

ARCH402
THESIS PROJECT
Shareef Jasim



Introduction

Literature Review

Case Studies

Site Analysis

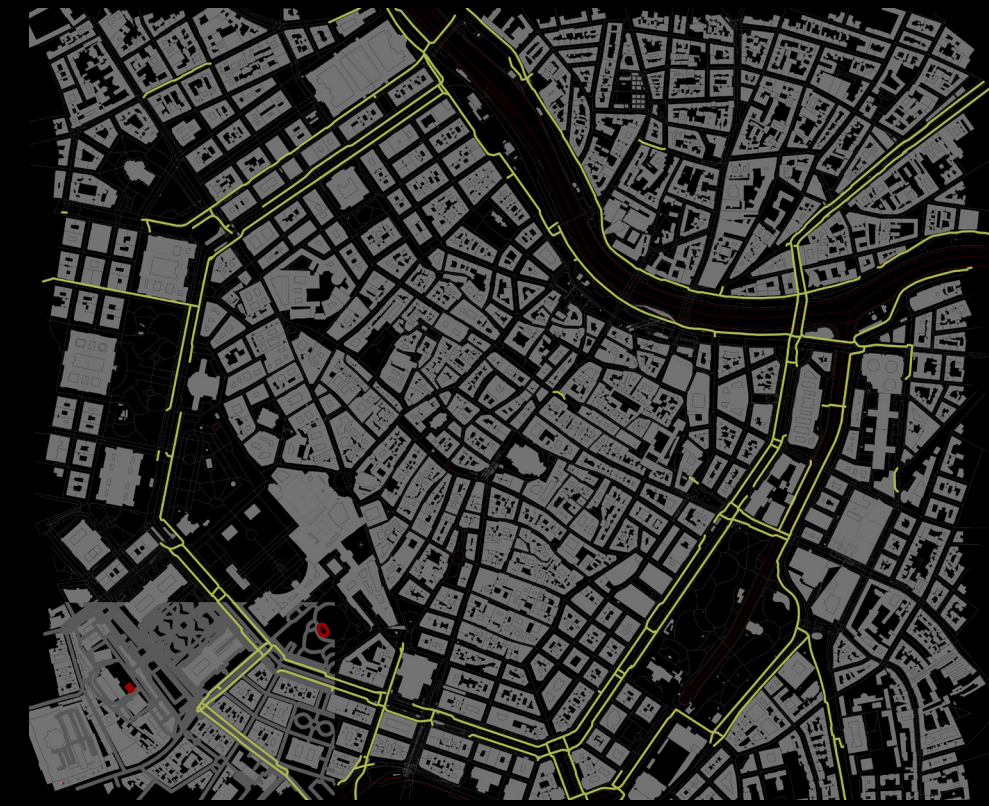
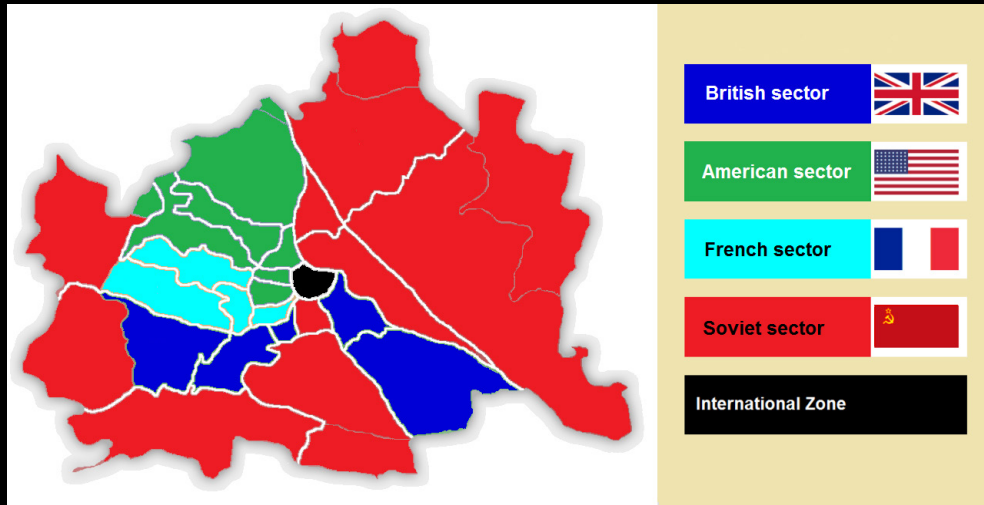
Design Development

Introduction

Historical Context

Historically the city of Vienna had a very rich ecological environment consisting of wetlands that slow the Danube flow, this natural environment was later destroyed due to the development of the city causing a big loss in for the ecology of the city.

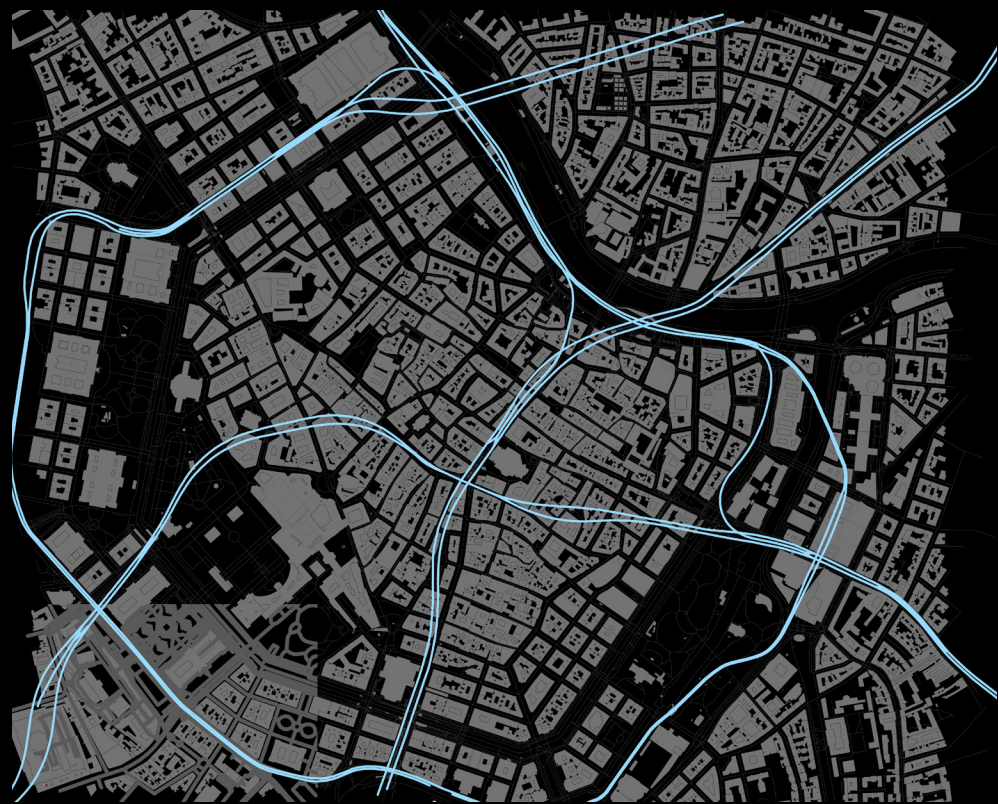
After WWII Vienna was divided into 4 territories and district 1 was the common district where all could come and it was protected under the UN.



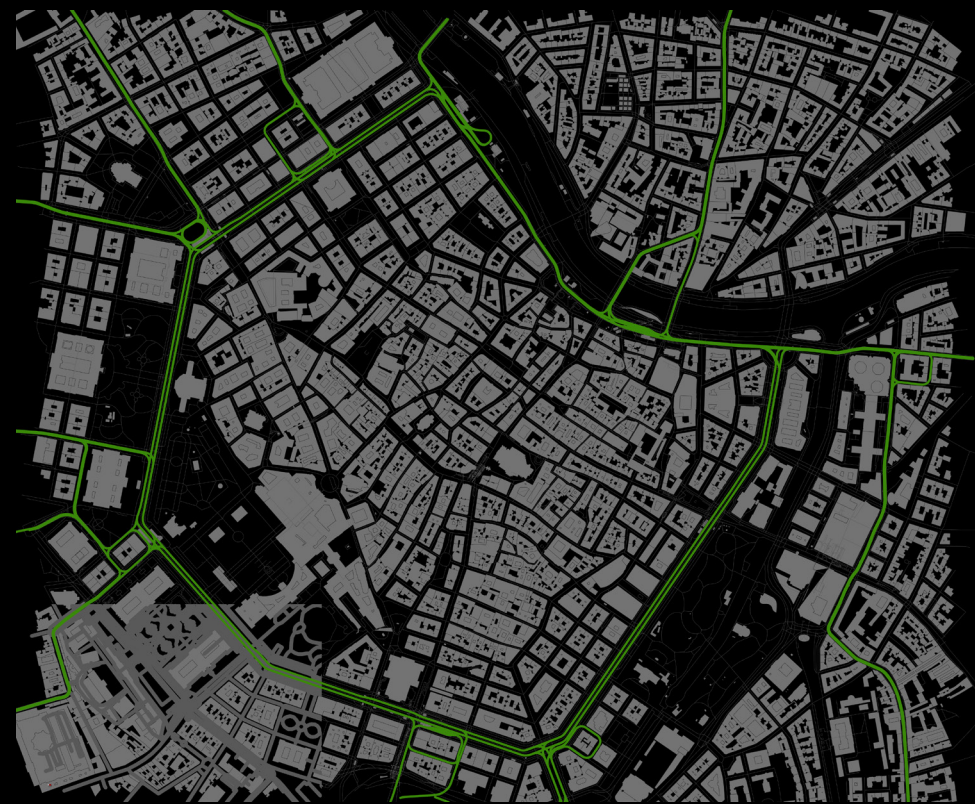
Main Roads



Secondary Roads



Subway



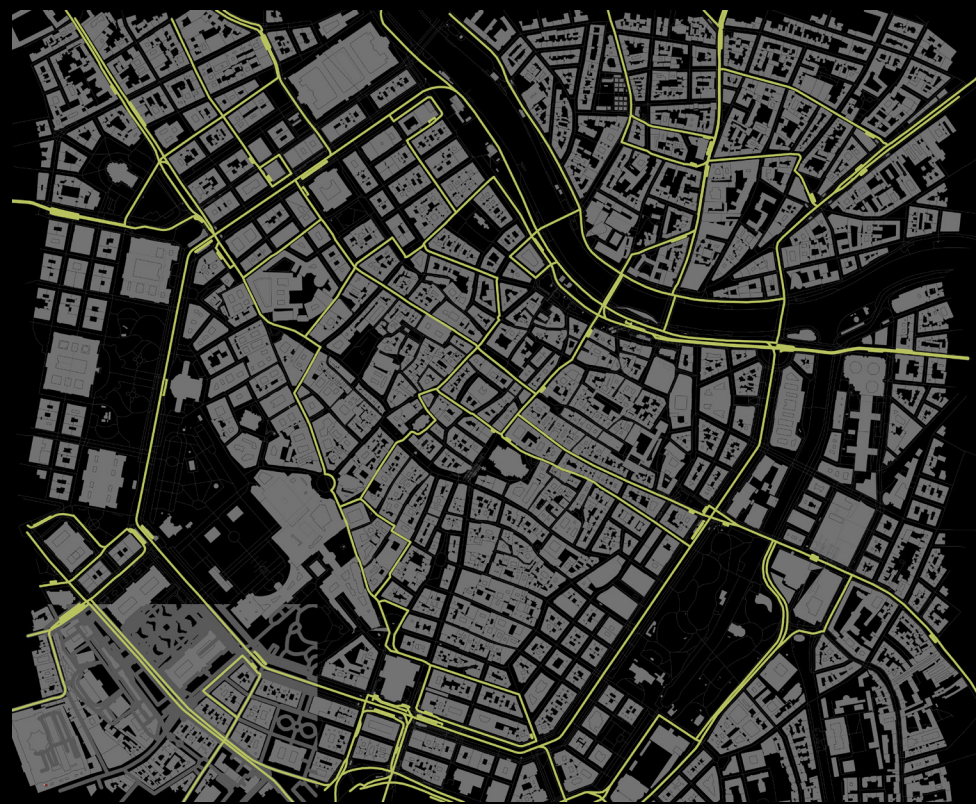
Tram



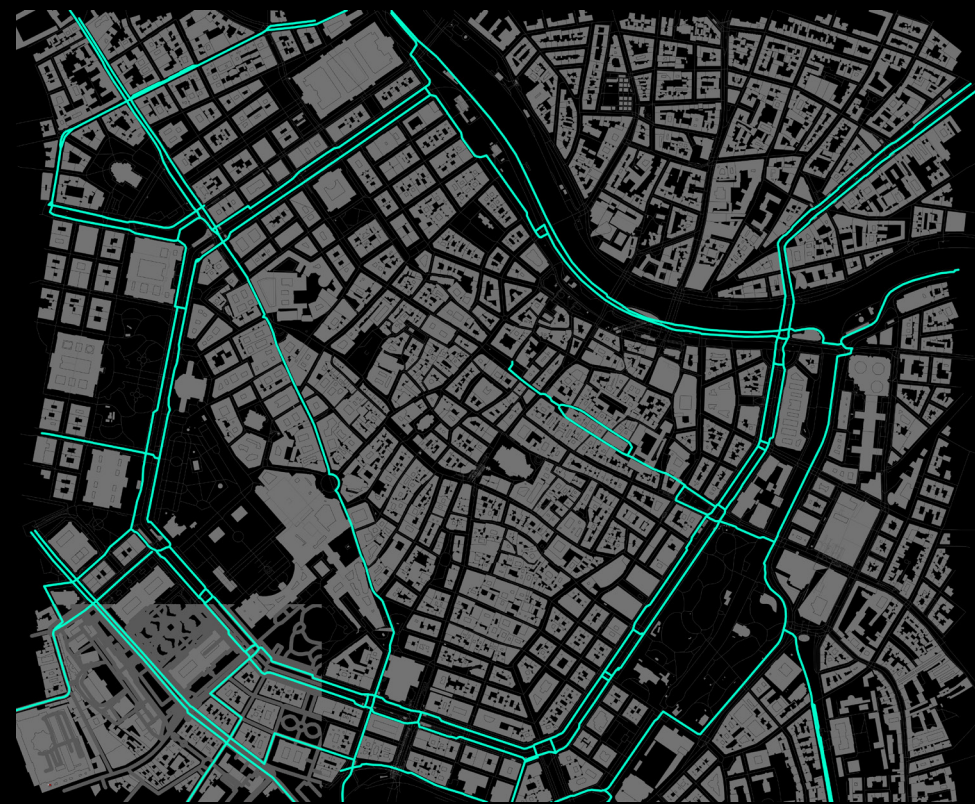
Transportation Platform



Ferry Boat



Bus Lines



Bike Paths



Park



Parking



Play Ground



Dog Play Ground



University



School



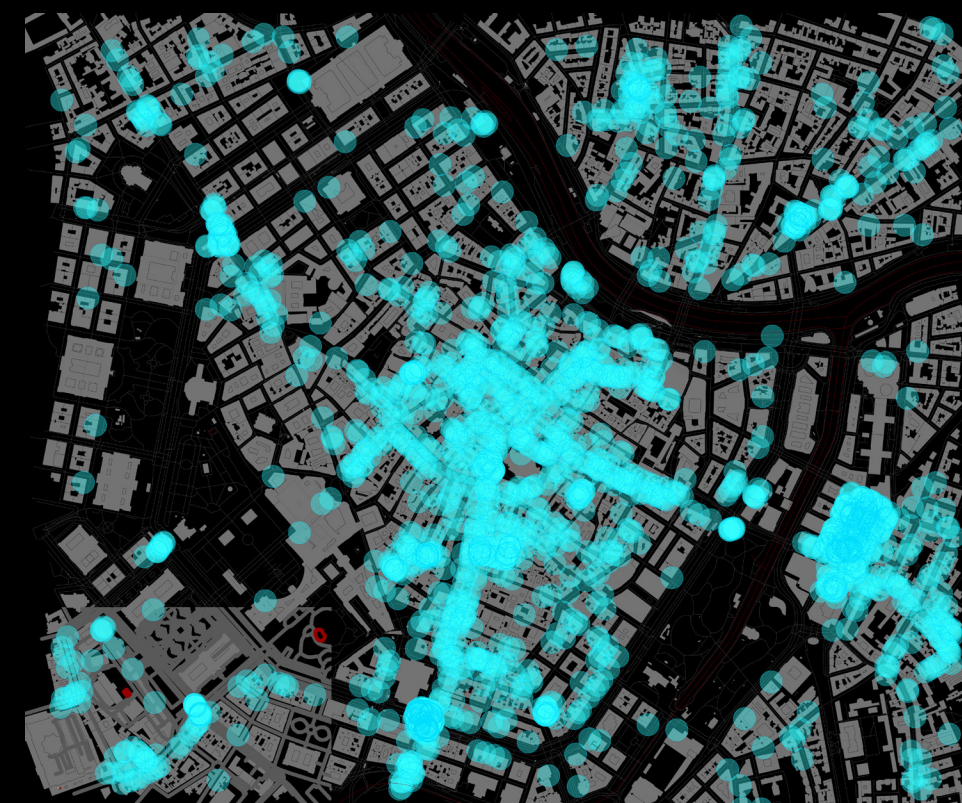
Public Hall



Musium



Hotel



Shop



Office



Churche

Who lives in Vienna in 2019?



1,897,491 people¹⁾

Growth

2009 → 2019 **+217,356¹⁾**
(+12.9%)

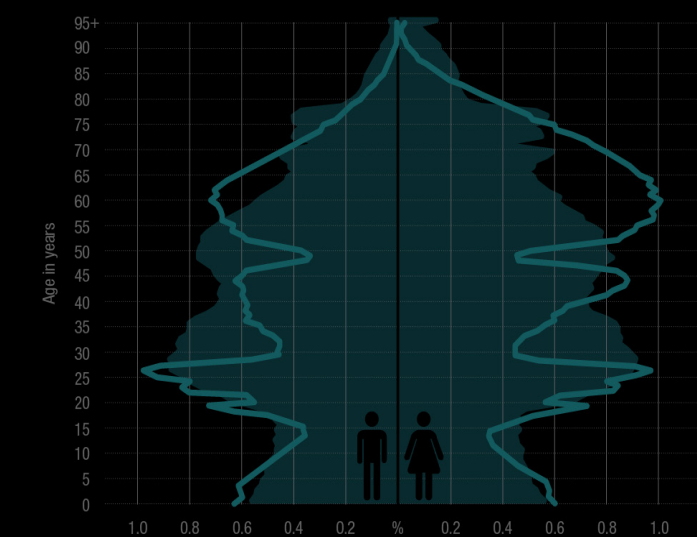
2018 → 2019 **+8,715¹⁾**
(+0.46%)

Population density



Vienna has an average population density of **46 people per hectare**. The districts with the highest and lowest population density are Margareten and Hietzing, respectively.

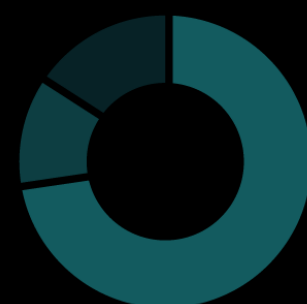
Age structure



180 As of 1 January 2019, Vienna was home to people of 180 different nationalities.

Population of Vienna by nationality 2019

Top 10 nationalities in Vienna	Share of the total population in %
Austria	69.8
Serbia	4.1
Germany	2.5
Turkey	2.4
Poland	2.3
Romania	1.8
Hungary	1.3
Syria	1.3
Croatia	1.2
Bosnia and Herzegovina	1.2



- **Austria:** 69.8 %
- **EU:** 13.1 %
- **Other countries:** 17.1 %

Net migration by nationality

Top 3 for the period 2009–2018

Syria +23,337 people
 Romania +18,550 people
 Germany +17,669 people



Population change in EU cities

	Population as of 1 Jan. 2018	Change 2008–2018 in %
Vienna	1,888,776	13.0
Munich	1,456,039	11.0
Hamburg	1,830,584	3.4
Warsaw	1,761,298	3.0
Budapest	1,749,734	2.8
Bucharest	1,827,810	-6.0

Cultural significance

As a response to the increasing diversity and the immigration waves, the city of Vienna has been trying to empower this diversity through organizing cultural events for international communities in the city on of which is Europe's largest open air festival "Donauinselfest" which takes place within the chosen district and site.



Case Studies

Chicago Riverwalk

The Main Branch of the Chicago River has a long and storied history that in many ways mirrors the development of Chicago itself. Once a meandering marshy stream, the river first became an engineered channel to support the industrial transformation of the city. Following the famed reversal of the river, in which the city reversed the flow of the Main Branch and South Branch to improve sanitation, architect and urban planner Daniel Burnham introduced a new civic vision of riverside promenades with the addition of the Wacker Drive viaduct. Over the last decade, the role of the river has been evolving with the Chicago Riverwalk project—an initiative to reclaim the Chicago River for the ecological, recreational and economic benefit of the city.

The task at hand was technically challenging. The design team, for instance, needed to work within a tight permit-mandated 25-foot-wide build-out area to expand the pedestrian program spaces and negotiate a series of under-bridge connections between blocks. Further, the design had to account for the river's annual flood dynamics of nearly seven vertical feet.



Turning these challenges into opportunities, the team imagined new ways of thinking about this linear park. Rather than a path composed of 90-degree turns, the team reconceived of the path as a more independent system—one that, through changes in its shape and form, would drive a series of new programmatic connections to the river.

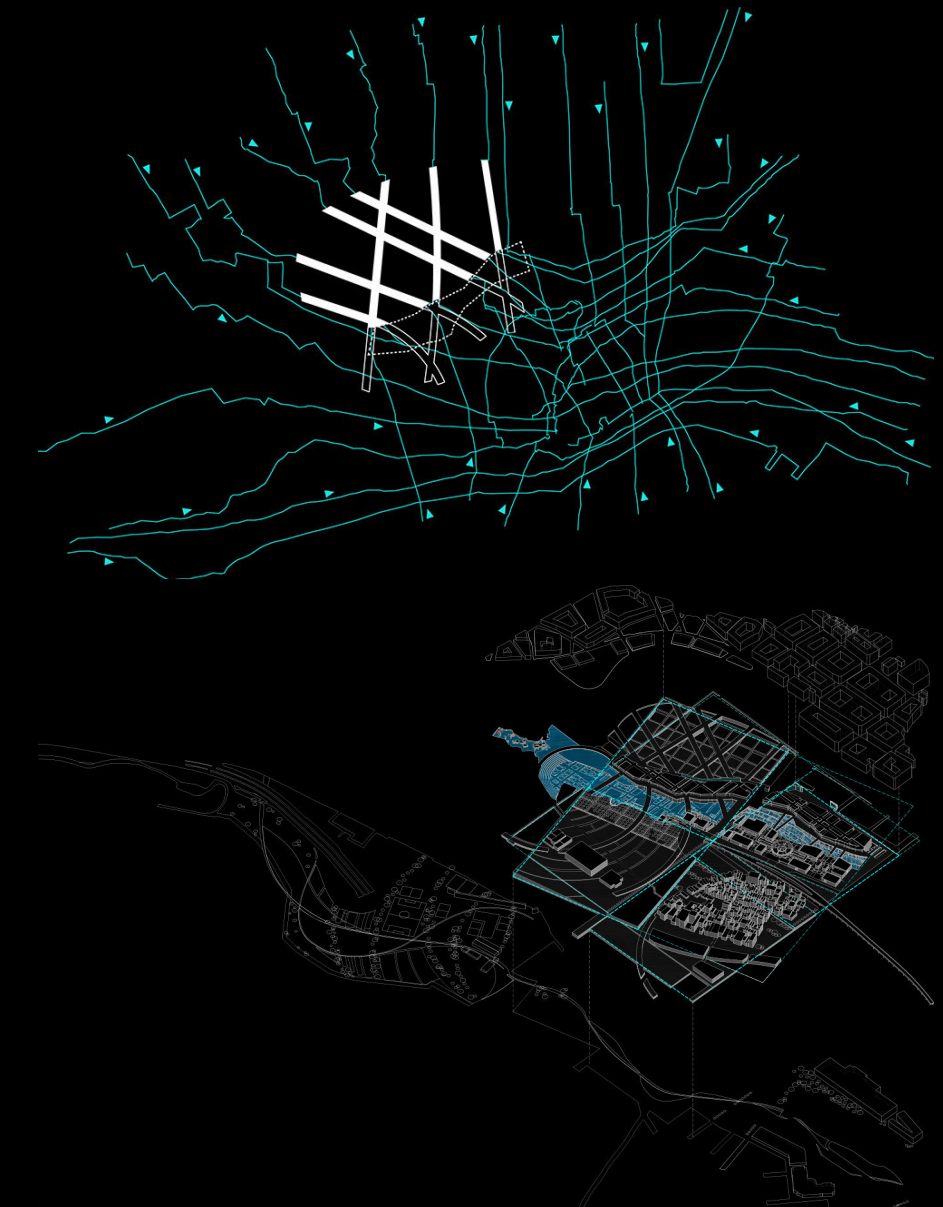
Restaurants and outdoor seating provide views of vibrant life on the water, including passing barges, patrols, water taxis, and sightseeing boats.



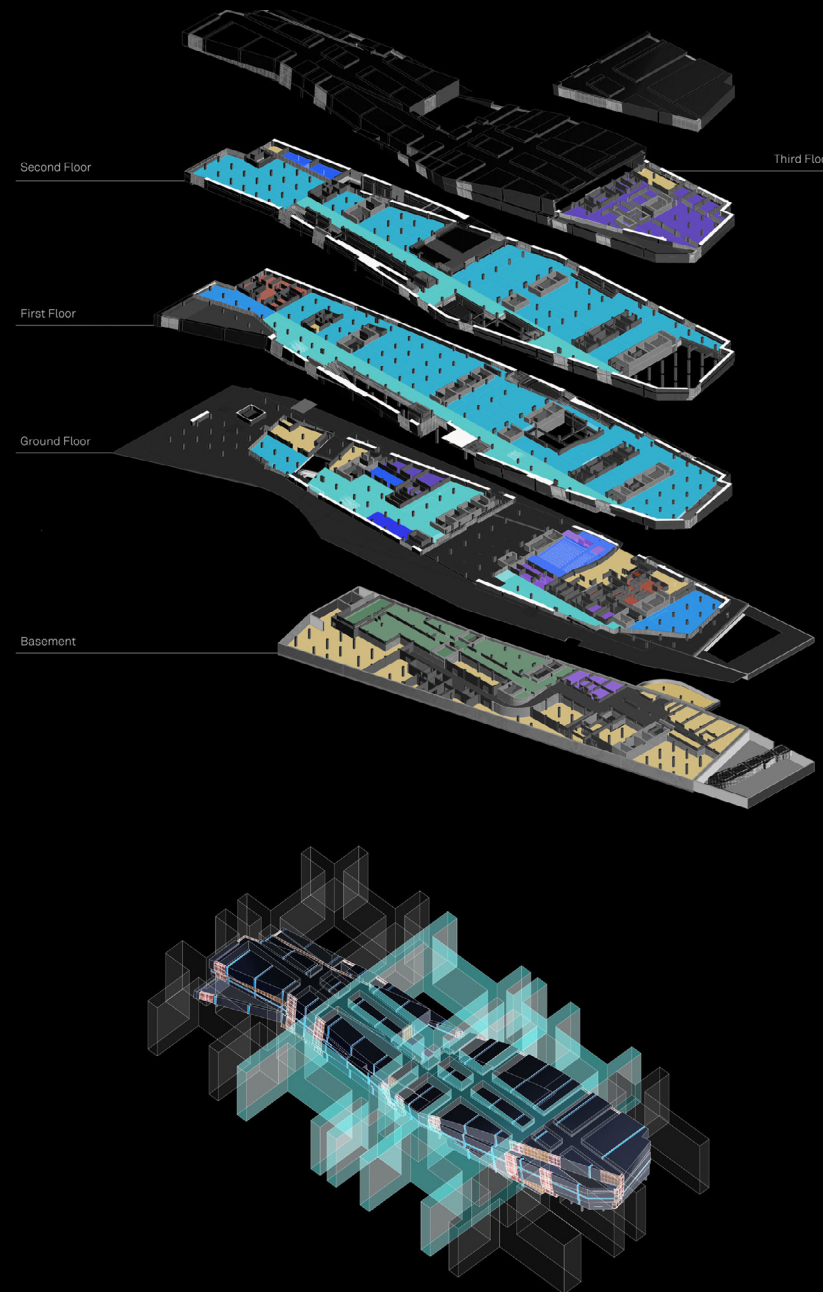
Yenikapı Transfer Area and Archaeopark

The project merges together a transportation hub, a museum, city archive and an archaeopark. With one of the longest, richest, and most culturally varied histories of continuous habitation of any of the world's great cities, Istanbul is a monument to the idea of the city as a palimpsest, as a physical record and trace of its evolving history. Perhaps more than any other city it represents collisions of time, space, and organization.

The goal of our project is to introduce a new organizational force into the city that both weaves together the incongruent features of the existing site into a series of different urban matrixes and generates an energy that flows out from the site and thus re-enlivens the major elements of the existing palimpsest of the city as a whole – its histories, archaeologies, organizational and stylistic diversities.

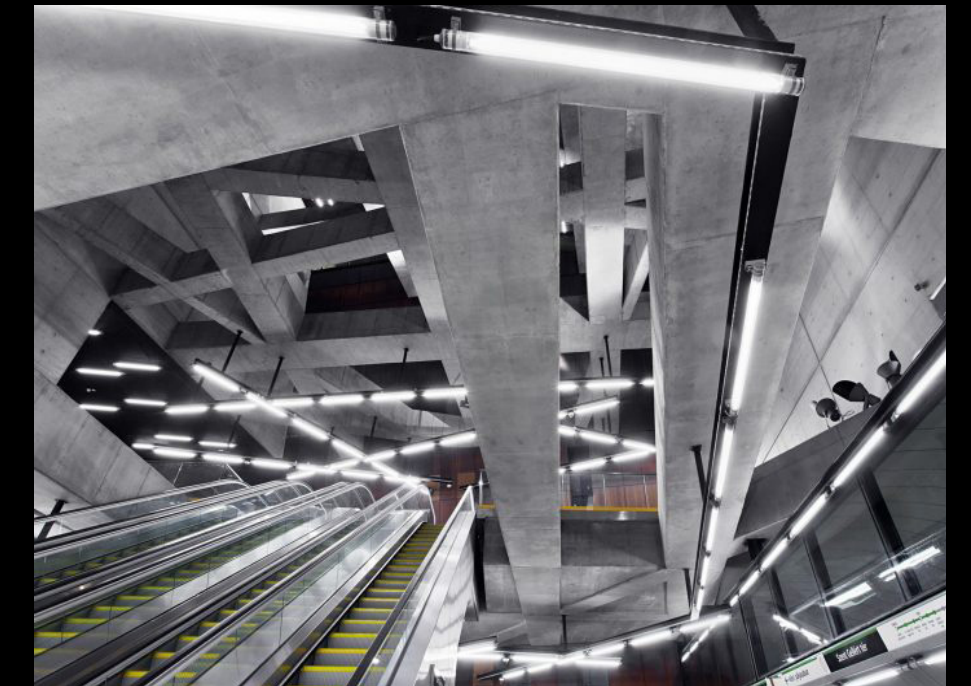
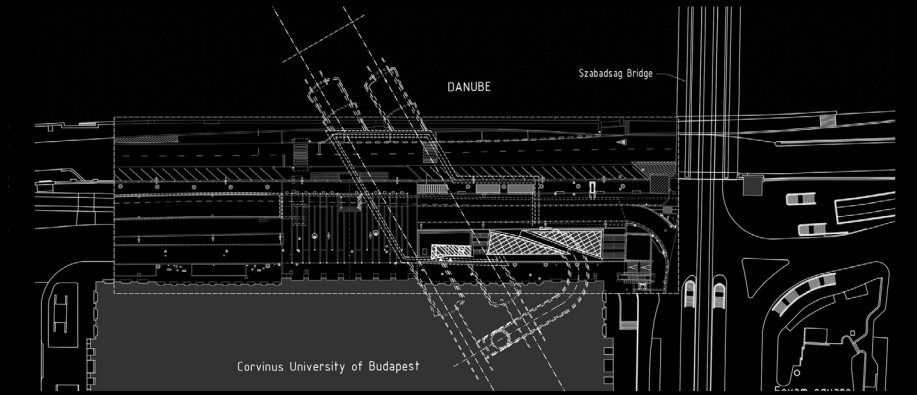


The first building, Museum A, opposite and parallel to the rail hub, serves also as a gateway to the urban core of the historic peninsula. This building, sited alongside in situ archeological findings, incorporates commuter needs with museum display space in a truly multipurpose facility. City approvals are in hand, and construction is scheduled to begin in early 2020.

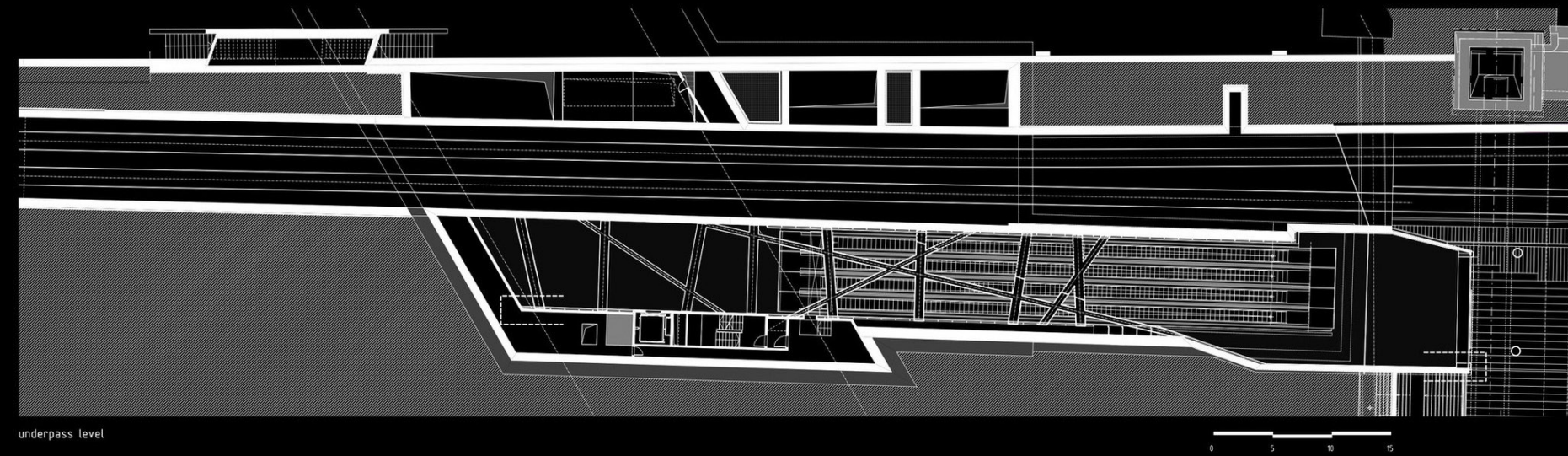
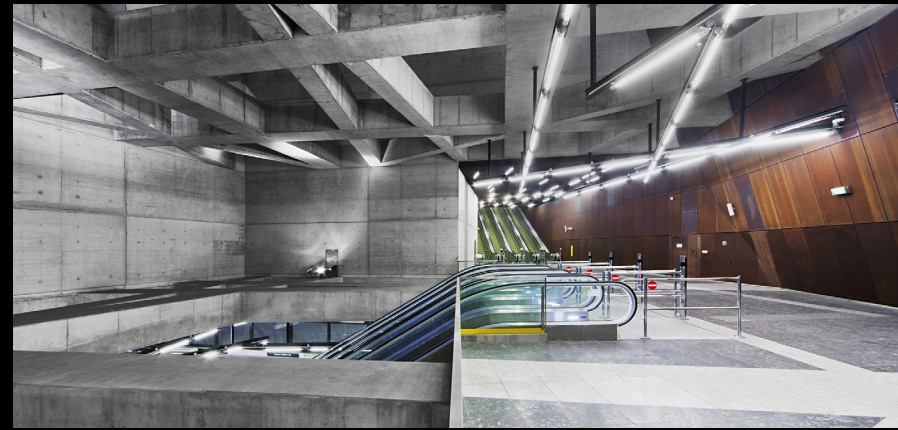


Twin Stations

Designed by sporaarchitects, Twin Stations – These two metro stations are part of the most important infrastructure project currently in Budapest, the M4 metro line. The original idea of the line was invented by the engineers in the 1980's, about 30 years ago. It was a metro line designed according to the thinking of that decade. Budapest's first subway line, the "yellow line" called Kisföldalatti, was opened in 1896. This was the first underground railway in continental Europe and the world's first electrically powered subway. It had been built in 21 months using the highest level of technology including a prefabricated structure of steel slabs. After a long period of time, there arose the possibility for another line to be built; this was the M2 or "red line".

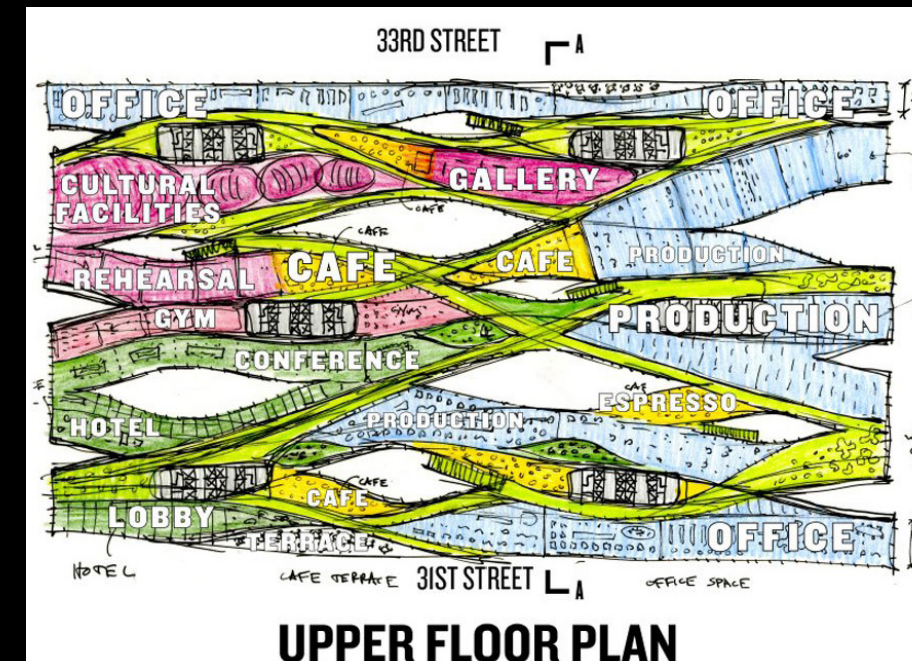
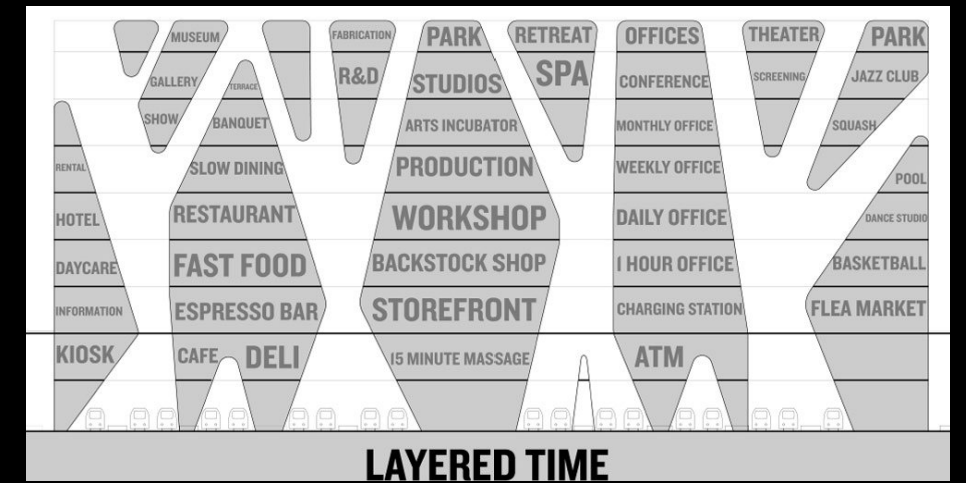


The large underground space reflects this evolving stage. What we did was “raise the curtain” to show the structure and space of predetermined building technology. We took advantage of embedded potential; we created a public space under the ground which anybody can continue. The structural and social utopia of Yona Friedmann was also a source of inspiration during our process. It’s important that it is seen to be a public space – a public space under the ground. And public activities are welcome in the stations even during the time of the construction. It is the opportunity of a common ground on which people may share and live and travel.

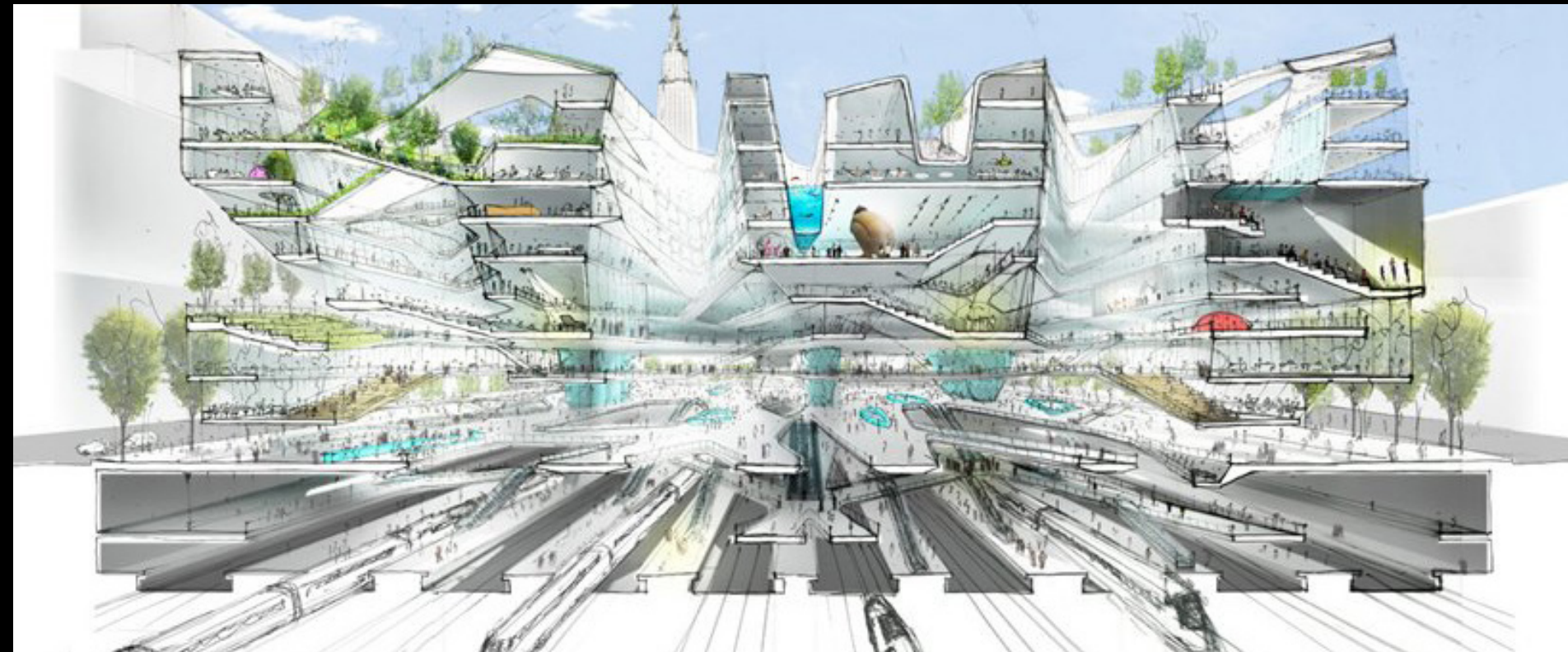
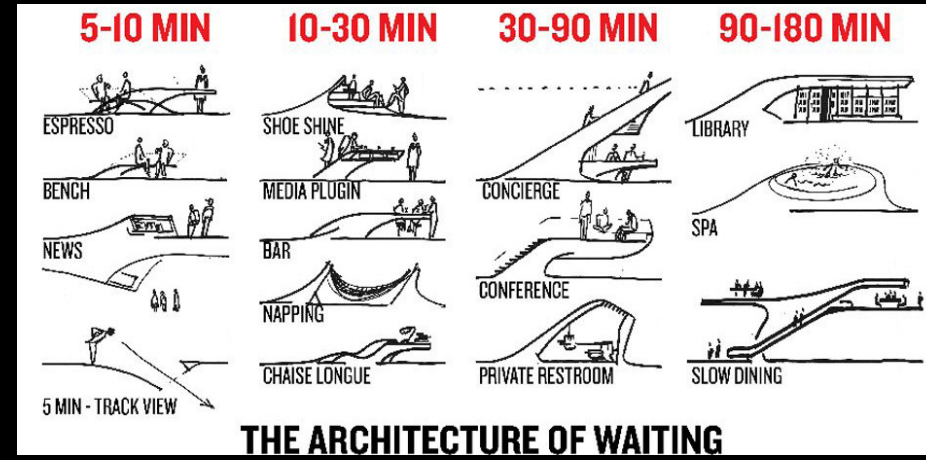


Penn Station 3.0

According to MAS: Diller Scofidio + Renfro with Josh Sirefman offers Penn Station 3.0, which will be a city within a city, a porous and light-filled civic structure filled with diverse new programs that reflect the hybridity of contemporary urban life. Not just a gateway to New York, the station will be a destination in itself with fast, transit-oriented programs layered with slower destinations in a gradient of decelerating speeds from tracks to roof. The building will host transient and resident populations including commuters, office workers, fabricators, shoppers, foodies, culture seekers and urban explorers. In this plan, MSG will be located to the west end of the Farley building on Ninth Avenue, with access to Eighth Avenue.



Daily Mail mentioned that 'Penn Station cannot move and the Garden can,' SHoP's Vishaan Chakrabarti said in a phone interview. 'Right now everything's piled on top of everything.' Diller Scofidio + Renfro's plan puts the Garden in the back part of the Farley building directly west of Penn Station. Madison Square Garden said an earlier plan to move the arena to that spot 'collapsed for a number of reasons that did not involve MSG, but did involve many of the same people now pressuring MSG to move, including The Municipal Art Society, which created enormous obstacles to achieving the relocation.'



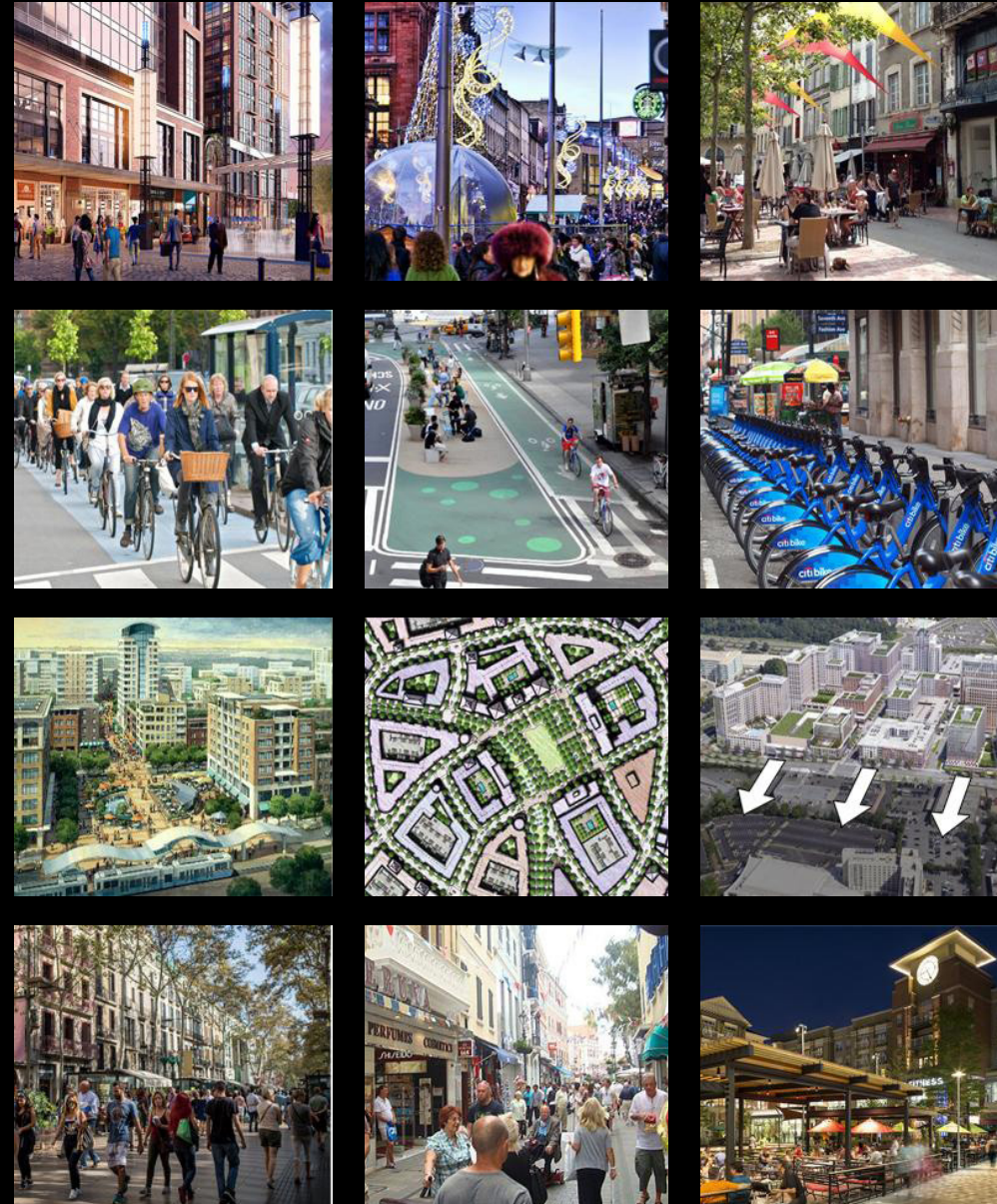
Literature Review

TRANSIT ORIENTED DEVELOPMENT

is the exciting fast growing trend in creating vibrant, livable, sustainable communities. Also known as TOD, it's the creation of compact, walkable, pedestrian-oriented, mixed-use communities centered around high quality train systems. This makes it possible to live a lower-stress life without complete dependence on a car for mobility and survival.

The following 10 principles are general guidelines for planning TOD districts and neighborhoods. Densities, details, and design vary project by project depending on many factors including location, context, availability of redevelopment property, surrounding development, etc.

1. Put stations in locations with highest ridership potential and development opportunities
2. Designate 1/2 mile radius around station as higher density, mixed-use, walkable development
3. Create range of densities with highest at station, tapering down to existing neighborhoods
4. Design station site for seamless pedestrian connections to surrounding development*
5. Create public plaza directly fronting one or more sides of the station building
6. Create retail and cafe streets leading to station entrances along main pedestrian connections
7. Reduce parking at station, site a block or two away, direct pedestrian flow along retail streets
8. Enhance multi-modal connections, making transfers easy, direct, and comfortable
9. Incorporate bikeshare, a comprehensive bikeway network, and large ride-in bike parking areas
10. Use station as catalyst for major redevelopment of area and great placemaking around station



TRANSIT ORIENTED DEVELOPMENT STATIONS

Stations are the connecting point between the rail system and the city - the place where everything comes together. Stations represent the facilities where patrons encounter the transit system and experience its image, service, and convenience. Proper location and design can elevate stations to become important civic icons of a city.

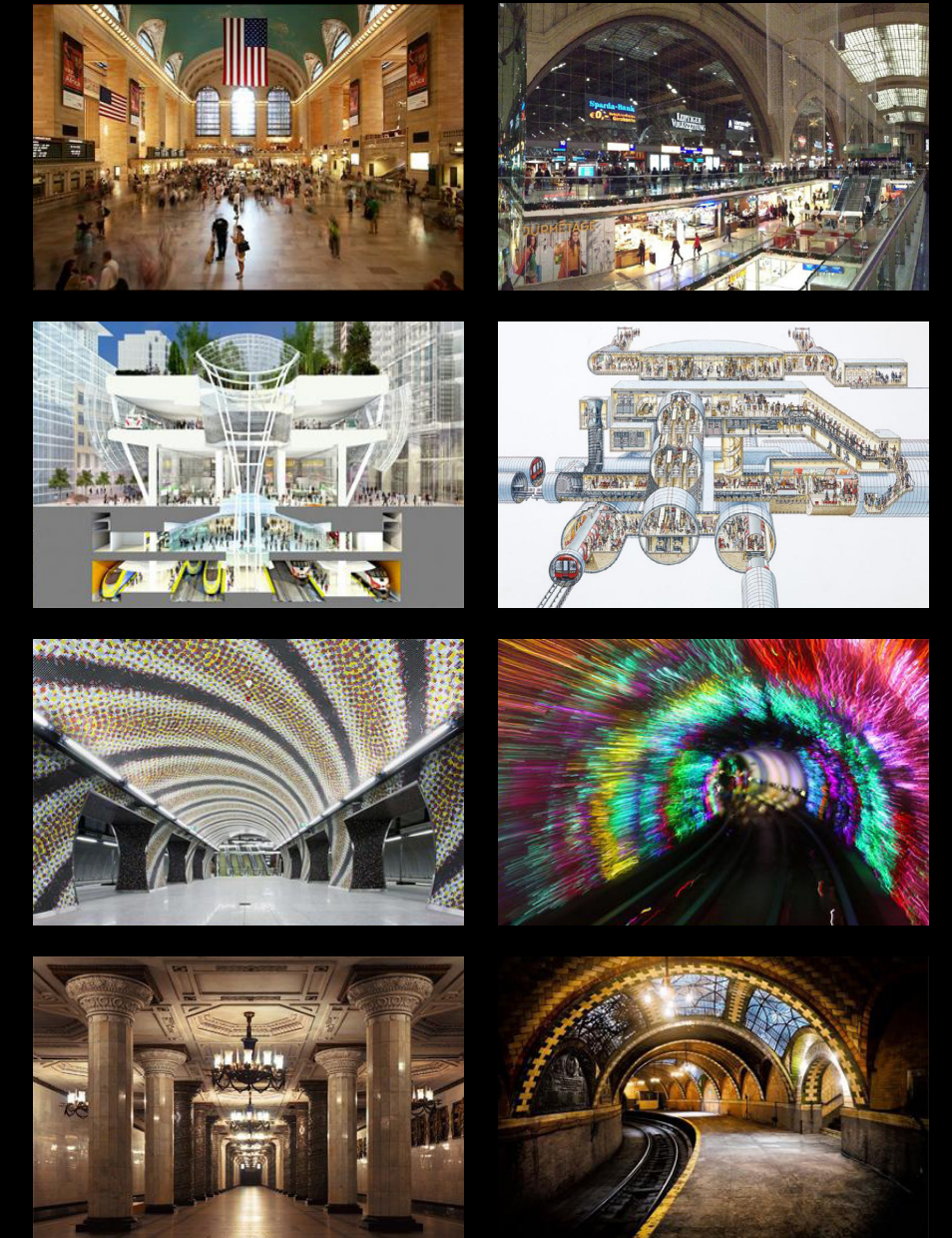
Stations are also connecting points to other forms of transit and mobility including other rail systems, light rail and streetcars, buses, taxis, automobiles, bicycles, and walking. Station design, location, and operations strongly affect passenger convenience, comfort, and safety, as well as ridership levels and frequency.

Station design and operations also strongly affect service reliability, operating speed, and line capacity. There is a hierarchy of station scale and design with varying components that are appropriate for different system types and locations.

ELEMENTS OF PLACEMAKING

Great placemaking is the art of bringing together a number of elements, both physical and operational. Following is a highlight of the most important elements of successful places.

- 1) CLOSE PROXIMITY TO RAIL STATION
- 2) WELL DEFINED PUBLIC SPACES - OUTDOOR ROOMS
- 3) MIX OF USES - LIVELY, VIBRANT PLACES
- 4) PEDESTRIAN SCALE - COMFORTABLE, SAFE, ENJOYABLE
- 5) ACTIVE GROUND-FLOOR RETAIL
- 6) SIDEWALK CAFES
- 7) TREE LINED STREETS
- 8) REDUCED AND HIDDEN PARKING



SMART GROWTH

Smart Growth is a theory of land development that accepts that growth and development will continue to occur, and so seeks to direct that growth in an intentional, comprehensive way.

Main principles of Smart Growth

1. Create a range of employment opportunities. Mix land uses.
2. Take advantage of compact building design.
3. Create walkable neighborhoods and a range of housing opportunities and choices.
4. Foster distinctive, attractive communities with a strong sense of place.
5. Preserve open space, farmland, natural beauty, and critical environmental areas.
6. Strengthen and direct development towards existing communities.
7. Provide in advance a variety of transportation choices, urban and social infrastructure based on population projections.
8. Make development decisions sustainable, predictable, fair, and cost effective.
9. Encourage community and stakeholder collaboration in development decisions.
10. Cost effectiveness in decision making.

For the sake of emphasizing relevance some of the principles are chosen as a priority of consideration



3. Create Walkable Neighborhoods

Walkable communities are desirable places to live, work, learn, worship and play, and therefore a key component of smart growth. Their desirability comes from two factors. First, walkable communities locate within an easy and safe walk goods (such as housing, offices, and retail) and services (such as transportation, schools, libraries) that a community resident or employee needs on a regular basis. Second, by definition, walkable communities make pedestrian activity possible, thus expanding transportation options, and creating a streetscape that better serves a range of users -- pedestrians, bicyclists, transit riders, and automobiles. To foster walkability, communities must mix land uses and build compactly, and ensure safe and inviting pedestrian corridors.

4. Foster Distinctive, Attractive Communities with a Strong Sense of Place.

Smart growth encourages communities to craft a vision and set standards for development and construction which respond to community values of architectural beauty and distinctiveness, as well as expanded choices in housing and transportation.

7. Provide a Variety of Transportation Choices

Providing people with more choices in housing, shopping, communities, and transportation is a key aim of smart growth. Communities are increasingly seeking these choices -- particularly a wider range of transportation options -- in an effort to improve beleaguered transportation systems. Traffic congestion is worsening across the country. Where in 1982 65 percent of travel occurred in uncongested conditions, by 1997 only 36 percent of peak travel occurred did so. In fact, according to the Texas Transportation Institute, congestion over the last several years has worsened in nearly every major metropolitan area in the United States.

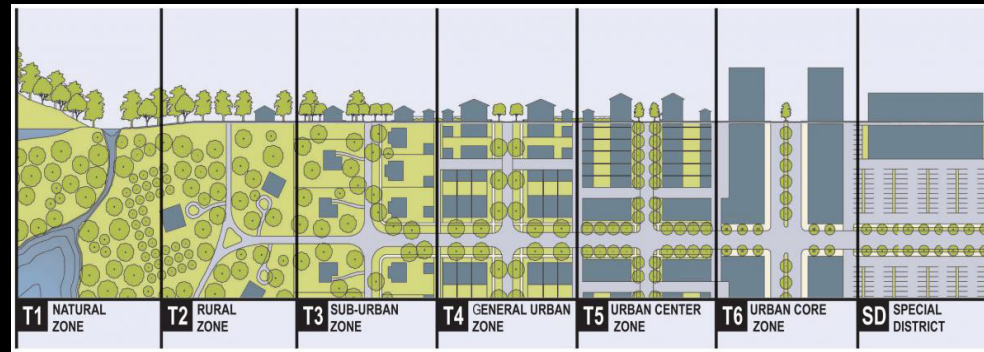


NEW URBANISM

The most important planning movement this century, and is about creating a better future for us all. It is an international movement to reform the design of the built environment, and is about raising our quality of life and standard of living by creating better places to live. New Urbanism is the revival of our lost art of place-making, and is essentially a re-ordering of the built environment into the form of complete cities, towns, villages, and neighborhoods - the way communities have been built for centuries around the world. New Urbanism involves fixing and infilling cities, as well as the creation of compact new towns and villages.

The principles of New Urbanism can be applied increasingly to projects at the full range of scales from a single building to an entire community.

1. Walkability
2. Connectivity
3. Mixed-Use & Diversity
4. Mixed Housing
5. Quality Architecture & Urban Design
6. Traditional Neighborhood Structure
7. Increased Density
8. Smart Transportation
9. Sustainability
10. Quality of Life



3. Mixed-Use & Diversity

- A mix of shops, offices, apartments, and homes on site. Mixed-use within neighborhoods, within blocks, and within buildings
- Diversity of people - of ages, income levels, cultures, and races

8. Smart Transportation

- A network of high-quality trains connecting cities, towns, and neighborhoods together
- Pedestrian-friendly design that encourages a greater use of bicycles, rollerblades, scooters, and walking as daily transportation

9. Sustainability

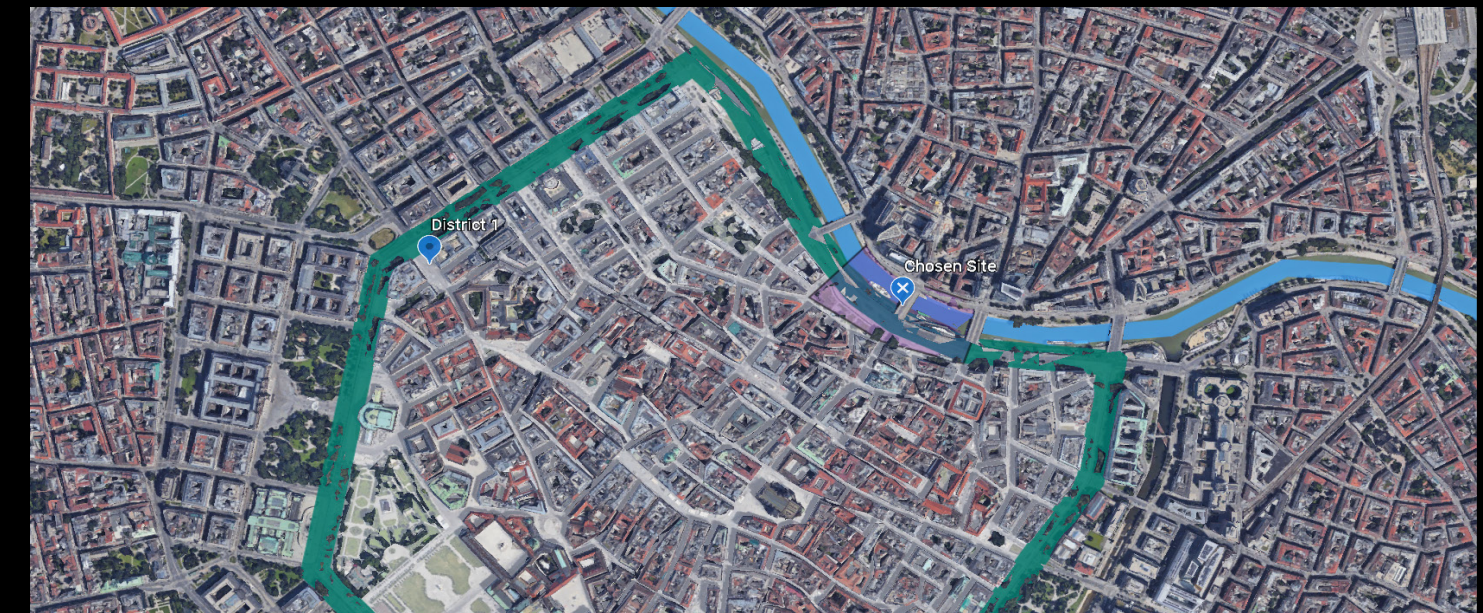
- Minimal environmental impact of development and its operations
- Eco-friendly technologies, respect for ecology and value of natural systems
- Energy efficiency
- Less use of finite fuels
- More local production
- More walking, less driving



Site Analysis

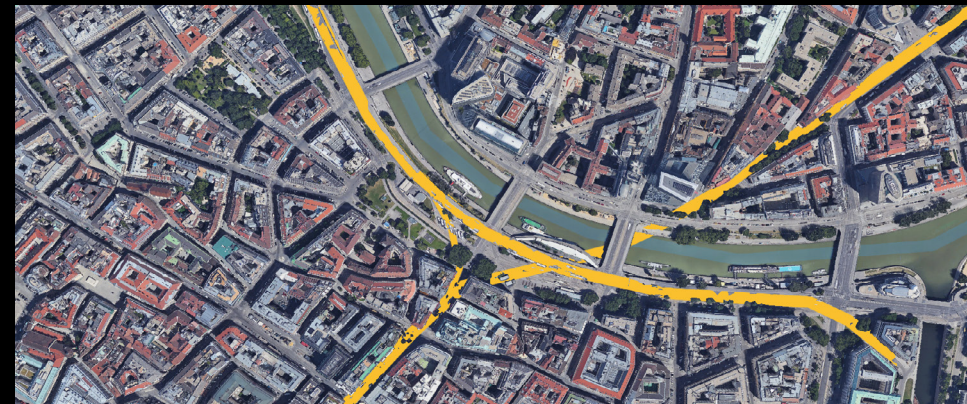
Relation to the danube

Direct connection to the danube canal that connects to the danube and plays a significant role in tourism routes around european cities



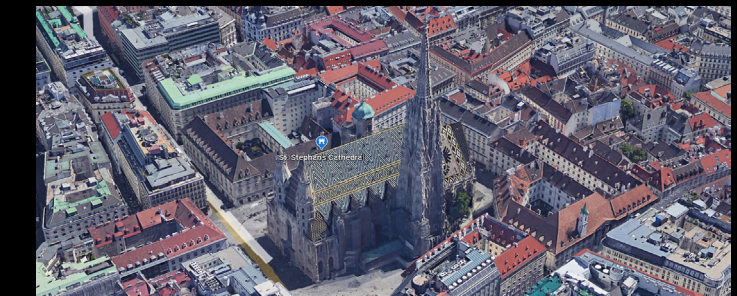
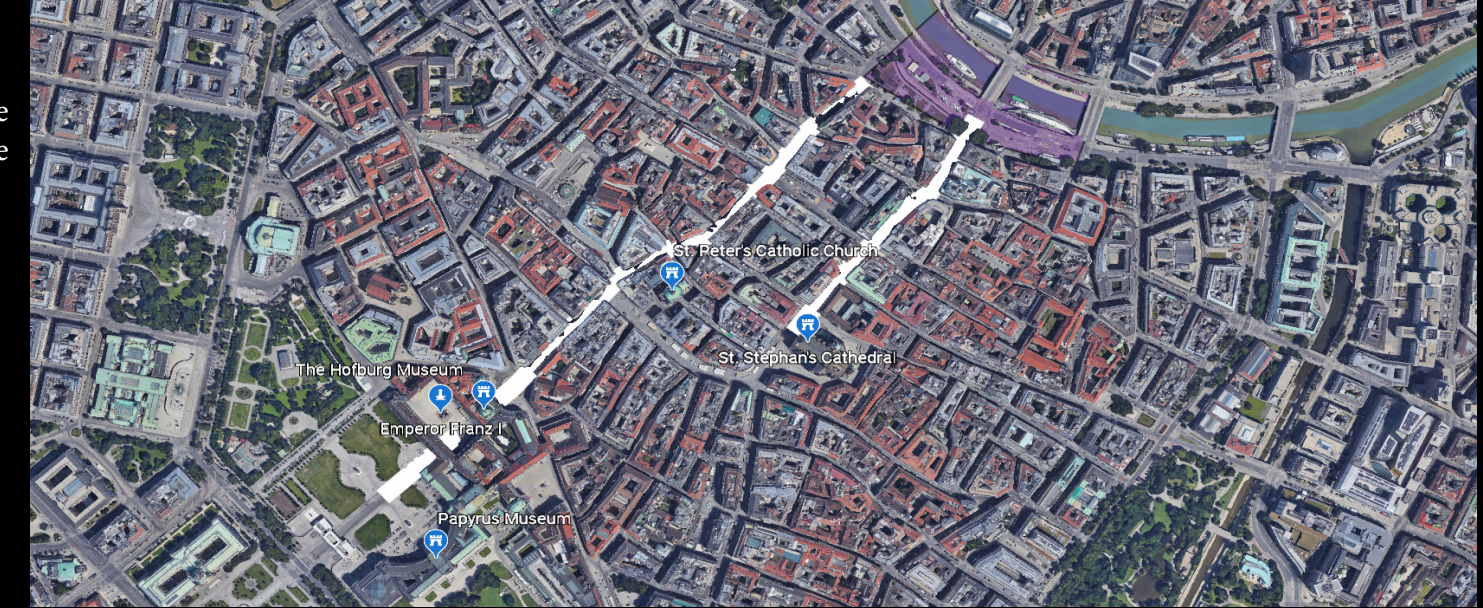
Transportation and circulation

the site includes many transport paths as Tram Metro and Ferry boat, in addition pedestrian paths directly takes to the main touristic attractions of the city an the oldest district , district 1



Monuments and Landmarks

Main monuments and landmarks include museums palace and cathedrales that are easily accessible by walking.



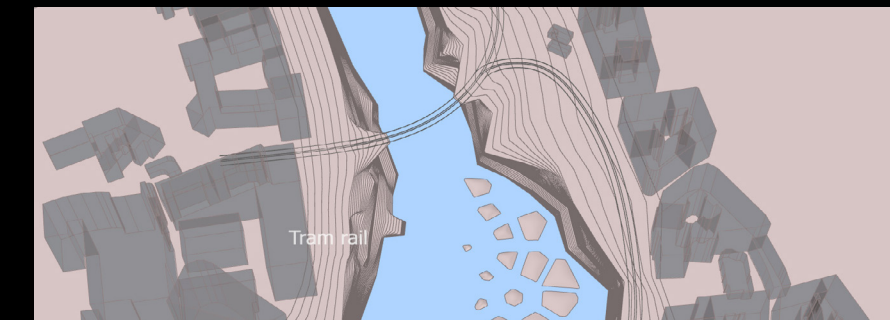
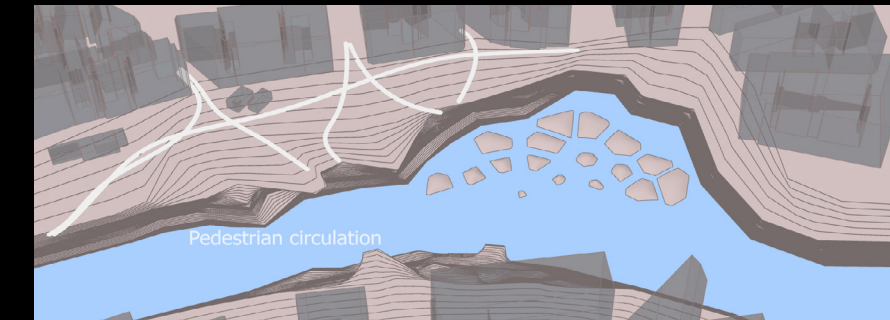
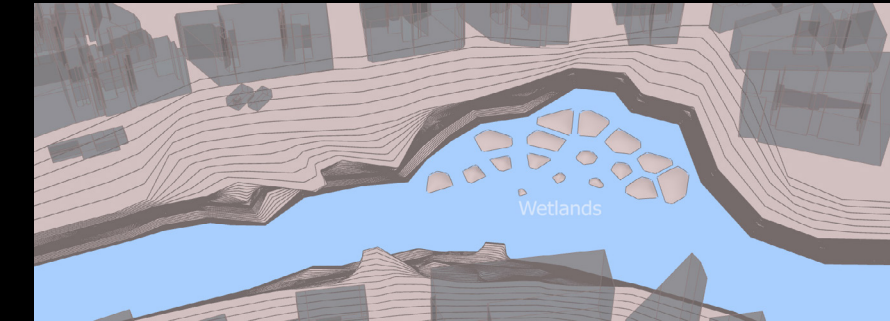
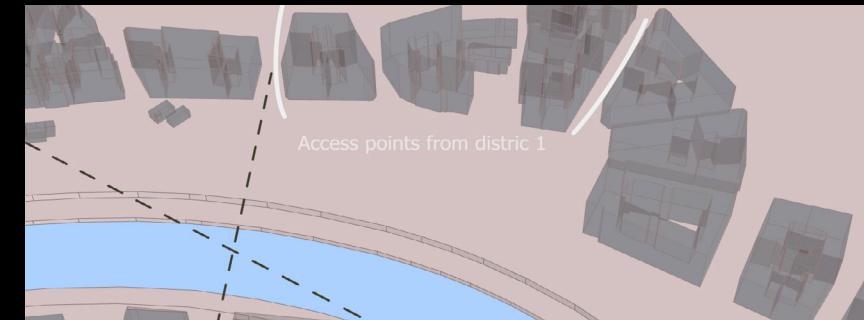
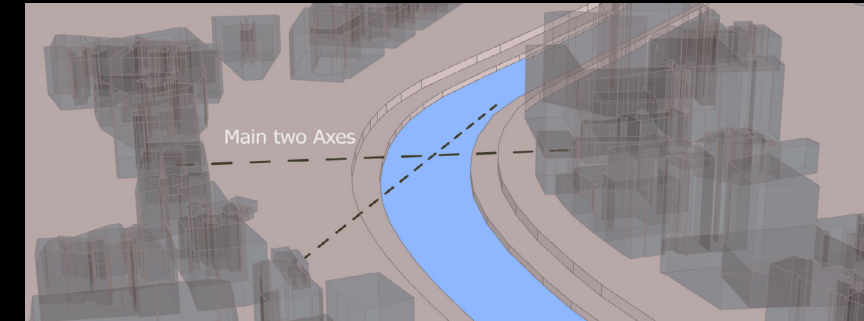
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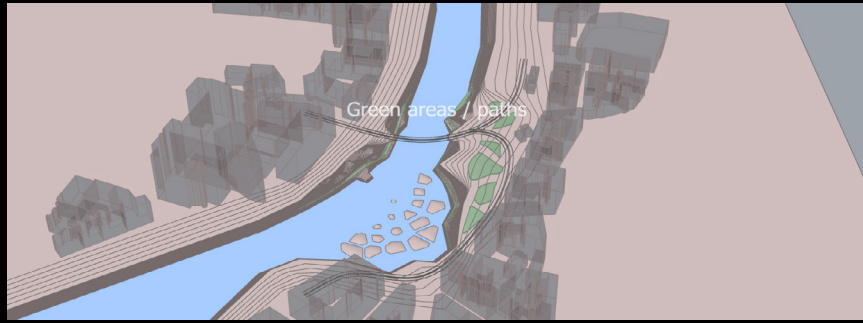


Design Development

Design Process

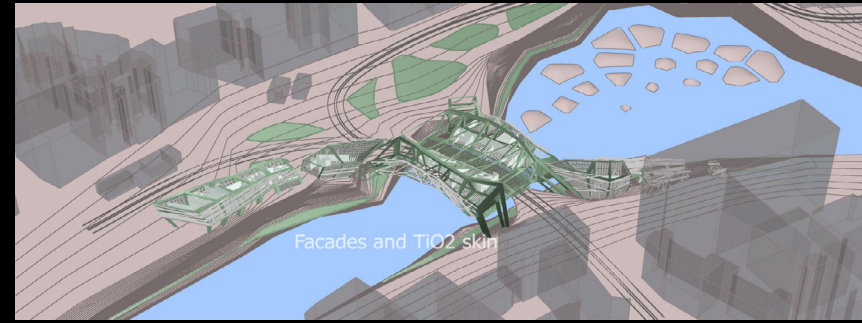
The process started from the site and landscape manipulation to form a space of the building and create new accessibility circulation





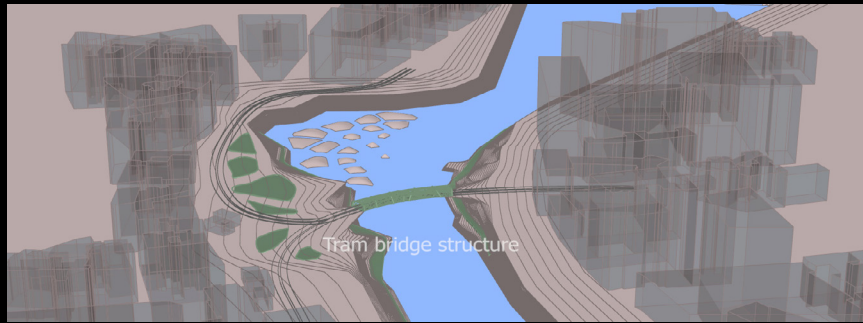
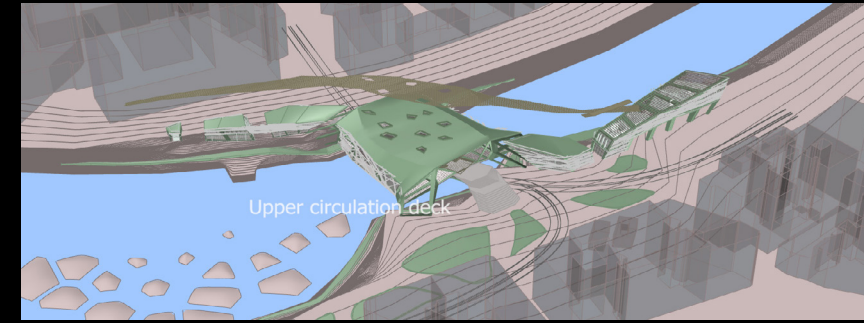
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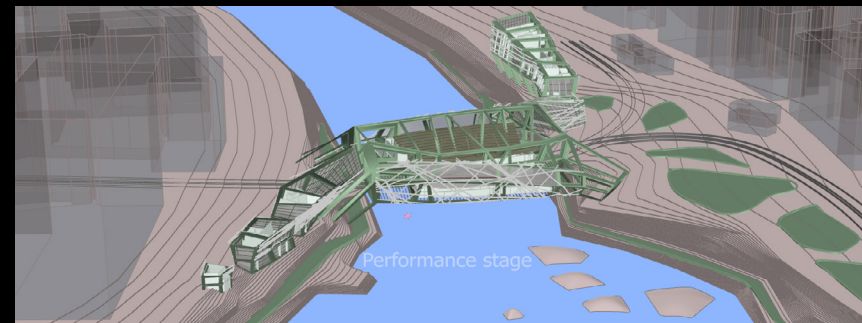
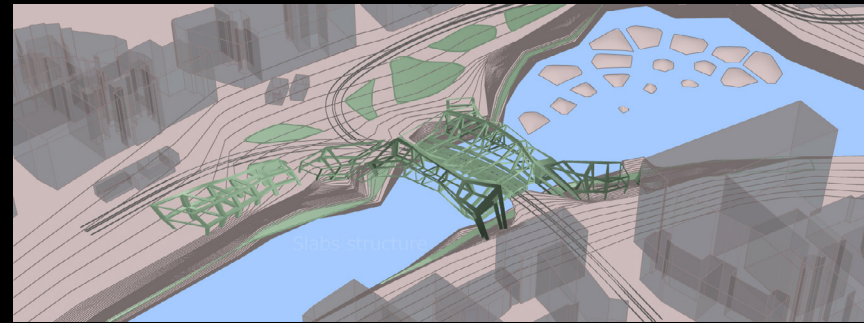
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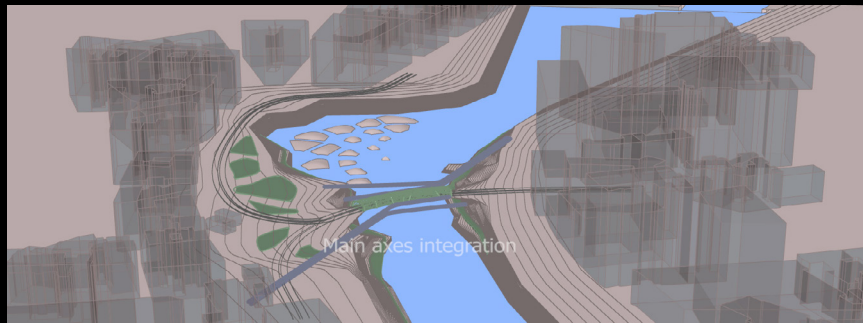
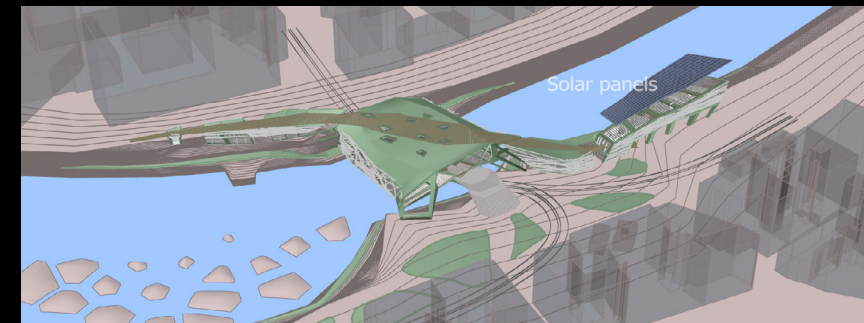
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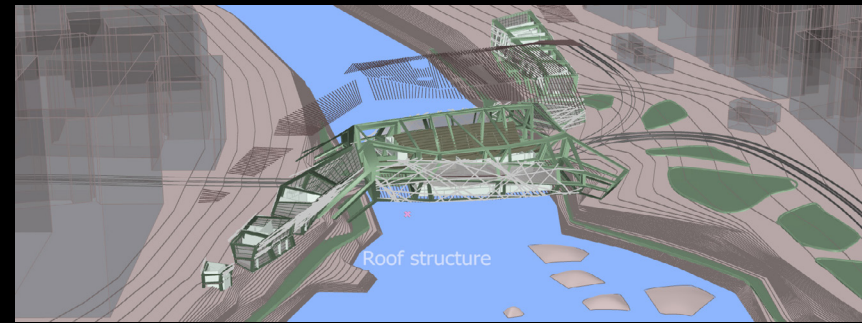
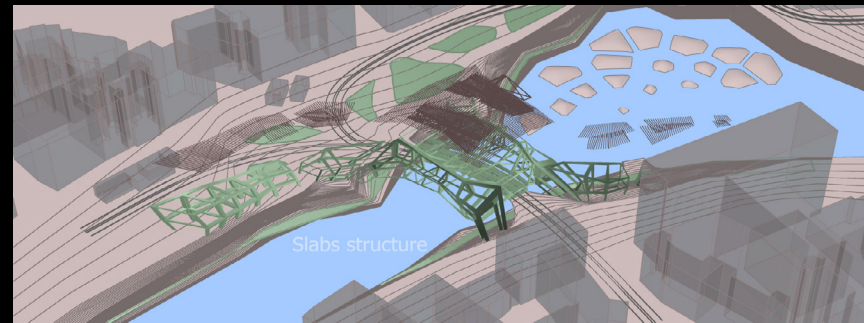
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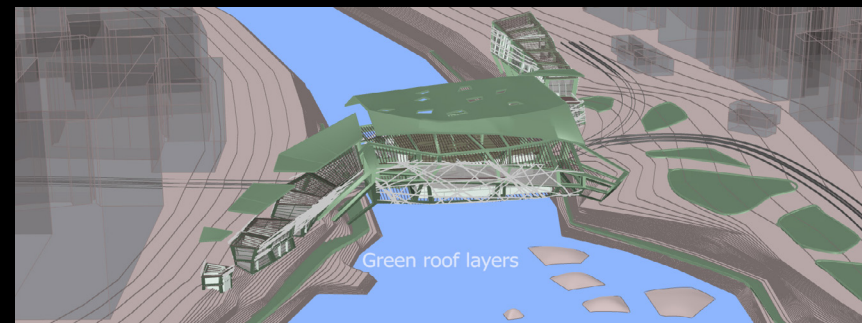
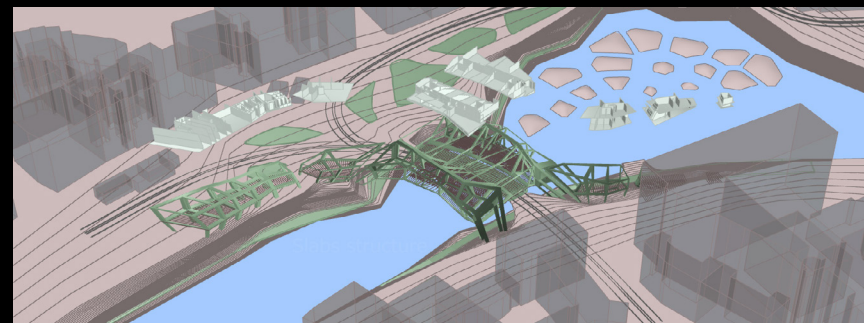


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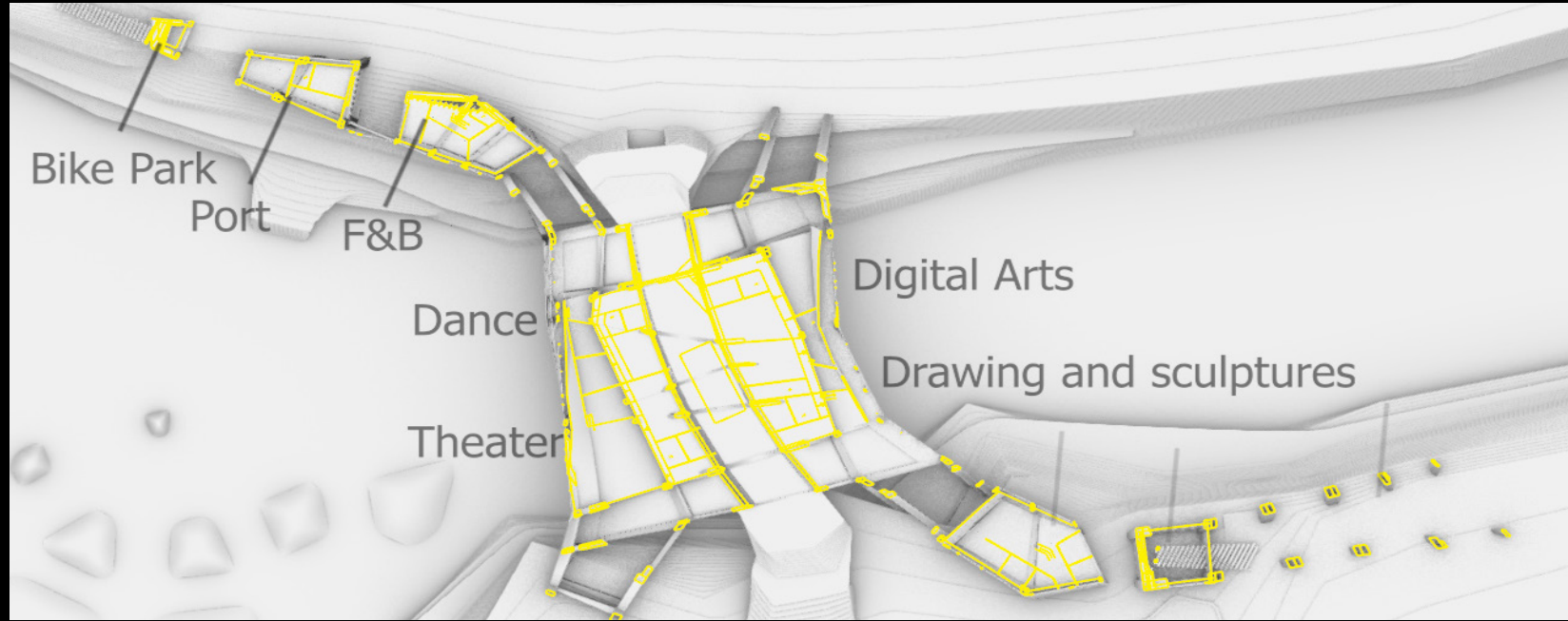
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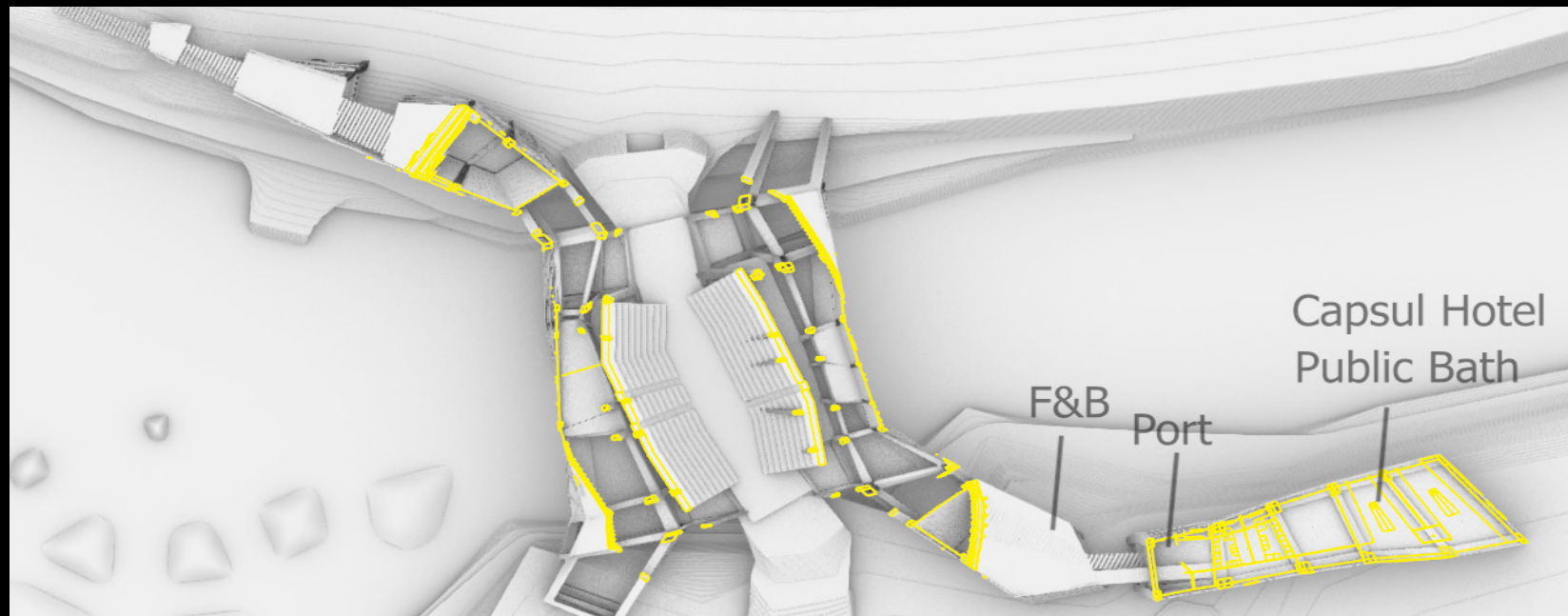
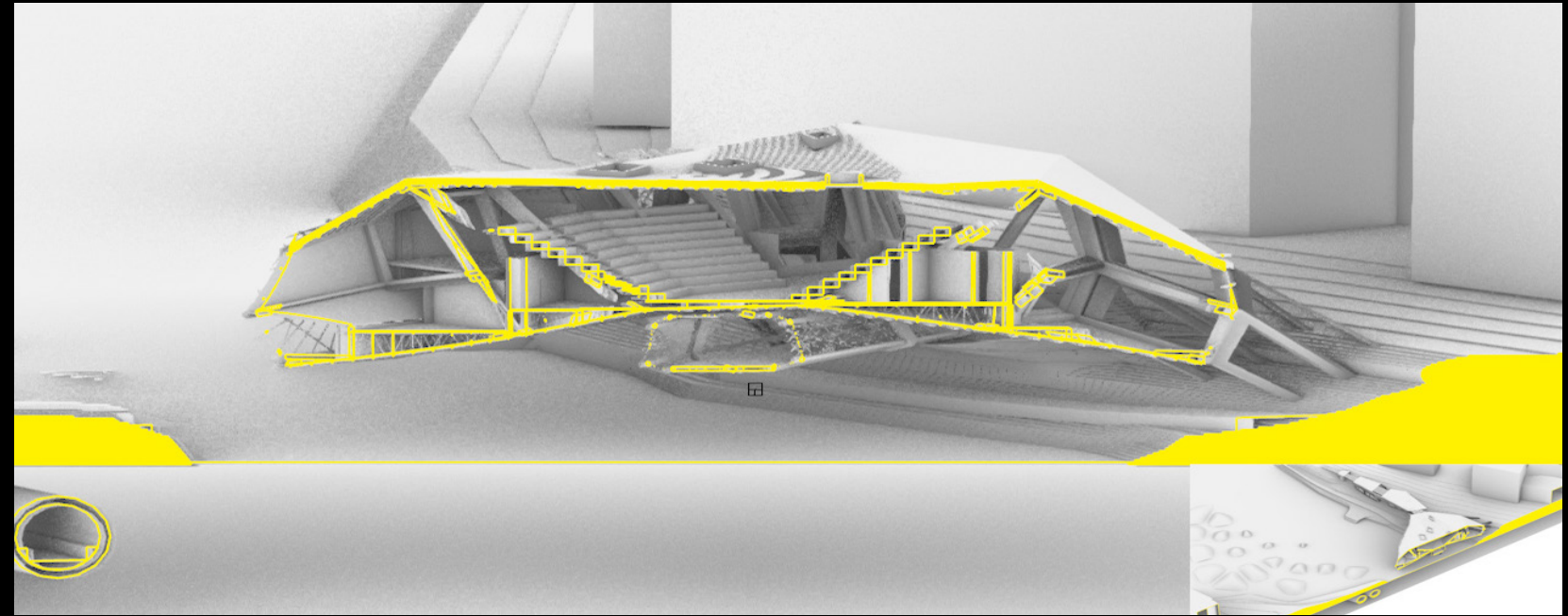
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Animation video Link

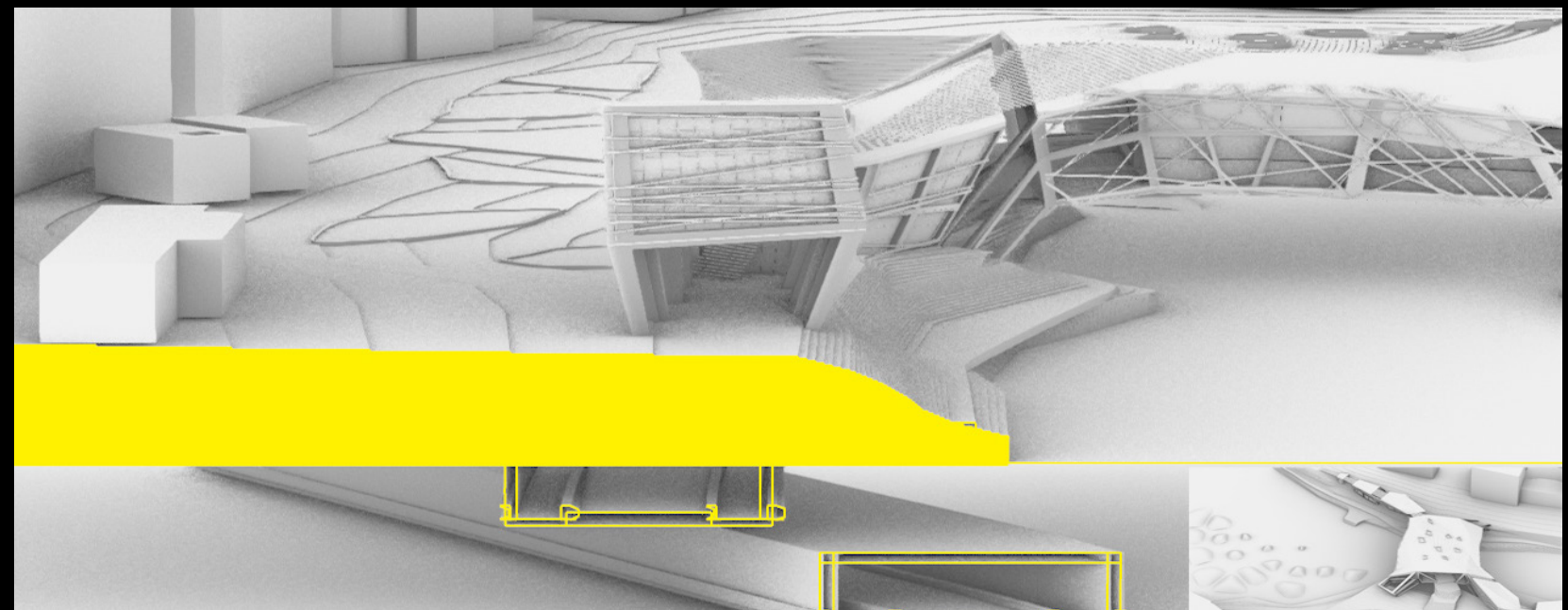




+2
Plan



+6
plan

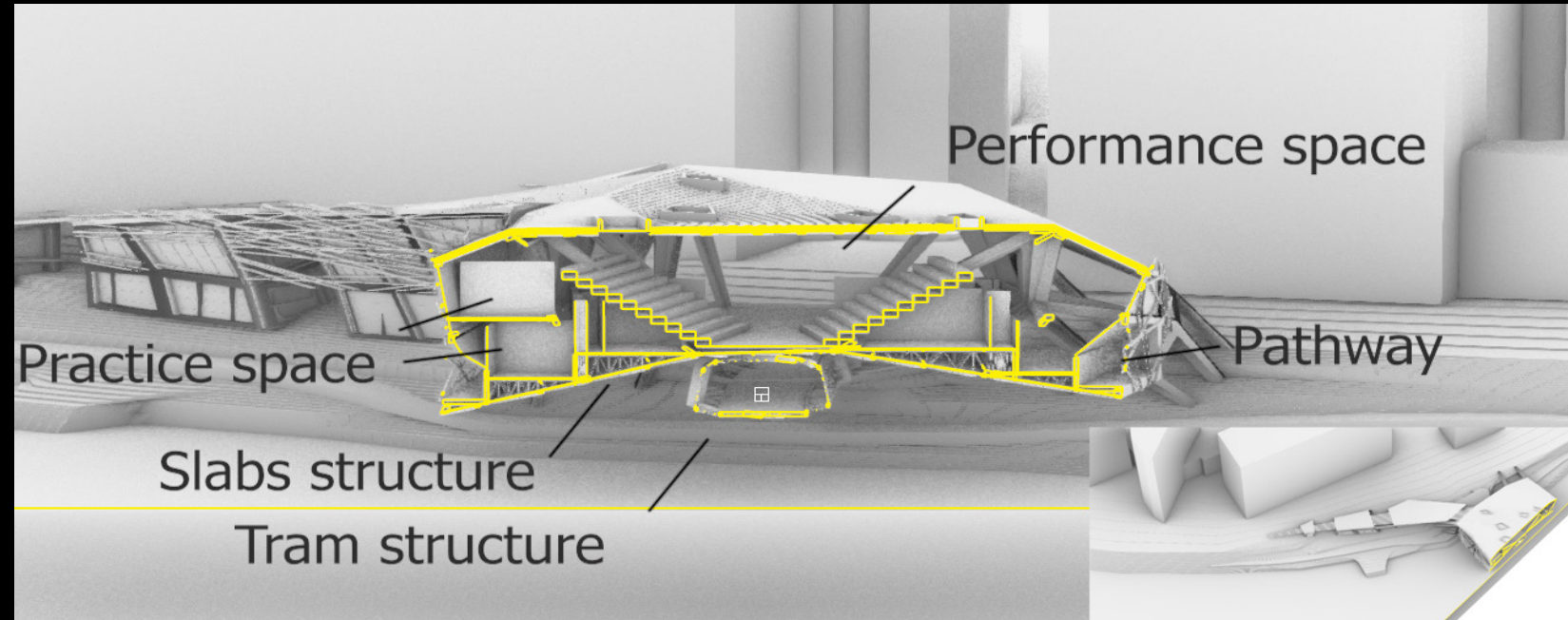


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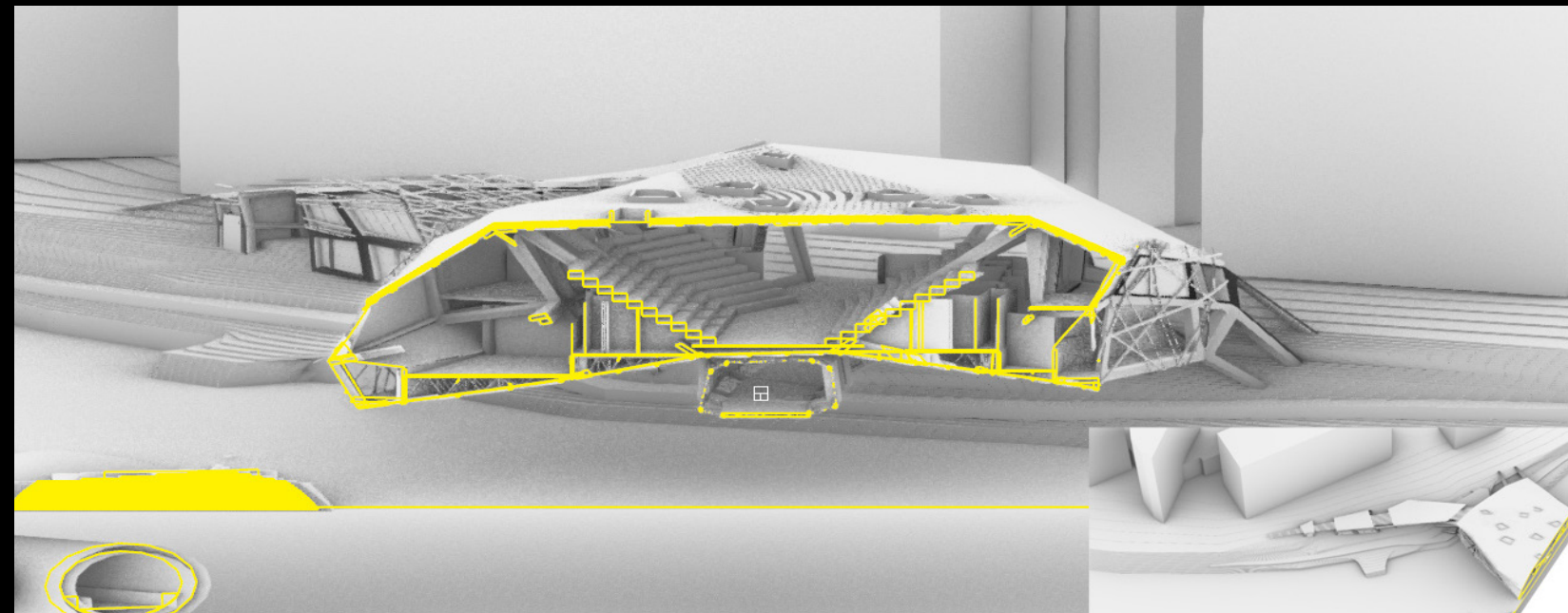
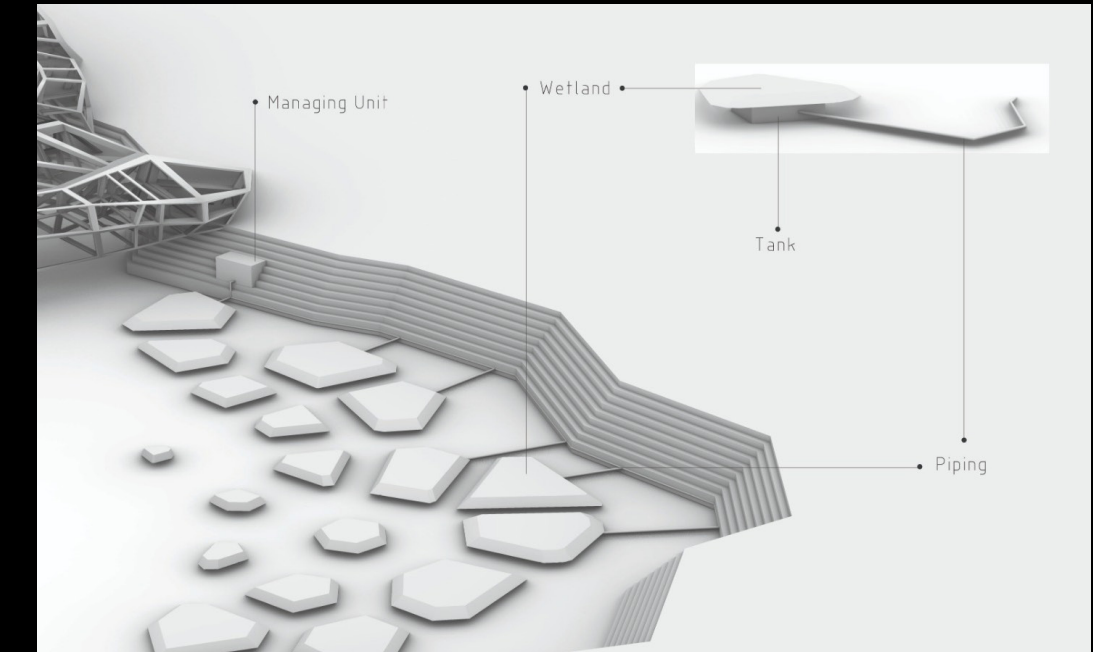
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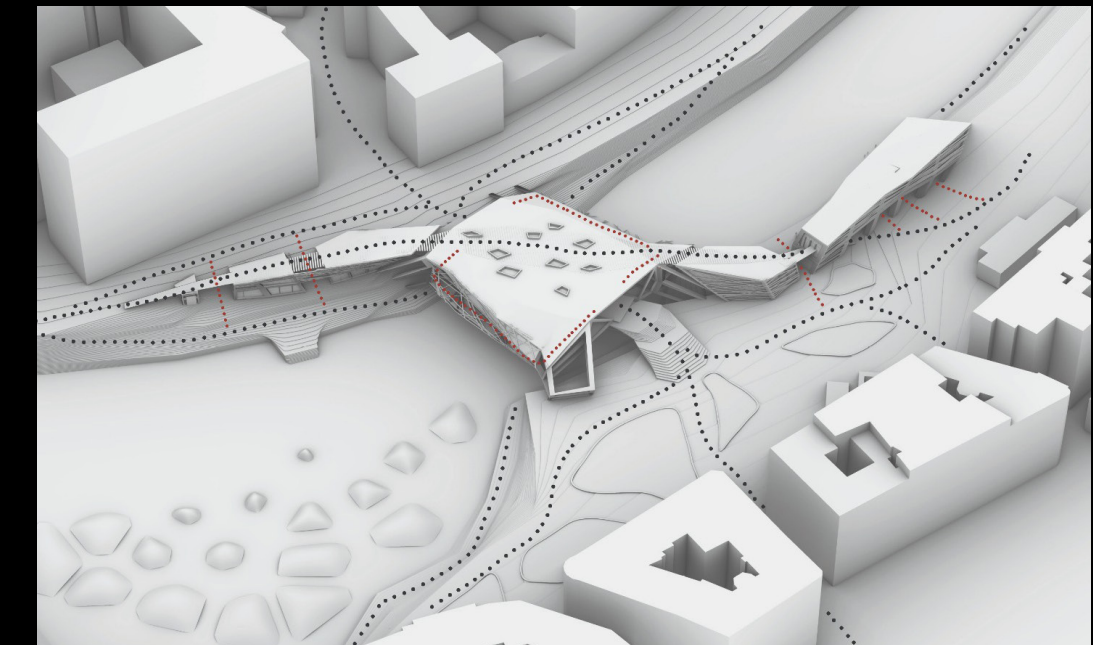


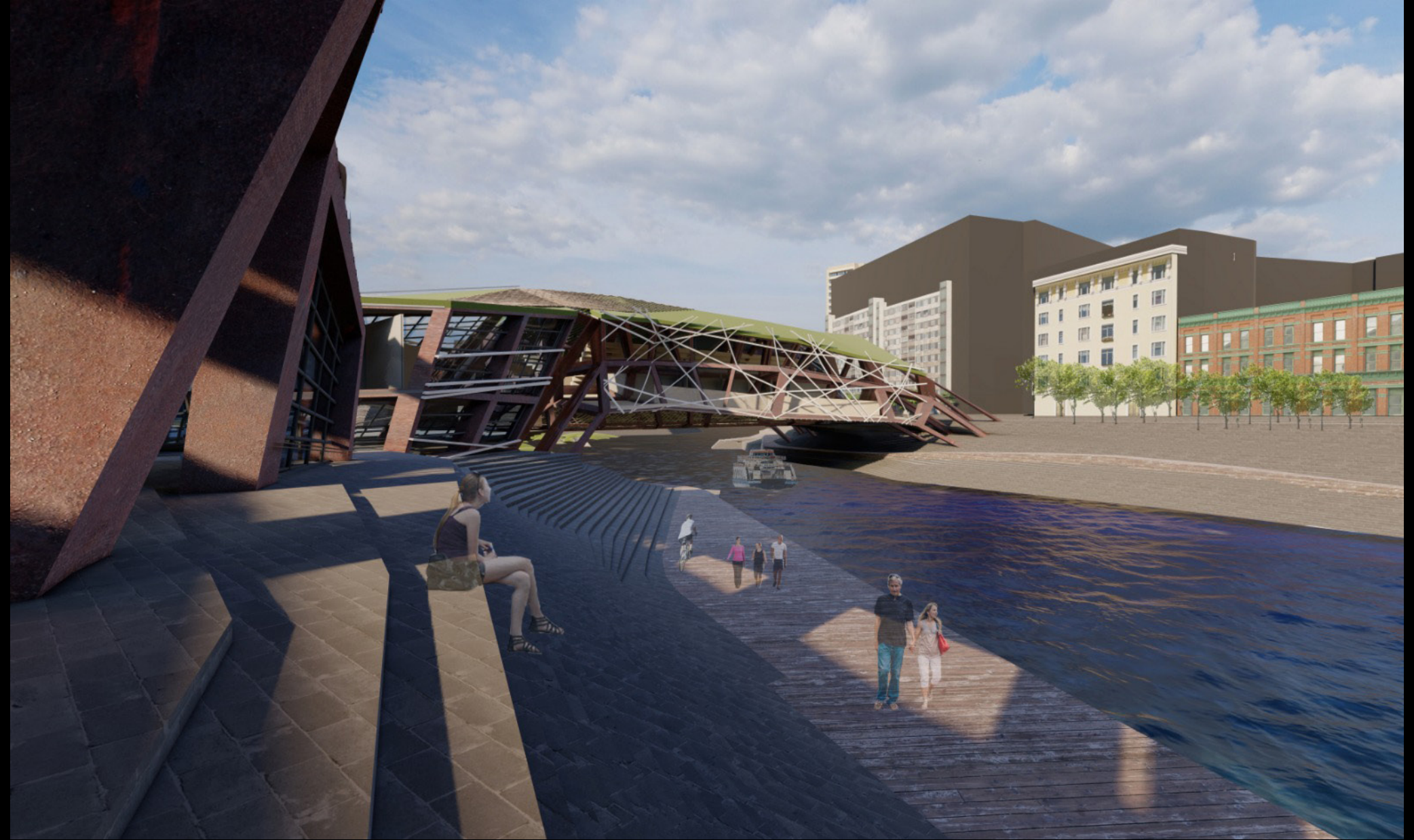
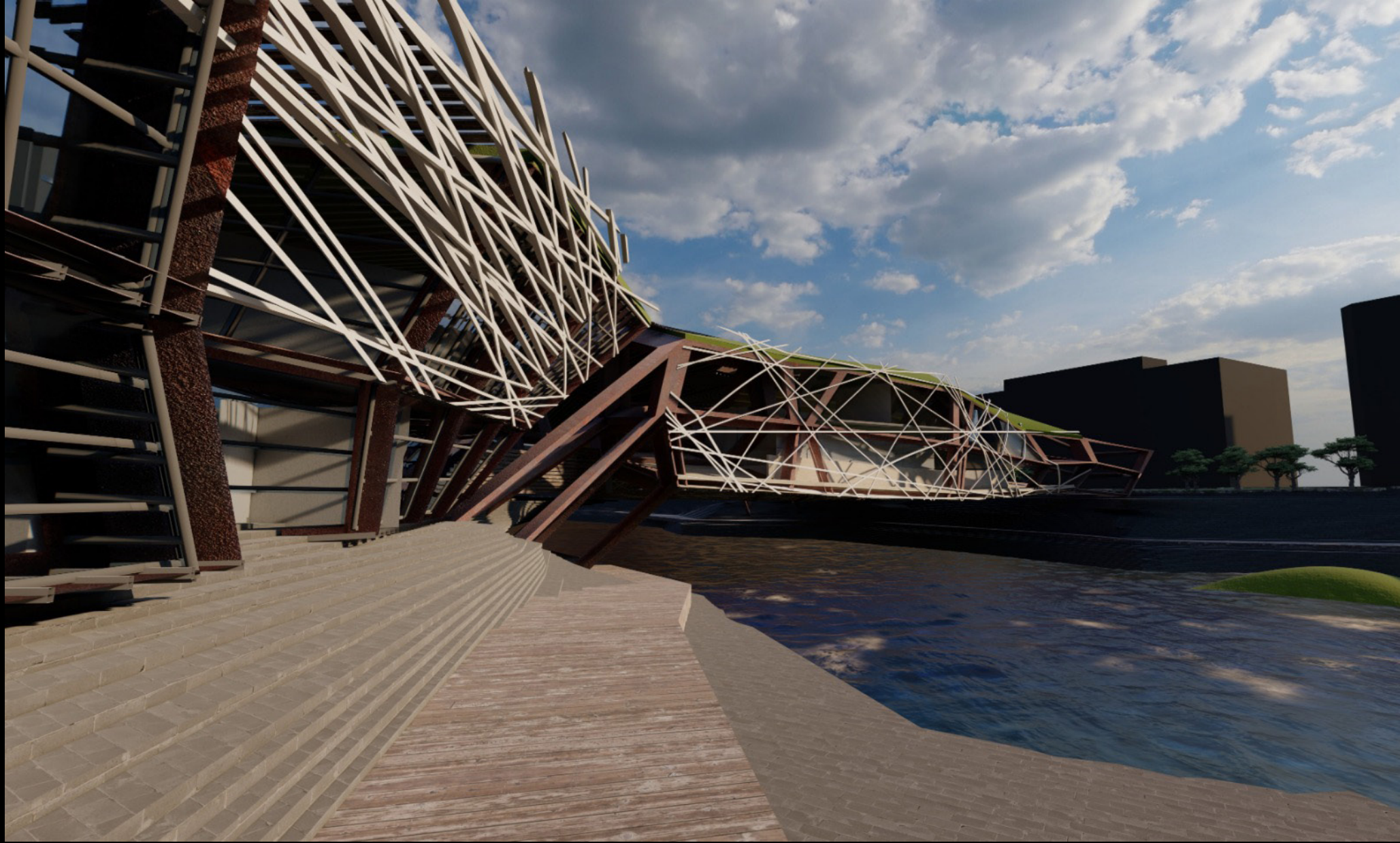
Sustainability and Circulation

Wetlands are designed with a tank under the ground that will be working for filtration, this will operate as a living machine system that is capable of cleaning waste water of up to 3000 individuals per day



The project works on bridging both sides of the river and offers many choices of access that prioritize the destination of the business hub from the transit hub to encourage more usage of the public transports







Interaction and experiance

Pedestrians will be able to look down and see the performances taking place in the main hall while passing on the green roof, also these openings peovide light for the performances

