

The Public Choreography

Research-by-design Journal

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	
Student number	

Studio		
Name / Theme	The Vertical Campus	
Main mentor	Paul Kuitenbrouwer	Project Design
Second mentor	Piero Medici	Building Technology
Third mentor	Gosia Golabek	Theory & Research
Argumentation of choice of the studio	I have always been interested in design through the lens of human experience, and believe that human-centered experience is crucial in the realm of architecture. Besides, I am interested in designing through various scales, as I believe they are inextricably linked to creating an integrated experience. Public building with the theme of Vertical Campus provides a valuable opportunity for me to integrate these aspects while redefining and reimagining the meaning of 'public hub' and 'campus of the future'. These aspects are also crucial in extending the publicness, which is often explored horizontally, in a vertical manner.	

Graduation project	
Title of the graduation project	The Public Choreography
Goal	
Location:	The Hague, the Netherlands
Context and posed problem,	The Hague is the country's administrative center and is often described as the de facto capital. By delving into and comparing the development of various areas in The Hague, one would realize the significance of the public realm. Successful design of the public realm helps develop a strong relationship between buildings and the 'in-between' spaces, as well as, within buildings themselves, thus forming an integrated urban experience, both horizontally and

	<p>vertically. More notably, this induces changing speed and tempo in movement, through various spaces and programs giving rise to the identity of a particular area.</p> <p>The zone Den Haag Central, forms the high-density urban fabric at the heart of the city and often provides the image of a Central Public Hub. However, the area appears to be rather lifeless, where people do not tend to stay or cross paths. The major issues identified are centered around flow and movement. Fragmented buildings and routes fail to provide an inviting and continuous urban experience, causing people to pass by at relatively high speeds, in and around the site. Other fast-moving transport such as trains and vehicles further contribute to the fragmentation of the urban landscape. These suggest the need for a perceptual approach to form an integrated public experience by introducing sequential encounters through changing speed and tempo to engage users.</p>
<p>research questions and</p>	<ol style="list-style-type: none"> 1. How does the change in tempo of movement and programs influence the design of spaces and vertical typology? 2. What fosters the change in speed and tempo through spaces? 3. How may sequences of spatial experience be informed by Phenomenology? 4. What enhances the concepts of life-long learning and identity of the 21st-century campus? 5. How can the vertical campus be integrated into the urban fabric allowing a continuous experience?

<p>design assignment in which these results.</p>	<ol style="list-style-type: none"> 1. Defining the nature of different segment of the journey and the connections in between to form an integrated experience as a whole, enhancing hybridity and multiplicity 2. Zoning/mapping of programs with different learning trajectories and spatial qualities to define changing speed gradient 3. Incorporating different sensory experience in proportions, colour, light, materiality, visual connections in relation to the changing learning trajectories 4. Creating hybrid learning options through changing tempos in the realm of the fast-paced digital age, enhancing life-long learning and knowledge retention 5. Cataloguing the various tempos in urban and building scale in order to form a continuous experience and flow
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Process**Method description****Analogization**

Each musical piece is characterized by a particular form and its phrasal organization, with changing tempos and rhythms. The technique of structural sequencing in music will be compared to and inform the arrangement of programs or curation of successive scenes as in that of architecture.

Cataloguing

To form a sequential rhythm and facilitate the structuring of spatial qualities, a catalogue of the tempos of programs and different systems of movement will be produced. This will help in the formation of continuous journeys through various events with complimentary 'buffer zones', assemblages and connections in between.

Notation

In light of the inherent difficulty of expressing lines of motion concerning tempos with conventional plans and sections, a notational system will be developed to illustrate the learning trajectories, sensory experience and main users' flows. Each segment will feature distinct speed, tempos, spatial qualities, atmosphere and programs, which may be linear or in loops.

Case Study

Programmatic relationships in educational buildings will be analyzed especially in terms of learning trajectories, to inform the integrated campus with changing speed and tempo, as well as, connection in between. Individual projects that shed light on how flow and movement can influence architectonics, spaces and functions will also be studied.

Literature and general practical preference

Books

1. Gehl, Jan, and Birgite Svarre. *How to study public life*. Washington, D.C.: Island Press, 2013.
2. Gehl, Jan, and Jo Koch. *Life between buildings: Using public space*. Washington, D.C.: Island Press, 2011.
3. Gehl, Jan. *Cities for people*. Washington, D.C.: Island Press, 2010.
4. Jacobs, Jane. *Reprints of three reviews of the Death and Life of Great American Cities, by Jane Jacobs, Random House. 1961*. American Society of Planning Officials, 1962.
5. Lefebvre, Henri, and Donald Nicholson-Smith. *The production of space*. Oxford, OX, UK: Blackwell, 2017.
6. Montgomery, Charles. *Happy City: Transforming our lives through urban design*. Londres: Penguin Books, 2015.
7. Per, Aurora Fernández, Javier Mozas, and Javier Arpa. *This is hybrid: An analysis of mixed-use buildings*. Vitoria-Gasteiz, Spain: a+t architecture publishers, 2014.
8. Sim, David, and Jan Gehl. *Soft City: Building Density for Everyday Life*. Washington, District of Columbia: Island Press, 2019.
9. Speck, Jeff. *Walkable City: How downtown can save America, one step at a time*. New York: MCD Picador, 2022.
10. Till, Jeremy. *Architecture depends*. Cambridge, MA: MIT Press, 2013.
11. Tschumi, Bernard, and Robert Young. *Bernard Tschumi, the manhattan transcripts: Theoretical projects; on the occasion of their showing, together with Bernard Tschumi's recent projects, at the Museum of Modern Art, New York, April 21st - July 5th, 1994*. London: Academy Ed., 1994.
12. Whyte, William Hollingsworth. *The social life of small urban spaces*. Washington, D.C.: Conservation Foundation, 1995.

Website

13. June 2001 Fifth generation distance education - uol.de. Accessed October 11, 2023. <http://www.c3l.uni-oldenburg.de/cde/me-dia/readings/taylor01.pdf>.
14. "Space, Event, Movement: Bernard Tschumi." Pidgeon Digital. Accessed October 11, 2023. <https://www.pidgeondigital.com/talks/space-event-movement/chapters/>.
15. Tobia, Valentina. "Slowing down the Pace: The Advantages of 'Slow' Learning." UniScienza&Ricerca: il blog di UniSR. Accessed October 11, 2023. <https://blog.unisr.it/en/slowing-down-pace-advantages-slow-learning>.
16. Oppong, T. (2022a, March 30). Slow-Paced Learning: The Most Effective Way to Retain 90% of What You Learn. Hive. October 11, 2023, <https://hive.com/blog/slow-paced-learning/>

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)?

My graduation topic redefines the typology of public buildings and 'Vertical Campus' through the change in speed and tempos of movement and programs. This in turn helps develop and strengthen the themes of the studio – hybridity, multiplicity, lifelong learning, sustainability and resilience, through the integration of users, buildings and urban landscape. Thus, the graduation project aims to reinject life to the Central Public Hub and Innovation District at large, which echoes with the goal of the master track to “develop creative and innovative building projects that use design as a means to deal with the technical, social and spatial challenges encountered in the built environment.”

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

The graduation work reaffirms the role of spatial movement in altering one's perception of architecture and the city. With the overlapping and combination of different rhythms, the relationship between movement, space and programs can be strengthened to form continuous experience. At the same time, it also allows the intertwining of campus and city life. This contributes to the larger discourse of flow and movement which has been a matter of concern in many disciplines.

Besides, the proposition emphasizes lifelong learning and redefines the 21st-century campus by introducing various learning trajectories, to support research which shows the significance of learning and interaction at different speeds in the realm of digitalization and flexible learning models, to allow deeper engagement for perpetual innovation.

Time Planning

22/1/2022 - 15/2/2022:

Finalizing the massing based on concept
Revising design position based on comments

15/2/2022 - 28/3/2022:

Carrying on with structure and façade development
Applying material concepts to individual spaces
Testing spatial sequences and atmosphere with preliminary renders
Formulating sustainability and environmental strategies
Addressing technical and mechanical requirements
Masterplan design

28/3/2022 - 12/5/2022:

Detail design (joints, railing, fenestrations)
Interior design (layout of spaces)

12/5/2022 - 13/6/2022:

Updating 1:500 physical site model
Constructing 1:200 presentation model of the building
Producing rendered perspectives for the designed atmospheres
Representing the latest spatial sequences with notation
Completing all plan, sectional drawings
Creating money shots for the project

design brief

The Horizontal Brief | MSc 3

Urban Capacity Plan of 250.000 - 500.000 m2

The area around The Hague Central Station (CS Oost) has a high potential for densification because of the excellent accessibility by public transport. Many of the national and city government office buildings are in the vicinity. The pressure on the area is high, for one due to expanding demand for office space for the civil departments. This Studio is looking for a quality driven capacity plan for three dedicated zones: **1.) The green border, 2.) The fly-over infrastructure, 3.) The high-density city fabric.**

The capacity plans should provide design solutions in which special attention is given to the meaning and nature of the public realm and how that is connected to its environment, the interaction between nature and program and the re-use of existing buildings. The Studio is also looking for concepts that allow for more flexible use of available space; during peak days the pressure on available space is high, but at other moments a lot of space is unused or empty. The total program is roughly divided by 3. For each zone the built program is **80.000 – 160.000 m2**, in which:

- 30-40% is public program and publicly accessible (excluding outdoor public space);
- 30-40% is (governmental) office program;
- 30-40% is housing.

Within the capacity plan you will identify a spot with a footprint of 50 x 50 m (NB: the exact rectangle will derive from each of the capacity plans) on which you will develop the design of the building in MSc 4, based on the Vertical Brief.

The Vertical Brief | MSc 4

Hybrid Building on Education, approx. 30.000 m2.

Lifelong learning is the voluntary, ongoing pursuit of knowledge, skills, and abilities through various forms of education. The building should facilitate the types of programs that support this for people/students of all ages. Lifelong Learning therefore calls for more diversity in the programmatic brief than the strictly educational functions and spaces. The overlap with other programs in the hybrid building is thought to be beneficial to Lifelong Learning, while at the same time it offers time- and space sharing in order to enhance efficiency in use. The brief is indicative and divided in zones that, as said, can overlap or be rearranged.

Entrance (400 m2)

Reception and information, elevator lobby, security center, gates to shielded areas, cloakroom, amenities, lounge.

Commercial Spaces (1.000 m2)

Divided in units of at least 100 m2 with their own amenities, accessible from the interior and exterior public space.

Café and Lounge (500 m2)

The building should have café and informal lounge areas for people to eat and drink, socialize, study alone or in groups, or just relax. These areas should integrate with the circulation and exhibition spaces of the building.

Play and Learn (2.000 m2)

Supervised/ safe play areas for the youngest, combined with day care center and (elementary) learning functions for approximately 200 students and 15 staff.

Learn and Discover; Studio Spaces (1.000 m2)

Studio spaces will provide an outstanding environment for interaction between staff and students as well as for peer-to-peer learning with a level of containment and acoustic privacy for approximately 20 groups of 16-20 students per group.

Library and Media Center (2.000 m2)

A range of spaces for individual and group study, enabling access to physical and electronic resources, as well as facilities for photocopying and printing, storage and display of books, art, and digital collections.

Workshops (400 m2)

Workshops containing tools and equipment suitable for producing small- to medium-scale timber and metal work, e.g.: models, furniture, or construction prototypes. The workshops need ground level access for delivery, storage, and display. Workshop spaces are min. 200 sqm.

Centre for Advanced Virtuality (500 m2)

The Centre allows students (and not only) to experiment with technologies of virtuality – Virtual Reality, Augmented Reality, Cinematic Reality, 360-degree videos. The Centre consists of labs, immersive environments in which to reproduce imaginative experiences, meeting rooms, small working areas, and maker spaces, equipped with high-performance computers. The Studio supports creative projects and research endeavors, by bringing people together.

Learn and Develop; Research Spaces (2.000 m2)

A secure working environment, separated from the general teaching facilities, allowing a combination of quiet, solitary research work as well as collaborative group or team projects. This is likely to consist of traditional individual offices with storage for books as well as more open, interactive workspaces. Accommodation of 100 full-time staff; 200 part-time and 100 students.

Teaching, Learning & Development Spaces (1.000 m2)

These will provide acoustic and visual privacy for 10 small groups of 15-25 students. Spaces and furniture should be flexible, enabling access to physical and electronic resources.

(Lecture) Theatres (1.000 m2)

The building will include (lecture) theatres as follows:
One large theatre, seating 400+ people, possibly dividable into two smaller theatres,
Two medium theatres, each seating 120-150 people, and
Two small theatres, each seating 50-60 people.
This will also include foyer / breakout spaces large enough for the same number of people to gather and wait for the next lecture/event, which could have a dual function as an exhibition or casual seating space.

Exhibition Space (500 m2)

Any dedicated exhibition space will need to be serviced by a commercial-type kitchen for use at events, and be near to public amenities within the building.

Sports (500 m2)

One sports hall (height 7m) with sufficient changing rooms, lockers, and shower facilities. Additional multifunctional spaces for fitness, yoga, dance etc.

Office Spaces (10.000 m2)

The building will provide workspace for approximately 600 operational and support staff, and associated facilities such as file storage, meeting rooms, and reception.

Outdoor grounds

The spaces in the building should have easy access to outdoor spaces like a playground, terrace, park, square, etc.

Storage, Mechanical Utilities and Circulation Space

25-30% of total gross floor area

Bicycle Parking

for 800 bicycles (2 per 100 sqm)

Car Parking

(1 parking place per 250 sqm = 160 cars)

Delivery of Goods

Addition of On-premise Data Center (as educational and service spaces)

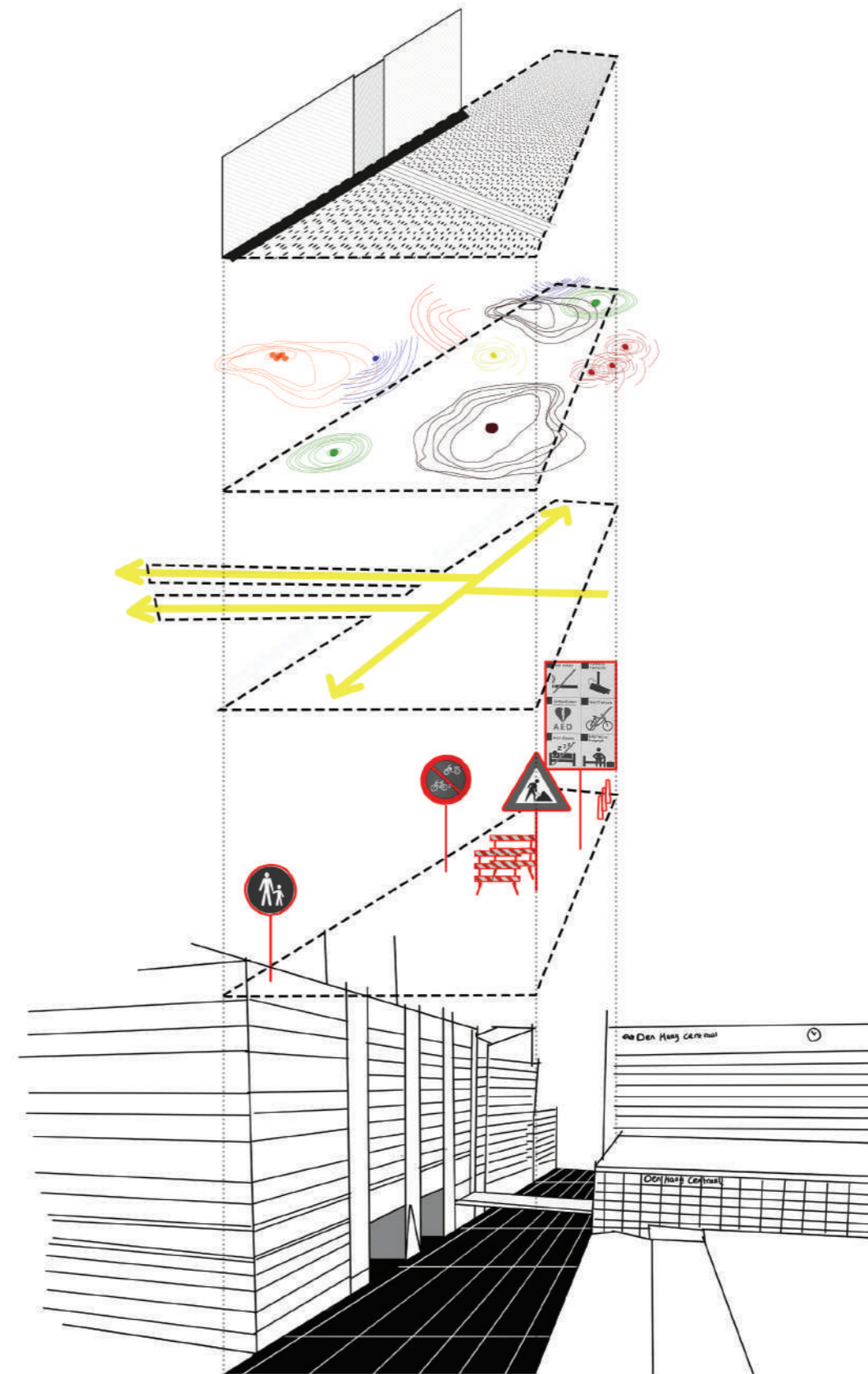
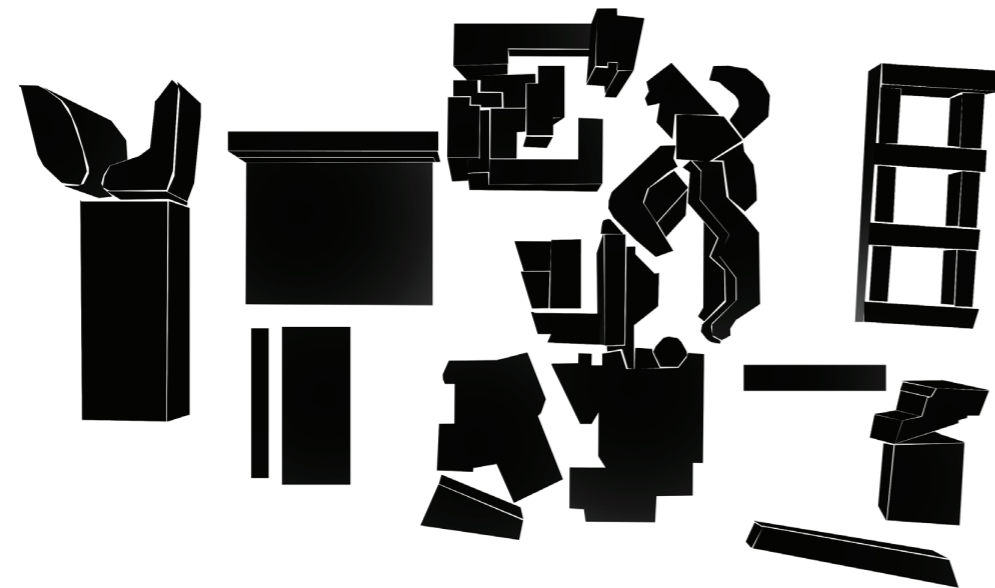
2200m2 additional

- Server + Network Spaces (204m2)
- Network Operation Centre (NOC) + Security (500m2)
- Power Rooms (1500m2)

TD Assignment 1: Findings site visit

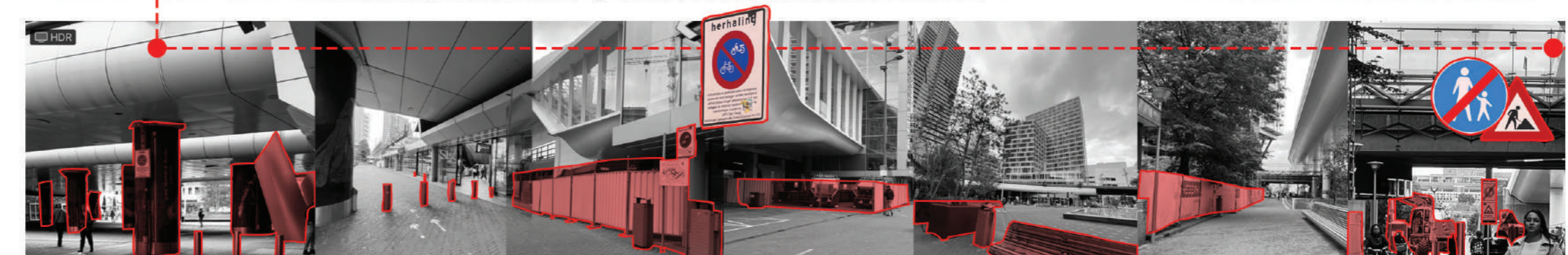
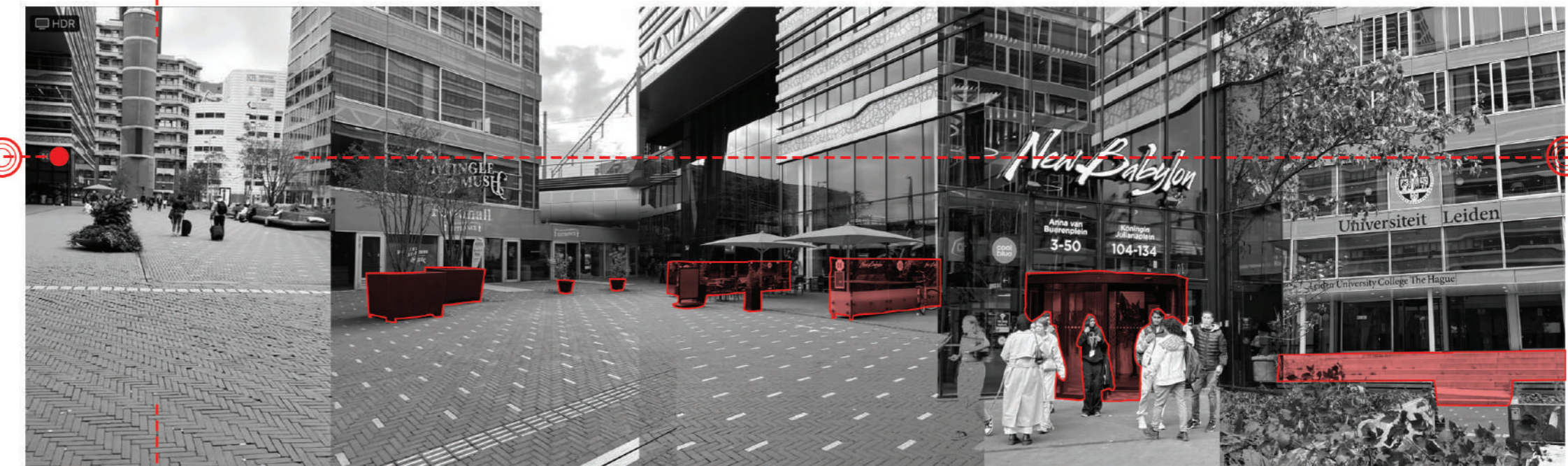
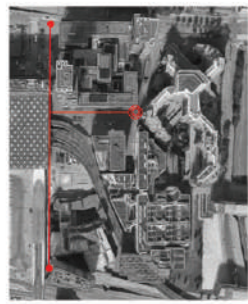
This research dives into the complicated dynamics of the public space surrounding The Hague Central Station, examining its affordances (perceived opportunities for action) and invariants (persistent spatial qualities). By employing psychogeographical mapping, we aim to unveil how the environment shapes human experiences, taking into account materiality, signs of obstruction, soundscapes, relations with administrative buildings, negative spaces, and other layers.

The project's outcome is a psychogeographical map, showcasing the relationships between the public space and subjective experiences. This map will generate fascinations that will eventually help develop the thesis research.



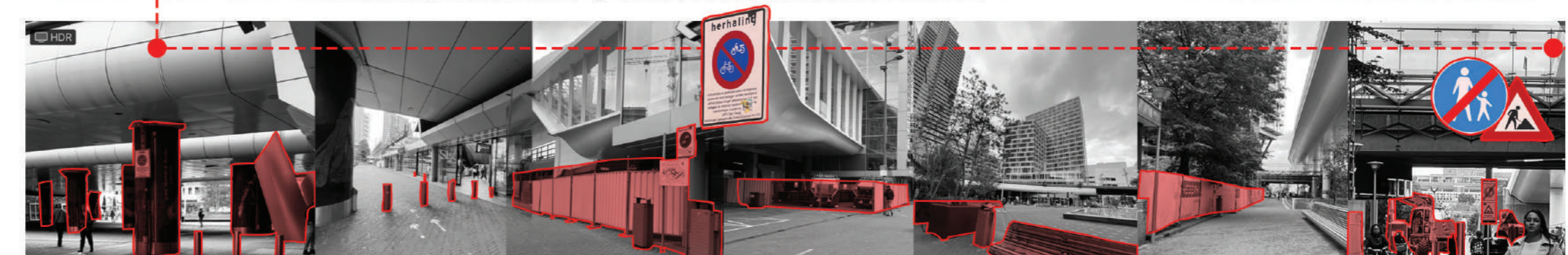
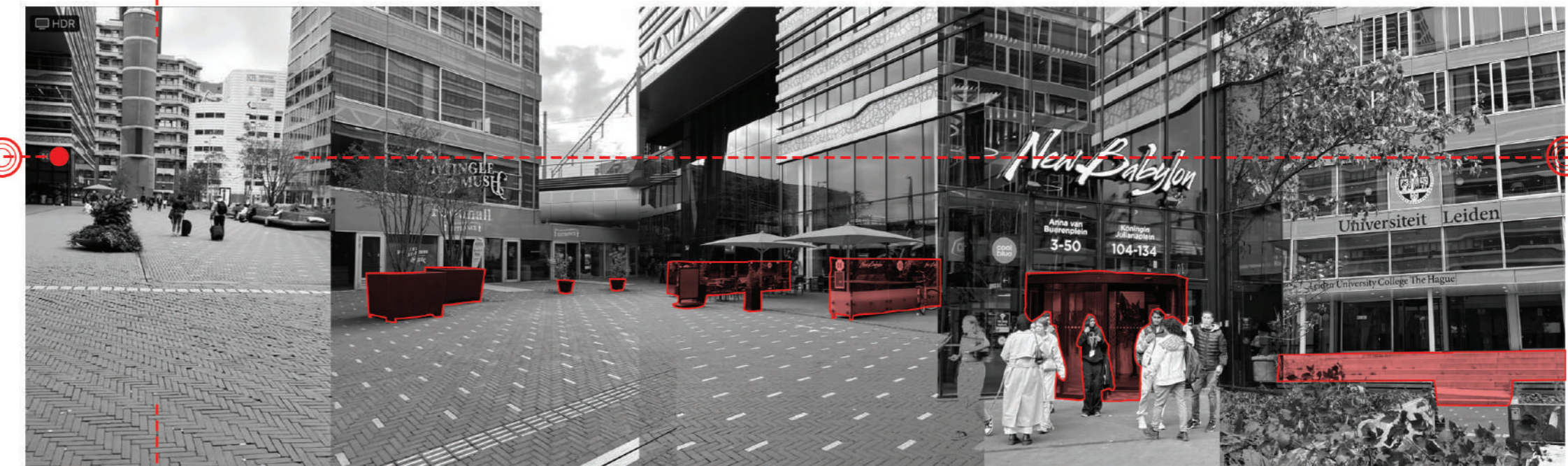
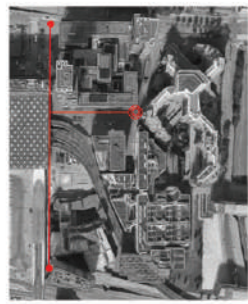
TD Assignment 1: Findings site visit

Samples



TD Assignment 1: Findings site visit

Samples

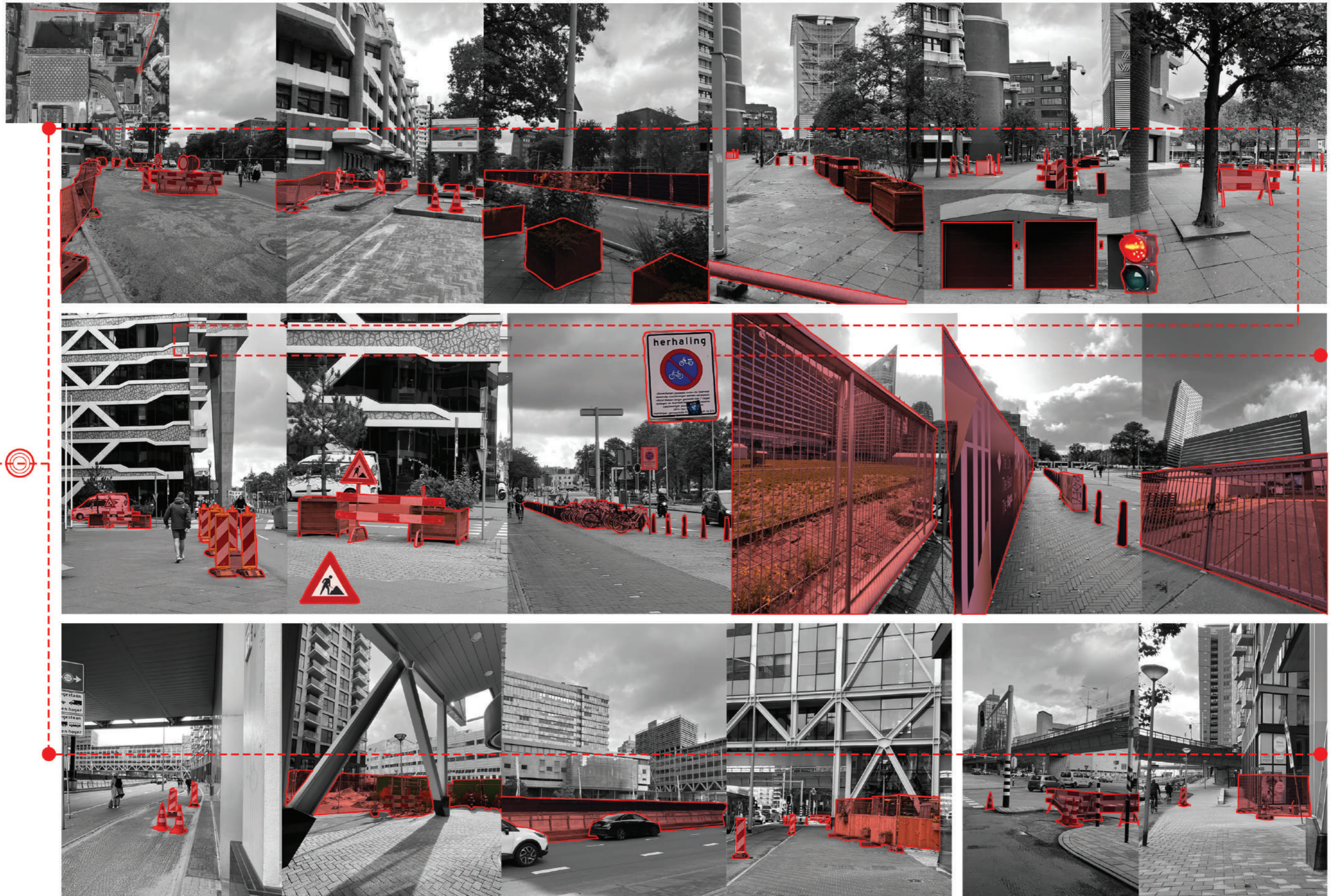


TD Assignment 1: Findings site visit



C. Process Documentation

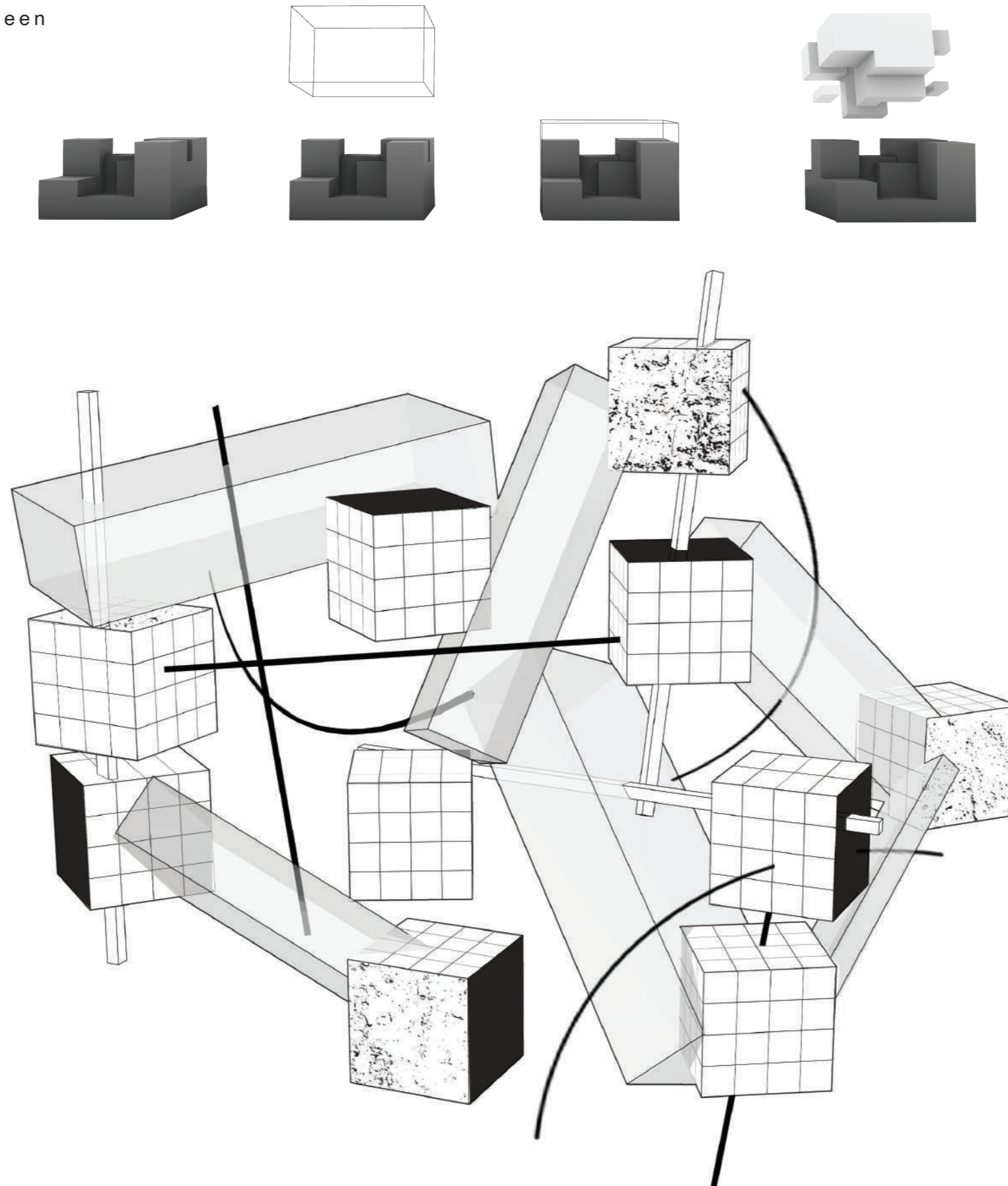
TD Assignment 1: Findings site visit



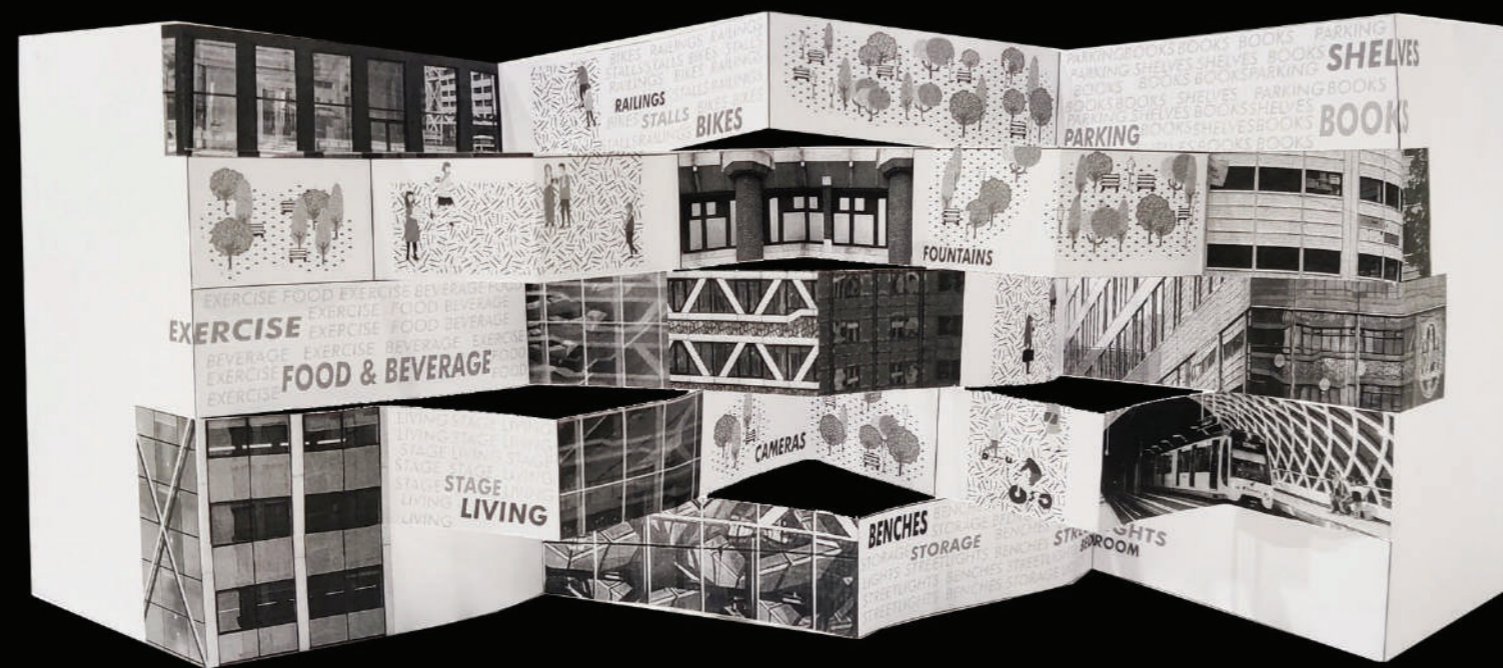
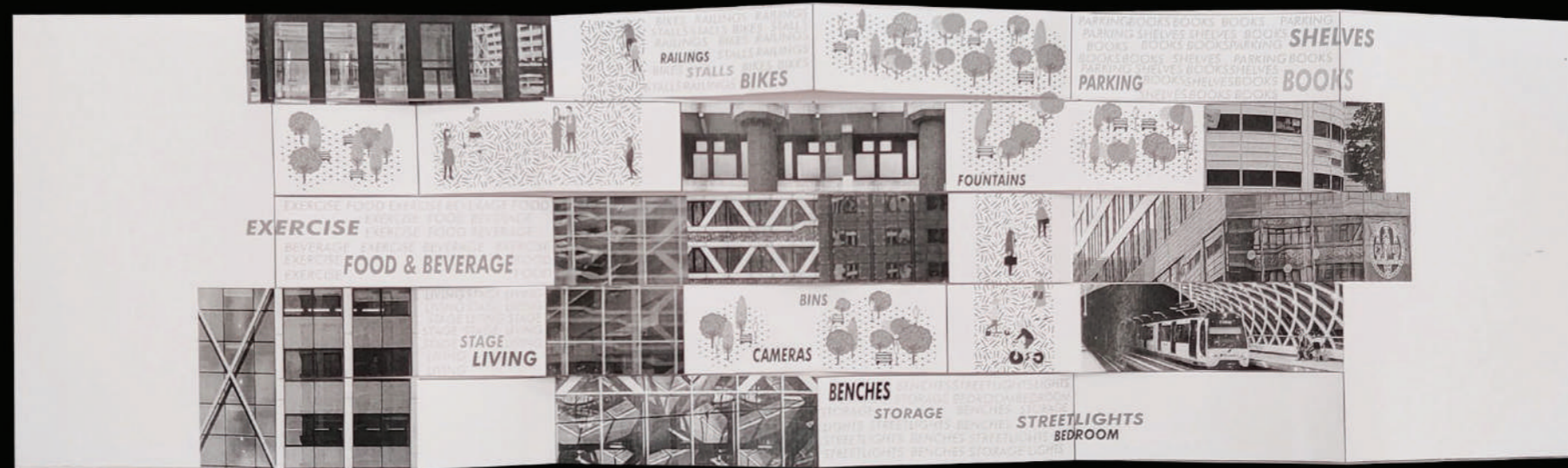
C. Process Documentation

TD Assignment 2: Findings site visit - diagram

Reimagining the connection between the built environment and the negative space



TD Assignment 2: Findings site visit - diagram



C. Process Documentation

Persona's



Professor

Age: 60 (estimated)
Occupation: Professor at Department of Public Administration
Interview Location: Leiden University, location Wijnhaven, The Hague
Education: PhD in Administration and Communication
Living Location: Noordwijk
Nationality: Dutch

Statement for Persona: Mr. de Ruiter is a humble professor who dedicates his time to helping and mentoring his students and sees positivity in everything in life.

“Communication leads to a well-established community that leads to connection and creation of relationships between humans”
 Hugo de Ruiter

Behaviour/ Personality Traits/ Hobbies/ Motivation:

- Helpful, calm, gentle, intelligent, passionate
- Cycling and swimming
- Participating in group discussions about sustainability and the future of the Netherlands,

Pain Points:

Future generations are facing serious challenges and one of them is the lack of student housing nowadays. Hence, the available opportunities are not affordable.

Observations/ Opinions:

- The campus of Leiden University, location Wijnhaven, is very open and not an oppressive educational space. Anyone can walk into the building and access many spaces without being a student or worker there.
- Secondly, this campus has many facilities for students although it is relatively small.
- The campus is ideally located because it's close to the centre of The Hague and the Central Station.

Gain Points:

- Higher educational buildings should have public spaces which are accessible to all people.
- Campus should have all the facilities students need and provide enough capacity for student housing.
- Universities which are centrally located in the city help to create valuable connections with other public parts of the city and improve the Campus's accessibility and the urban fabric.



Security guard University of Leiden

Age: 59
Occupation: Security / receptionist at the library
Education: Vocational education and training (BBL)
Living Location: The Hague
Nationality: Netherlands

Statement for Persona: She seems to be enjoying to work with, meet with and talk with new people and has a passion for reading romantic thrillers

“I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel.”
 - Maya Angelou -

Behaviour/ Personality Traits/ Hobbies/ Motivation:

- Passionate
- Friendly, Open & Likes to have a chat with people
- Helpful
- Riding on here motorcycle

Pain Points:

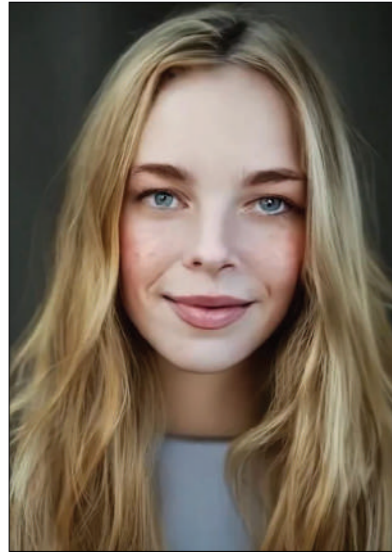
- After the parliament came, the area is more closed off to delivery services and it feels less safe because of the high level of security
- The area is not really vibrant because of the functions in the plinth
- The public space that are in the area are not big enough to meet the demand

Observations/ Opinions:

- To have security in the area is understandable but if there is too much people feel less safe
- Most of the people that want to come inside are really sweet and always in for a talk
- In the university of Leiden (on the east side of the station), there is a cosy and dynamic atmosphere

Gain Points:

- Mixing functions in a building and have a common space on the lower levels creates a positive atmosphere
- More public spaces that have a low entry threshold



STUDENT

Age: 22
Occupation: Master's student
Interview Location: The Hague (Universiteit Leiden, Turfmarkt)
Education: Bachelor's Degree in Business Management
Living Location: Zoetermeer
Nationality: Dutch

Statement for Persona: She seemed very eager to learn about our research. She is an extroverted person but still has not adapted to the new educational environment.

"It is a nice feeling when education intertwines with the rhythm of urban life."

Behaviour/ Personality Traits/ Hobbies/ Motivation:

- Enthusiastic for her new studies.
- Enjoys going to the cinema.
- Prefers working out at campus facilities.
- Wants to be actively engaged with the student community and group activities on campus.

Pain Points:

- "There is confusion regarding the walking and cycling paths west of the station."
- Although it is nice to see the governmental buildings, they are very closed off and inaccessible.
- For university facilities the capacity of the study areas during exam periods is very important.

Observations/ Opinions:

- The area around the station feels safer than the city center.
- More people cross the station to go to the west side towards the city center that going to the east side.
- Most students prefer the benches outside Leiden University for their lunch break.

Gain Points:

- Being close to the governmental buildings makes you feel more connected to the decision making groups.
- During the summer, the outdoors facilities of a big campus can host many activities for students and families.



ARCHITECT / HUMAN ACTIVIST

Age: 38 (estimated)
Occupation: Architect (Human Activist part-time)
Interview Location: The Hague (in front of Tweede Kamer der Staten-Generaal)
Education: Equivalent to Qualified Architect
Living Location: Amsterdam
Nationality: Iranian

Statement for Persona: She seems to be a passionate individual staying true to her upbringing and background, always thinking for all walks of life through peaceful protest and architecture.

*"The disadvantaged and those that live at the margins need more, not less design, to achieve a better quality of life."
 - Yasmeen Lari*

Behaviour/ Personality Traits/ Hobbies/ Motivation:

- Passionate
- Friendly, Cheerful & Approachable
- Having a safe place to protest
- Having meaningful conversation with authorities and community ("it was nice that they came to us to asked what we are doing")

Pain Points:

- Balance needs to be strived between public and private areas especially for governmental programmes, as well as, mixing of programmes

Observations/ Opinions:

- Observed that there are many people, especially students visiting the temporary parliament on Tuesday and Thursday
- Some governmental buildings need to be highly secured ("there was once a bomb threat around the area and the police went searching all the bins.")
- "Ground floor of the parliament building and surrounding are quite 'open'."

Gain Points:

- Mix of governmental and educational programmes would be interesting for more exchange than current ongoing interactions
- Public spaces should invite people to gather and for meaningful conversations to happen
- Visual connection helps create a sense of 'openness' for buildings

Oxford diary

Image

The College Town - Buildings & Walls

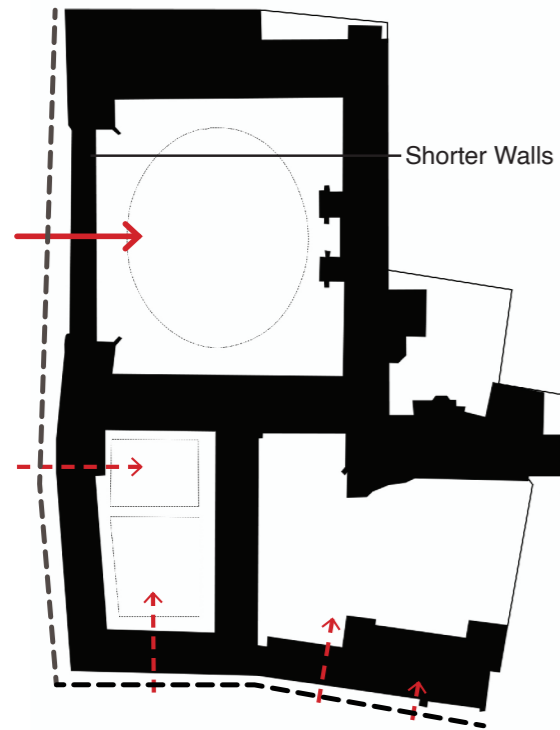
The English term 'college' is inseparably linked to the historical university town - Oxford. The college is specific form of housing that was developed from the 13th century onwards; it was initially used for housing the teachers associated with the university, and then later came to include the student as well. Lessons were not held in these buildings, they took place in what were called the University Buildings. These colleges mirrored the design of other forms of collective living that were equally common at the time, for example monasteries and manors. The programmes are combined now in what we see today as colleges. Many colleges are located along the city walls. These distinct positions resulted in different spatial patterns. Most original

colleges have inward-facing courtyards and have 'backsides', as well as, long inaccessible street walls facing the public street. Thus, colleges always give an image of 'an enclave'. However, the spatial construct of colleges have transformed and are reimagined throughout the years. For instance, the North Quadrangle of the All Souls College which was added later shows less of an 'enclaved structure' as compared to the original part. Queen's College just right besides it also shows a similar contrast between the expansion and the original. On the other hand, Exeter College Cohen Quad which is a new construction with an old facade also shows the contrast between the sense of enclosure the street provides.

Quads & Courtyards

The image of 'enclaved structure' are closely linked to the quadrangle. In architecture a quadrangle, also referred to as "quad", is a rectangular open space that is partially or completely enclosed by buildings. Traditionally, quads are enclosed by continuous buildings on all four sides. These buildings tend to be of civic or academic character. Quads or courtyards usually form place for study, contemplation and relaxation. In Oxford, many

colleges have two or more quadrangles. Quads are then linked by buildings with semidarkened passages. Throughout the years, the quads have opened up more towards the city, formed connection to the streets, less enclosed and have different composition. These can also be seen in All Souls College, Queen's College and Exeter College Cohen Quad.



- See-through Main Entrance/ Visual connection to secondary street
- - - - - Solid Entrances/ No visual connection from secondary or main streets
- - - - - Main Street Front
- - - - - Secondary Street Front



View of All Souls College through the see-through gate of the main entrance facing the secondary Cattle Street.



One of the solid closed-off entrance of All Souls College facing the main High Street.



Quad at All Souls College surrounded by tall building volumes.



Quad at Front Quadrangle of Queen's College surrounded by tall buildings.



Back Courtyard of the Exeter College serves as reimagined quad introducing more visual connection between inside and outside, daylight and greenery.



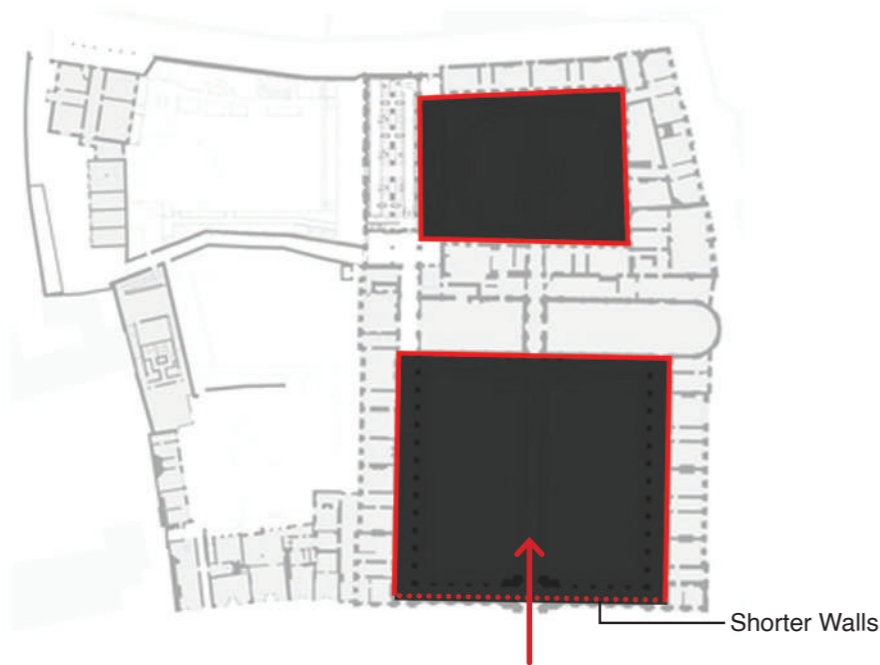
Front Courtyard of the Exeter College showing a reimagined Quad with more daylight and relationship to the route and programmes indoor.

Form

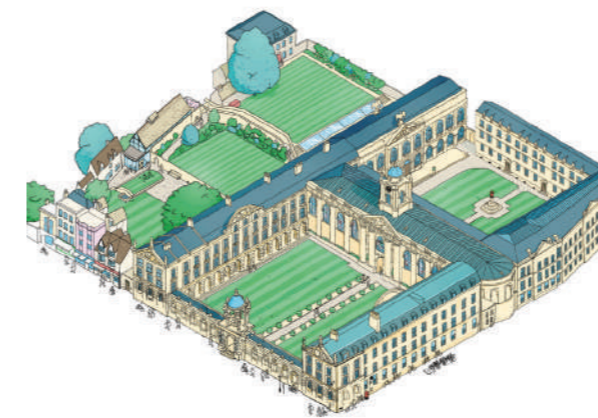
Horizontality VS Verticality

From traditional to modern univervisty buildings, not only did the architectural style changes, the programmatic layout also changes from more horizontally spreaded out to being stacked vertically. For instance, traditional All Souls and Queen's College have programmes spread out horizontally around the quadrangles, whereas programmes can be seen to be intersect and stacked in St

Cross Building, although still emphasising the horizontal espresion. More modern example such as the Beecroft Building shows the extension and stacking of programmes vertically both upwards and downwards from ground level.



The Front Yard of Queen's College showing less of an enclosed quad with more welcoming entrance and shorter walls facing the high street.



Programmatic volumes at Queen's College are spreaded more horizontally resulting in agglomeration of masses across a bigger area.



Interlocking and stacked masses with distinctive programmes can be seen at St Cross Building although having horizontality emphasised on the facade.



Instead of a traditional quadrangle plan, the reimagined quad and college form a S-shape spatial structure which open-up both the interior and exterior, as well as, forming a better relationship between the two.

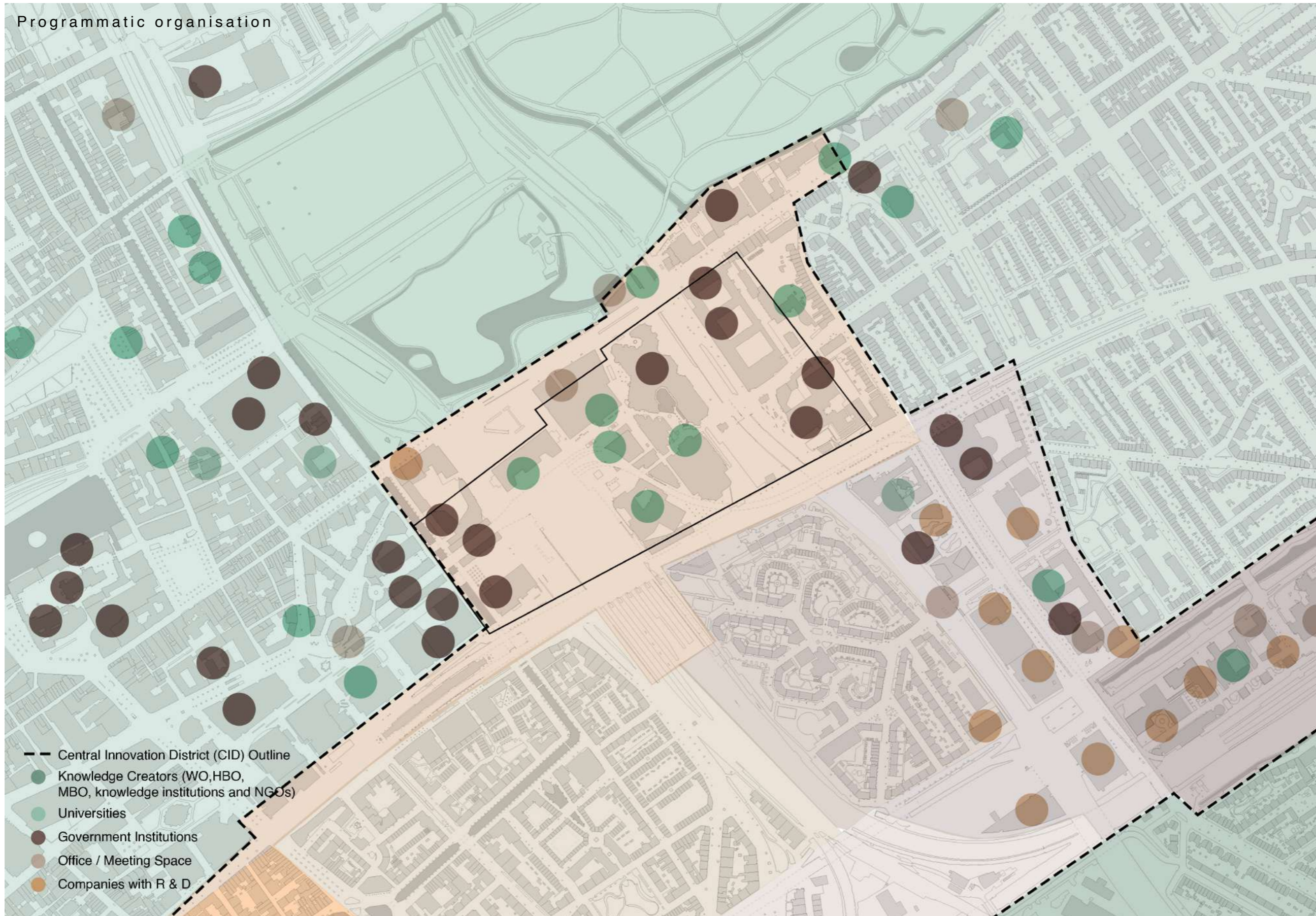


Atrium in the Beecroft Building helps introduce light and more visual connectivity between programmes.

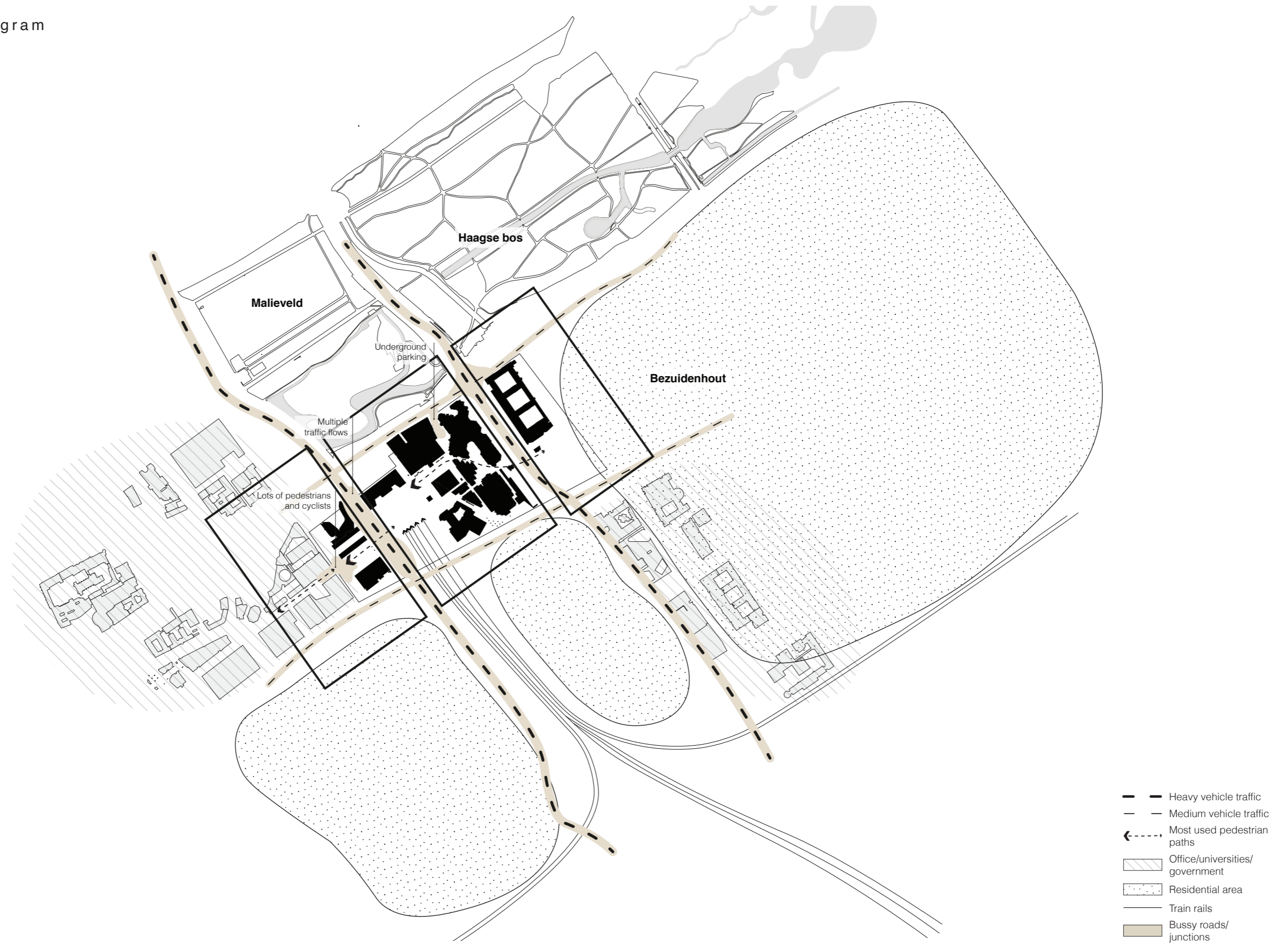


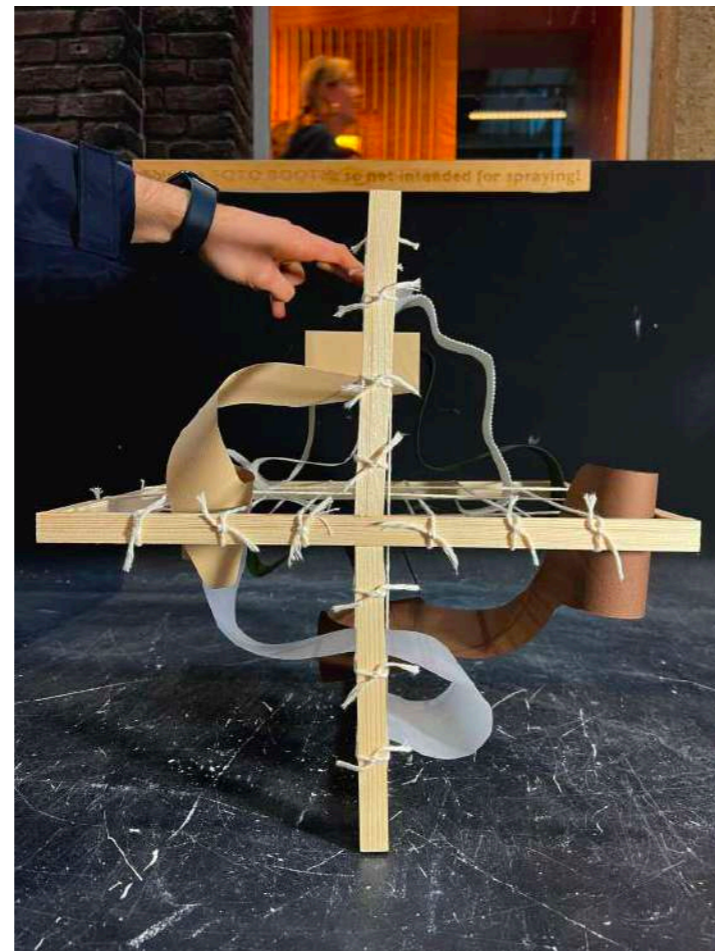
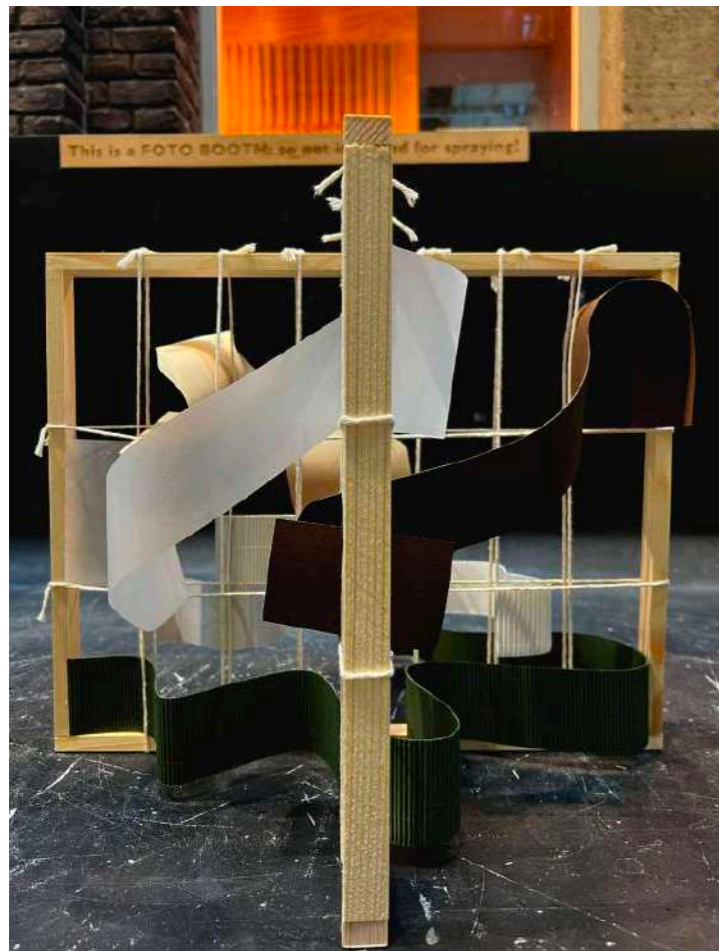
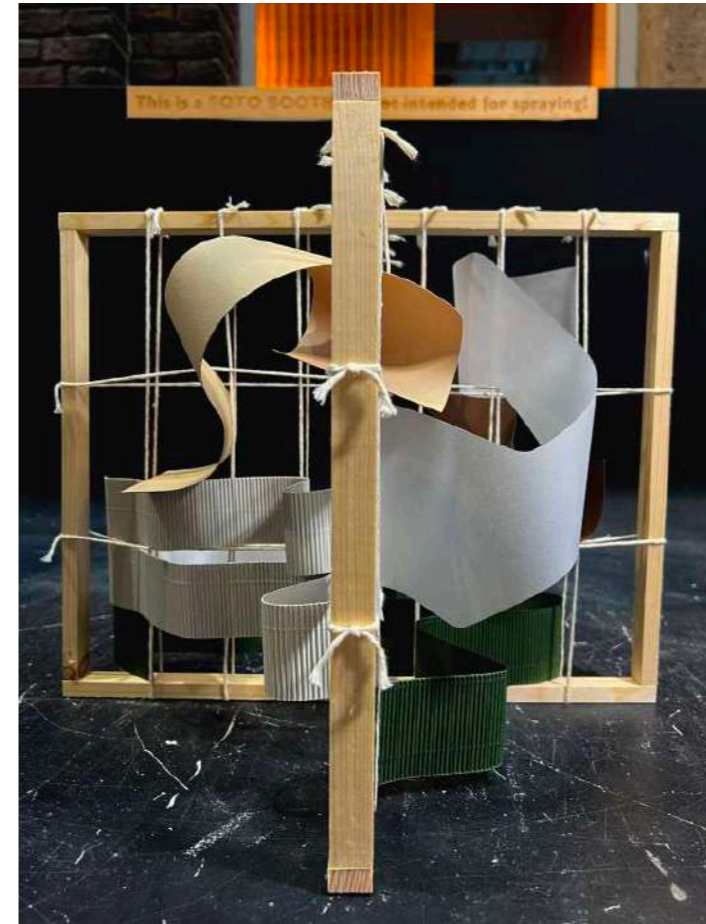
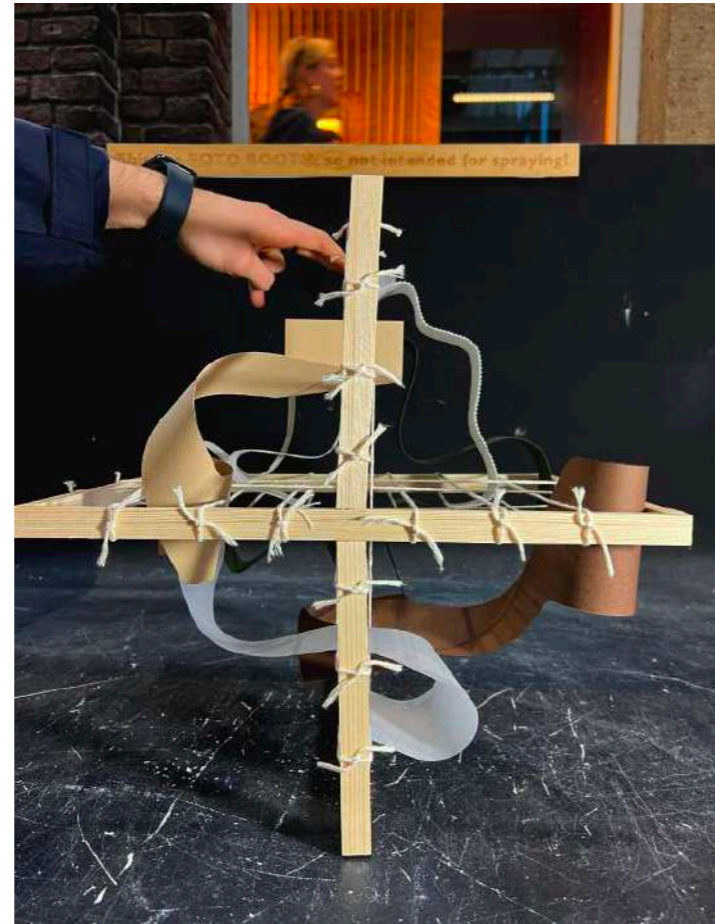
Programmes extends both upwards and downwards from the ground level in Beecroft Building.

PD Assignment 1: Objective mapping



Conclusive diagram

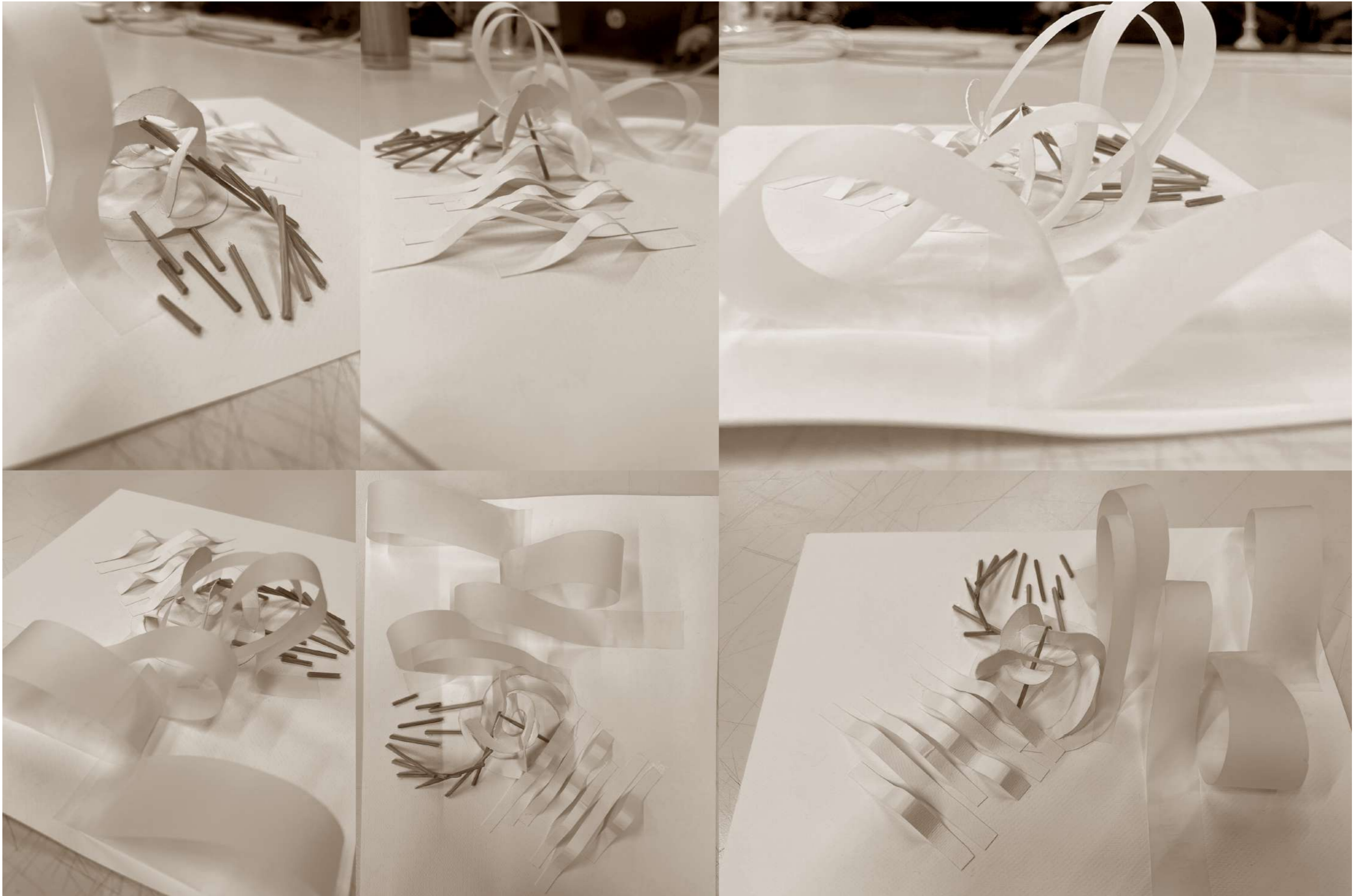




TD3 - Performative Conceptual Model

Carving Spaces with Flow
Millie Chieng Qian Yao (5927300)

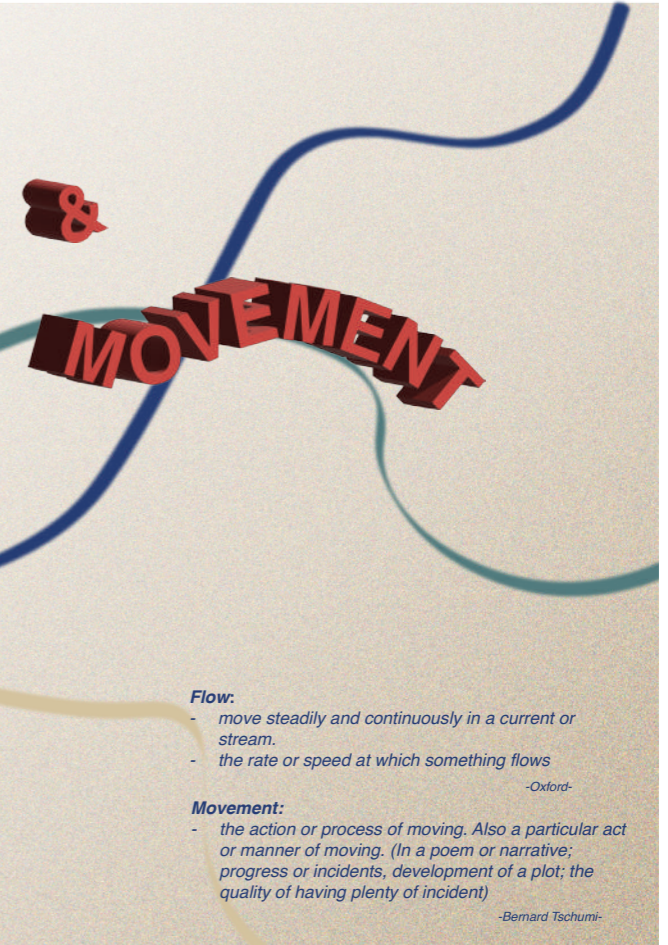
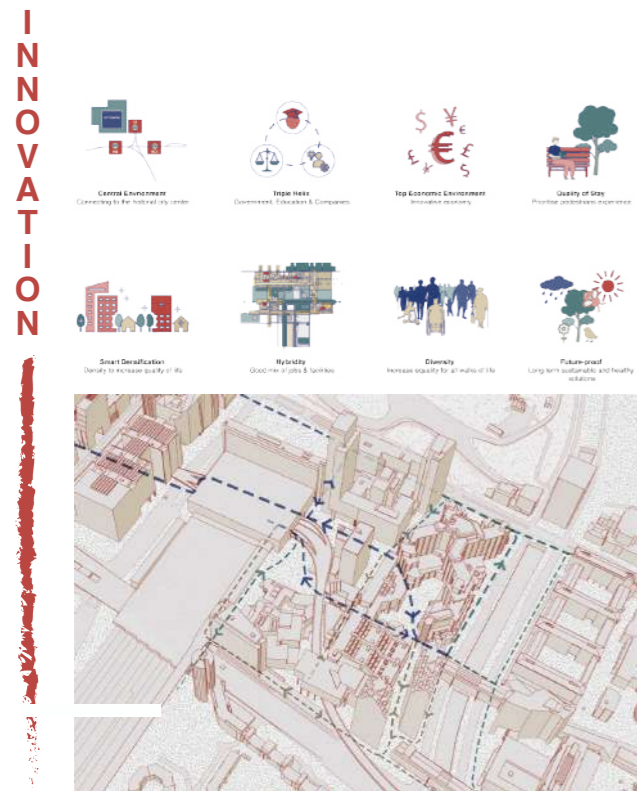
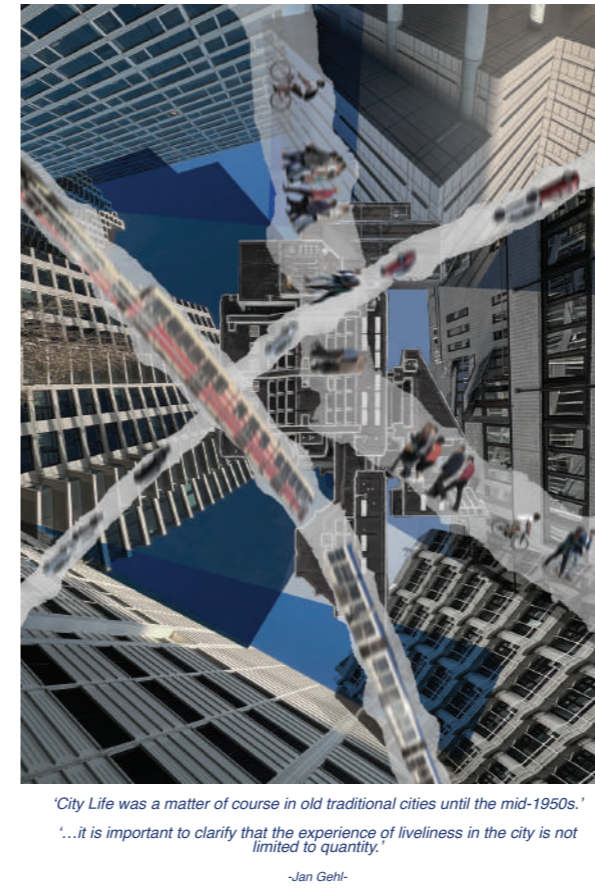
Inspired by Bernard Tschumi's *Space, Movement, and Events*, the model aims to explore the carving of space and architecture element such as assemblage, corridors, partitions, with the transformation of different paper textures. The performative transformation such as extrusion, rotation, reflection along lines and planes, allow various composition to be form. The different orientation of the model also provides different explorative architectonics.

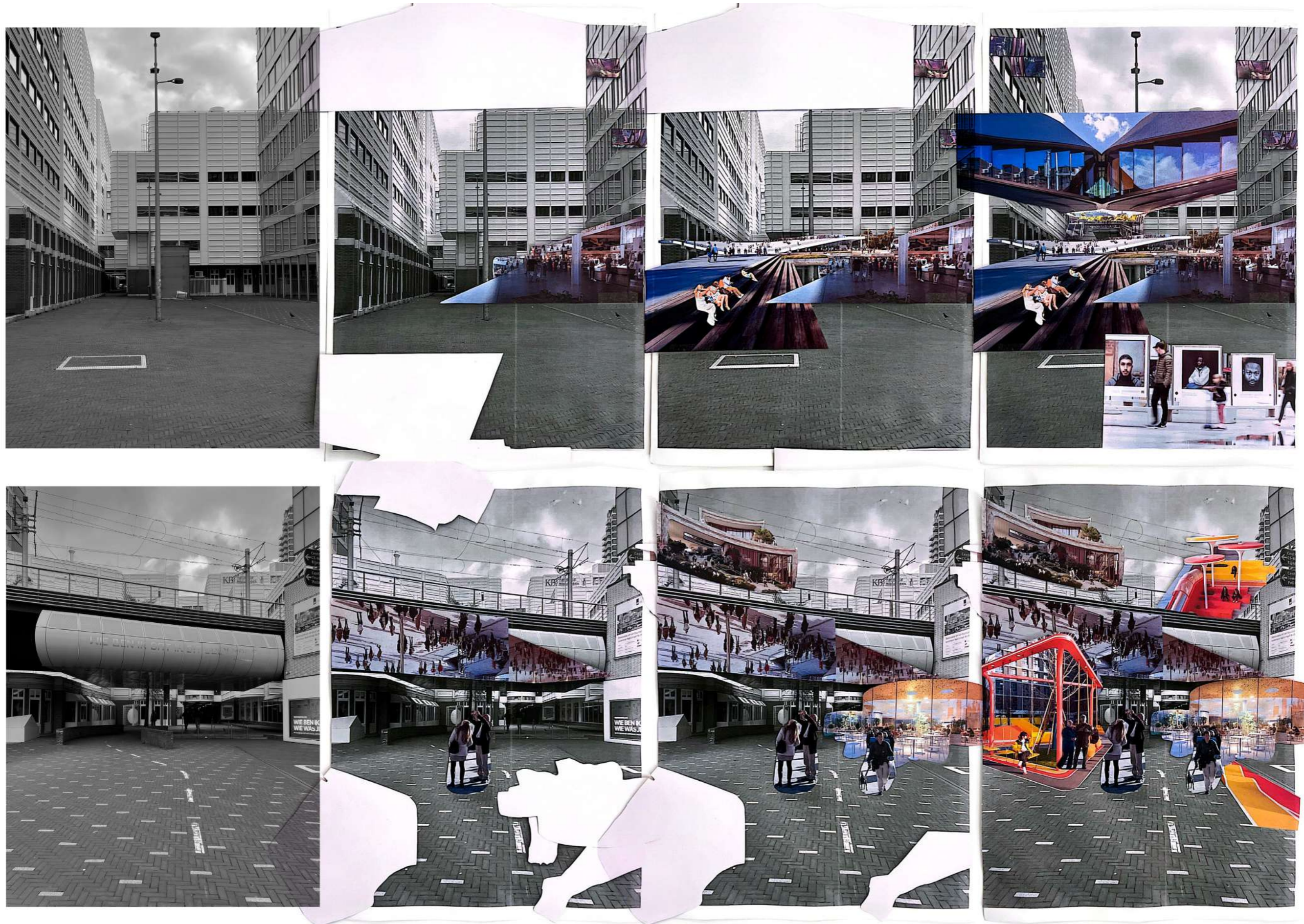


C. Process Documentation

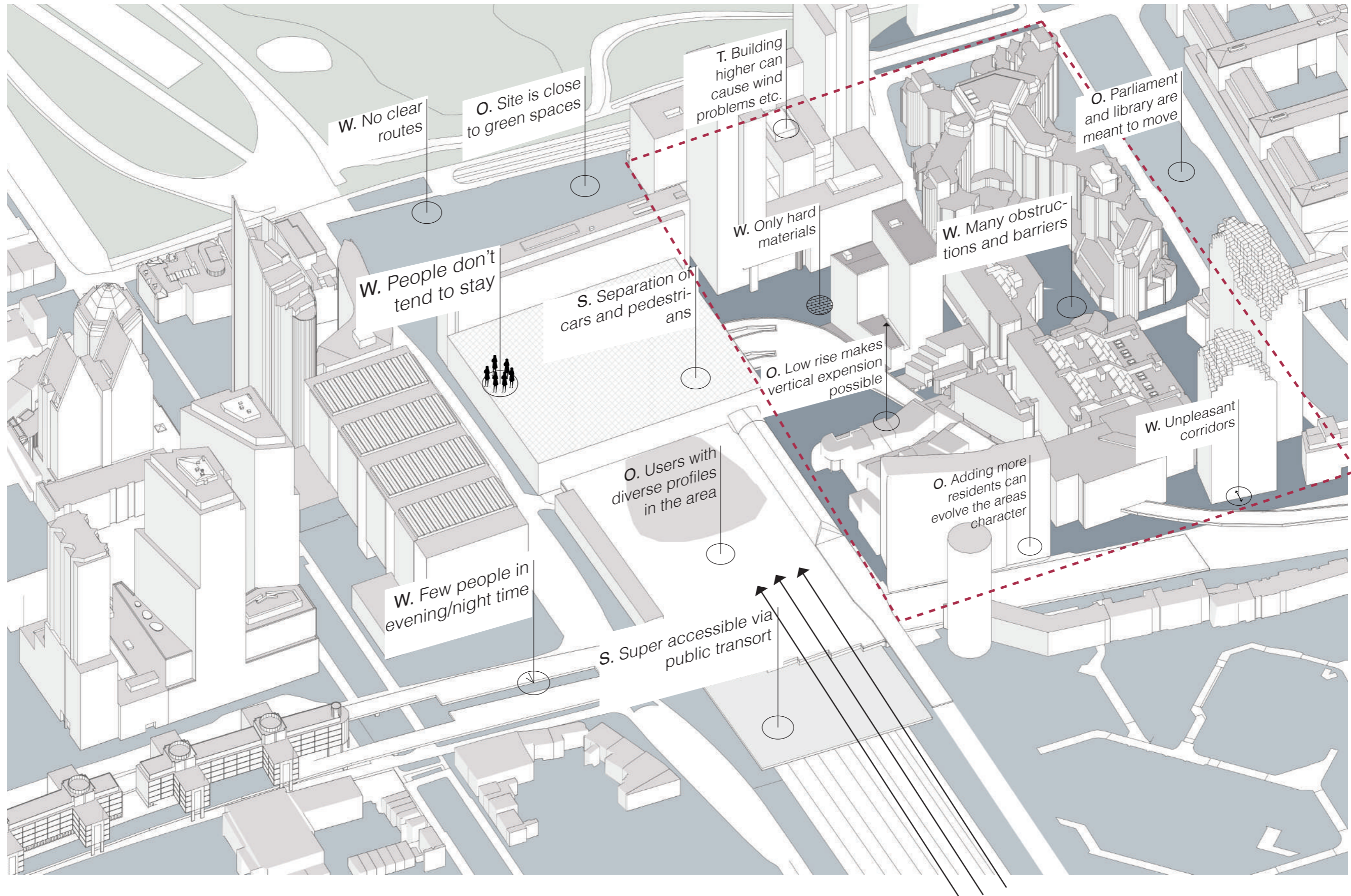


C. Process Documentation





C. Process Documentation



P1 Presentation: Group 3 20h City

Public Building Graduation Studio 23/24



No clear circulation axis



Area is empty after 7:00 pm



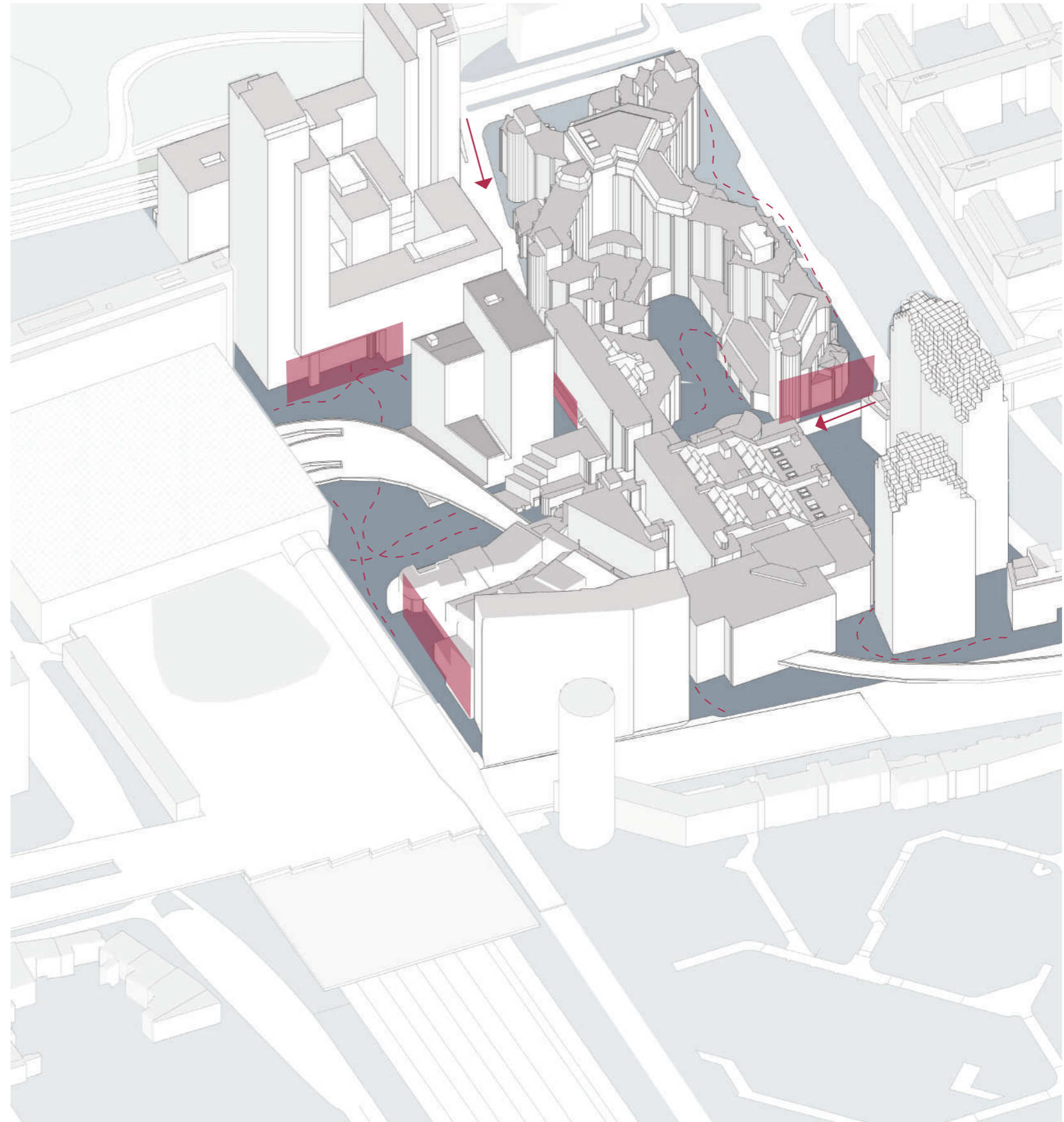
Closed off ground floors of the buildings



There are only two important inputs for the site

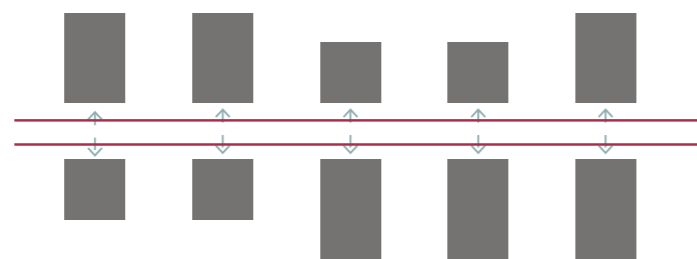


Unused corridors formed by the backsides of buildings

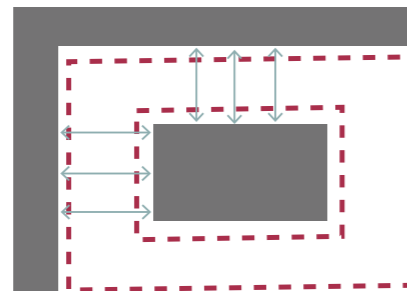




Turfmarkt
Clear circulation axis



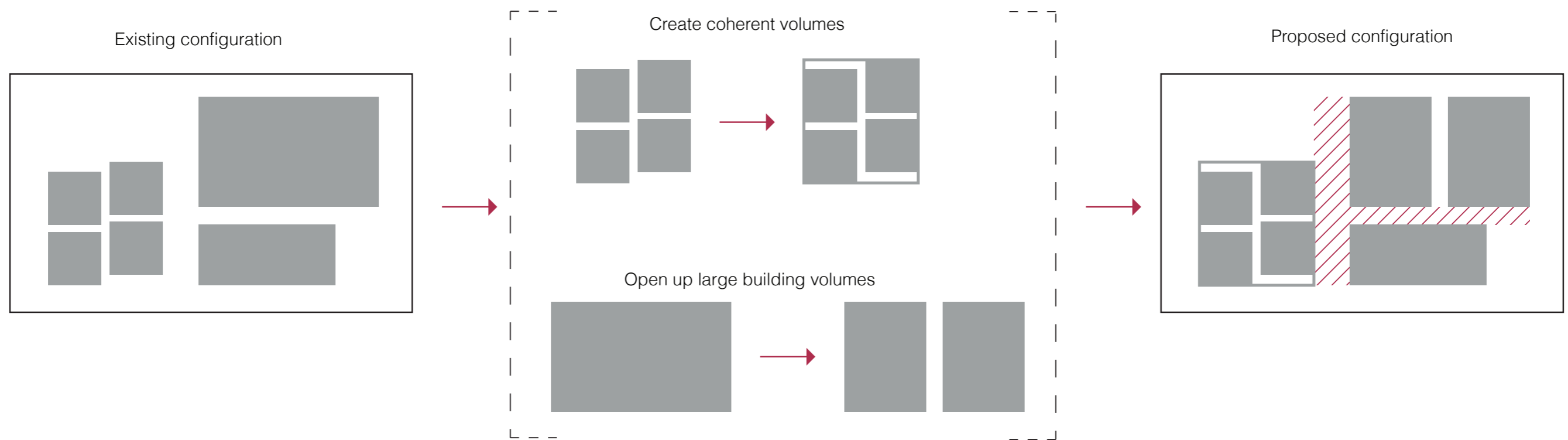
Theresiastraat
Residential blocks branch from the commercial & leisure core axis



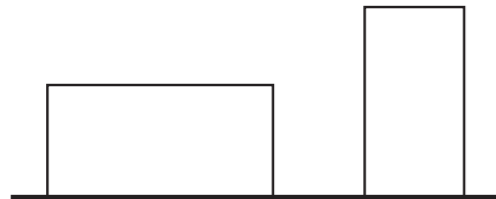
Het Plein/ Grote Markt
The core and periphery create a dynamic space in between



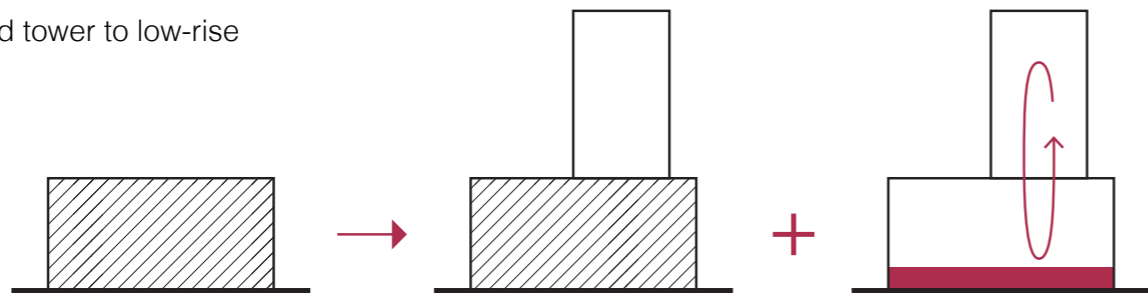
The Passage
Protected extension of the public space that acts as shortcut and gathering place



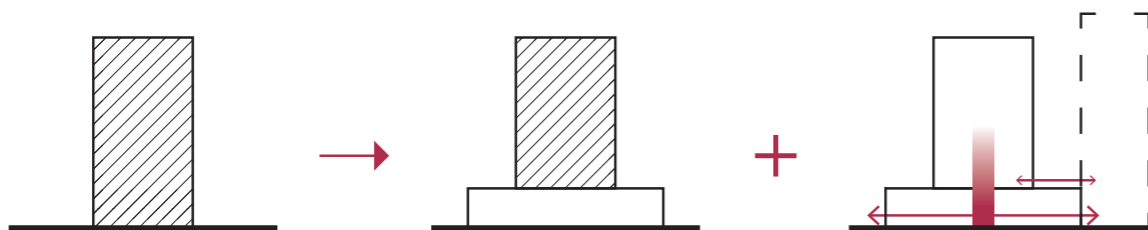
The tower and the plinth



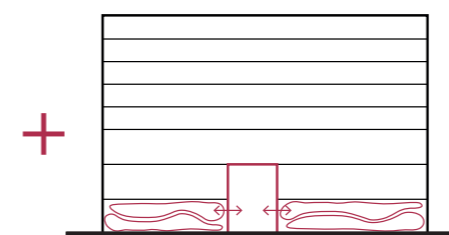
Add tower to low-rise



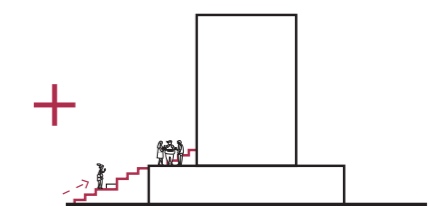
Add plinth to towers



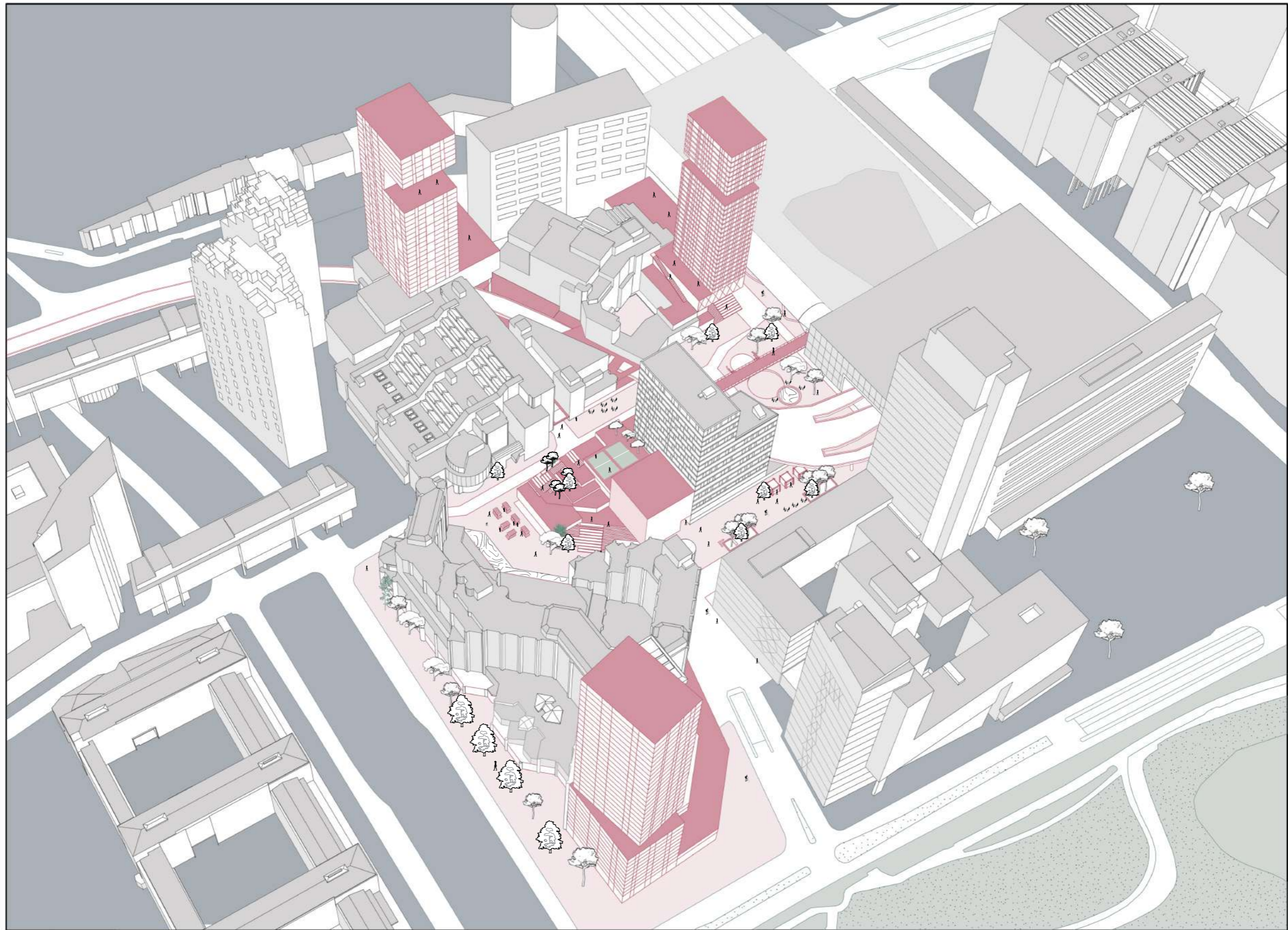
Create passage with hybrid functions



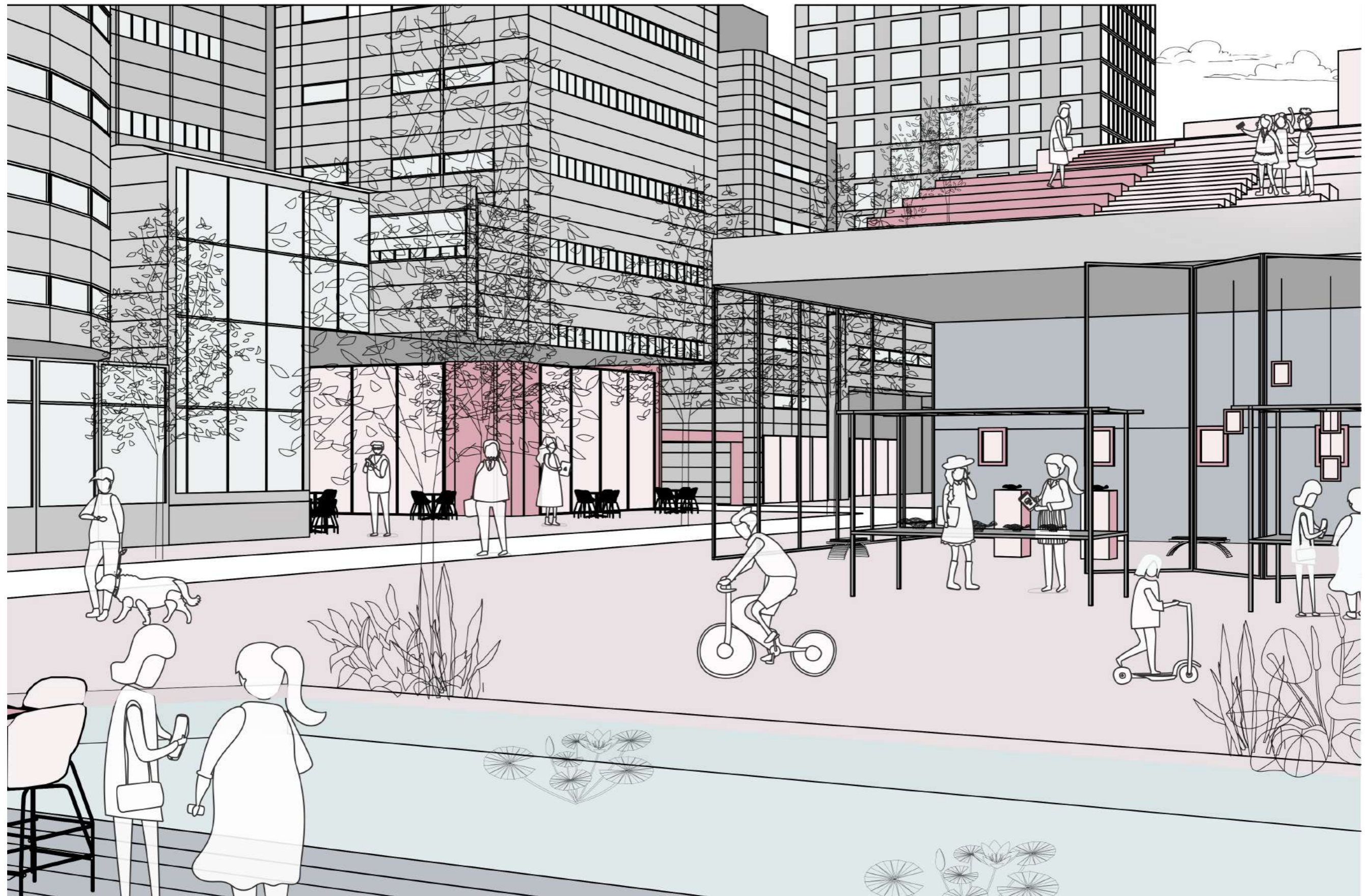
Terraces on the public plinths



Public realm continues vertically



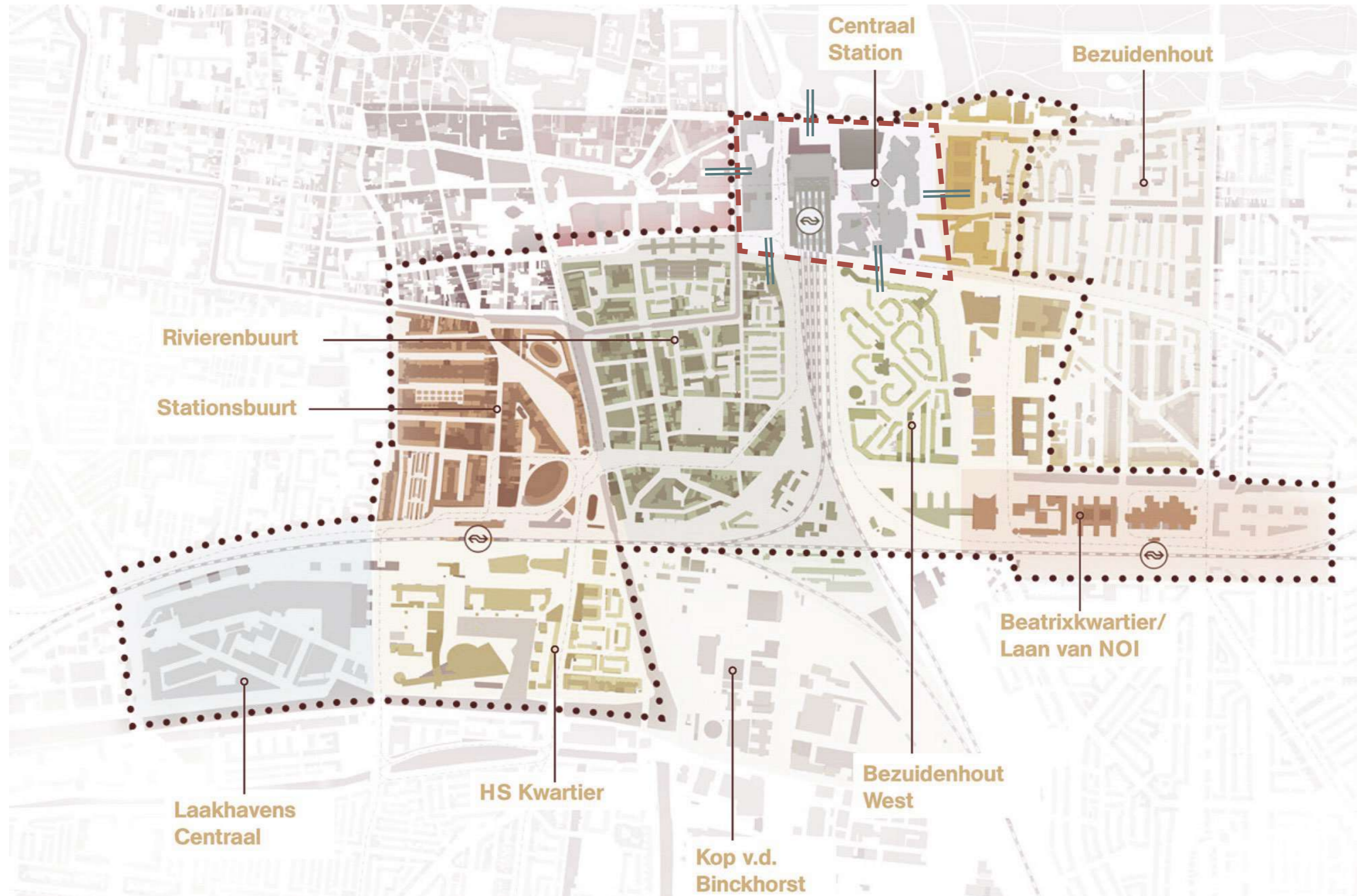
C. Process Documentation



C. Process Documentation

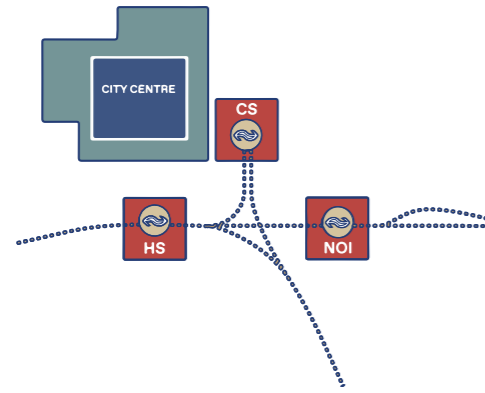


D. Integrated Design Proposal

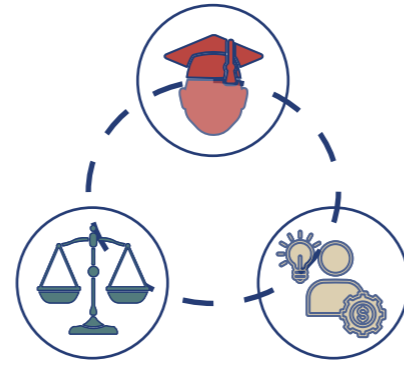


Diversity of Neighbourhoods in CID

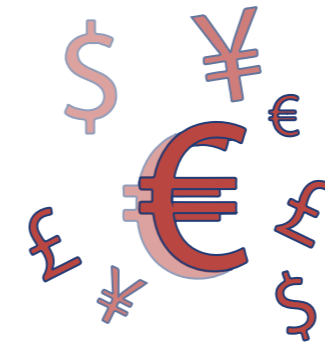
D. Integrated Design Proposal



Central Environment
Connecting to the historical city center



Triple Helix
Government, Education & Companies



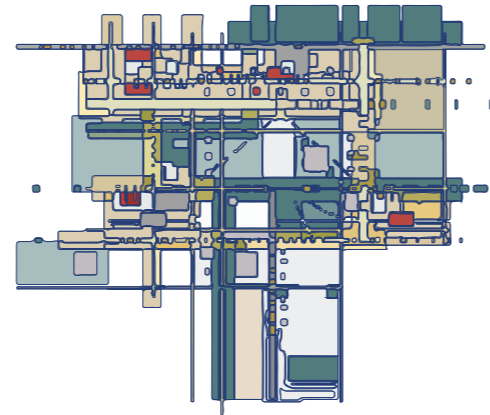
Top Economic Environment
Innovative economy



Quality of Stay
Prioritise pedestrians experience



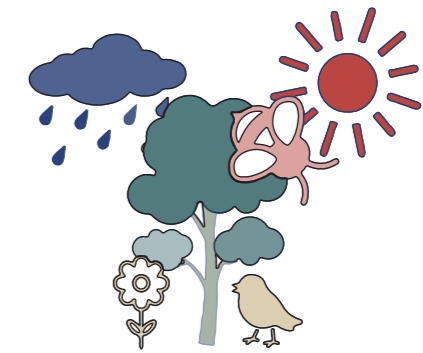
Smart Densification
Density to increase quality of life



Hybridity
Good mix of jobs & facilities



Diversity
Increase equality for all walks of life



Future-proof
Long-term sustainable and healthy solutions

CID Visions

D. Integrated Design Proposal



Fragmentation

The Library forms little or no relationship with the adjacent buildings and infrastructures

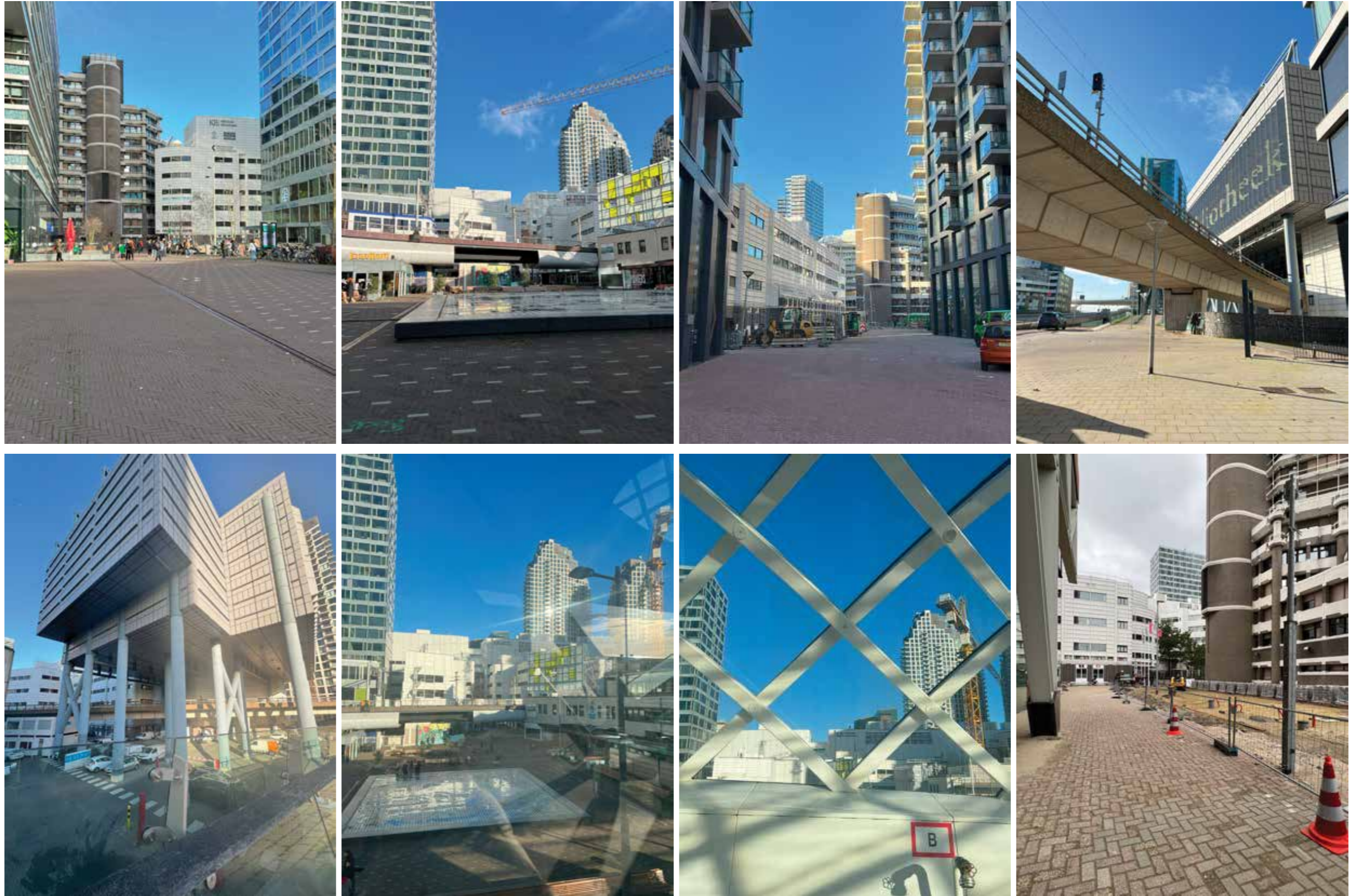
D. Integrated Design Proposal



Corridors & Walkways

The Library is surrounded by uninviting & lifeless corridors and walkways

D. Integrated Design Proposal



Viewpoints

The Library has many points of view from different angles and levels

D. Integrated Design Proposal

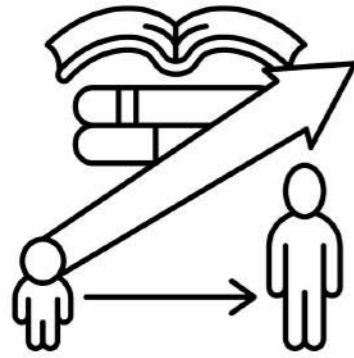


FAST



SLOW

LEARNING THROUGH CHANGING TEMPOS



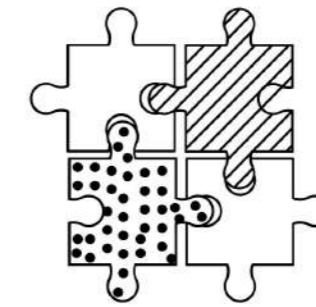
Lifelong-learning



Knowledge Retention



Think-tank Hub



Hybrid Learning Options

Table 1 : Models of Distance Education - A Conceptual Framework

Models of Distance Education and Associated Delivery Technologies	Characteristics of Delivery Technologies					
	Time	Flexibility		Highly Refined Materials	Advanced Interactive Delivery	Institutional Variable Costs Approaching Zero
		Place	Pace			
FIRST GENERATION						
The Correspondence Model						
• Print	Yes	Yes	Yes	Yes	No	No
SECOND GENERATION						
The Multimedia Model						
• Print	Yes	Yes	Yes	Yes	No	No
• Audiotape	Yes	Yes	Yes	Yes	No	No
• Videotape	Yes	Yes	Yes	Yes	No	No
• Computer-based learning (e.g. CML/CAL/IMM)	Yes	Yes	Yes	Yes	Yes	No
• Interactive video (disk and tape)	Yes	Yes	Yes	Yes	Yes	No
THIRD GENERATION						
The Telelearning Model						
• Audio tele-conferencing	No	No	No	No	Yes	No
• Video-conferencing	No	No	No	No	Yes	No
• Audiographic Communication	No	No	No	Yes	Yes	No
• Broadcast TV/Radio and audio-teleconferencing	No	No	No	Yes	Yes	No
FOURTH GENERATION						
The Flexible Learning Model						
• Interactive multimedia (IMM) online	Yes	Yes	Yes	Yes	Yes	Yes
• Internet-based access to WWW resources	Yes	Yes	Yes	Yes	Yes	Yes
• Computer-mediated communication	Yes	Yes	Yes	Yes	Yes	No
FIFTH GENERATION						
The Intelligent Flexible Learning Model						
• Interactive multimedia (IMM) online	Yes	Yes	Yes	Yes	Yes	Yes
• Internet-based access to WWW resources	Yes	Yes	Yes	Yes	Yes	Yes
• Computer-mediated communication, using automated response systems	Yes	Yes	Yes	Yes	Yes	Yes
• Campus portal access to institutional processes and resources	Yes	Yes	Yes	Yes	Yes	Yes

Slow-Paced Learning: The Most Effective Way to Retain 90% of What You Learn

Cramming or skimming doesn't work if your long-term goal is knowledge retention. In desperation to pick up ideas quickly, you are likely to miss out on valuable ideas.

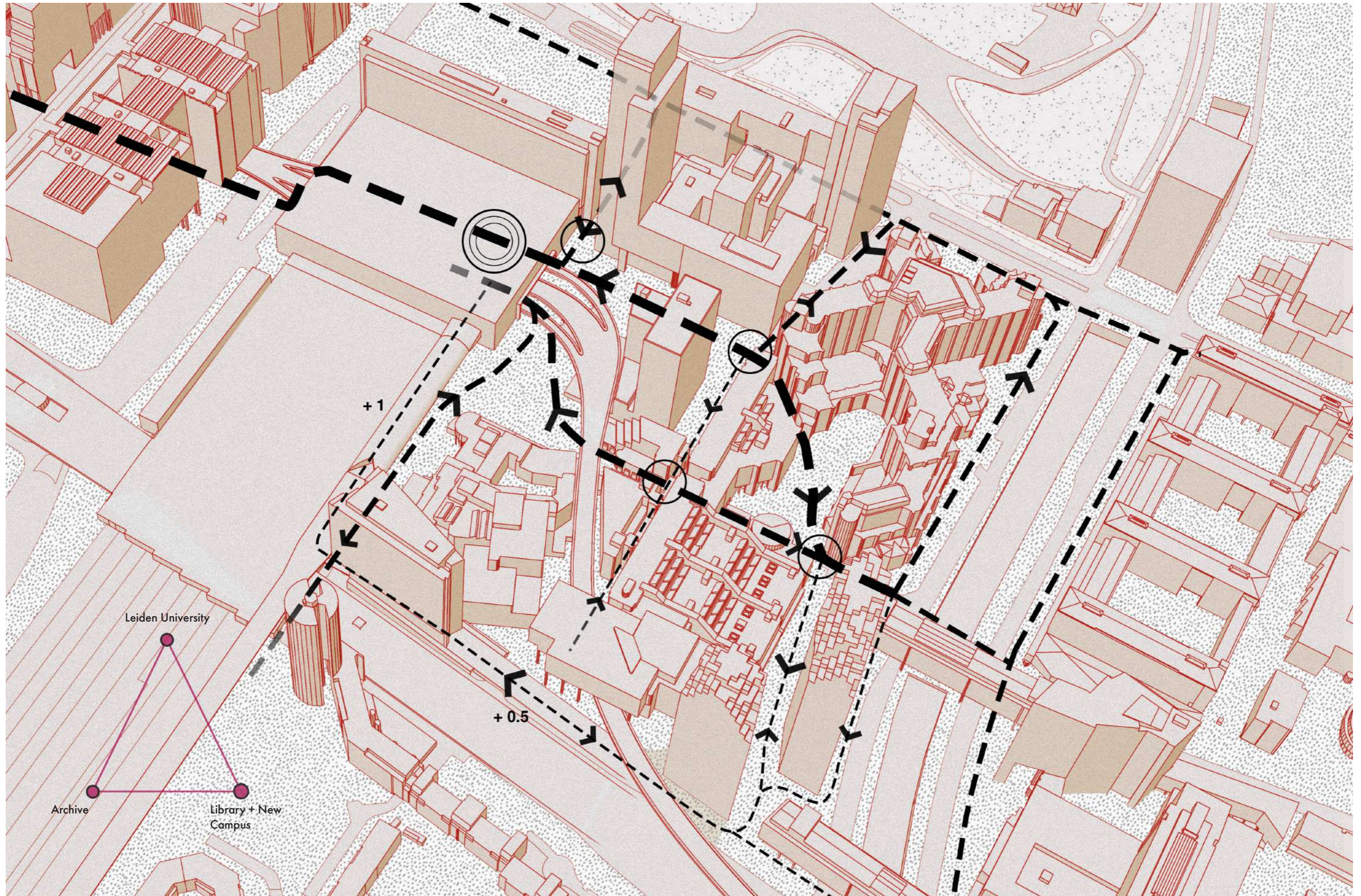
“ In fact, there are many empirical data that tell us how **slowness** is an element that favors learning, and therefore it can not only **not be a problem**, but rather it becomes a **desirable trait** of the student. ”

“ “...slowing down the pace, even for a few minutes a day, and giving yourself time, decreases the emotional tension and, consequently, **improves the "performance"**, whether for study or work,” writes Valentina Tobia, a psychologist, with a PhD in Experimental Psychology, Linguistics and Cognitive Neuroscience. ”

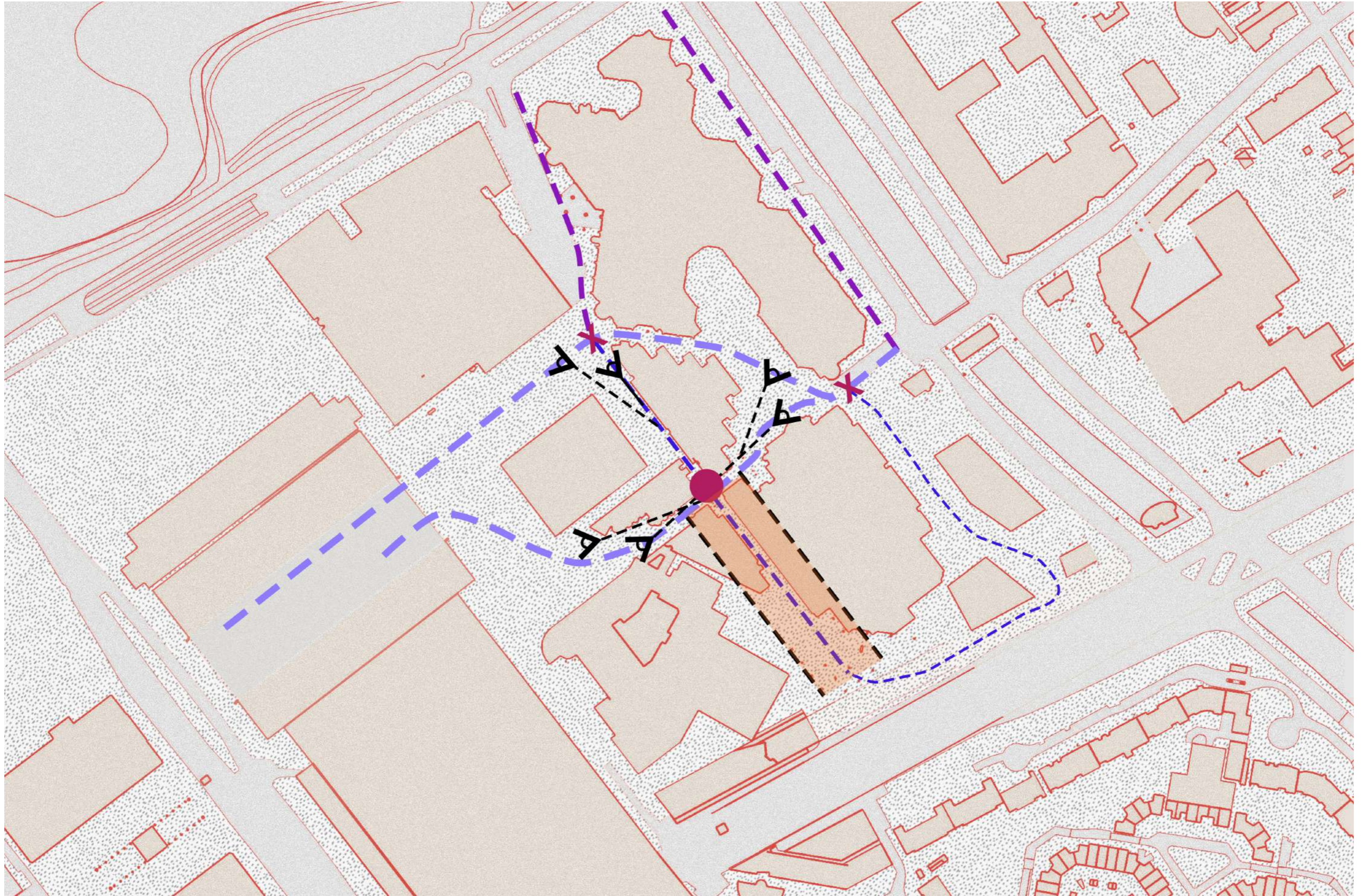
BACKGROUND: LEARNING WITH SPEED

speed-readers and double-speed listeners seem to process information faster, are these people actually *learning*? A new study from UCLA provides some fascinating insight into how fast we can process information.

“ In a second experiment, one group watched a video at average speed, then another at double speed. A separate group did the opposite: double speed and then normal speed. A comprehension quiz showed that the **normal then double speeders performed better.** ”

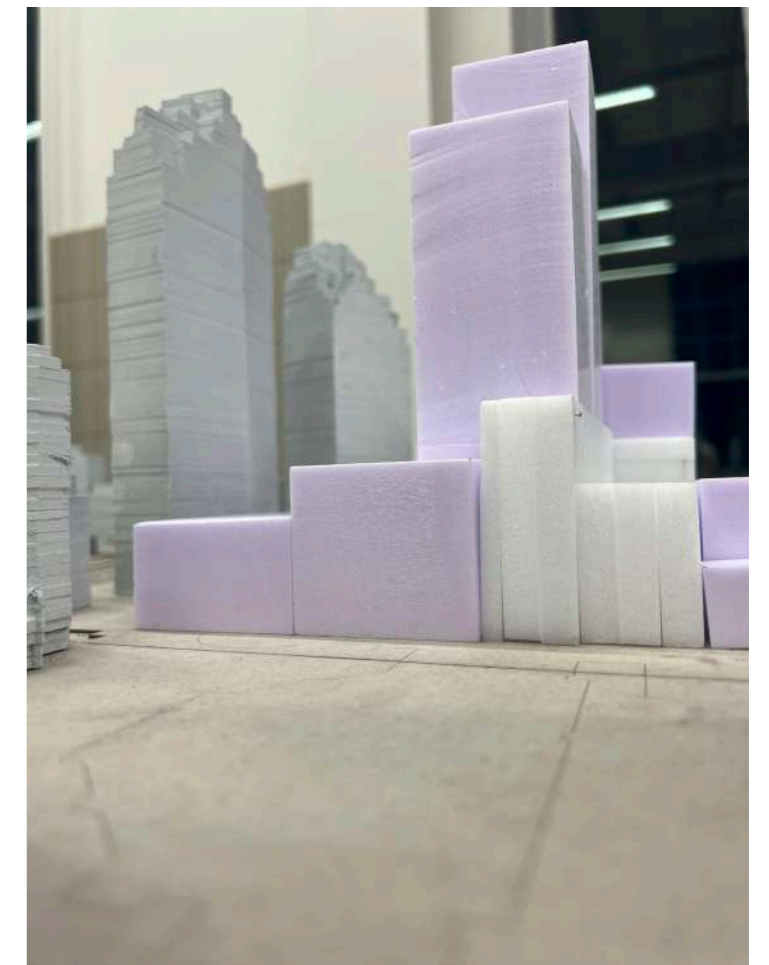
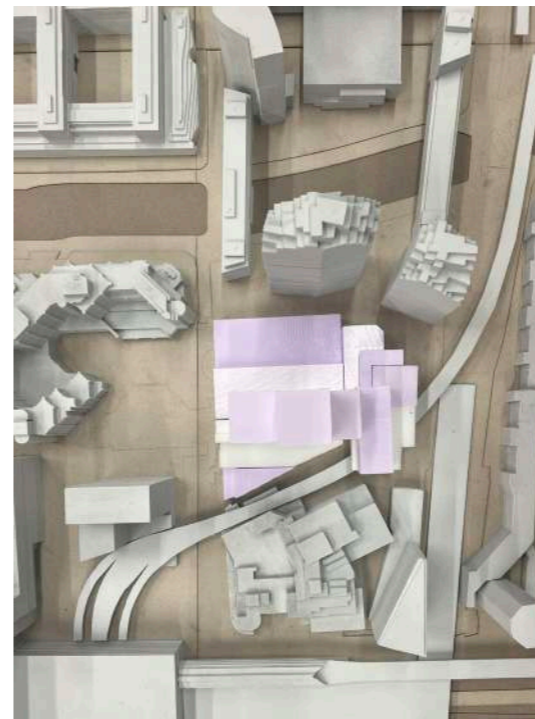
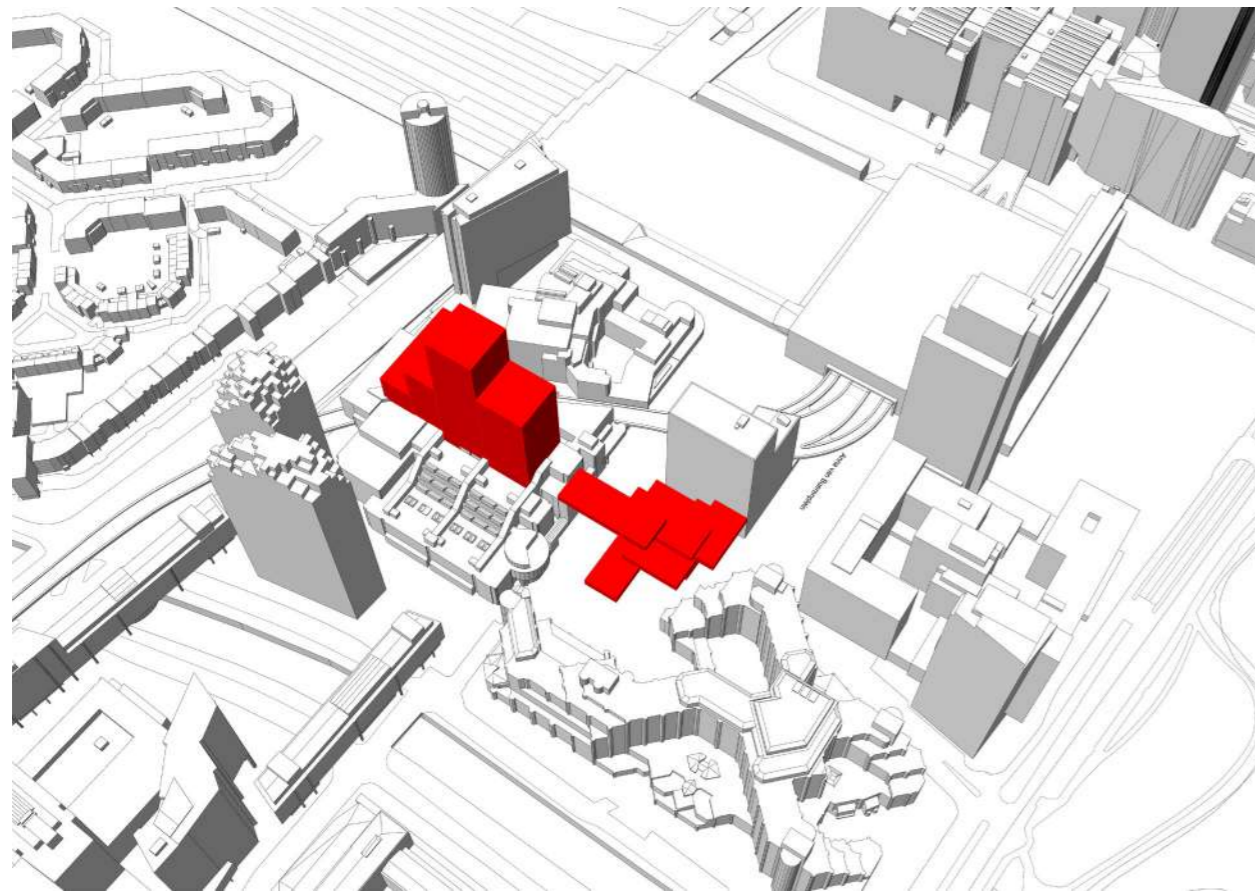
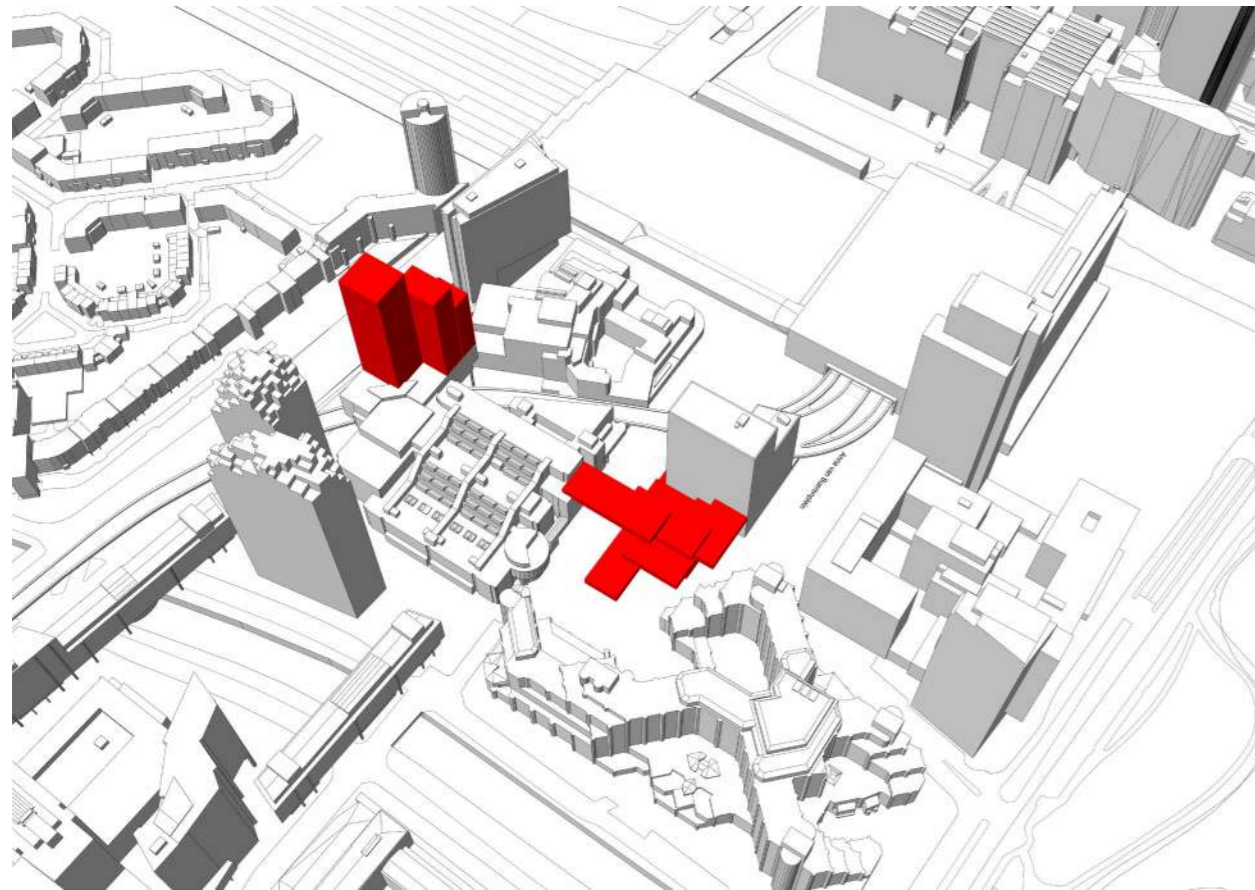


D. Integrated Design Proposal



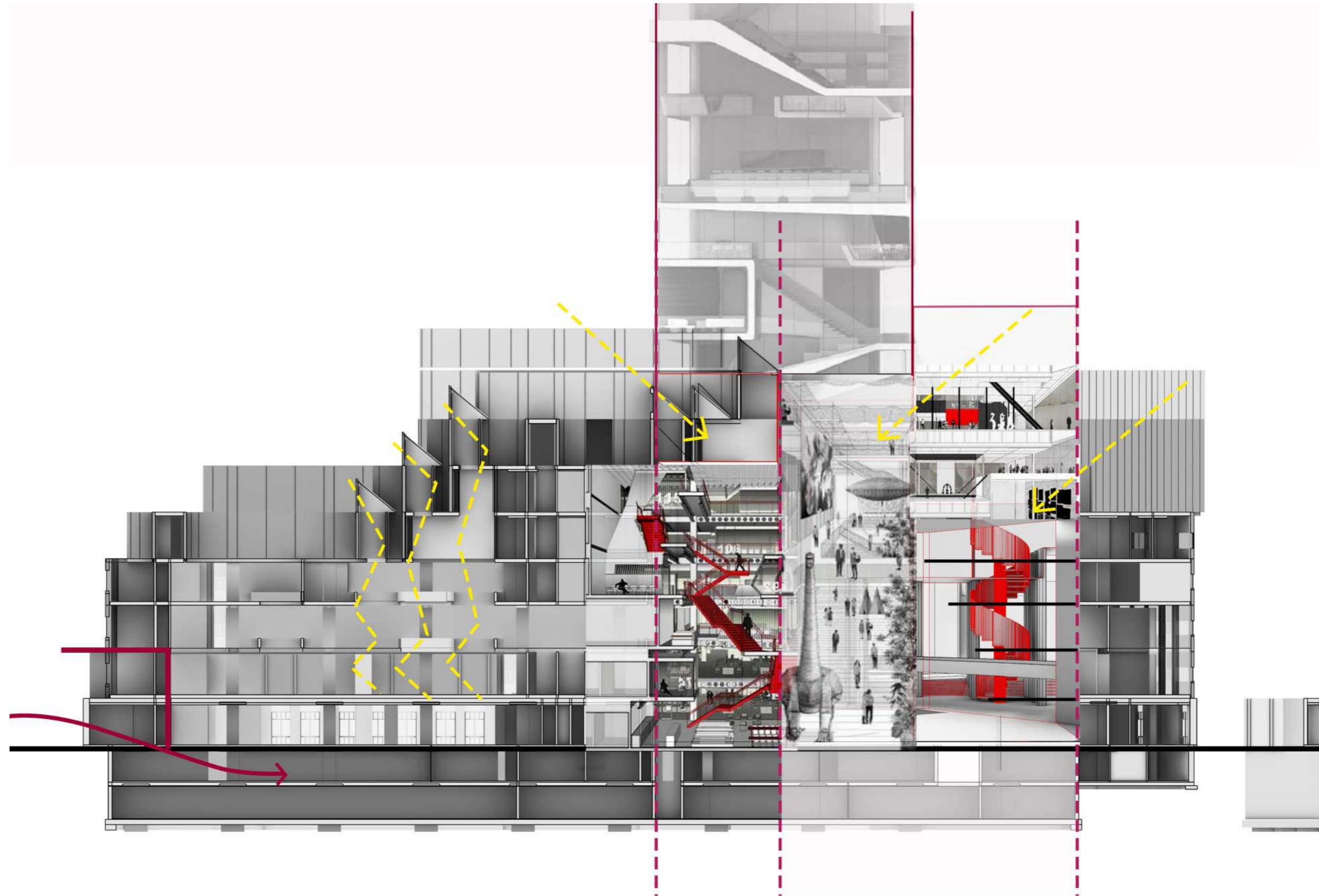
D. Integrated Design Proposal

Preliminary Iterations



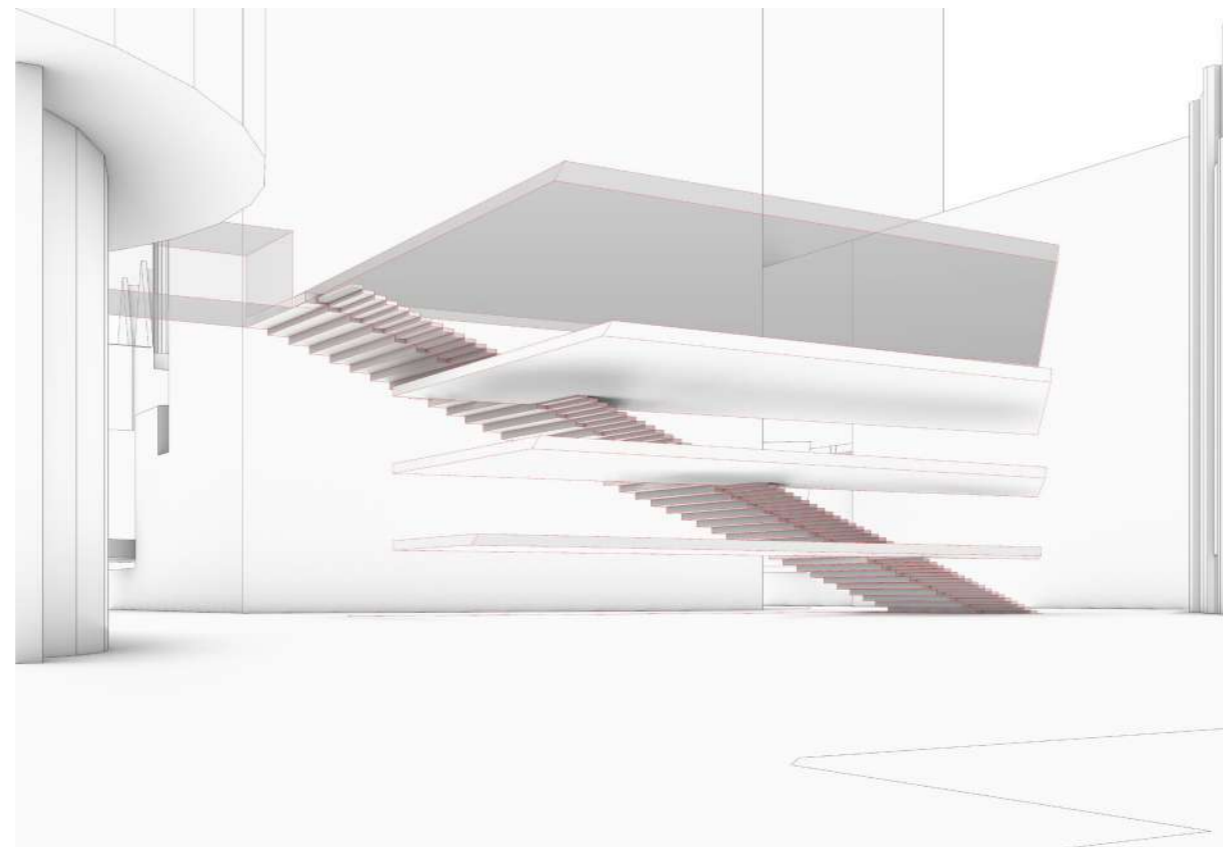
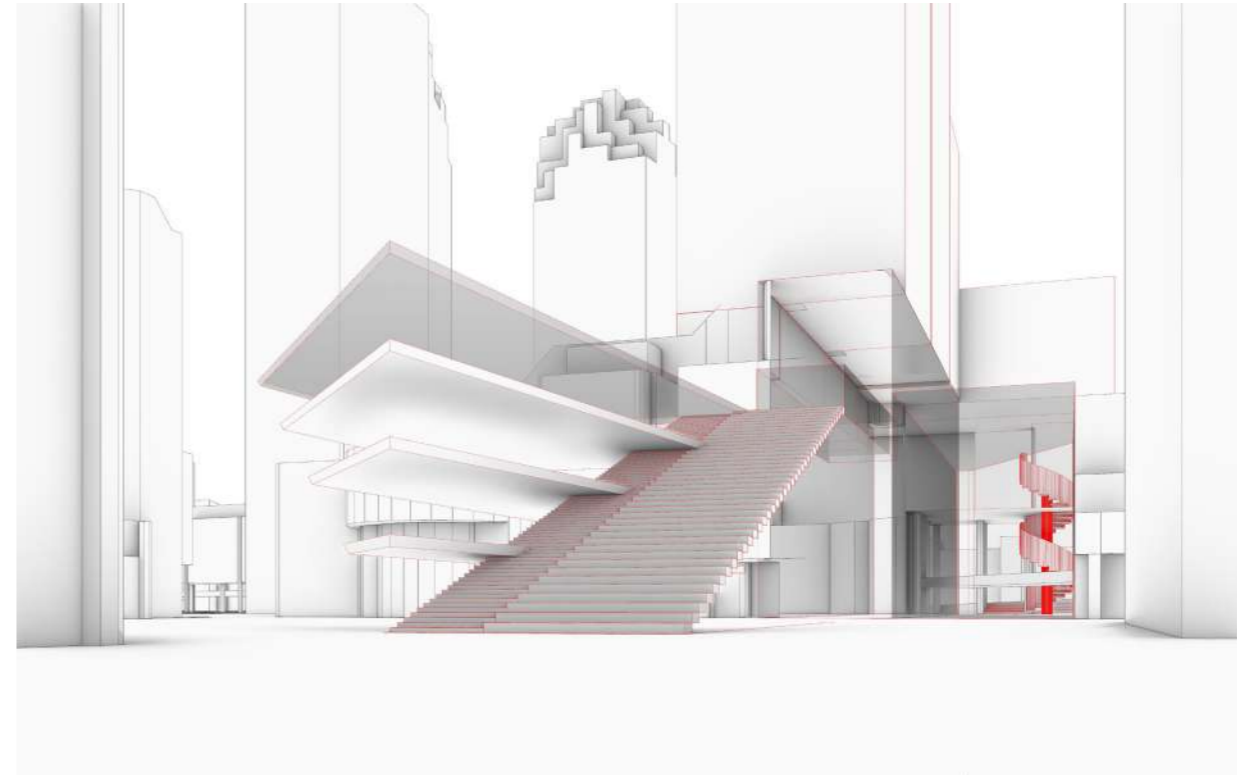
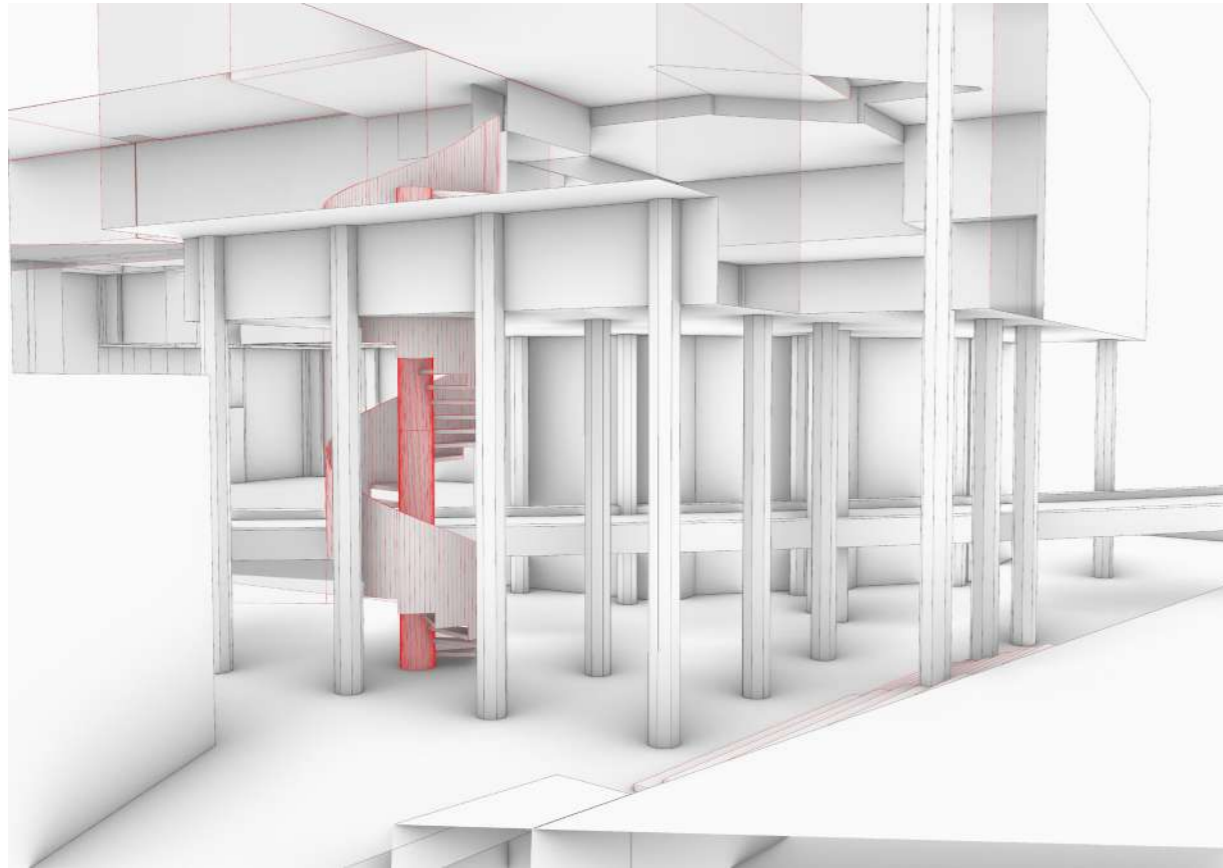
D. Integrated Design Proposal

Preliminary Sections



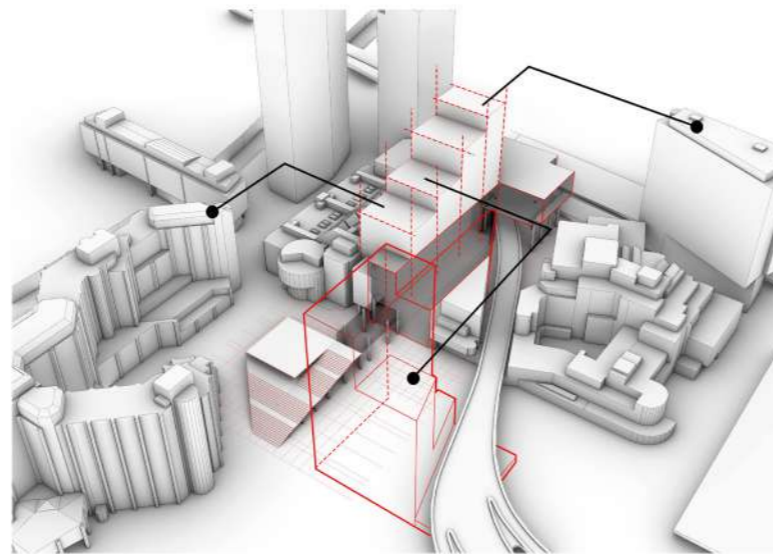
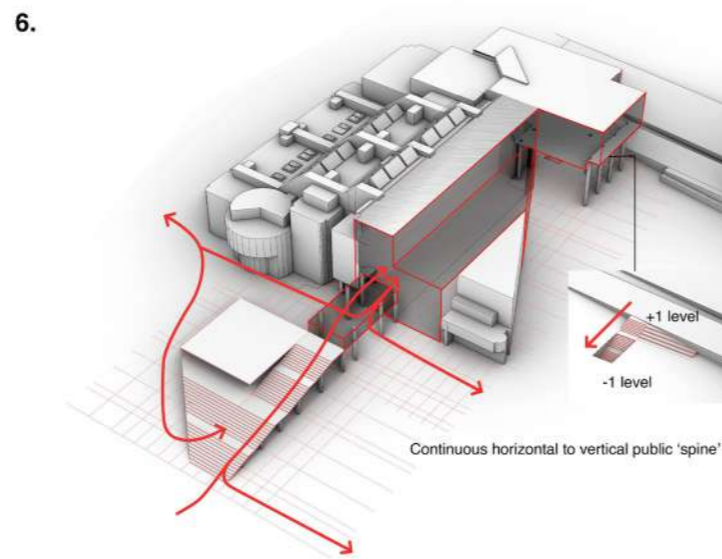
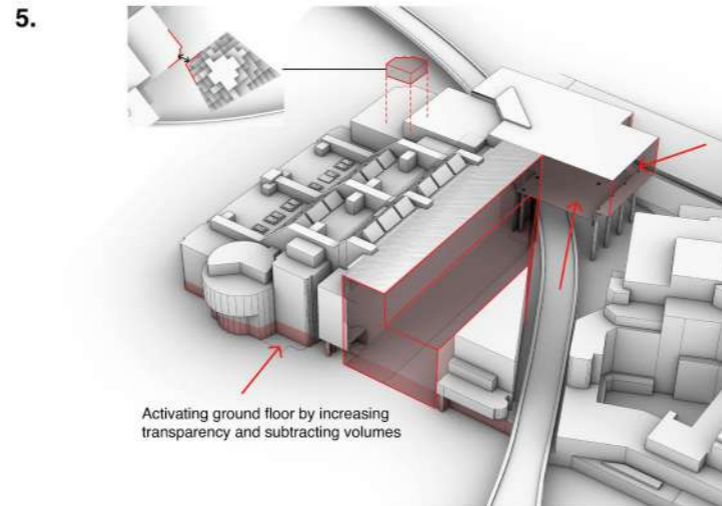
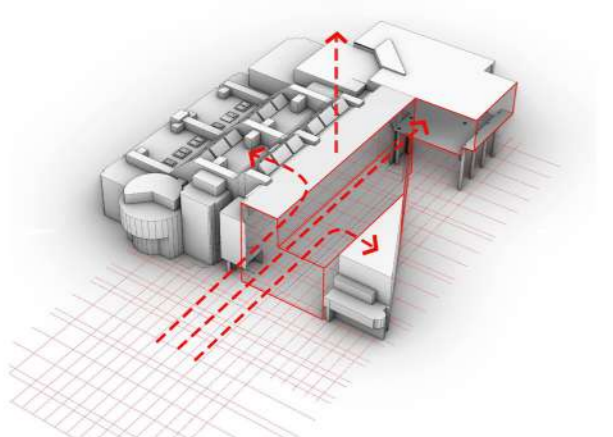
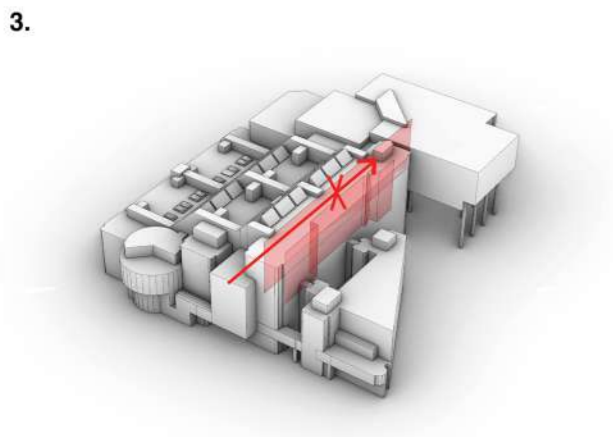
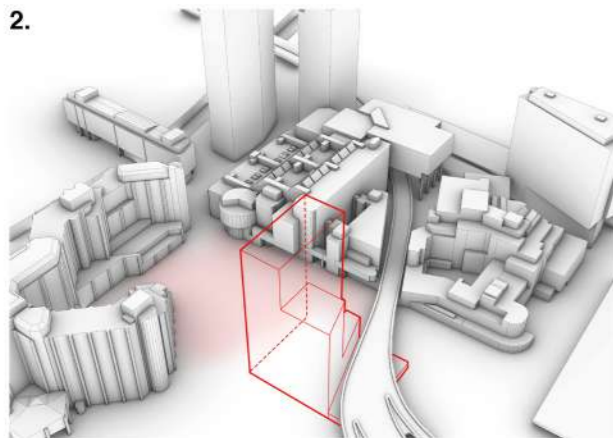
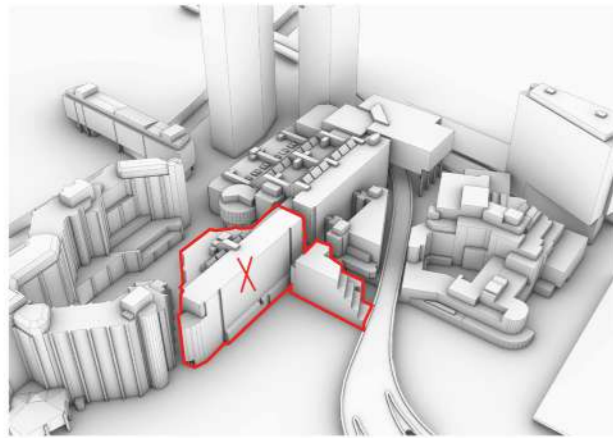
D. Integrated Design Proposal

Preliminary Views



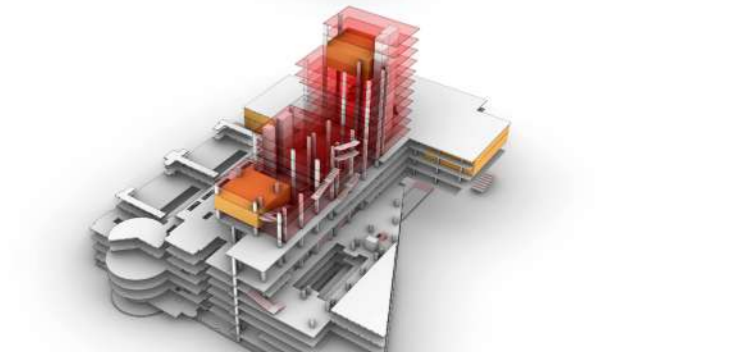
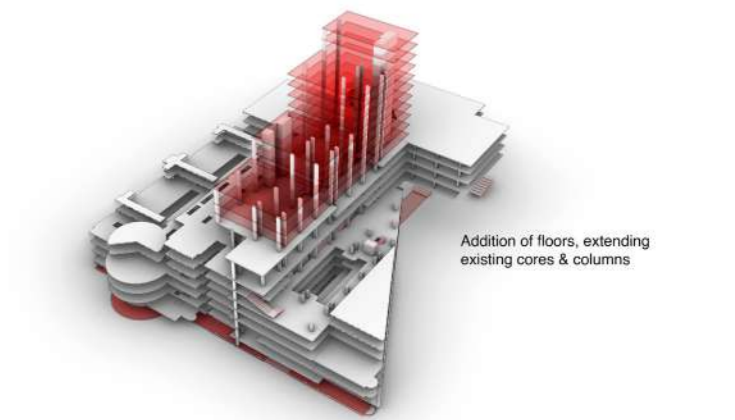
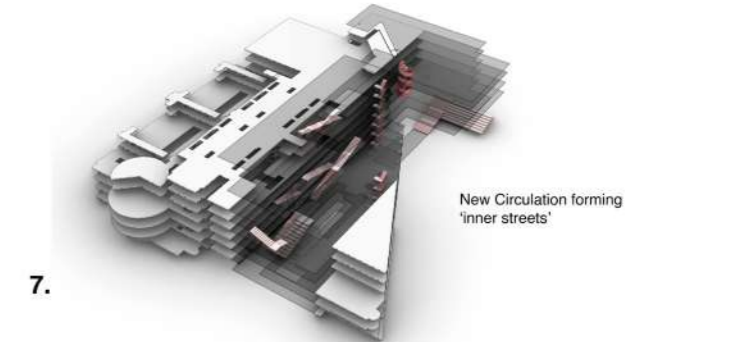
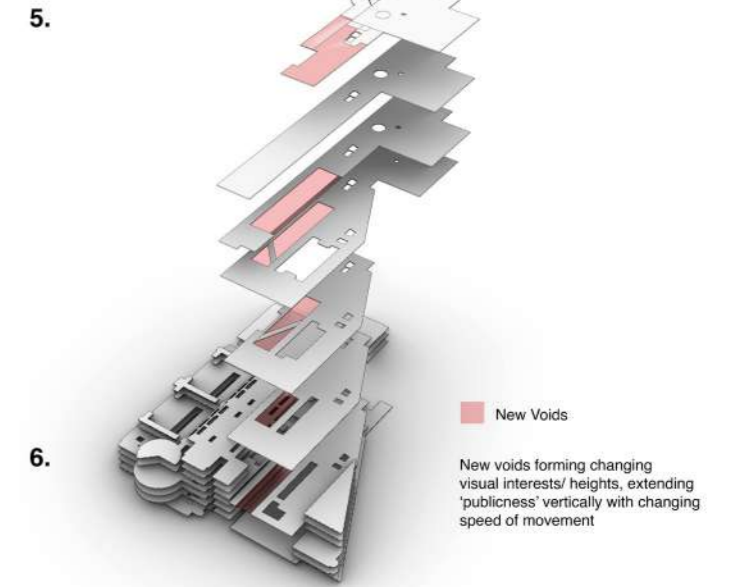
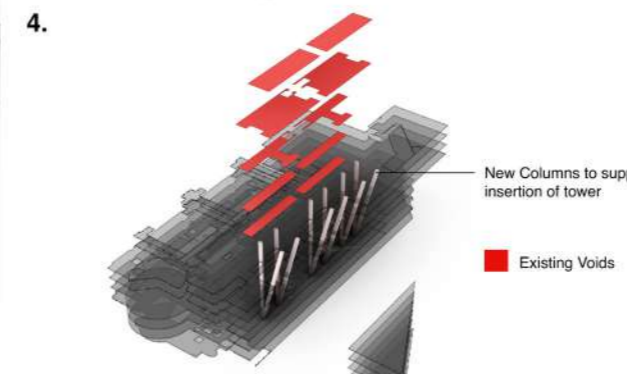
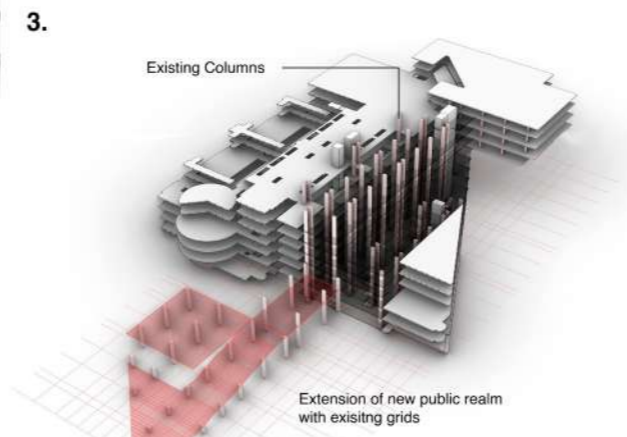
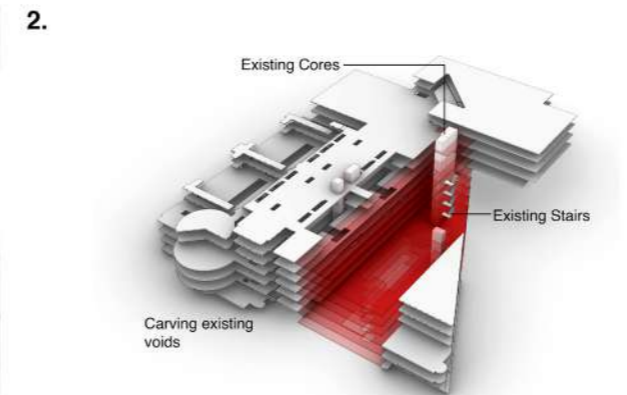
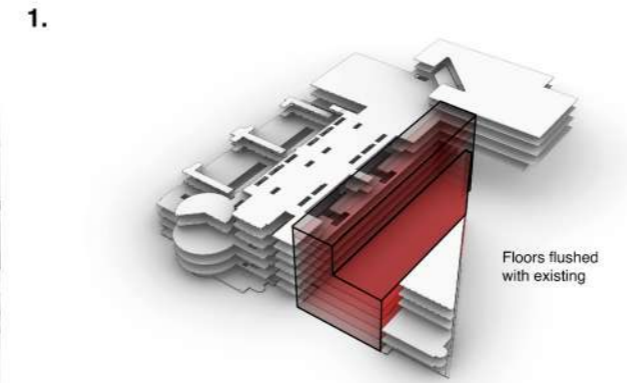
D. Integrated Design Proposal

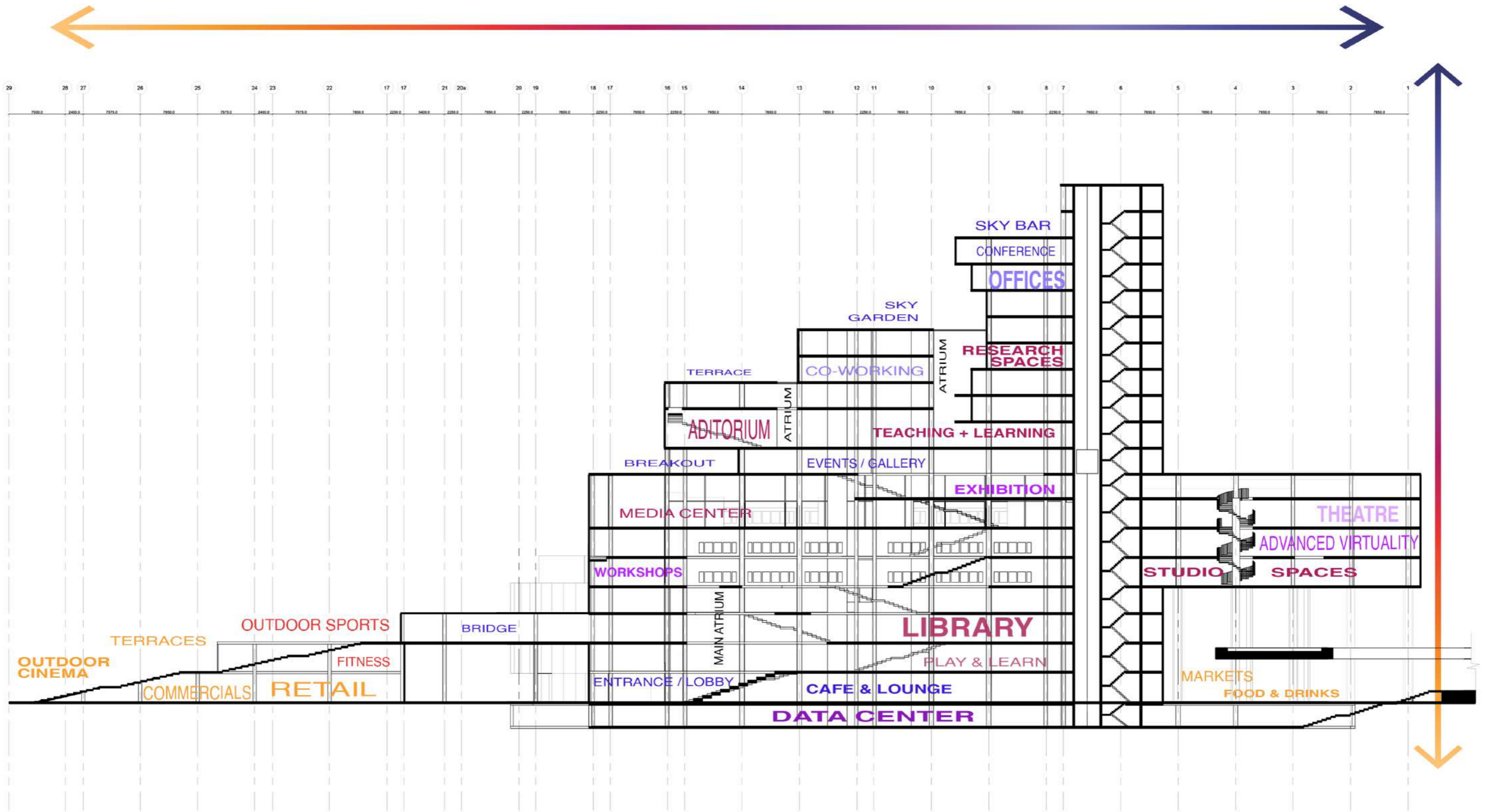
Form Strategies



Continuous stepping language reduces shadow and enclosure on streetscape, allowing more daylight and self-shading terraces, while matching with terraced form of adjacent buildings.

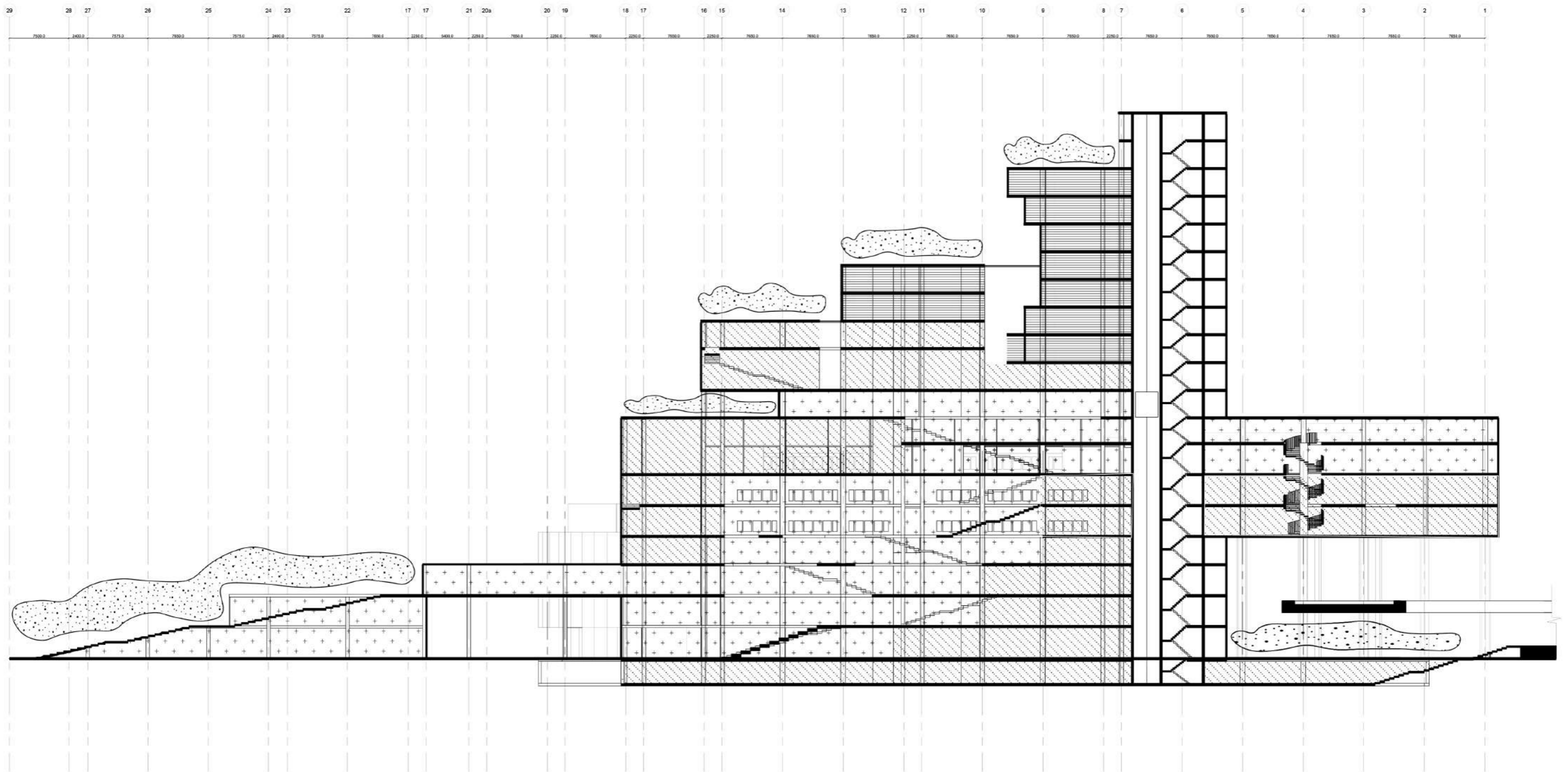
Spatial Strategies





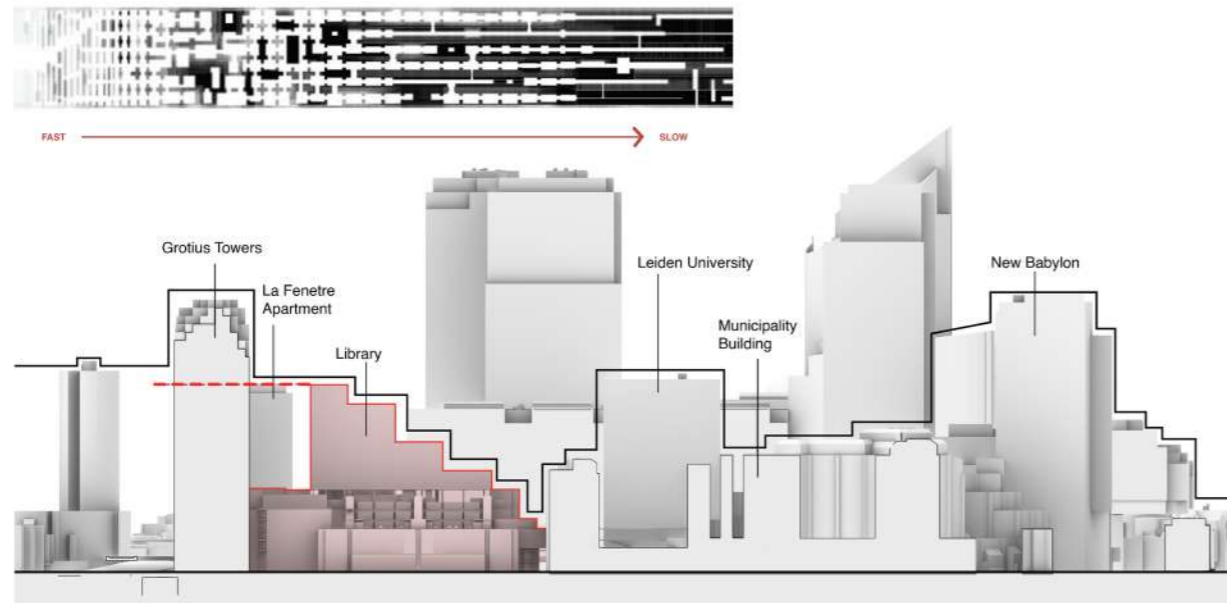
- Civic
- Offices
- Culture
- Data Center
- Education
- Sports
- Commercial

D. Integrated Design Proposal

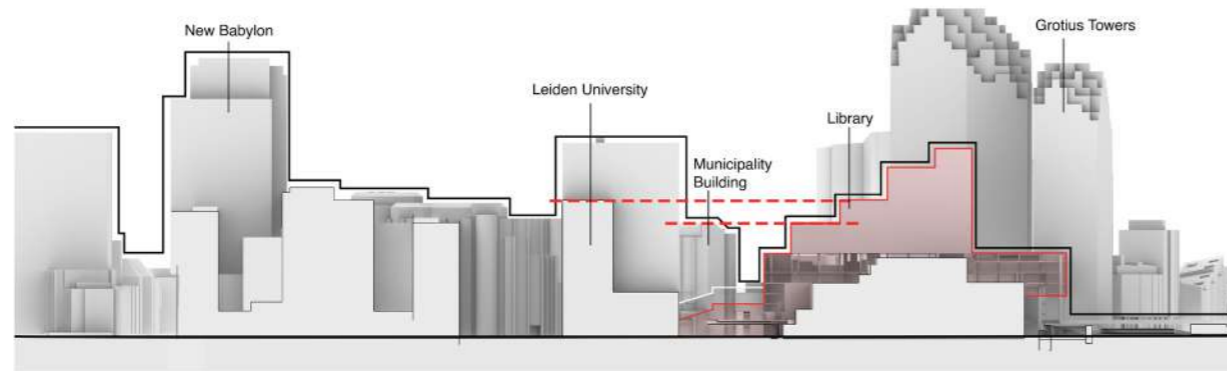


+ + + Public / / / Semi-Public - - - Private . . . Outdoor

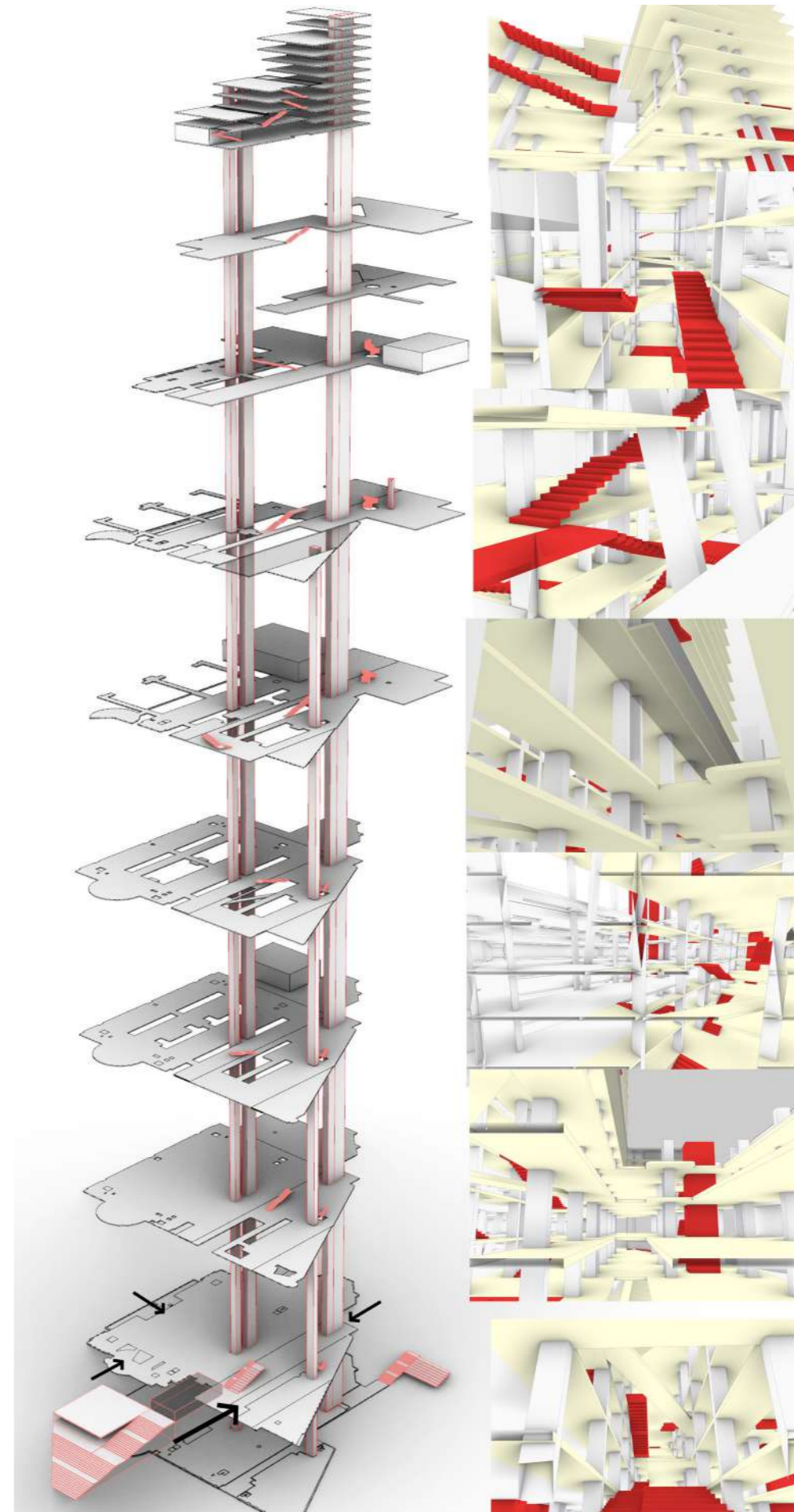
D. Integrated Design Proposal



Section A-A

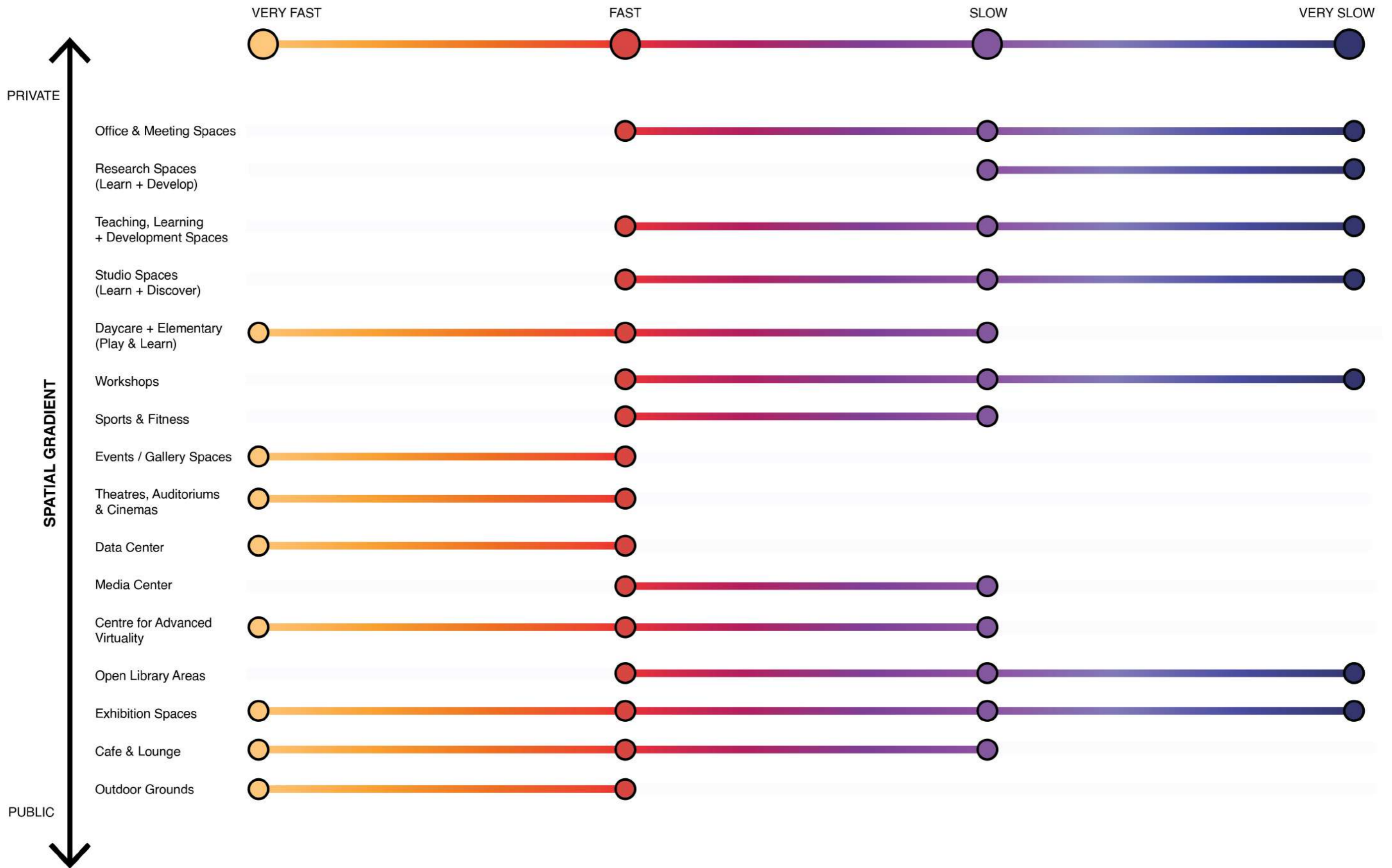


Section B-B



D. Integrated Design Proposal

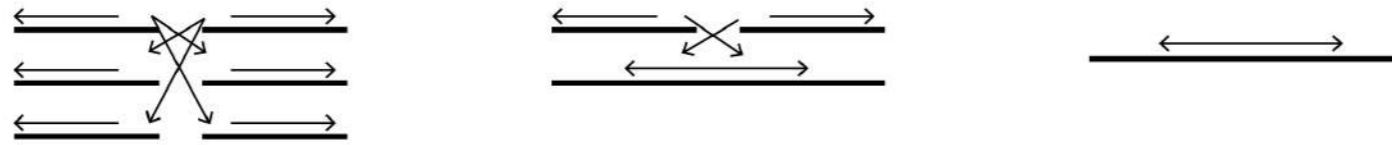
SPEED GRADIENT



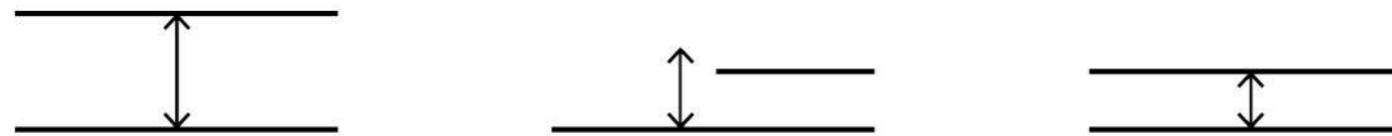


FAST  SLOW

Visual Interest/
Transparency



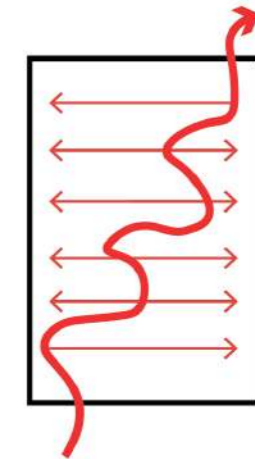
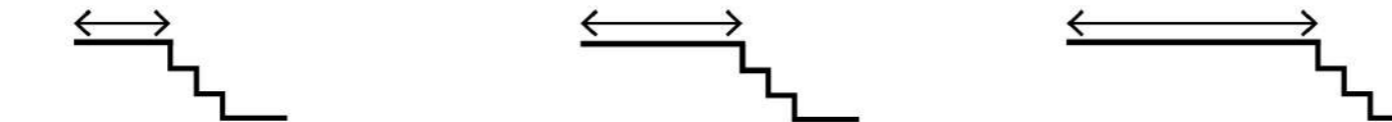
Height Change



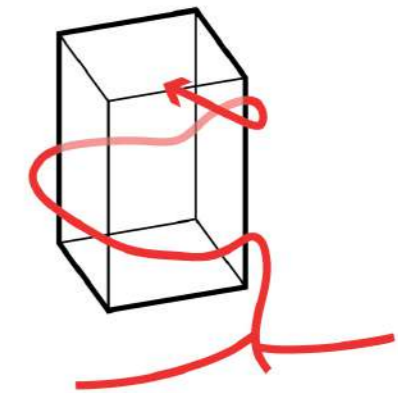
Degree of Enclosure



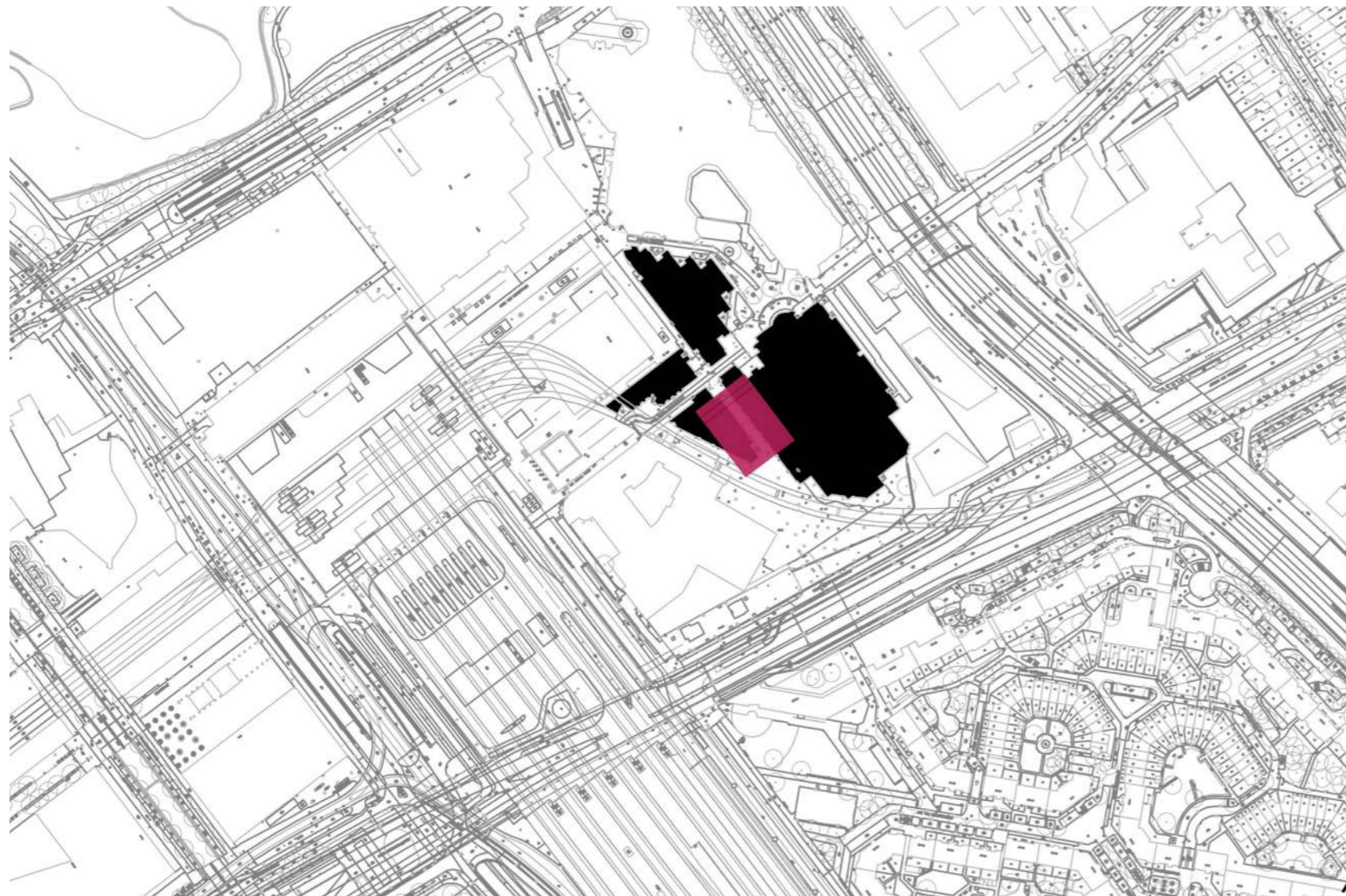
Distance to Connection



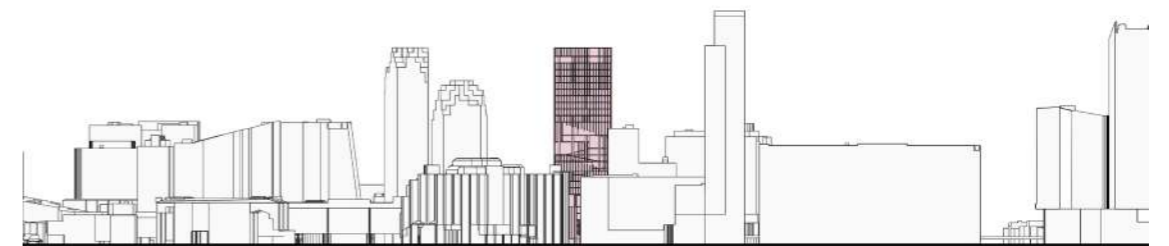
'Fast Spine' distributing speed throughout ('Carving Spaces')



Public Spine cascades (Exterior to Interior)

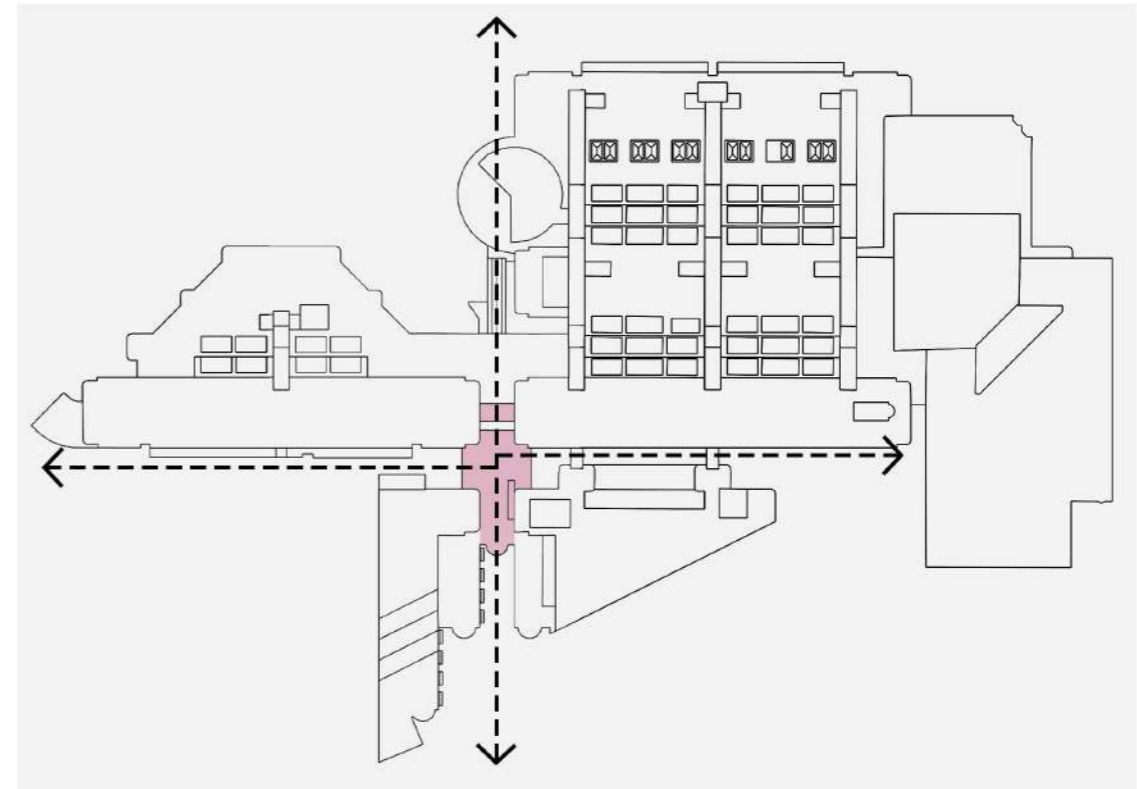
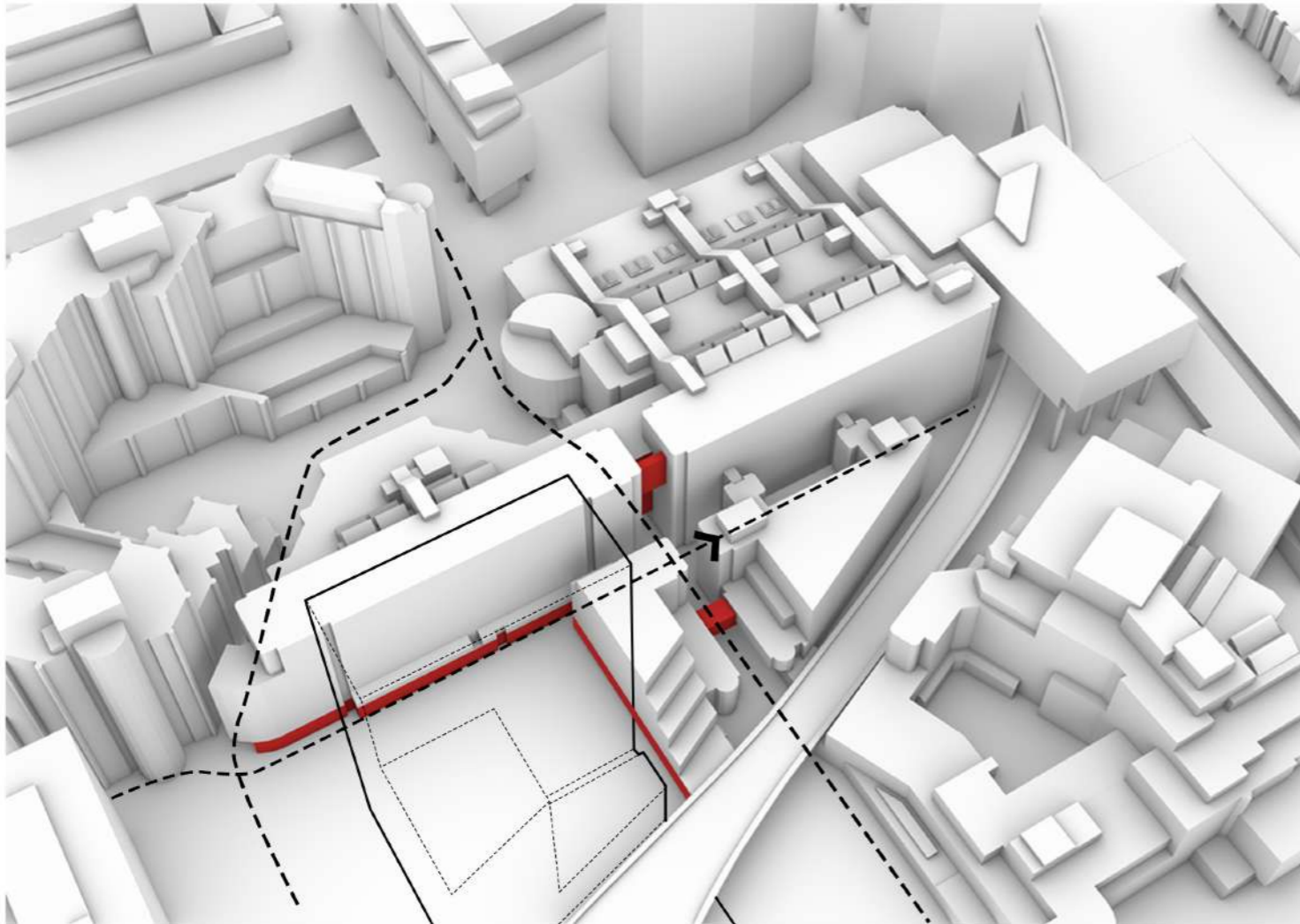


SW - NE Section



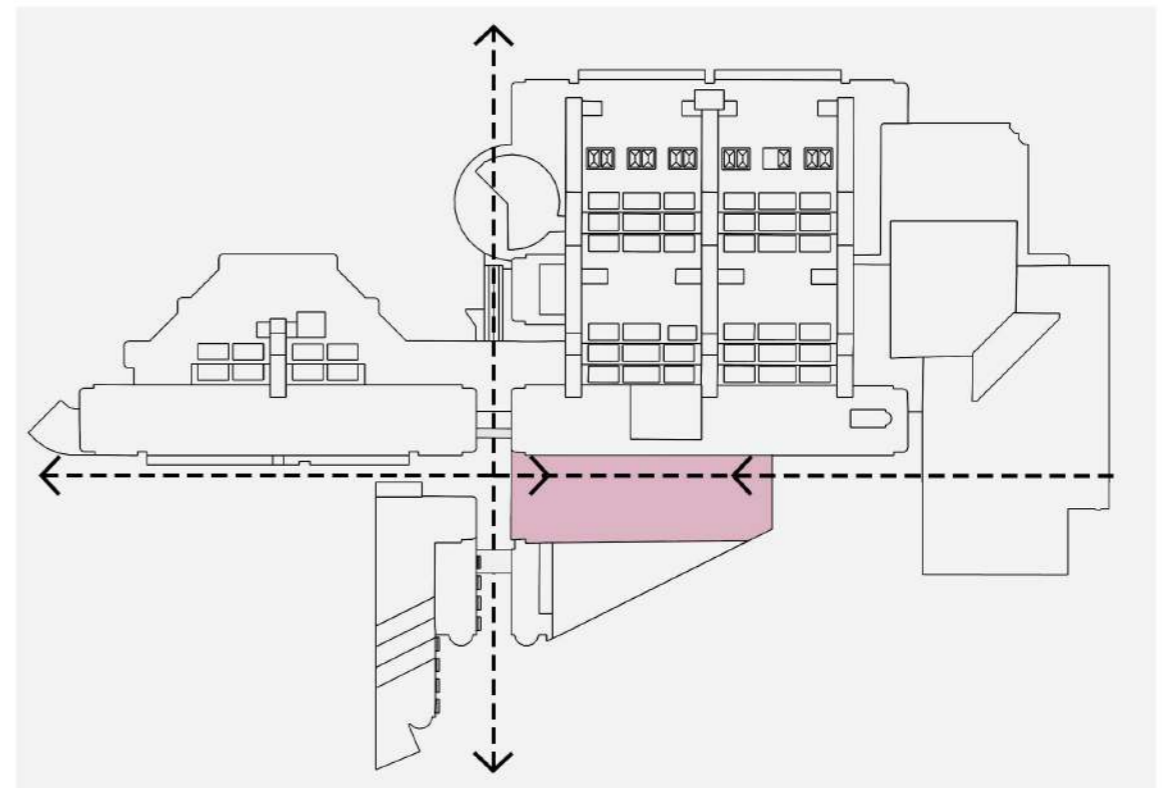
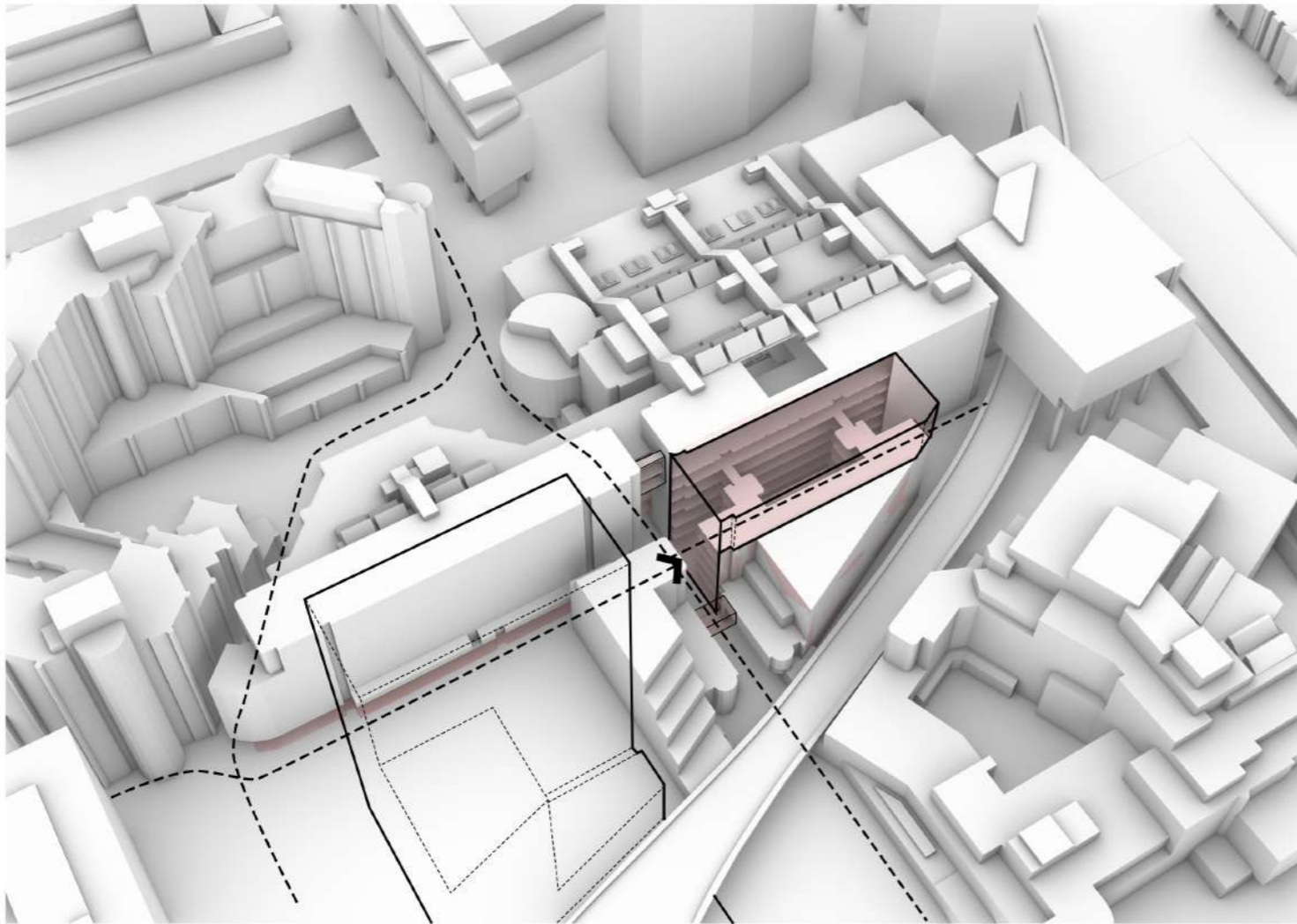
SE - NW Section

D. Integrated Design Proposal



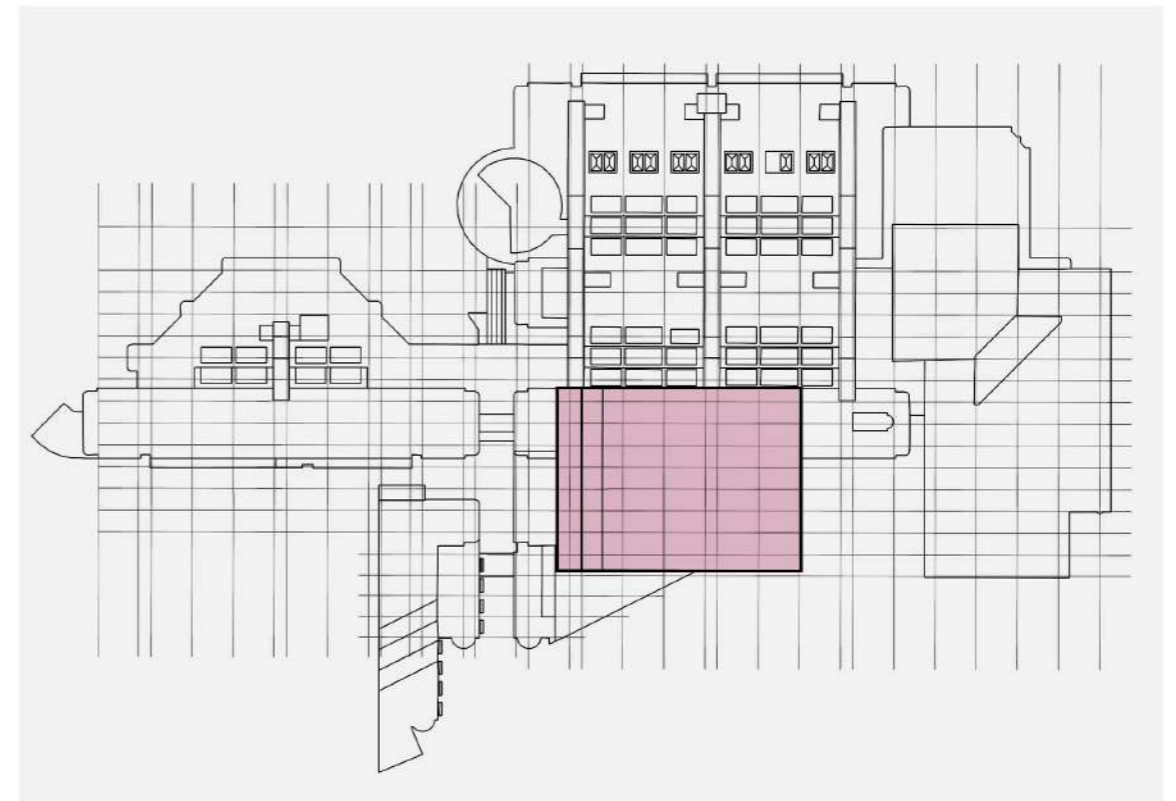
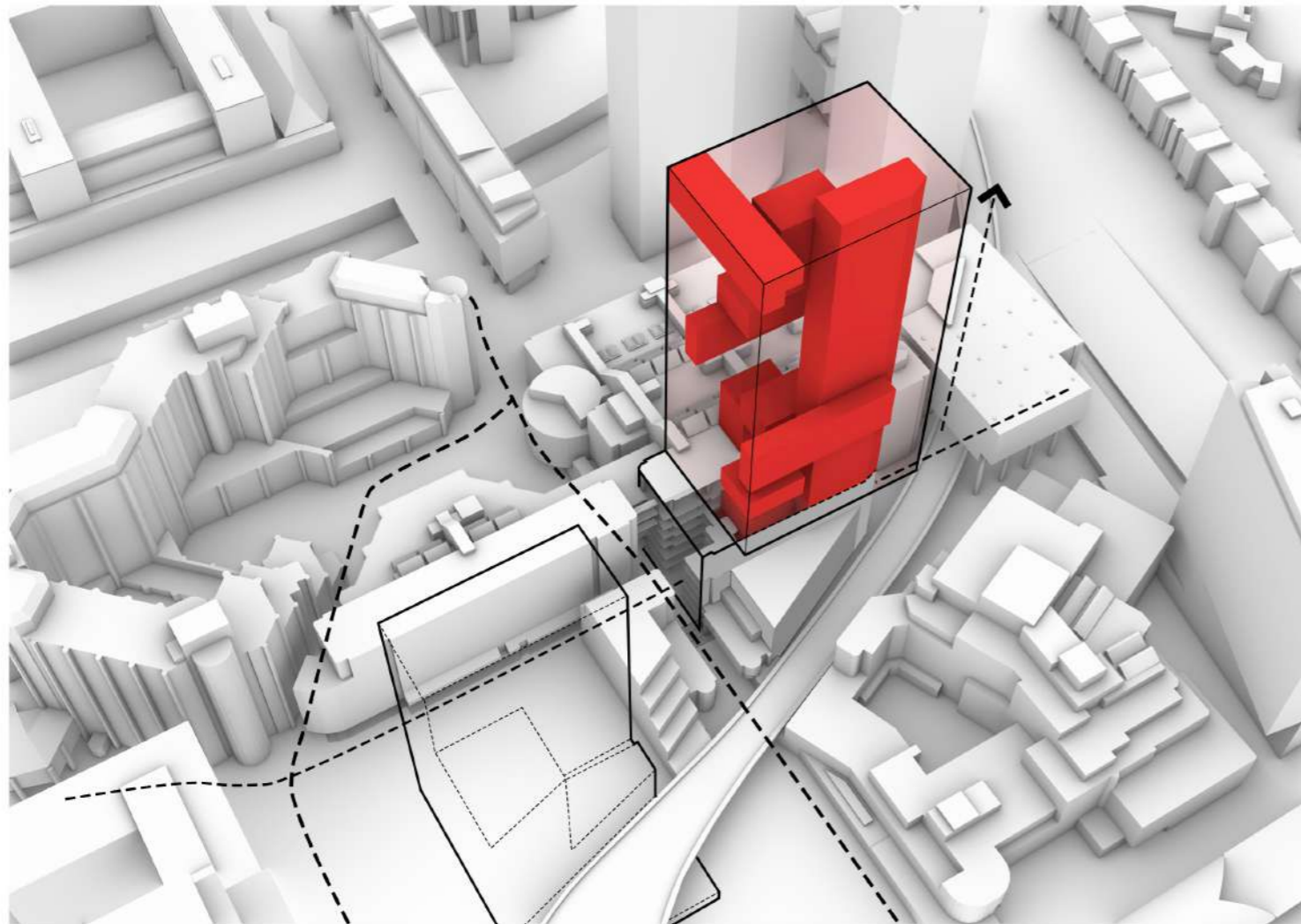
Activating + Opening Up + Converging Flows

D. Integrated Design Proposal



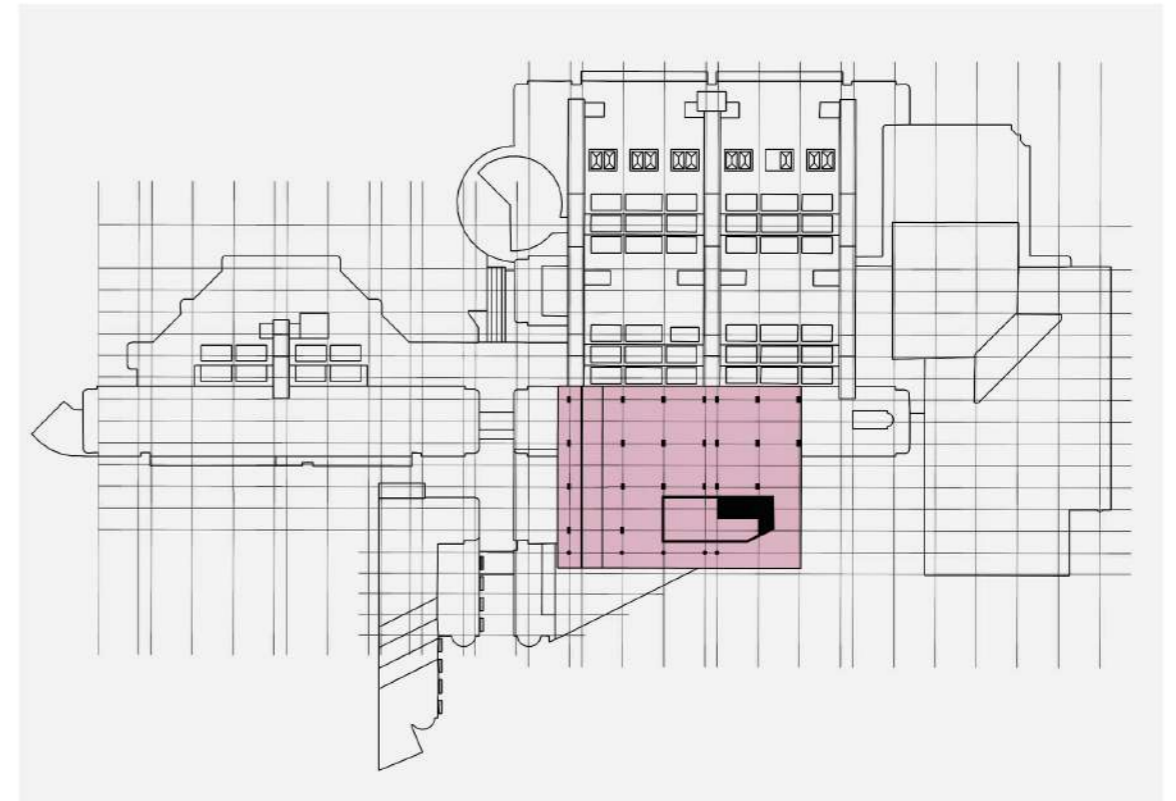
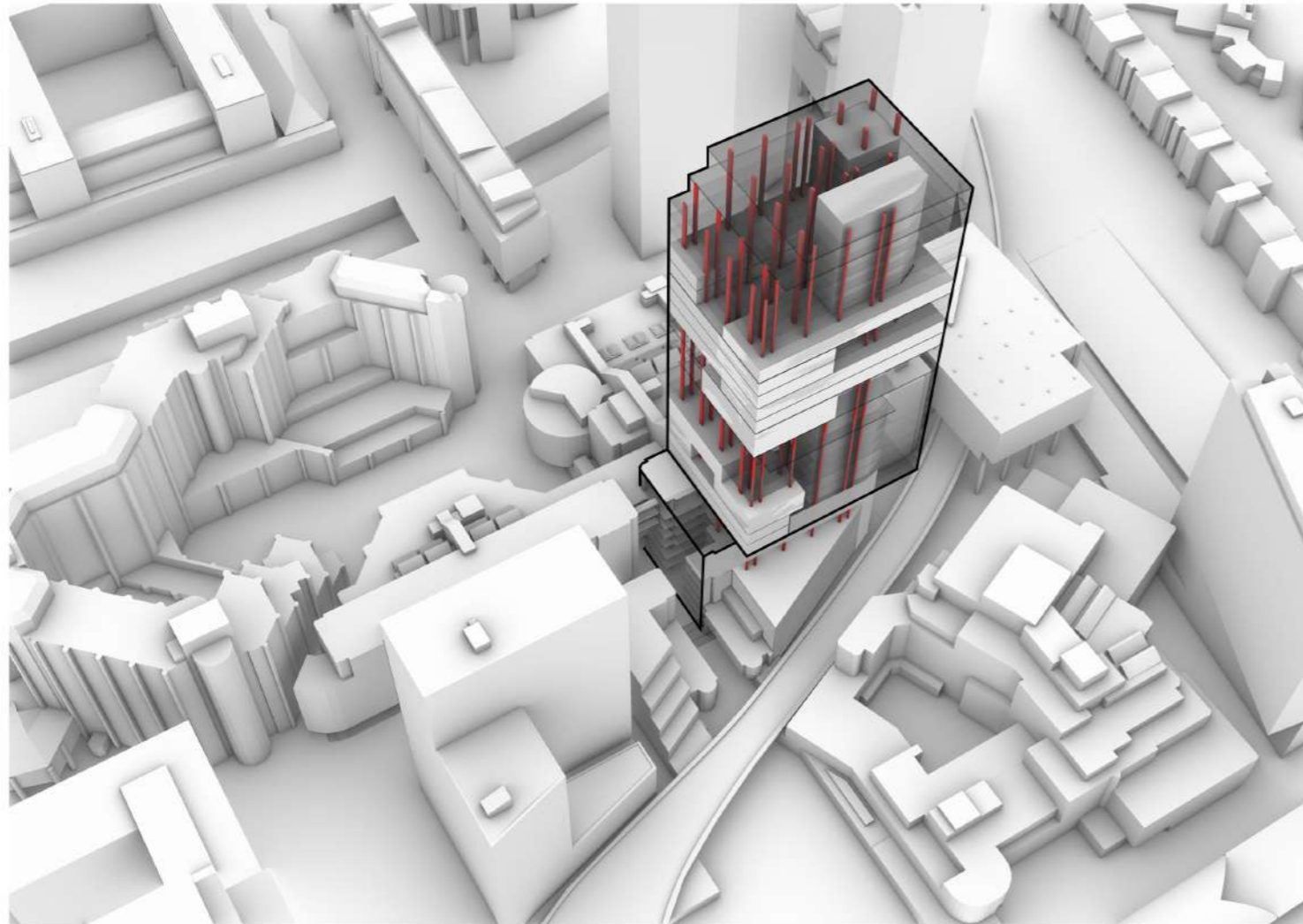
Unifying Fragments + Portal

D. Integrated Design Proposal



Outer Streets to 'Inner Streets'

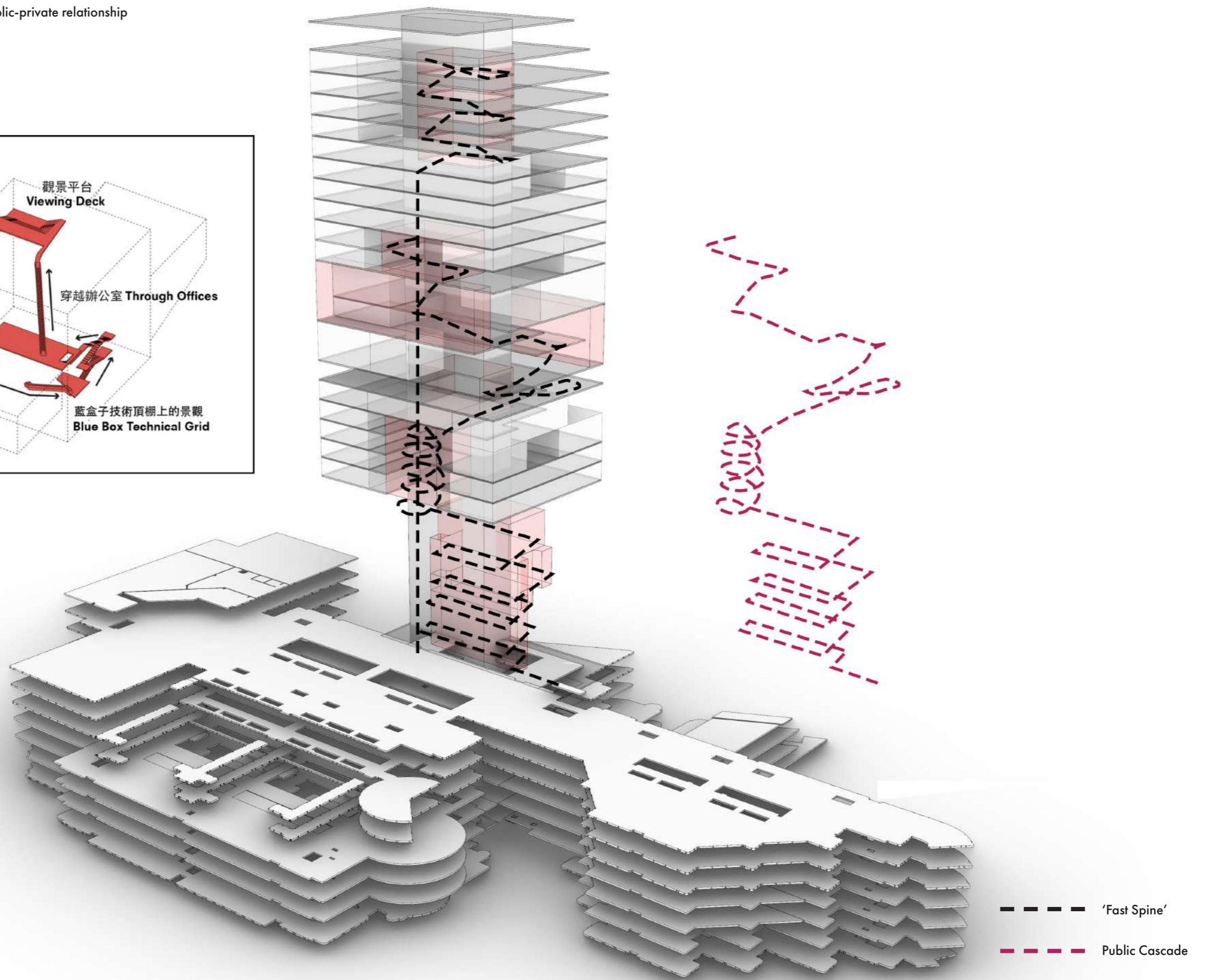
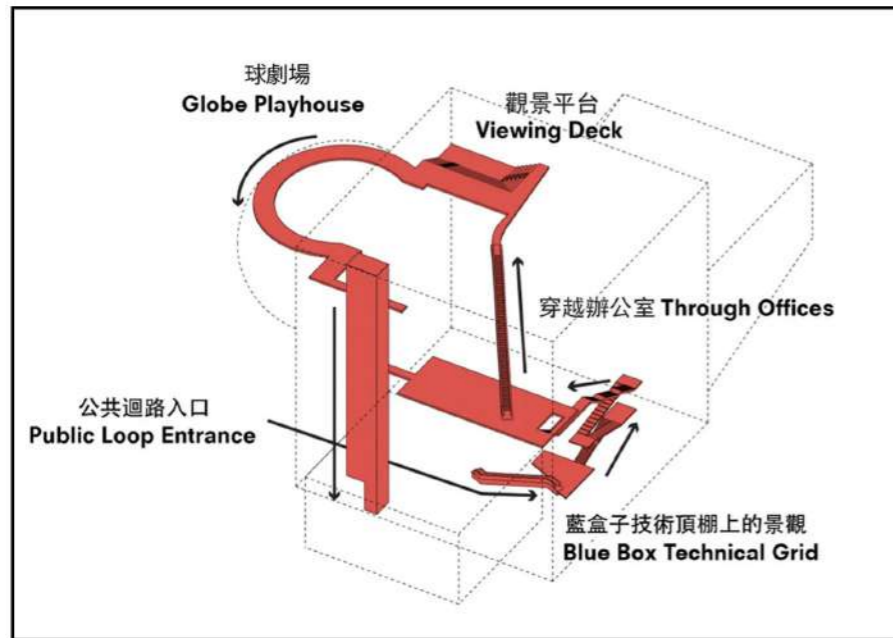
D. Integrated Design Proposal



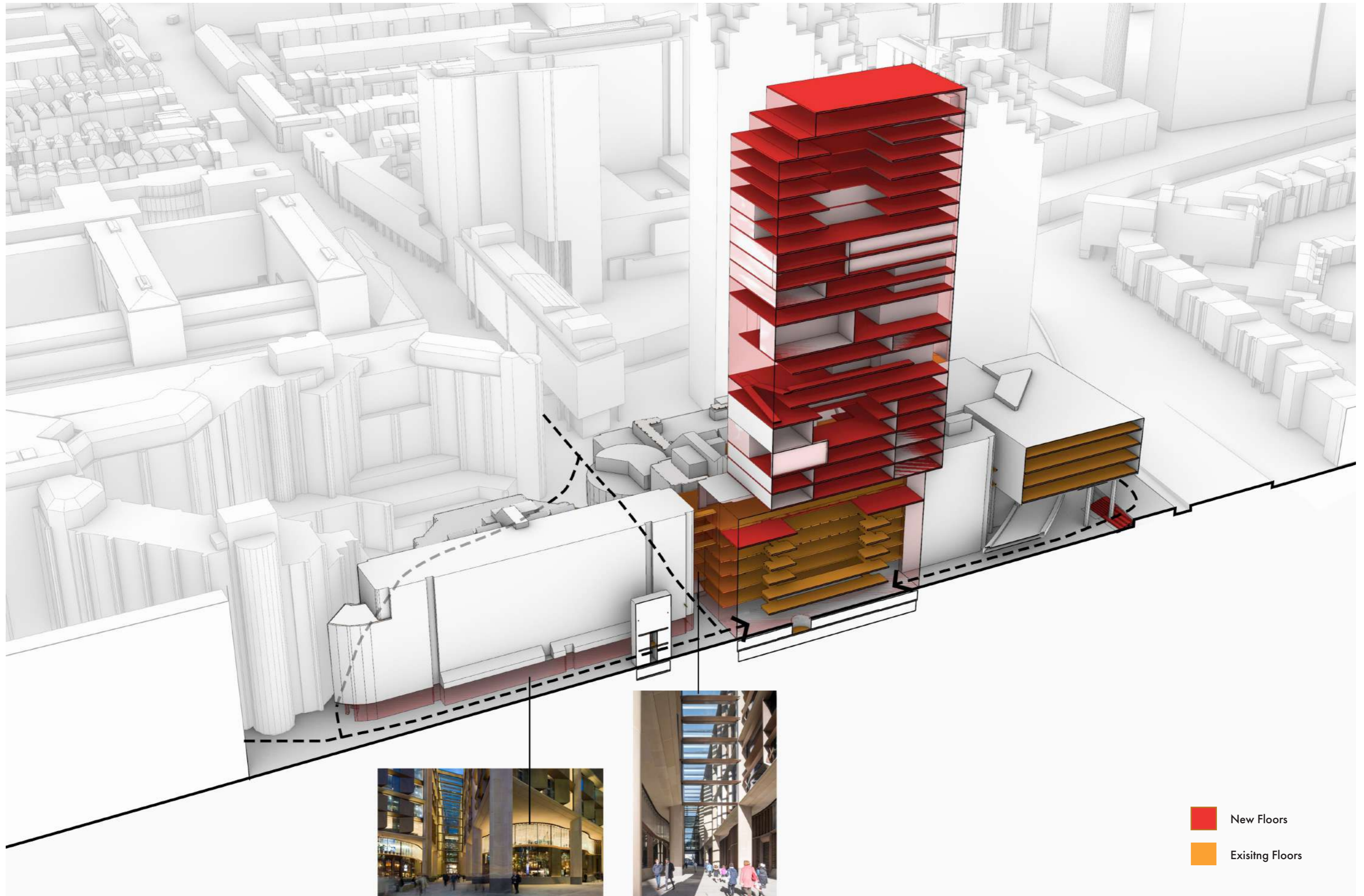
Extension of Existing

D. Integrated Design Proposal

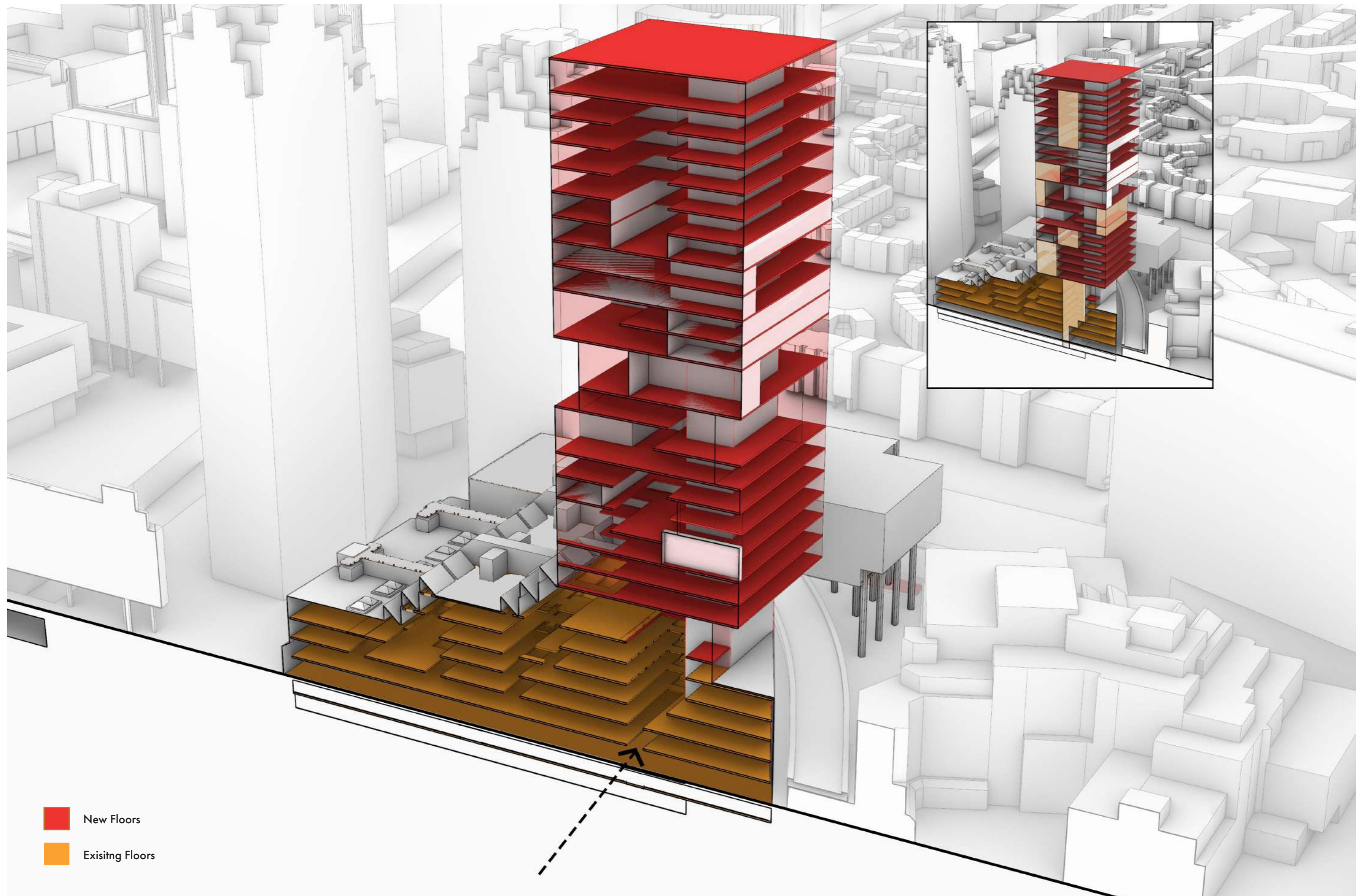
Main spine / 'street' distributing tempo and public-private relationship



D. Integrated Design Proposal

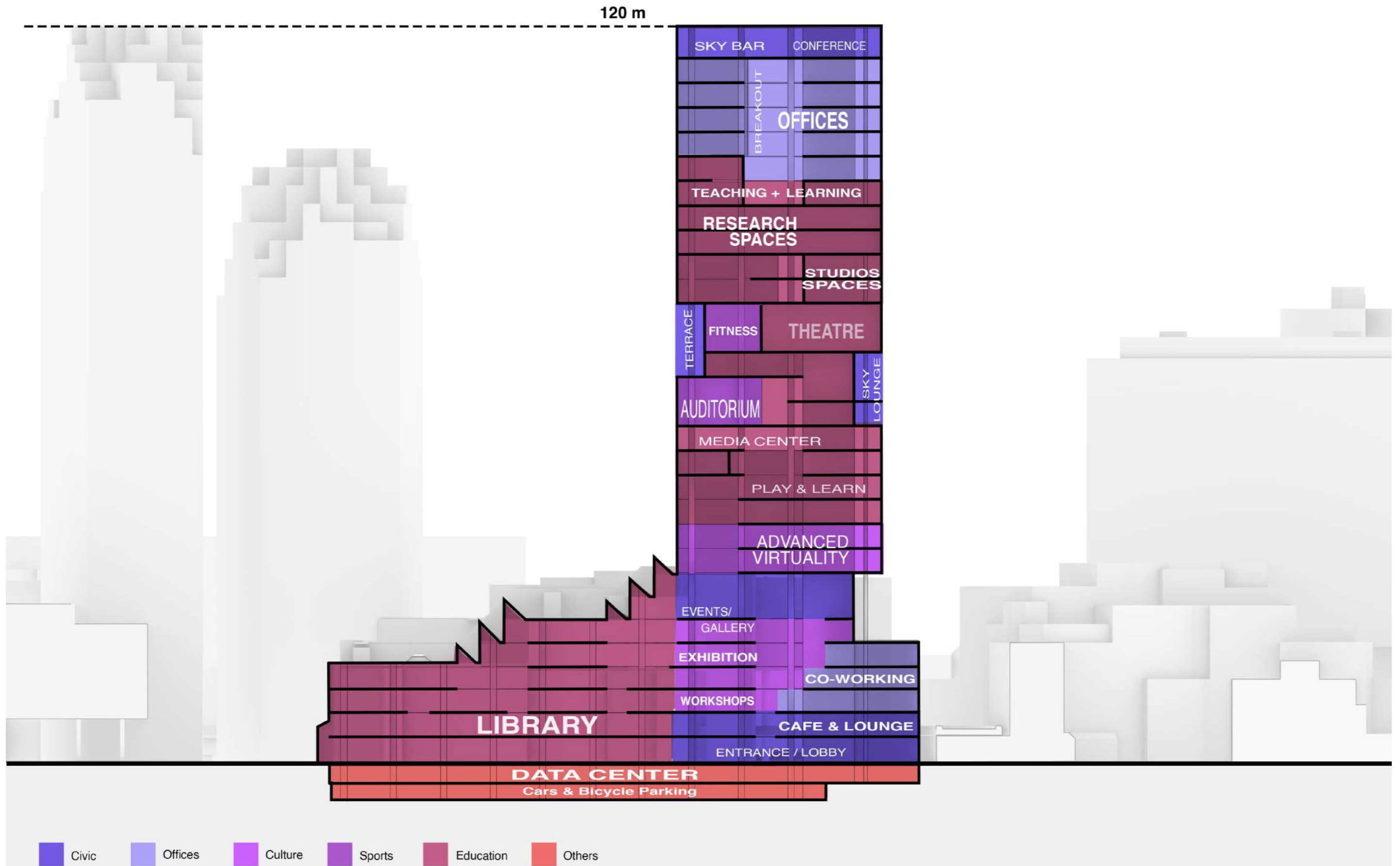


D. Integrated Design Proposal



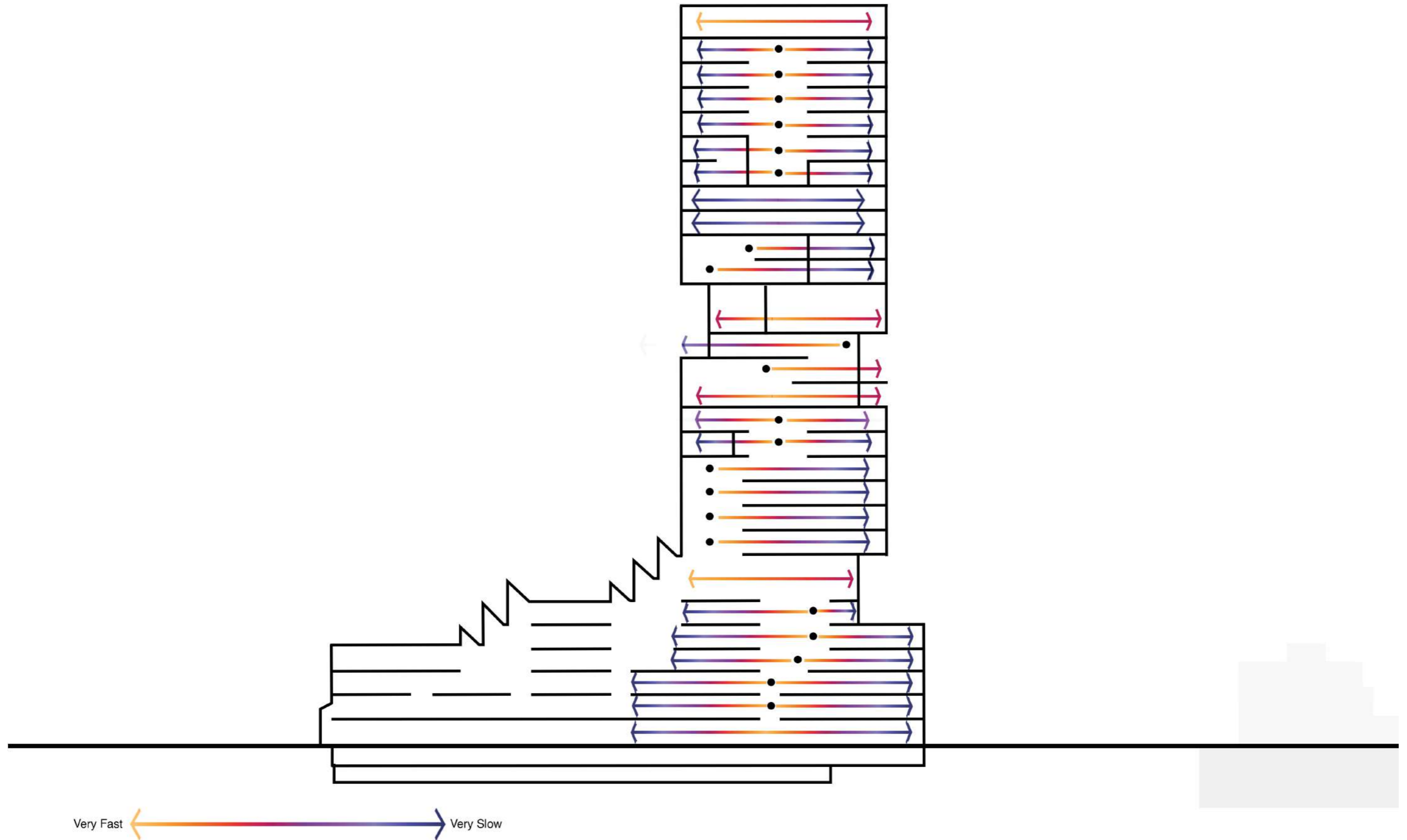
D. Integrated Design Proposal

Functional-spatial relations



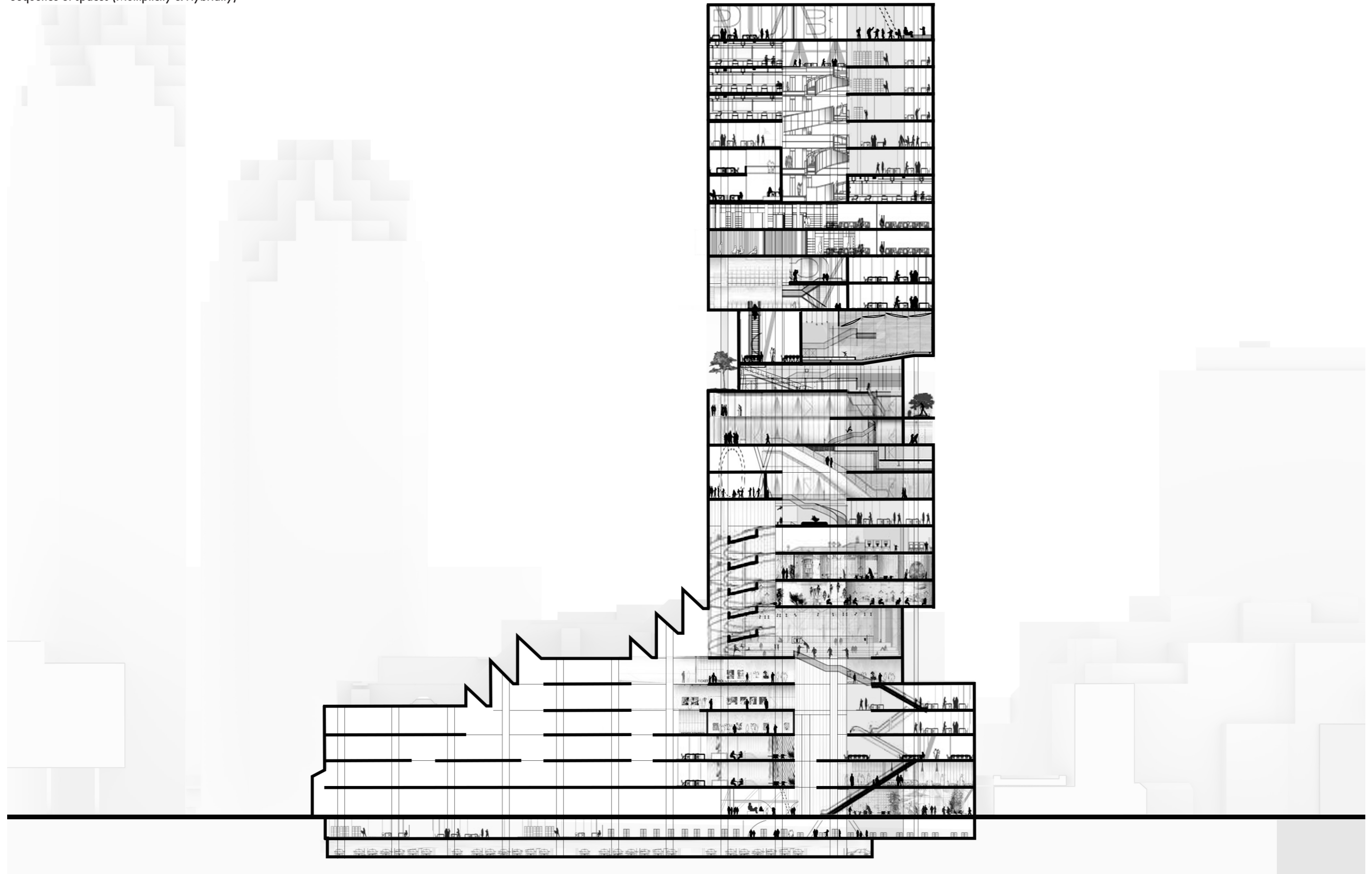
D. Integrated Design Proposal

Tempo distribution



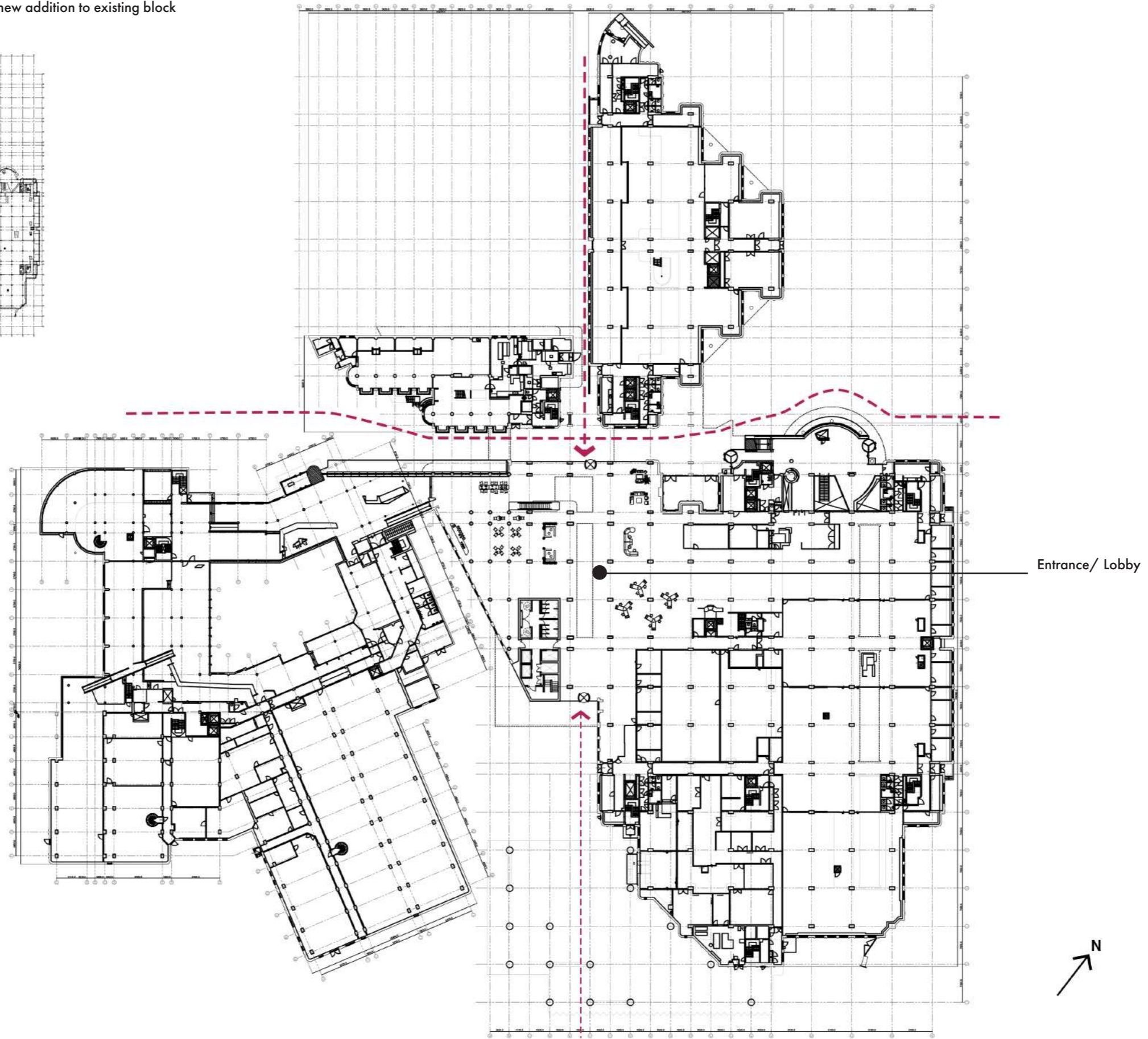
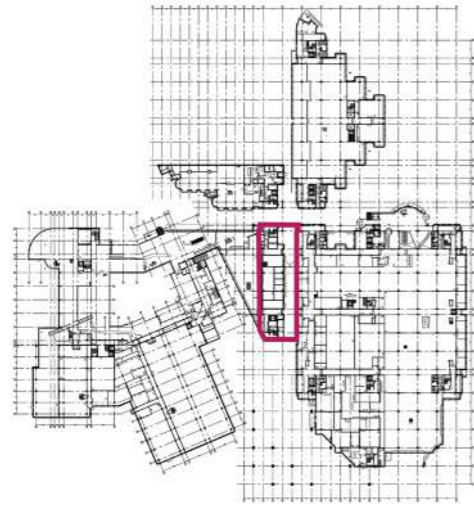
D. Integrated Design Proposal

Sequence of spaces (Multiplicity & Hybridity)



D. Integrated Design Proposal

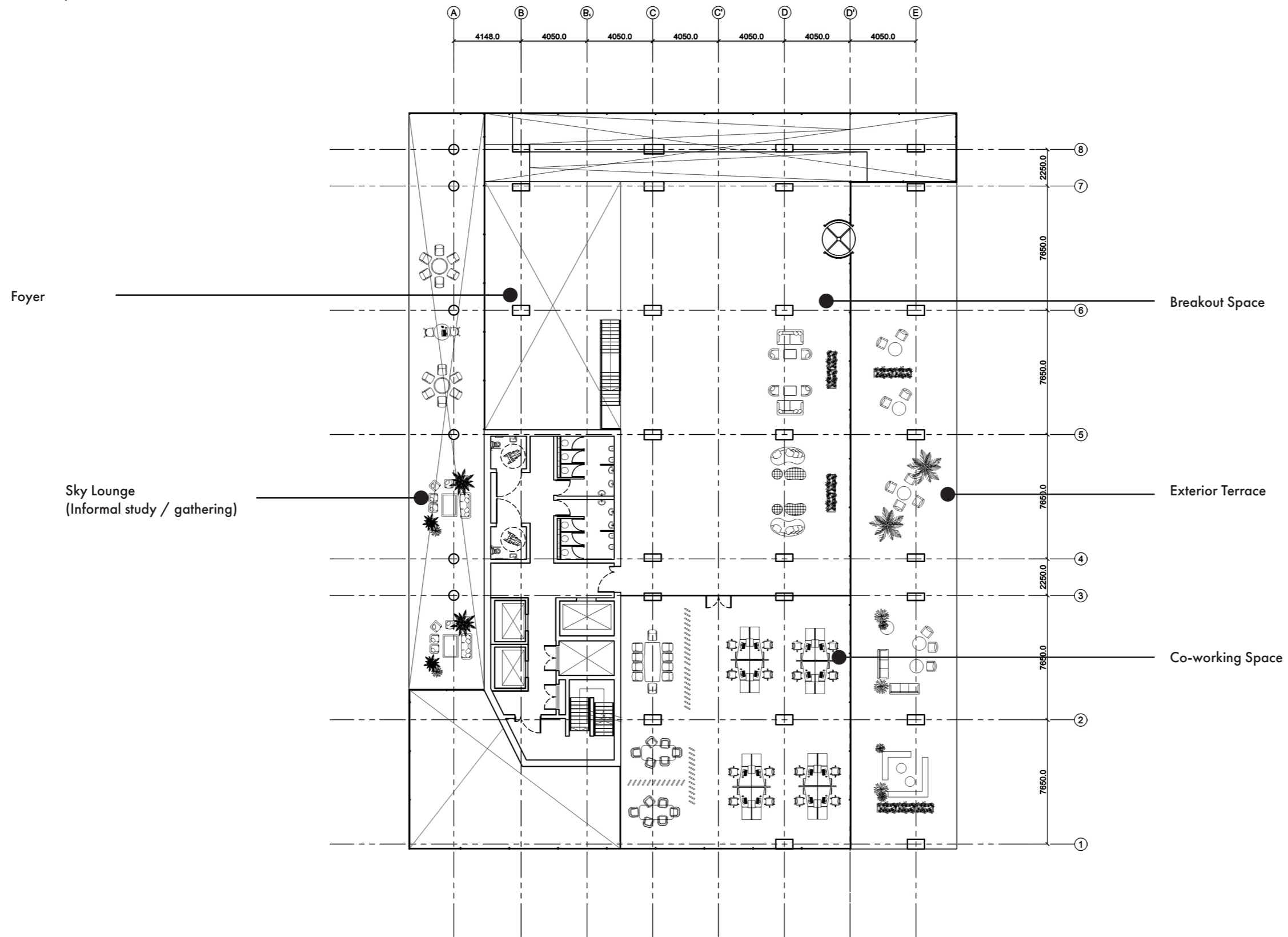
Ground Floor accessibility and permeability + new addition to existing block



D. Integrated Design Proposal

Programs, inside vs outside, gathering space, formal vs informal

Possible vertical transport and structures



D. Integrated Design Proposal

Structure & Sustainability

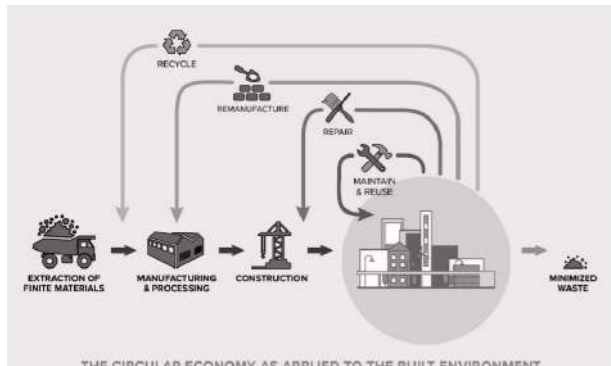
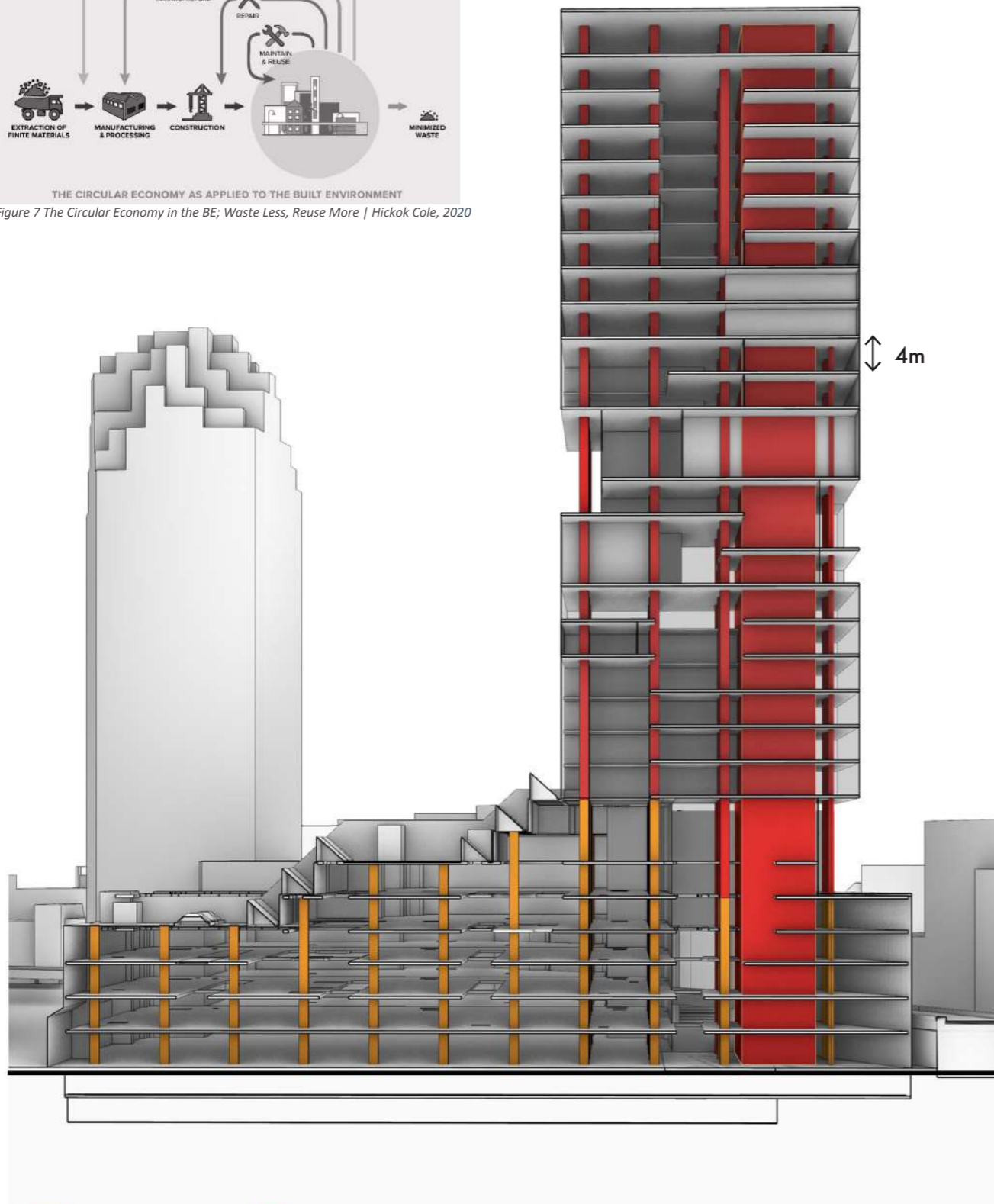
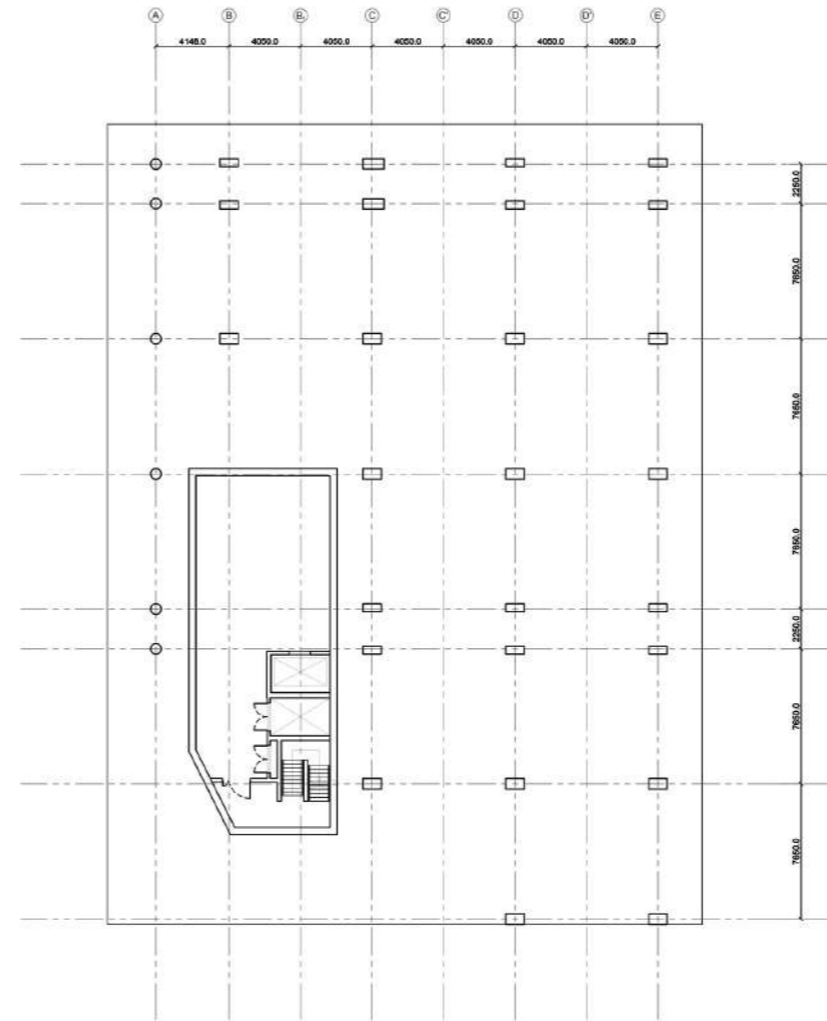


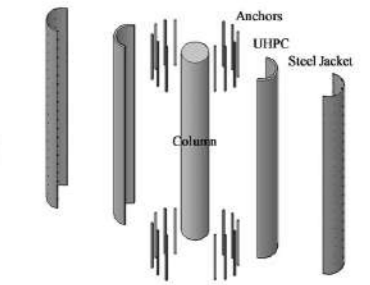
Figure 7 The Circular Economy in the BE; Waste Less, Reuse More | Hickok Cole, 2020



Existing Columns New Columns



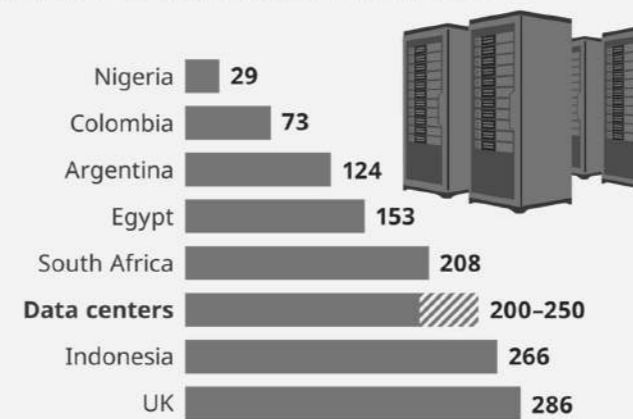
Reinforced Concrete Jacketing



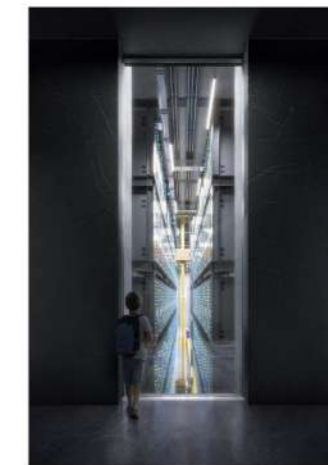
Steel Jacketing

Data centers use more electricity than entire countries

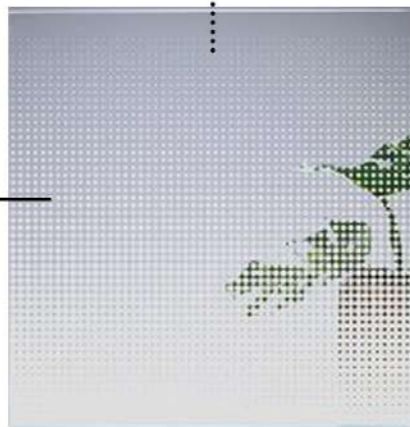
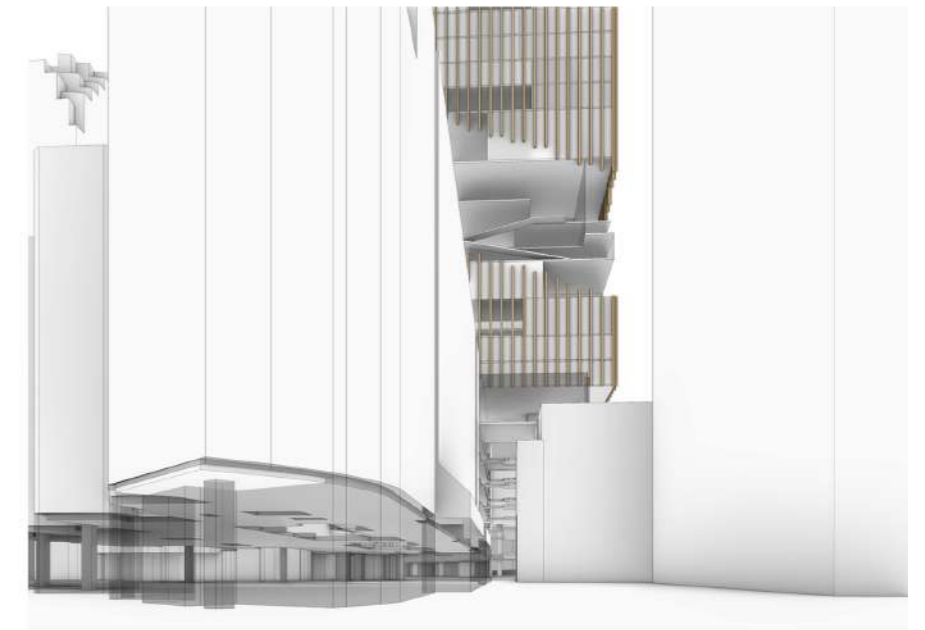
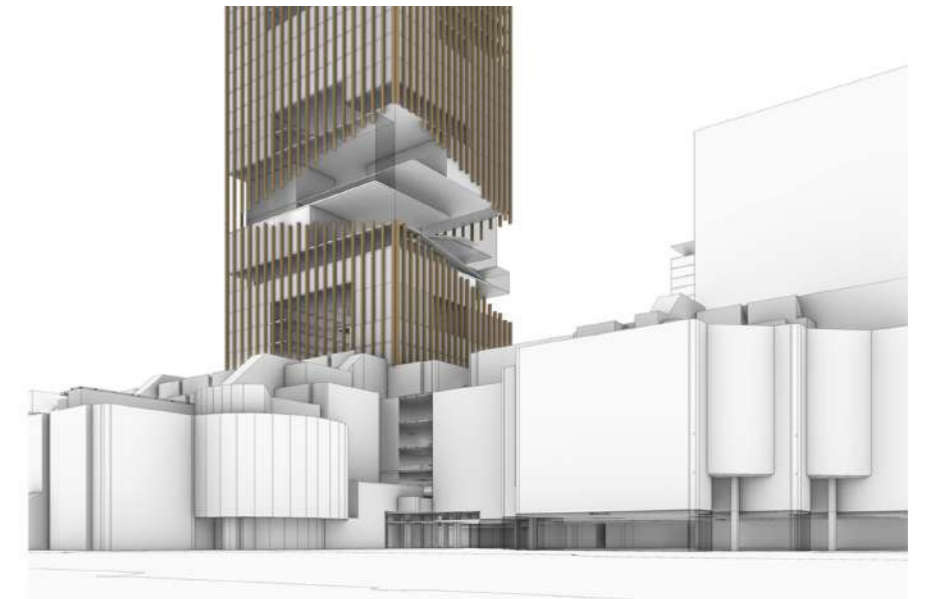
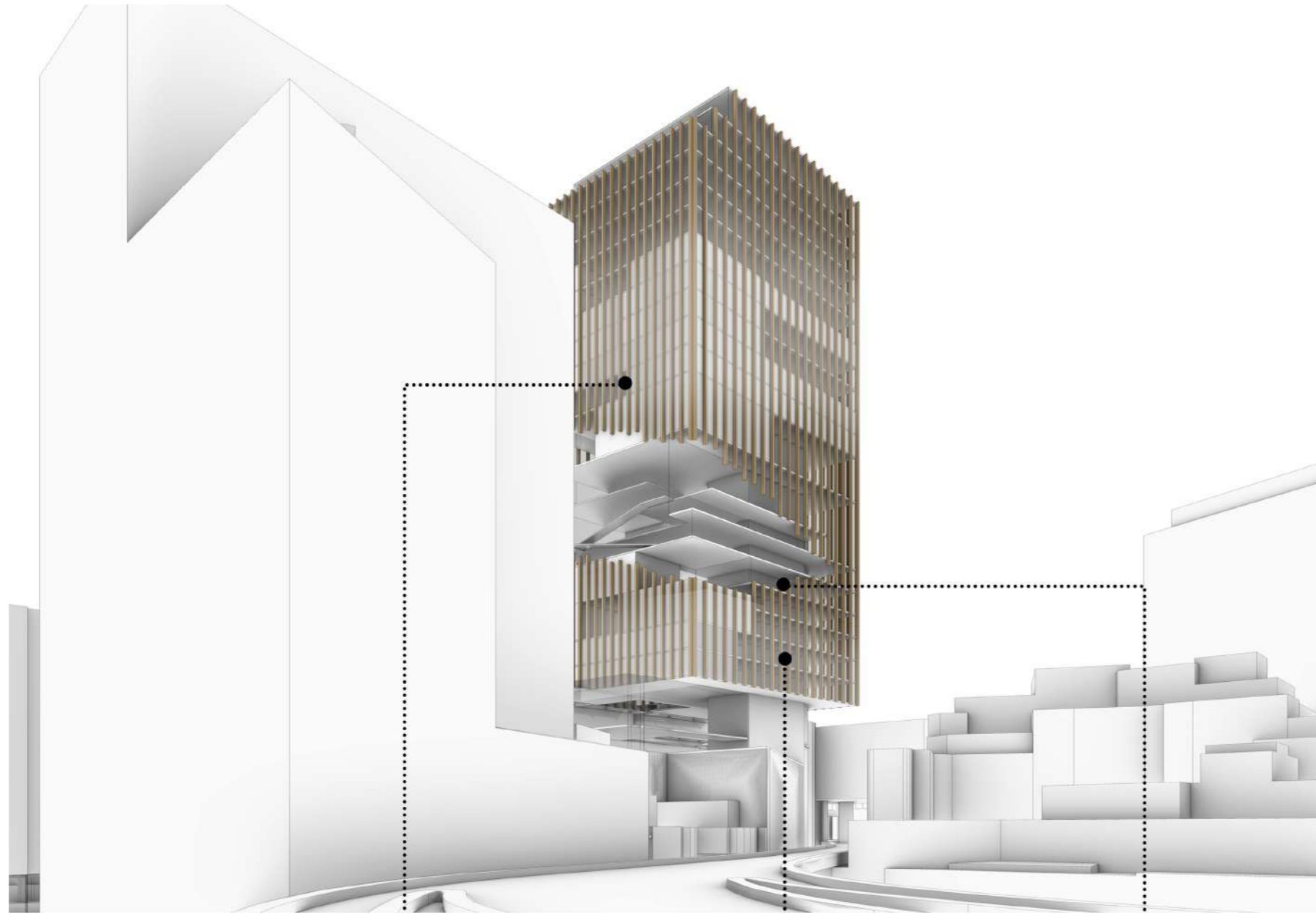
Domestic electricity consumption of selected countries vs. data centers in 2020 in TWh



Source: Enerdata, IEA



“The heat generated by data centers represents a huge untapped potential in terms of energy capture that we wanted to explore further. By efficiently and sustainably exploiting excess energy that would otherwise go to waste, we can use technology to generously support health, recreation and the environment.”
-Kjetil Tørstad Thorsen, Founding Partner, Snøhetta



Ceramic 'frit' patterns + gradients

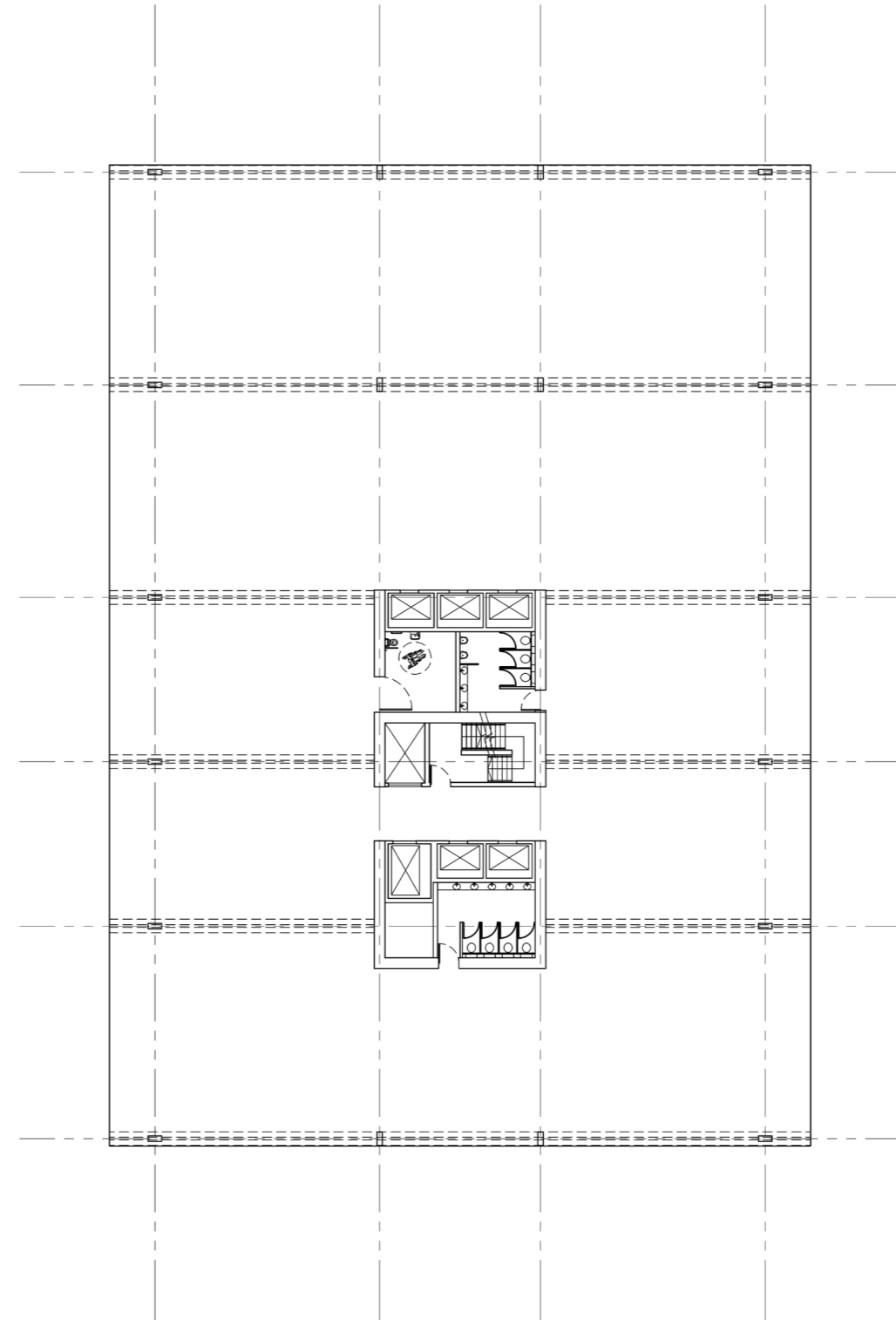
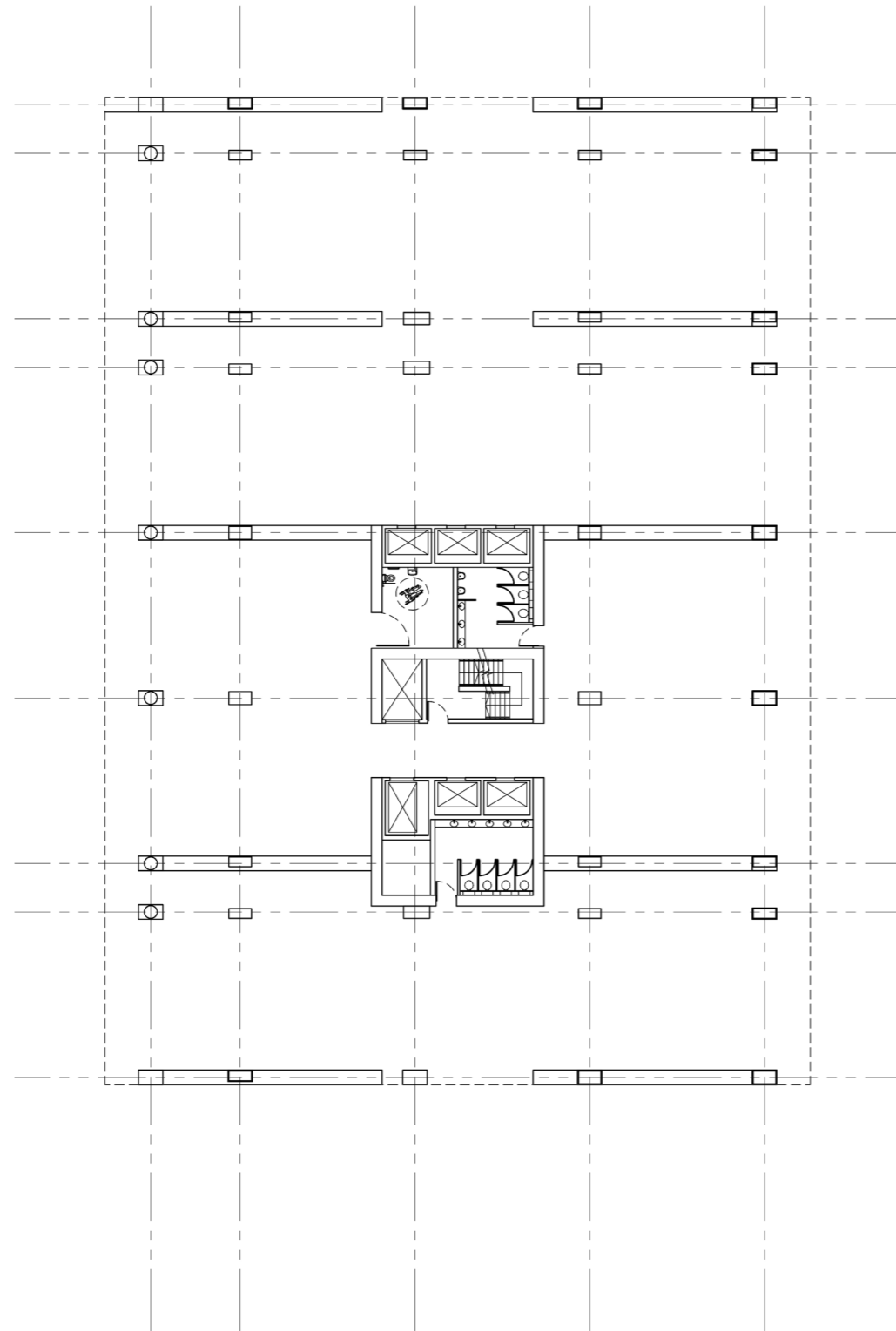


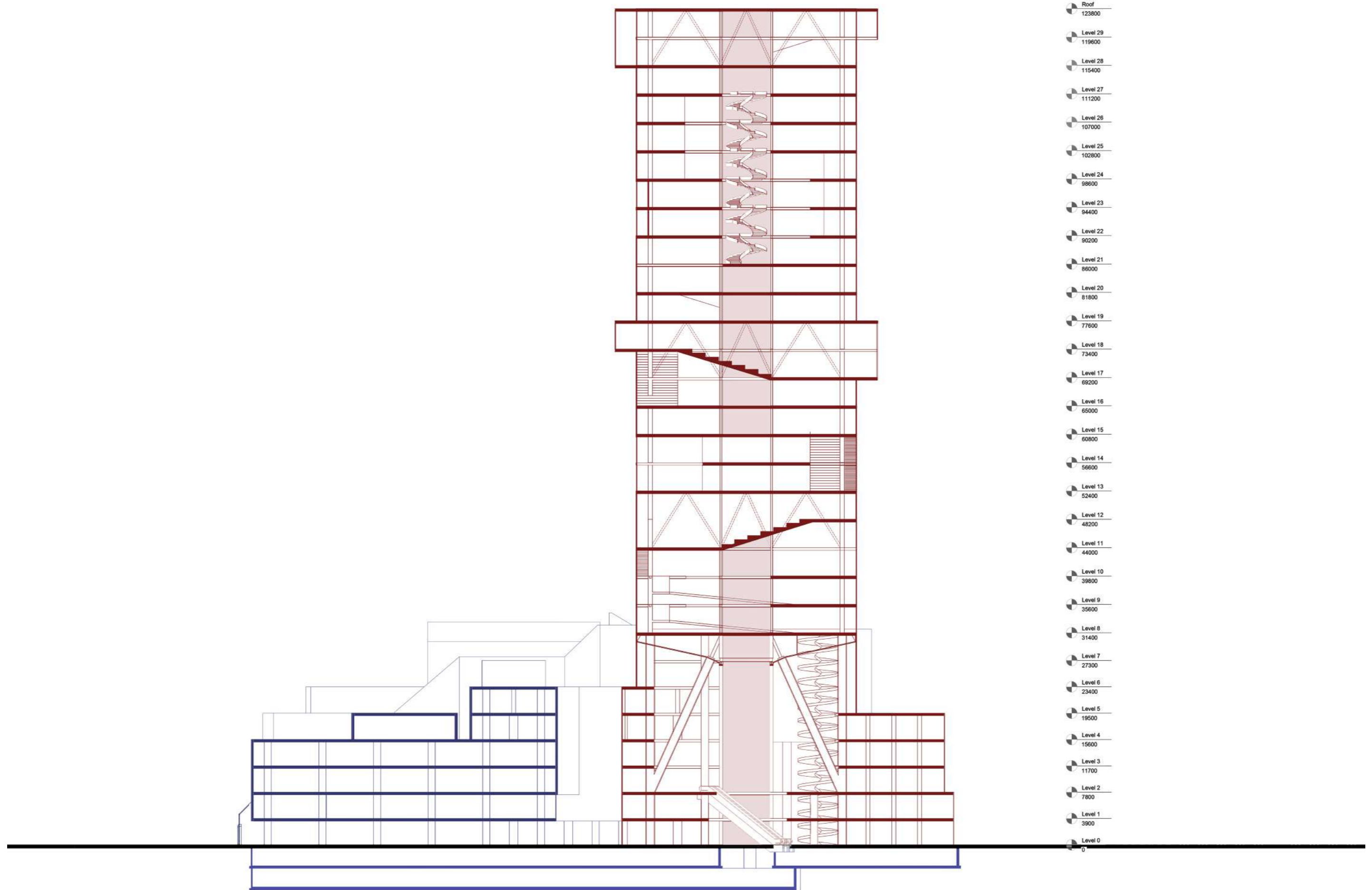
Wooden louvers



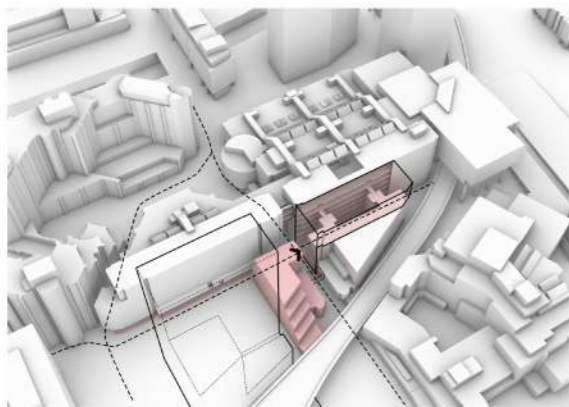
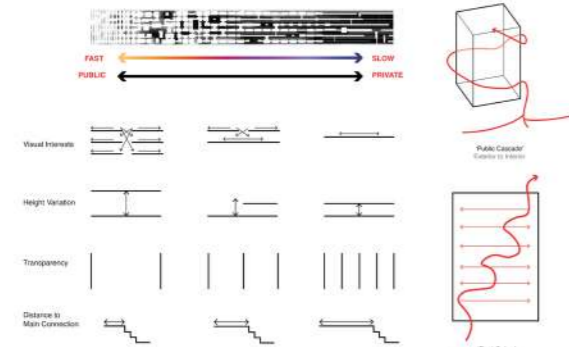
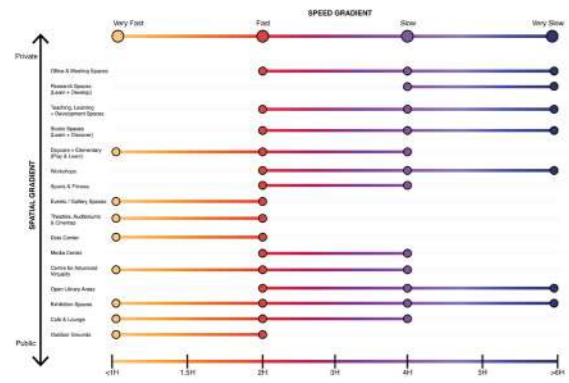
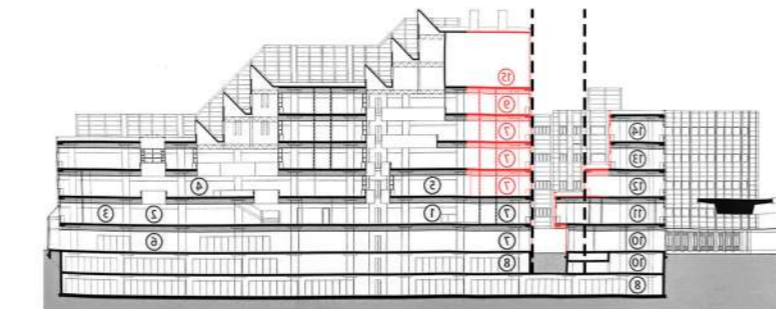
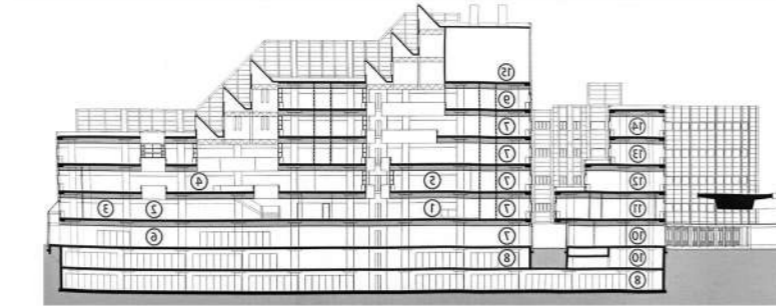
Insulated stick built glassfin curtainwall

D. Integrated Design Proposal





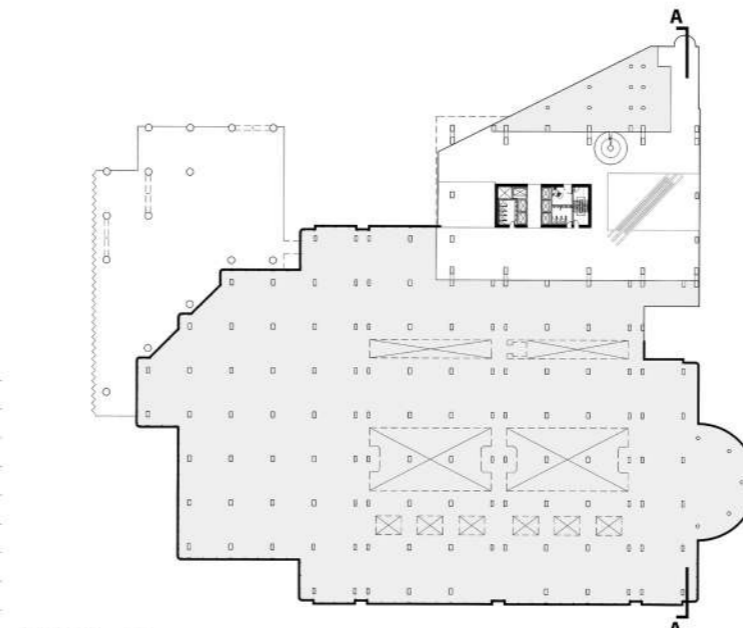
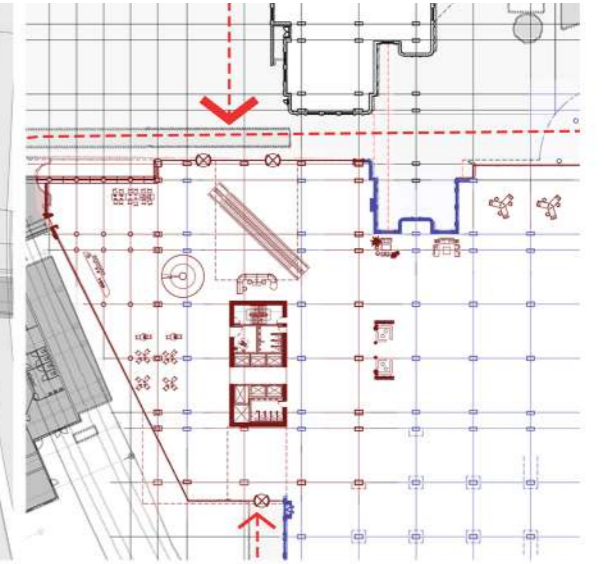




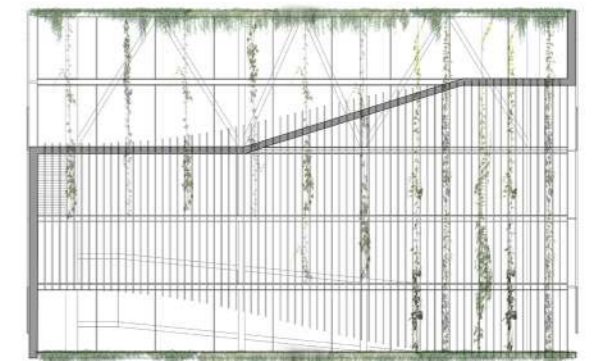
Section A-A



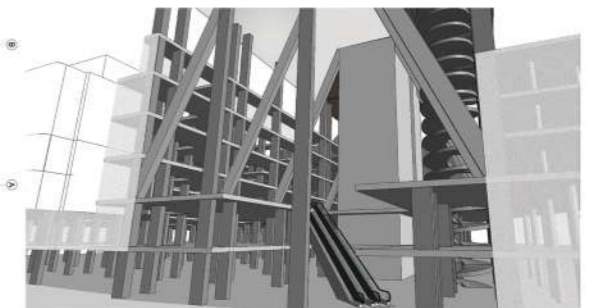
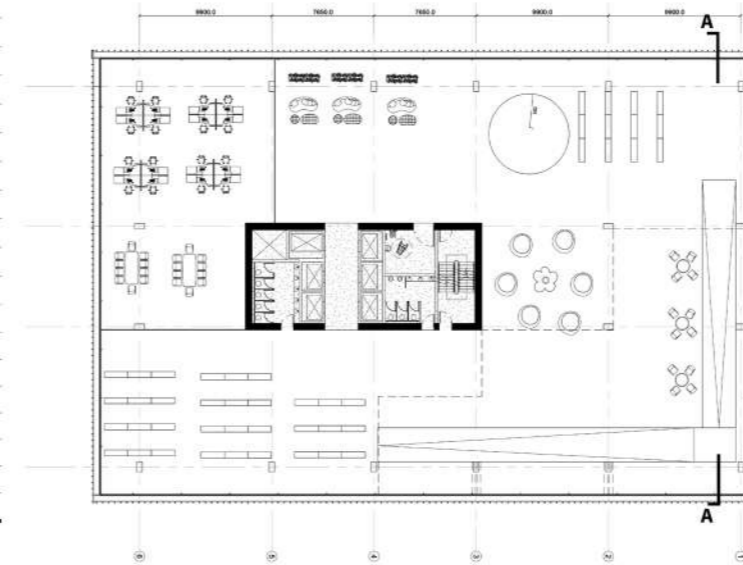
Ground Floor Plan



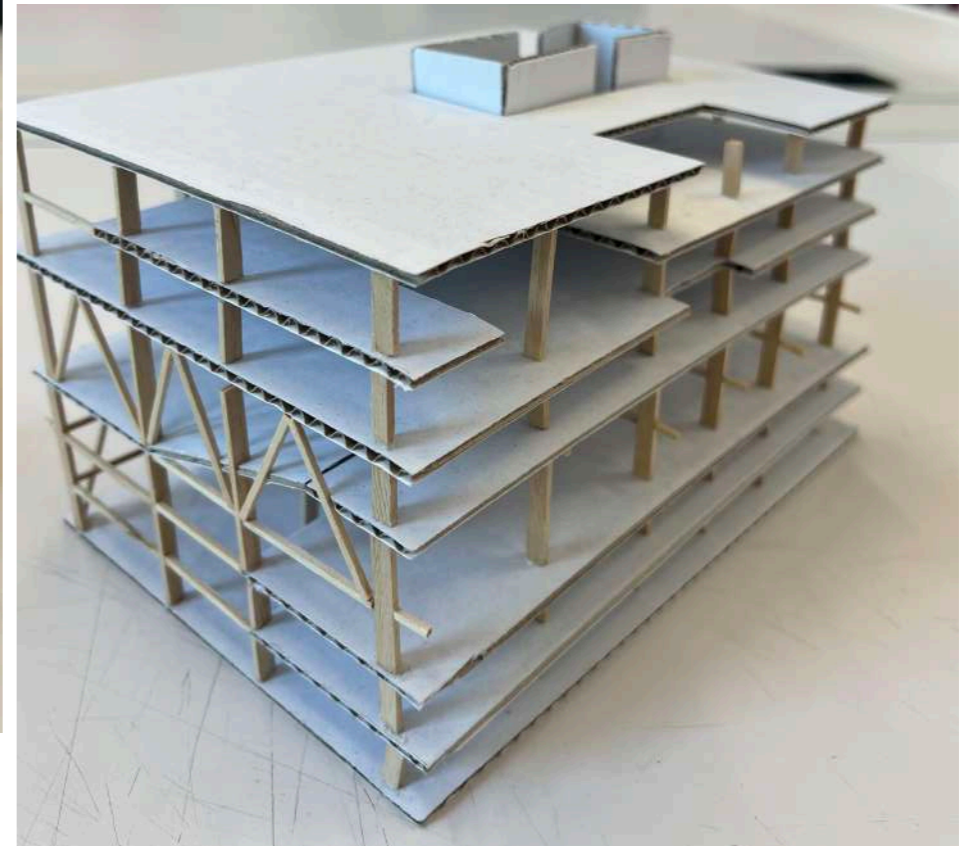
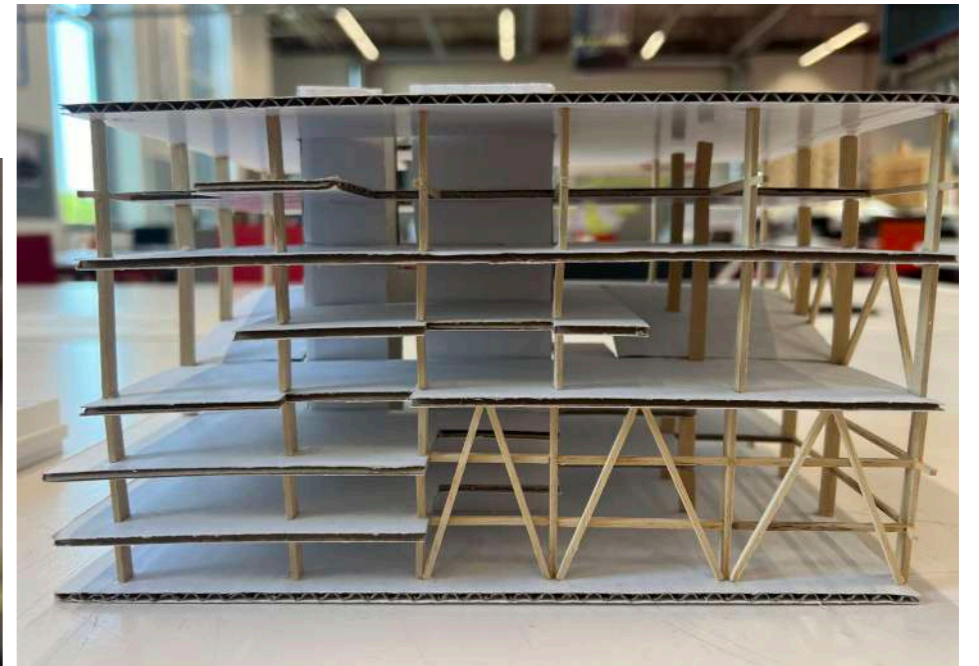
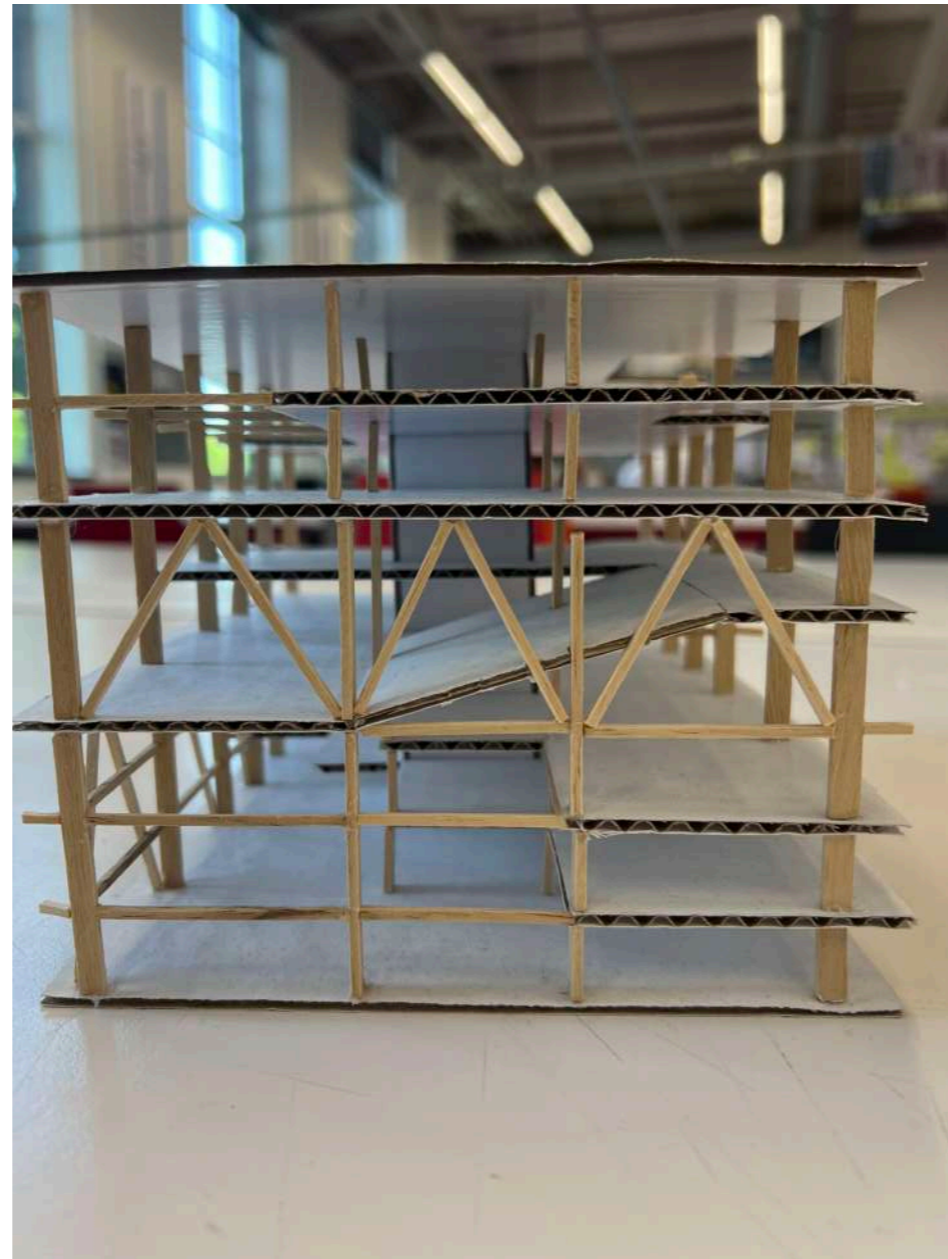
Third Floor Plan

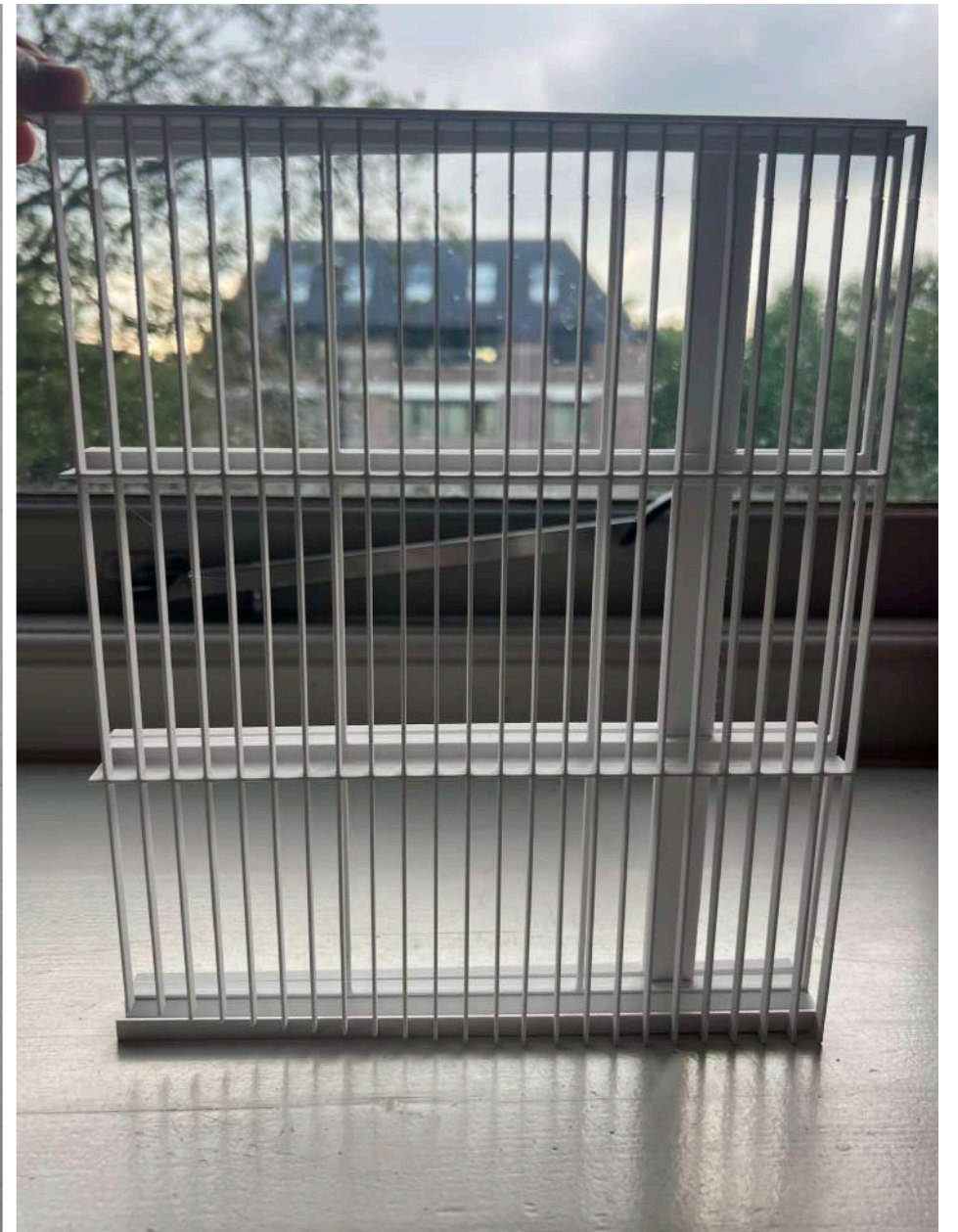


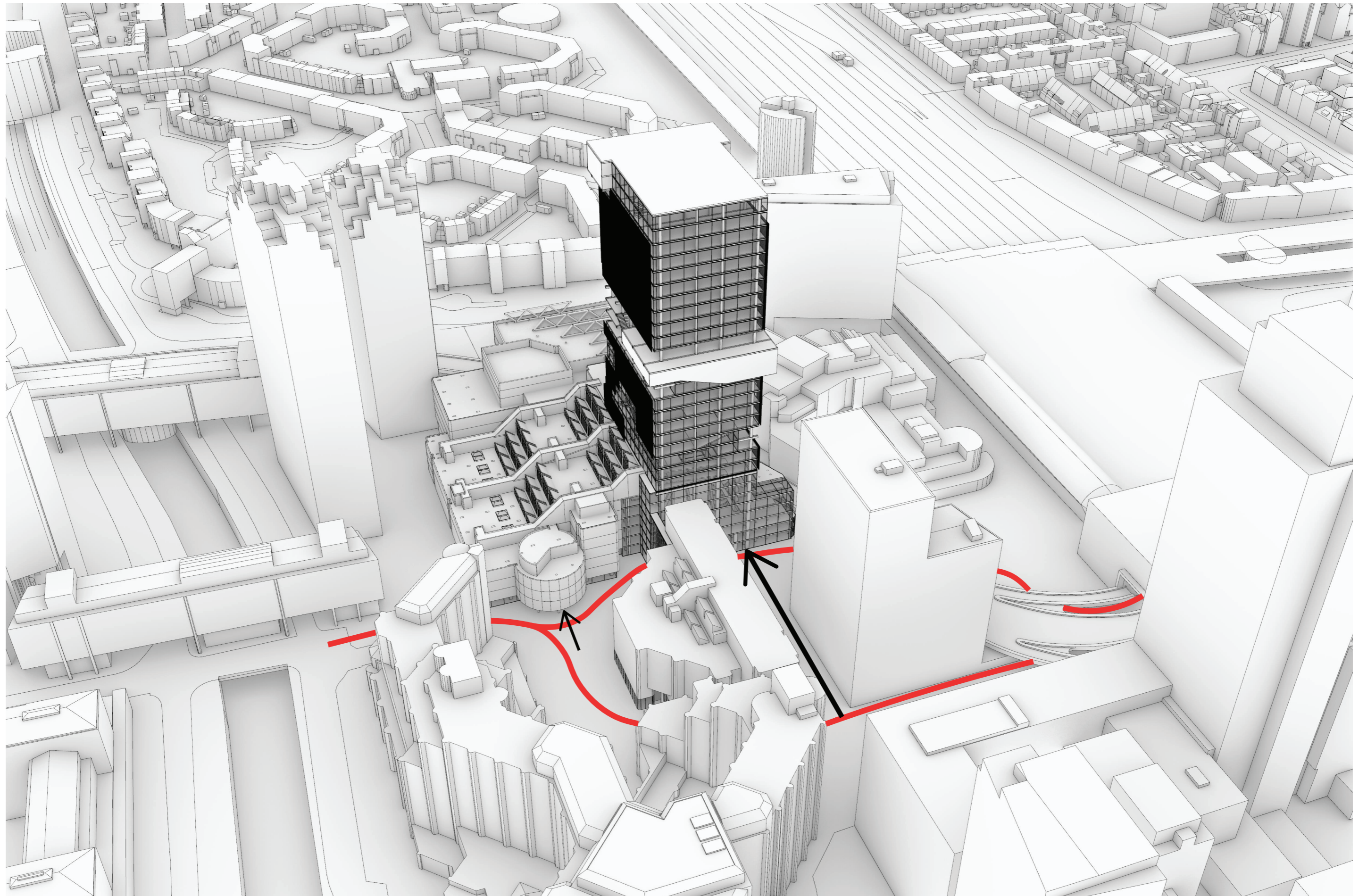
Facade











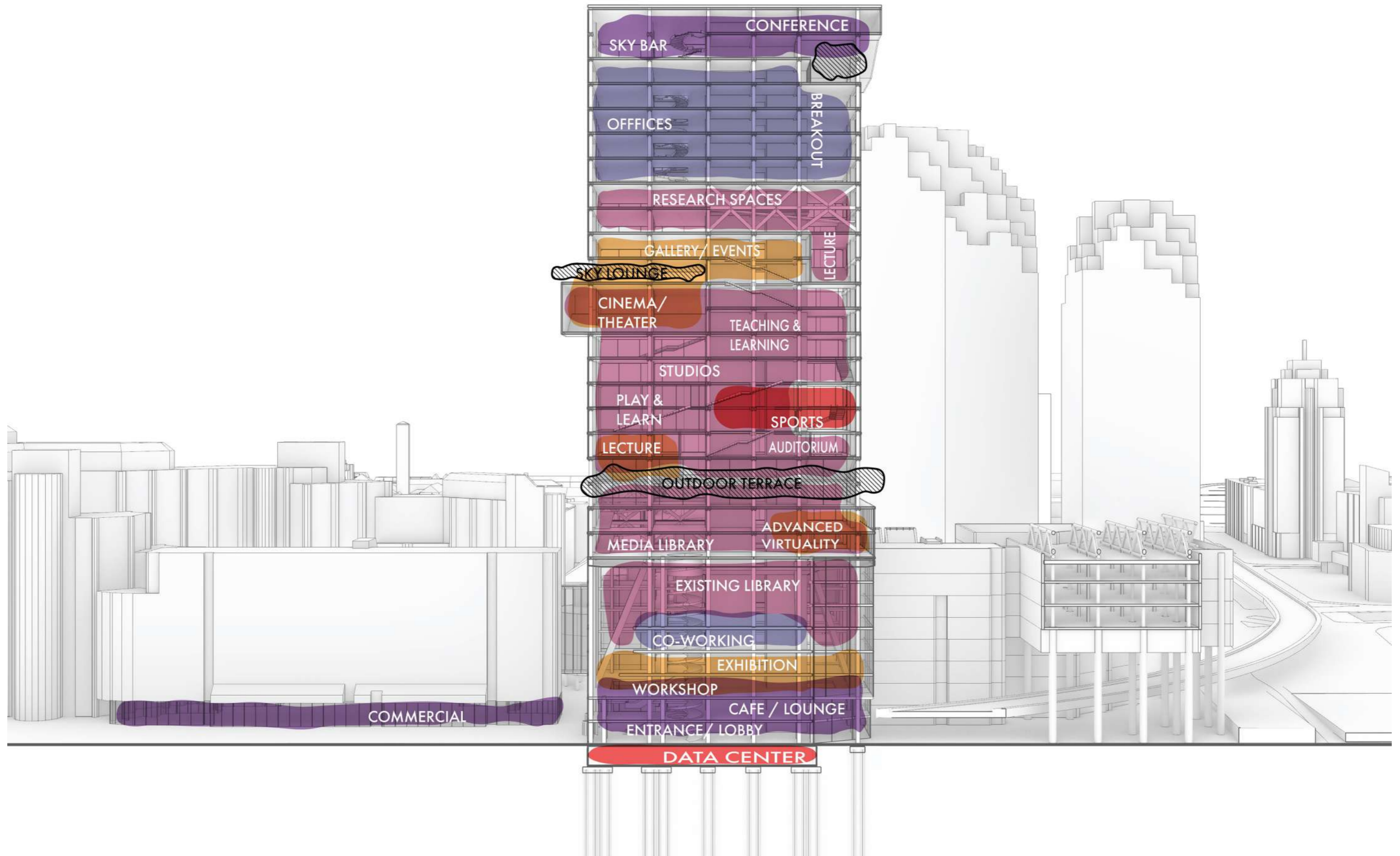
Access



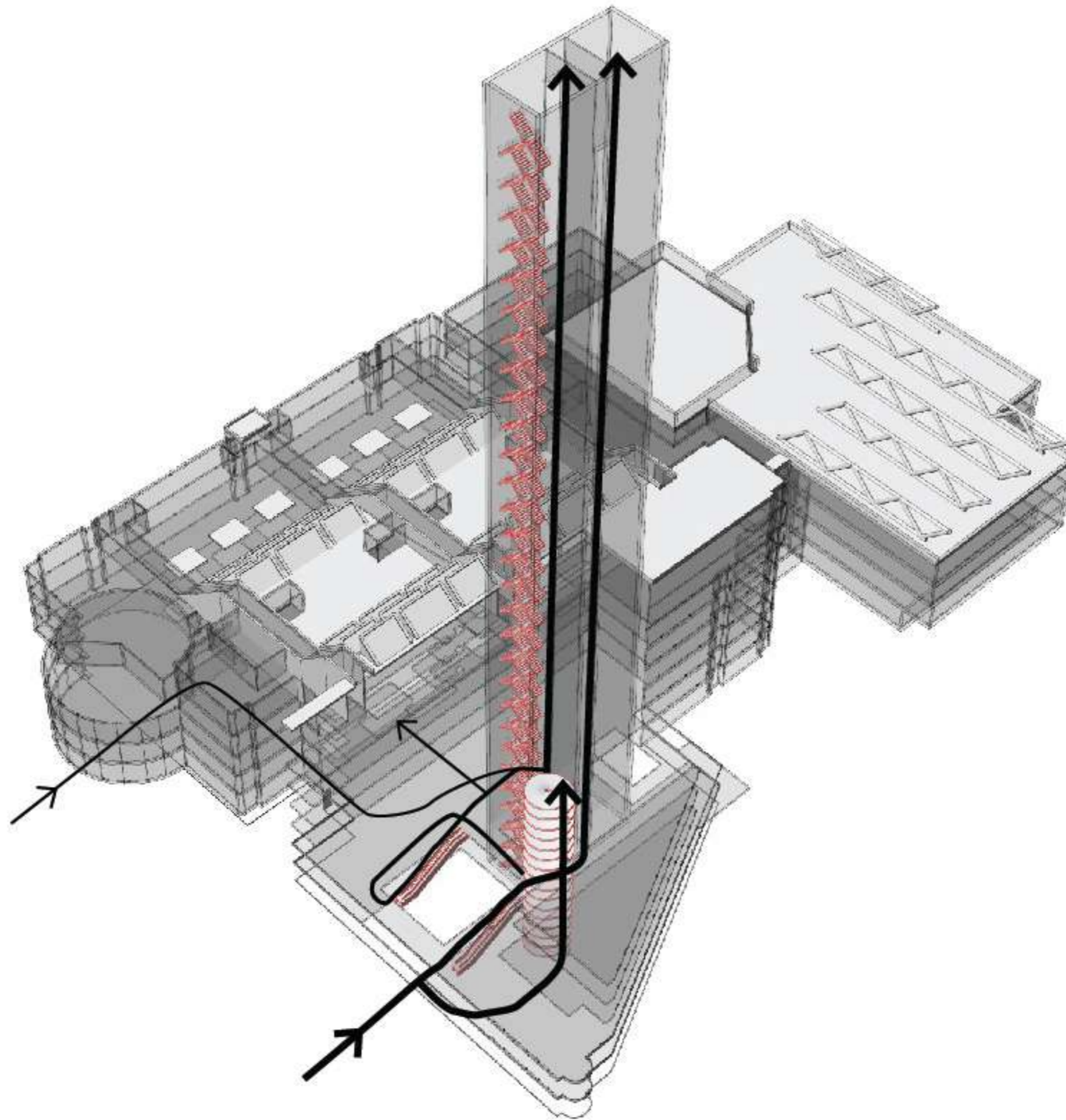
Site Plan



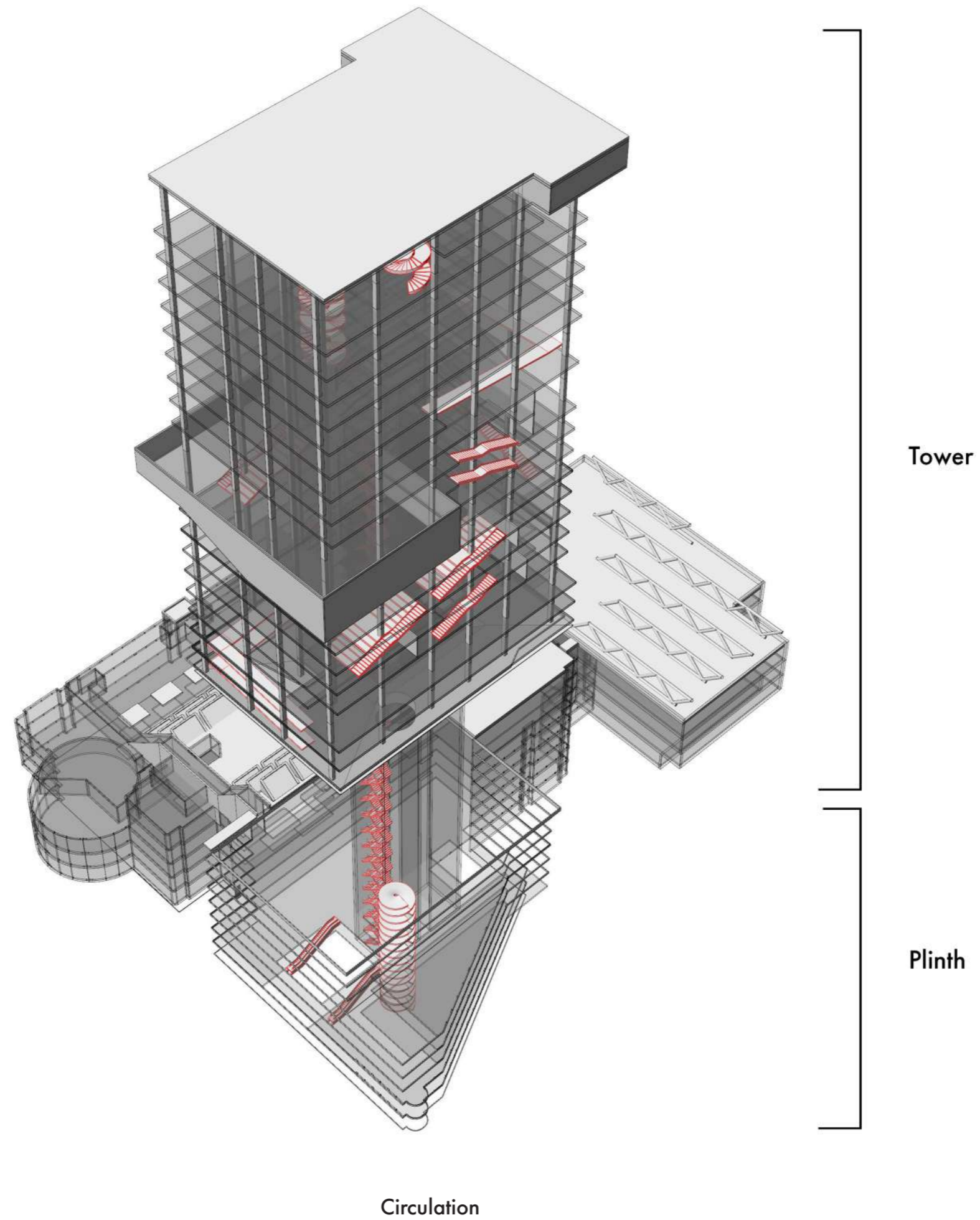
3rd Floor Plan

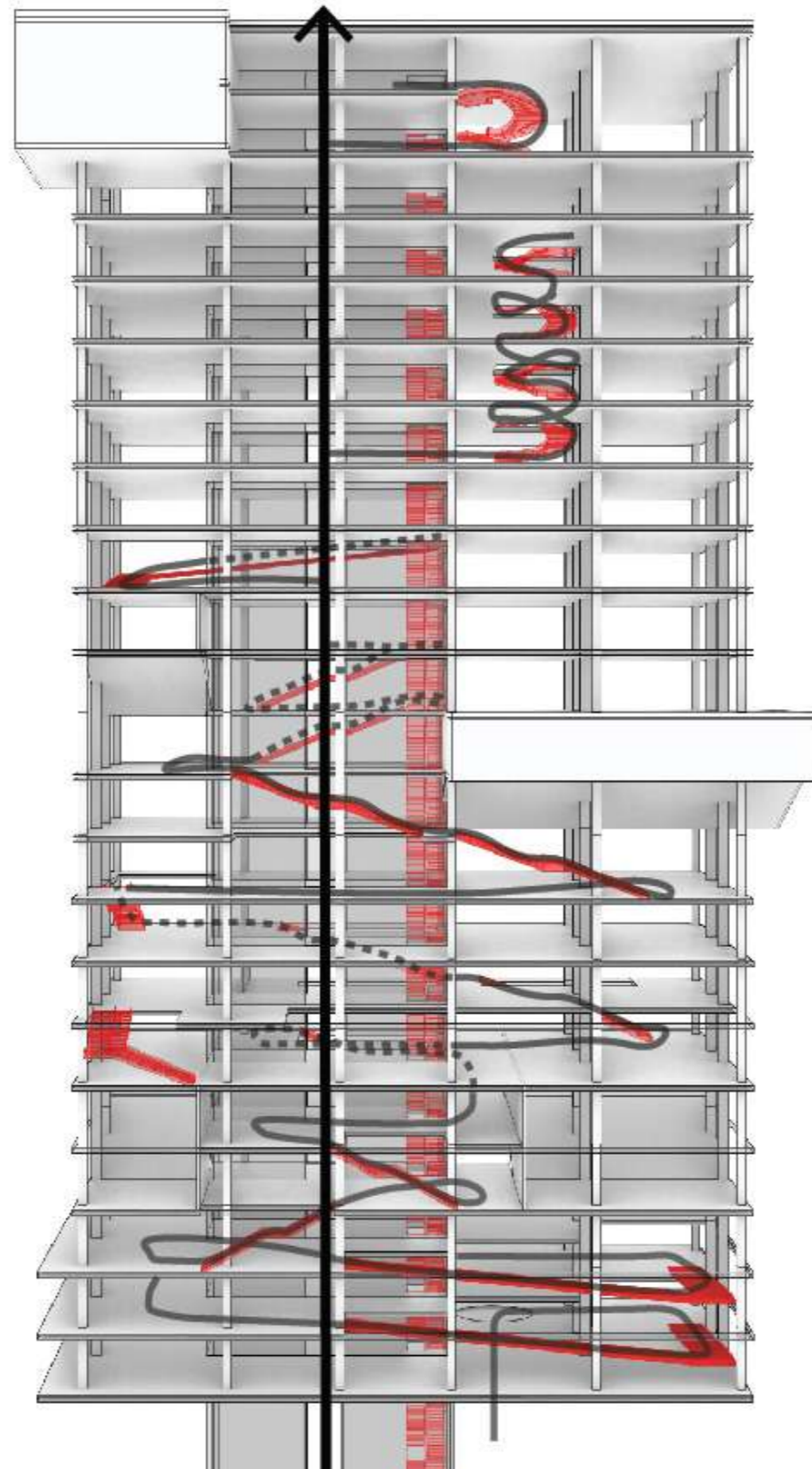


Programmatic Distribution

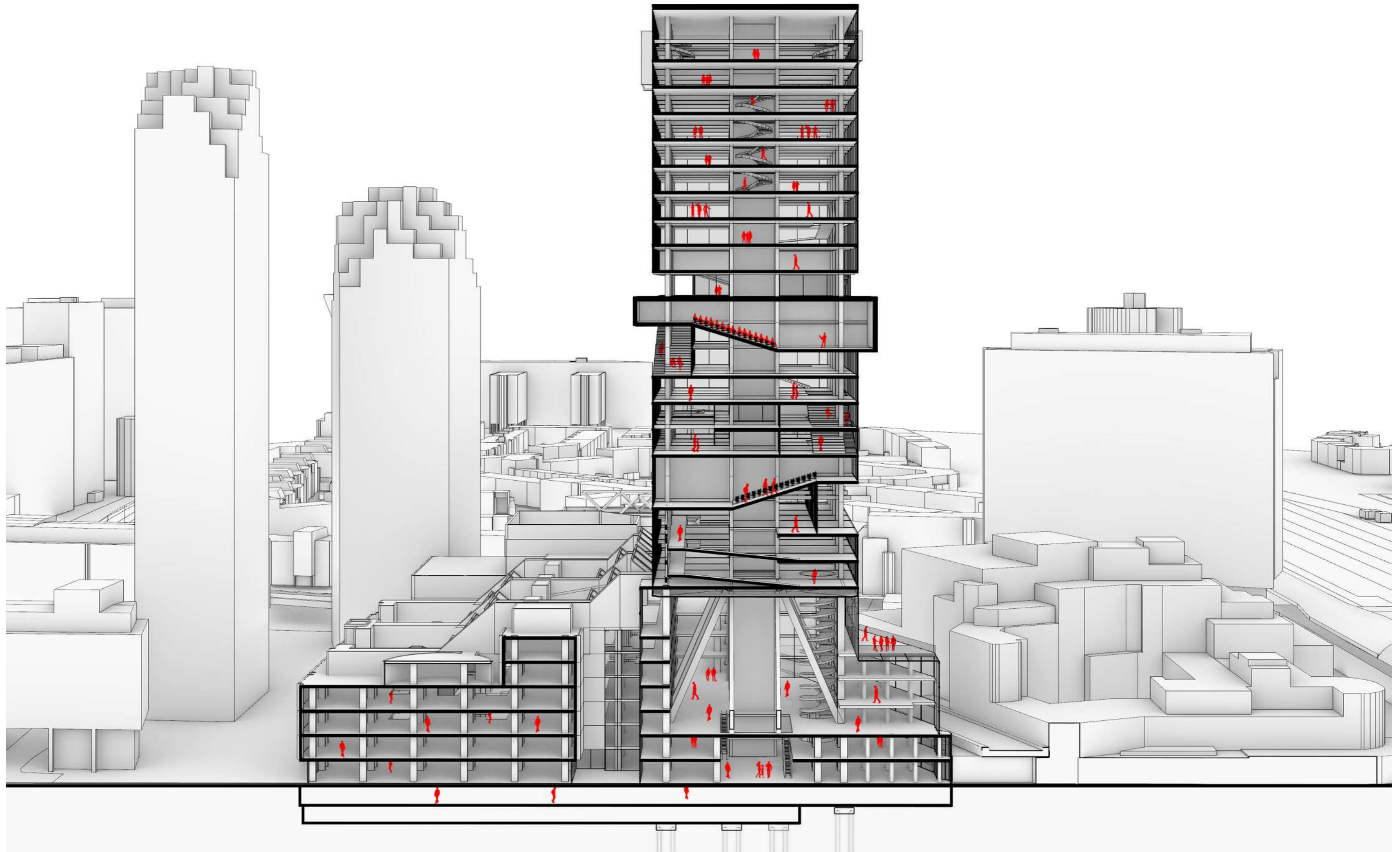


Circulation

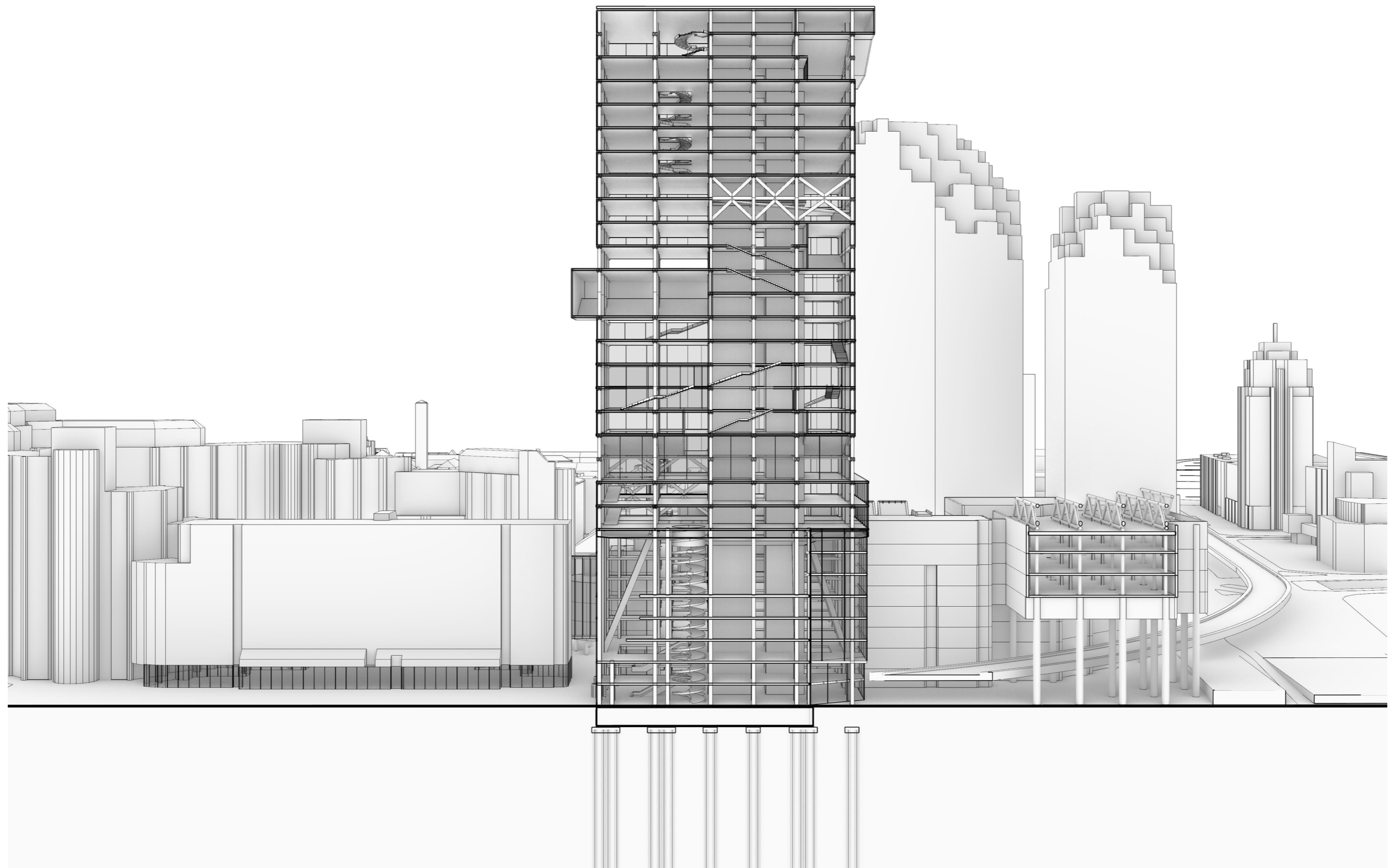




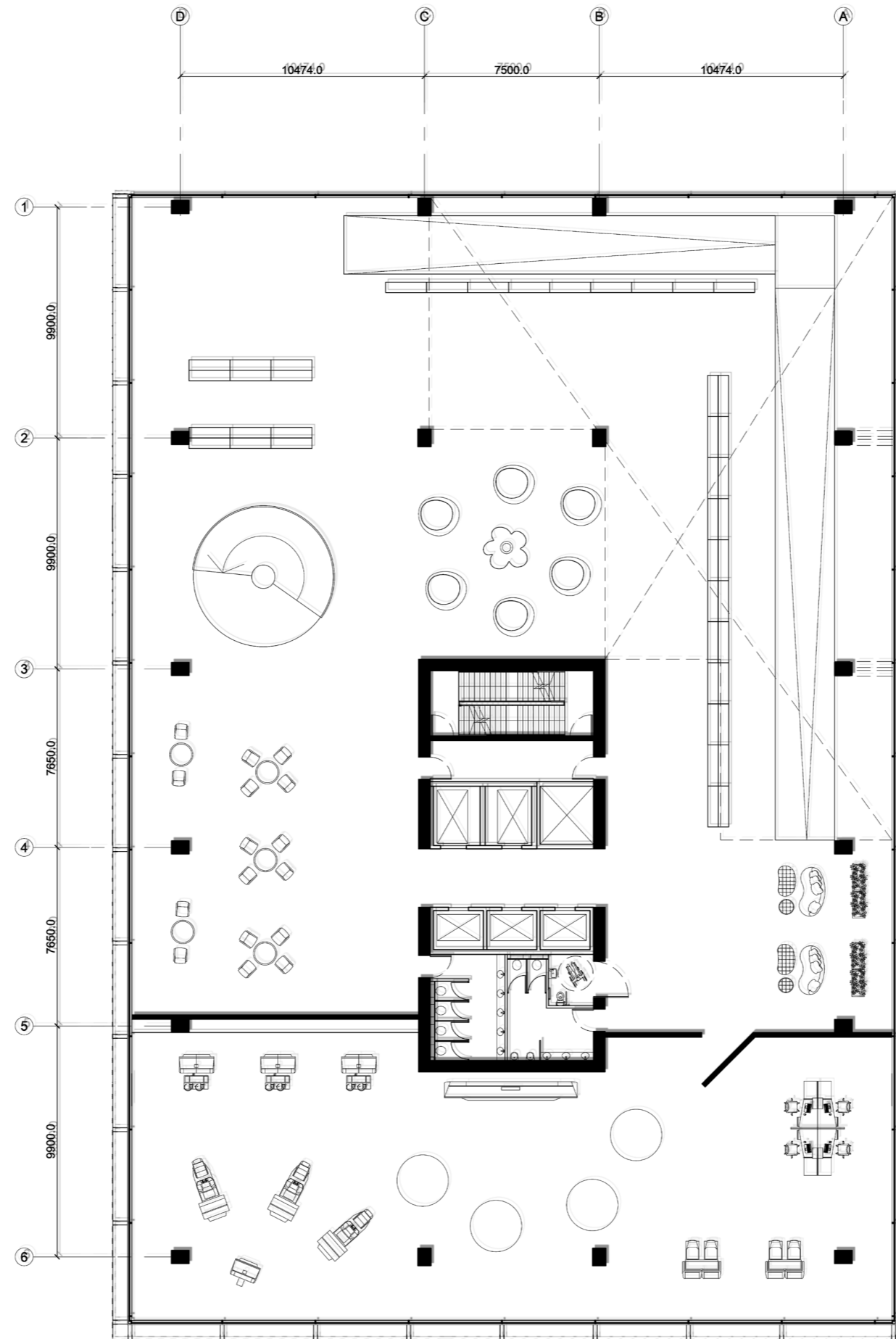
Circulation



Spatial Structure



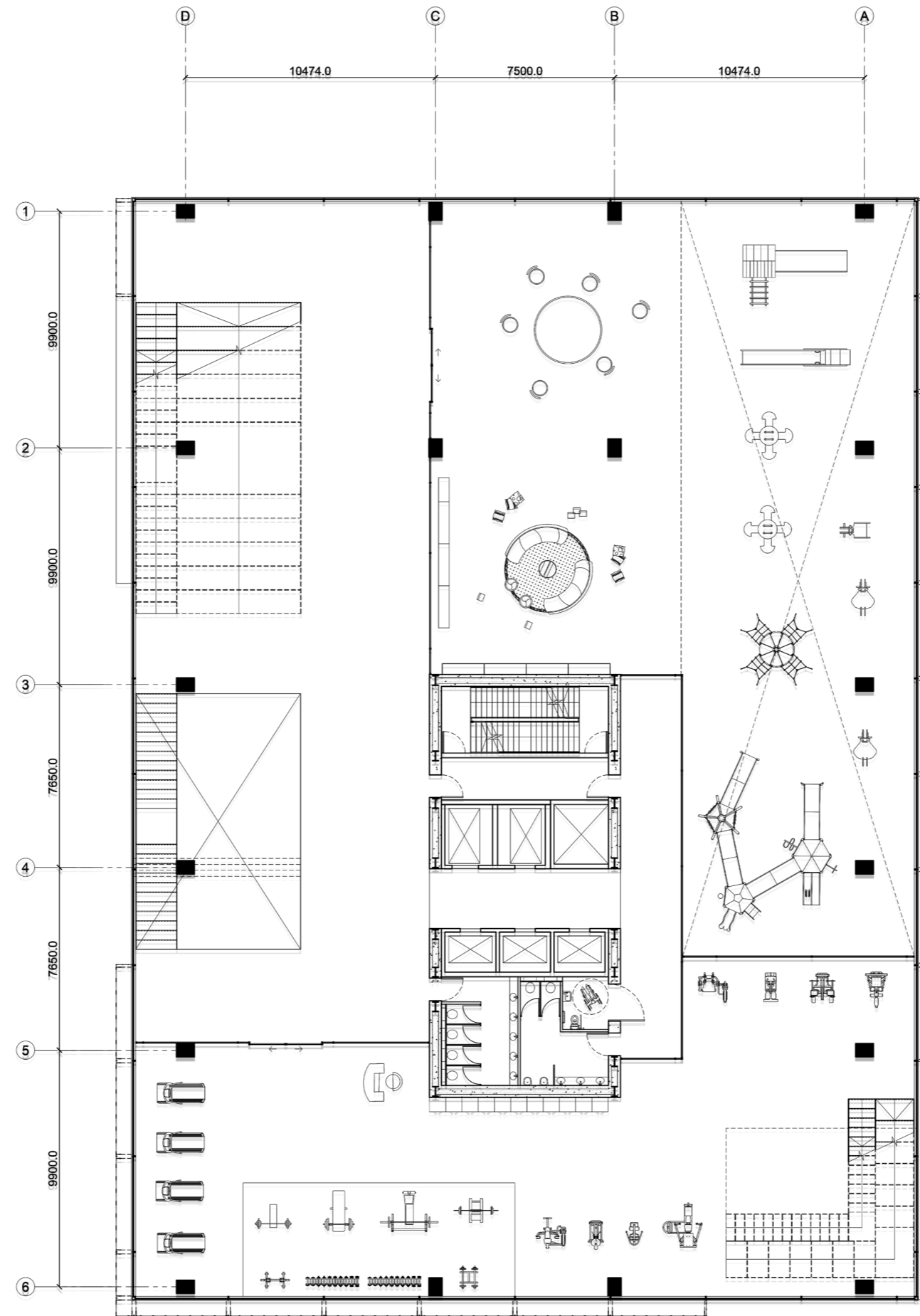
1:5 vDetail



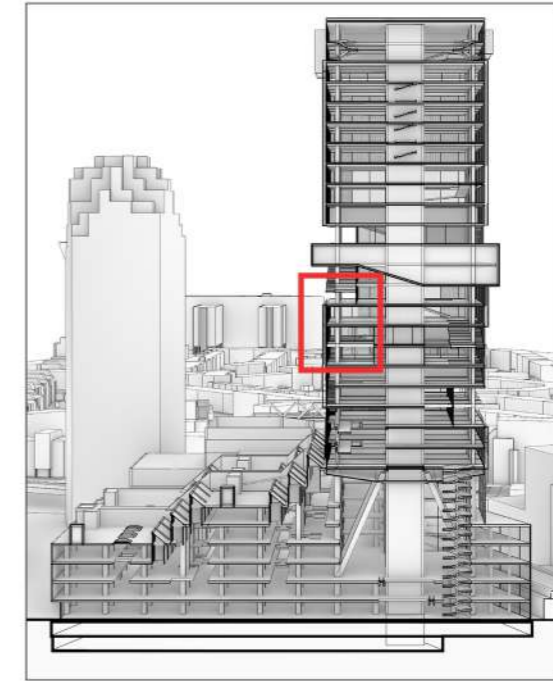
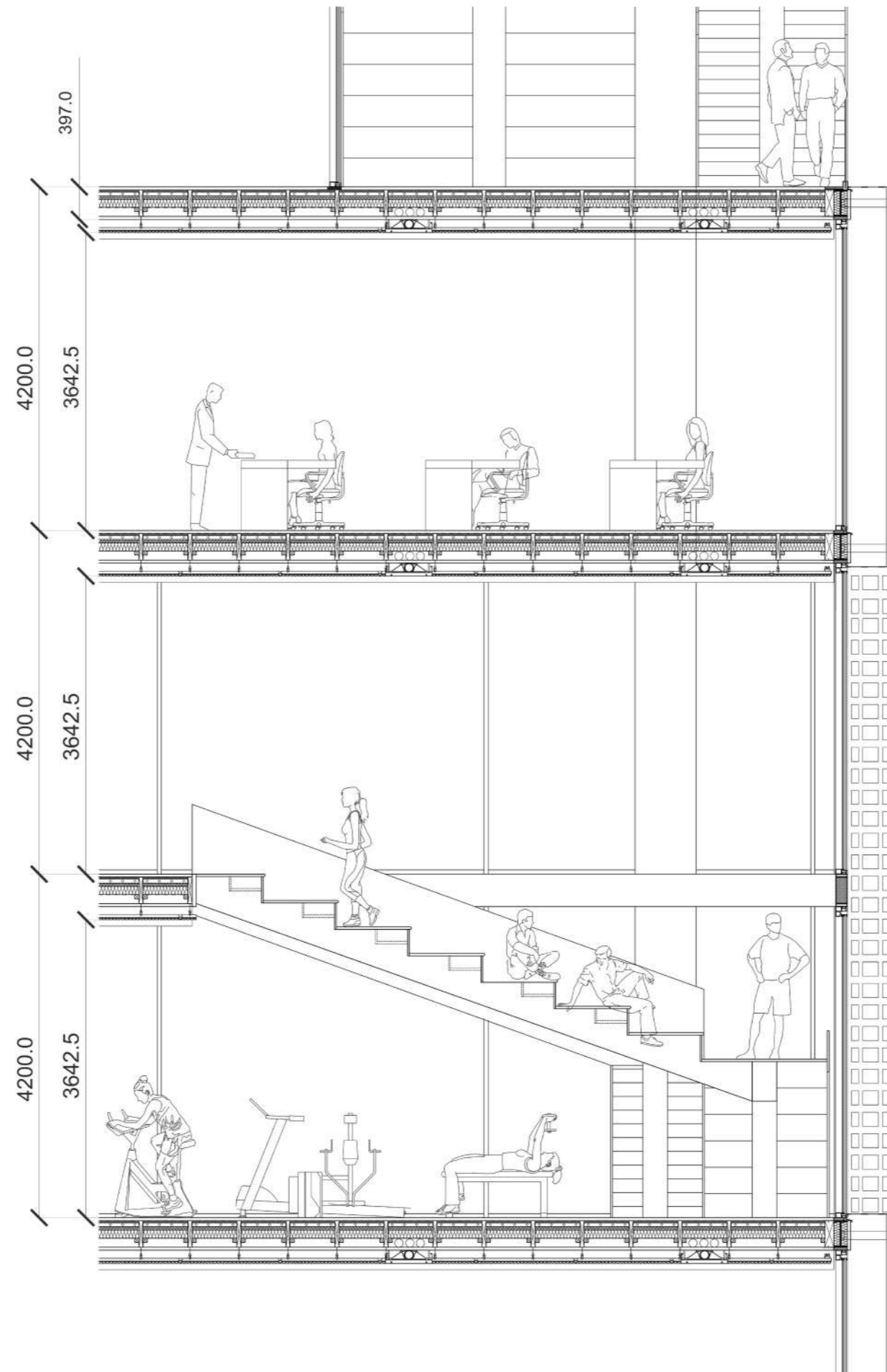
8th Floor Plan



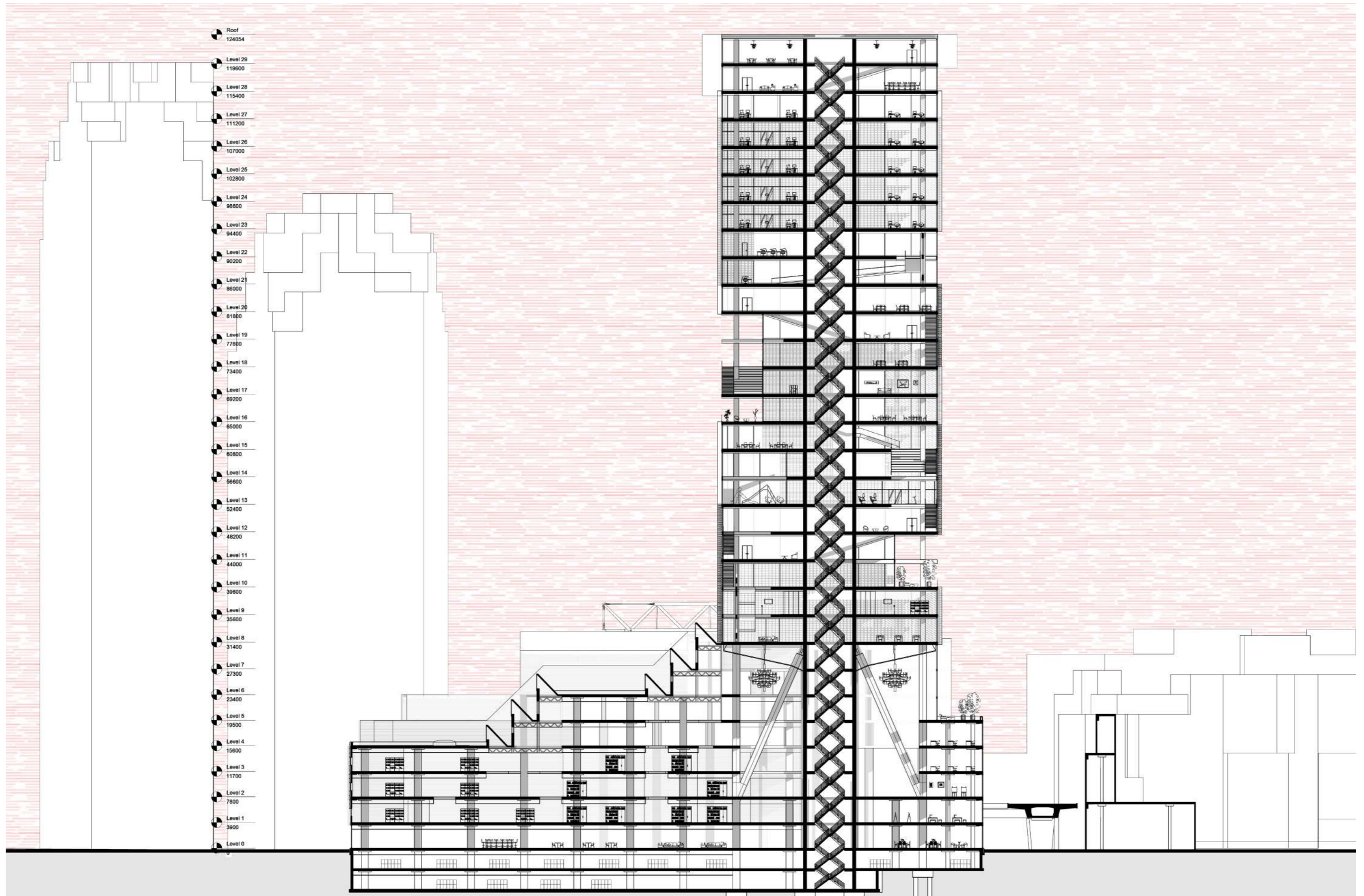
Interior Impression



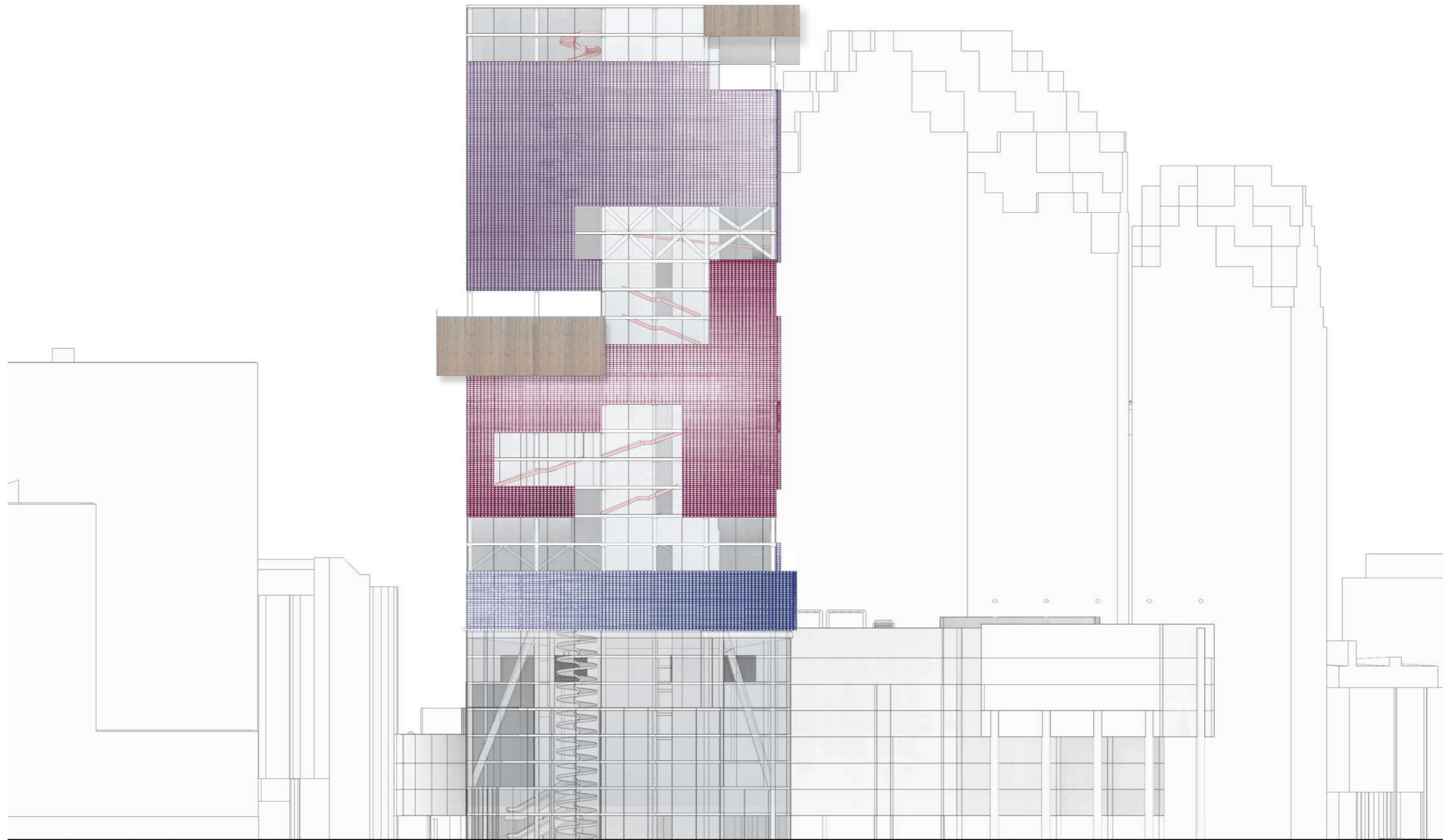
13th Floor Plan



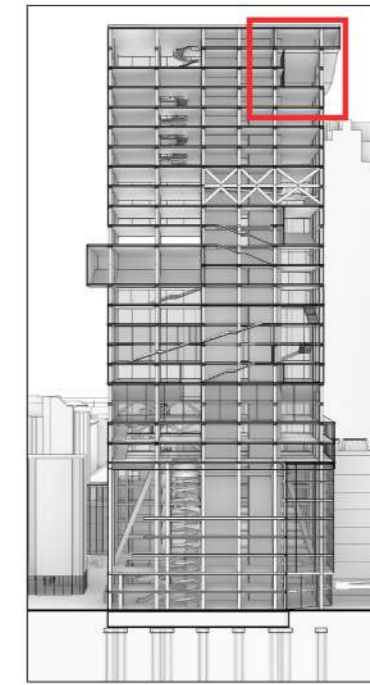
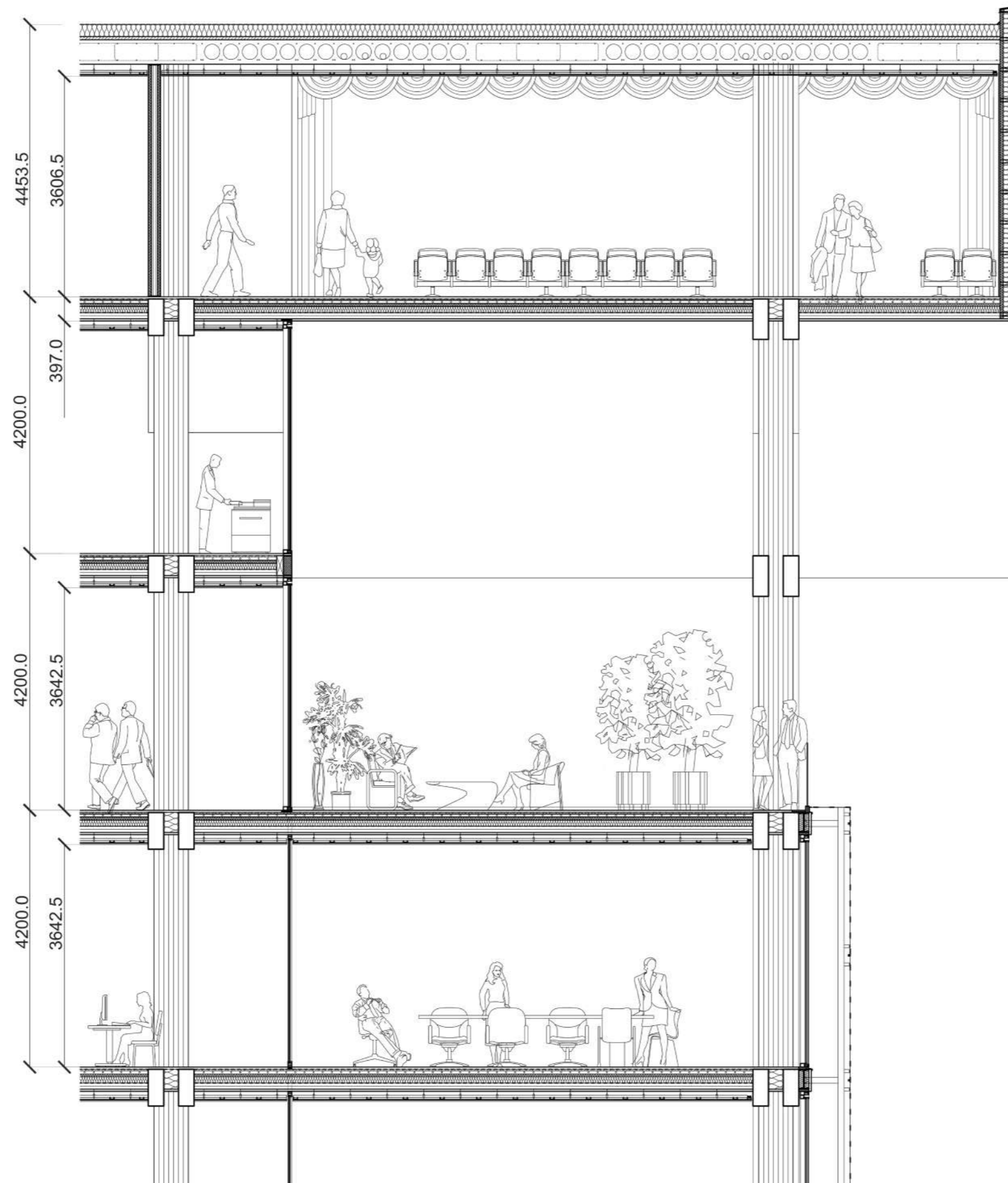
1:20 Detail Section



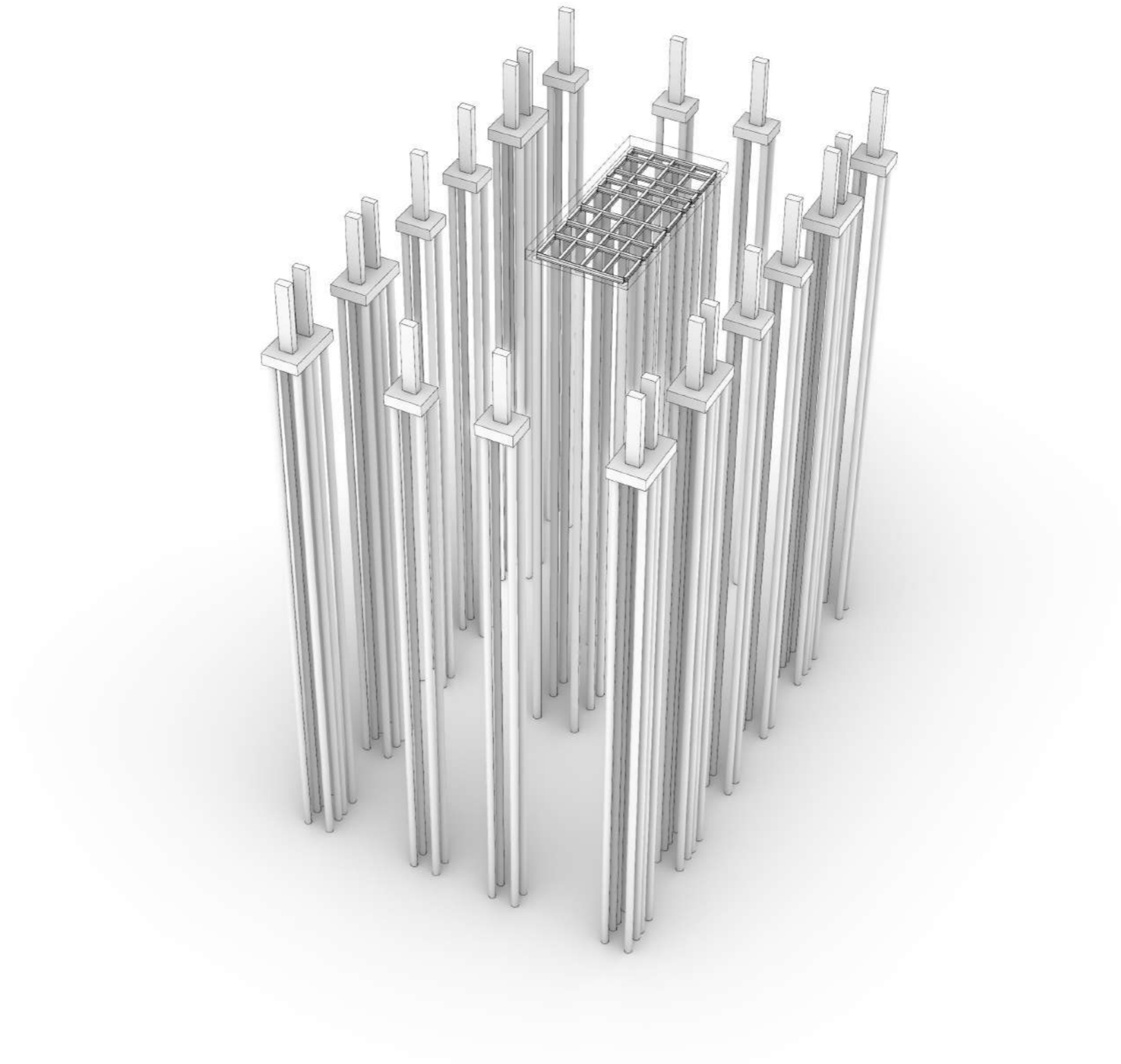
Section



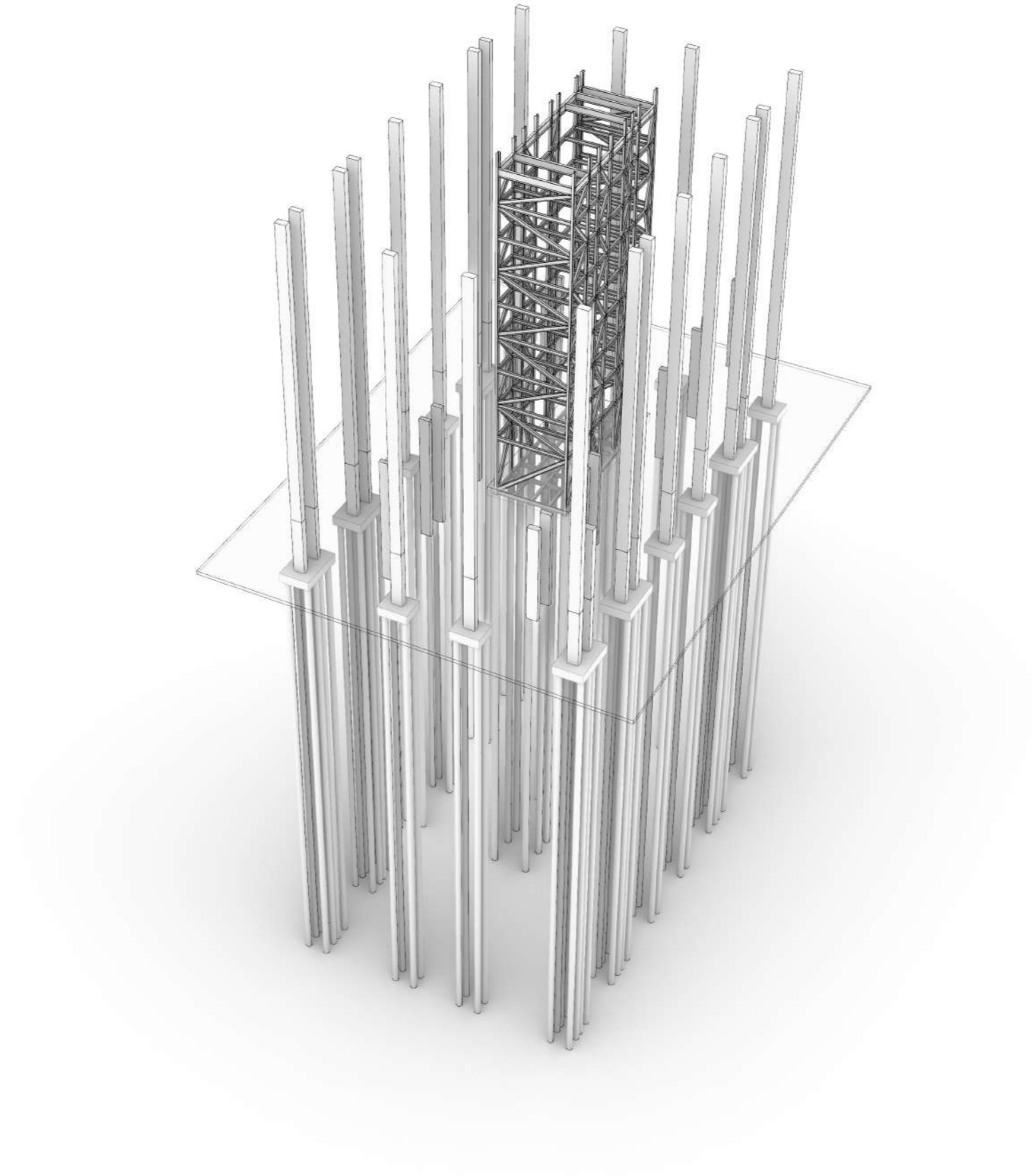
South-West Elevation



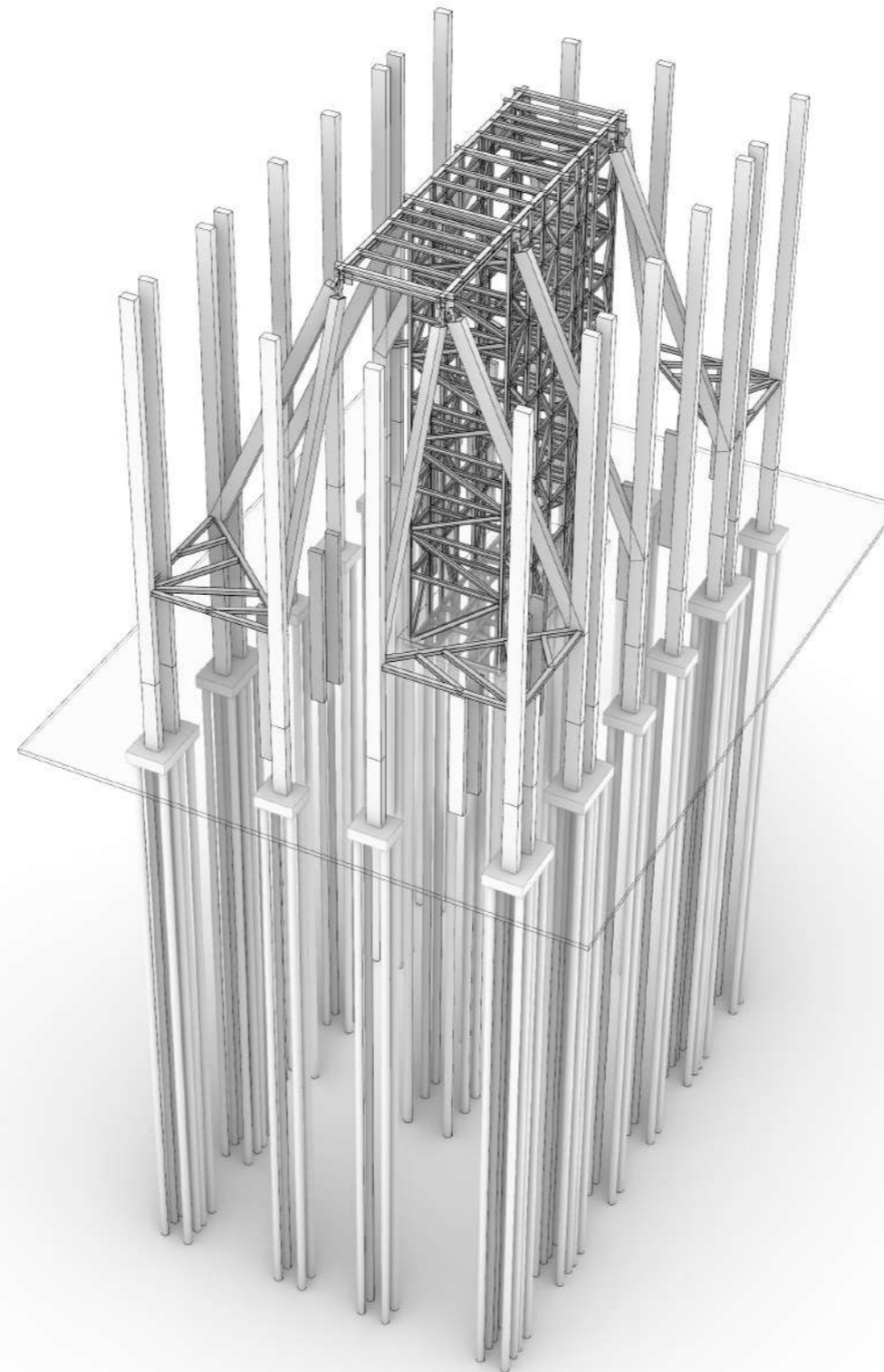
1:50 Detail Section



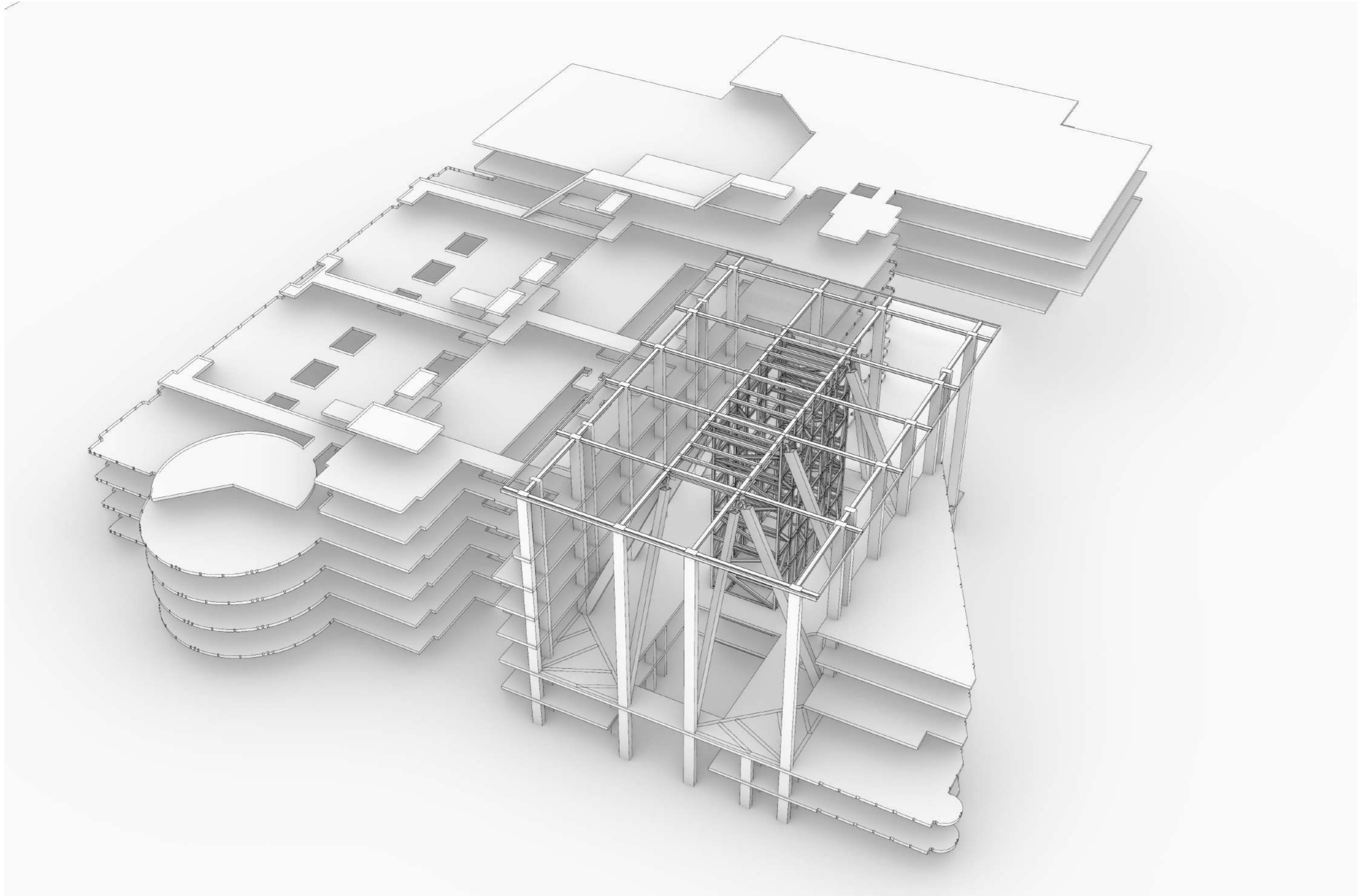
Structural Diagram



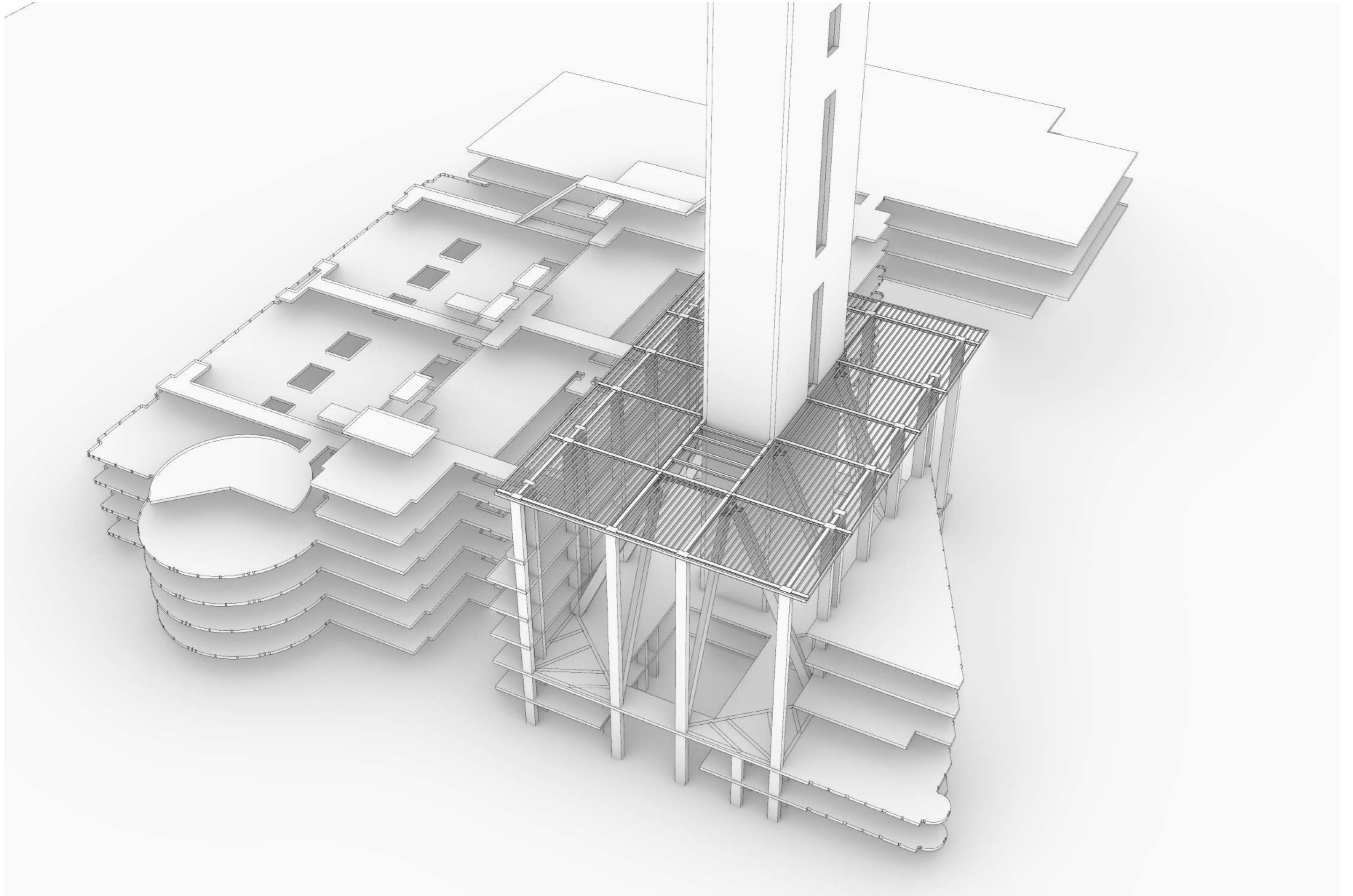
Structural Diagram



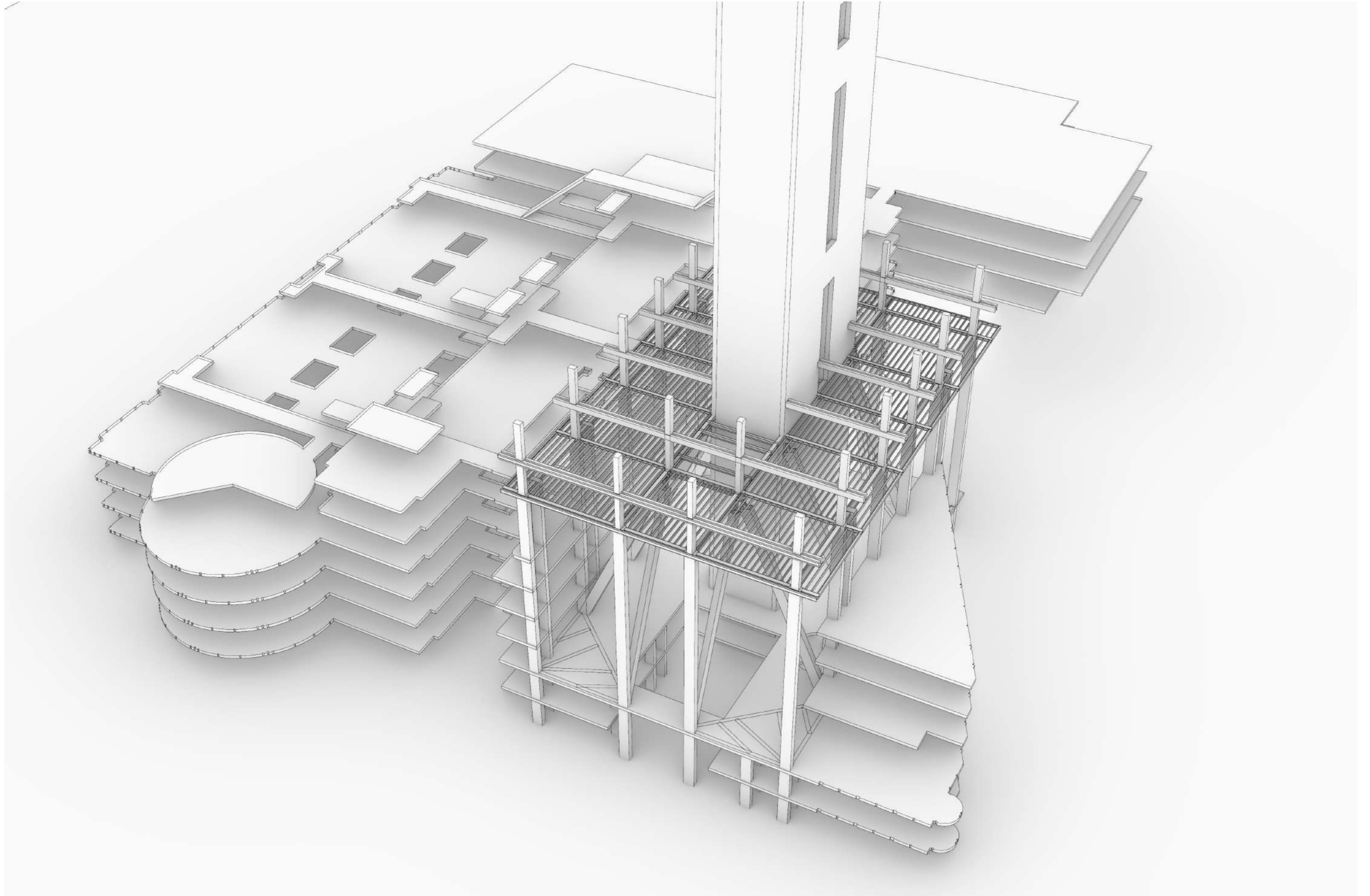
Structural Diagram



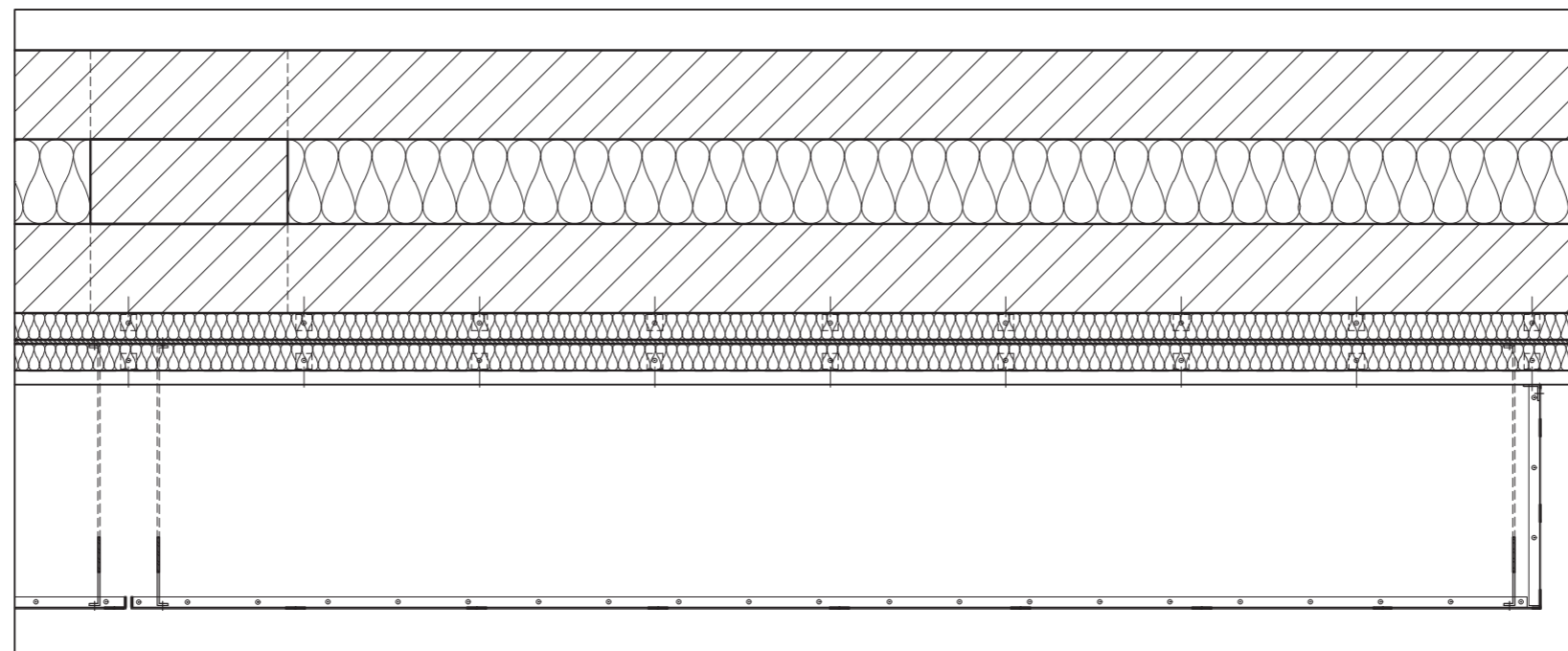
Structural Diagram



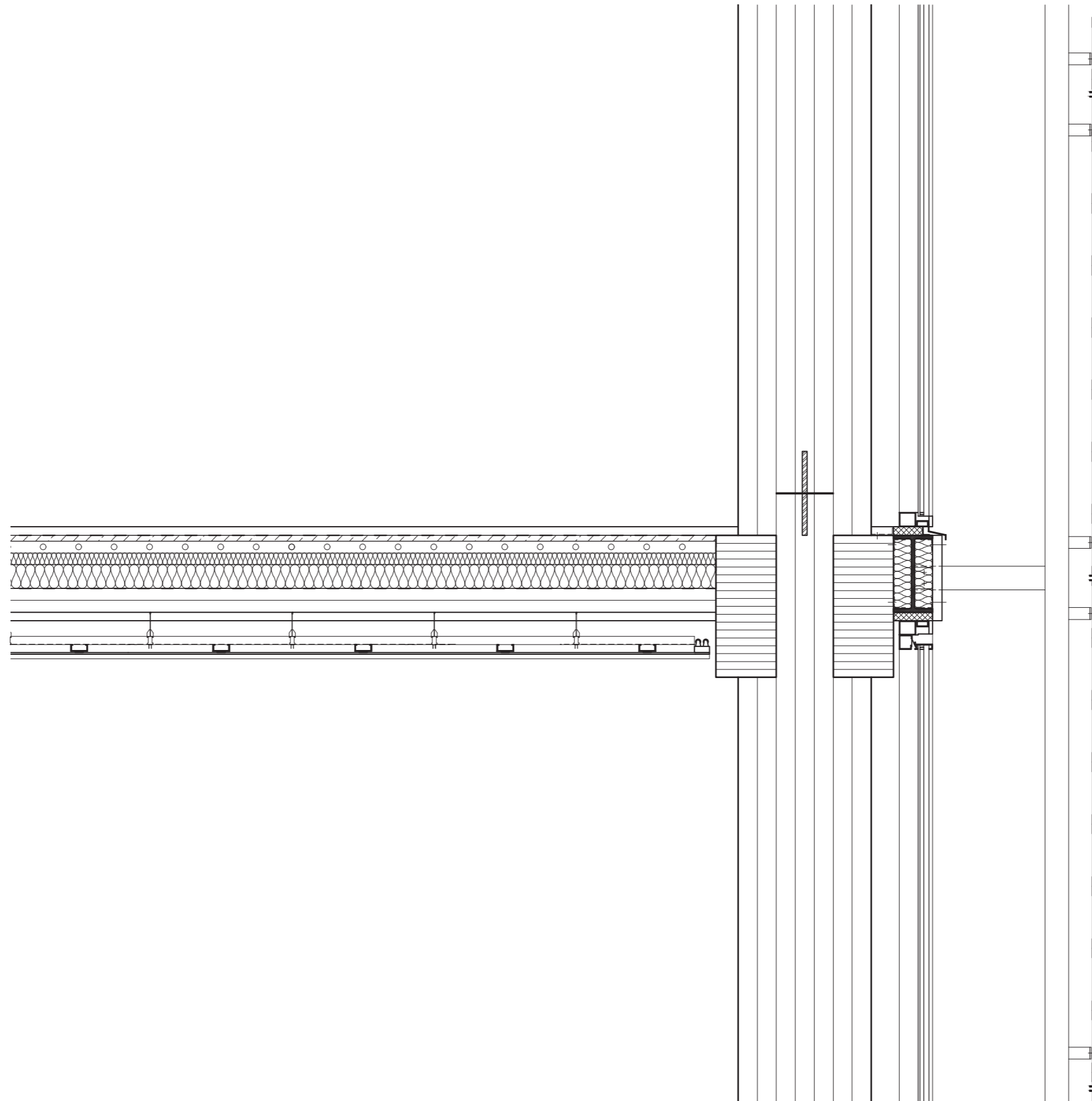
Structural Diagram



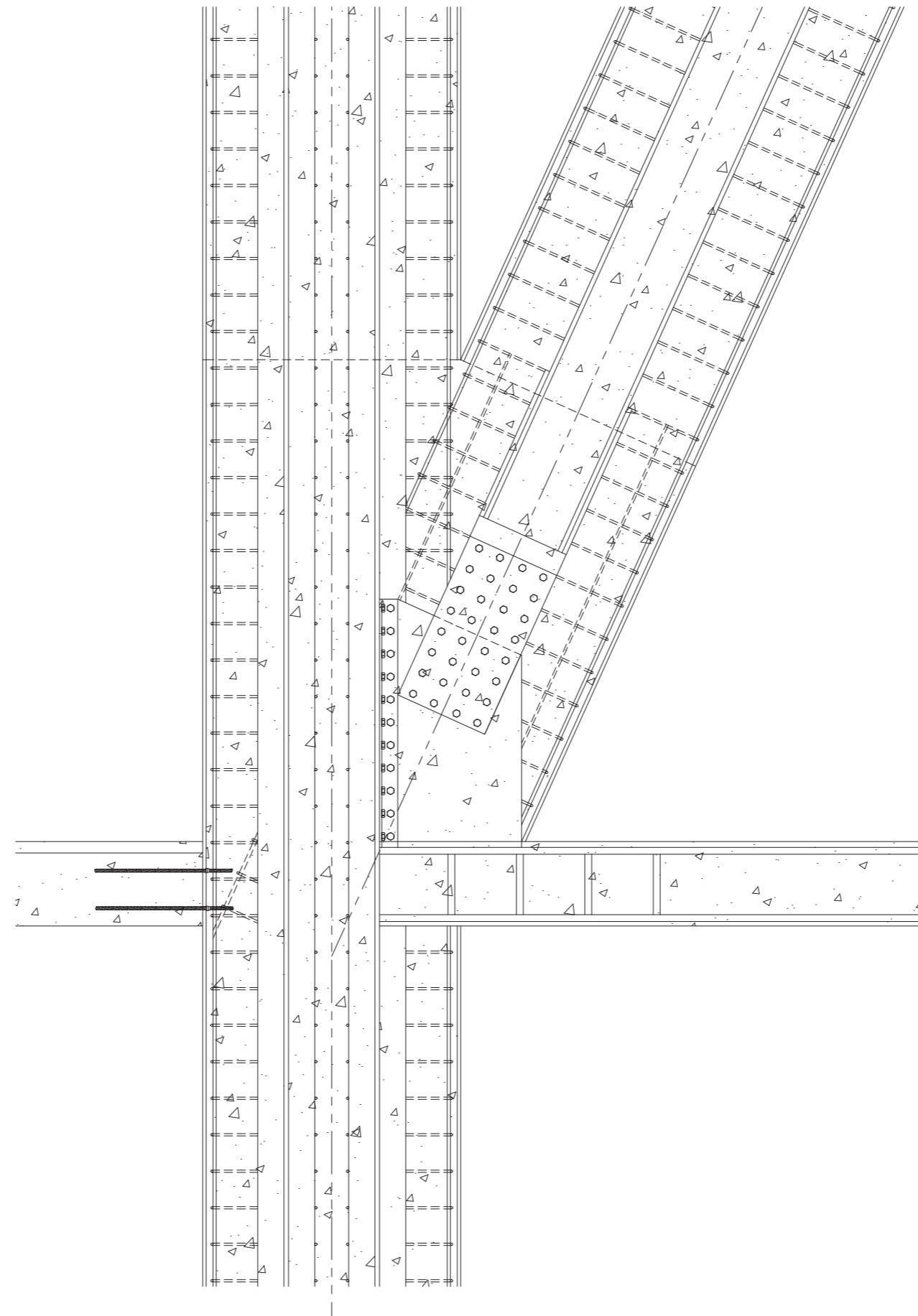
Structural Diagram



1:20 Facade Detail



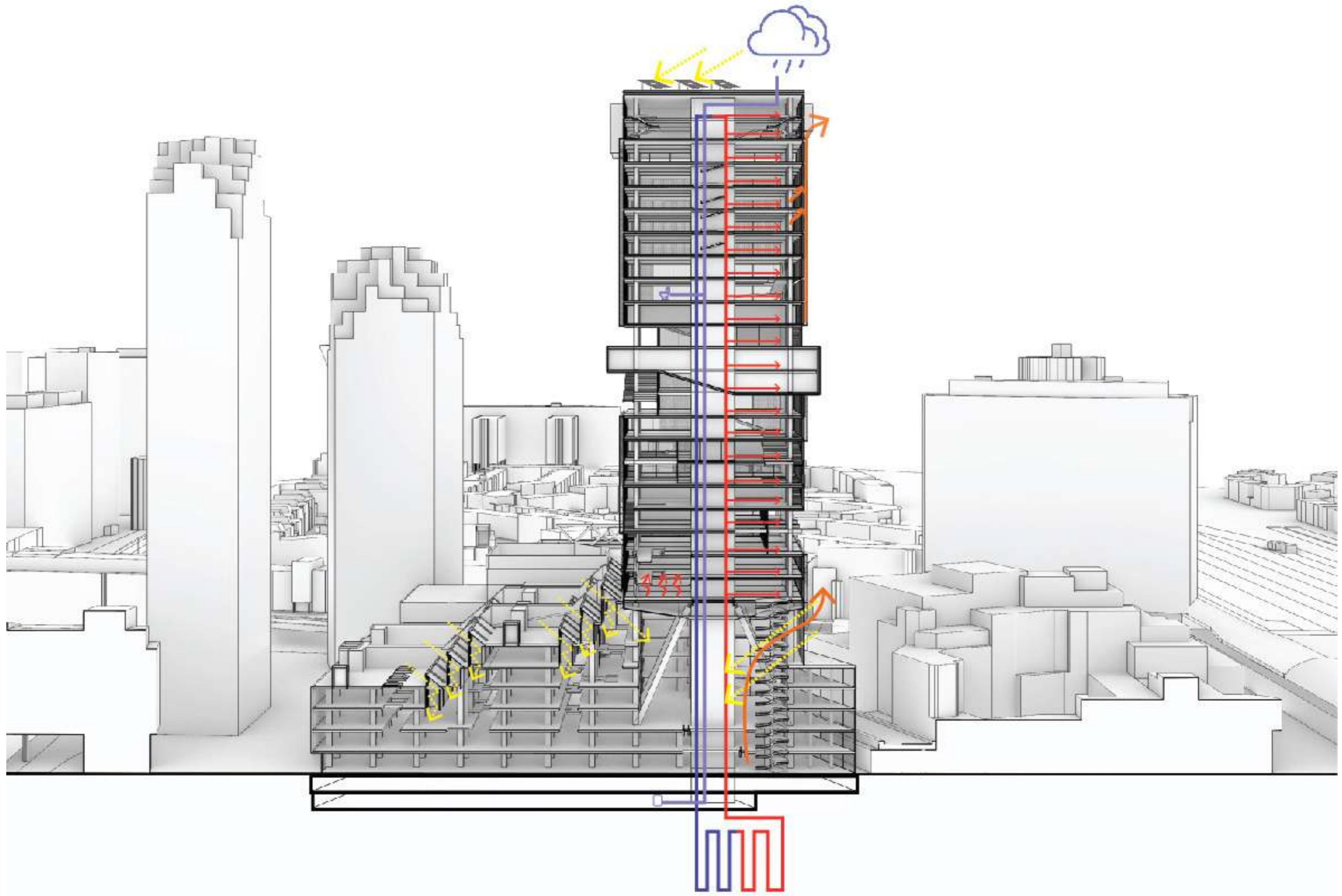
1:20 Facade Detail



1:5 Detail



South East Elevation



Climate Strategies

Final 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)?

My graduation topic redefines the typology of public buildings and 'Vertical Campus' through the lens of changing speed and tempos in programs and movement. This allows the reinterpretation of traditional horizontal campus into a more open, publicly accessible vertical campus, whilst integrating users, spaces and buildings. This in turn strengthen the themes of the studio – hybridity, multiplicity, lifelong learning, sustainability and resilience. Thus, the graduation project aims to reinject life to the Central Public Hub and Innovation District at large, which echoes with the goal of the master track to "develop creative and innovative building projects that use design as a means to deal with the technical, social and spatial challenges encountered in the built environment."

2. How did your research influence your design/recommendations and how did the design/recommendations influence your research?

The initial personal findings through site analysis and psychogeographical studies resulted in many conclusions of the site. The main takeaway was that most of the downsides and challenges are influencing how people navigate and interact with the site area. Users most often passes the area in relatively fast speed without many encounters and interactions on site, except for people who went with a particular purpose. Therefore, to address the main issue, it inspired the theme and research around speed and tempos, in which it is deemed to influence users' engagement and be influenced by design of spaces. The design process shows that the concept of speed can be redefined into programs, not just in movement, whilst combining both to enhance the concept of tempos. Its translation into spatial design and configuration of programs in a vertical manner also shows possible integration between the different spatial tempos in the research.

3. How do you assess the value of your way of working (your approach, your used methods, used methodology)?

Case studies was a very helpful method to analyze and inform the various spatial possibilities. Research on relevant topics such as concept of tempo and notation by Eisenstein, as well as, Phenomenology inspired by Steven Holl, were also particularly useful in providing inspiration in terms of approach, design and representations. Besides, cataloguing was also helpful in summarizing and giving the impressions of 'fast and slow' spaces.

4. How do you assess the academic and societal value, scope and implication of your graduation project, including ethical aspects?

The proposition emphasizes lifelong learning and redefines the 21st-century

campus by introducing various learning trajectories, to support research which shows the significance of learning and interaction at different speeds in the realm of digitalization and flexible learning models, to allow deeper engagement for perpetual innovation. Additionally, the project also shows the ambition in reusing and revitalizing existing site and area. This aligns with goals of real estate development and the Netherlands in striving towards a circular economy and managing surplus.

5. How do you assess the value of the transferability of your project results?

The graduation work reaffirms the role of spatial rhythm in altering one's perception of architecture and the city. With the overlapping and combination of different rhythms, the relationship between space, programs and movement can be strengthened to form continuous experience. This contributes to the larger discourse of flow and movement which has been a matter of concern in many disciplines. The cataloguing and mapping of different programs and spatial qualities may also be helpful.

6. What were the main challenges and areas that could be improved?

The building (The Royal Library) is a complicated and dense existing site to deal with which posed many challenges throughout the design process. Tutors' advice to make simpler drawings and representations were helpful in showing the intentions of the project.

Due to the dense site and limitations, the structural aspects were also challenging. The structural strategies aimed to provide sufficient stability and at the same time, not compromising the spatial experience aimed for.

On the other hand, more human eye views could have been explored throughout the design process, to further enhance the sequencing and journey through spaces. The suggestion of Phenomenology by tutor was helpful in enhancement and development of the concept and spatial design.

7. What are the things to be further improved for final graduation period?

I aim to create more interior views to further illustrate the spatial experience by different personas. Besides, a finer physical model is aimed for to further illustrate the dynamic vertical campus. More exterior renders or axonometric drawings can also be produced to further highlight the relationship between the tower, existing parts and surrounding context.