

Regenerative Urban Fabric

*Landscape Architecture & Urban Design Portfolio
2021-2025*

Qi Yang

Breathing Water

- Site: Wuhan, China
- Theme: Wetland, Bird, Ecology
- Academic year: 2023

The project focuses on seeking harmonious coexistence between birds and urban residents through seasonal changes in water levels. The living space of birds is gradually shrinking with urban development. In the wetland environment of modern cities, seeking a larger living space for birds is one of the important means to maintain ecological environment.



SITE ANALYSIS

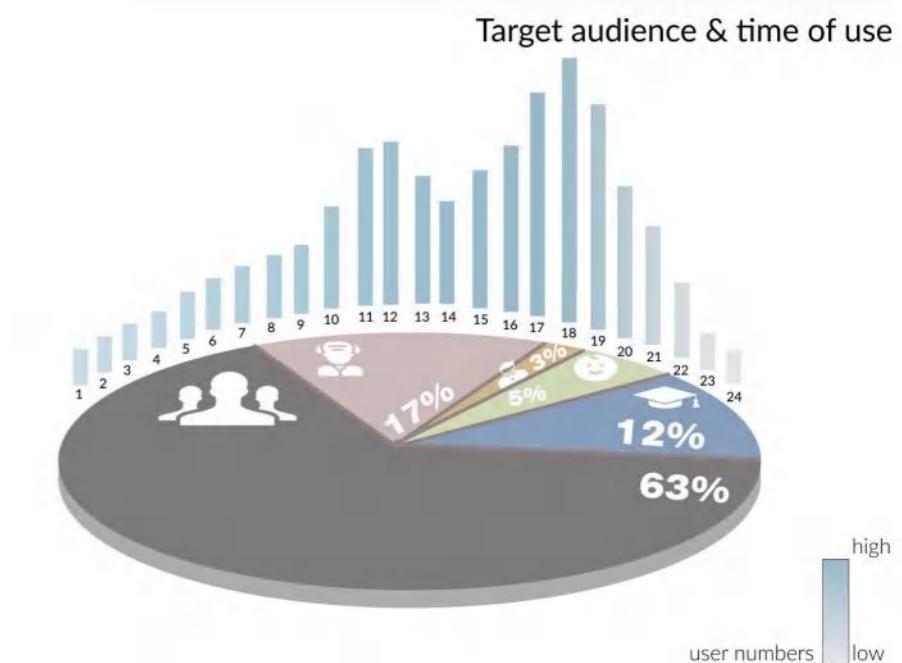
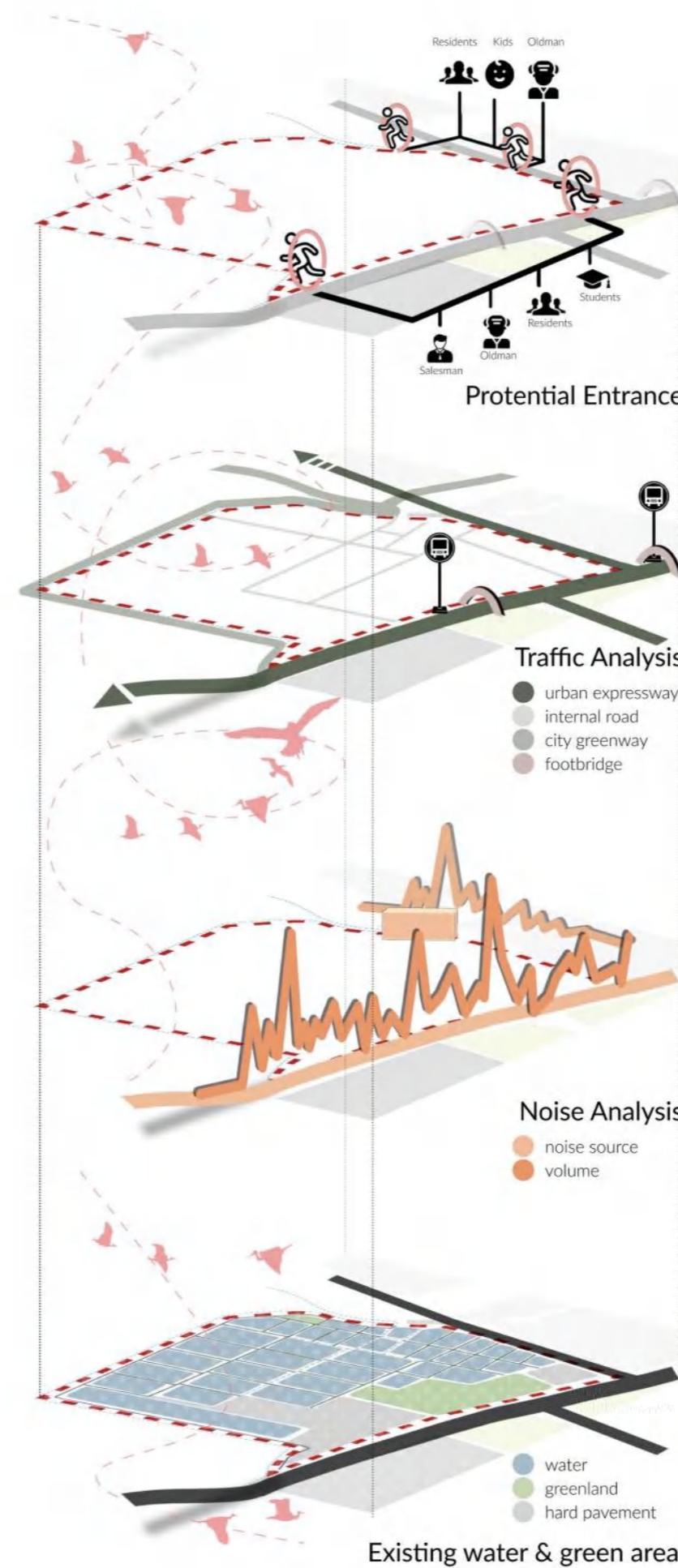
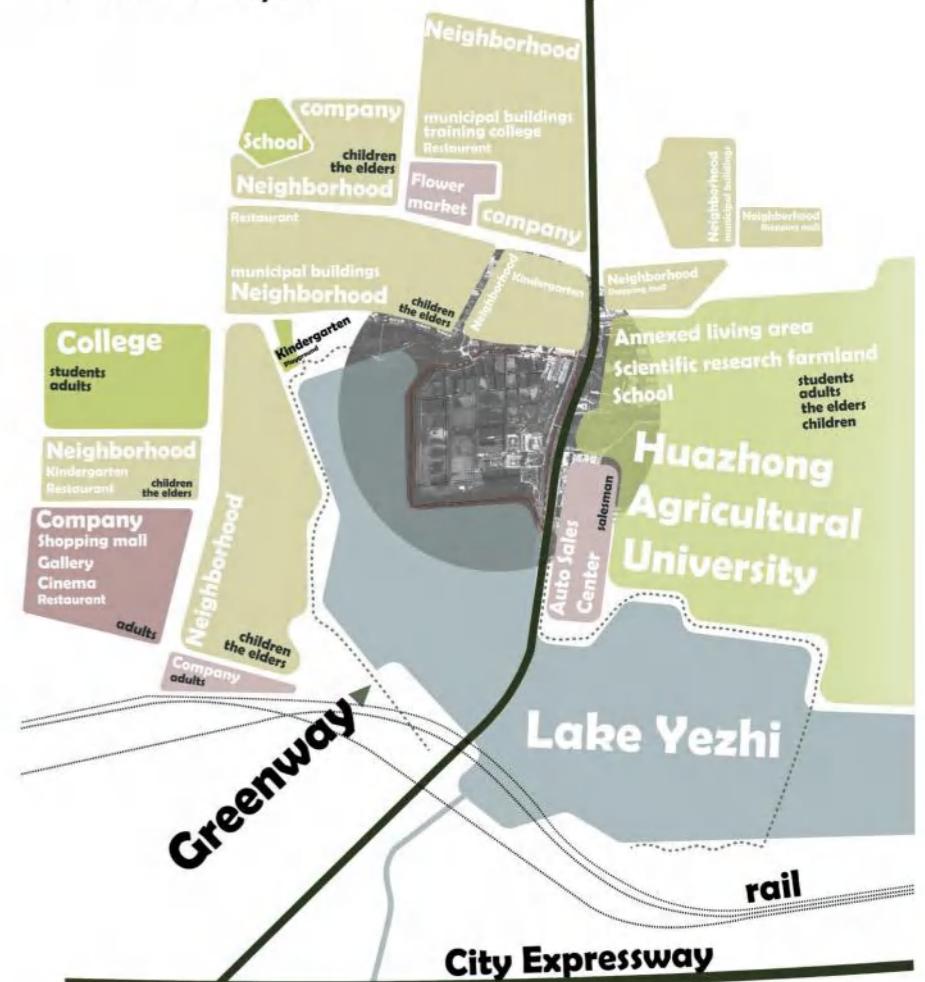
Site location



Bird resources

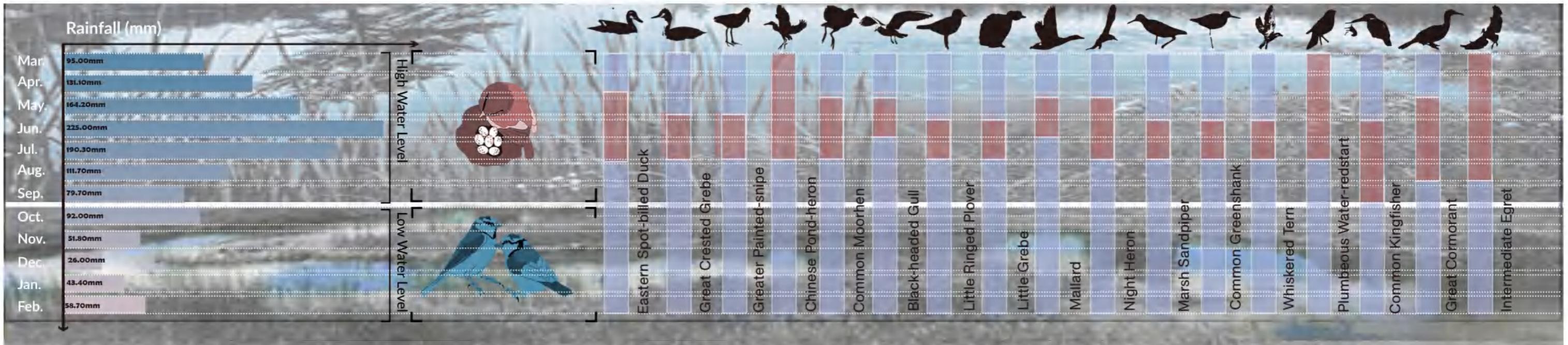


Landuse analysis

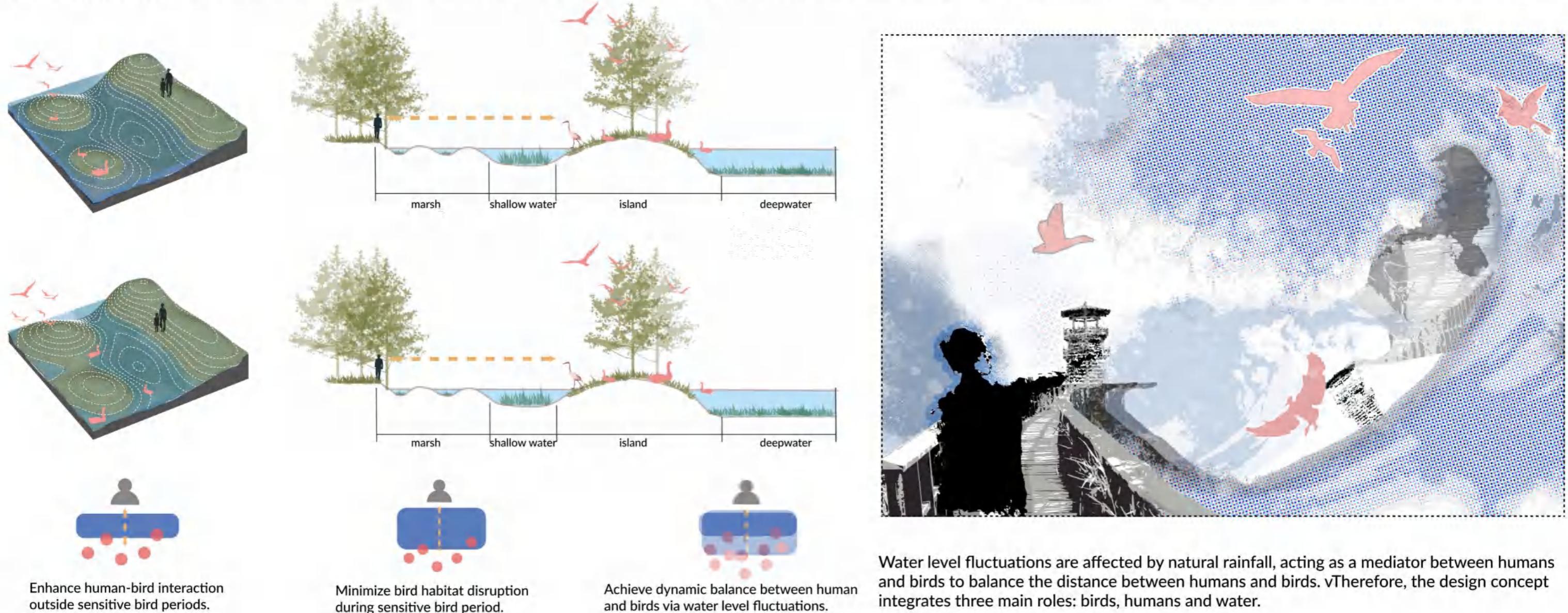


CONCEPT GENERATION

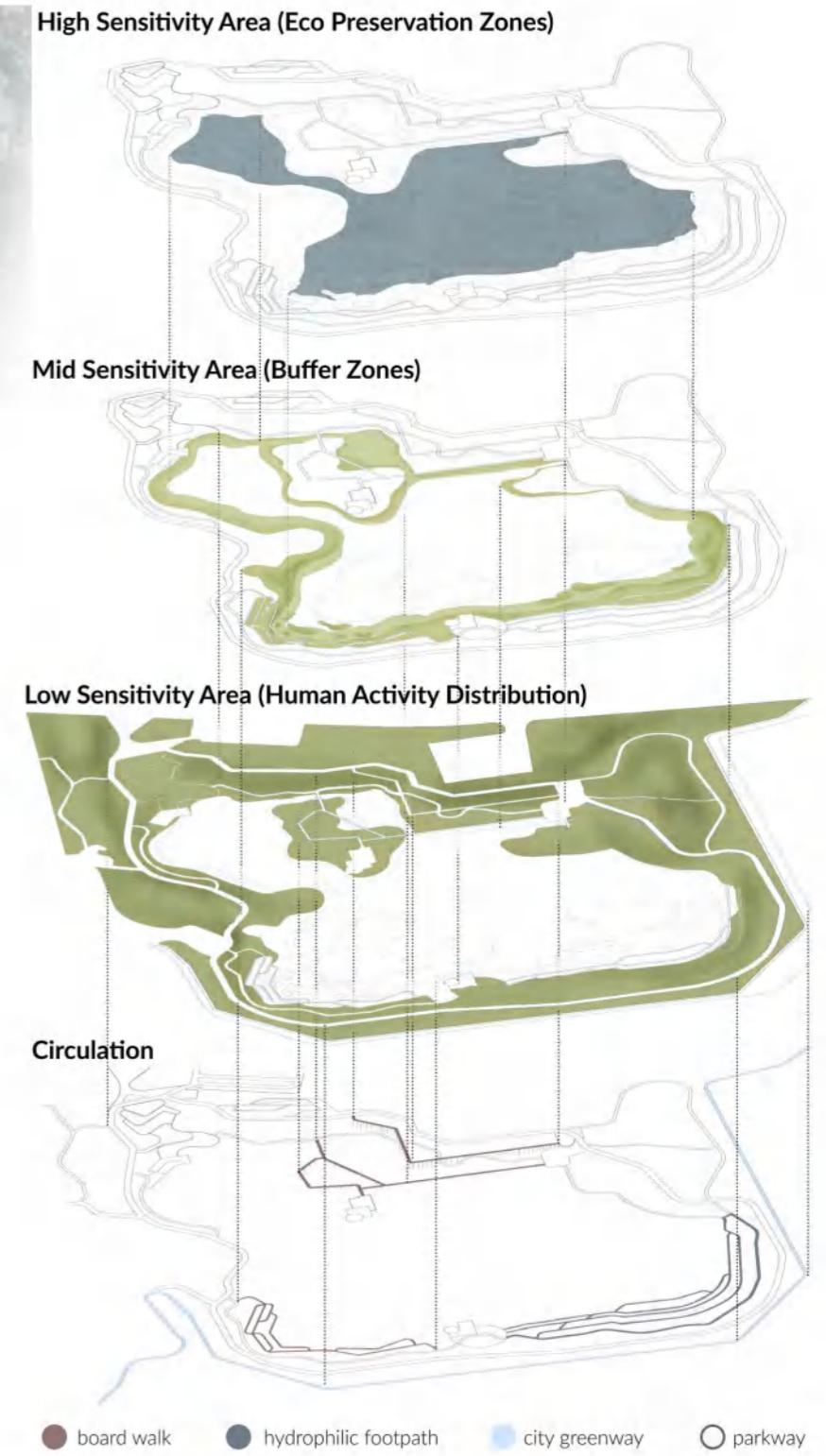
Relationship Between Birds Habits & Water Level Changes



Conclusion: Sensitive bird periods typically occur in Spring and Summer with higher water levels, while non-sensitive/ active bird periods fall in Autumn and Winter with lower water levels.



ILLUSTRATIVE MASTERPLAN



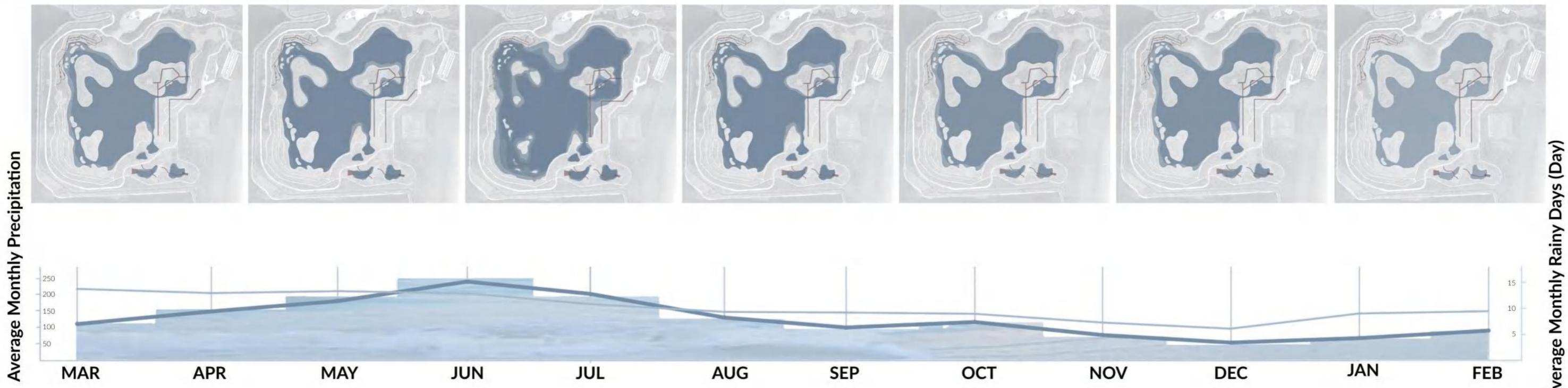
1.main entrance
2.garden
3.parking lot
4.viewing tower
5.areial boardwalk
6.bus station
7.hydrophilic platform
8.rain garden
9.viewing deck

10.wetland garden
11.viewing tower
12.bird watching boardwalk
13.children's playground
14.hydrophilic lawn
15.north entrance
16.sport center
17.visitor center & bird museum
18.north entrance

19.main water surface
20.secondary water surface
21.bird conservation center
22.bird habitat
23.city greenway
24.footbridge
25.footbridge

GRADING & WATER EDGE TREATMENTS

Variation of Water Level

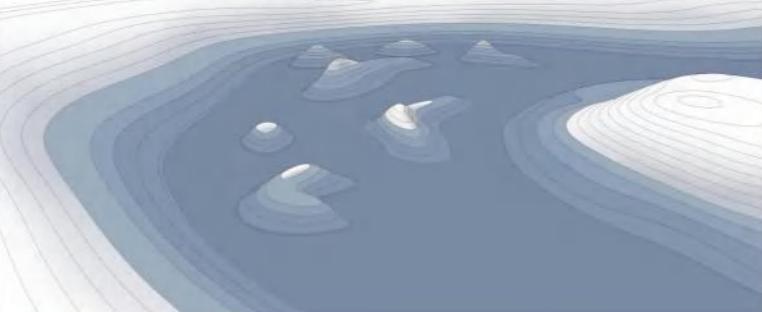


Water Edge Treatments

1. Ecological Patches



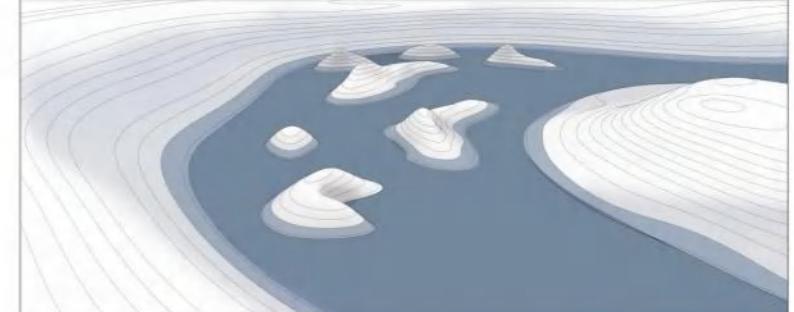
High Water Level



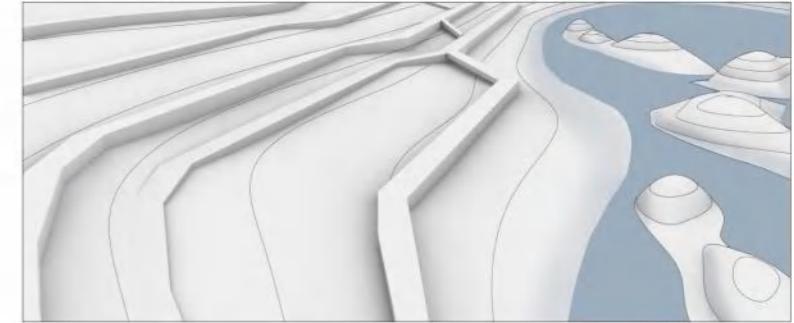
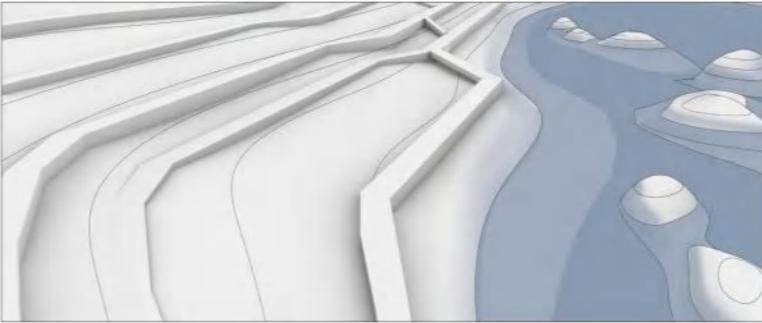
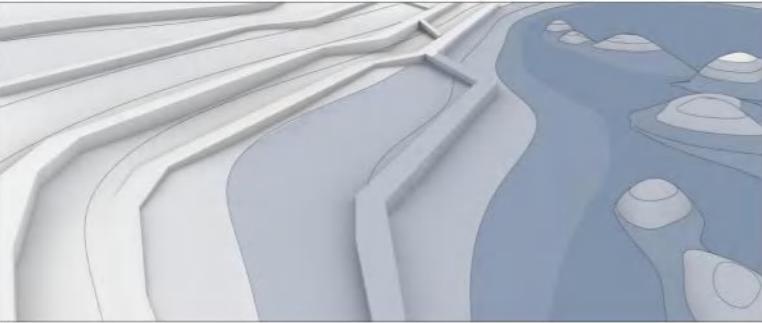
Mid Water Level



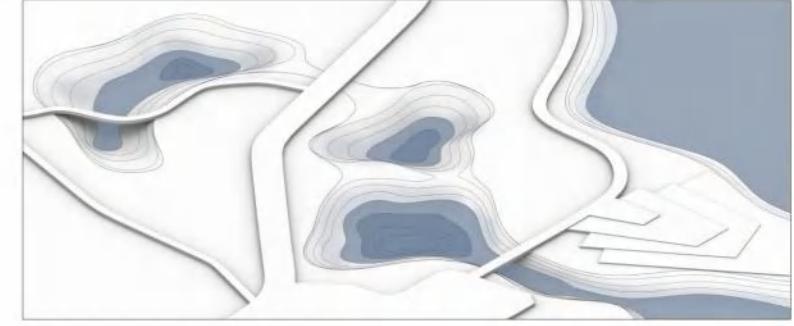
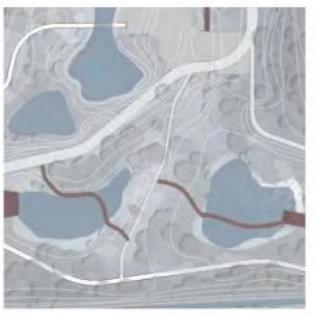
Low Water Level



2. Terraced Revetment



3. Rainwater Purification Ponds



HABITAT REBUILDING



Habitat Type 1



Waterfront Trail
of
metasequoia forest



Habitat Type 2



Wetland purification
zone



Habitat Type 3



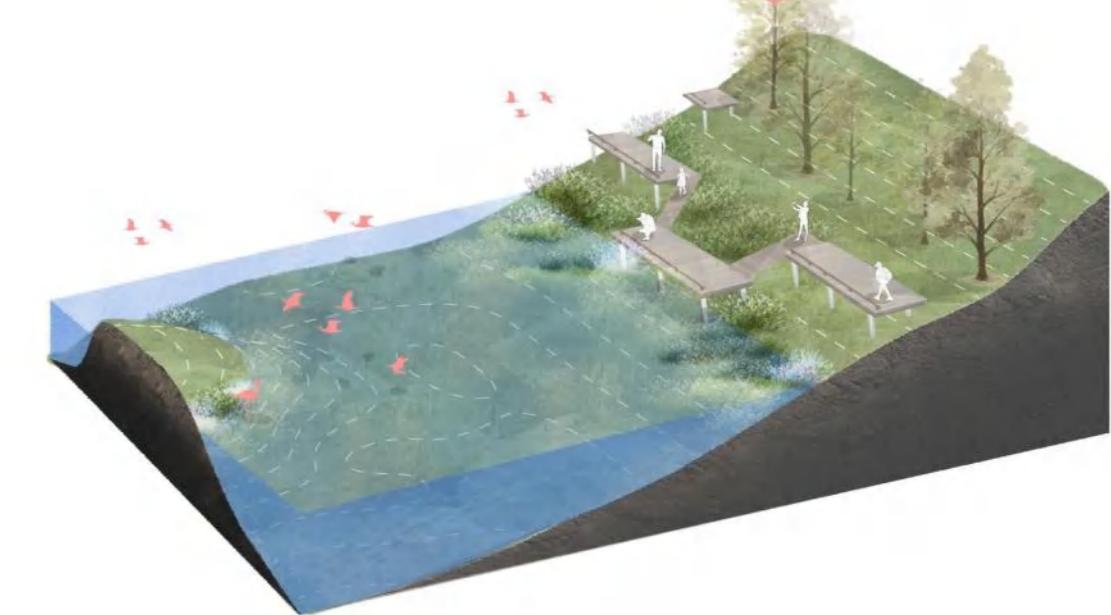
Hydrophilic shallow



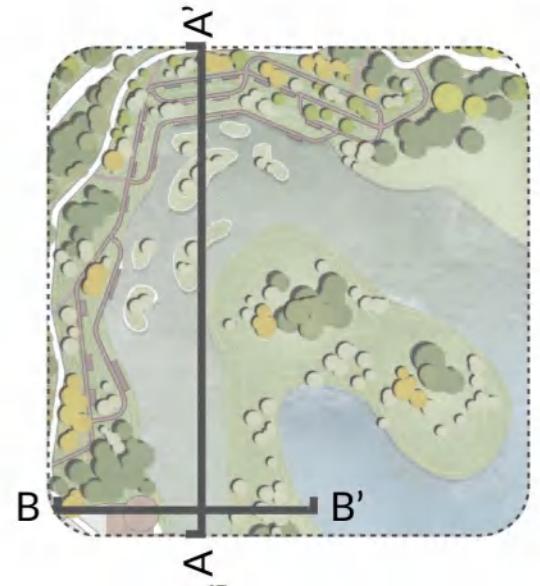
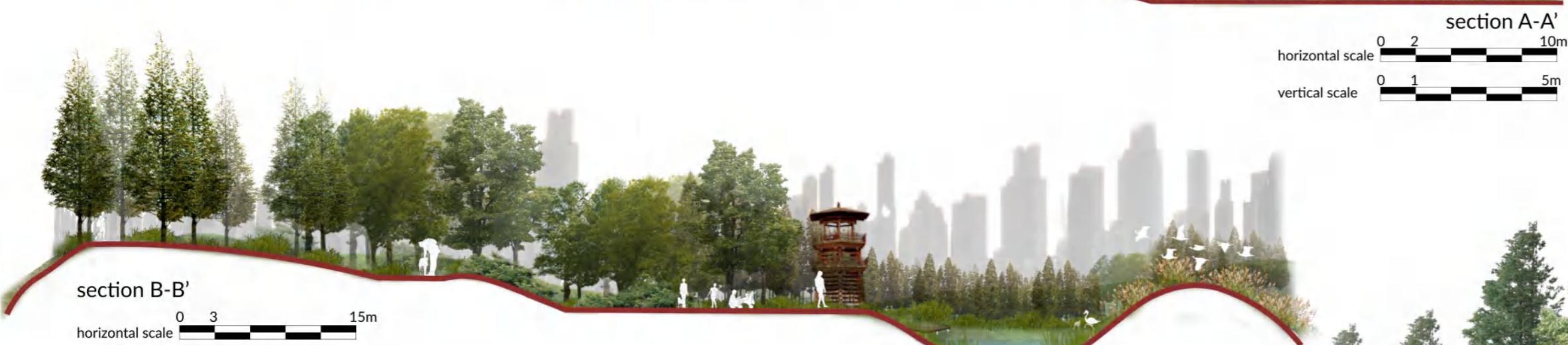
Habitat Type 4



Bird watching trail



SECTIONS & RENDER



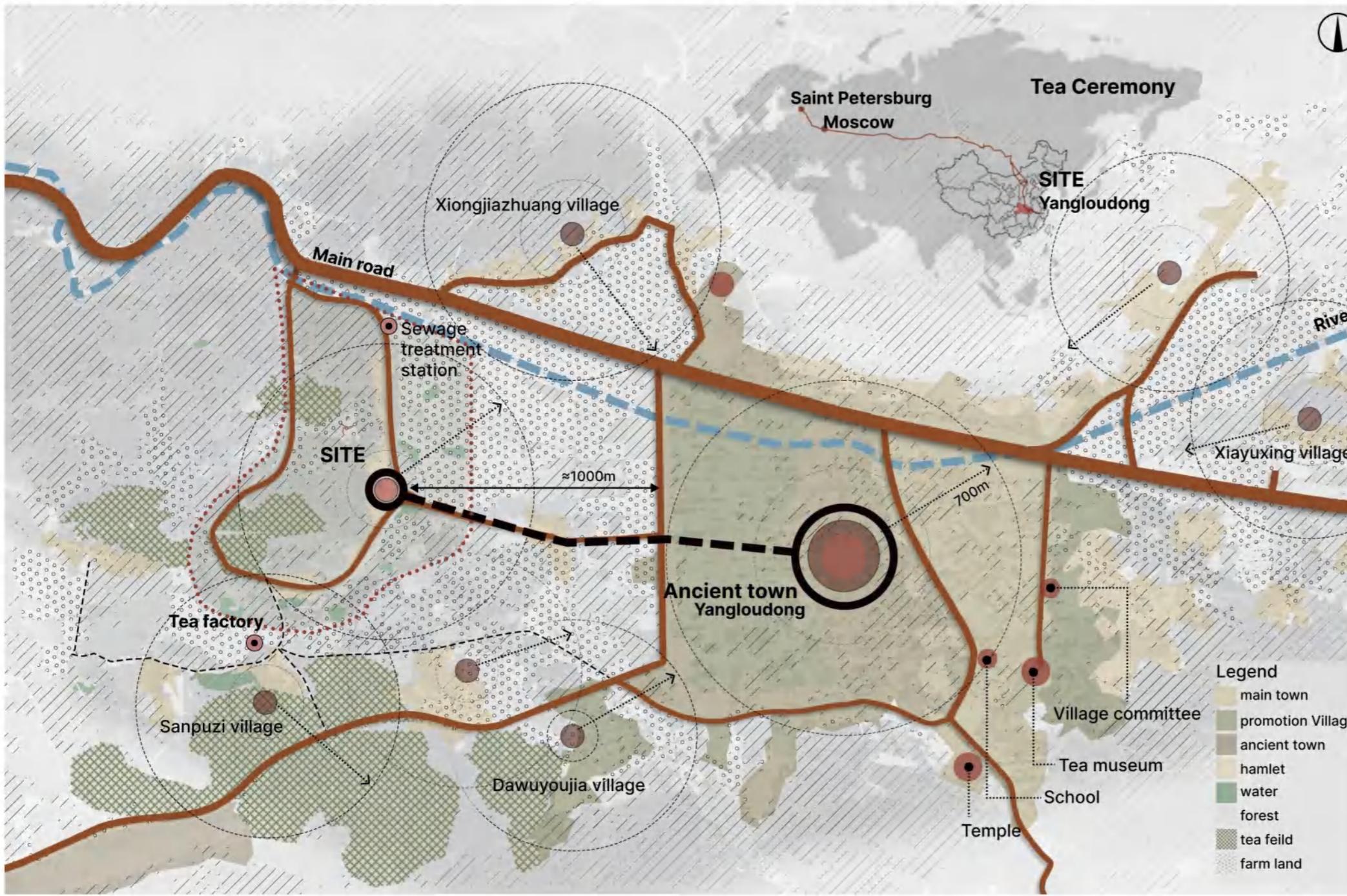
REVIVE TEA

- Site: Chibi, China
- Theme: Industry, Rural revitalization, Intangible Cultural Heritage
- Academic year: 2024

The project focuses on a small town in central inland China, Chibi City, which as one of the important nodes of the Tea Ceremony, preserves a large amount of historical memory. Site selection and design renovation around the ancient town, attempting to promote the revival of local industries and economic development through landscape means. While seeking the path of industrial revitalization, the project also focuses on the inheritance and development of local culture.



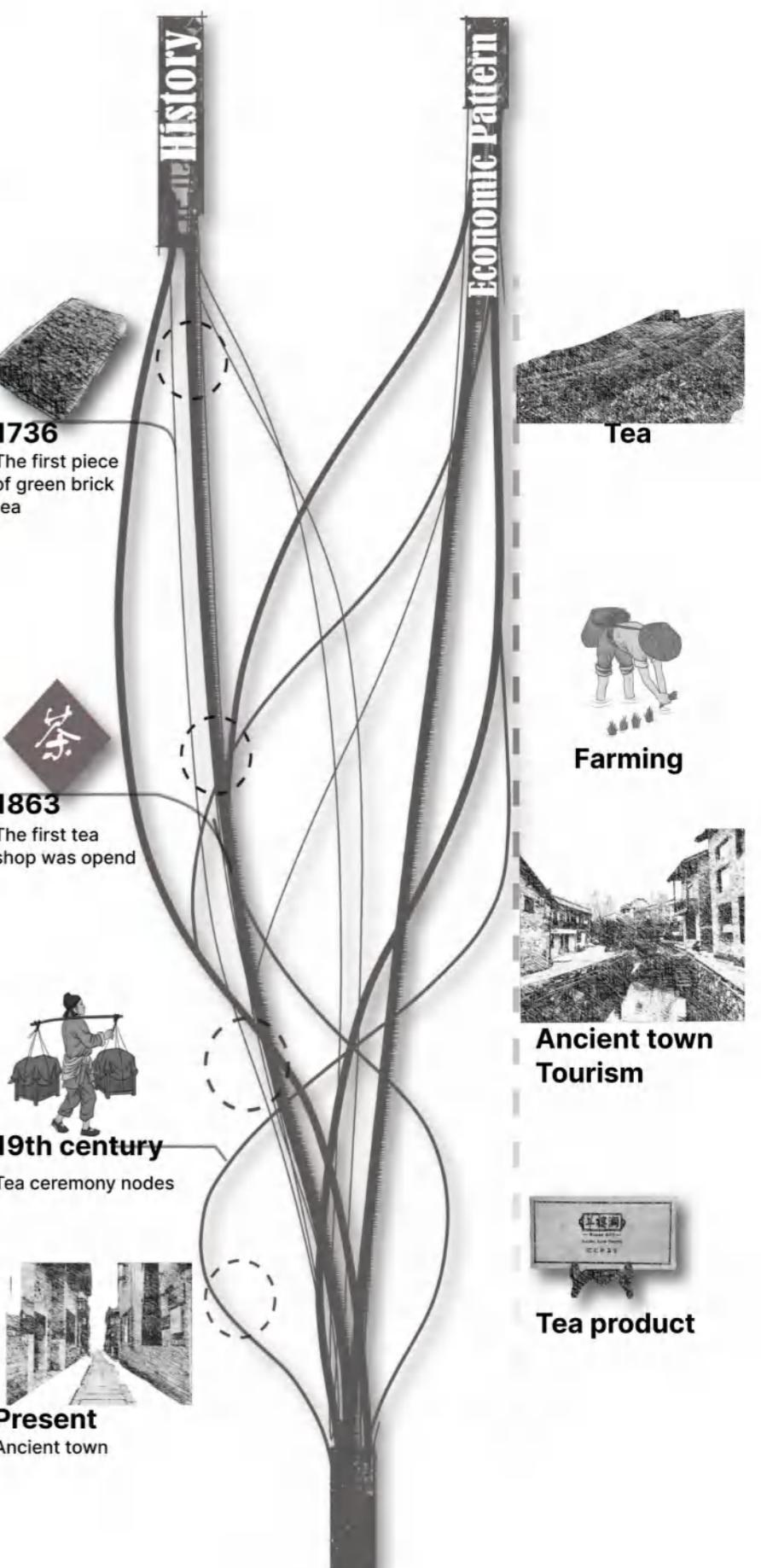
SITE ANALYSIS



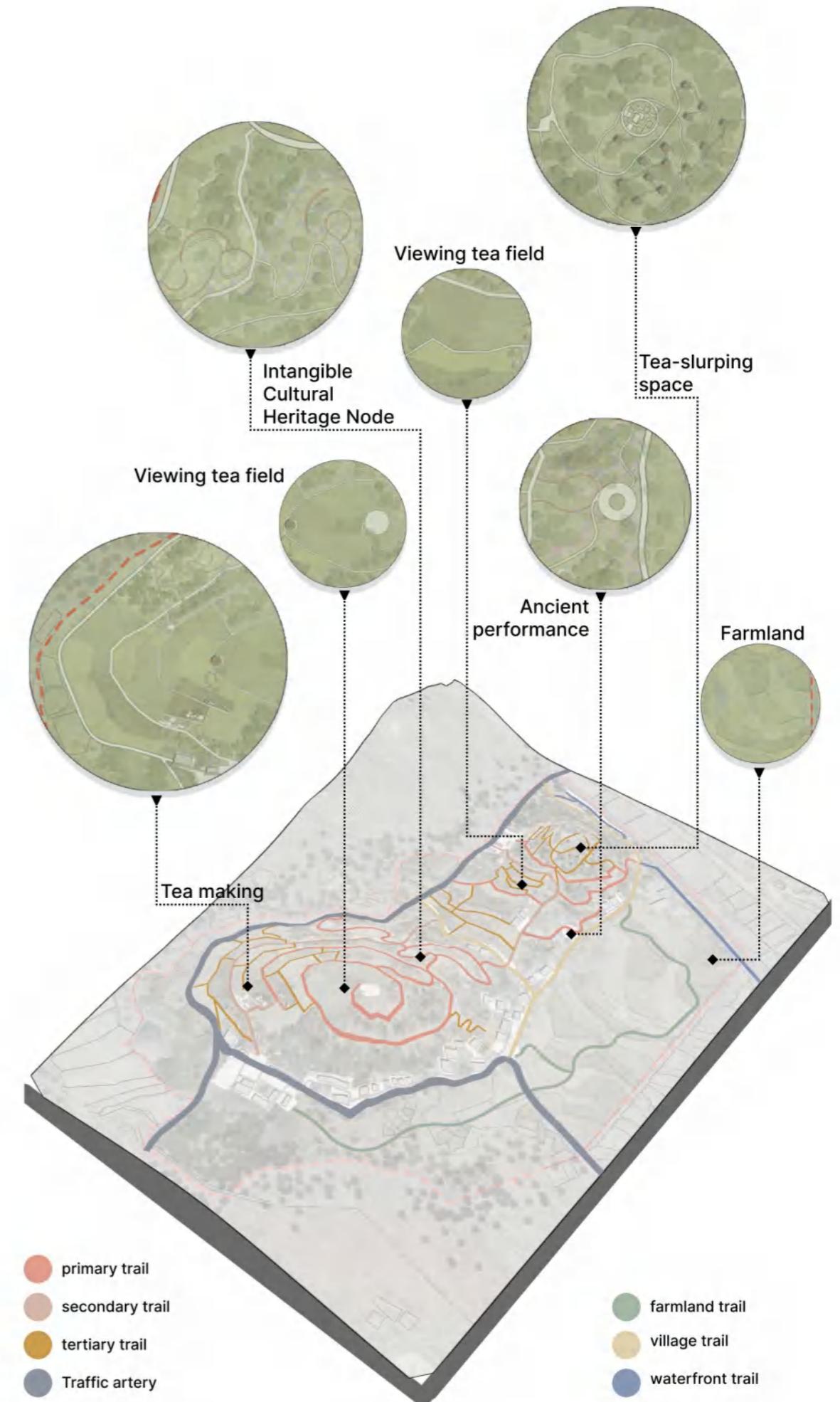
Analyze the slope of different areas of the site through GIS methods

Explore the land use types of different plots on the site through on-site research

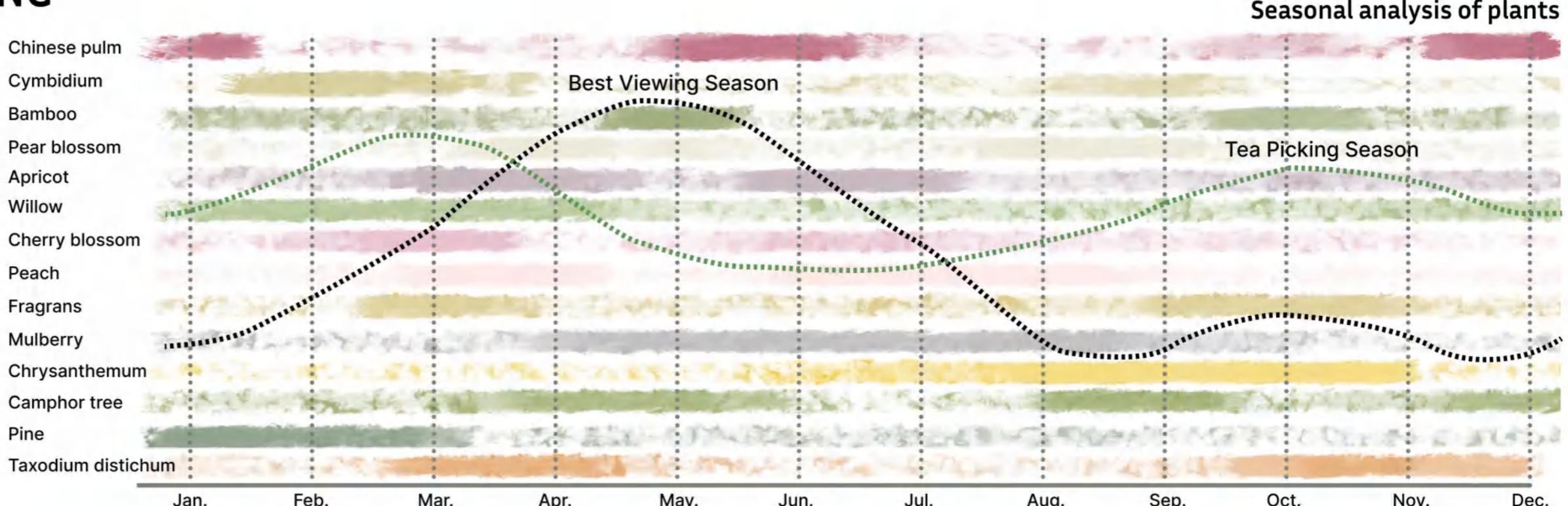
Weighted by factors such as slope, sun light conditions, and original land use types, determine the suitable area for use as a tea field



MASTERPLAN



VEGETATION PLANNING



Chinese plum

Prunus mume Siebold & Zucc.

Using area: Intangible cultural heritage landscape node

Reason: As a traditional Chinese flower, it collaborates with nodes to create spring and winter festival landscapes.



Cymbidium

Cymbidium spp.

Using area: Intangible cultural heritage landscape node

Reason: As a traditional Chinese flower, it collaborates with nodes to create a landscape close to one's sight.



Bamboo

Bambusoideae

Using area: Hillside, mountaintops

Reason: As a large amount of vegetation originally present on the site, it creates a serene and peaceful atmosphere on the mountaintops.



Pear Blossom

Pyrus spp.

Using area: Surrounding farmland

Reason: As a large amount of vegetation originally present on the site, it has been preserved as part of the site landscape close to farmland.



Apricot

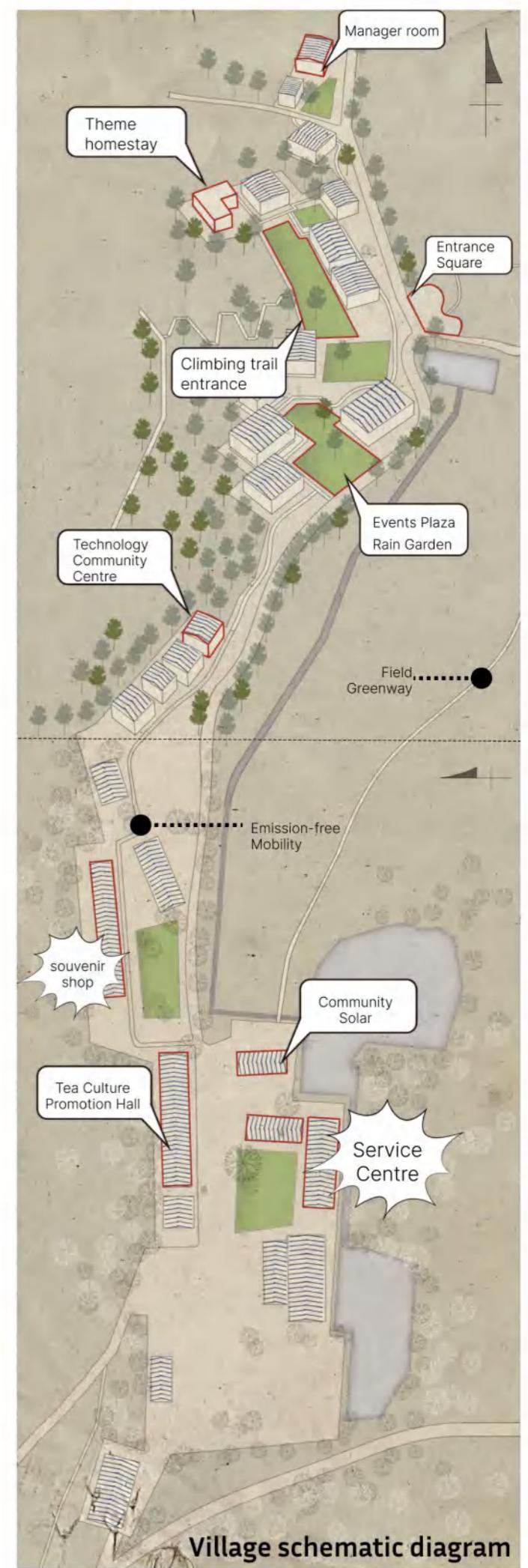
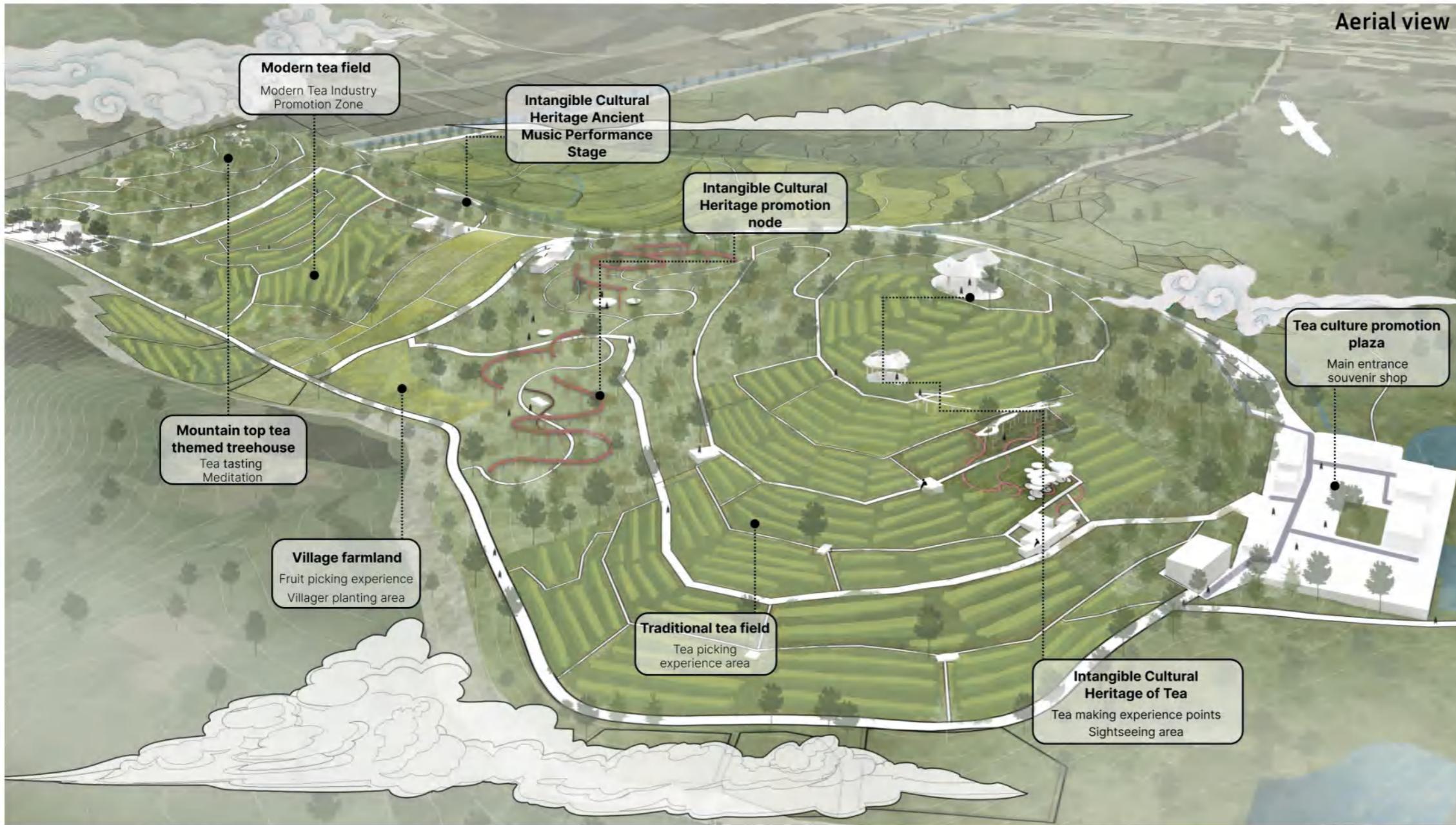
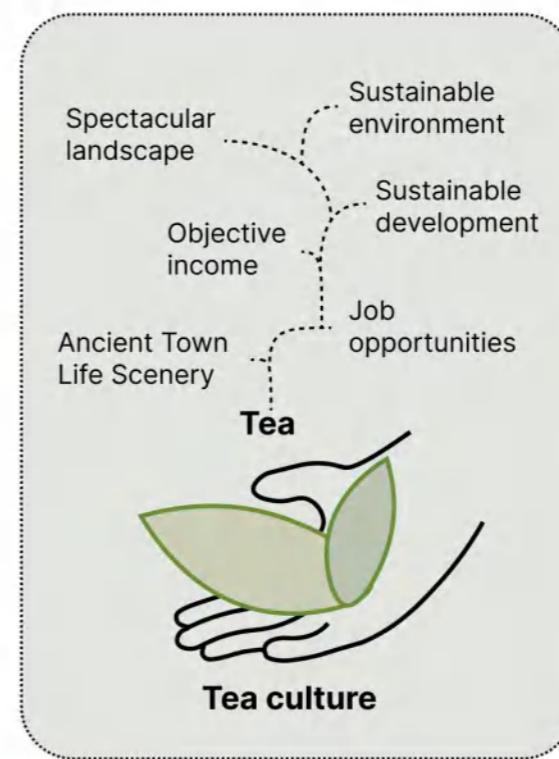
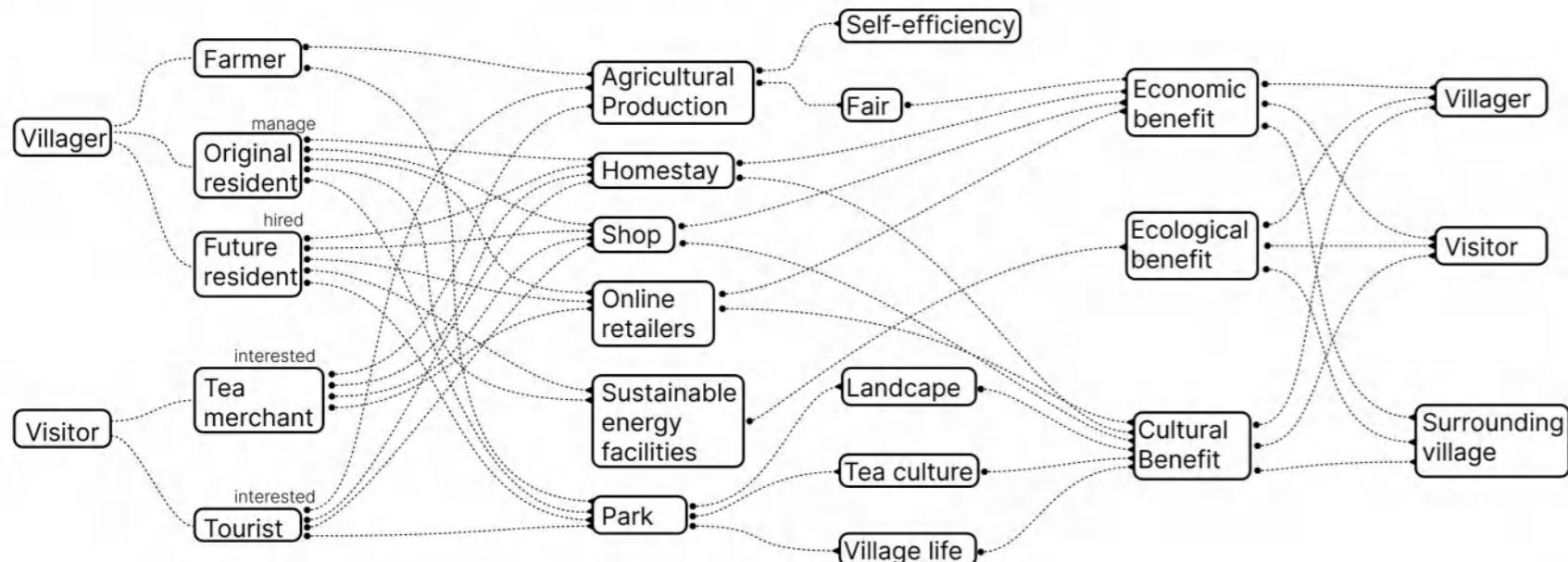
Prunus armeniaca L.

Using area: Village

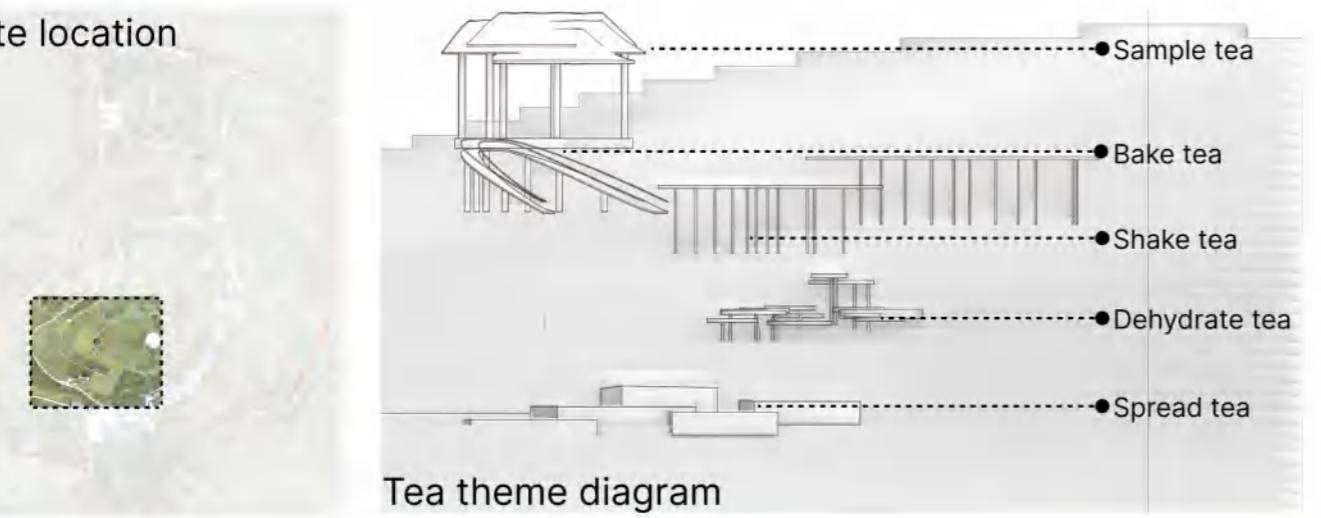
Reason: The plants planted by villagers in their own courtyards extend from the walls onto the road, becoming a part of the public landscape.



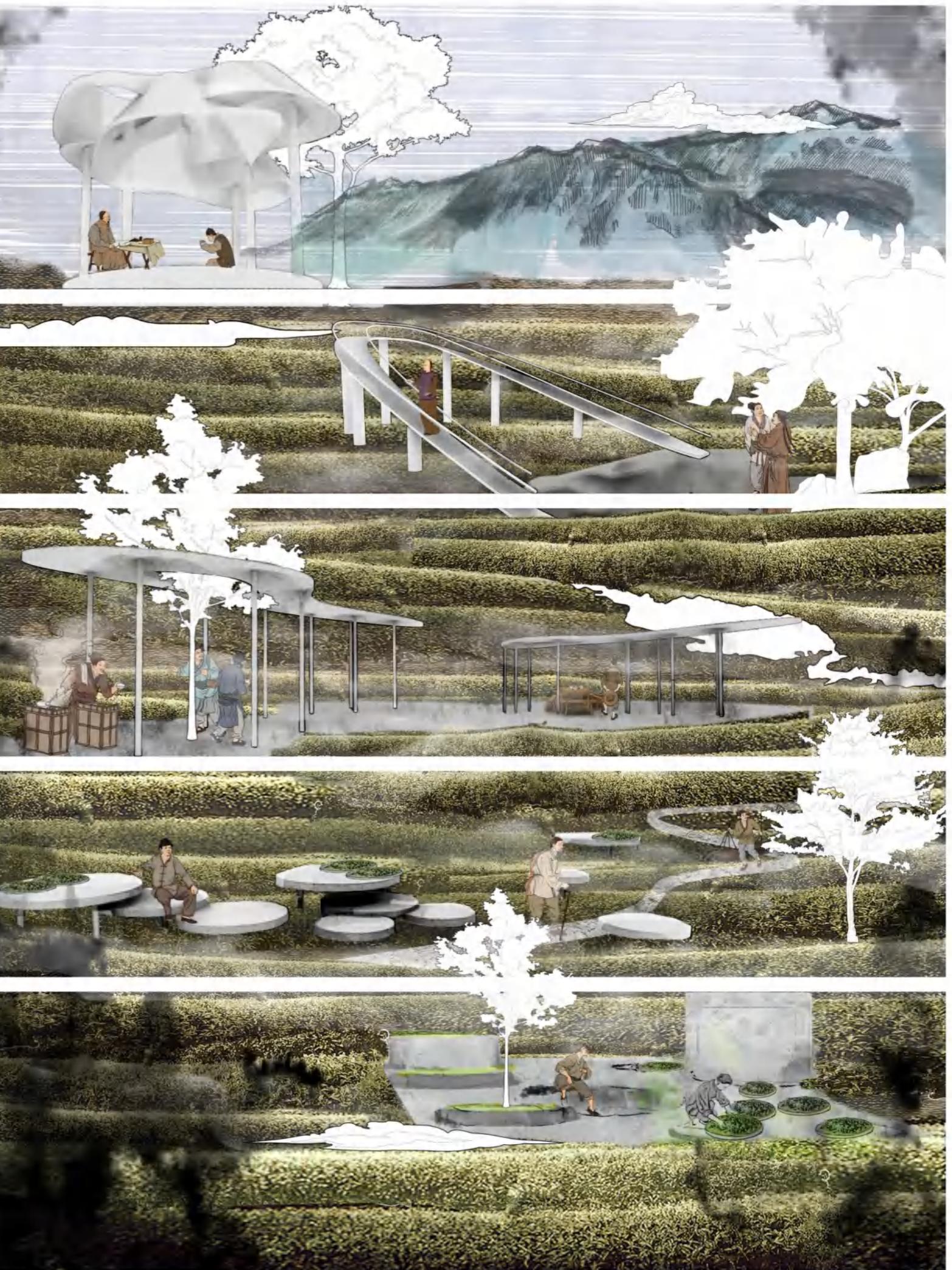
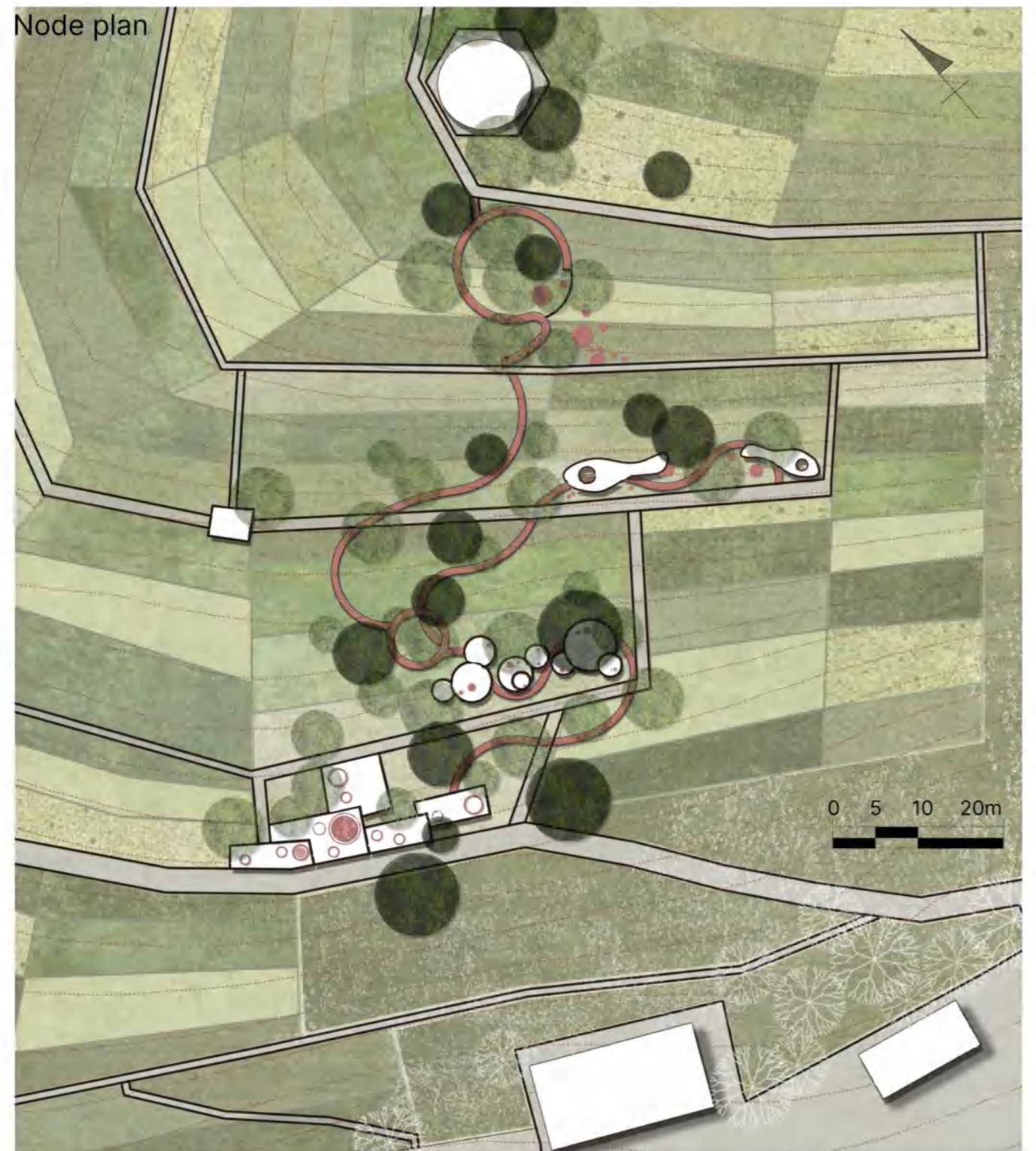
INDUSTRY TRANSFORMATION



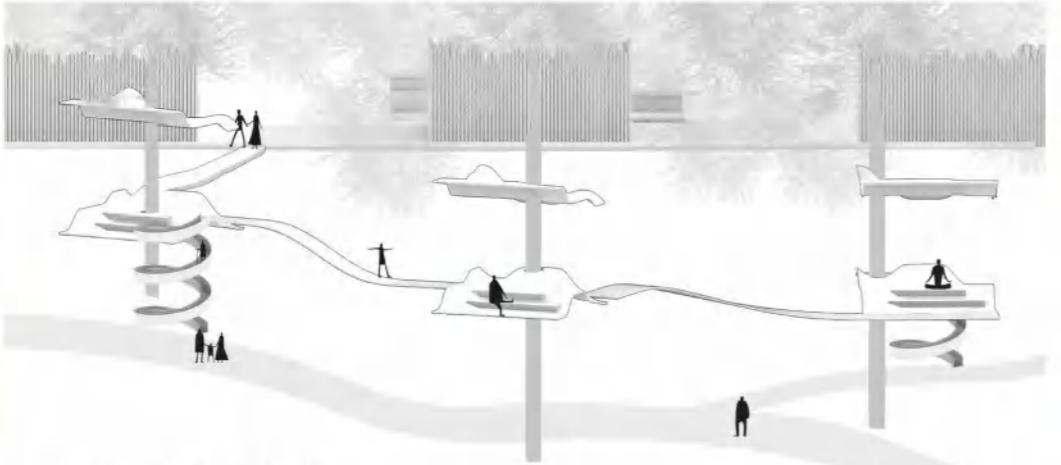
Site location



Node plan

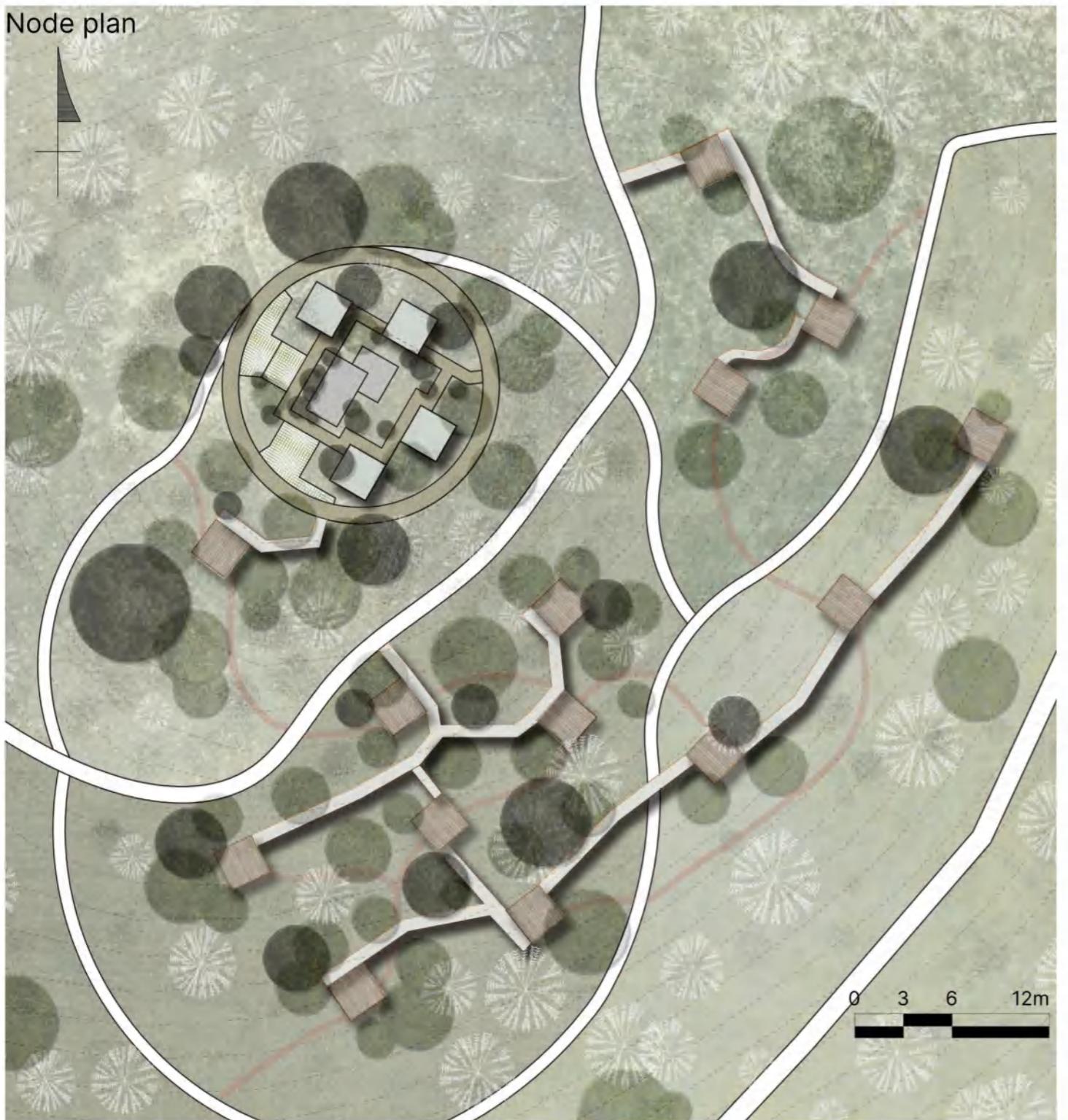


Site location



Elevation diagram

Node plan

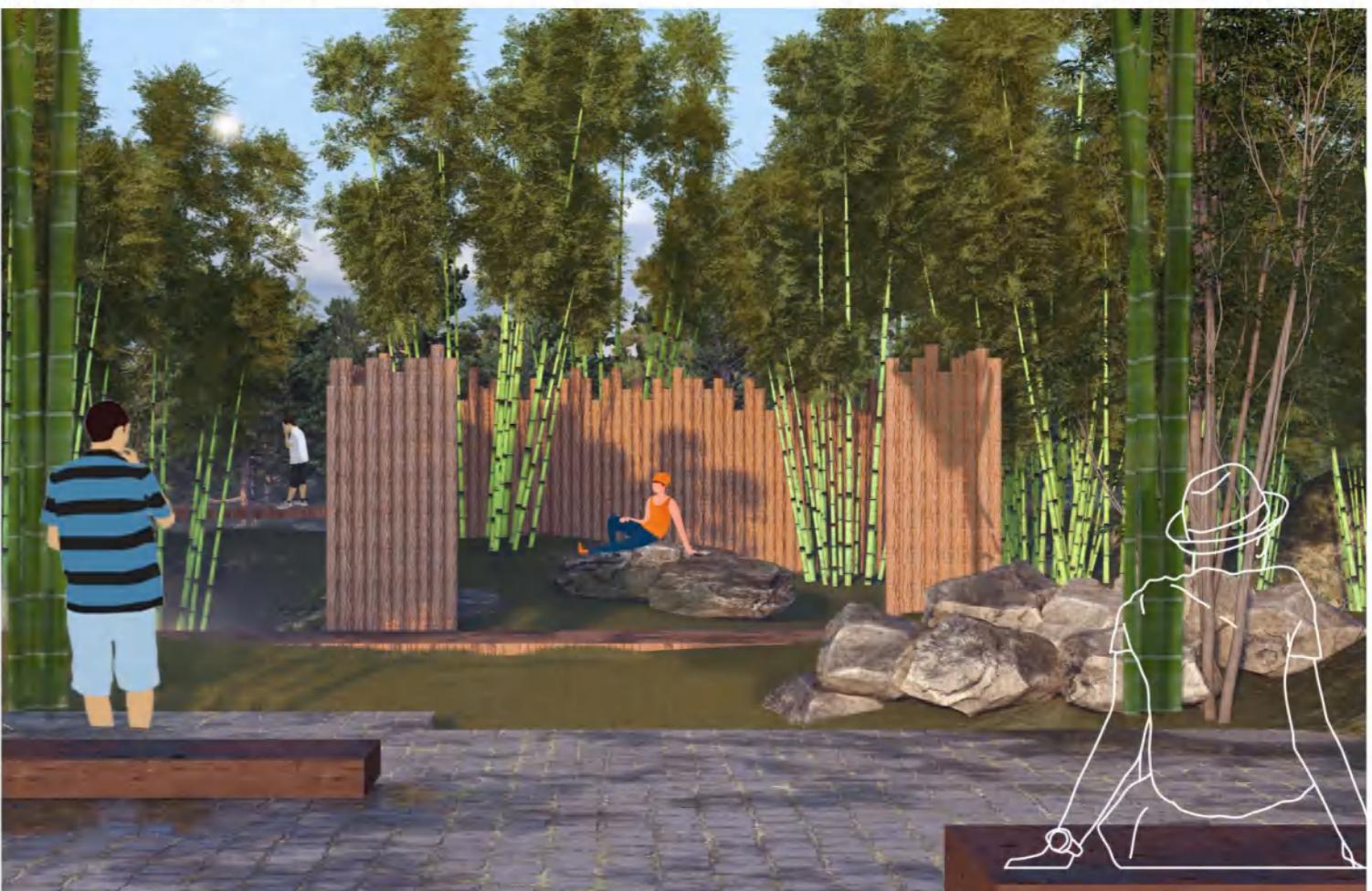


0 3 6 12m



Tea tree house

Meditation with bamboo



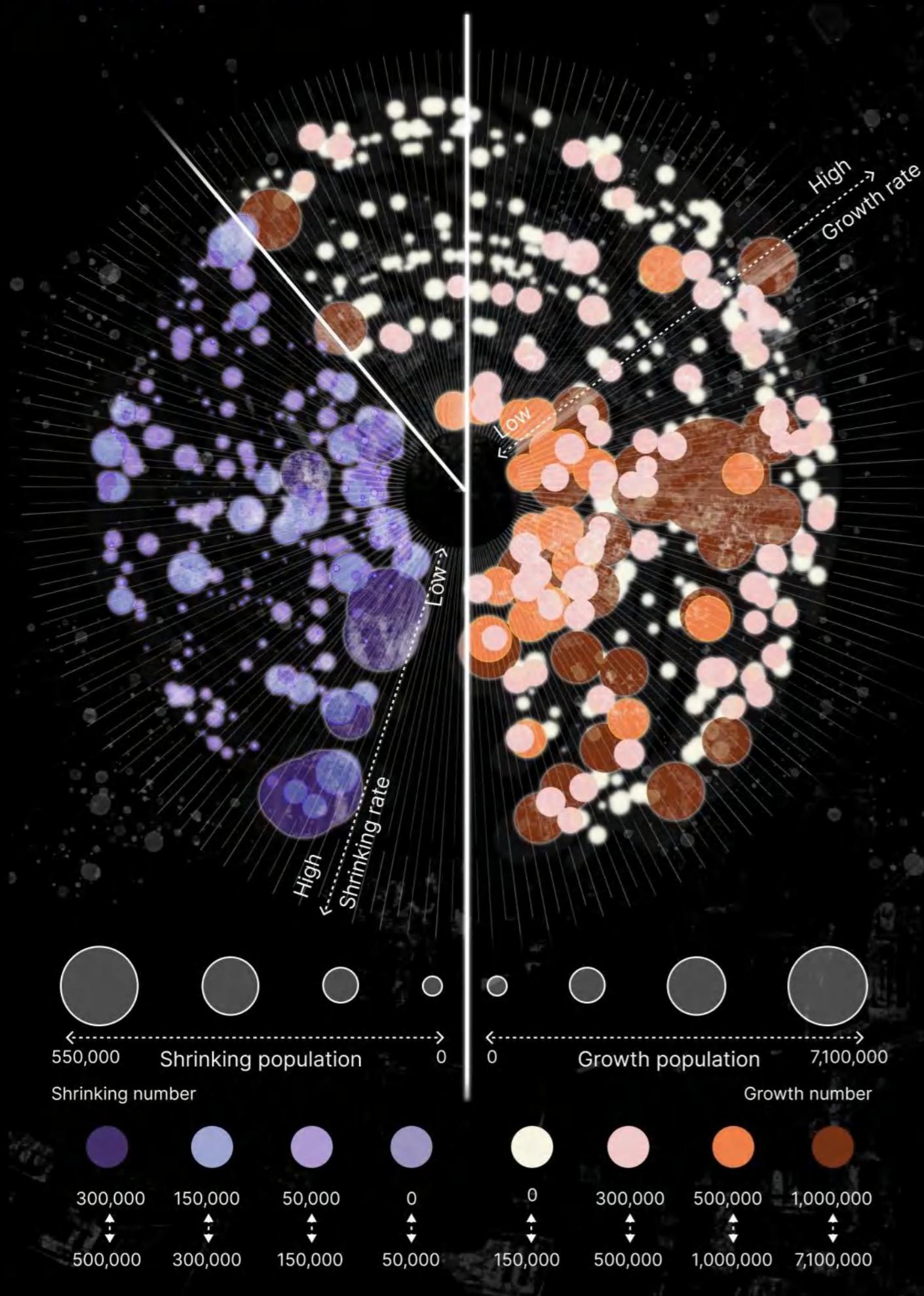
Future Shrinking Cities

- Site: Anshan, China
- Theme: street renovation
- Academic year: 2024

In the era of rapid development in China, there are also a large number of rapidly shrinking cities facing economic, social, and other problems. This project aims to take typical shrinking cities in Northeast China as an example, and attempt to address the problems caused by urban shrinkage by redesign urban street corner and public spaces and formulating policies.



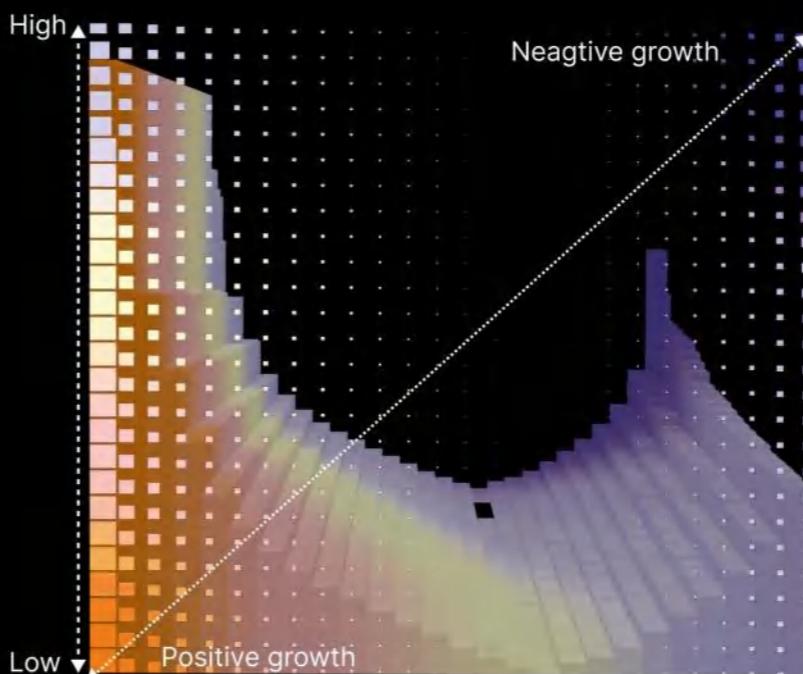
SHRINKING CITY



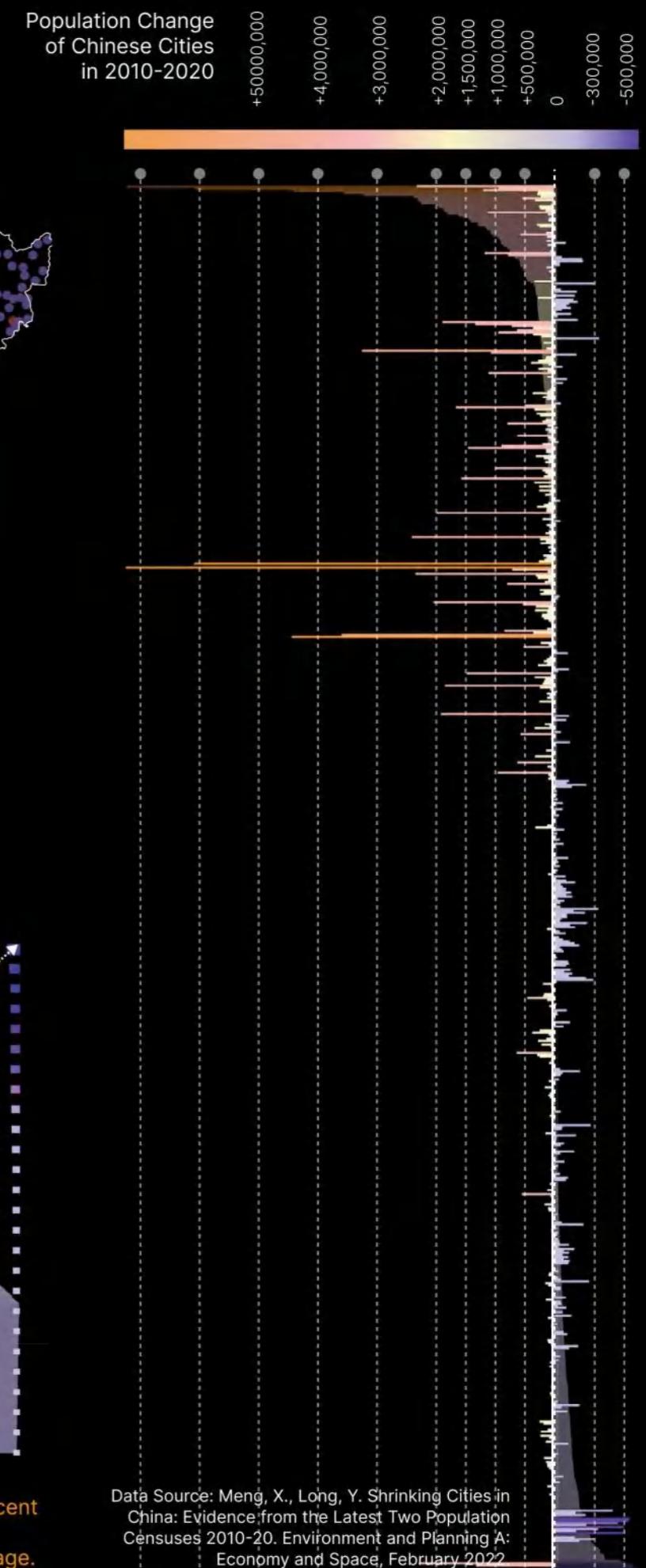
Shrinking Cities in China



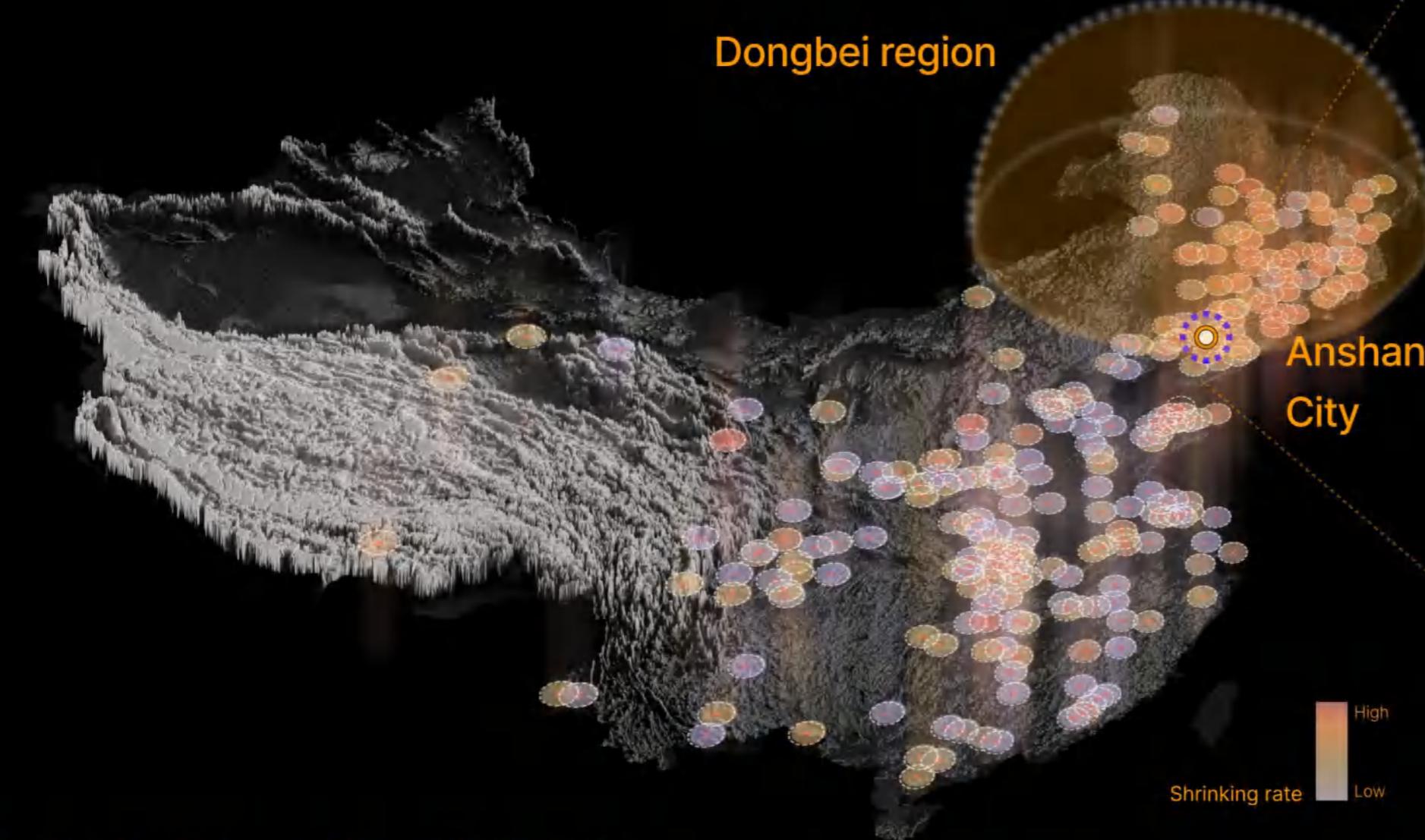
Change in population growth rate



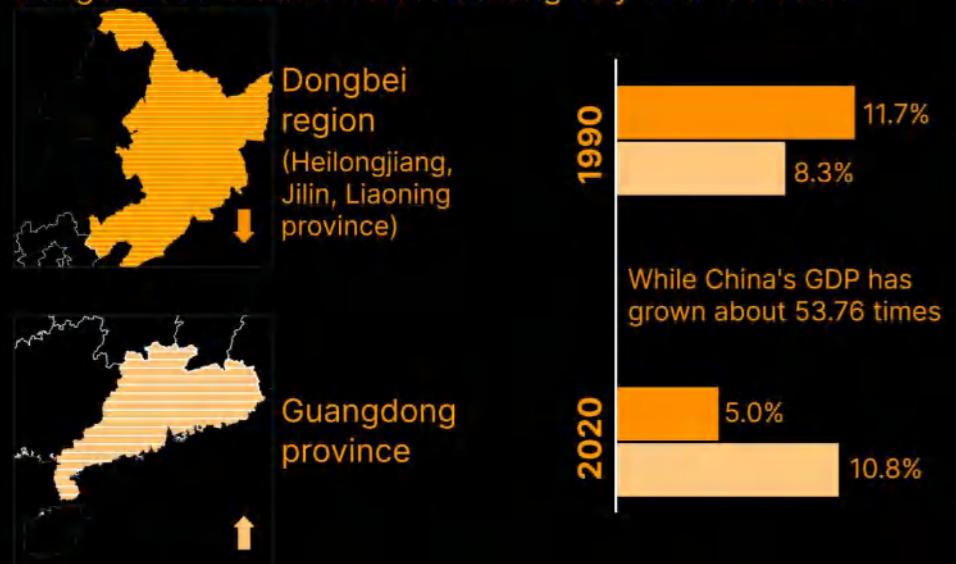
Despite the continuous expansion of Chinese cities in recent decades, population data shows that a large number of Chinese cities are currently facing the problem of shrinkage.



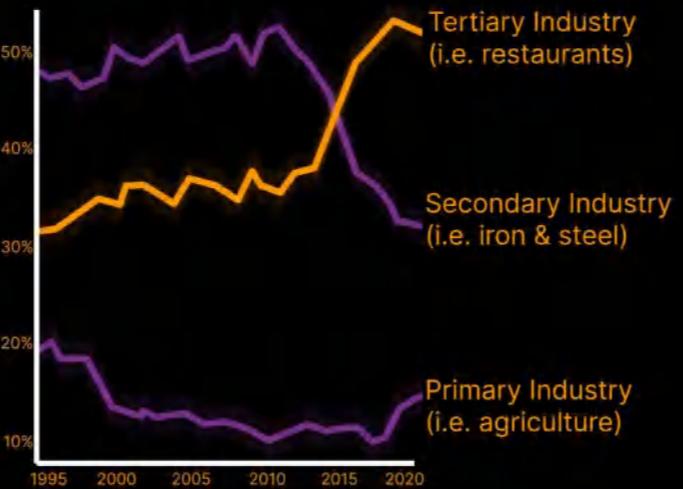
CONCEPT FORMING



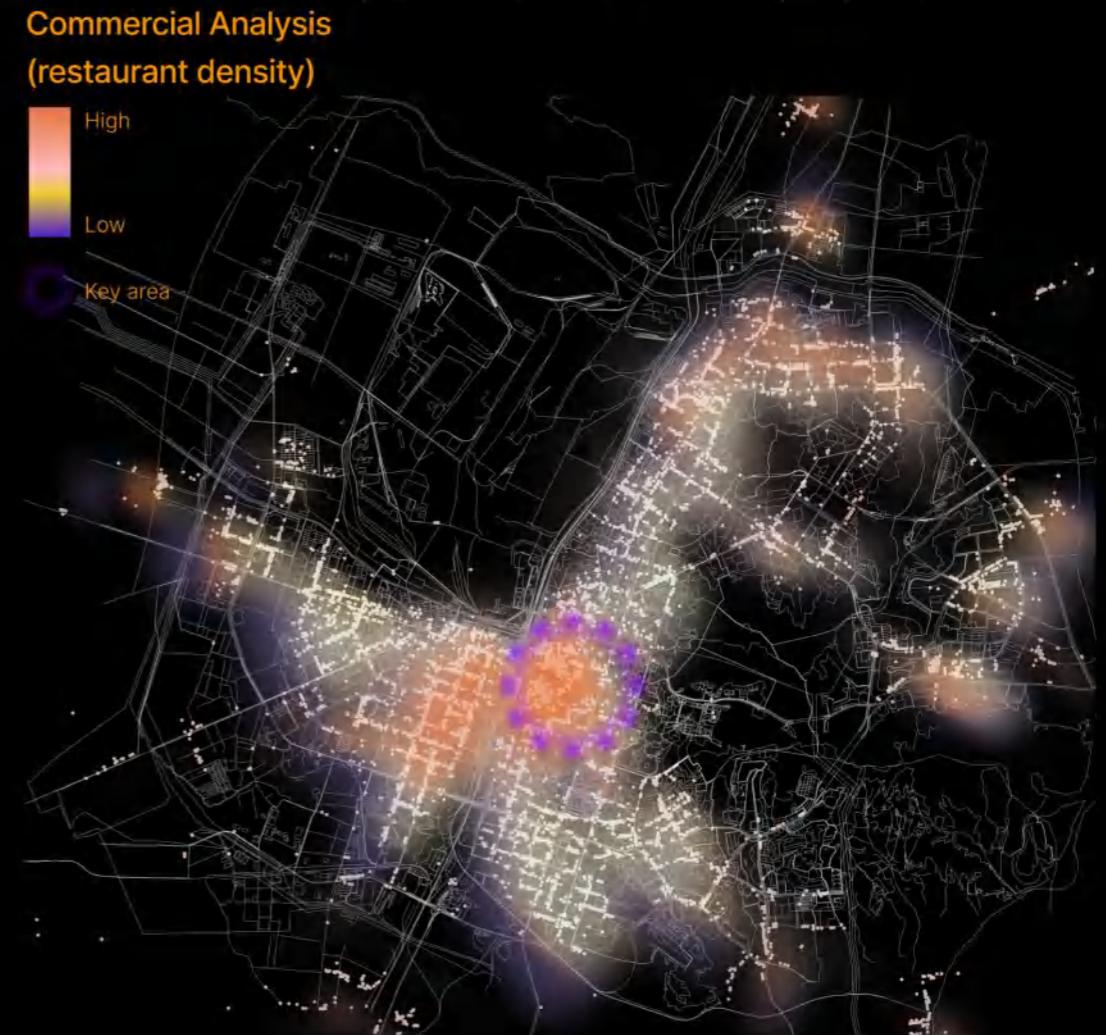
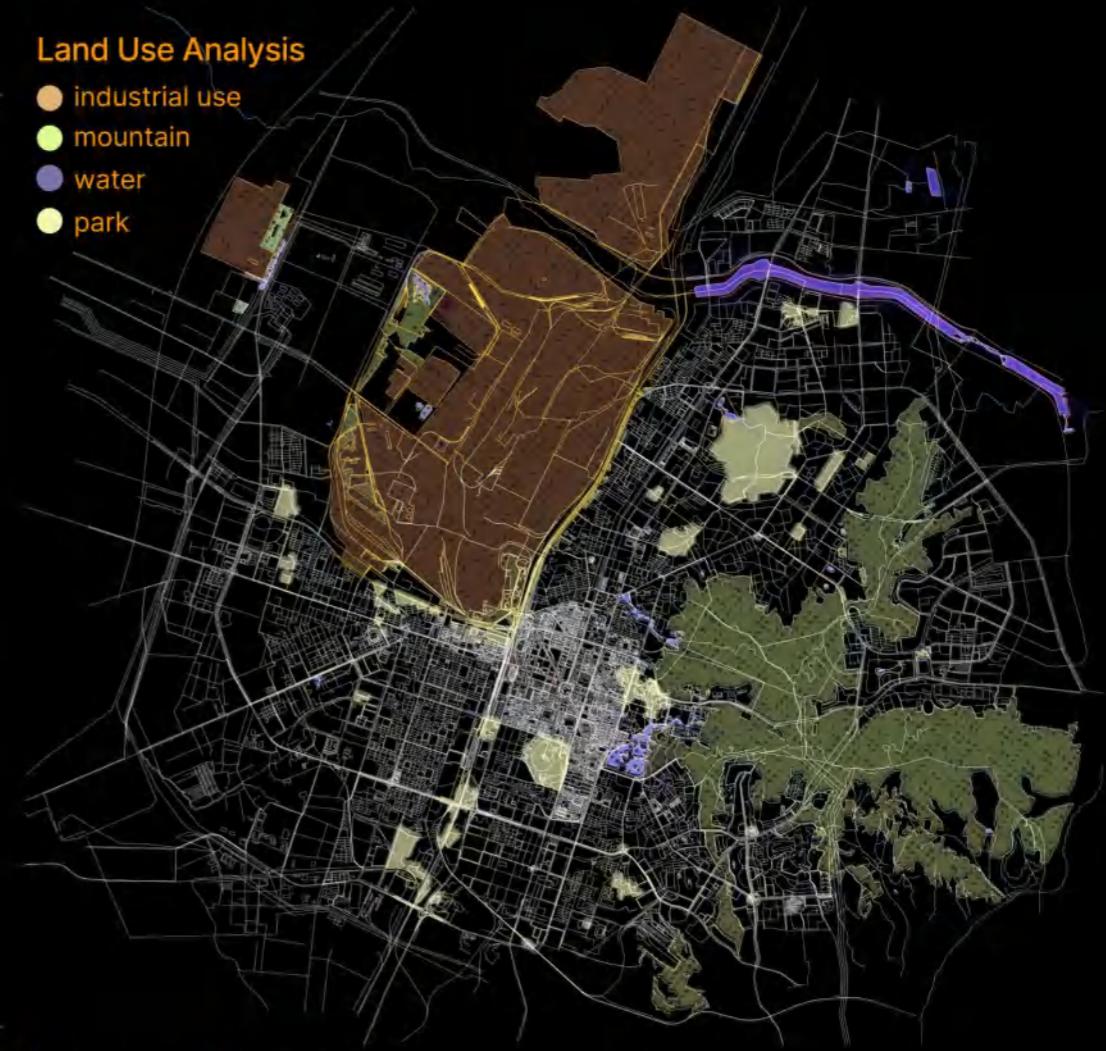
Dongbei GDP Shrinks vs. A Booming City Over 30 Years



Main Sectors of Industry Changes



Cities in northeast part of China has experienced a severe shrinking problem, accompanied by a regional economic downturn and industrial transformation. Though Dongbei's primary and secondary industries are declining, its tertiary sector, especially food and restaurants, is thriving.



DINING DYNAMICS & SOCIAL MAPS

Target Custom for Different Types of Restaurants



Distribution of Different Types of Restaurants in Central Anshan City



Popular Routes in Central Anshan City



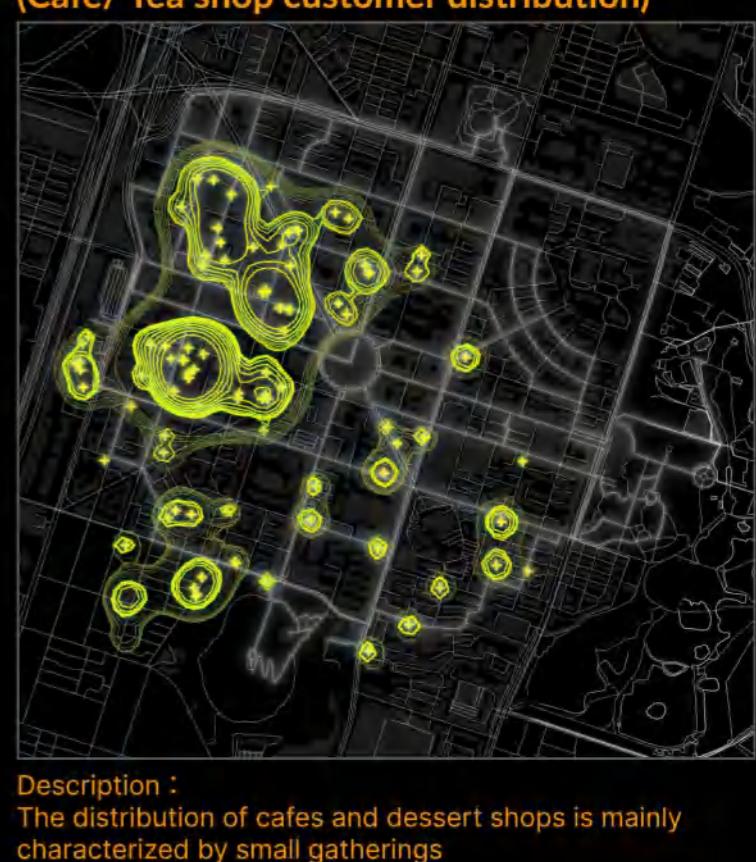
Description :
By constructing the shortest path between sightseeings, it is inferred that the path used by the local population is more intensive, so as to analyze the surrounding food and beverage based on this

Transit Spots (Fast food customer distribution)



Description :
The distribution of fast food restaurants in the region is characterized by a point distribution

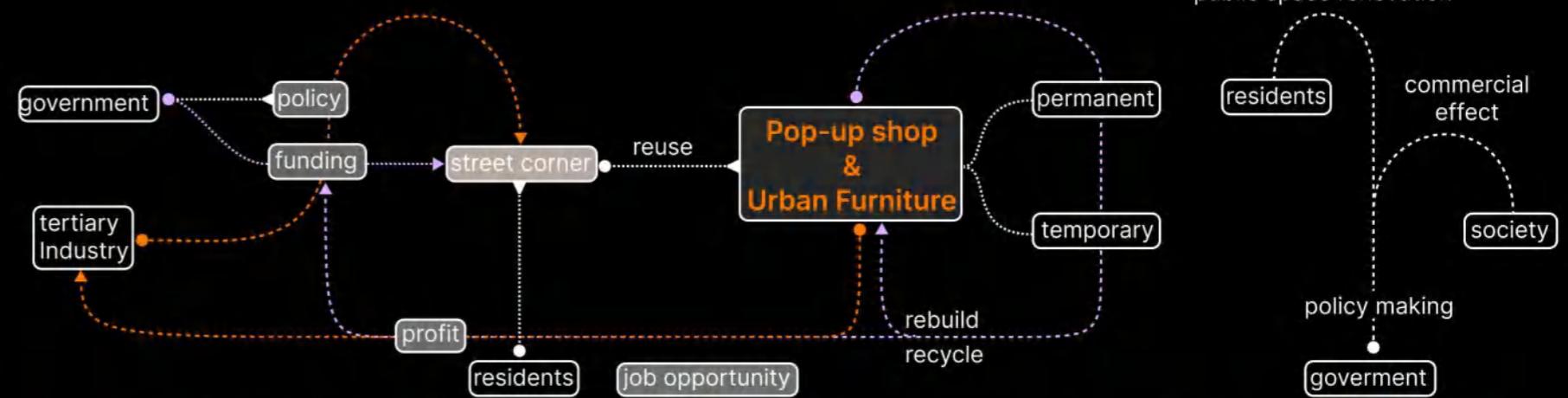
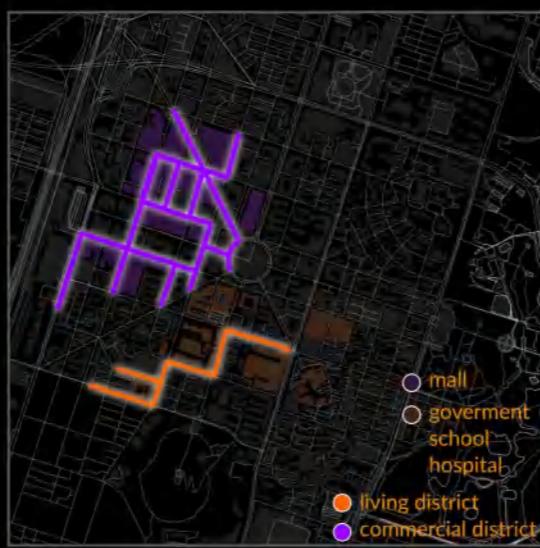
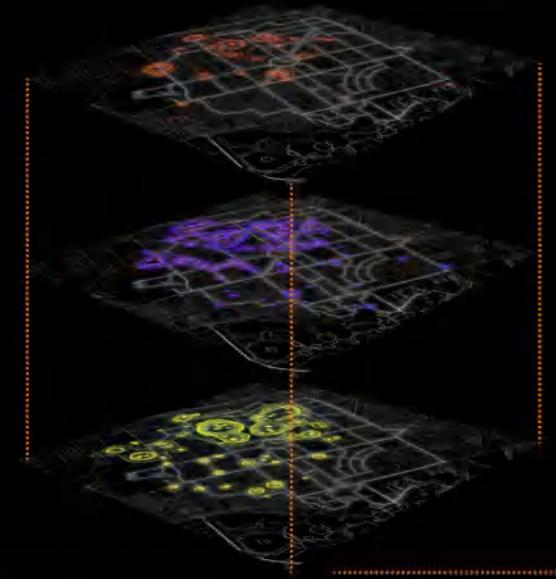
Social Corners/ Creative Meetups (Cafe/ Tea shop customer distribution)



Description :
The distribution of local restaurants is mainly manifested by a large number of clusters

Description :
The distribution of cafes and dessert shops is mainly characterized by small gatherings

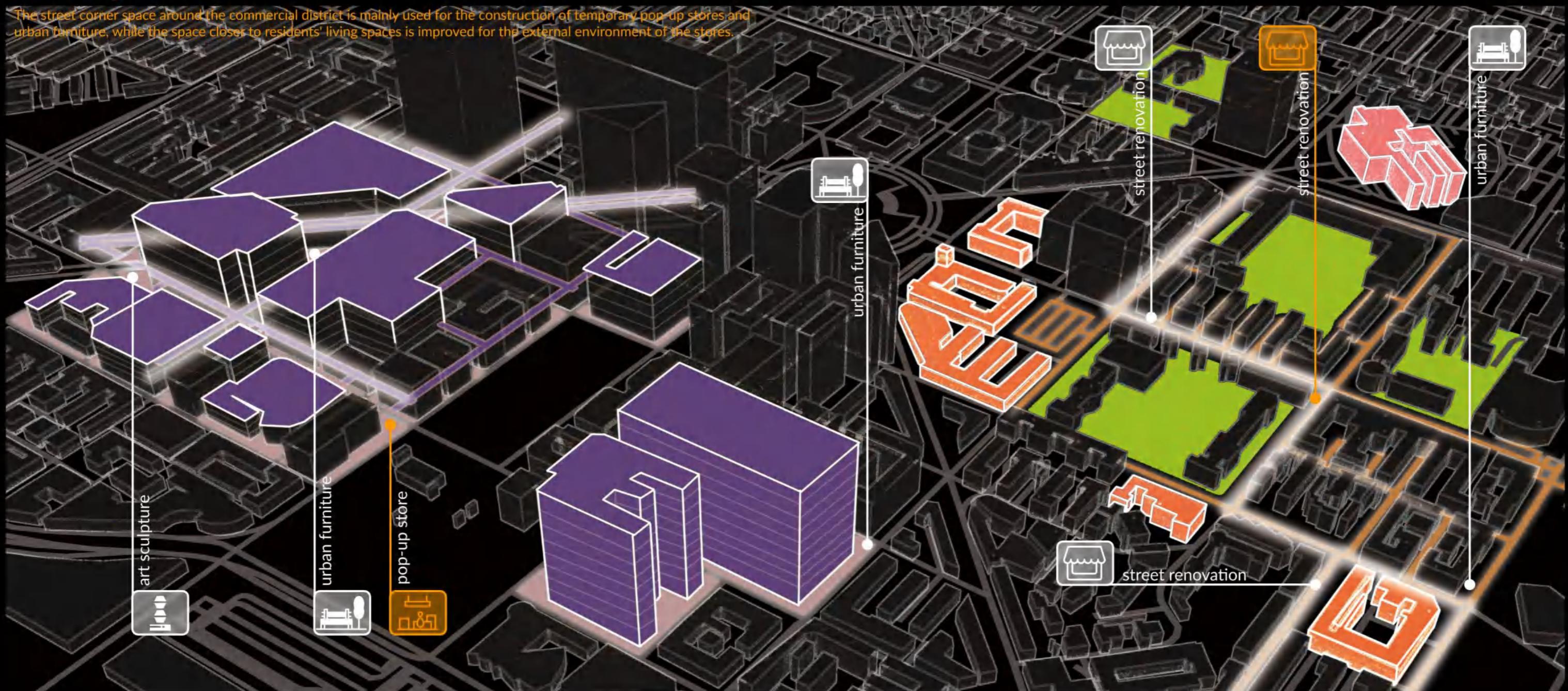
DESIGN THEORY



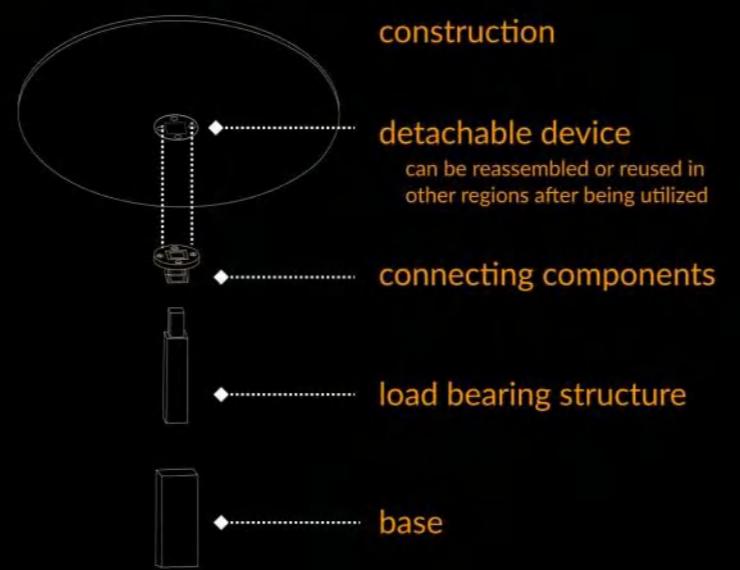
The government formulated relevant strategies to enable street corner spaces to be repurposed for temporary buildings and landscape purposes such as pop-up stores and urban furniture. The placement of pop-up stores in areas with active commercial activities and dense residential areas has advantages as low cost, strong controllability, and is easy to repeatedly adjust the appearance of the block, which enables sustainable renovation of small city blocks meanwhile simultaneously activating and contracting the economy of cities.

Transforming nodes

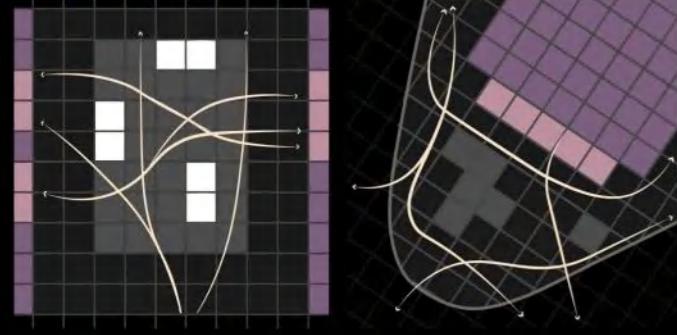
The street corner space around the commercial district is mainly used for the construction of temporary pop-up stores and urban furniture, while the space closer to residents' living spaces is improved for the external environment of the stores.



IMAGINATION OF DESIGN | POP-UP STORE



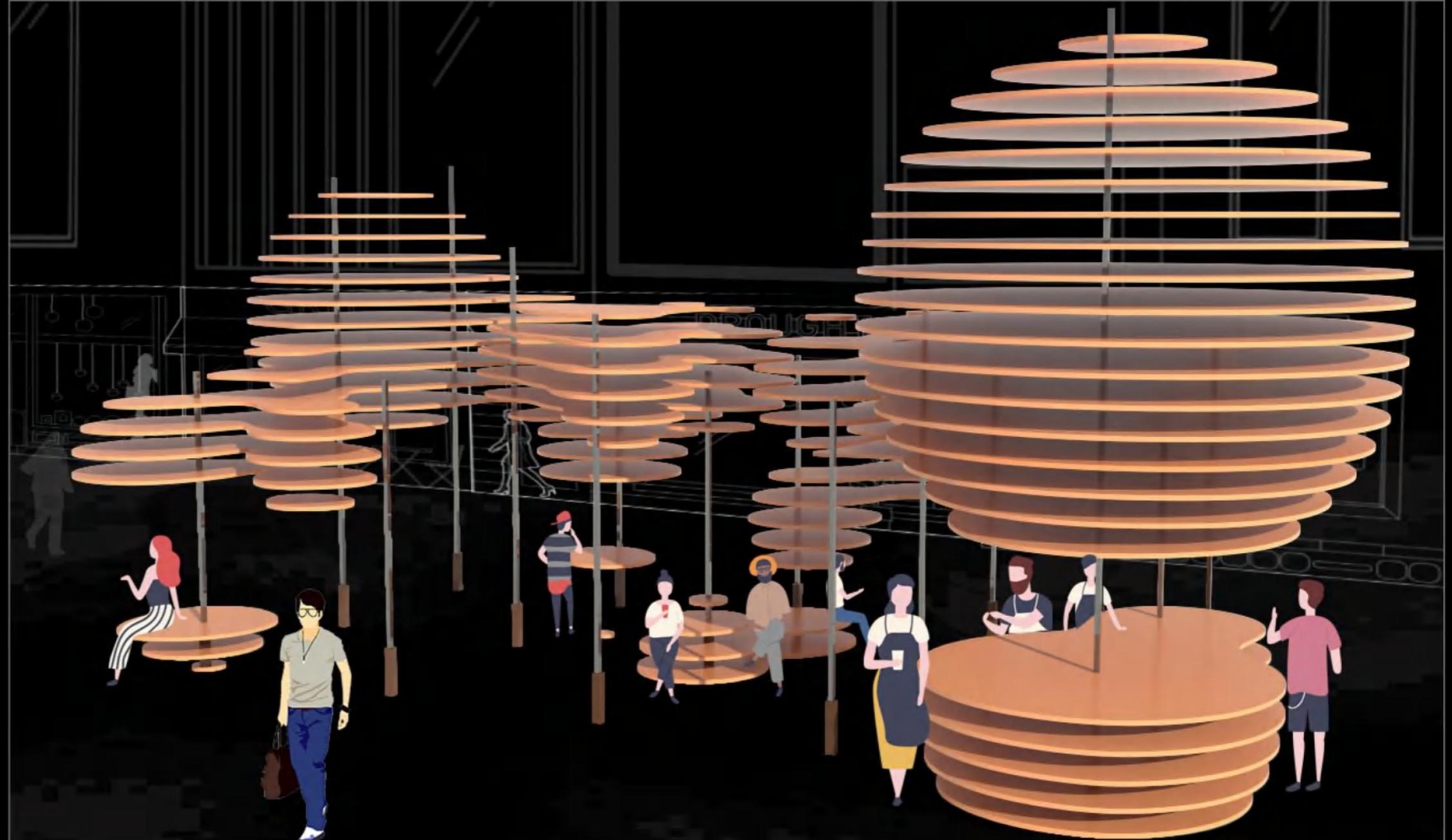
Classification



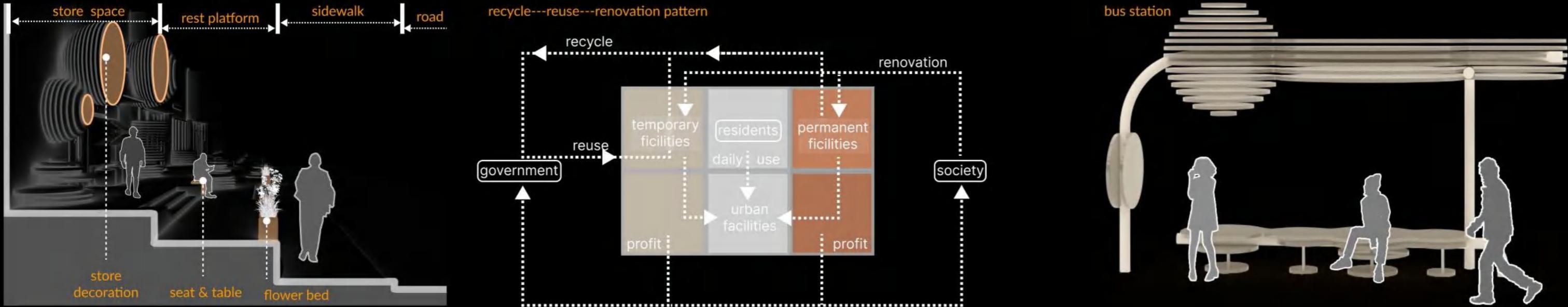
- long-term stay area used as pop-up stores or urban furniture
- short-term stay area used as urban furniture
- passage space
- mall
- mall entrance
- possible routes for citizens

By analyzing the corners of urban blocks, several types of usable spaces are identified. Select plots of land that can be used for long-term stays as pop-up stores or urban furniture for society and government to provide certain living or commercial services to citizens.

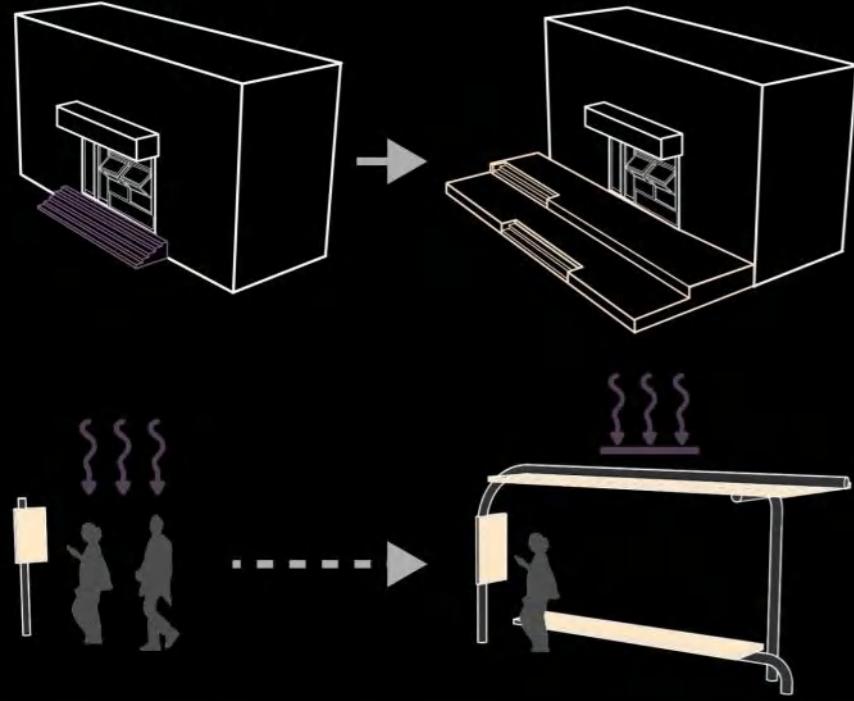
The government selects a certain period of time each year to lease land that can be used as pop-up stores to the society for the promotion of its own brand and industry. At the same time, the government can also carry out activities or operations in these areas with local characteristics as the theme.



IMAGINATION OF DESIGN | STREET RENOVATION



Before/After



Through the recycling of materials, the remaining materials will be used for street renovation and the construction of some infrastructure. Recycling of materials ensures that all materials used for the construction of temporary facilities and pop-up stores are not wasted, but become a part of urban development.

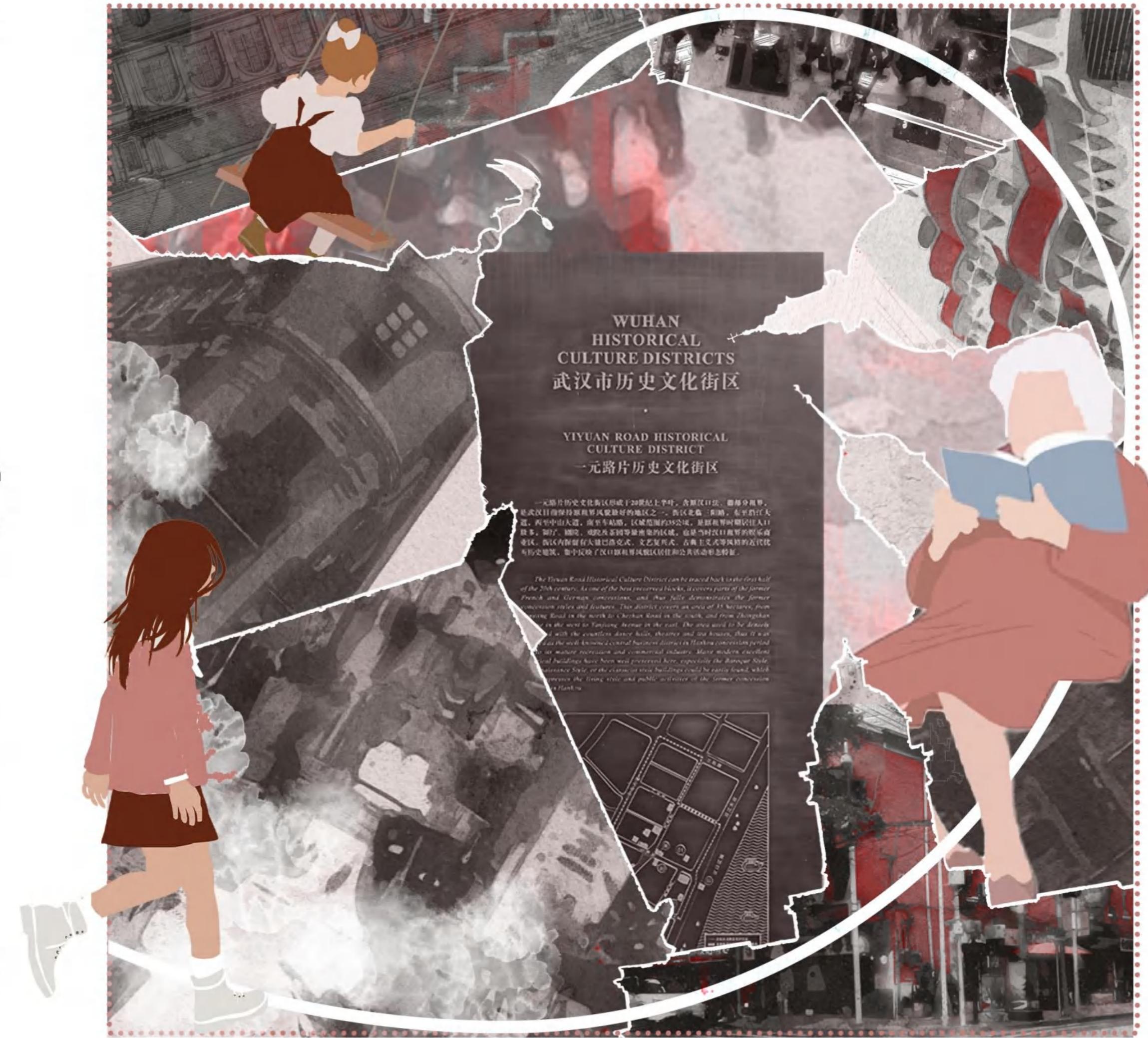
The simple facility structure and alternative building materials ensure the diversity of limited spaces in the city, and such experimental renovations of urban spaces can be continuously updated in the future.



Historical City Reimagined

- Site: Wuhan, China
- Theme: History, Communication
- Academic year: 2023—2024

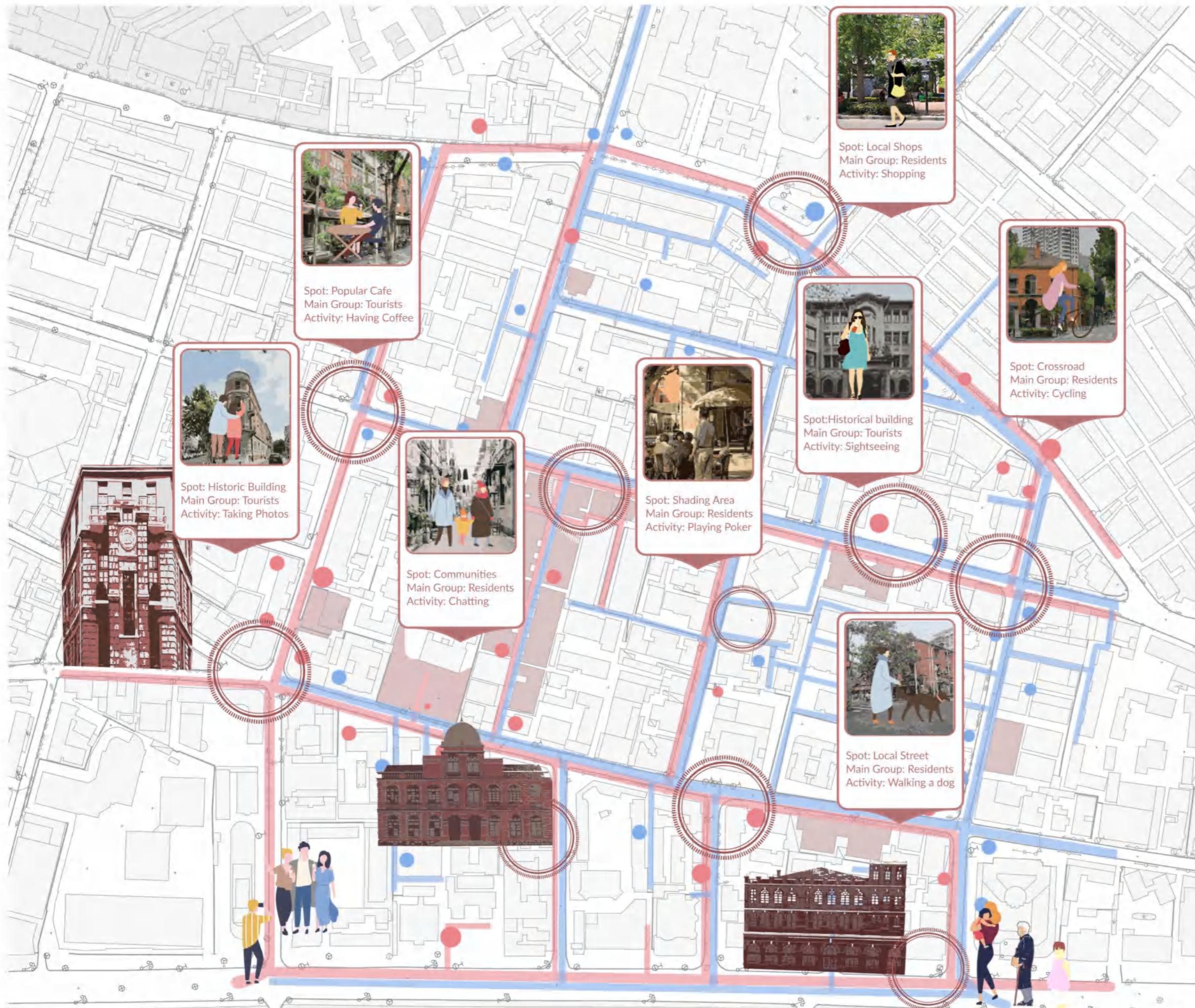
The project focuses on the balance of the relationship between tourists and residents in the old concession area of Wuhan in the context of an aging population and the use of urban public space. Through the renovation of old blocks, the efficiency of space use by different groups of people is strengthened, and the communication between people is promoted, so as to realize the inheritance of cultural memory of the site.



URBAN NETWORK STRATEGY



URBAN NETWORK STRATEGY



Site Hotspots & Routes

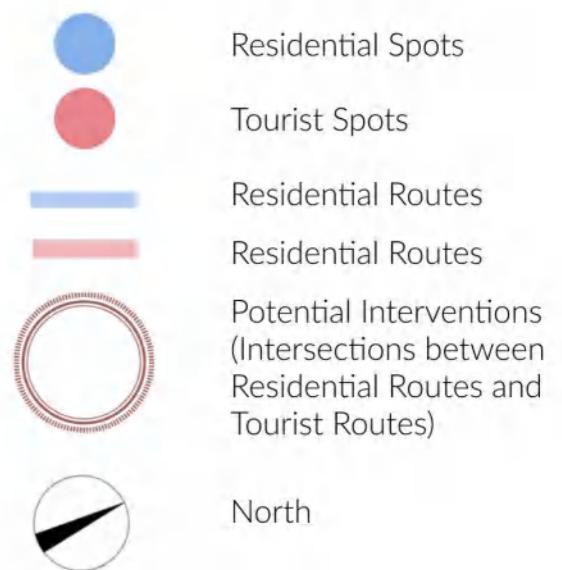
Residents and tourists have different interests, leading them to take separate routes: tourists flock to famous sites and trendy spots, while residents prefer local community spaces.

Question

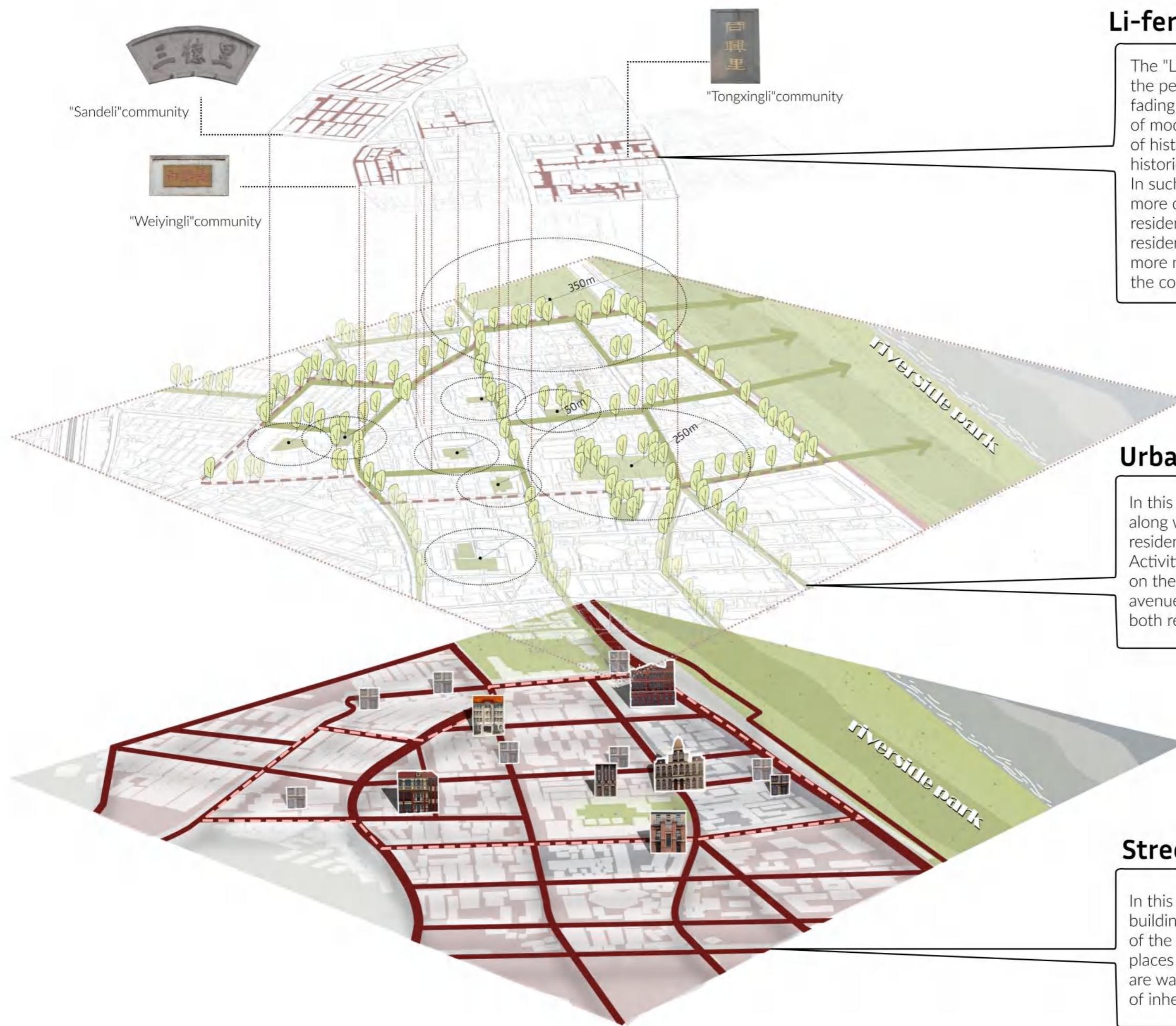
How could two groups get more communications at the same time not to disturb the local residential areas by introducing too much tourism?

Potential Interventions

Other than transforming the existing residential areas into hot spots, the goal is to find the intersections between the two groups routes, then forming the new hot spots welcoming two groups to achieve more communications.



URBAN NETWORK TYPOLOGIES



Li-fen Memory

The "Lifen," a unique form of special residential street during the period of the old concessions in Wuhan, is gradually fading in time, becoming less and less able to fit the lifestyle of modern society and disappearing under the rolling wheels of history. Along with it quietly fading away is the precious historical memory about Lifen.

In such a block full of historical memories, I attempt to create more dynamic spaces in the ordinary places where the residents carry out their daily activities. As a result, every resident within it will have a more colorful form of life, and more new blood will pour into this old community to inherit the continuous memory of Lifen.

Urban Greenway

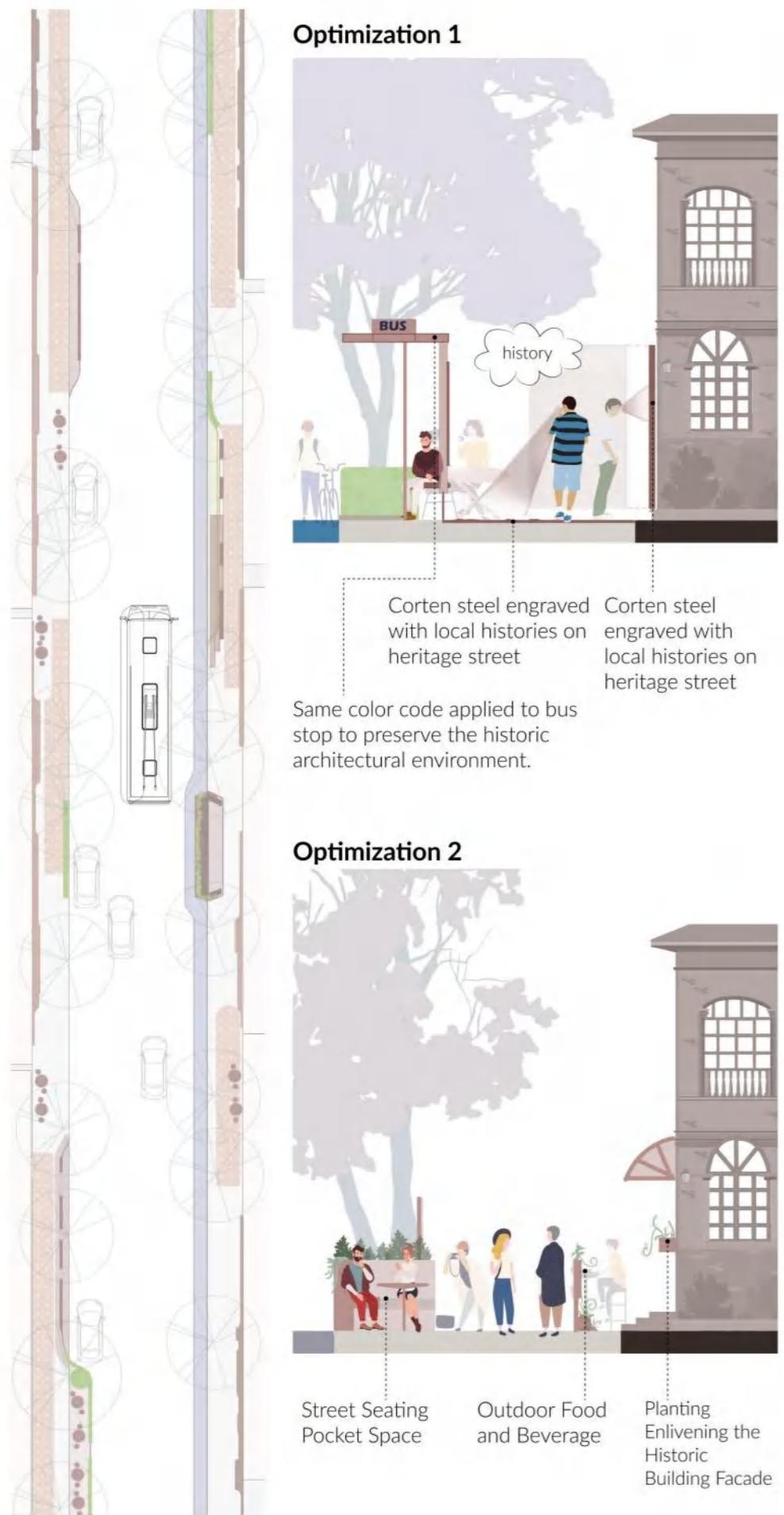
In this block, a rich greenway slow-traffic system has emerged along with the modernization construction of the city. Urban residents have a higher pursuit for more ecological streets. Activities including cycling and walking are carried out relying on the tree-lined avenues here. At the same time, these avenues will also become important slow-traffic spaces for both residents and tourists.

Street Historic Museum

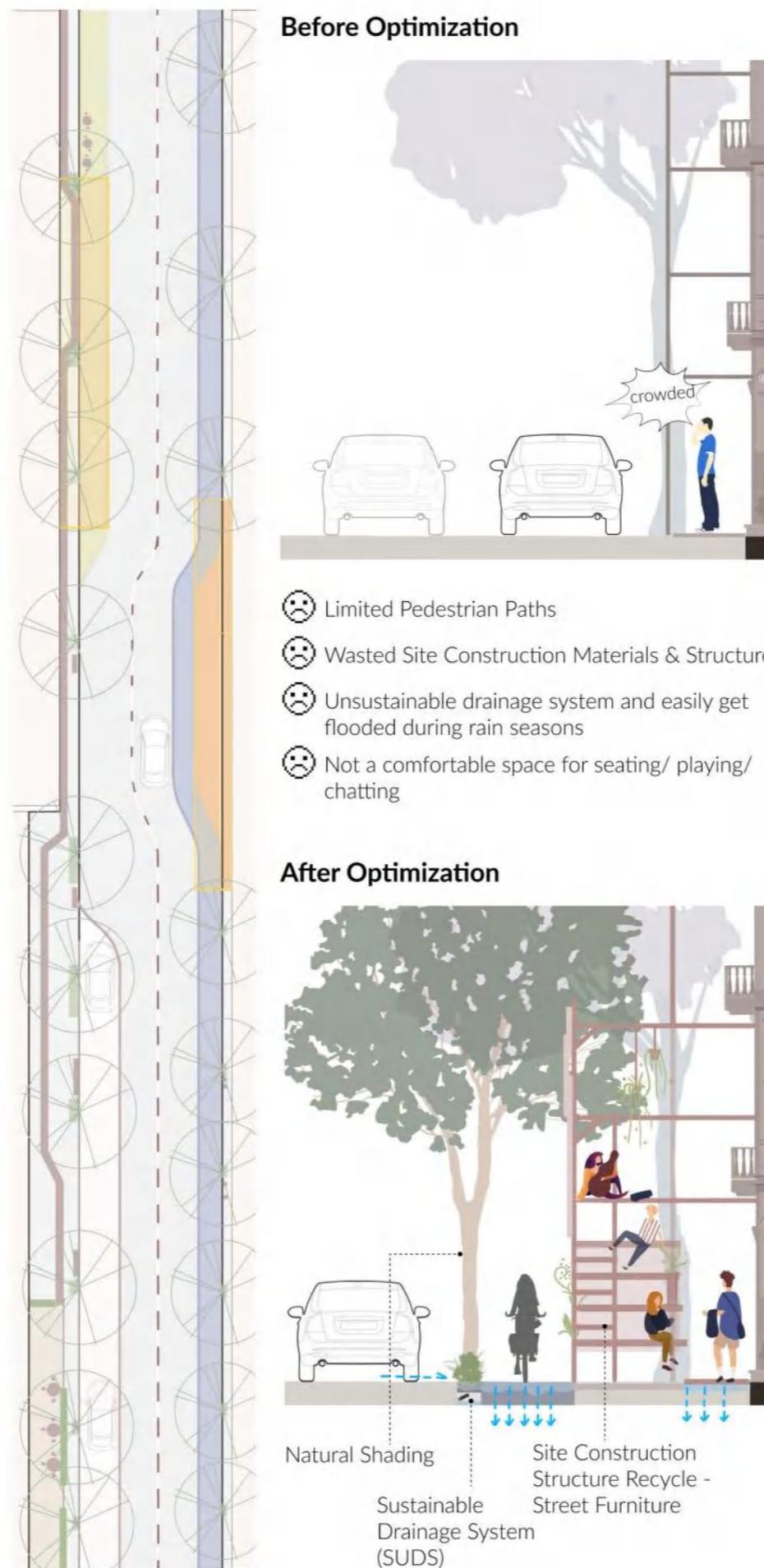
In this block with a long history, it contains various historical buildings over the past hundred years. Under the renovation of the government, these building complexes have become places for a large number of tourists to visit. While residents are walking in the city, they also shoulder the important task of inheriting the city's history.

URBAN NETWORK DESIGN DETAILS

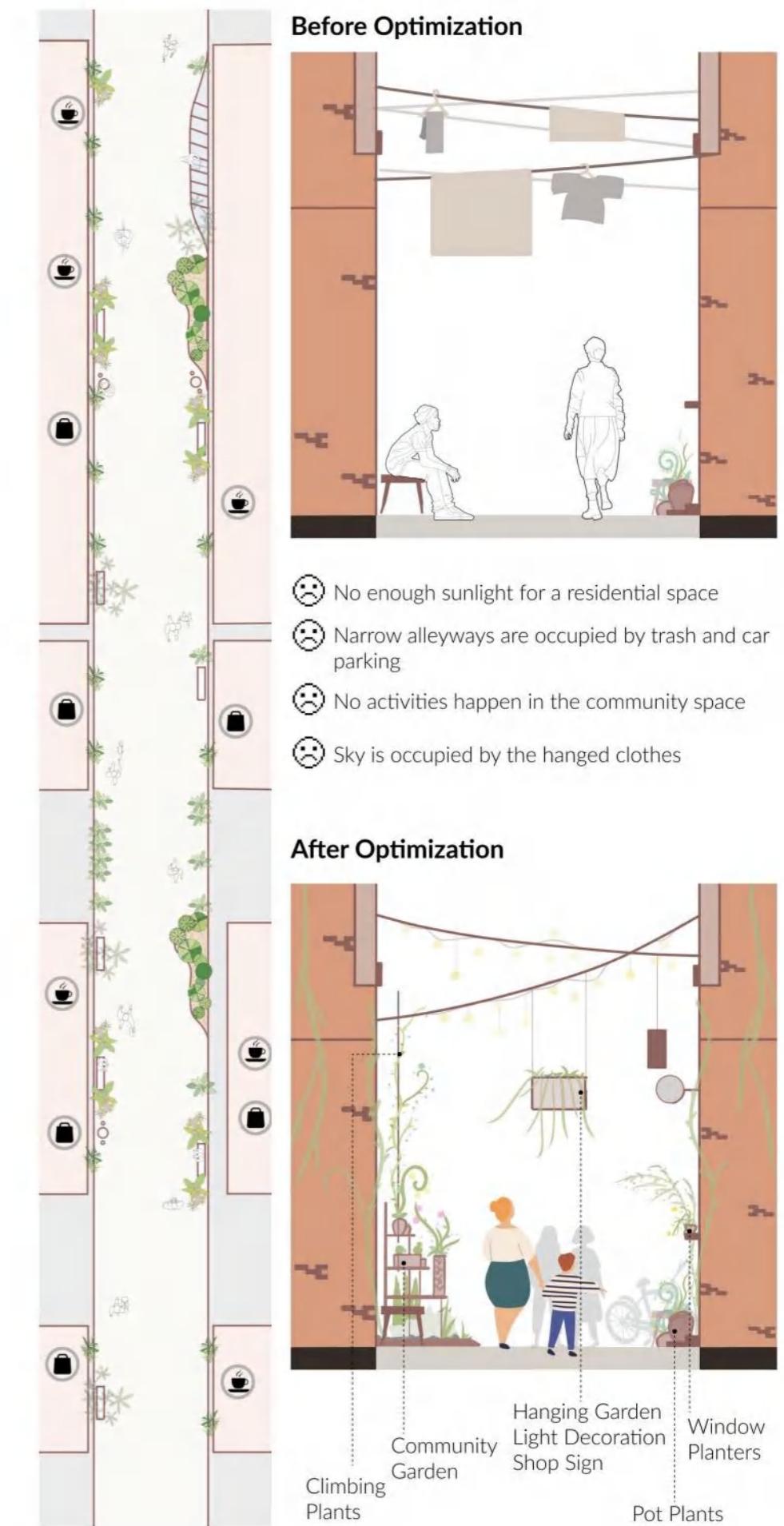
Type 1 - Street Historic Museum



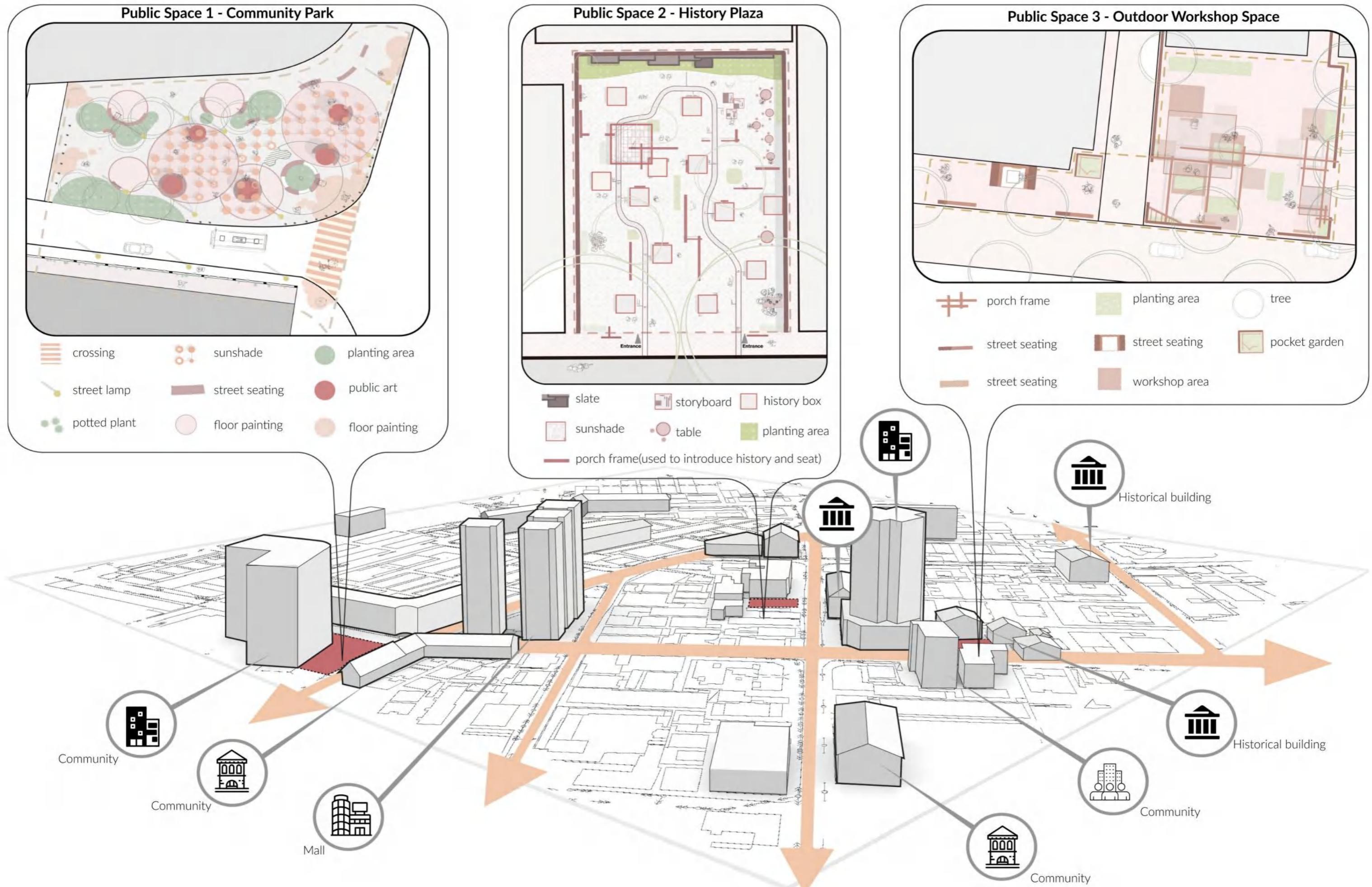
Type 2 - Urban Greenway



Type 3 - Li-fen Memory



NEW PUBLIC SPACE GENERATION



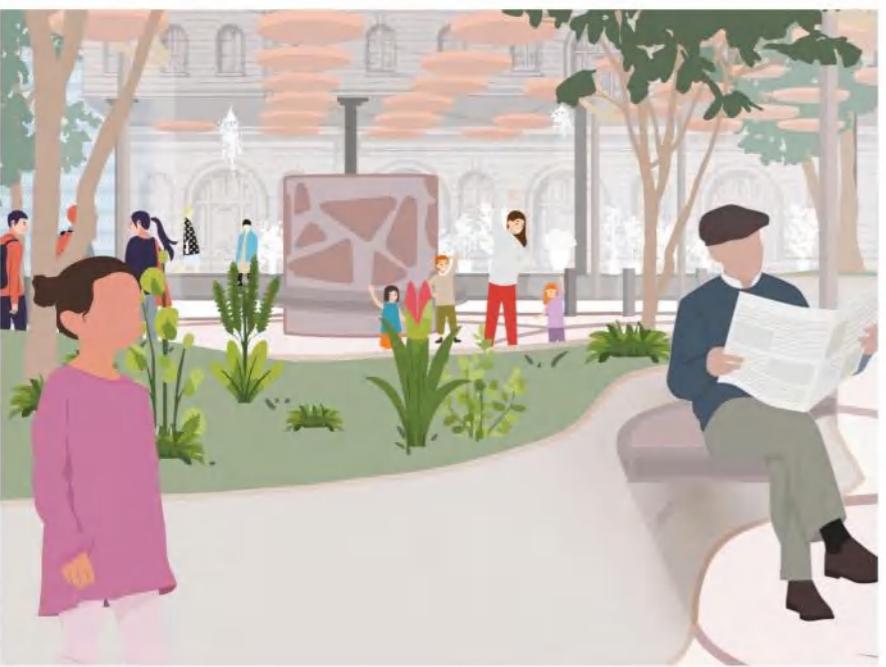
Public Space 1 - Community Park



Public Space 2 - History Plaza



Public Space 3 - Outdoor Workshop Space



Graduation Project

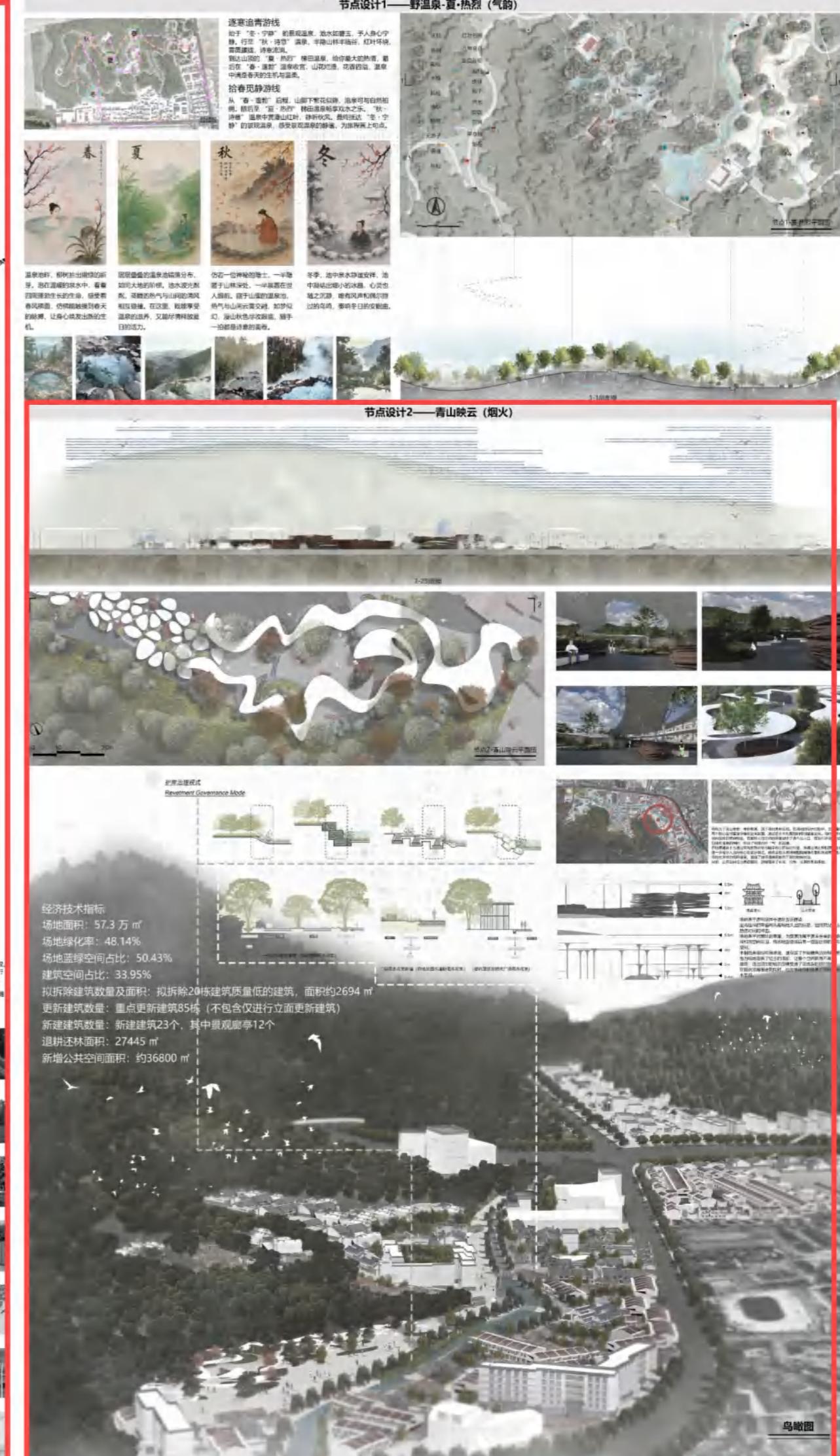
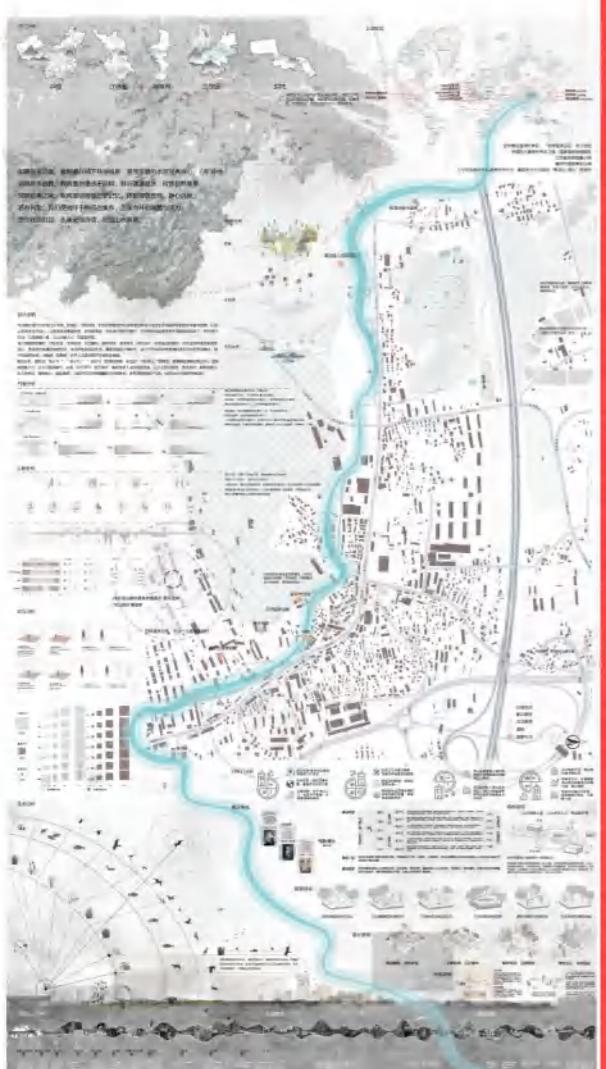
Theme: urban landscape renewal planning and design

Site: Tangshan Northern Foothill area in Nanjing City, Jiangsu Province.

Academic year: 2025

Type: Team project (production of mine is framed)

Based on the current situation of the site's development and the surrounding regional conditions, a transitional plan and design based on the higher-level plan has been made for the landscape of the Tangshan ancient market town area. Through further updating and repairing the planning of this area, the Tangshan town will be revitalized and show the modern vitality of the ancient city.

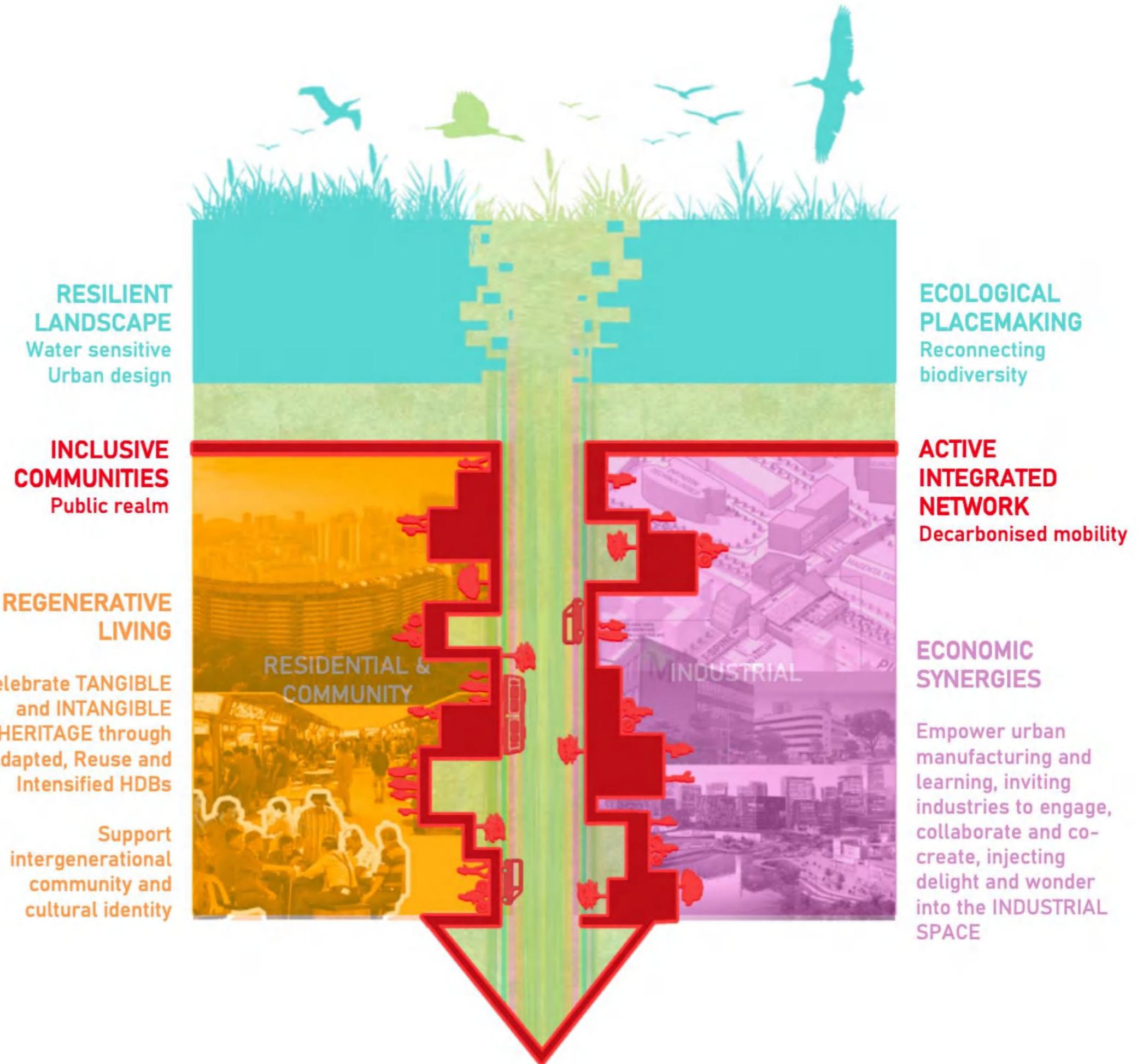


Living Corridors

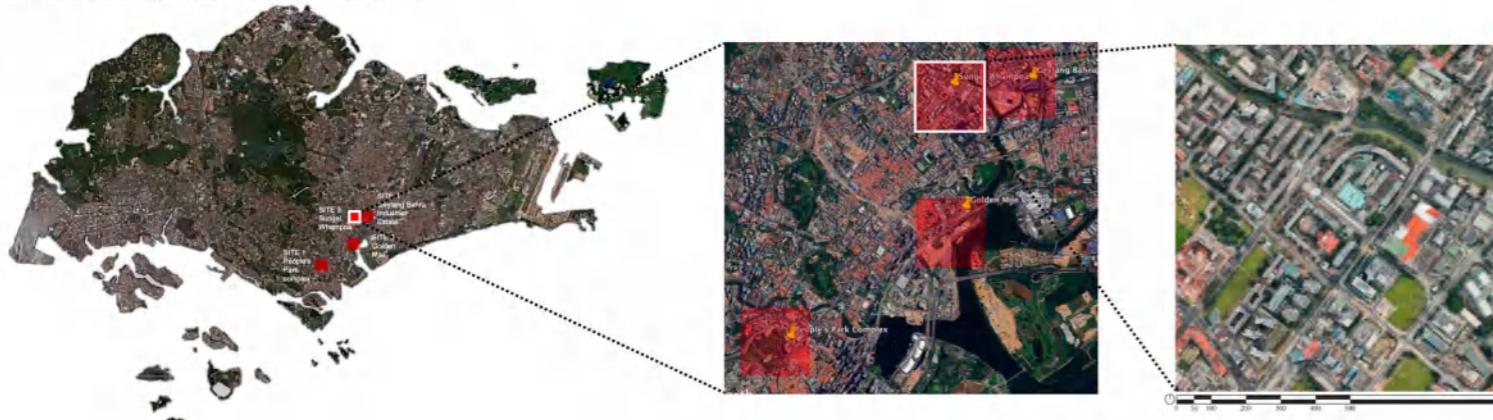
- Site: Sungei Whampoa, Singapore
- Theme: Regenerative urban design, Tropical urban design
- Academic year: 2025
- Type: Team Project (group with 7 people and everyone participate in every stage, final production of mine is framed)

Inspired by the Metabolism movement, envisioning cities as living, growing systems, our barriers instead

- Become a space for ecological placemaking originating from the riverfront, integrating
- Decarbonized mobility with an active public realm, adapting the apparatus from mere housing and industrial activities
- To regenerative living that celebrates community heritage, as well as flexible, economic synergies.



SITE CONTEXT

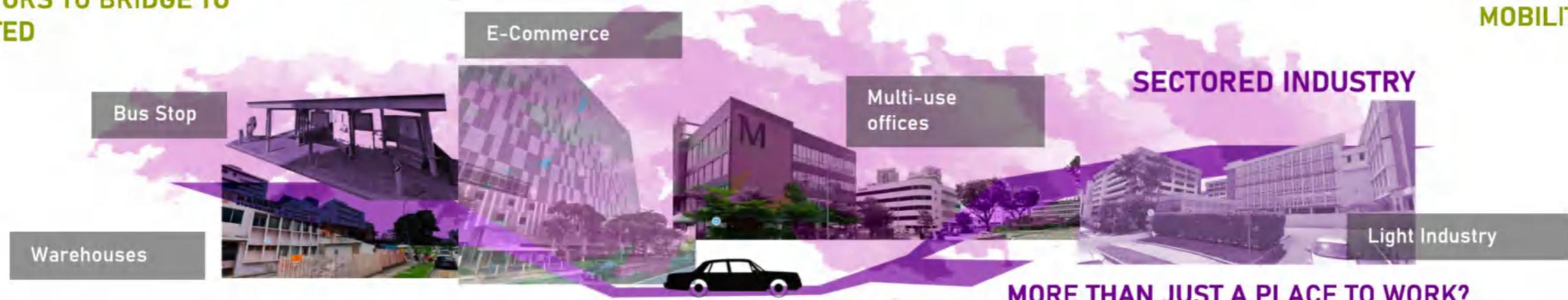


Transformed from a marshland and plantation zone in the 1960s, to one of Singapore's oldest HDB estates, Sungei Whampoa's identity stems from its diverse housing types—like the iconic 70s residential building typology and the neighbouring JTC industrial zone. However, car-oriented planning divided the site, isolating housing from industry along the Road, dividing communities and economies. This systemic deforestation and development also left the former marshland ecosystem fragmented and flood-prone. Yet, these very divides can transform to bridge the ecology, and answer these questions: Can the Sungei Whampoa be brought from obsolescence to heritage? And can the JTC sector become more than just an industrial zone?



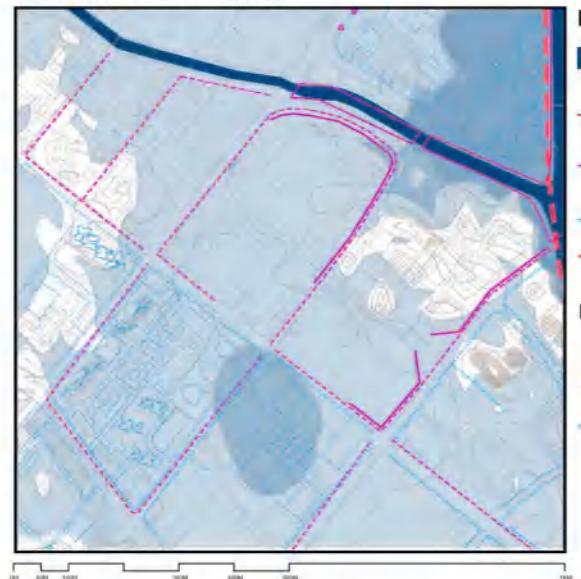
POTENTIAL: USING THE DISCONNECTORS TO BRIDGE TO DISCONNECTED

LINK ECOLOGY AND MOBILITY

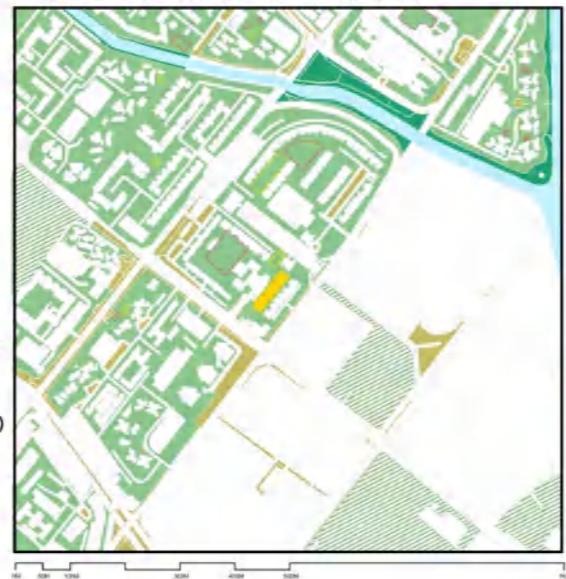


SITE ANALYSIS

CLIMATE RISKS



ECOLOGICAL NETWORK



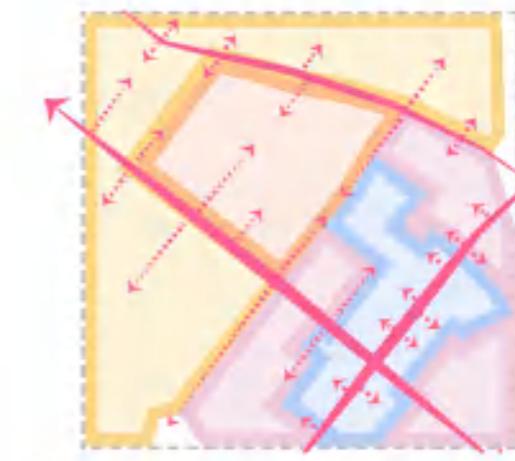
MOBILITY CONDITION



MONO-FUNCTION ENCLAVES



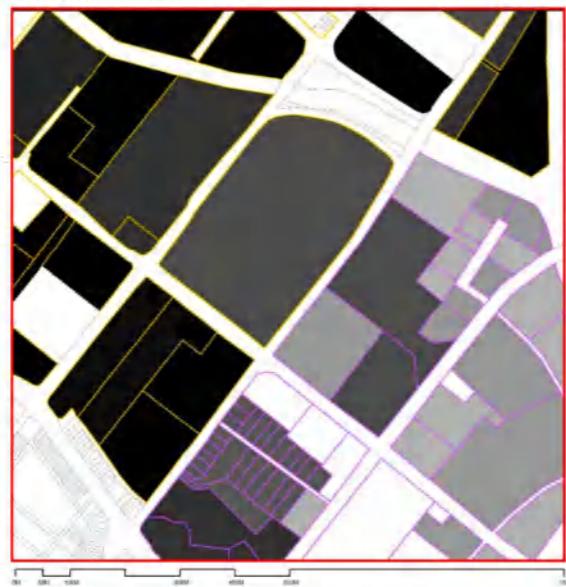
INTEGRATED INFRASTRUCTURE



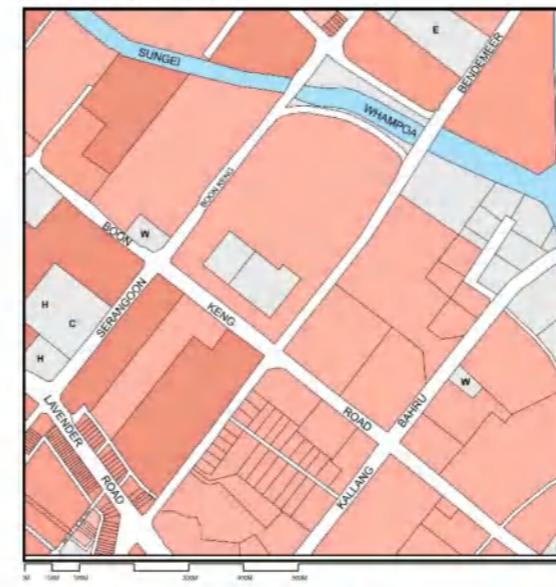
LAND USE



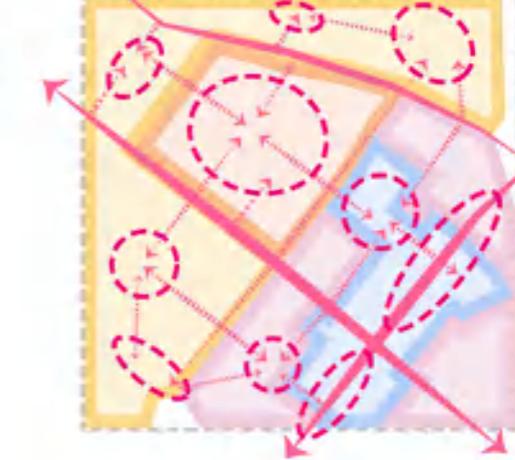
LAND LEASE



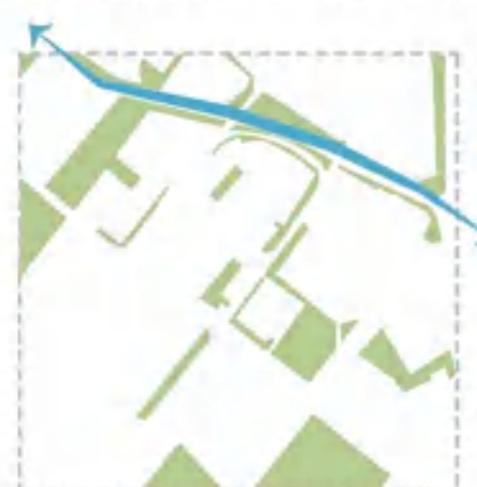
PLOT RATIO



POLYCENTRIC DYNAMIC SYNERGIES



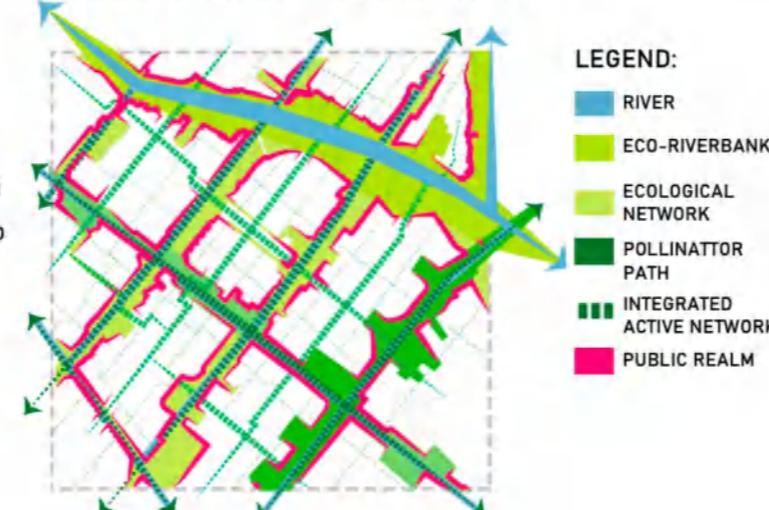
FRAGMENTED GREEN AND BLUE



WATER-SENSITIVE URBAN DESIGN



ECOLOGICAL PLACEMAKING



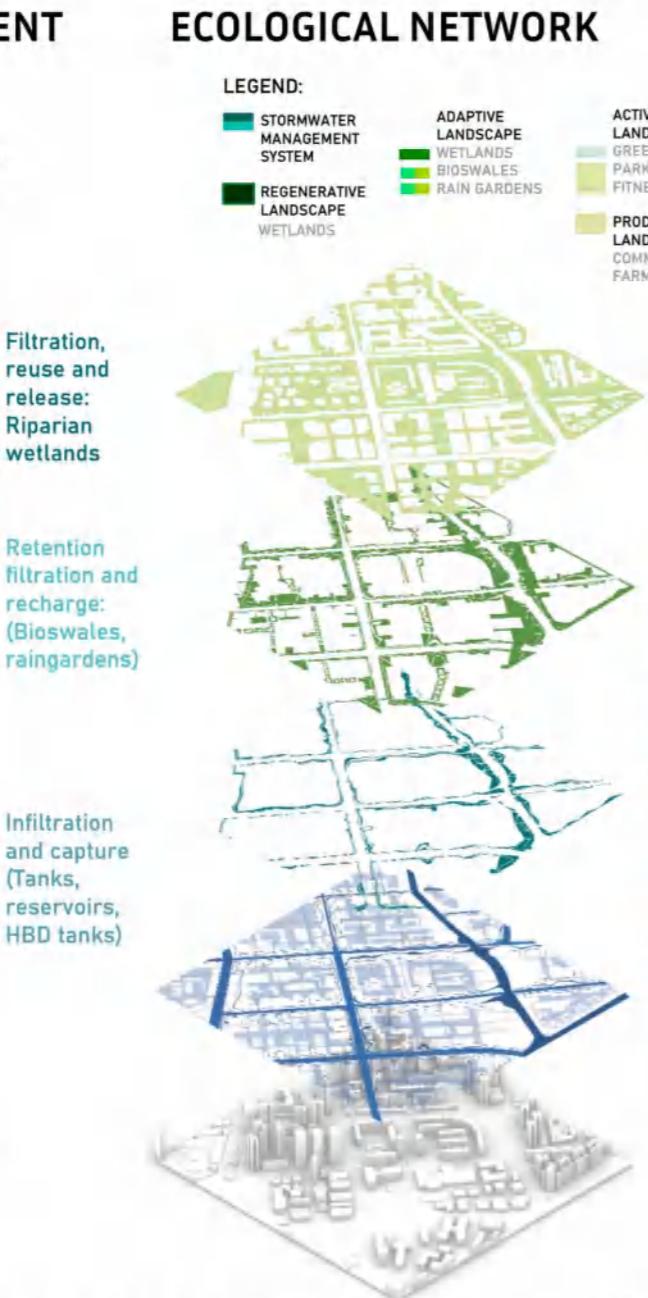
Concepts elaborating a multi-system armature addressing ecology, mobility and communities.

Through water-sensitive urban design, transforming into an integrated stormwater management system and an integrated network that fosters biodiversity, climate and community resilience.

The same axes connect various spaces and user groups in our segregated site, by identifying potential urban catalysts and fostering inclusive communities and economic synergies.

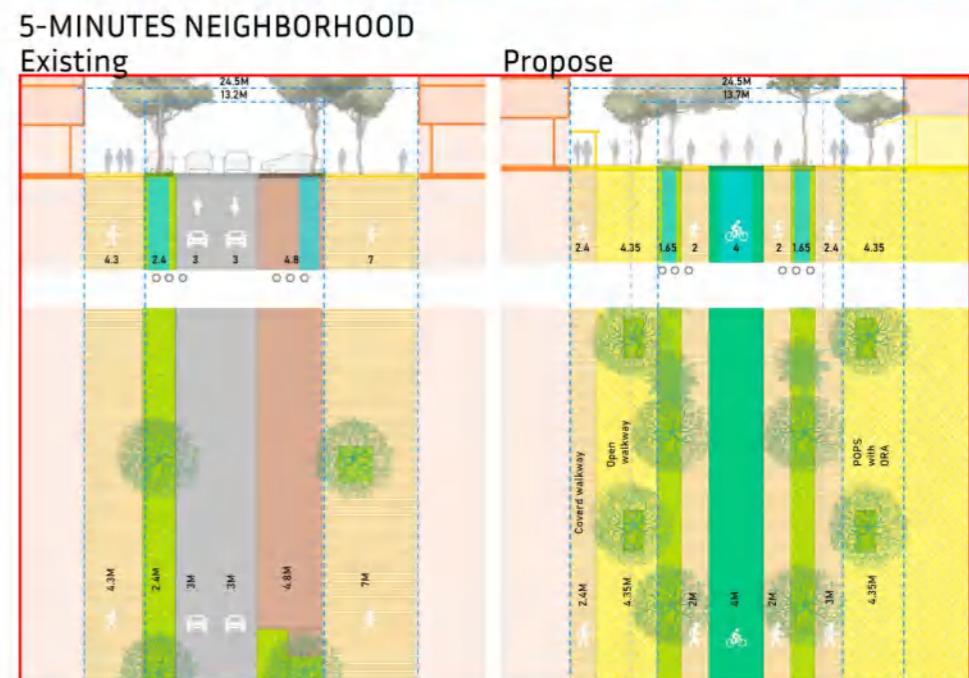
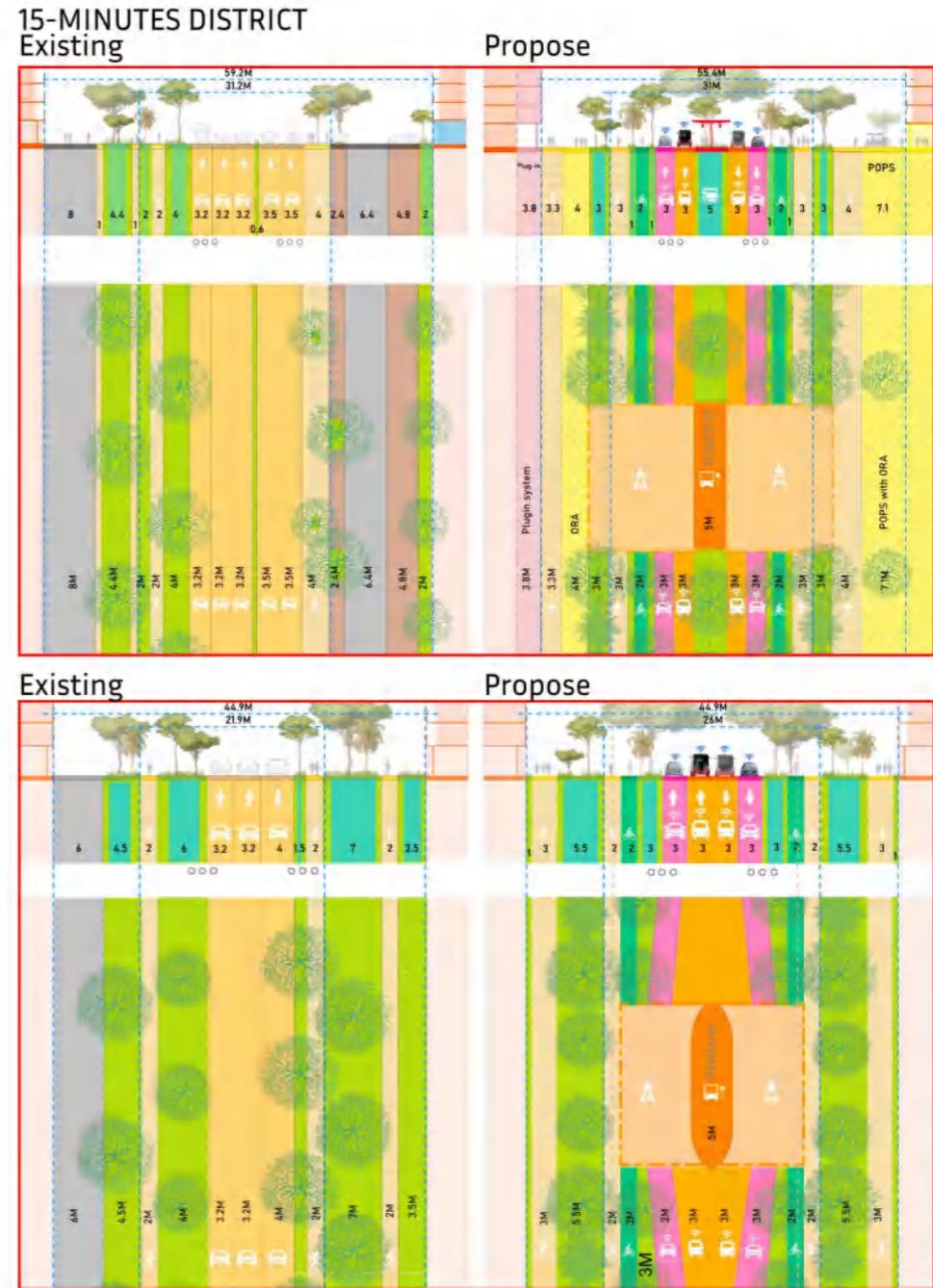
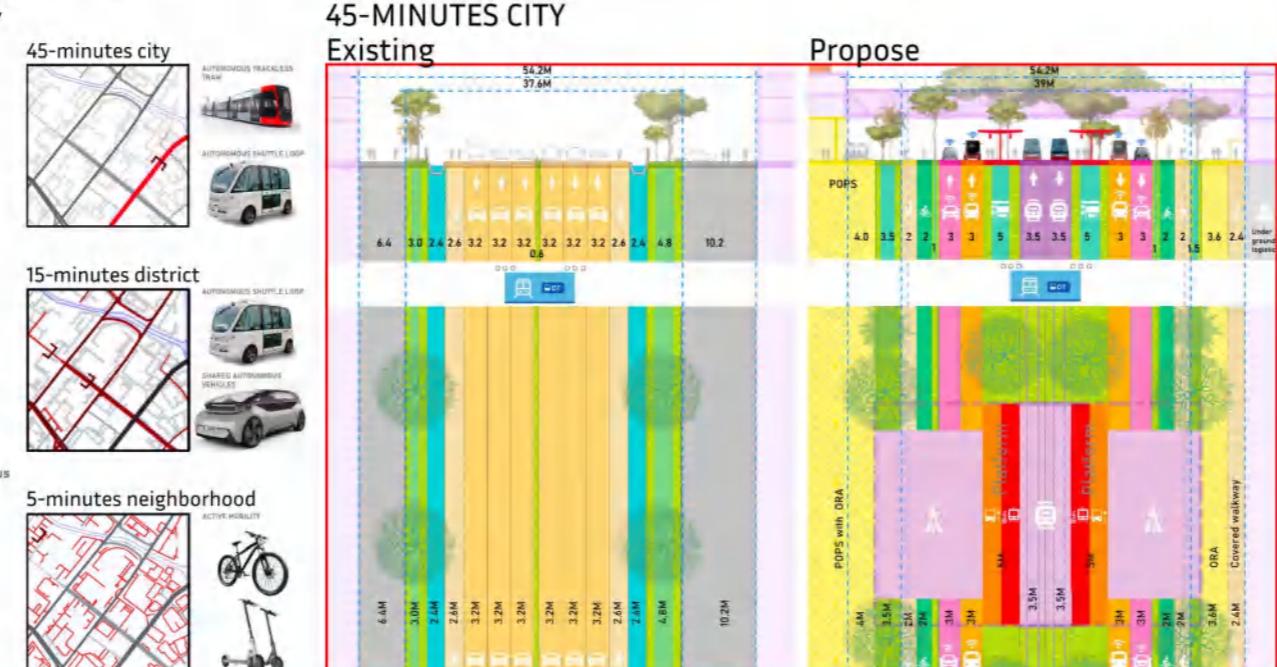
DESIGN STRATEGY - URBAN ARMATURE

STORMWATER MANAGEMENT



To promote a decarbonized, car-lite and regenerative city, a strong urban design strategy emphasis integrated urban armature is formed and ties the urban fabric together.

DECARBONISED MULTI-MODAL MOBILITY



DESIGN STRATEGY - URBAN APPARATUS

2050 MASTERPLAN



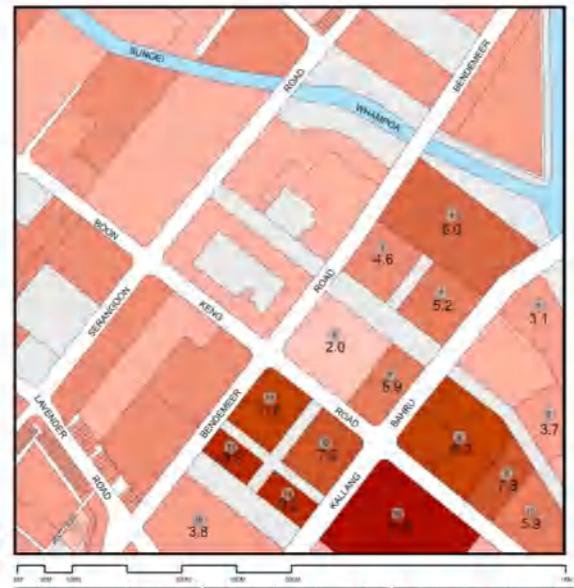
LAND USE



LEGEND

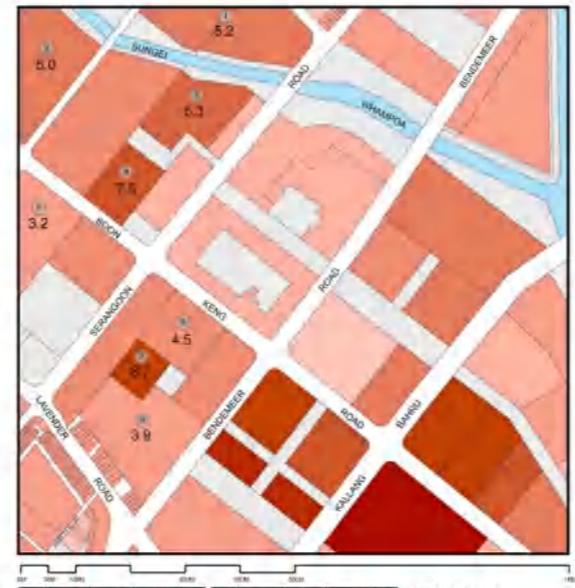
- Residential
- Commercial
- Commercial & residential
- Park
- Business
- Health & medical care
- Education institution
- Place for worship
- Amenities
- Residential with commercial at 1st story

PLOT RATIO 2050



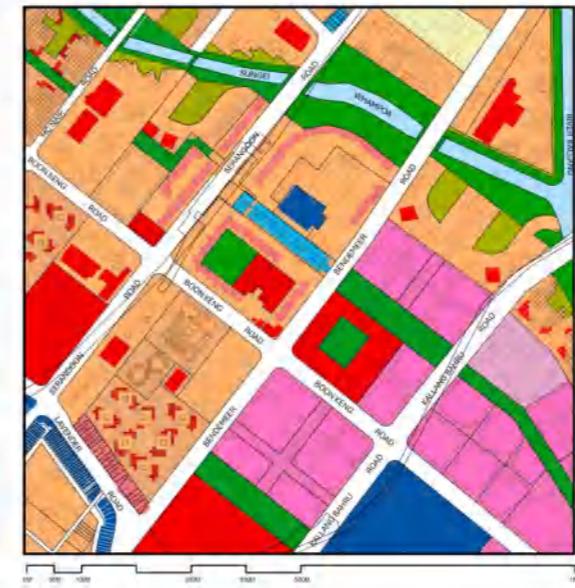
1	45,363	5,022	273495	6.0	6	21,611	0	42,026	1.94	11	12,722	578	109,220	8.6
2	14,820	828	45,942	3.1	7	10,175	317	59,896	5.9	12	12,739	514	97,176	7.6
3	11,421	278	52,420	4.6	8	26,283	1113	210,269	8.0	13	5,440	265	50,048	9.2
4	12,515	346	65,405	5.2	9	8,645	357	67,497	7.8	14	5,453	265	50,168	9.2
5	8,257	159	30212	3.7	10	12,610	394	74,542	5.9	15	33,147	1,695	48,260	14.6
										16	36,800	2,273	73,423	3.8

PLOT RATIO 2075



1	40,305	5,804	212,207	5.2	6	12,623	708	56,803	4.5	1.0-1.9	2.0-2.9
2	47,961	5,925	239,806	5.0	7	6,185	2,014	53,728	8.7	3.0-3.9	4.0-4.9
3	17,931	2,922	113,696	6.3	8	26,542	2,506	122,042	3.9	5.0-5.9	6.0-6.9
4	8,099	2,160	61,230	7.5						7.0-7.9	8.0-8.9
5	18,457	1,421	68,346	3.2						9.0-9.9	>10
										No GPR	River

BUILDING STRATEGY



LEGEND

- Residential
- Commercial
- Bussiness
- Open space
- Park
- Waterbody
- Amenities
- Education institution
- Residential with commercial at 1st story
- To be redeveloped
- To be developed

URBAN DESIGN GUIDELINE



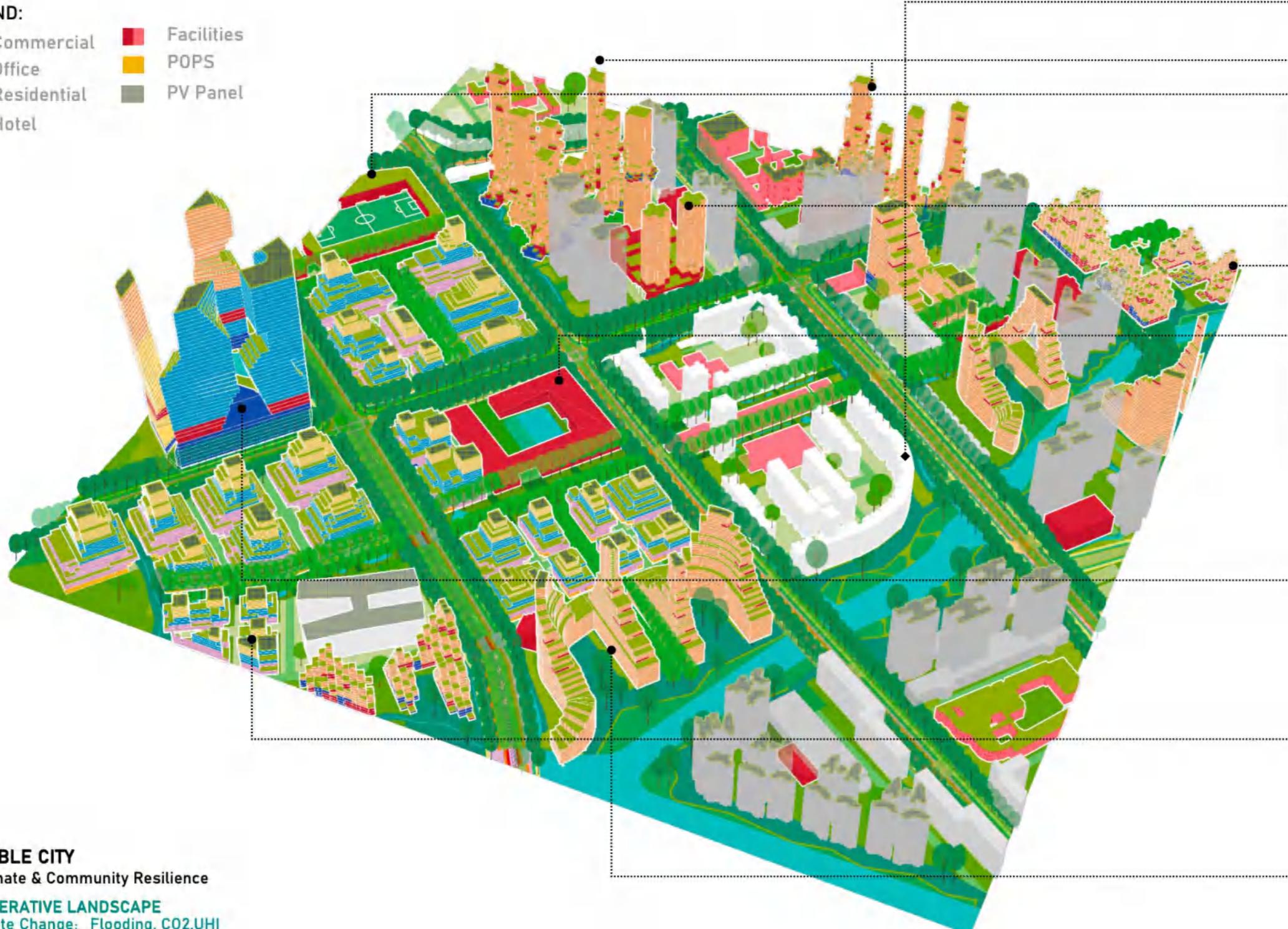
LEGEND

Category	Element
Connectivity	Wind corridor & cross ventilation
	Axial landscape composition
	Publicness composition
	Ecological courtyard
	Proposed amenities
Existing amenities	Ecology setback
	Riverfront setback
	Commercial continuity
	Building alignment
	Accessibility
Porosity	Porosity
	Internal distribution
	POPS
	Mobility

AXO

LEGEND:

Commercial	Facilities
Office	POPS
Residential	PV Panel
Hotel	



LIVEABLE CITY

for Climate & Community Resilience

REGENERATIVE LANDSCAPE

- Climate Change: Flooding, CO2, UHI
- Storm Water Management
- Wetlands / Nature Based Solution
- Green & Blue Integrated System
 - Bioswale / Rain Garden etc

ADAPTIVE LANDSCAPE – Nature integration

Oasis Courtyard

ACTIVE LANDSCAPE

- Connectivity through Green & Nature
 - 3D Green Connectivity
 - Trees alignment / Green Paths
 - Sport and Leisure Activities

LOVABLE CITY

Neighbourhood Identity & Place Making

BE KEPT/ADAPTE & REUSE

- Heritage
- Adapt & Reuse (Tower HDB)
- Keep (Condo)

COMMUNITY FACILITIES

COMMUNITY FACILITIES

MULTISCALE FACILITIES

- Hospital
- Our Bendemeer Hub
- Art & Industry Museum
- Interoperational Komponen

NEW HABITAT - Oasis Habit

MAGNETIC CITY

Economic Synergy, Productive Neighborhood,
Intergeneration of entrepreneurs, innovators working at
the intersection of manufacturing, design & research.

MOBILITY

- 45-mins City: Collective & Multimodal Mobility
 - MRT / Autonomous Trackless Tram / Multimodal Stations
- 15-mins Districts: Shared Mobility
 - Autonomous Shuttle Loop/Shared Autonomous Vehicle
- 5-mins Neighborhood : Active Mobility
 - Integrated Active Network/PCN

MULTIMODAL ECO-TOD

WELTWEIT
LIVING LAB

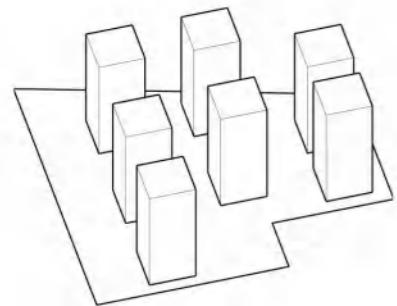
RESIDENTIAL DEVELOPMENT (PRIVATE)

- **Whampoa 34**
Iconic 70s HDB building, site memory & spirit
- **Our bendemeer hub**
Community center supporting sport, retail, co-working and public facility
- **Intergeneration kampong**
Living space provides a future with increasing life expectancy, while also supporting intergenerational care facilities
- **R&D museum**
Shared and collaborative spaces for idea-sharing; spatial testing
- **Oasis habitat**
Community-centred services and facilities in court-yard system, integrating with nature & wind corridor.
- **Multimodal-eco TOD**
A high-density vertical engine, integrating transit connectivity with an ecological podium to seamlessly connect the public realm with private functions
- **Living lab - productive city**
Acting as a "hinge" connecting business, cultural, and industrial nodes, and fostering a resilient environment for a new generation of innovators
- **Landscape ascent**
Stepped landscape residences for elevated living immersed in nature by the waterfront
- **Waterfront eco-hill**
Integrating human scale porosity within high density, through pixelated green pockets scattered across the built surface

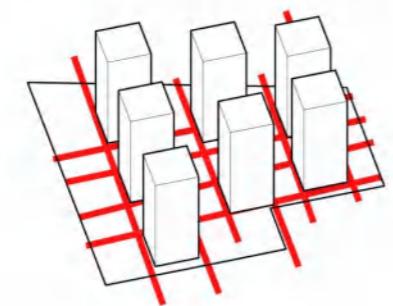
BUILDING TYPOLOGY - Oasis habitat

PIXELATED GRADATION | WIND POROSITY | MUTI-ANGLE VIEW

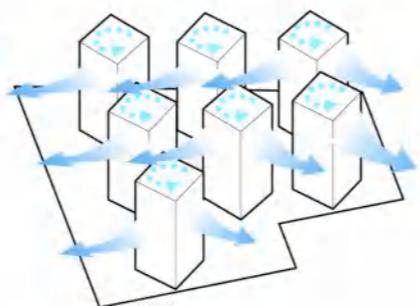
Original plot



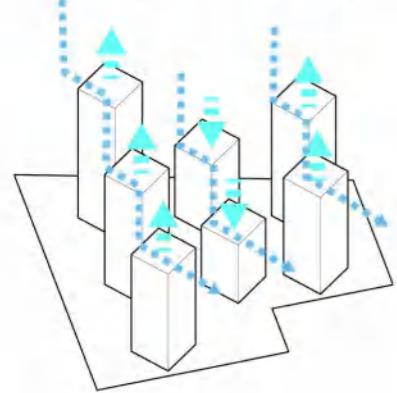
Reorganize buildings



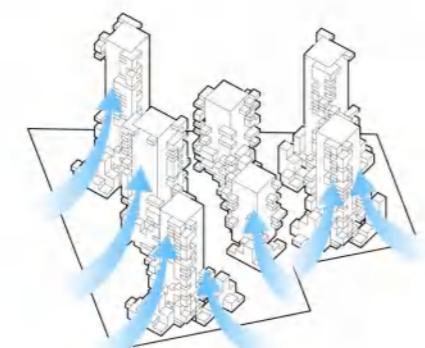
Rotation & view distribution



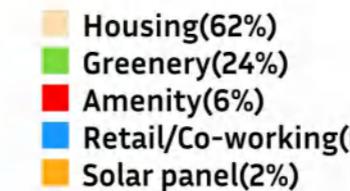
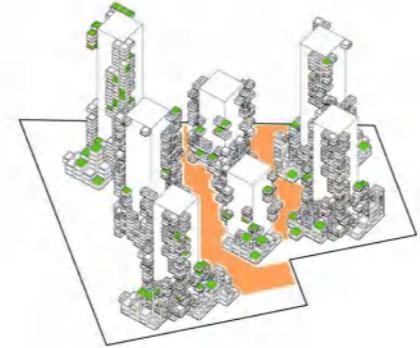
Height diversity



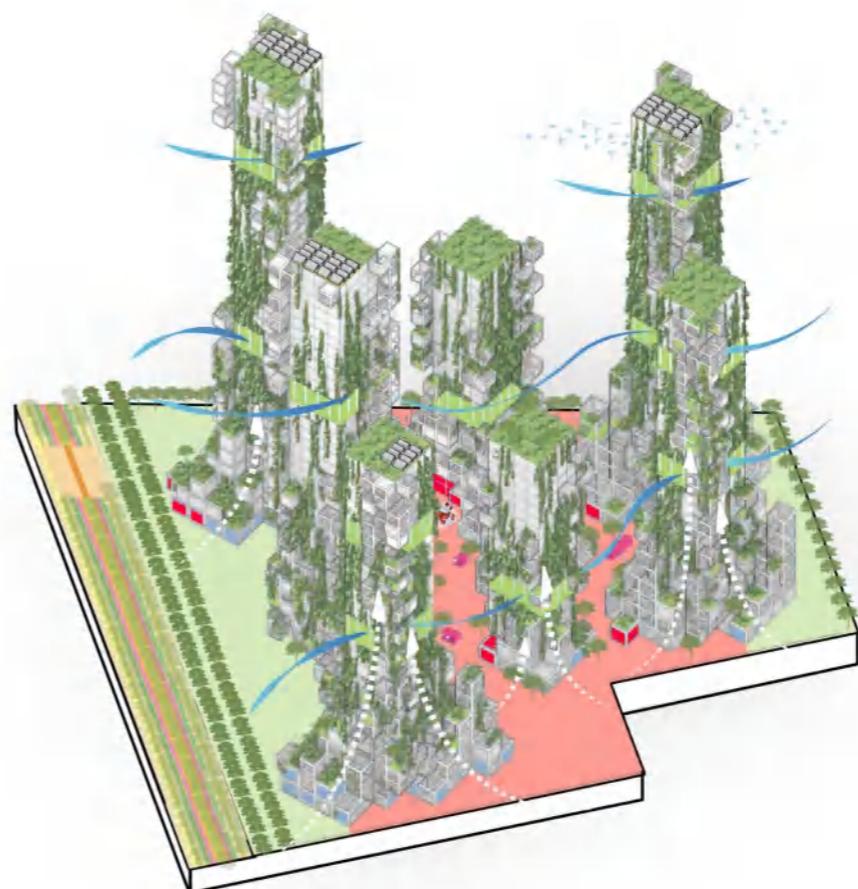
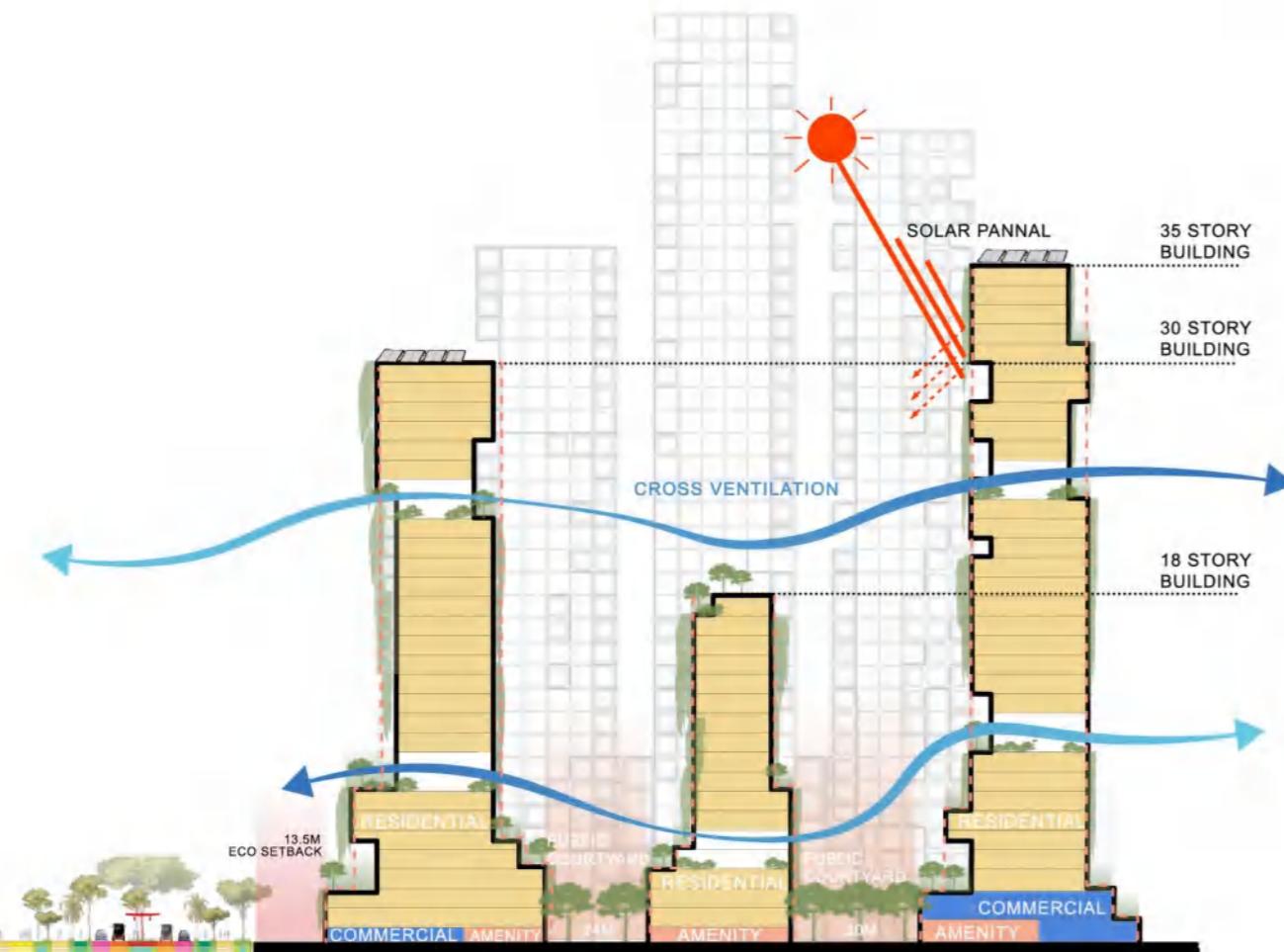
Expand makes space vertically



Courtyard system



PLOT AREA: 26541 SQM
GFA: 103817 SQM
PLOT RATIO: 3.91
MAX HEIGHT: 40 FLOORS (180 M)
MIN HEIGHT: 18 FLOOR (81 M)
POPULATION: (GFA/80)*3= 3189
LAND/CAPITA: 41 SQM PER PERSON



Perspective (using AI)

Oasis habitat



Waterfront eco-hill



Landscape ascent



Living lab



Multimodal-eco TOD



OTHER WORKS



Photography



Paintings



Model making



Garden building



Ikebana

