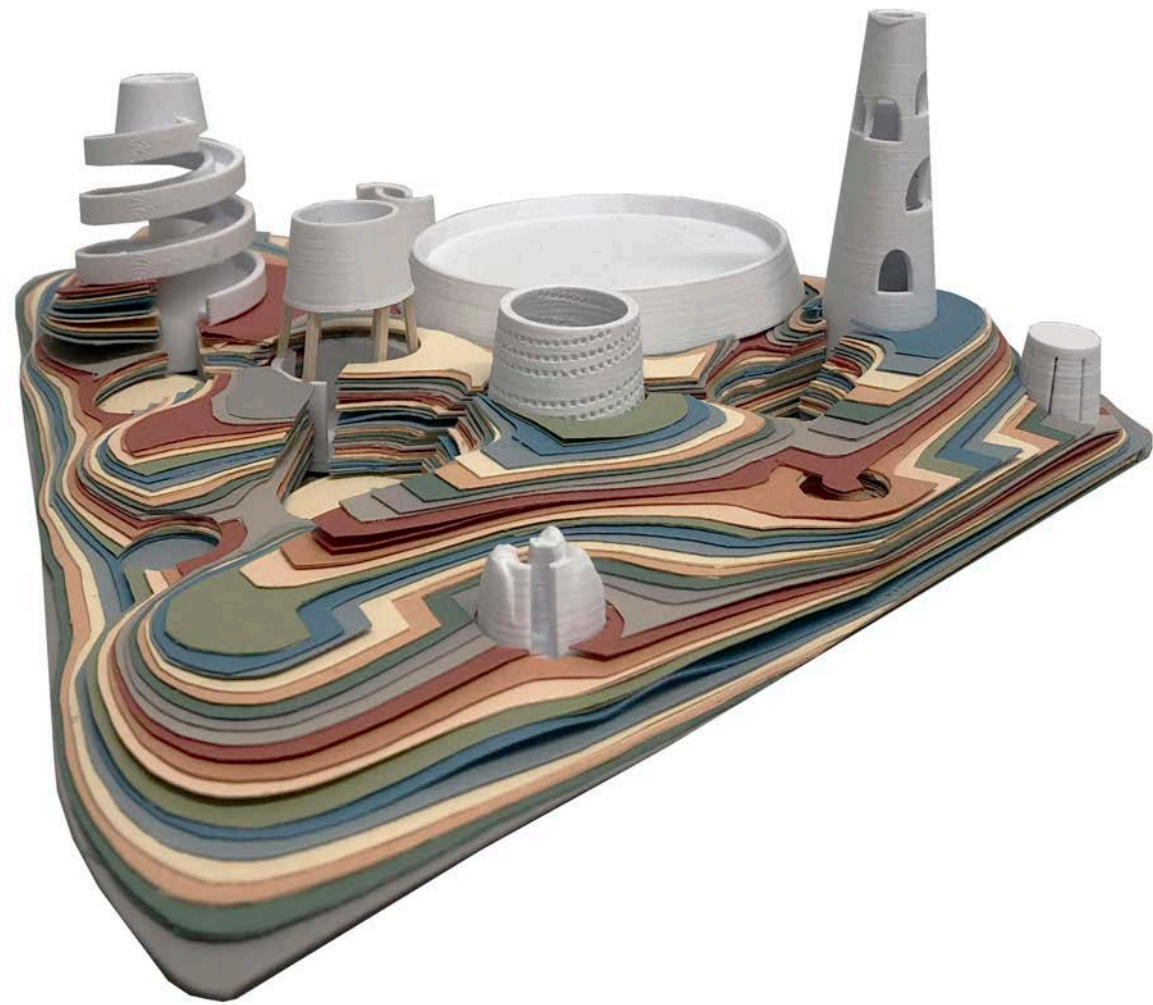


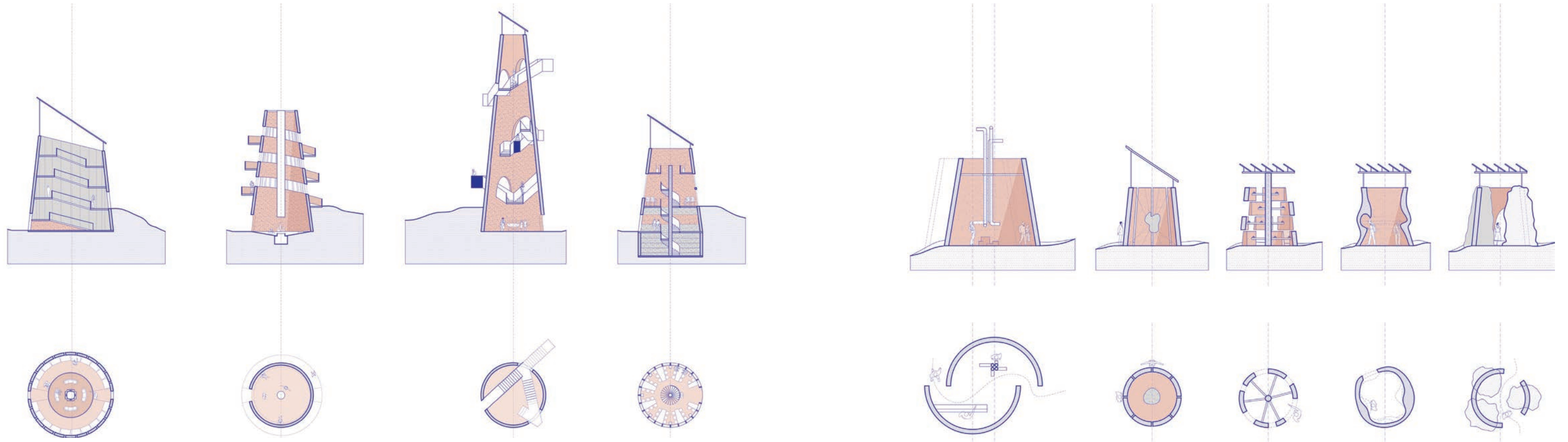


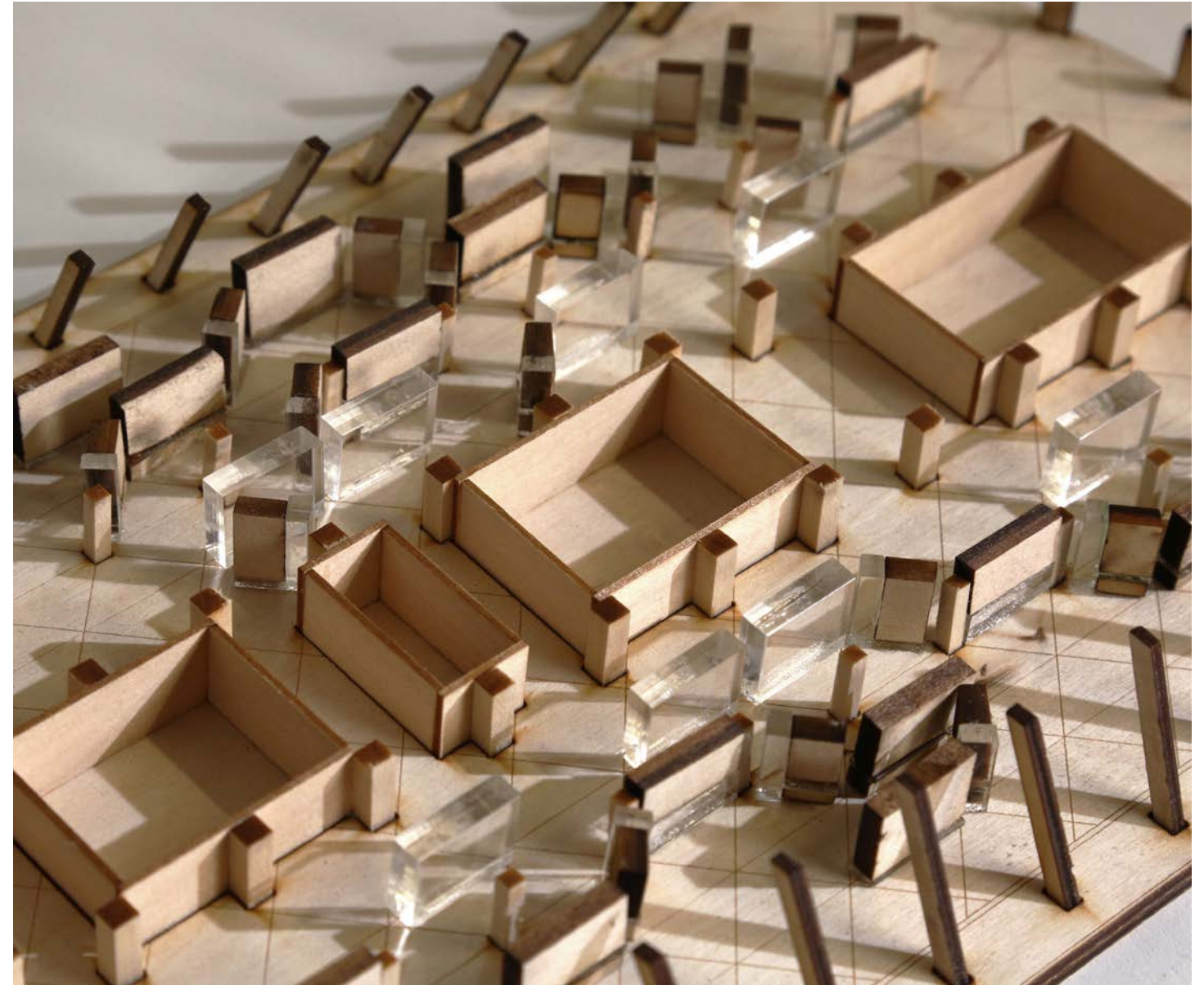


We approach the form and material as a criticism of what is considered modern, expensive and valued today. By using carbon sequestering materials like earth, CLT and recycled carbon emissions, we create fantastical objects that subvert from the notion of the forms that these materials traditionally inspire.

With increasing concern on global warming, carbon credits become the only relevant medium. Our markets of small communities attract people with like-mind, by offering communal facilities through the trading of carbon credits and access. It invites everyone in with curiosity for discussion to take a step into the world of carbon free.







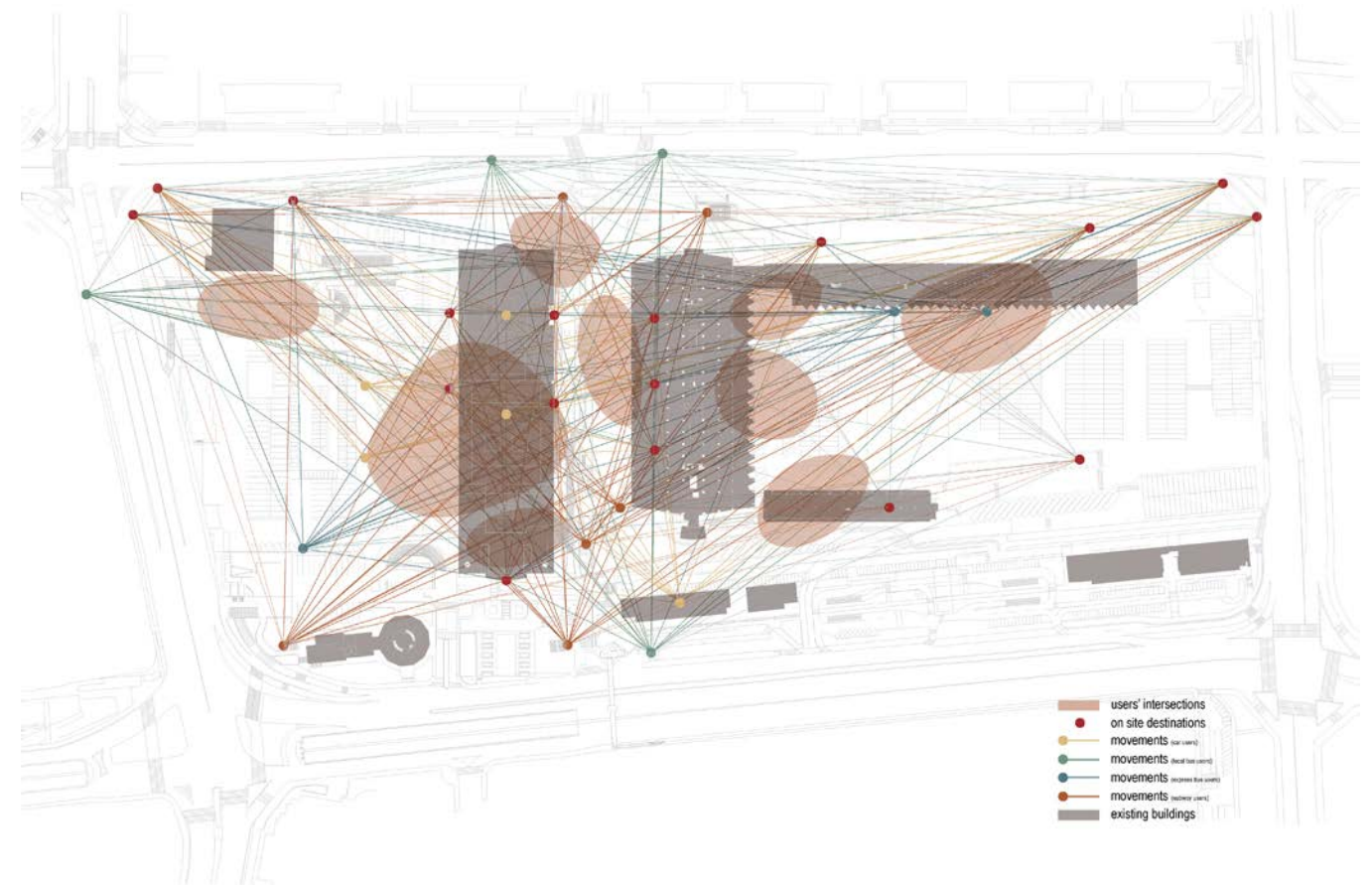
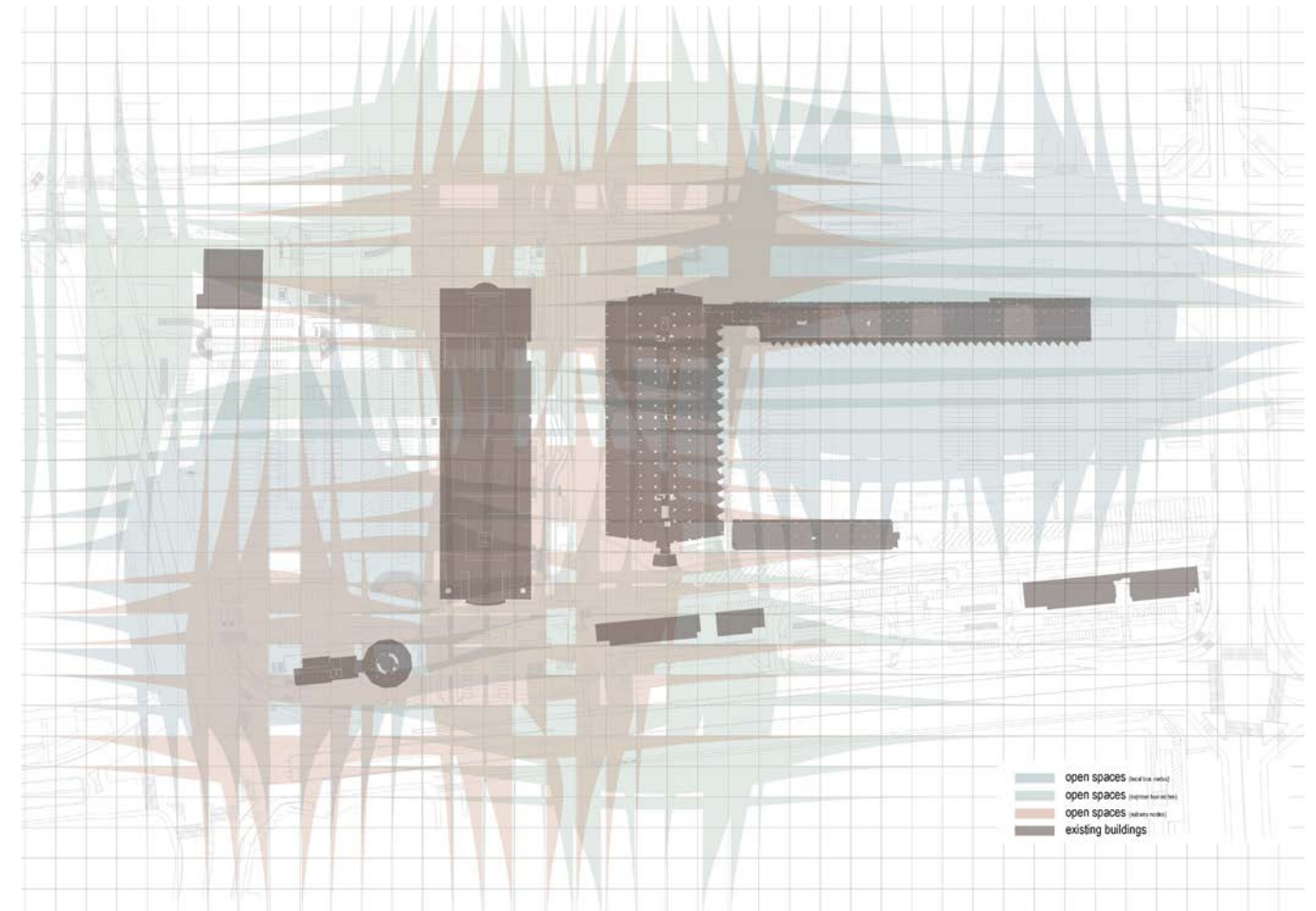
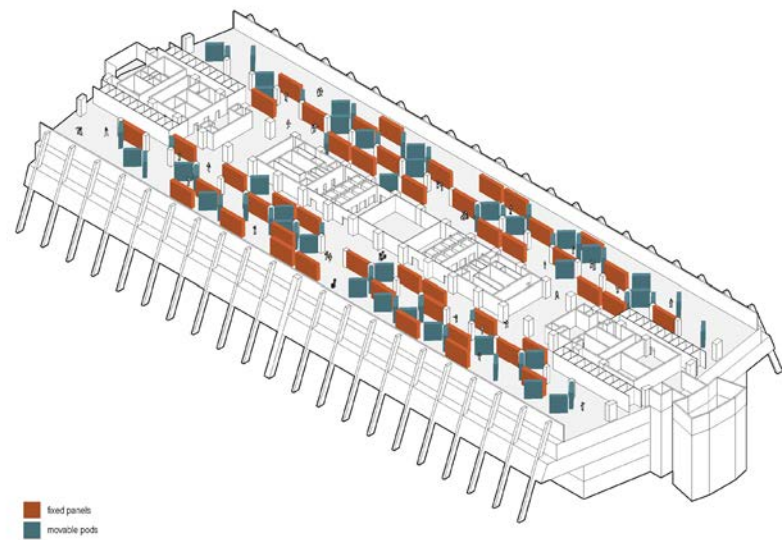
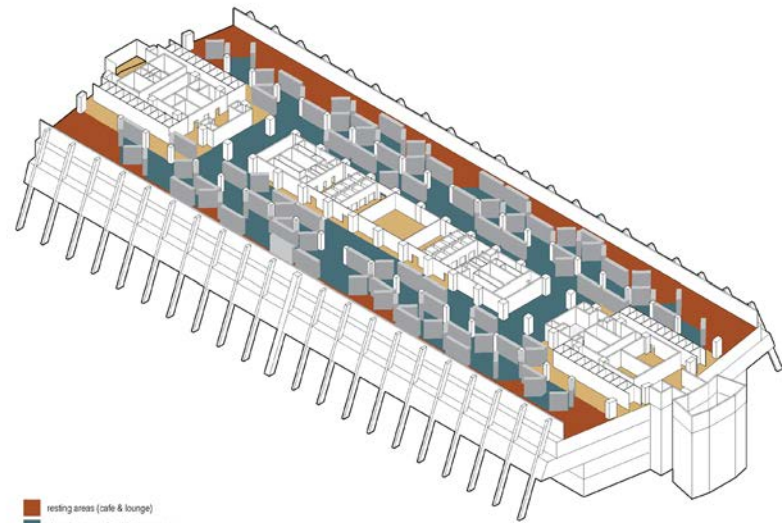
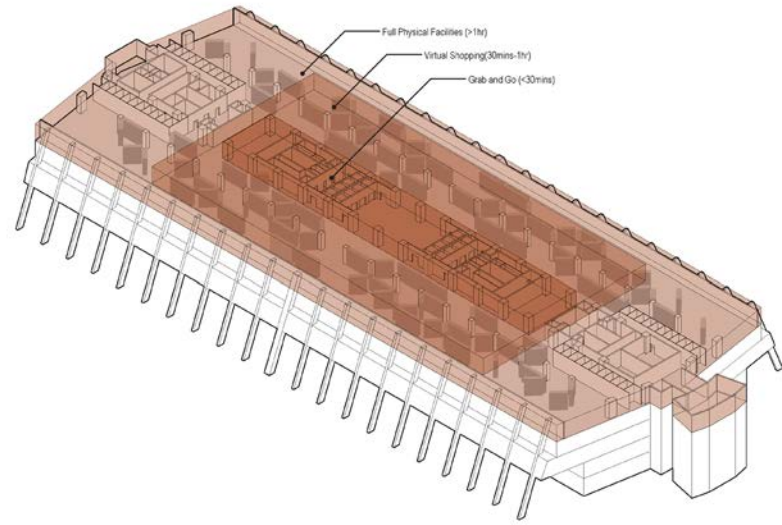
CRASHING ADJUNCTION

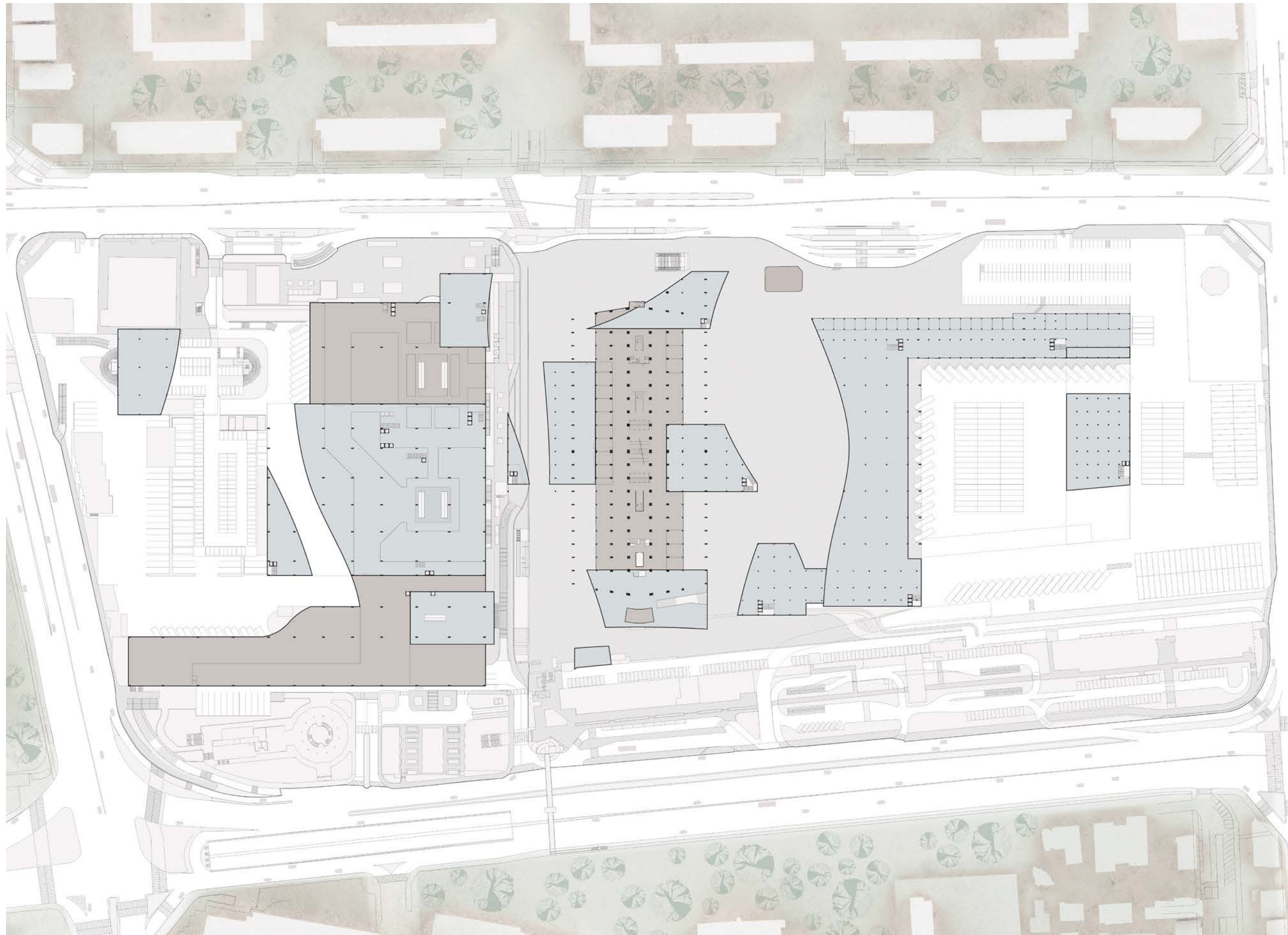
*Academic (Fall 2019)
After Shopping*

Partner || Shuchang Zhou

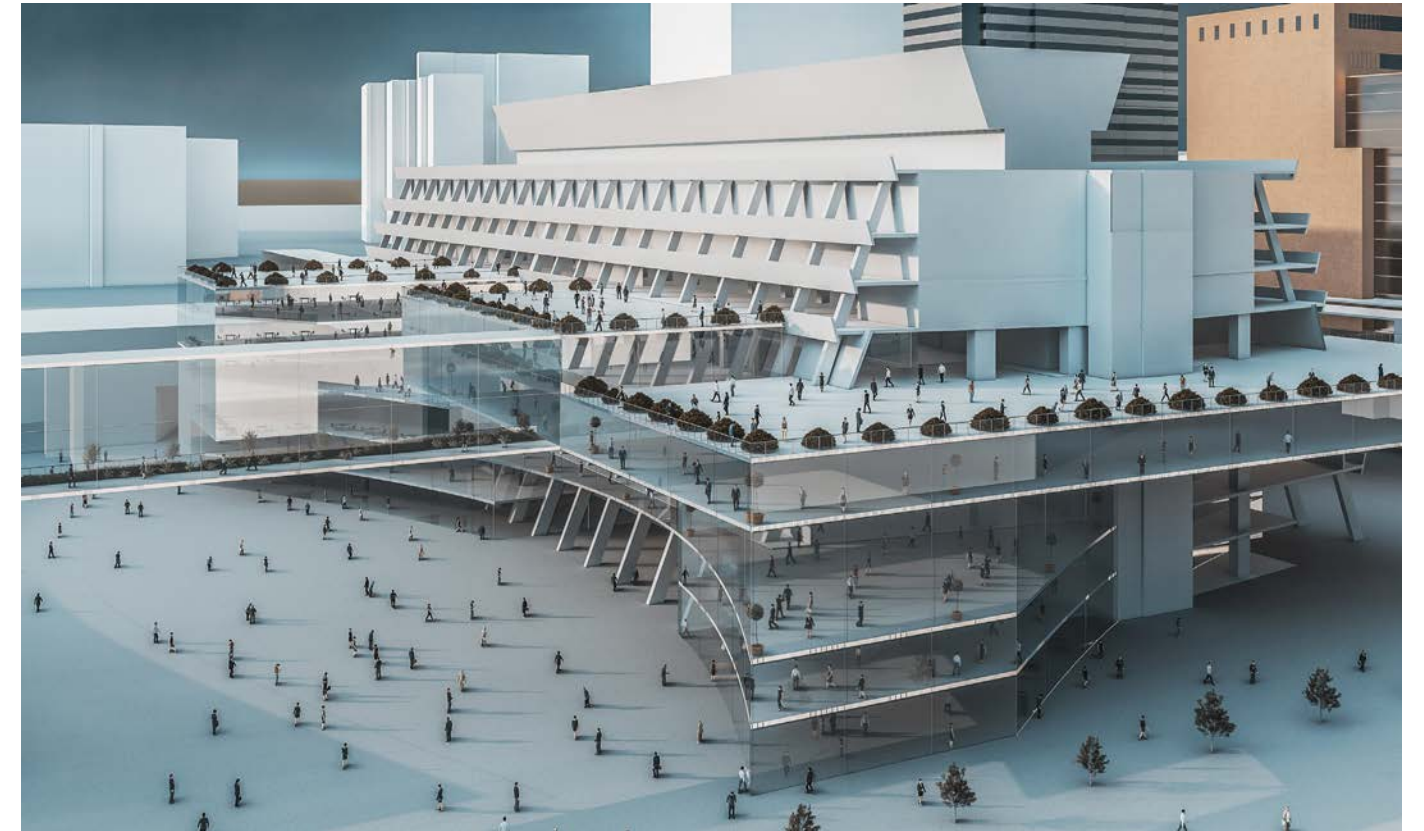
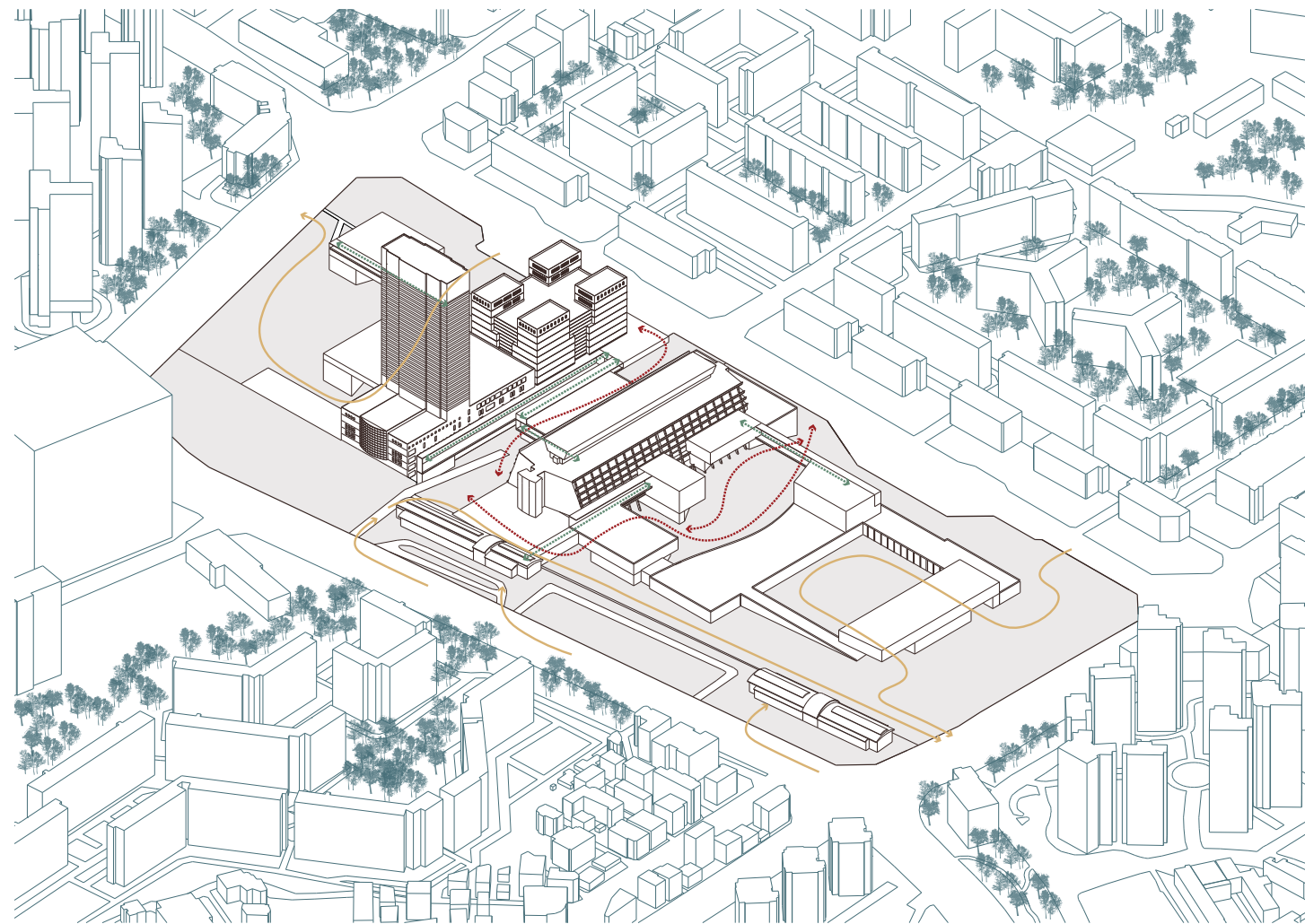
*Professor || Richard Plunz &
Hyun Woo Scott Chung*

Because the Gangnam Express Bus Terminal serves as one of Seoul's transportation nexus, it has the functionality and scale to be more than just a pass-through station. By leveraging the existing infrastructure, this proposal transforms the terminal into a destination where people spend their time on spontaneous activities, while also fulfilling the original purpose of travel. Certain infrastructural transformations are proposed to improve current site situations and accommodate additional functions.

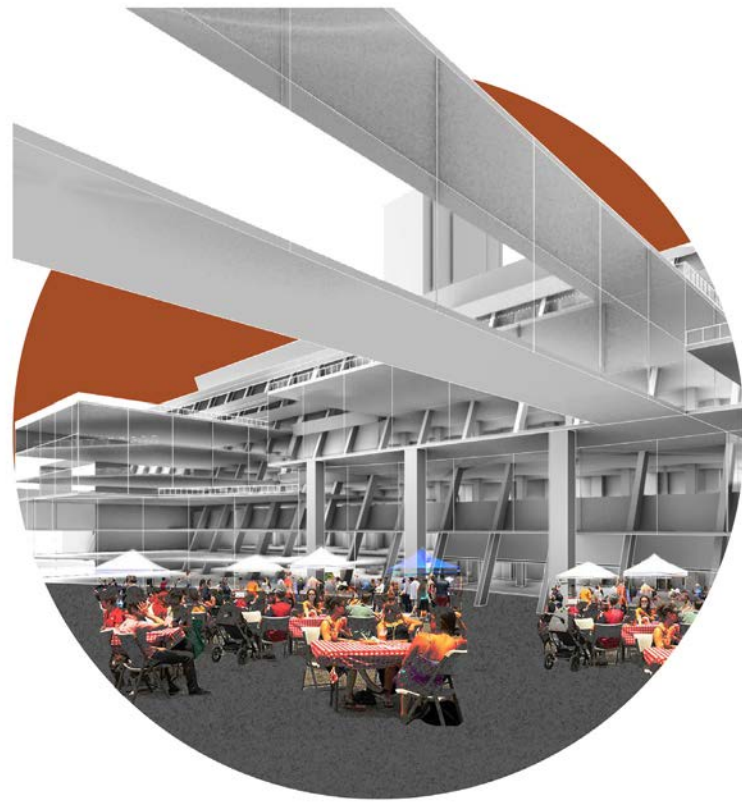
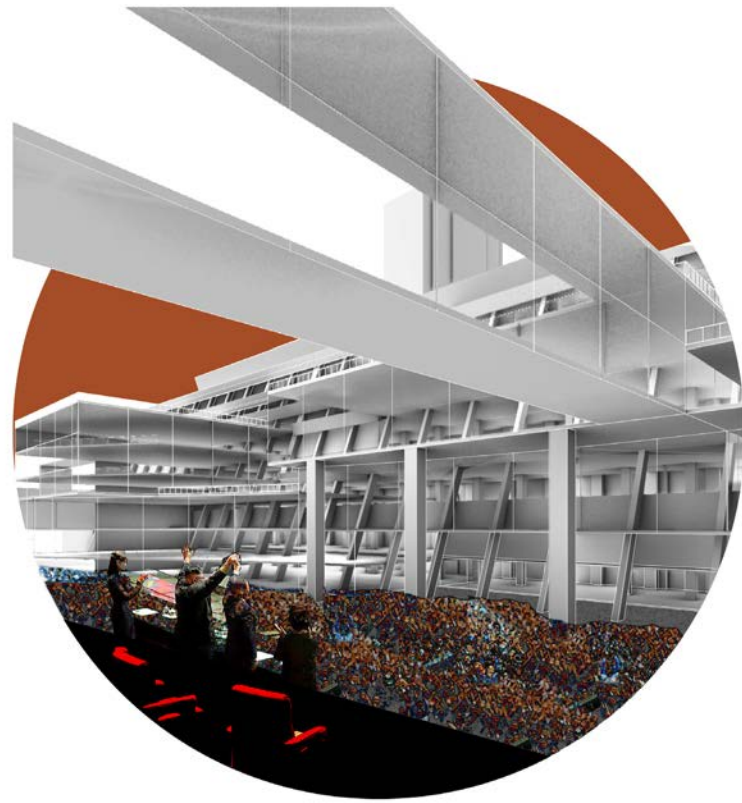




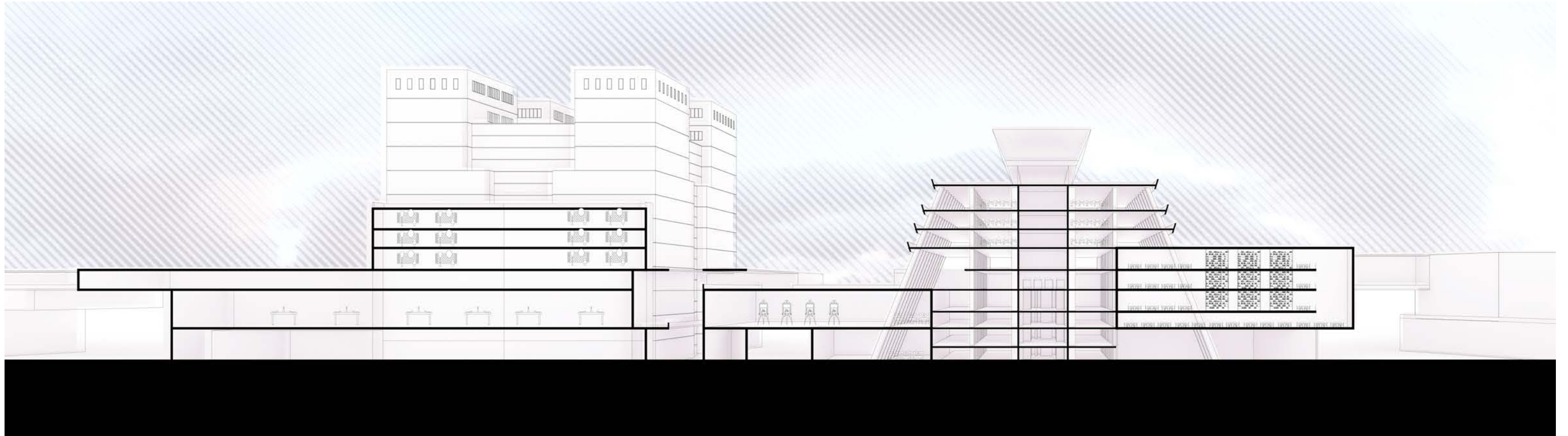
The two ends of the site are currently occupied as bus parking, and automobile parking is located in the middle of the site, dividing it into small functional fragments. To address this vehicular disturbance, we propose distinct zones between pedestrians and vehicles. User movement throughout the site was categorized according to age, intention, and specific types of transportation. User groups with differing needs share similar routes that interlock with each other and lead to new programs that would integrate them together at the points of intersections. With this reorganization, the circulation leads to program and form-massing that shapes users' experience.



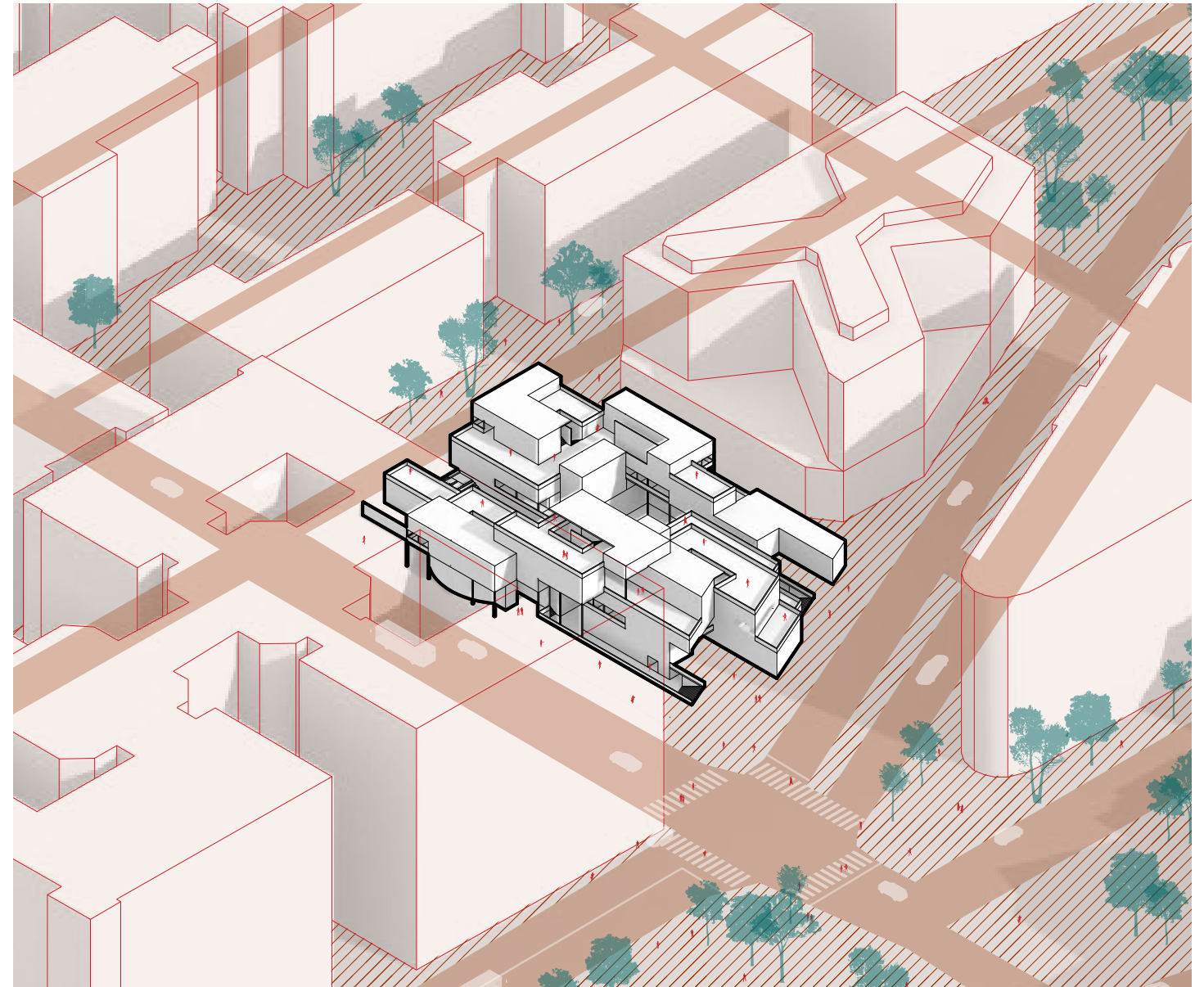
The bus terminal functions become more efficient and reduced in size, distributed toward the two ends of the site to provide additional pedestrian space. The mid-site parking is also converted to additional pedestrian space. The new pedestrian space allows interaction between different users, connecting and gathering people to reactivate the site. Addressing the confusion between diverse circulation routes, especially at the northern border of the site, encourages people to walk through the site. The SSG commercial space is reintegrated within the site, taking advantage of expanded activity of the bus terminal and an adjacent new public space.



Through this new spatial system of insertion and extension from the existing shopping and terminal, our goal is to reactivate parts of the site that are currently underused and to create improved circulation flows. Our proposal suggests points of intersection between different users as an integration of architectural space, materials, programs, and users, within spaces of diverse characteristics.



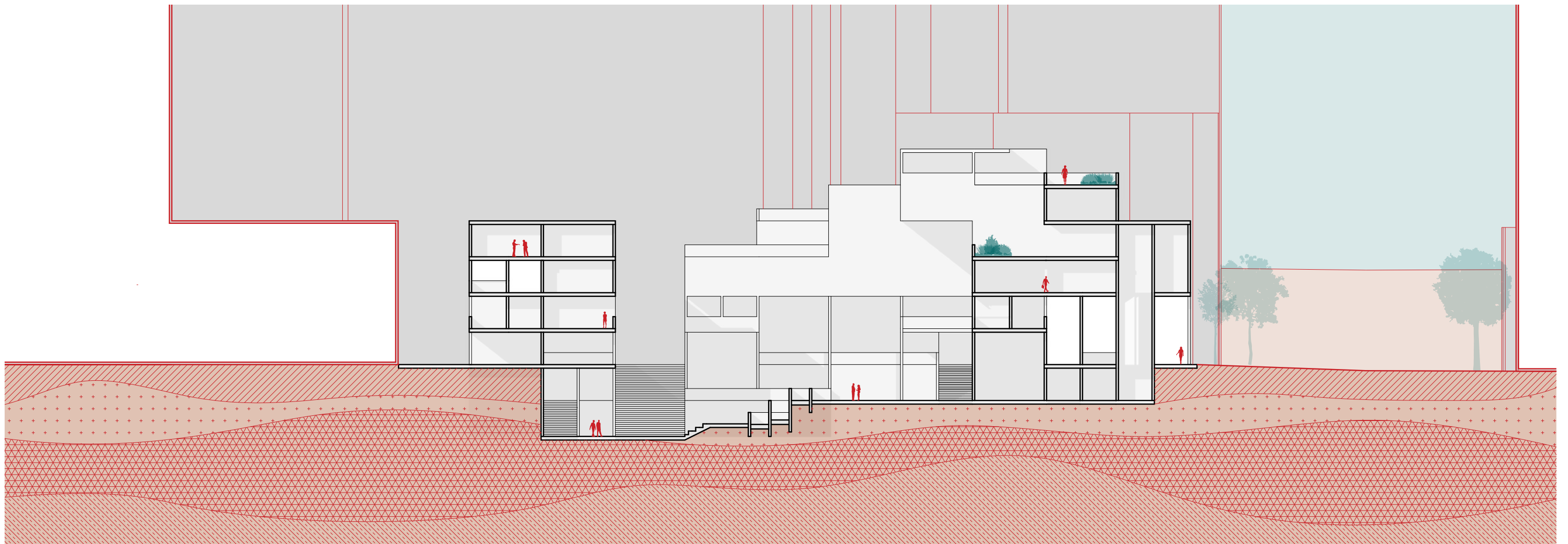
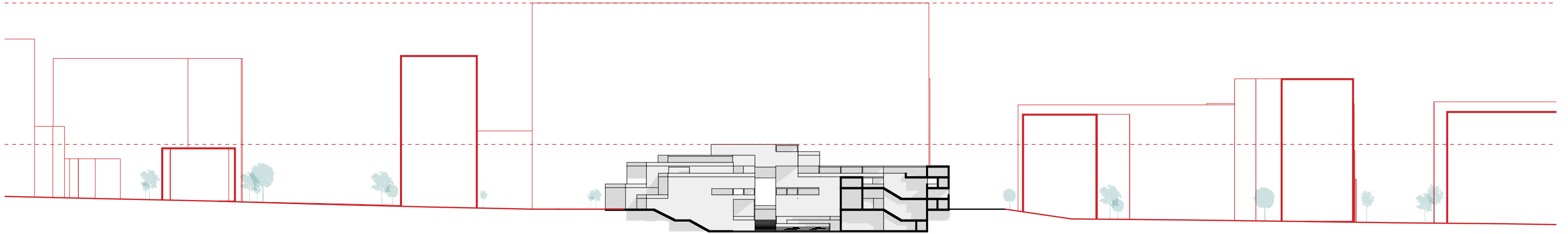


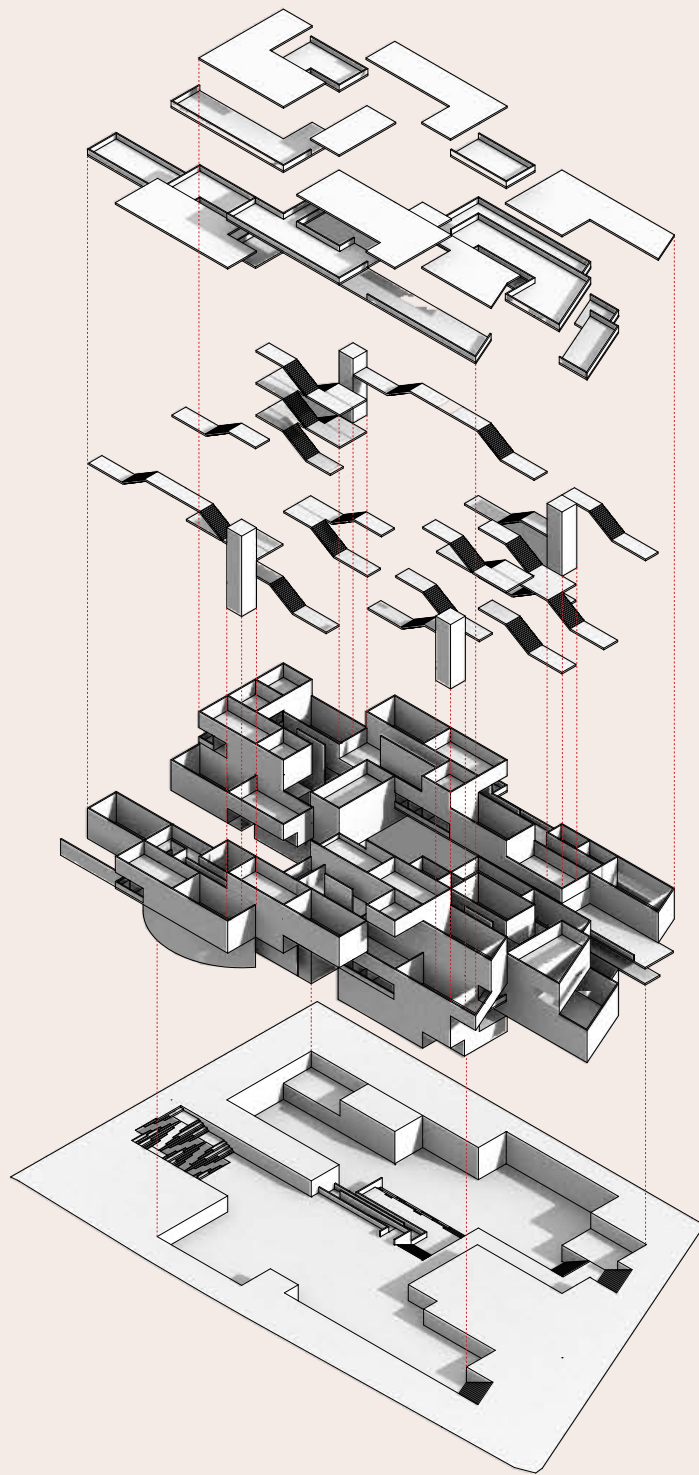


STATIC SHIFT

Academic (Spring 2020)
Mixed Use, Staircase, Social...
Professor || Hilary Sample

Located in Washington DC, the project's goal is to break away from the rigid nature of architecture prevalent in the area, offering a more fluid condition to the way of life. The monumental condition of parks and buildings, which are mostly oversized and detached, leads to limited social integration as on a typical day, individuals would be confined to their specified spaces with low human traffic density. Instead of focusing on maintaining the monumental scale to blend in with the surrounding, the project is designed with the purpose of connecting people from the ground up. This introduction of new typology would blur the line between interior and exterior spaces, while also shuffling the designated spaces without any hierarchy or status, allowing for different ways of social interactions to organically bleed in and out the spaces through the circulation.





Roof

ACCESSIBLE GREEN ROOF

Circulation

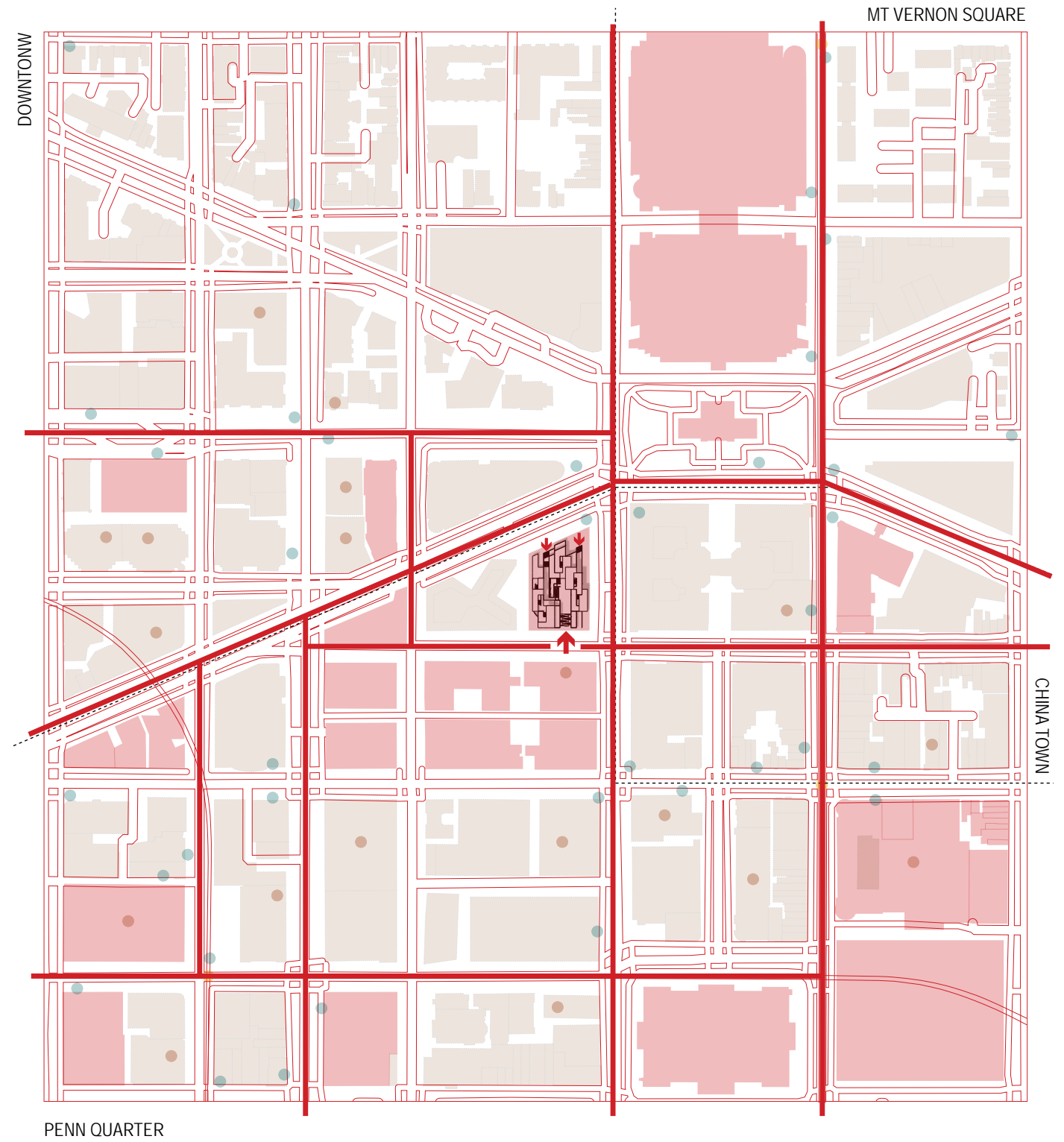
ELEVATOR CORE

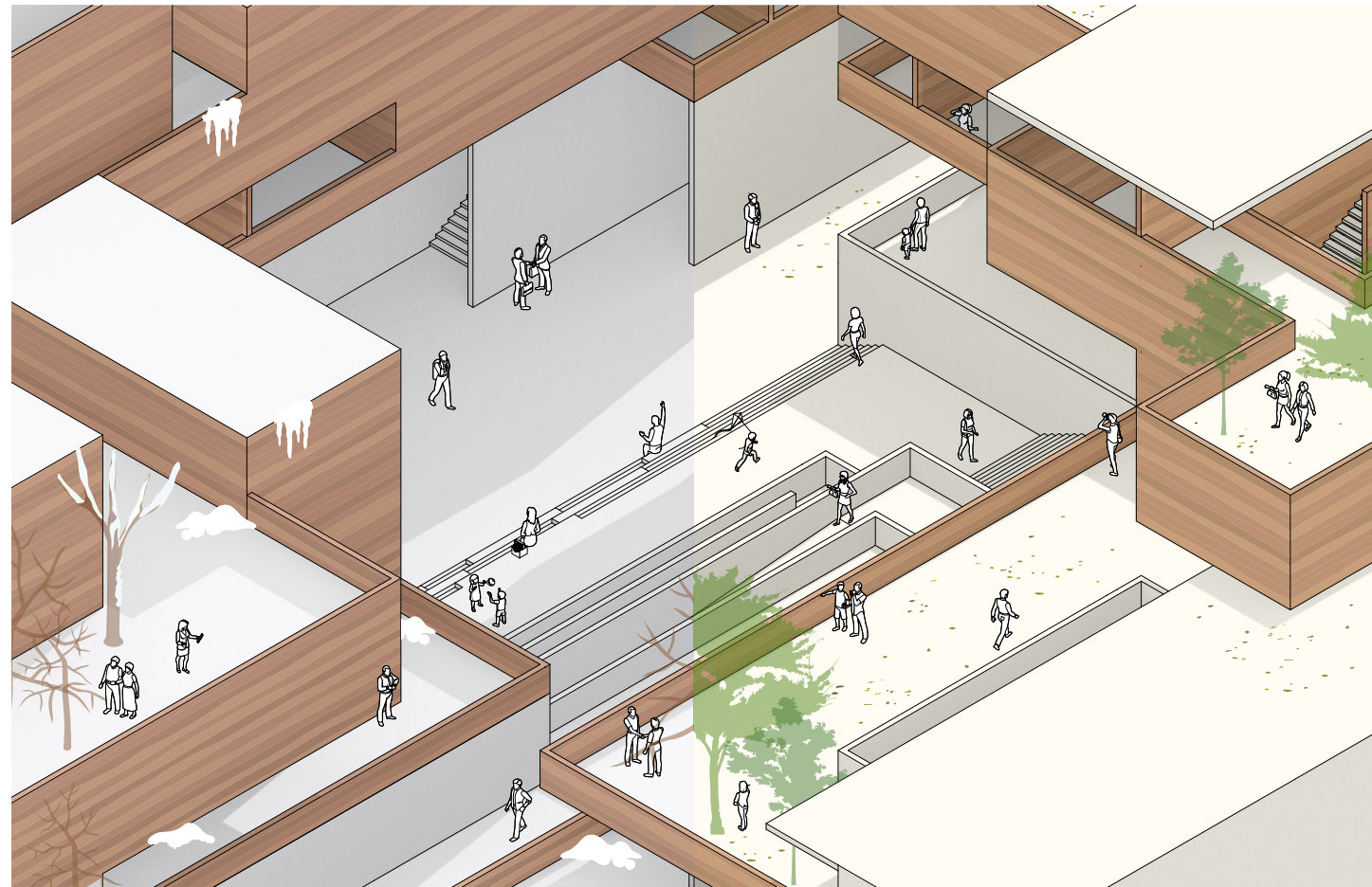
Structural Envelope

RAMMED EARTH
CONCRETE

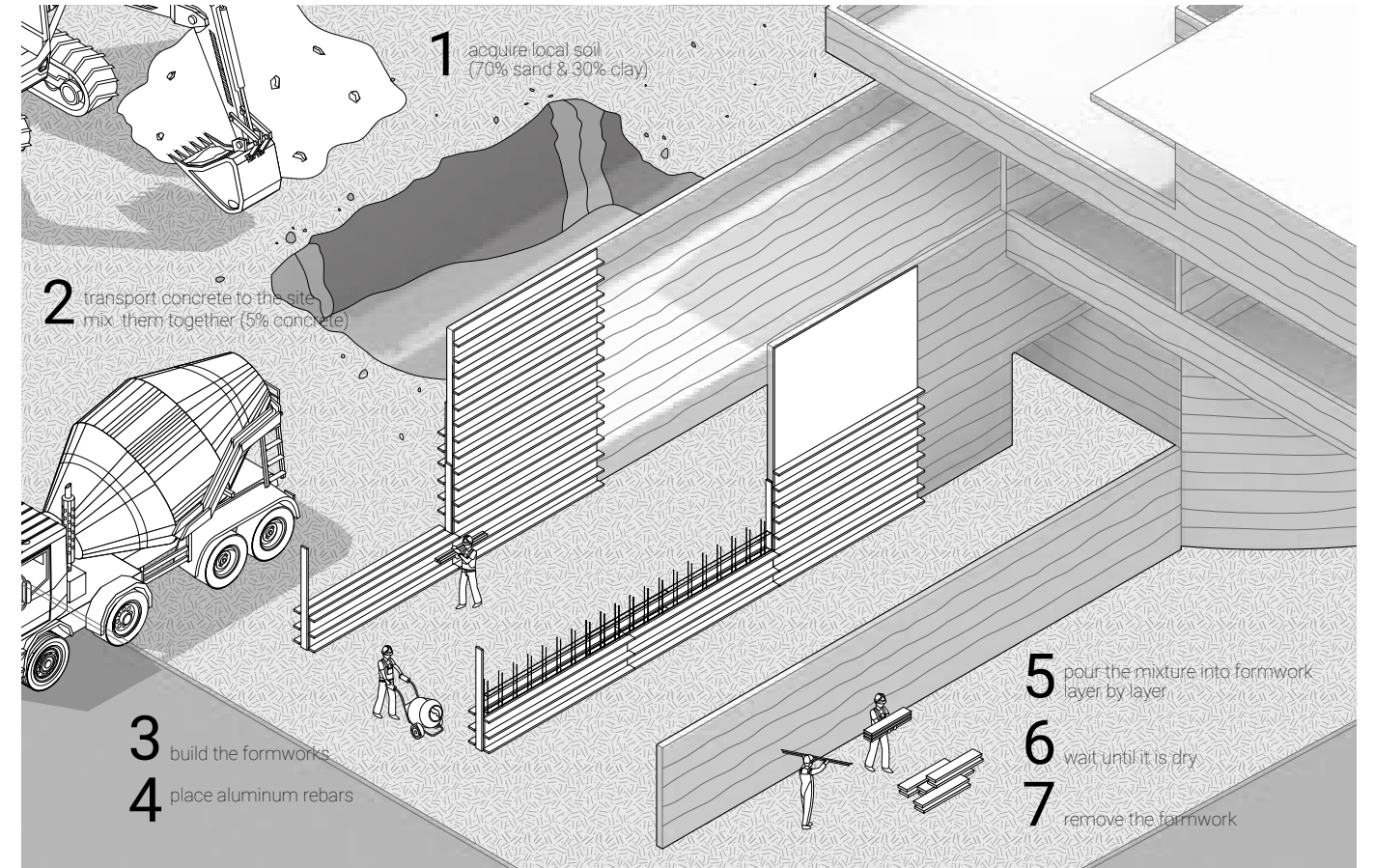
Ground

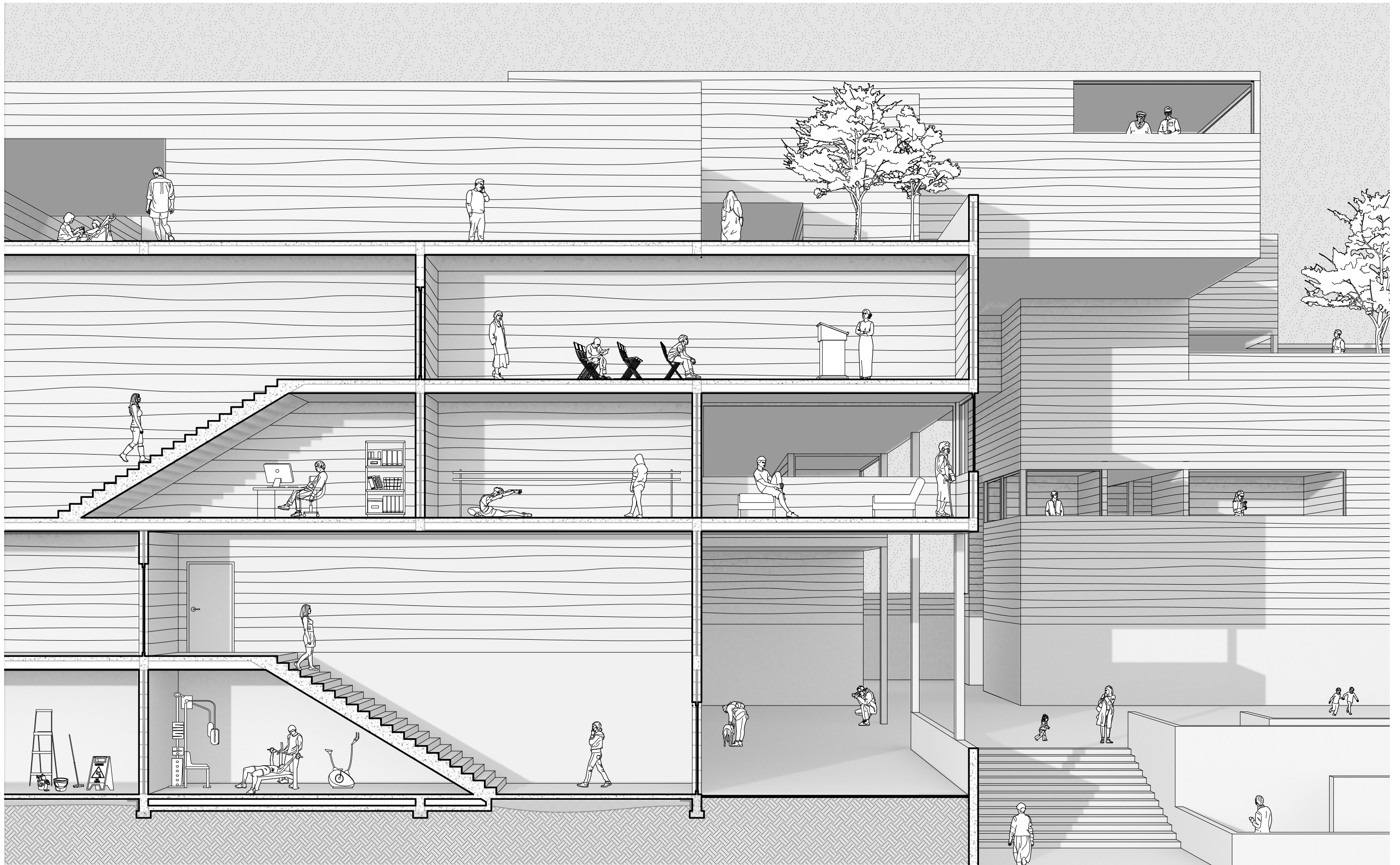
ENTRANCE

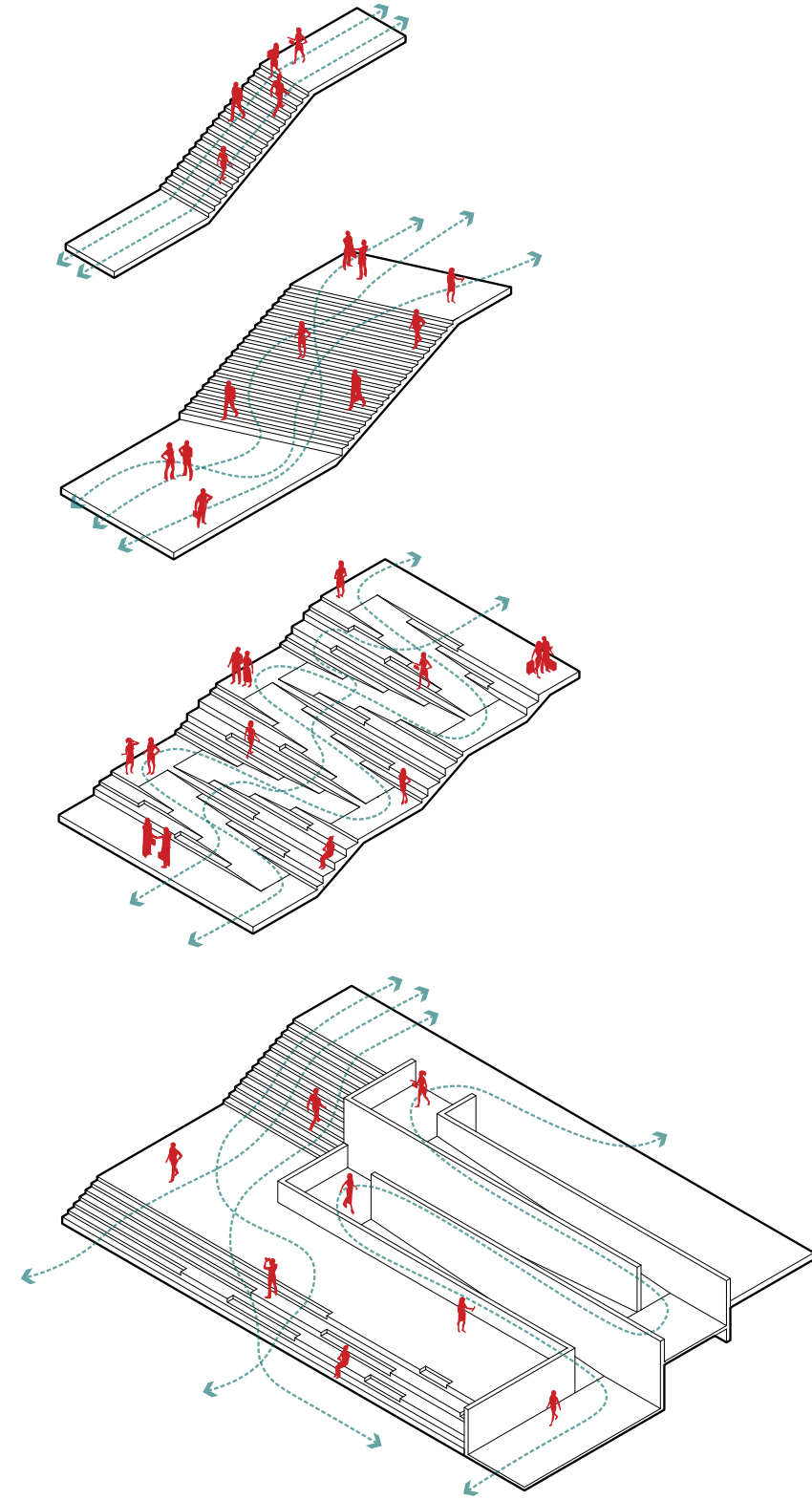
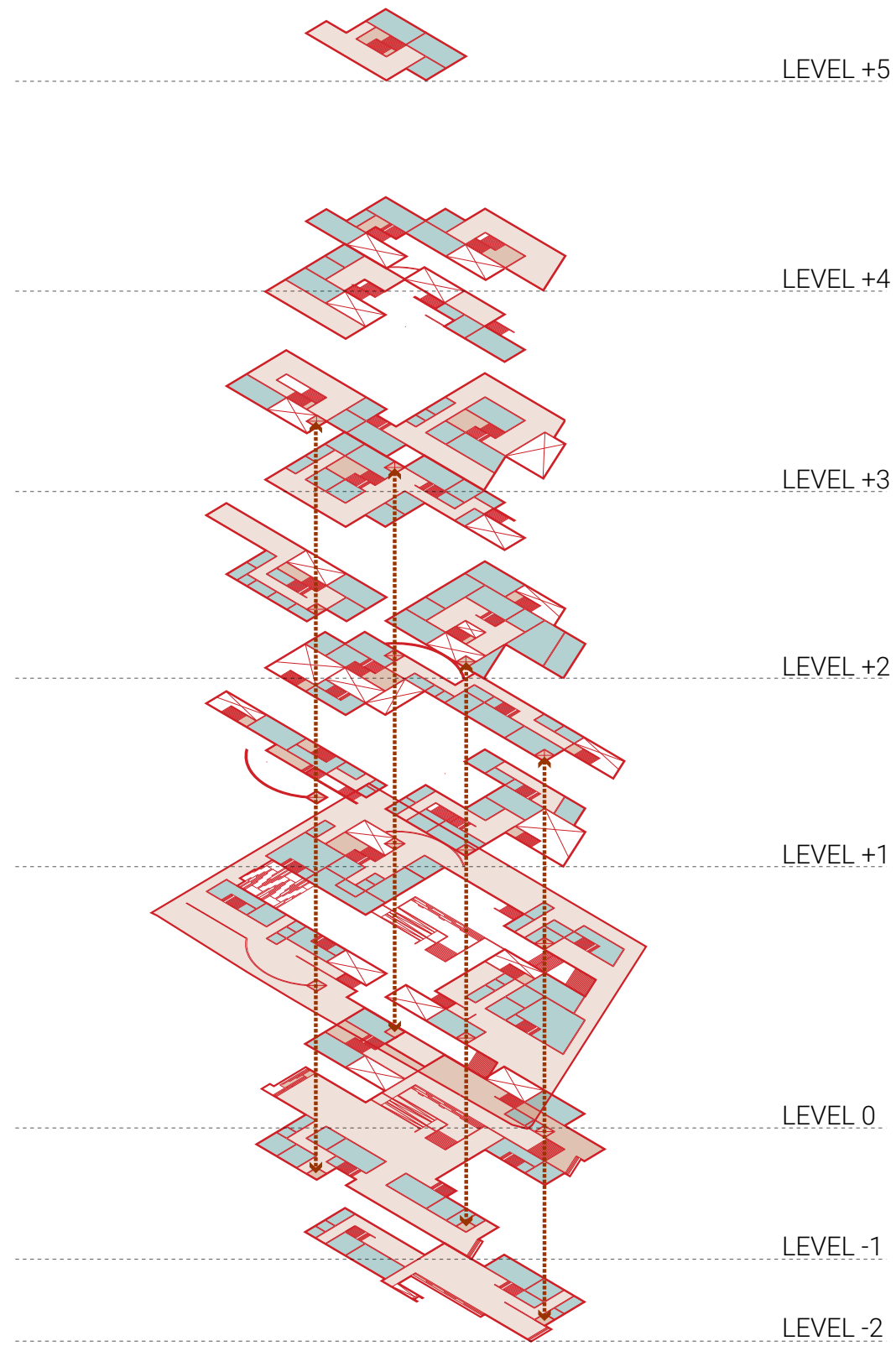




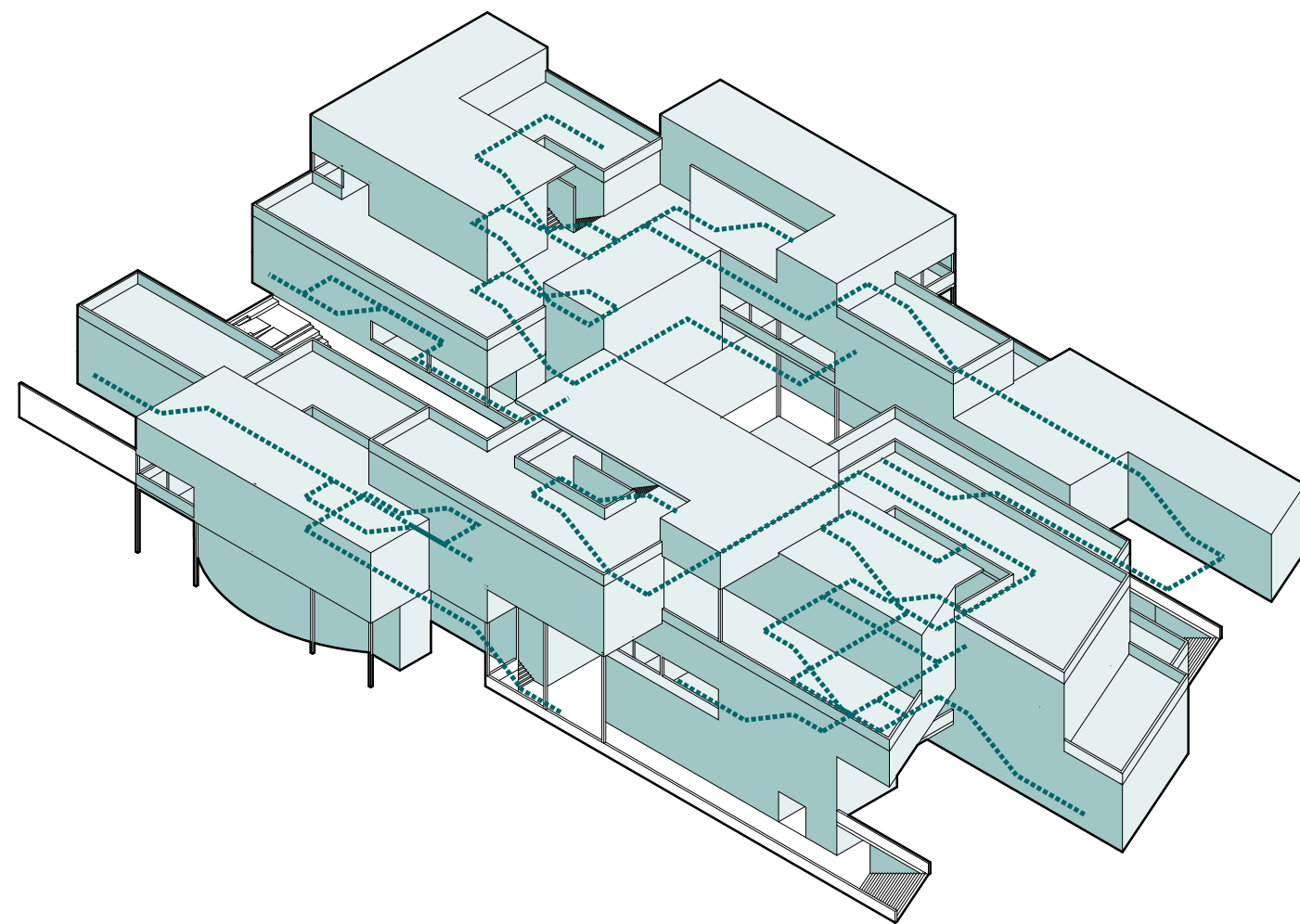
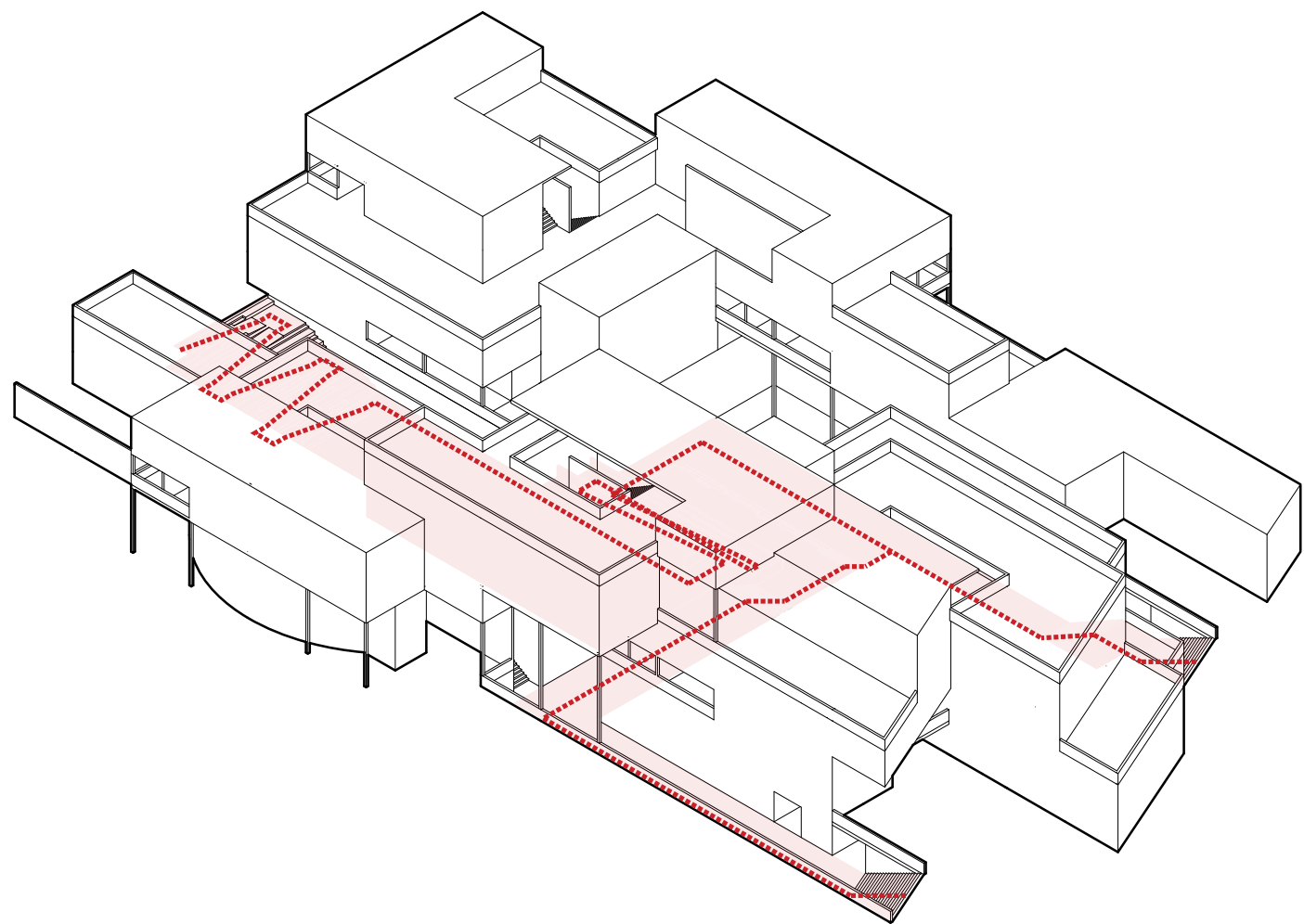
Rammed earth is selected as the main material to break away from the stasis of the buildings in the environment and relate back to a more natural one. Rammed earth itself is a low ecological footprint material and isn't much harder than concrete to be constructed. The thermal mass properties of the material would also allow the building to be operated all year round with less reliance on HVAC systems. Unlike most existing buildings in Washington DC, the material's colors and textures would change at a faster rate. The beauty from this random alternation symbolizes our progress in the changing world but also a callout to the necessity for preservations.



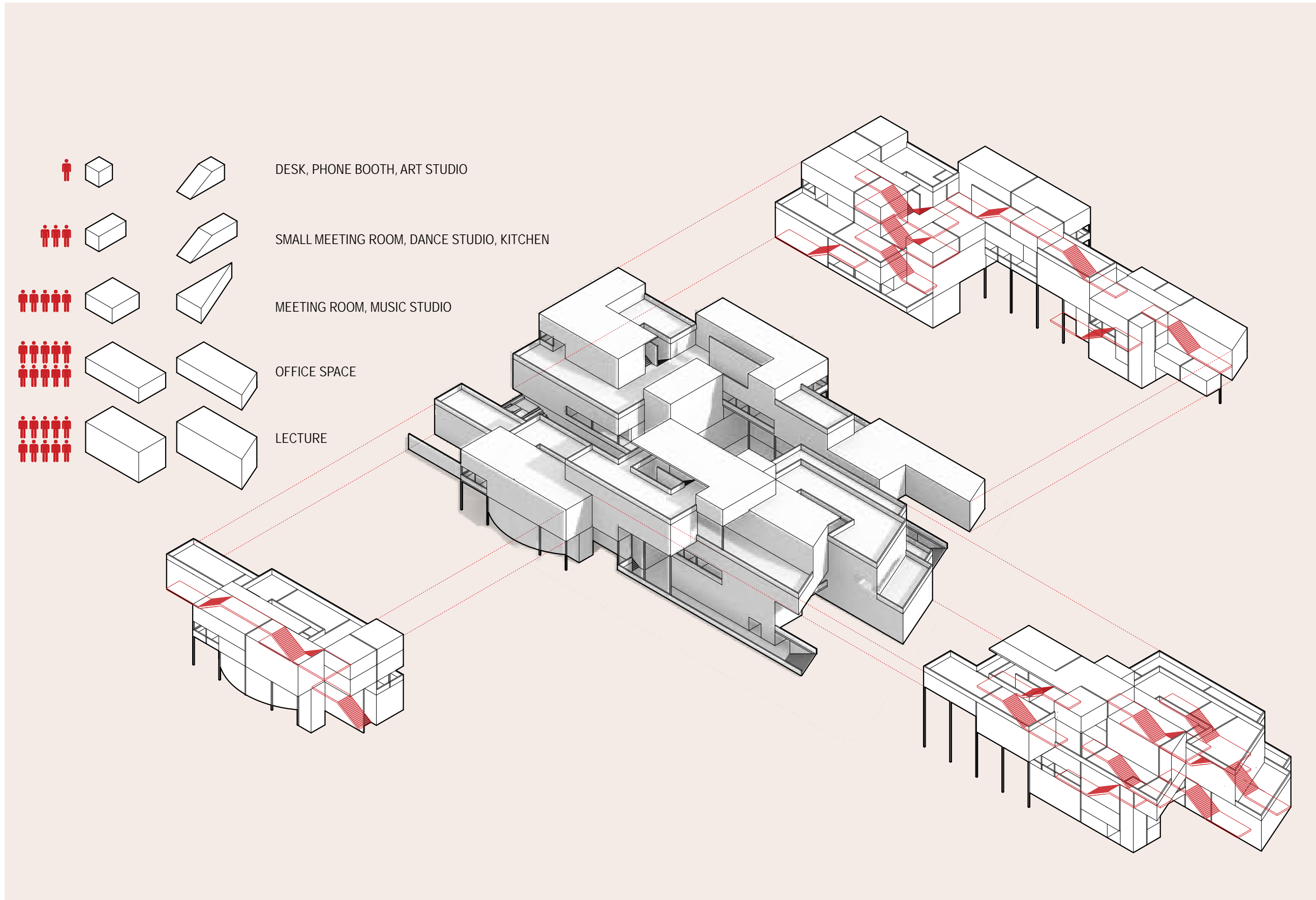




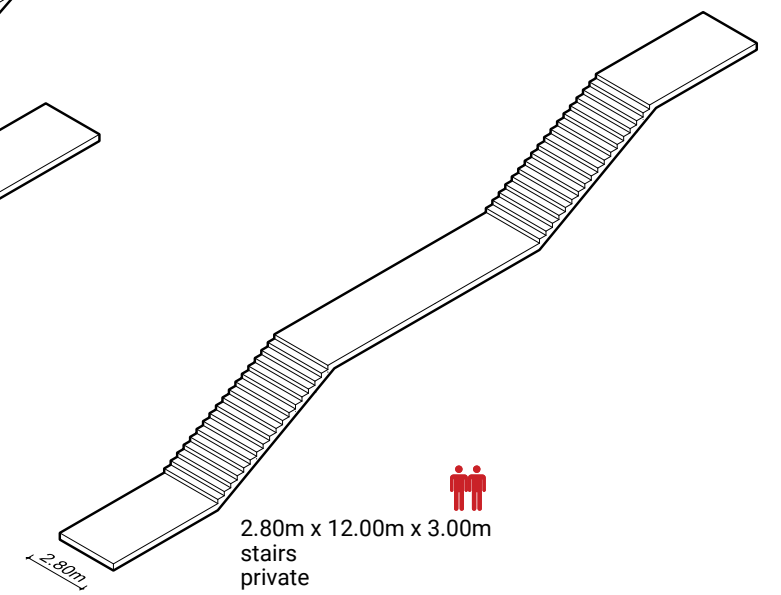
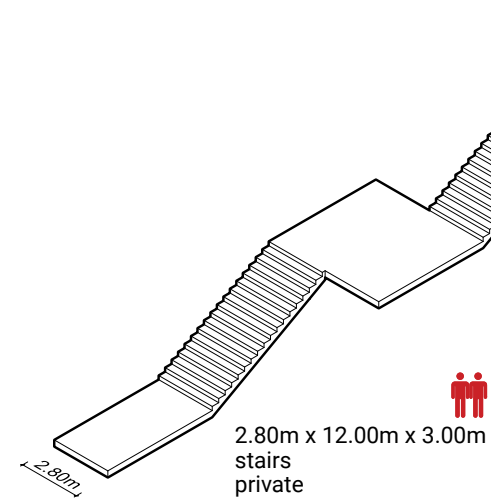
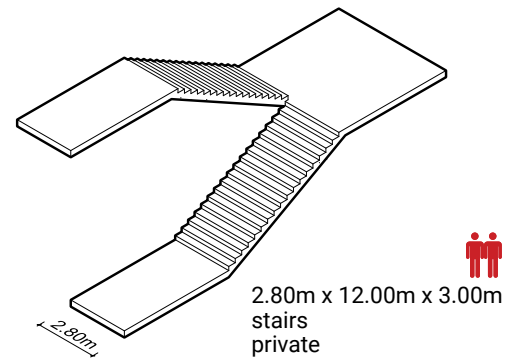
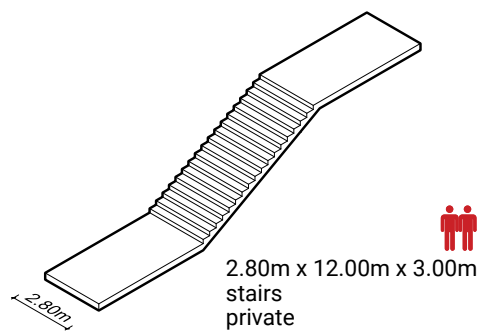
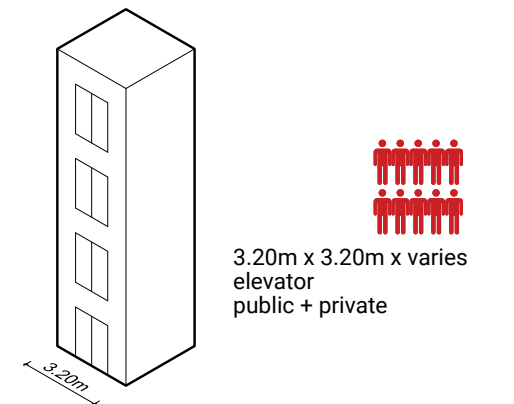
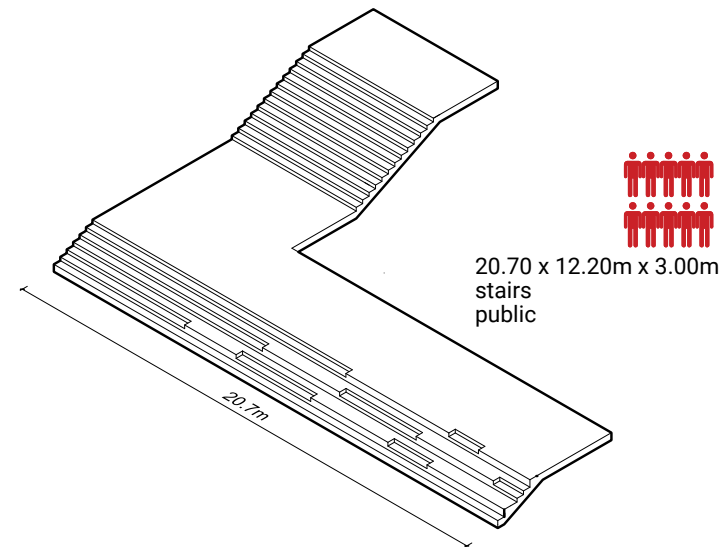
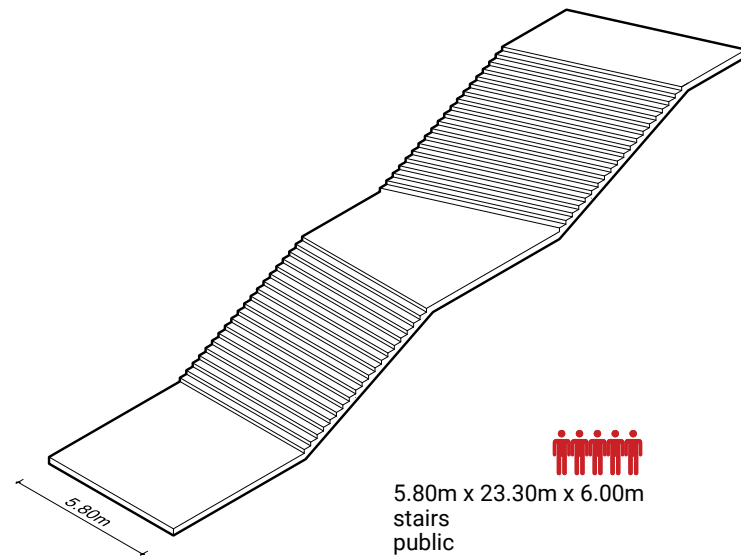
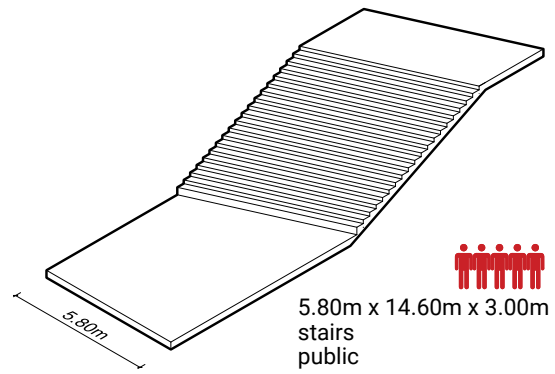
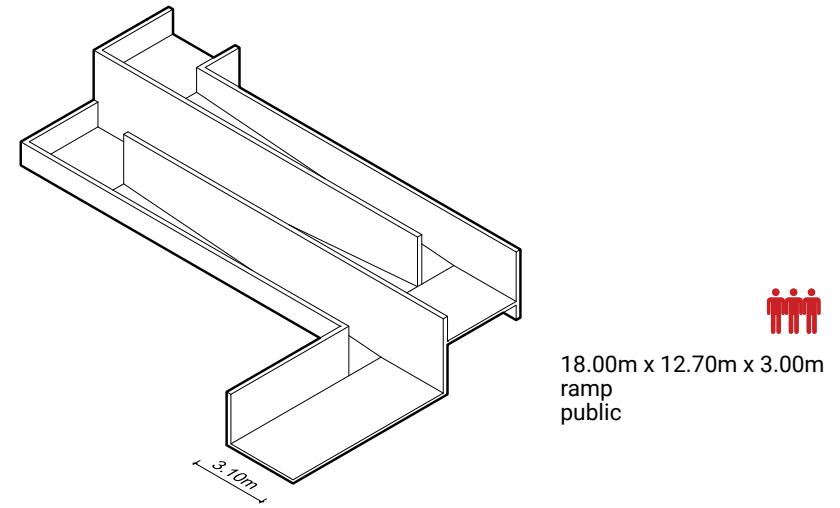
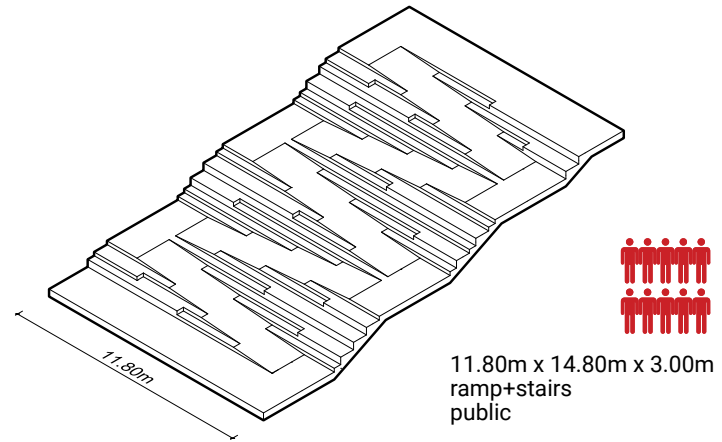
The unique configurations of circulatory elements such as stairs, ramps or elevators would help cultivate the relationship between one user to another user as well as between a user and the environment. The sizes, threads dimensions or the combinations of these elements correspond to the specific number of users and their movement pace. The directness or ambiguity of the paths could be used to imply specific types of users and purposes, for instance, some paths are used mainly for logistical purposes due to its directness towards the destinations, while others may generate detours to other spaces or other activities such as areas for lunch or platforms for informal conversations. The roofs and walls attached to these circulatory elements are integrative to the experience by allowing users to see to the sky, the surrounding, or into interior spaces – by design.







With the programs being a mix of a park and a range of convertible spaces, the project looks at the idea of mixed use beyond just the building itself by looking at it in a larger context. As the purpose of mixed use is to provide all the necessity one needs or in order to fulfill the lifestyle in close proximity, the strategy is to find the missing piece in a nearby area which is a platform of communication in an open ended condition by bringing people of different backgrounds and interests into the same spaces. The design process thus began with breaking the volume of spaces into varied sizes based on functionality, then ties them back together with circulation and landscape that flow throughout the complexes.

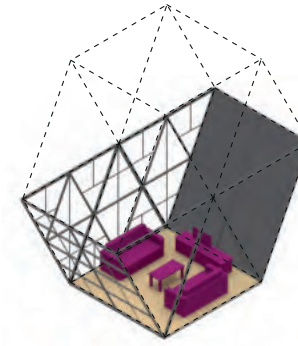
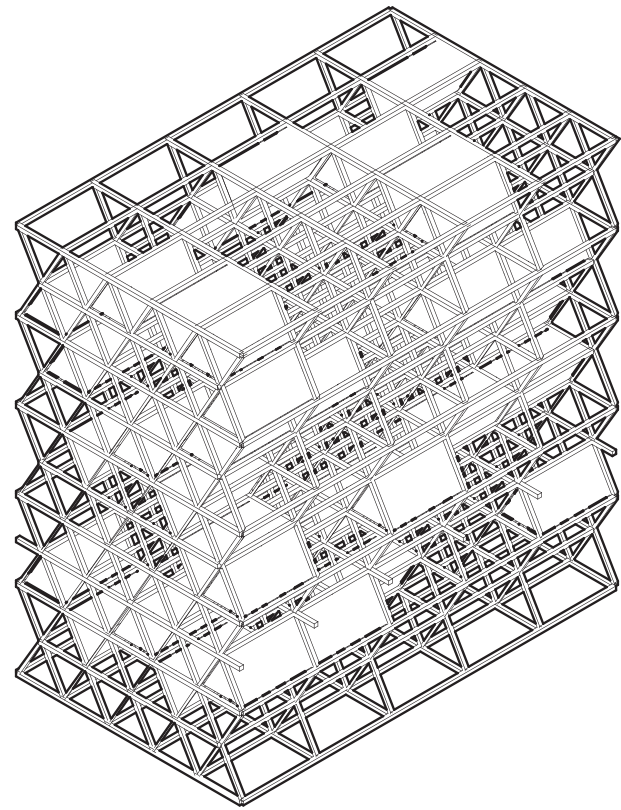
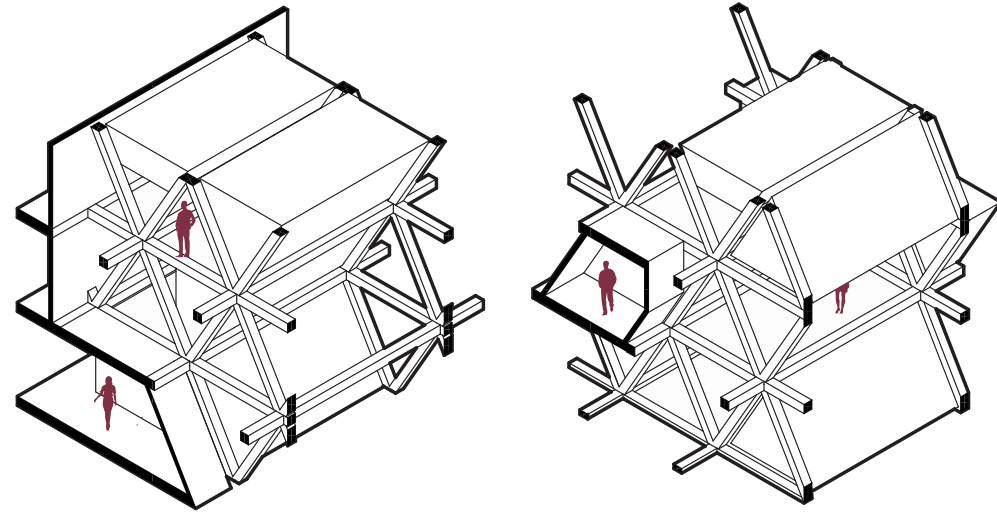




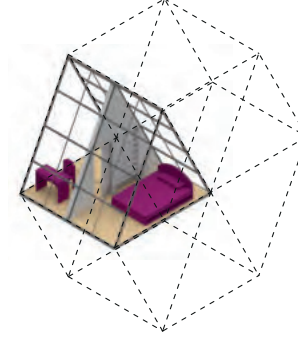
ANTIFRAGILE HOUSING

Academic (Spring 2020)
Neo-Modular Housing Systems
Group || Meissane Kouassi
Keneilwe Ramaphosa
Professor || Andreas Tjeldflaat

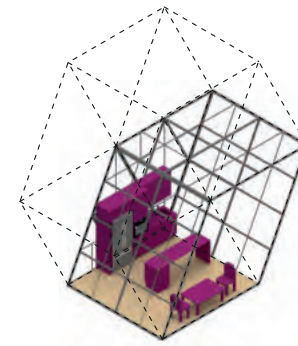
This design aims to reconcile city life with food production through the integration of architecture and agriculture. This project attempts to address issues of affordable housing and inner-city food deserts in New York City. An ecological alternative to our current food system includes the question of what we grow and where. Urban areas need to become part of the organic system that feeds our population in order to provide food securities for cities and ensure the availability of healthier foods.



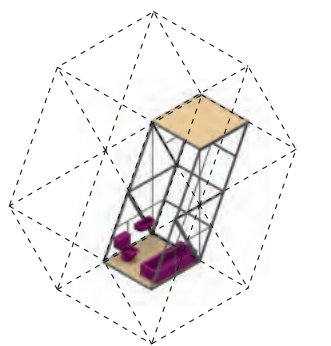
living room



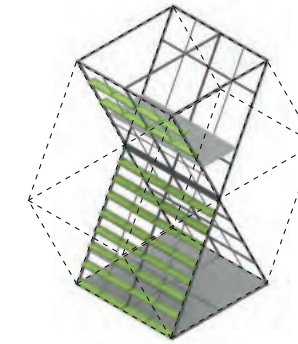
bedroom



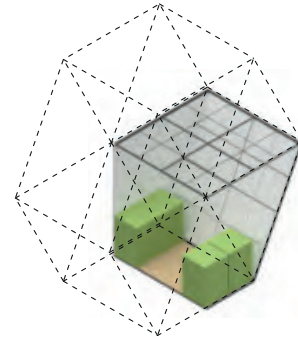
kitchen



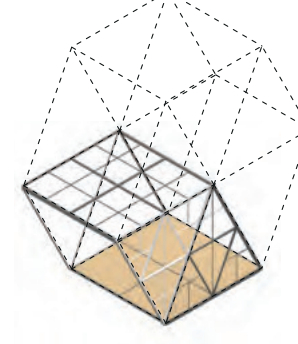
bathroom



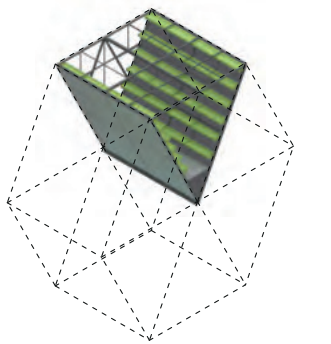
aeroponics



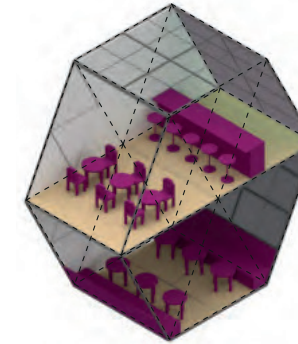
compost



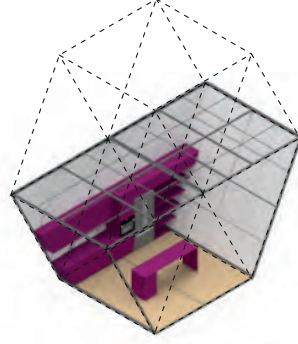
green arcade



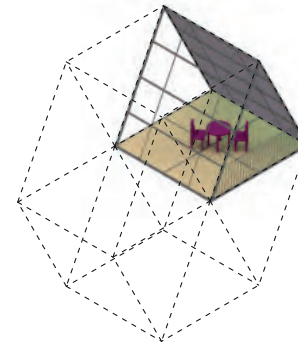
greenhouse



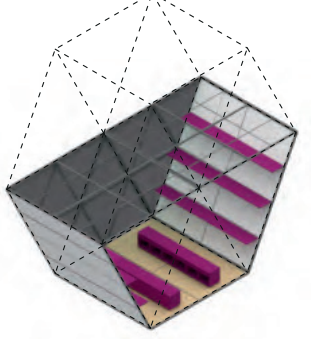
cafe



shared dining



terraces



market

This modular housing configuration uses an aeroponic vertical farming system to produce high ratios of crops per planted areas. Greenhouses protect food against varying weather conditions and offer different eco-systems for a range of produce to grow year round. The aeroponic system relies on the water-treatment system that filters rain and greywater to provide sufficient irrigation for the roots of the plants. All food waste is composted.

Our modular system is made up various materials. Structural steel frames support stainless steel frames and cross laminated timber panels which are used for partitions, finishes, and planters. The circulation system makes use of perforated steel floor plates to allow for light and ventilation on the upper to the lower levels. CLT is easy to fabricate, transport and quick to install. It is sustainable, takes less energy than cement or concrete and produces fewer greenhouse gases during manufacturing.

