

A R C H I T E C T U R E
P O R T F O L I O

ZHANG LIQING SELECTED WORKS
2012-2019



EDUCATION

M.Arch, College of Architecture & Urban Planning, Tongji University, Shanghai, China

GPA: 4.48/5.0

M.Arch (Double Degree), Faculty of Architecture and Planning, Vienna University of Technology, Vienna, Austria

GPA: 1.36/1.0

B.Arch, School of Urban Design, Wuhan University, Wuhan, China

GPA: 3.65/4.0, ranking 3 out of 92

Scholarship: National scholarship (2016), Class-A scholarship (2014), Class-B scholarship (2012&2015), Class-C scholarship (2013)

EXPERIENCE

Academic

· Varieties of Orientalizing Architecture in Bosnia-Herzegovina under Habsburg Rule | workshop, University of Vienna, Vienna, Austria

Apr 2019

· Critical Urban Regeneration | international workshop of Tongji University, Southeast University, Shenzhen University, Vienna University of Technology, Shenzhen, China

Sept 2018

· Zhengzhou International Urban Design Conference | team member of "Urban Design of the Asian Games Village 2022" in the exhibition, Zhengzhou, China

Sept 2018

· Venice Architecture Biennale | team member of "Super Pedestrian Block Mode" in "Time-Space-Existence" exhibition, Venice, Italy

May 2018

· Zero Net Carbon Conference | professional training program, Shanghai, China

Sept 2017

· Planning and Designing with Water | international workshop, Delft University of Technology, Delft, the Netherlands

Jul 2016

· Water World - Rise of bamboo | BELLASTOCK China-France youth self-built competition, Wuhan, China

Sept 2014

Internship

· Tongji Architectural Design (Group), Urban Architectural Design Institute | participated in the urban design of Qianjiang Century City, Shanghai, China

Jul - Sept 2018

· URBANUS | participated in the design of Tianning No.1 High-tech Park and International Horticultural Exhibition 2019, Beijing, China

Oct 2016 - Jan 2017

· UAO Design | participated in the landscape design of Qingshan riverbank area, Wuhan, China

Aug - Sept 2015

RESEARCH

· Master Thesis (ongoing) | The performance evaluation of public transport-oriented mixed use in urban neighborhood

2018 - Present

This research analyzes the key criteria of the compact community, establishes an evaluation system to quantify and evaluate its performance on mixed-use and the integration with public transportation system. It aims to alleviate the space imbalance between working and living and ease the pressure of daily commuting, in order to achieve urban sustainability through the compact strategies in urban neighborhood.

· Course Research | The reconstruction of mosques by Austro-Hungarian rule after the big fire of 1903

2019

Austrian restoration principles in "orientalizing style" mosques in Bosnia and Herzegovina are figured out in this research via theoretical study and field survey.

· Course Research | Urban design of creative district based on self-organization theory

2018

This research uses self-organization theory as a tool to analyze the bottom-up process that happened in some important creative communities in China. By analyzing the spatial potentials for creative industries, an urban structure design along the Chifeng road in Shanghai is developed.

· Project Research | Urban Design of Core Area of Qianjiang Century City

2018

This research develops and summarizes theoretical strategies towards current problems in the urban design guidelines like densifying street net (divide large blocks to improve land utilization), improving public space and pedestrian system (use the public space system to sew up urban space, improve accessibility, achieve pedestrian friendly environment), increasing mixed land use (promote job-housing balance in this area, improve functional support in the urban interface).

PUBLICATION

· Research participant of book: Kai Xu, Tongyu Sun. (2019) *Creative Industries And Bottom-Up Urban Generation*. Shanghai: China Architecture & Building Press.

· Liqing Zhang. (2016) "Architectural Writing and the Interpretation of Artistic Conception". *Beauty and Times (Urban)*, 2016(3), p. 7-8

· Liqing Zhang. (2016) "Architecture and the Occurrence of Literature". *Art and Literature for the Masses*, 2016(4), p. 24-25

SKILL

· 2D Graphic: AutoCAD, Illustrator, Photoshop, InDesign

· 3D Modeling: SketchUp

· Rendering: Vary for SketchUp, Lumion

· Space Syntax: Spatial Design Network Analysis (sDNA), Depthmap

· Film Editing: Premiere

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URBAN DESIGN

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URBAN RENEWAL OF CHIFENG ROAD

Location: Chifeng road, Shanghai, China

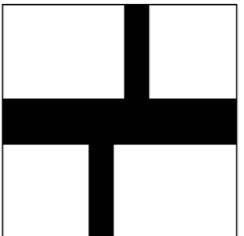
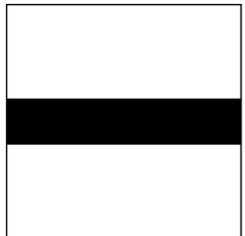
Vision: Main strategy "Open up" is brought out due to the current situation that Chifeng road is now a motor vehicle-oriented road without much function support. Fences are torn down while street interface is completed with the increasing of industry and the completeness of industrial chain. New public spaces system is created, making the pedestrian and the road interface on the Chifeng road extend into inner blocks, forming three kinds of courtyard inside: courtyard, yard, corridor.

Time: Jun.2018



STRATEGIES

ACCESSIBILITY



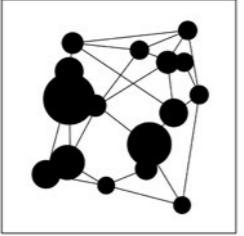
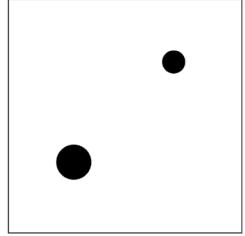
BEFORE

Lack of connections from Chifeng Road into the areas around it. Northern and southern part are separated.

AFTER

Create new connections between the road and both of its sides.

INDUSTRY



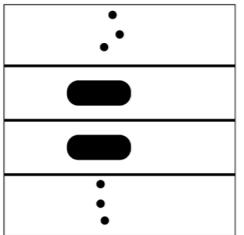
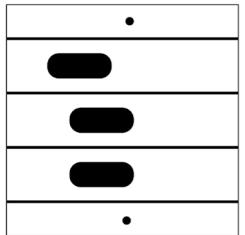
BEFORE

The area contains few industries today, an important key for a creative district.

AFTER

Add new creative industries like shared work space, smaller studios and commercials, all focusing on design since there are a lot creative industry around Tongji University, forming industry chain.

LANES



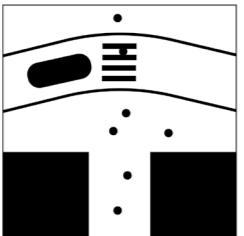
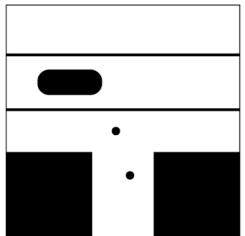
BEFORE

Today Chifeng Road has three wide lanes for cars and too narrow sidewalks for the pedestrians.

AFTER

By removing one lane we can give that space to sidewalks and "Node Islands" instead, that would create a better harmony for the street.

NODE



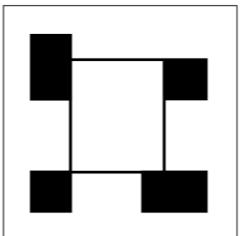
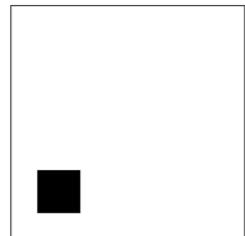
BEFORE

Narrow sidewalk, especially at nodes that requires more space. Further there is difficulties to reach the nodes from both sides of Chifeng Road.

AFTER

Wider sidewalk at the most important nodes, creating "Node Islands". We also want to add an easier way to cross the street at these points, zebra crossing or shared space for cars and pedestrians.

COURTYARD



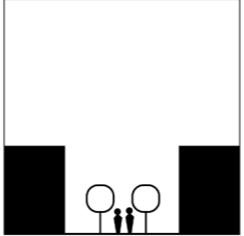
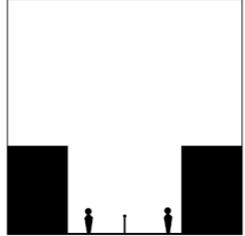
BEFORE

The area has few public spaces such as courtyards.

AFTER

Create a variety of courtyards that linked together to bring more life into Chifeng Road.

PROPERTY



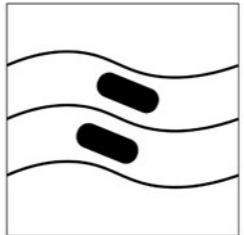
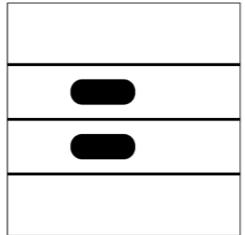
BEFORE

Properties around Chifeng Road is strictly divided from each other and closed with fences and walls. These dividers make it hard to enter.

AFTER

By taking away some of the dividers and open up, the areas will be easier to use and share with each other.

TRAFFIC SPEED



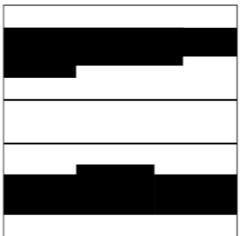
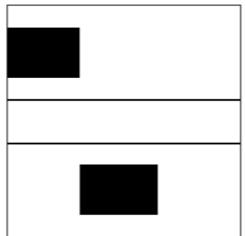
BEFORE

Cars, scooters and bikes are driving quite fast. This leads to an atmosphere not so pleasant for pedestrians who want to cross the street.

AFTER

By curving the lanes slightly, at the biggest crossings, we can slow down the speed of the traffic and give the pedestrians a safer street.

INTERFACE



BEFORE

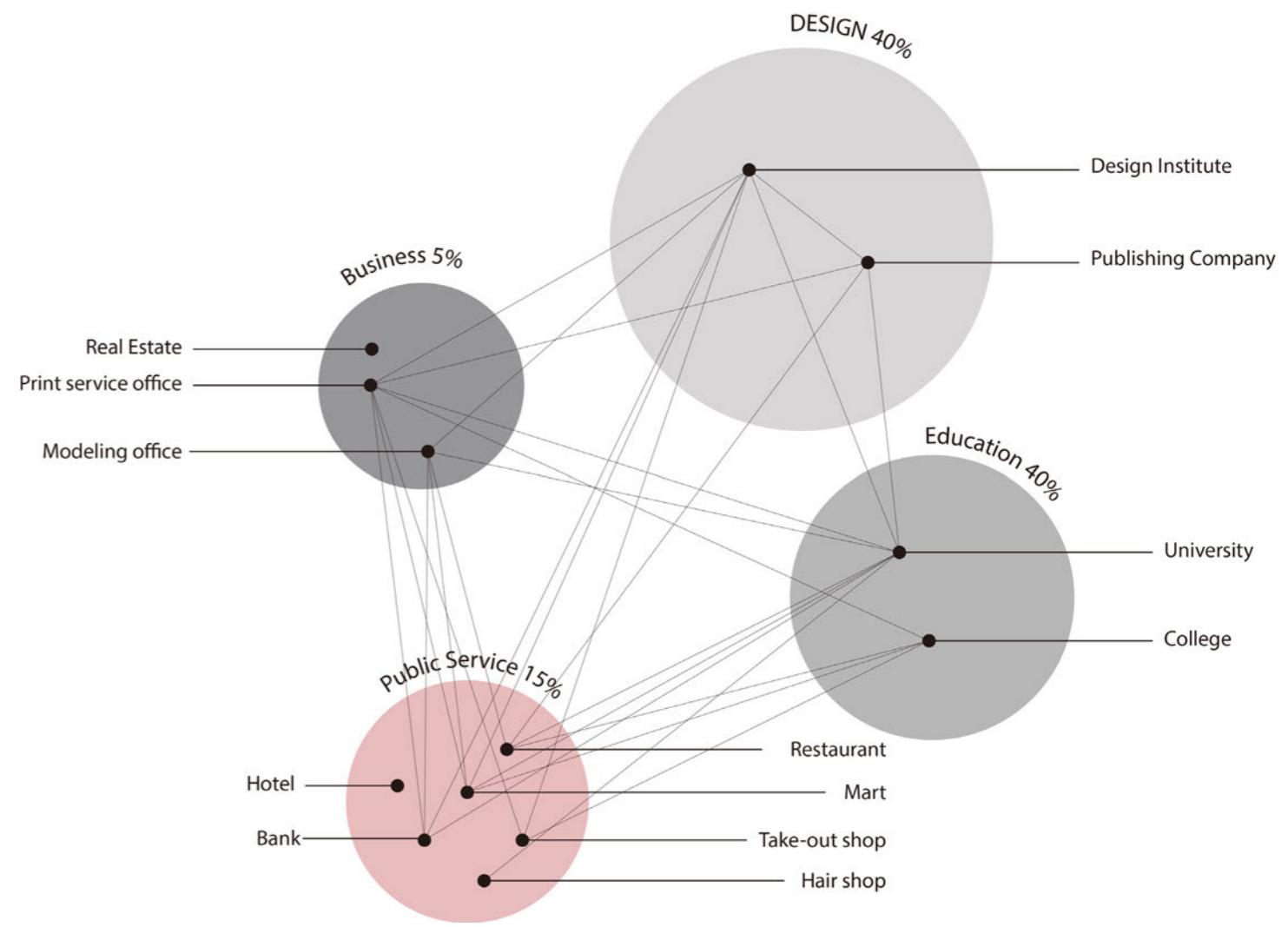
The interface of Chifeng Road is incomplete and could be further improved.

AFTER

Complete it and make it a whole and buzzing for the pedestrians.

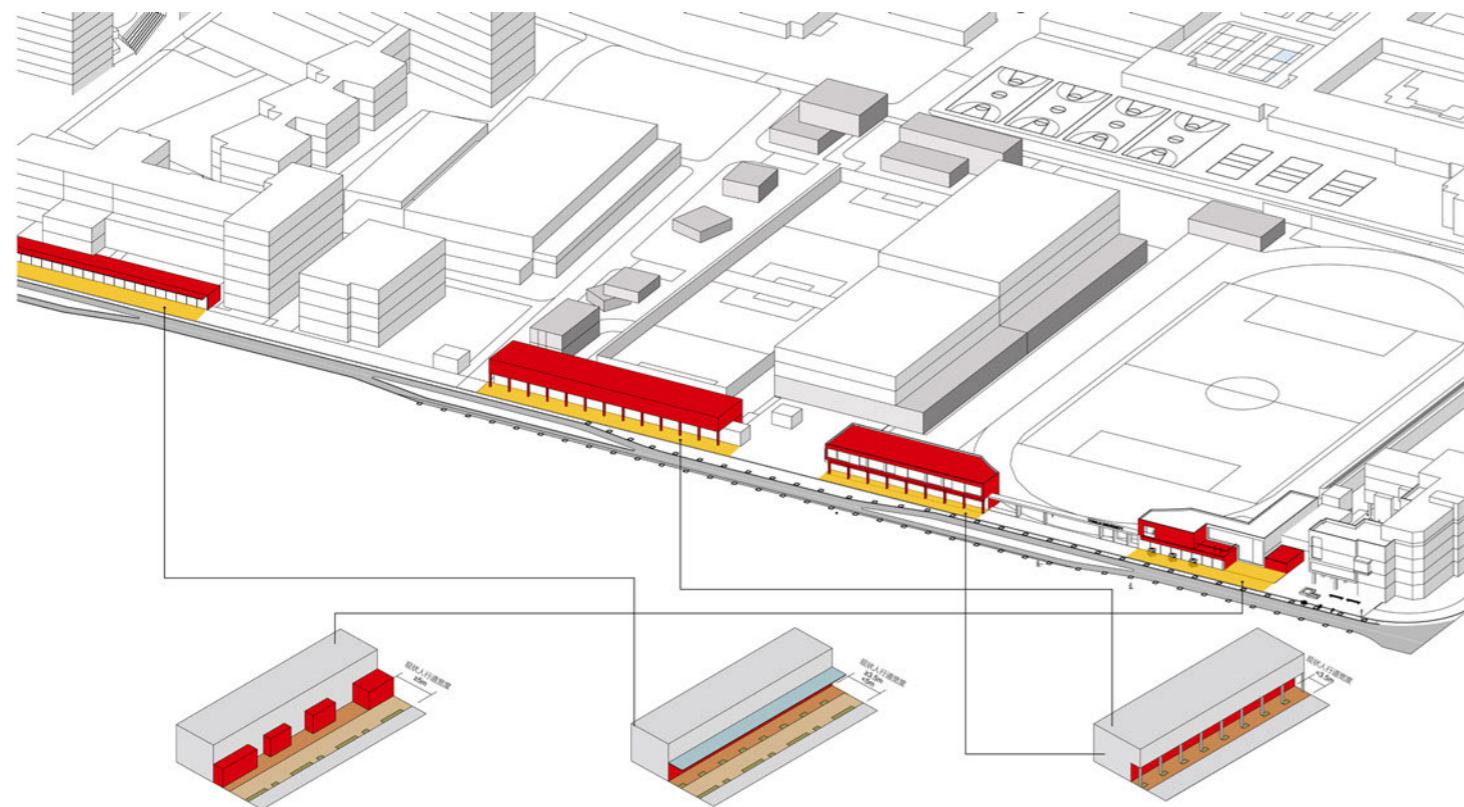
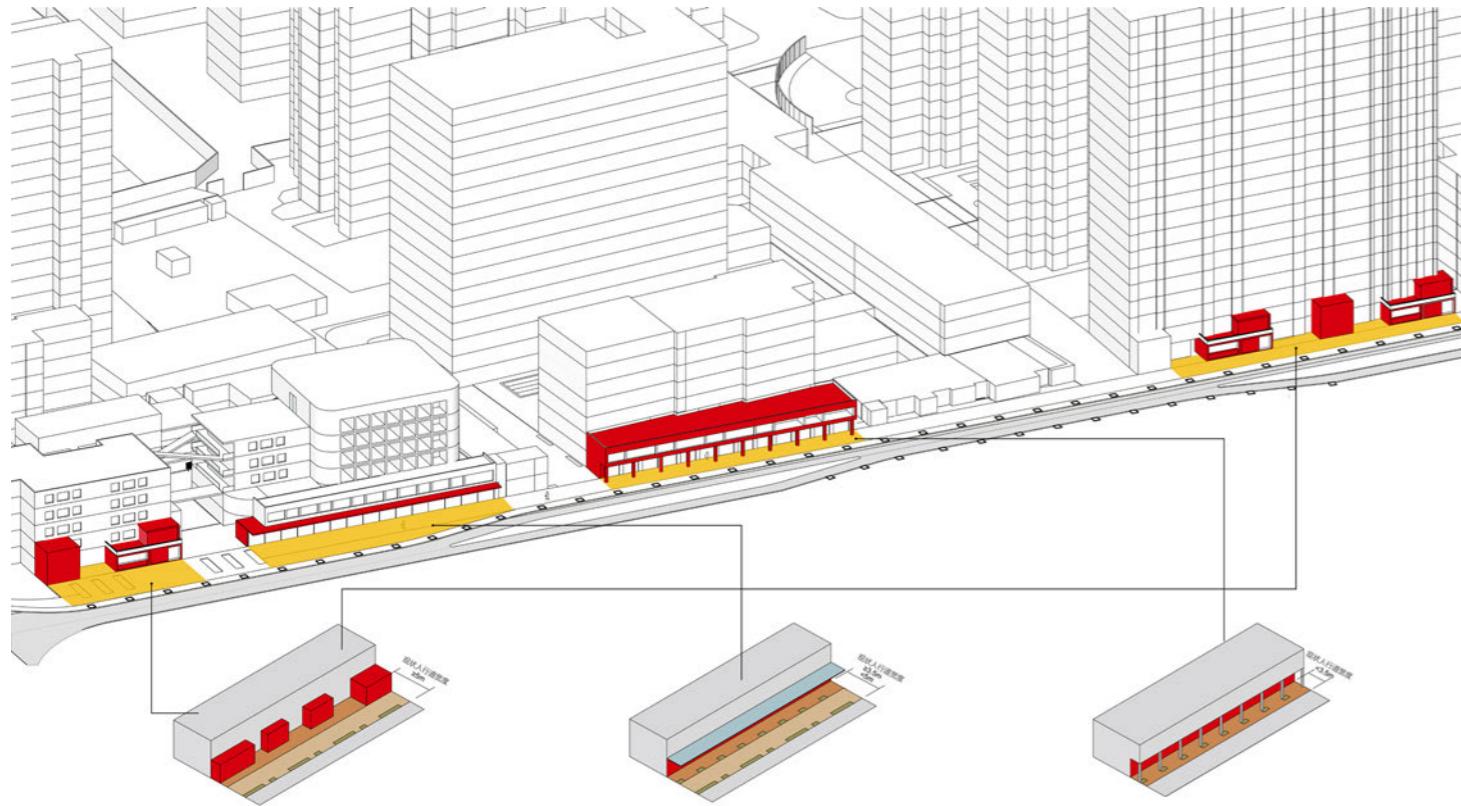


INDUSTRY CHAIN

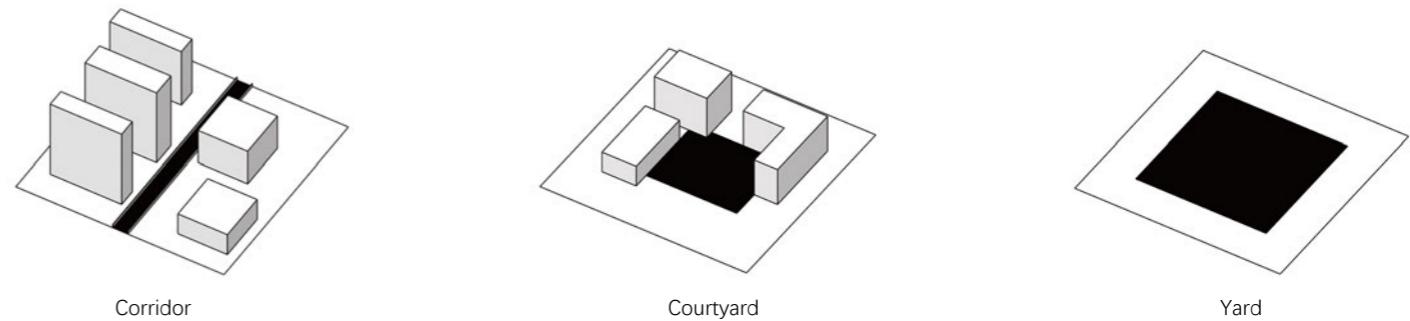


TYPOLOGY

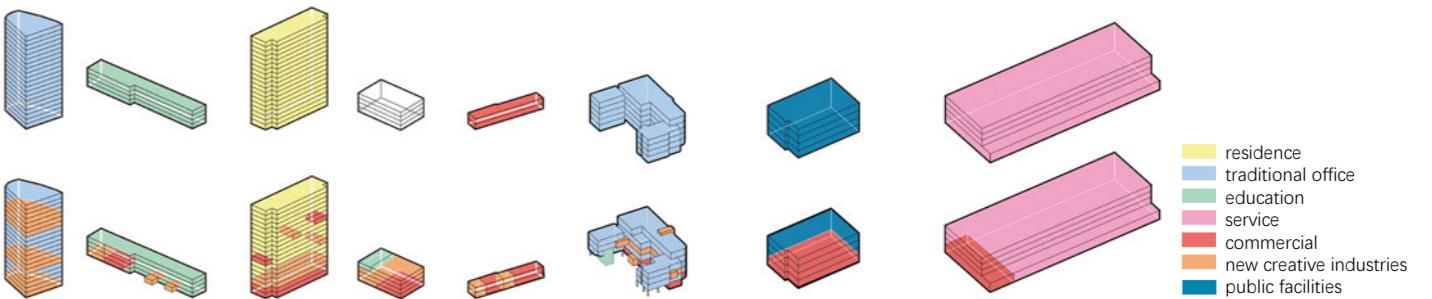
INTERFACE TYPOLOGY



COURTYARD TYPOLGY



BUILDING TYPOLGY

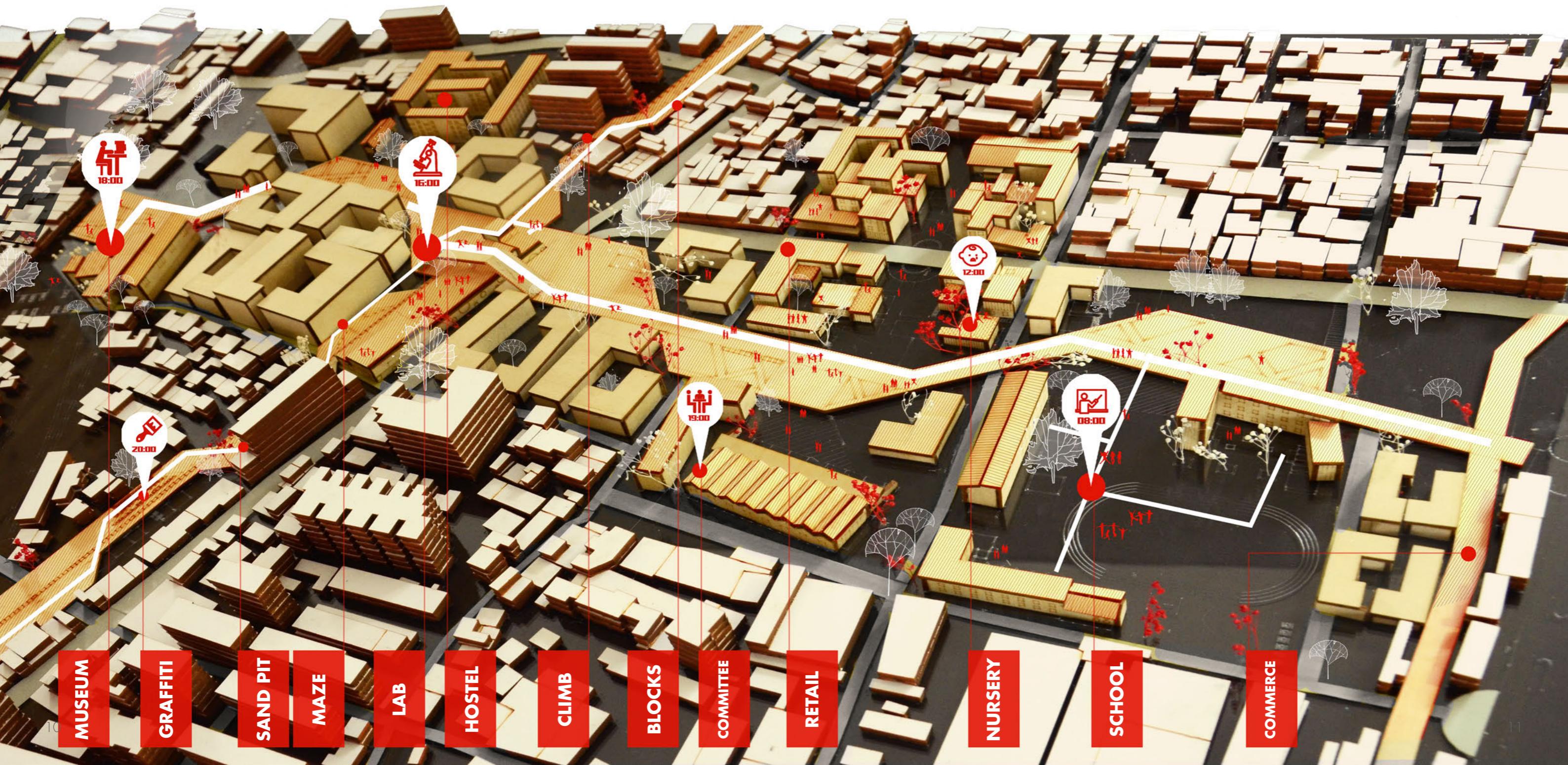


URBAN RENEWAL OF ABANDONED RAILWAY AREA

Location: Wuchang North Railway Station, Wuhan, China

Vision: According to the field survey, this abandoned railway area has a great demand of safe environment for children study and live in the surrounding old and disordered residential area. Based on the growth characteristic of children, schools and community integrate together. Meanwhile, children group serves as an activator to activate this abandoned and vague area.

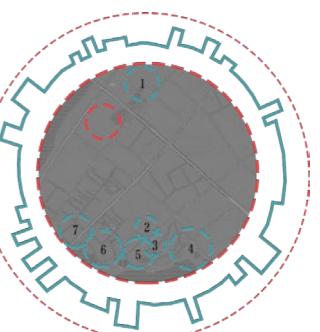
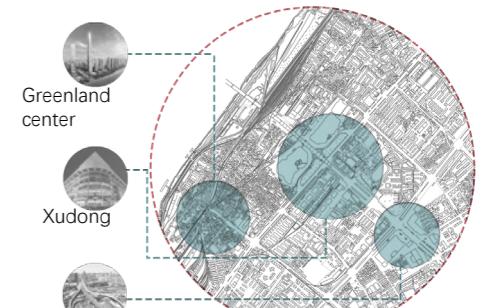
Time: May.2016



CURRENT SITUATION

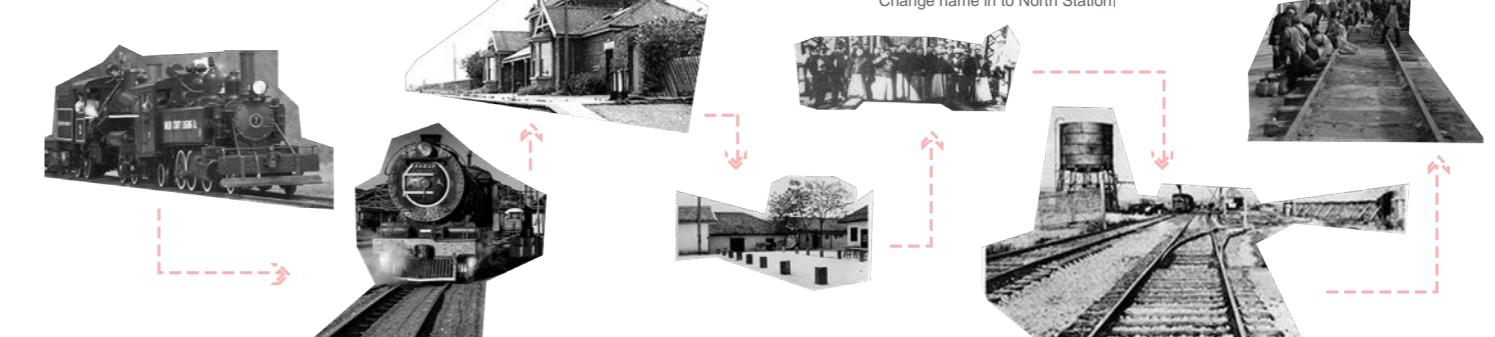
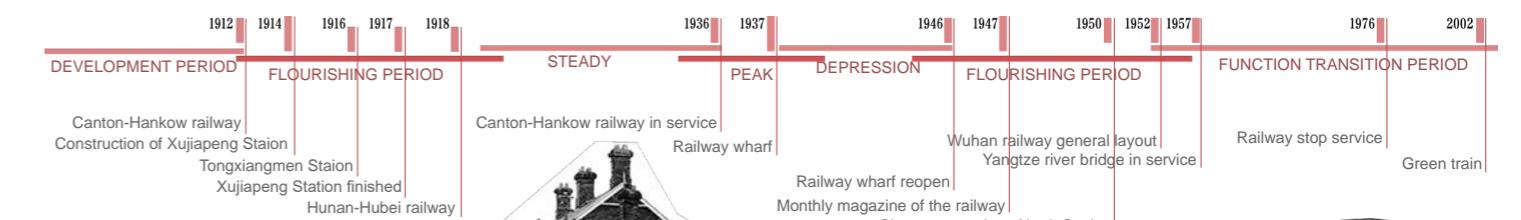


LOCATION

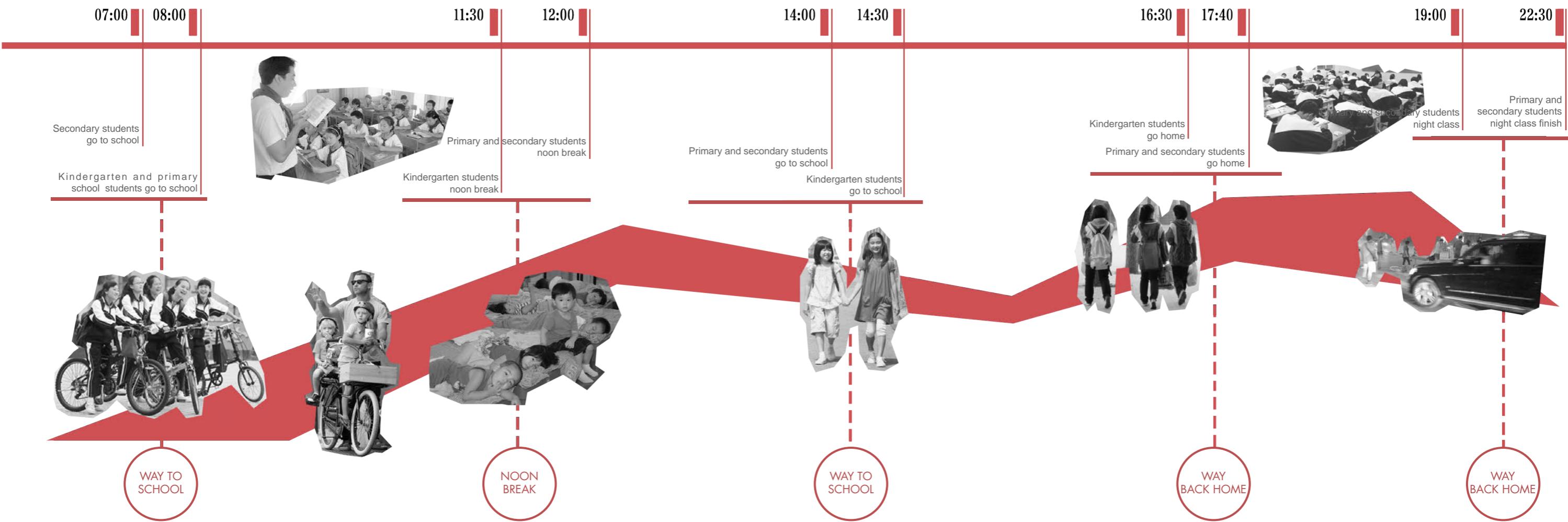


According to the division of "Provincial model schools in Wuhan, Hubei province", the area lacks provincial model schools.

HISTORY



FIELD SURVEY

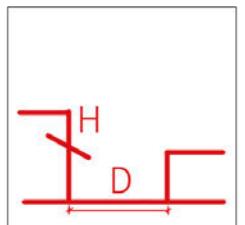
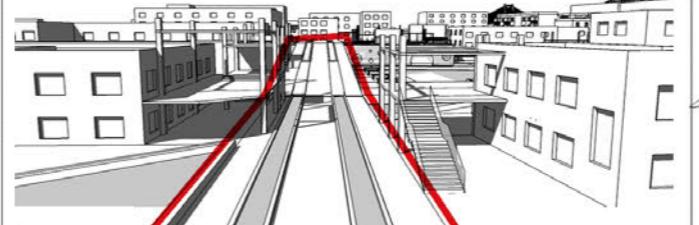
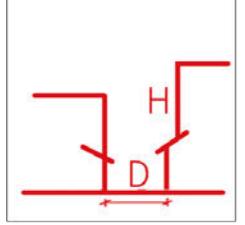
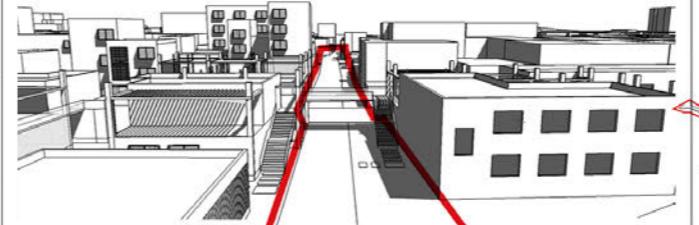
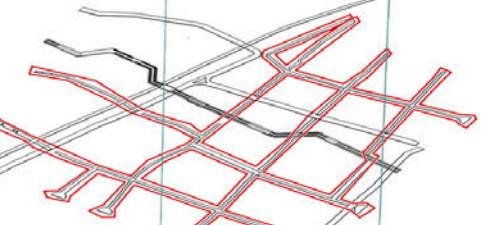
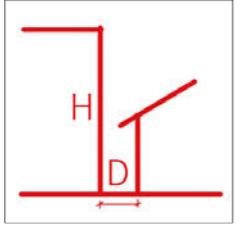
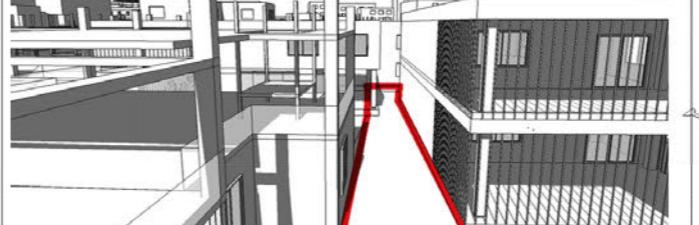
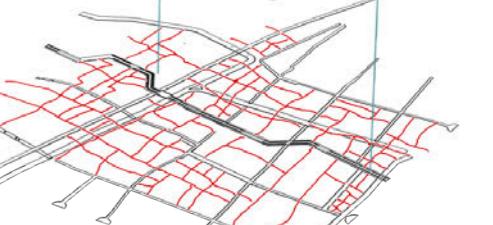


Jan Gehl
Public Spaces, Public Life

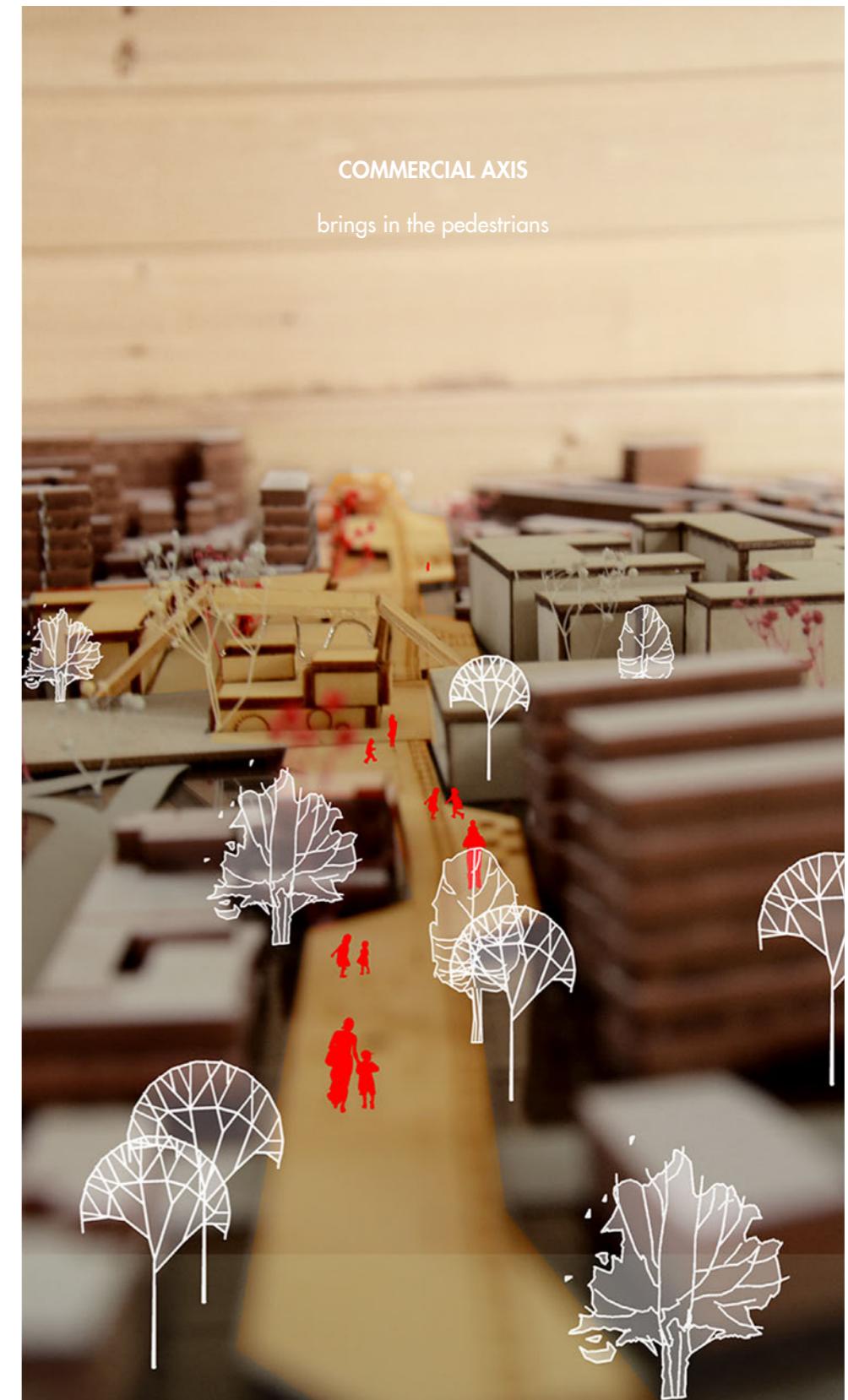
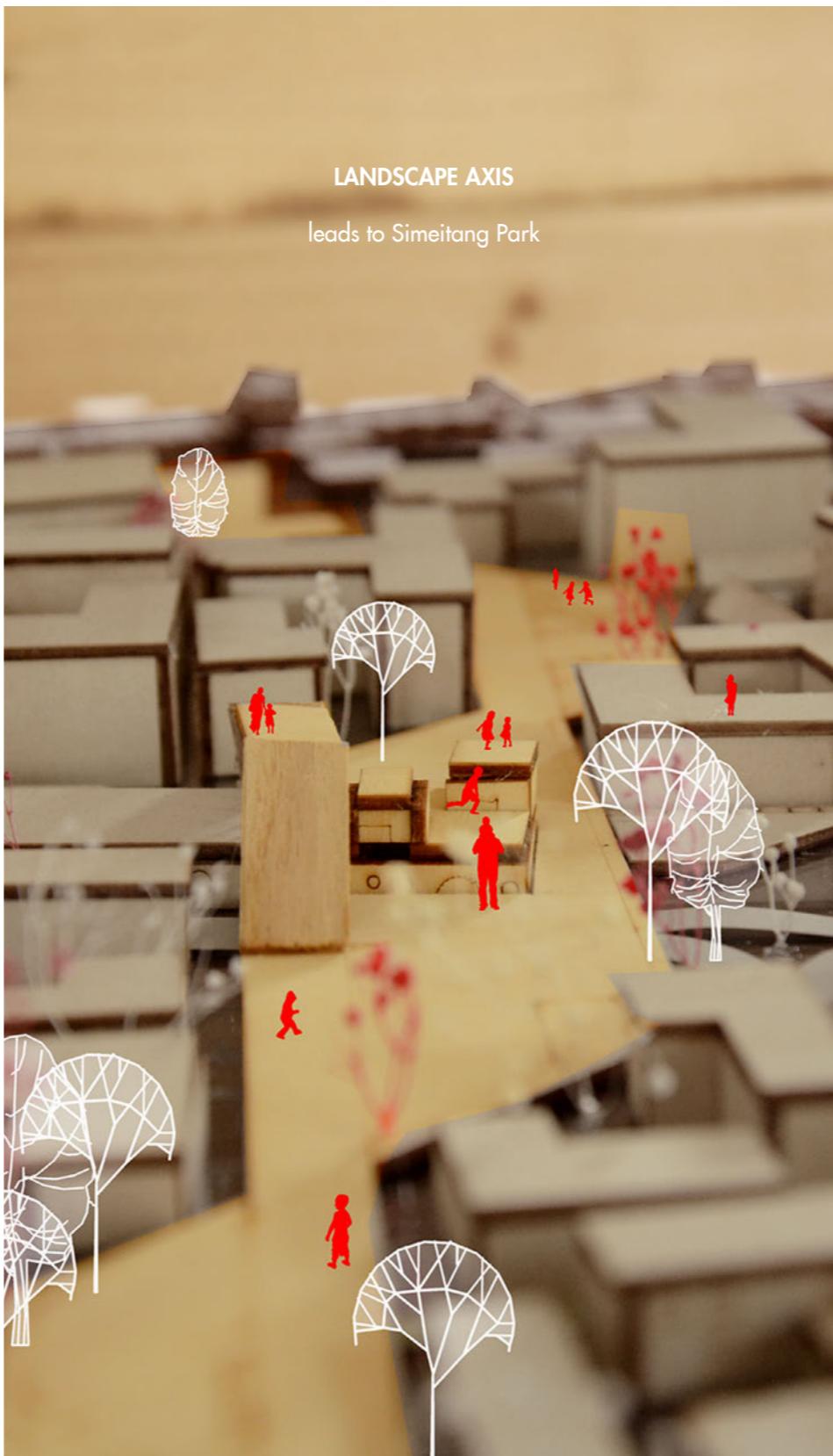
There is no single factor can affect the vitality of the city center like school or student. Students come by bus or bicycle, and do not put pressure on city traffic. Whether it is day or night, students come and go, helping to keep the city alive at night. Students also use urban facilities on a regular basis. They frequently travel between classrooms and buildings. The city provides corridors and routes for them.



ROAD CLASSIFICATION

TYPE	STREET IMAGE	D/H	ROAD SITUATION	DESIGN	DISTRIBUTION
FIRST-CLASS ROAD		$D/H \approx 2$ like Hengdi street comfortable scale	 		
SECOND-CLASS ROAD		$0.6 < D/H < 0.83$ like Goubian street, Xujiapeng street, middle scale, slightly cramped	 		
THIRD-CLASS ROAD		$0.16 < D/H < 0.35$ like Hengdi street smallest scale, very oppressed	  		

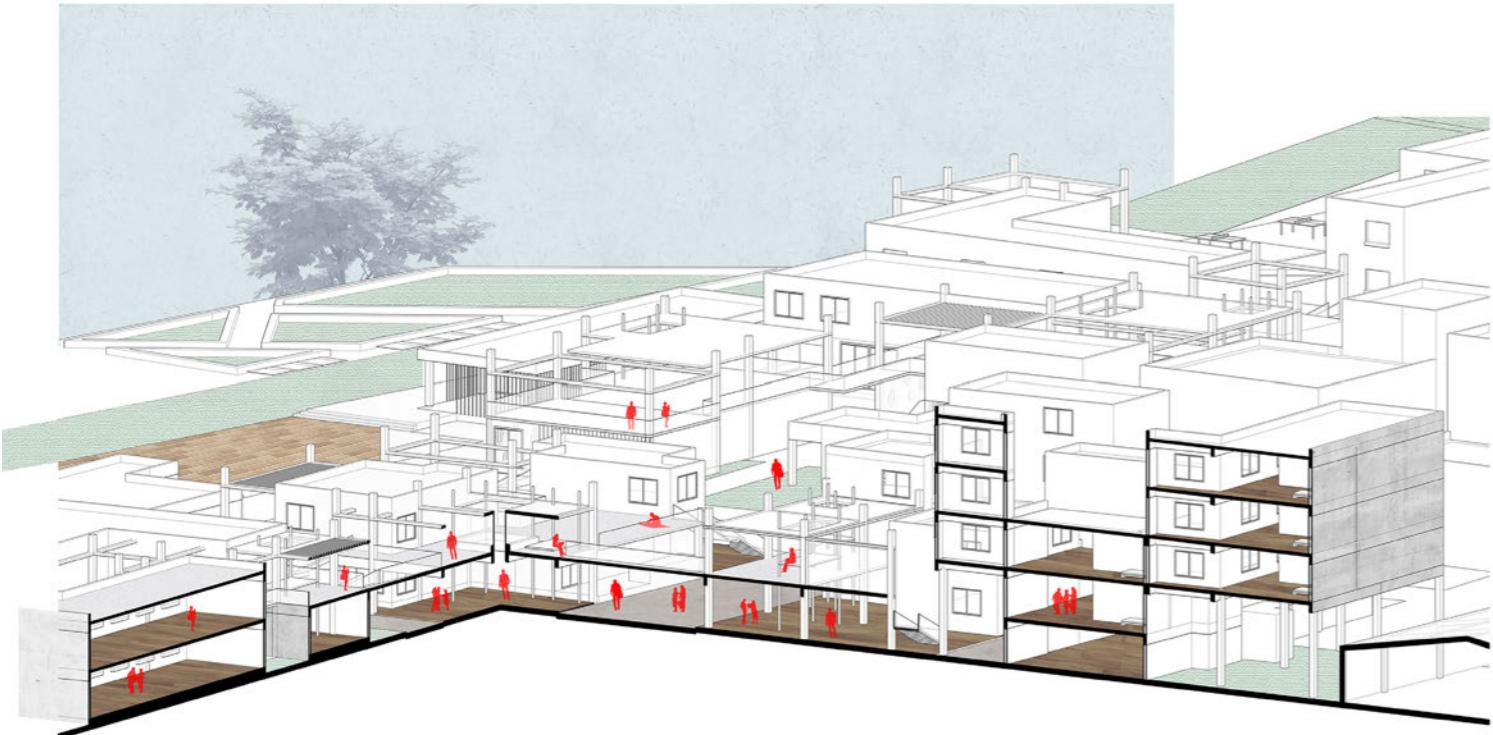
THREE AXES



CHILDREN COMMUNITY



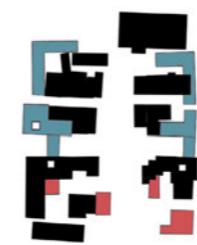
TEXTURE



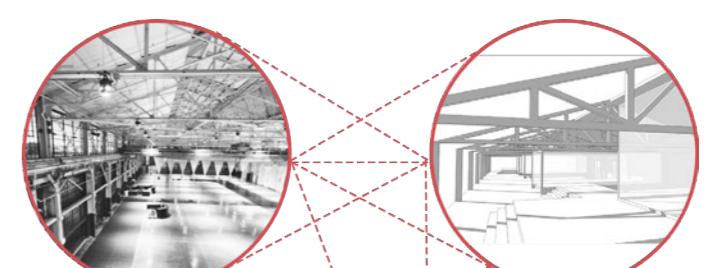
Original texture



Some one-storey building
was converted into a nursery



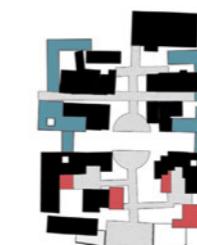
Integrate the texture
and enclose the yards



Big workshops turn into
public space

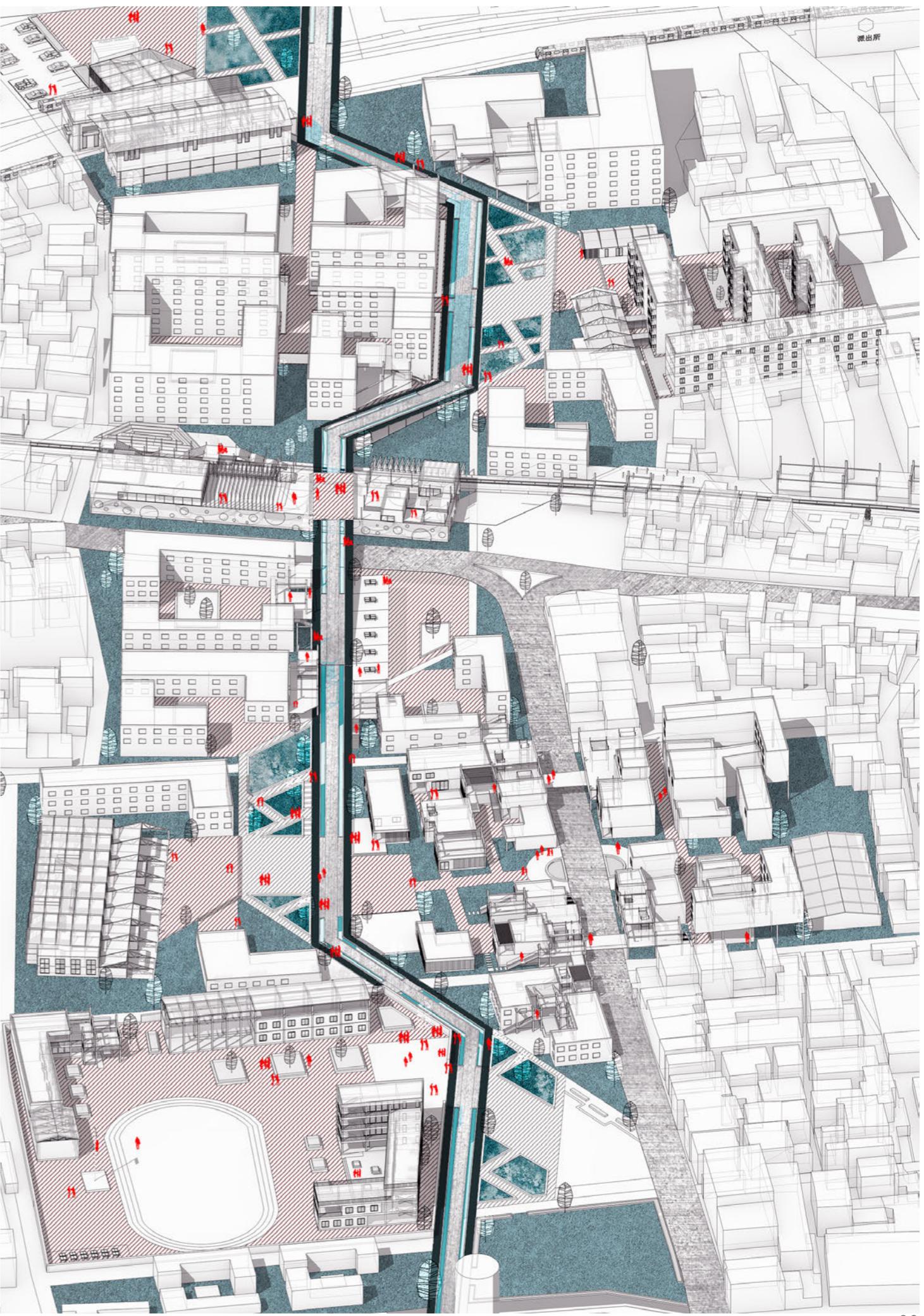
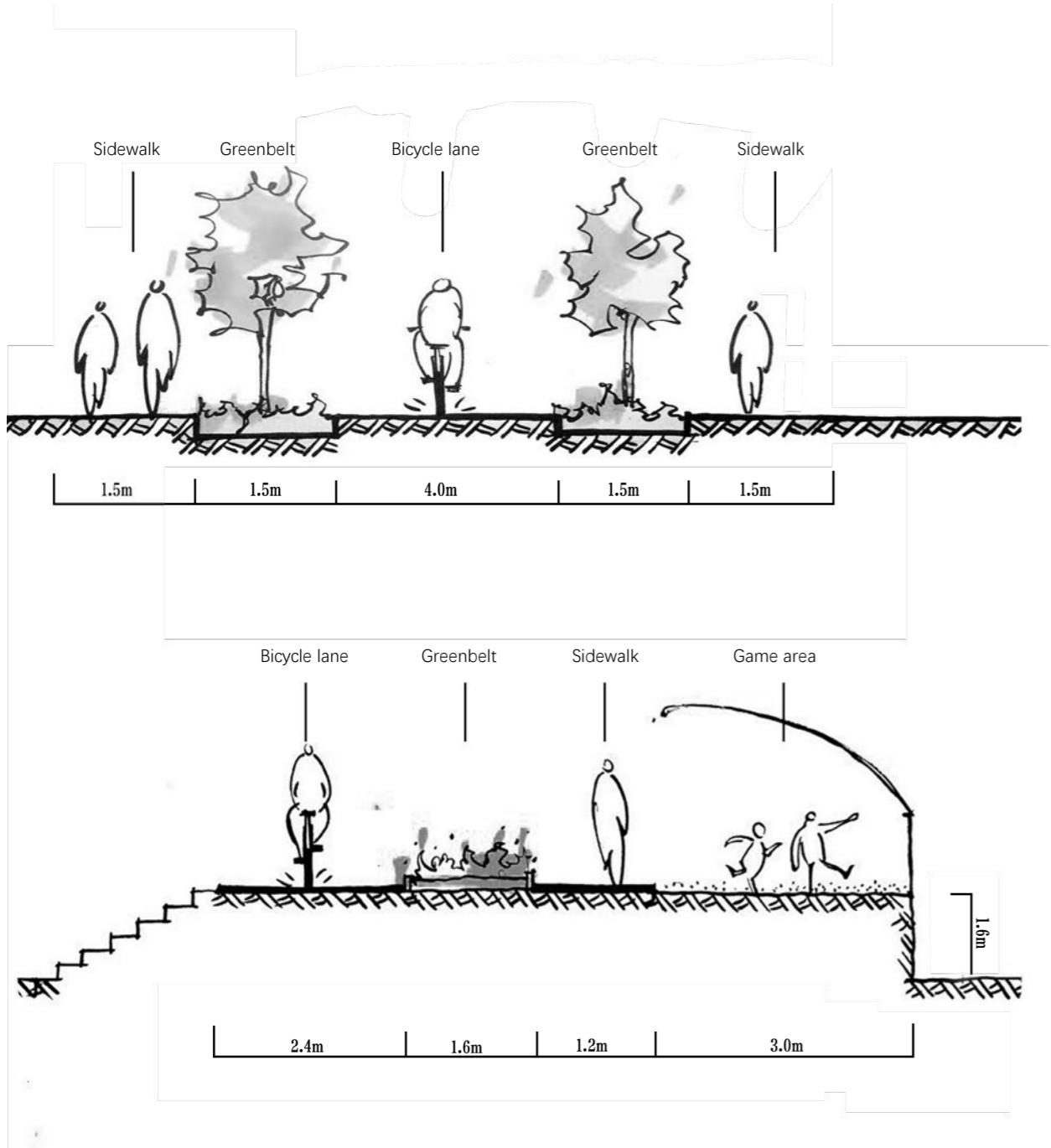
Facts about Wuhan wool
textile factory:

Built in 1950s
Truss structure
Divided into big workshops
and small workshops
The last remaining handicraft
factory in Wuhan

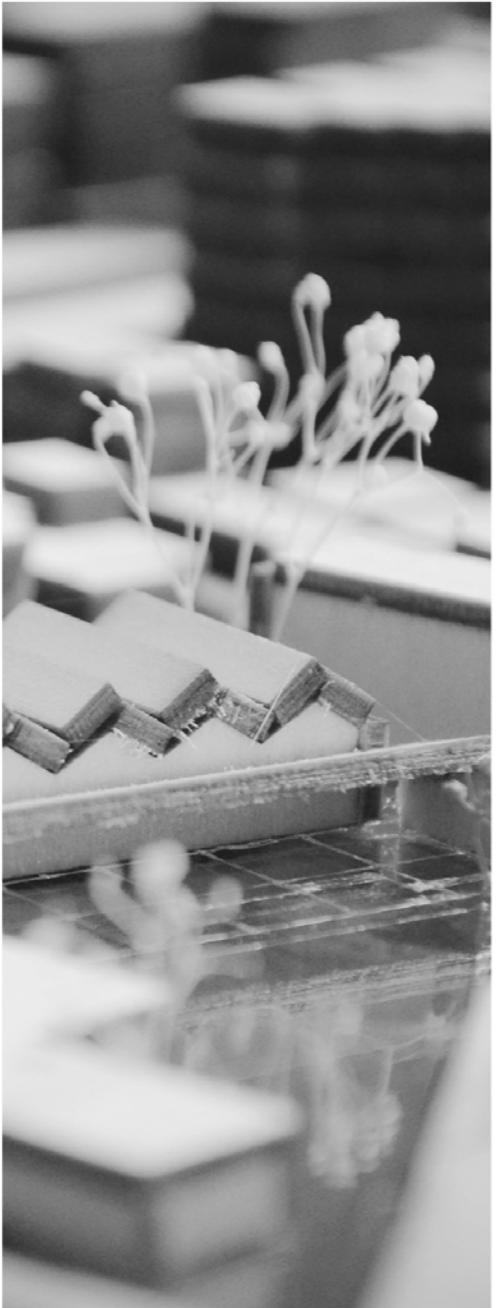


Small workshops turn
into community center

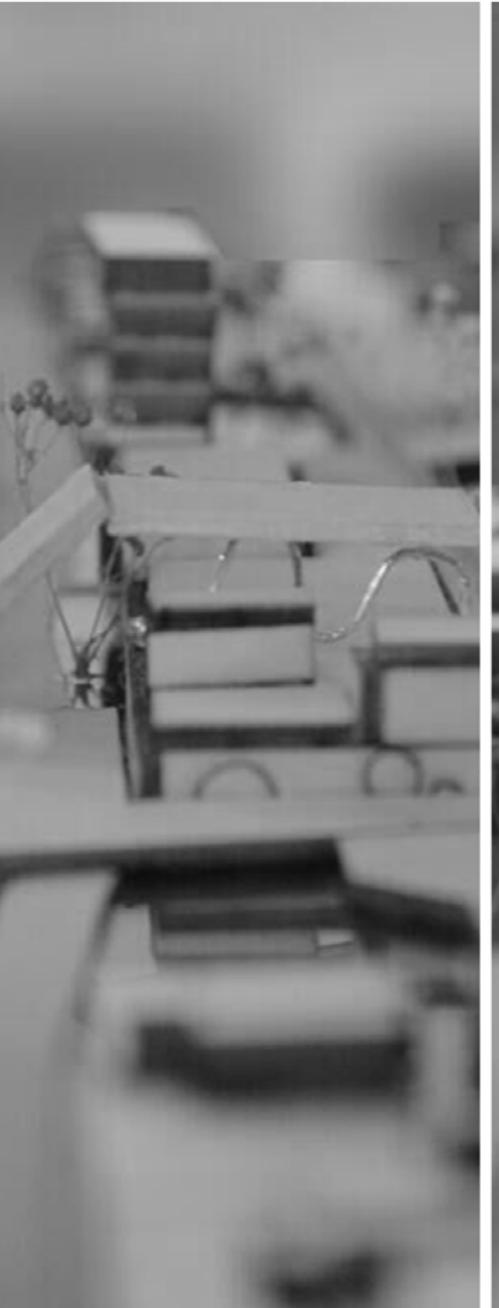
ROAD SECTIONS



RECONSTRUCTIONS



NEW CONSTRUCTIONS



CHILDREN COMMUNITY

COMMUNITY CENTER

HISTORICAL COMMUNITY

KEY PRIMARY SCHOOL

WORKSHOPS FOR CHILDREN

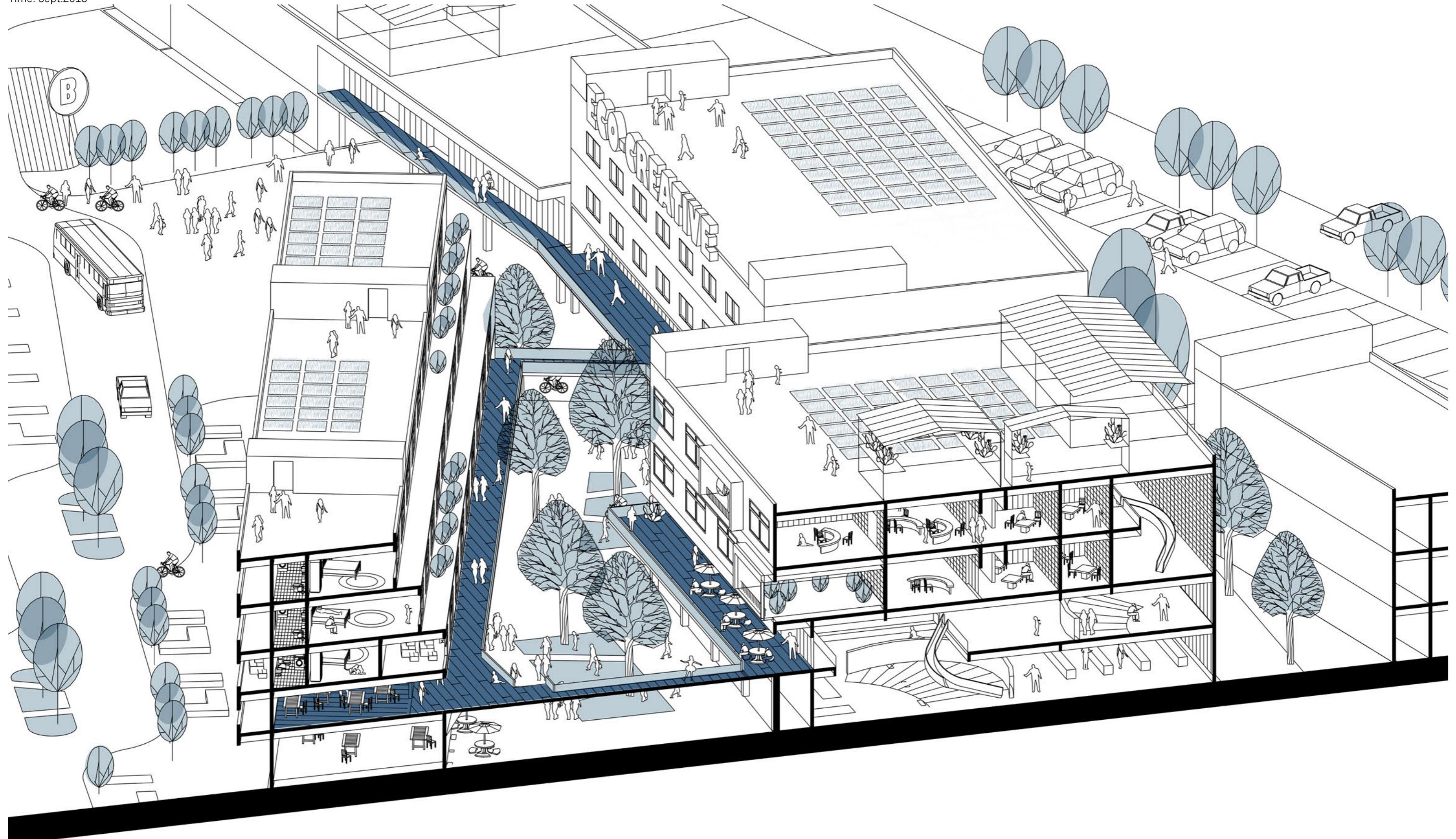
RAILWAY MUSEUM

ECO-INDUSTRIAL PARK

Location: Makan village, Shenzhen, China

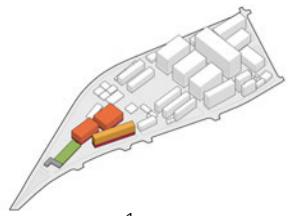
Vision: There four phases to inject new industries into this village and form a industry chain, starting from renovating a heavily polluting factories which is possible to be sponsored by the local government. Integrate the concept of "Ecology"+ "University"+ "Industry" in this design.

Time: Sept.2018

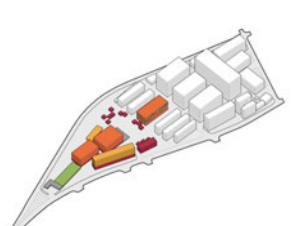




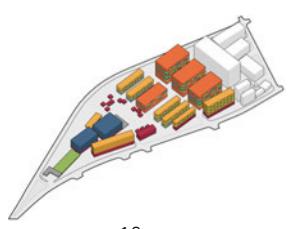
DEVELOPMENT TIMELINE



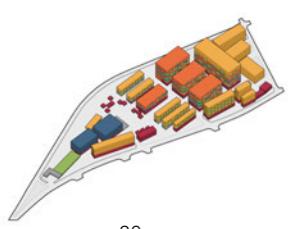
1 year



5 year

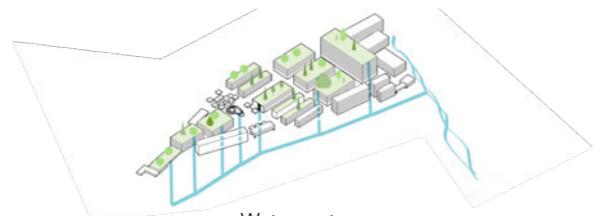


10 year

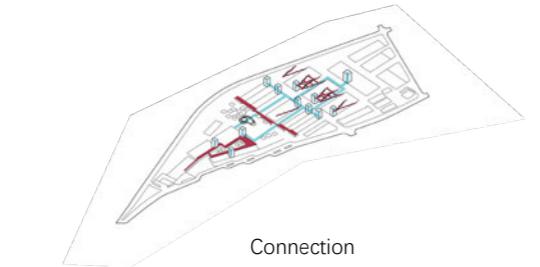


20 year

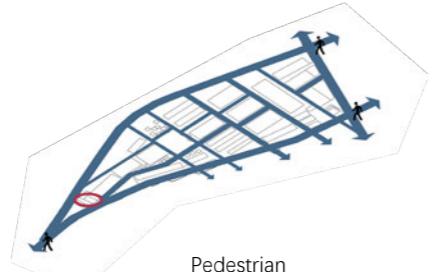
URBAN STRUCTURE



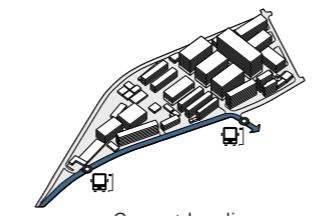
Water system



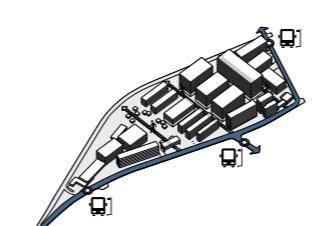
Connection



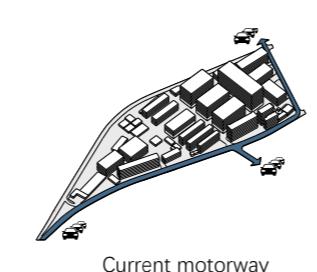
Pedestrian



Current bus line



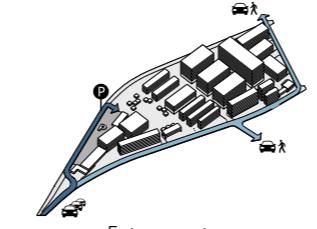
Future bus line



Current motorway



Public space



Future motorway

SITE ANALYSIS



Location



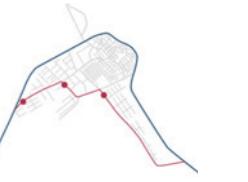
Noli map



Current function



Road system



Transportation



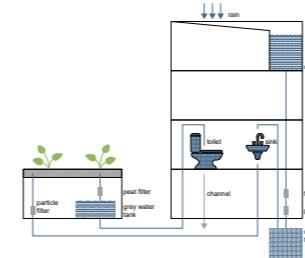
Transportation

INDUSTRY AND MECHANISM

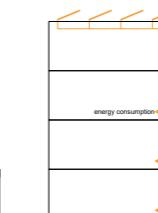


Zoning

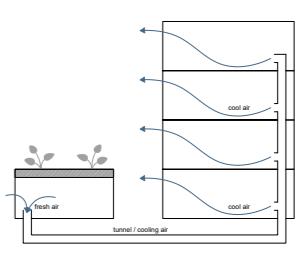
ECO STRATEGIES



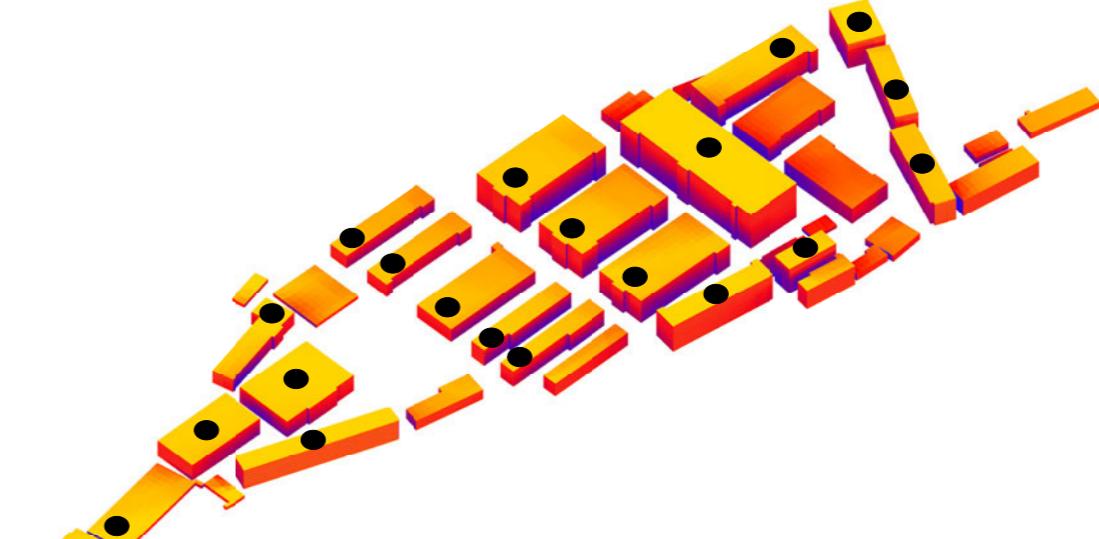
Dealing with water



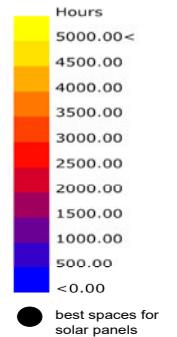
Dealing with energy



Dealing with cool air



Sunlight hours analysis

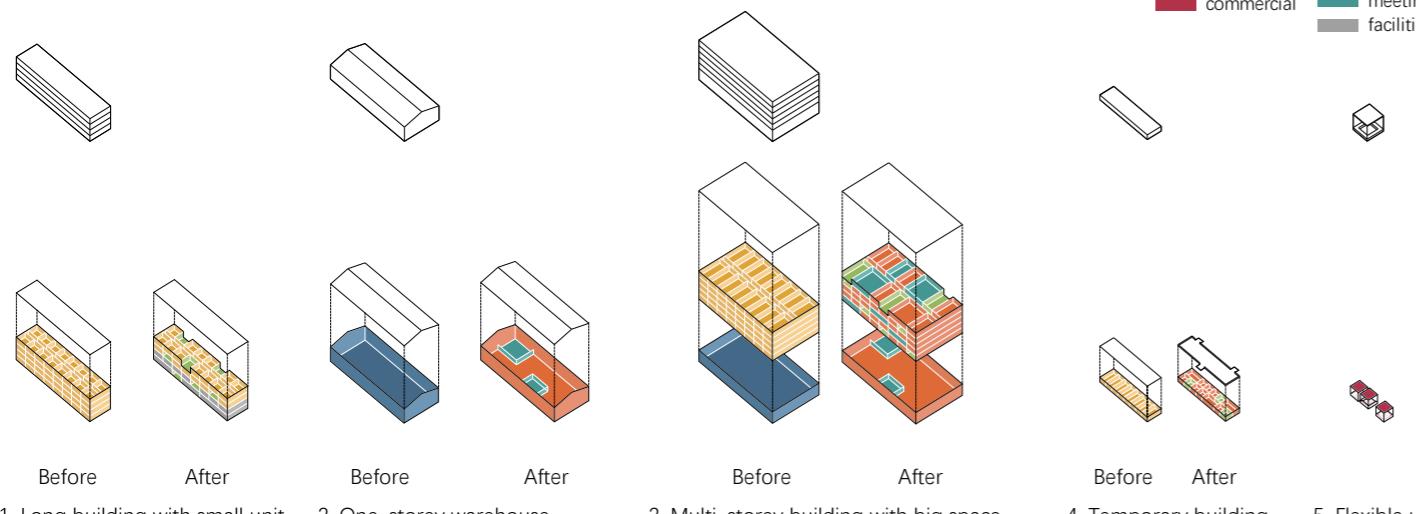




USAGE OF CREATIVE MARKET



BUILDING TYPOLOGY



1. Long building with small unit

2. One-storey warehouse

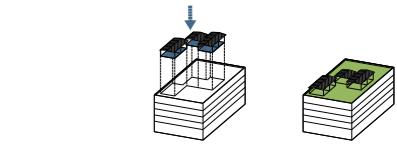
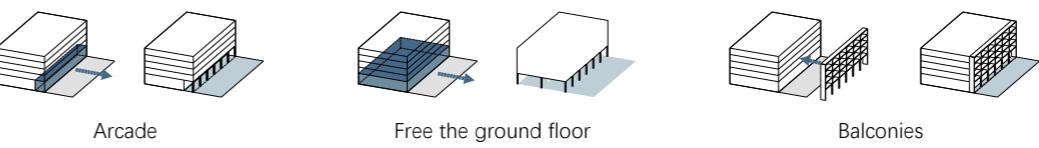
3. Multi-storey building with big space

4. Temporary building

5. Flexible unit

PRINCIPLES

1. Shape the public space



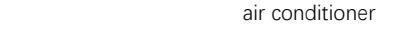
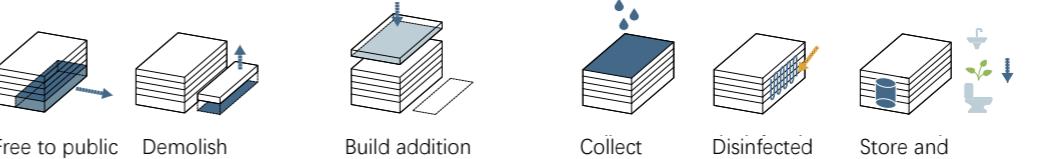
2. Building renovation

Facade



3. Total area maintains or increases

Free to public



Demolish

Build addition

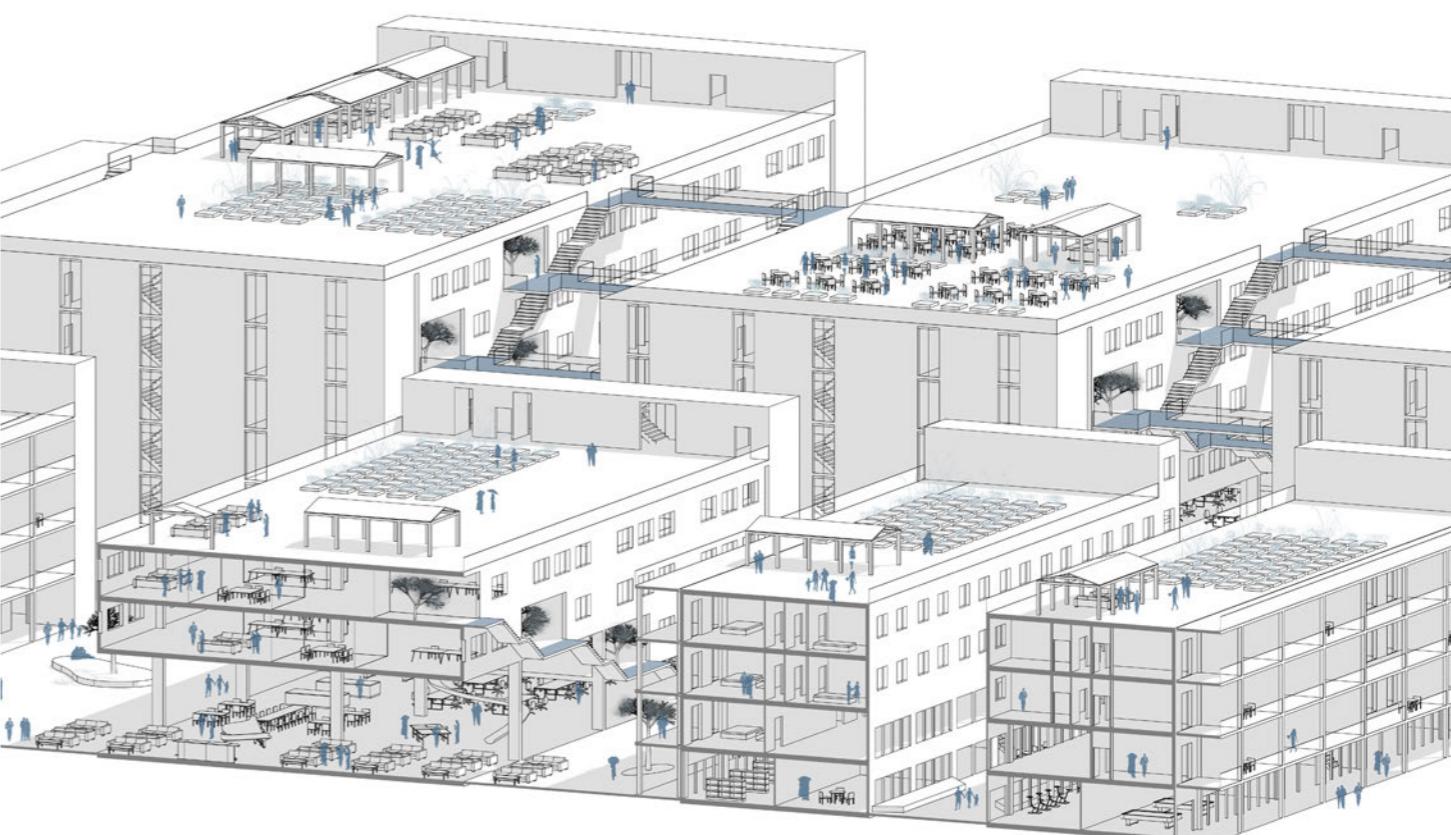
Collect rainwater

Disinfected by sunlight

Store and reuse water

Solar panels

Solar absorption air conditioner



CORE AREA OF QIANJIANG CENTURY CITY

Location: Qianjiang century city, Xiaoshan district, Hangzhou, China

Background: An urban design project in Urban Lab.

Time: Sept.2017

TOD NODES SURVEY

DEVELOPMENT INTENSITY



LAND USE



Office	Transport use	>9.0
Commerce	Square	6.1-9.0
Residence	Park	3.1-6.0
Recreation	Greening	0-3.0
Non-executive office		



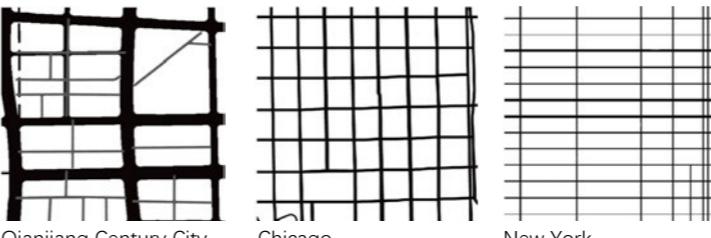
Qianjiang Century City Station

Yingfeng Station

Feihong Station



CURRENT ROAD DENSITY



New York

INCREASE ROAD DENSITY



Before



After

COMPLETE URBAN TEXTURE



New York

CURRENT URBAN TEXTURE



Qianjiang Century City

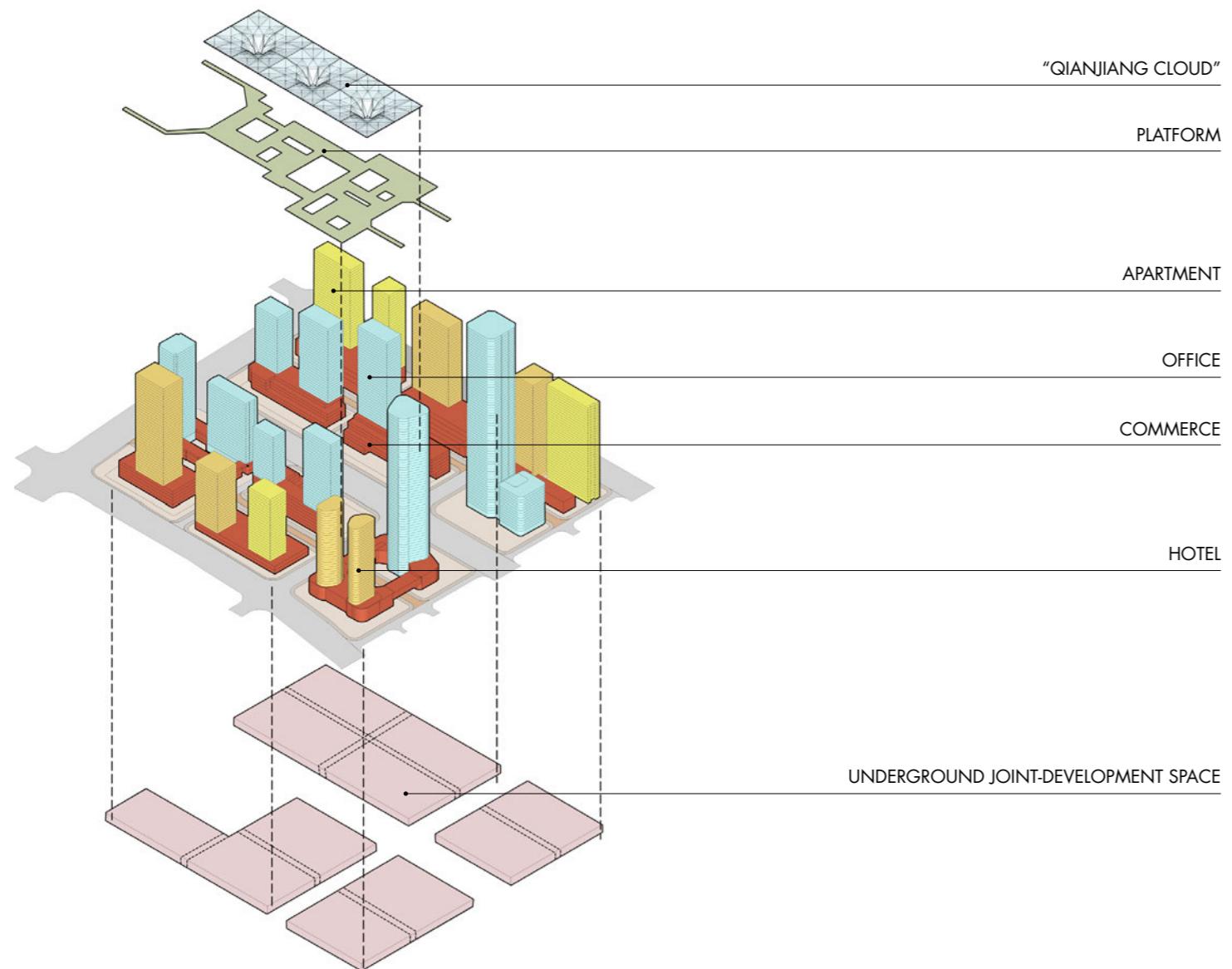
Chicago

New York

MASTER PLAN



LANDMARK DESIGN: QIANJIANG CLOUD



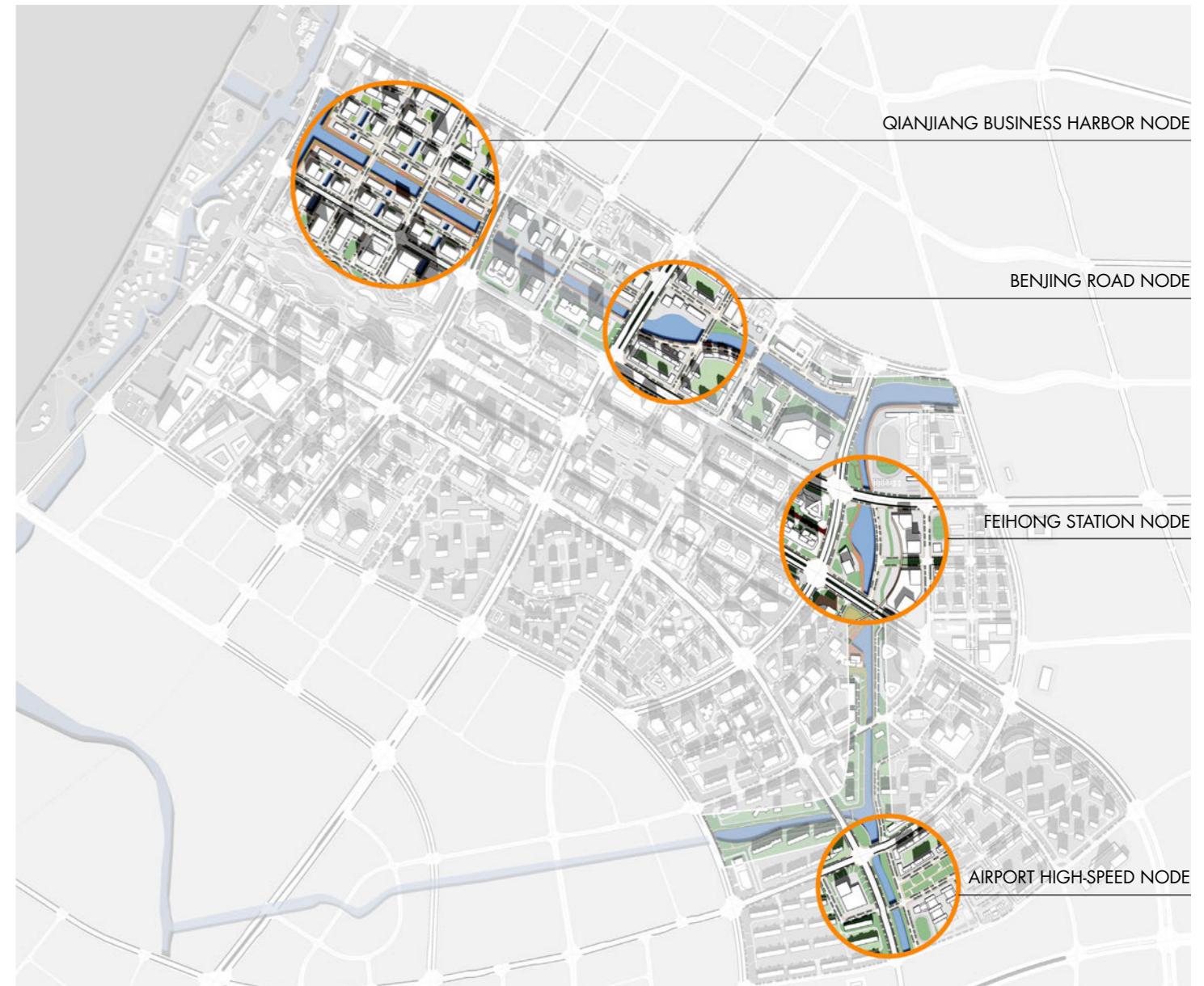
MASTER PLAN



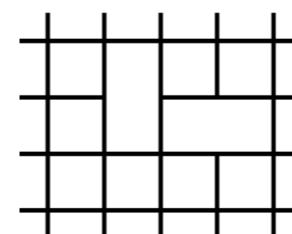
RENDERING



RIVER NODES

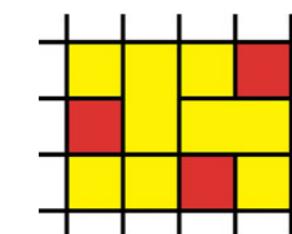
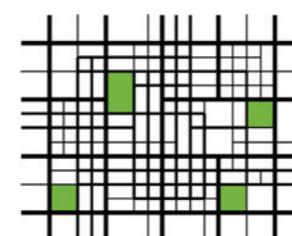


STRATEGIES



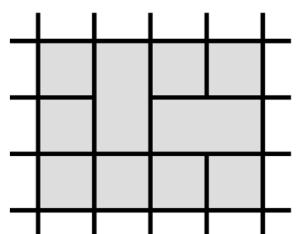
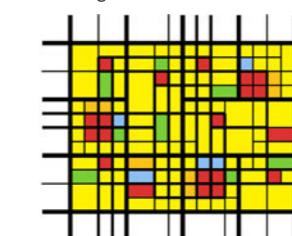
Narrow Street Dense Net:

From the original urban form of large-scale blocks with wide road and sparse road network, to the urban form of small-scale blocks with narrow road and dense road network.



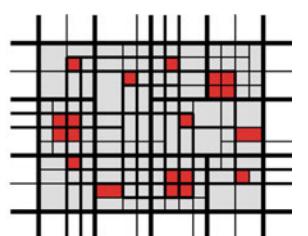
Mixed Landuse:

In order to create a continuous atmosphere of urban vitality, it is necessary to carry out mixed development of land use within a certain area and achieve the job-housing balance.



Core site:

In the stage of urban design, efforts should be made to build the core site with high identification so that the city has a certain degree of identification.

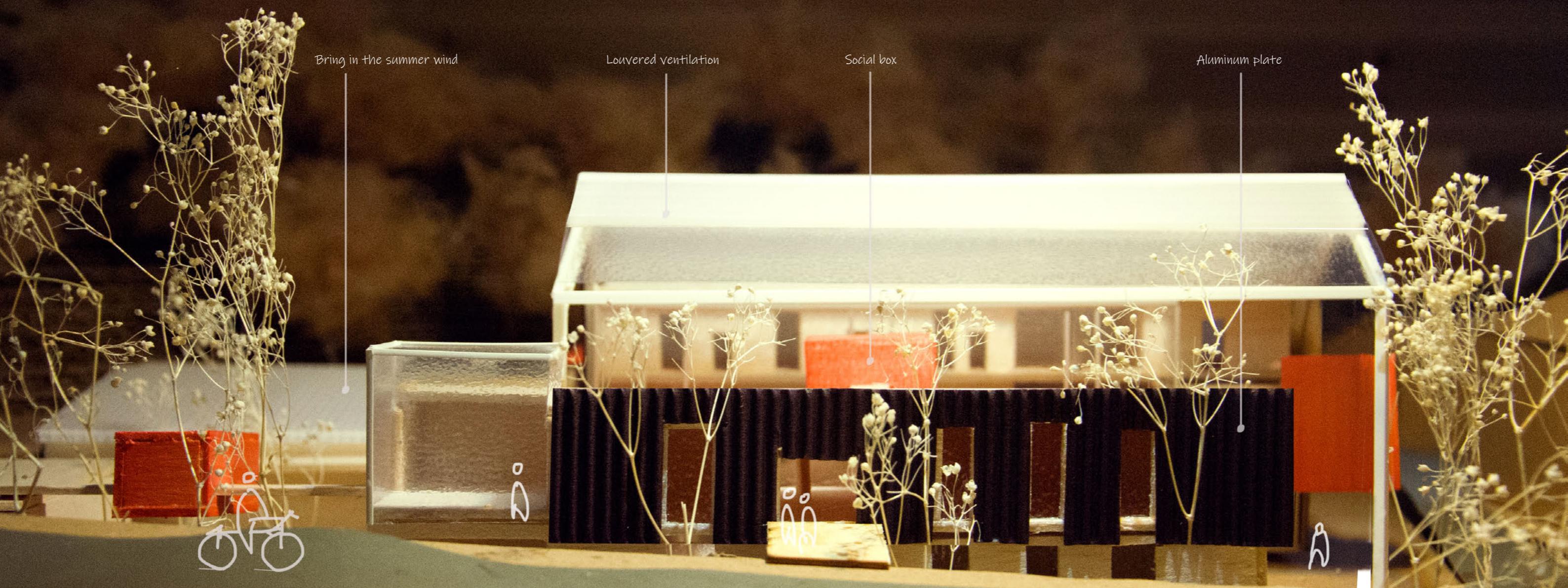


ENERGY-SAVING TRAINING CENTER

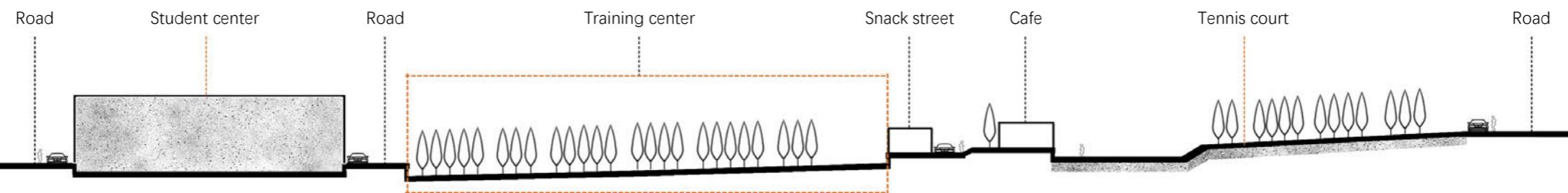
Location: The original engineering training center in Wuhan University, Wuhan, China

Vision: This design aims to activate the engineering training center to connect spaces on its two sides. The concept of energy saving is embodied in the design, solving practical problems through green design strategies.

Time: Oct.2015

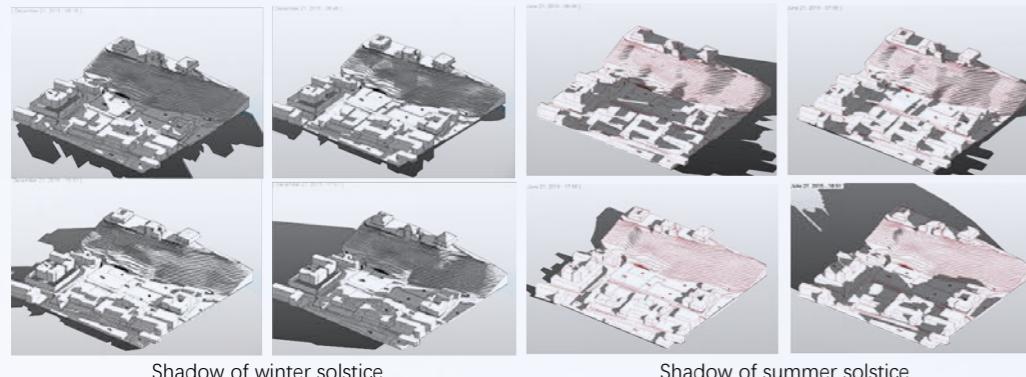


LOCATION ANALYSIS

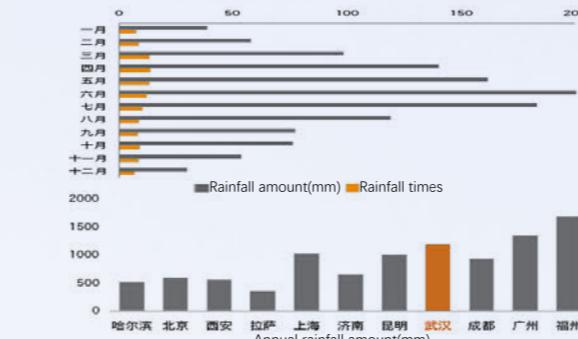


ECOLOGICAL ANALYSIS

SOLAR RADIATION

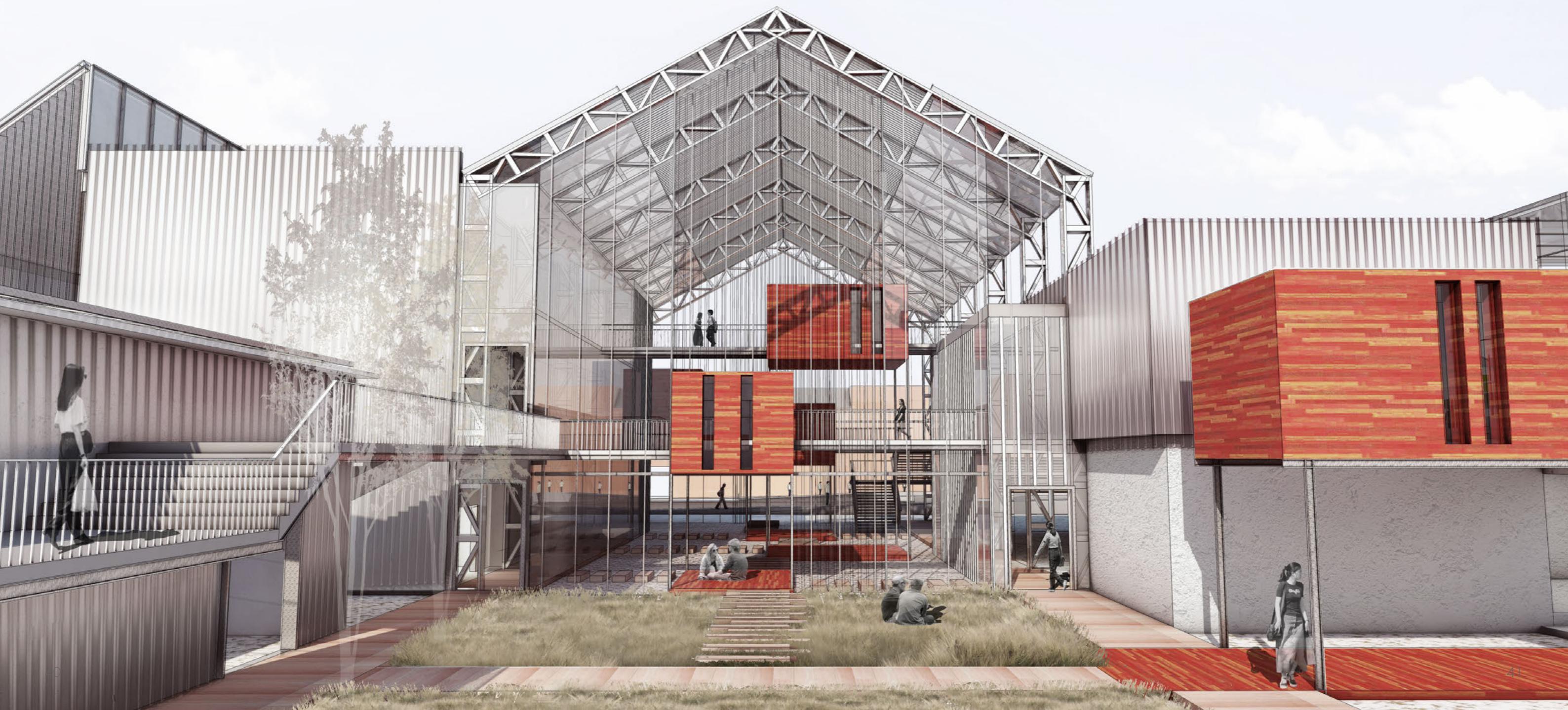
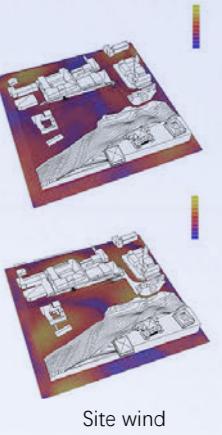
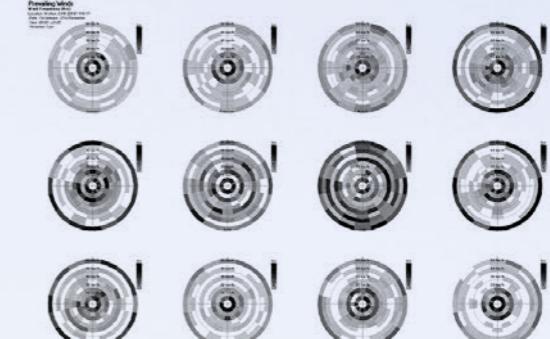


RAINFALL



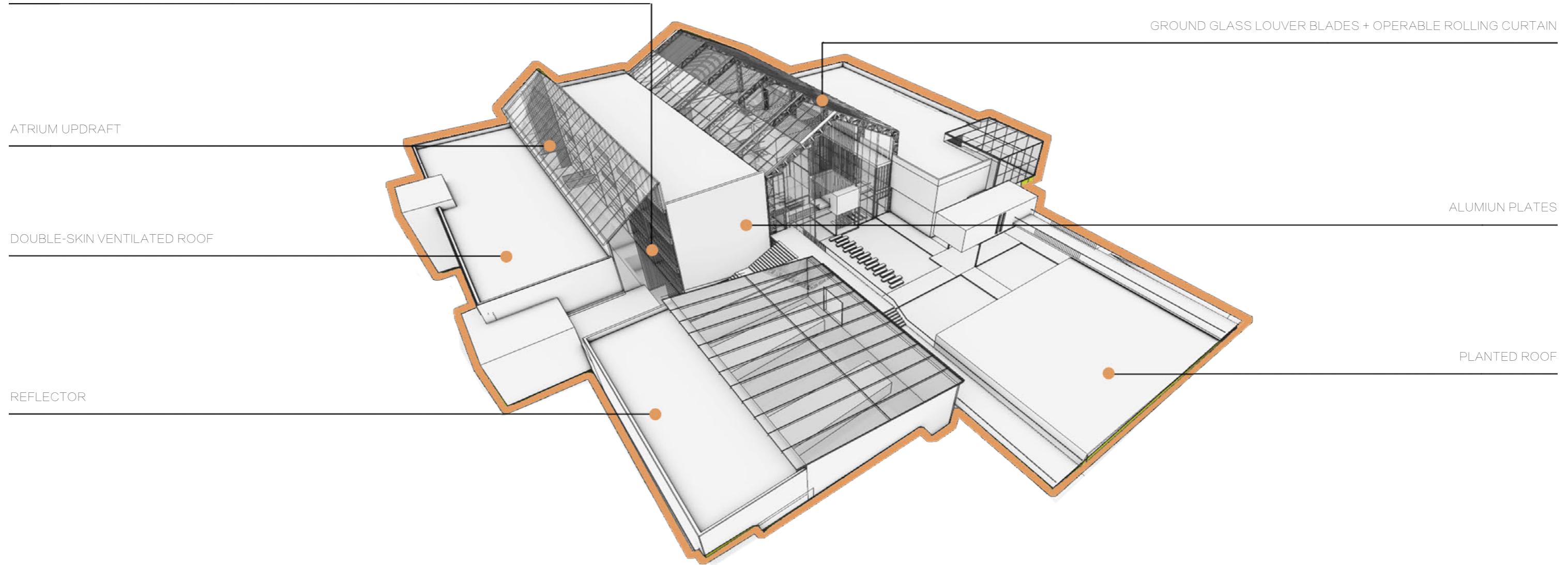
Comparison of average annual rainfall in typical Chinese cities

WIND DIRECTION AND FREQUENCY

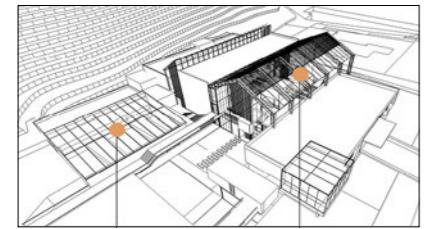


ECOLOGICAL STRATEGIES ANALYSIS

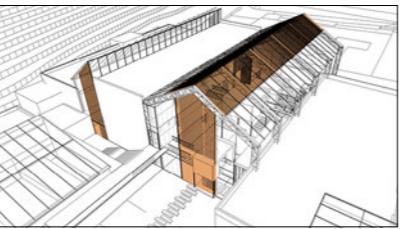
DOUBLE-SKIN GLASS WALL



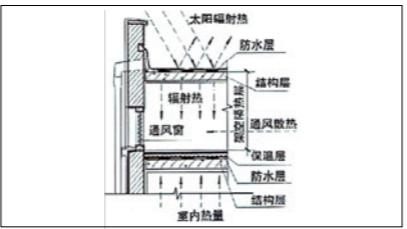
VENTILATION STRATEGIES



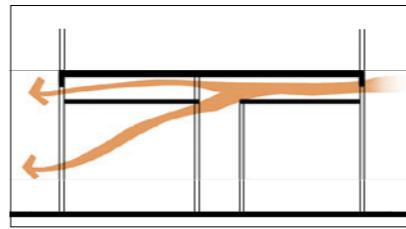
Lead in summer wind, keep away from winter wind



Louver blades open in Summer to guarantee east-west ventilation



Double-skin ventilated roof ventilates in summer and preserves heat in winter

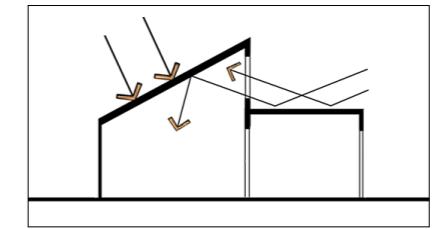


Ventilated floor slab

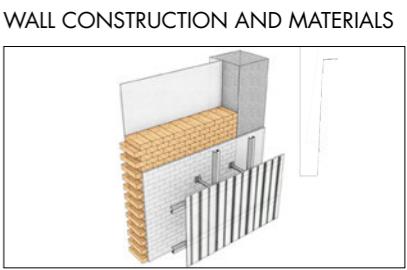
SOLAR RADIATION STRATEGIES



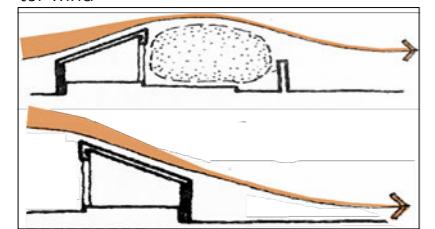
Luminance trend in the work shops



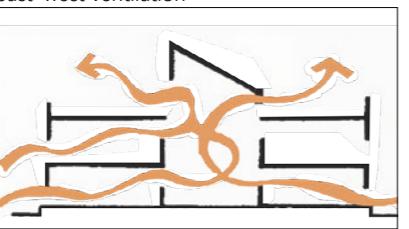
Work shops receive diffused light instead of direct light



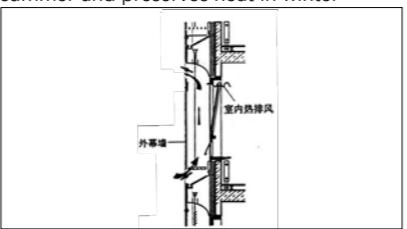
East-west wall: brick wall+aluminum plate



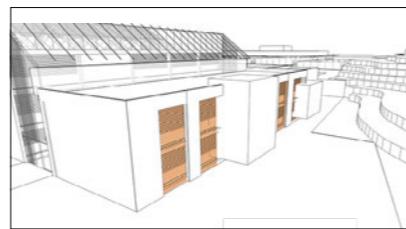
Lead in summer wind, keep away from winter wind



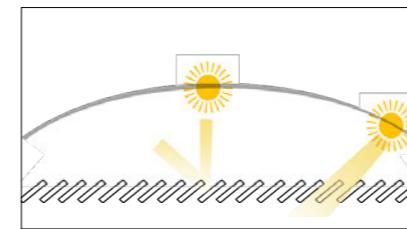
Updraft in atrium to get away from harmful gas from work shop



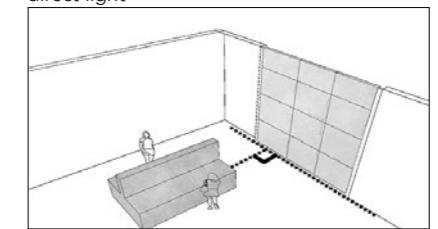
Double-skin glass wall ventilates in summer and keeps warm in winter



Double-skin glass wall with louver



The louver lets the morning sunlight shed in and keep the sunlight at noon out

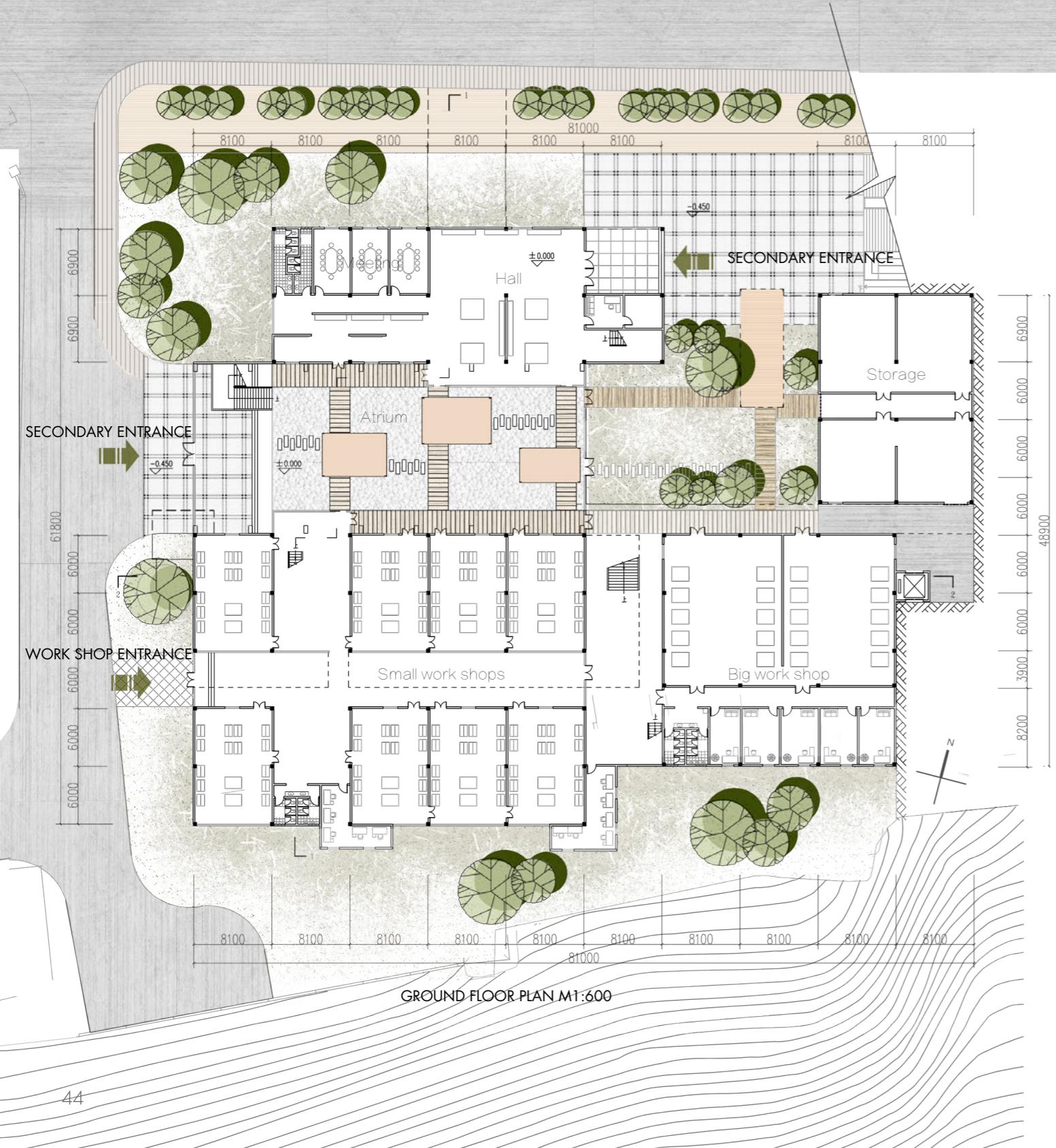


The working table and sunlight direction are perpendicular, avoiding dazzling light and shadows



North-south wall: double-skin glass wall with louver

PLANS



HIGH-RISE COMPLEX BUILDING

Location: Intersection of Sixing road and Hanyang road,
Wuhan, China

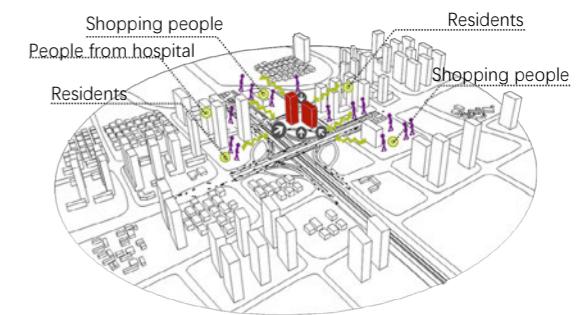
Vision: A new concept of courtyard called FAN courtyard
which is evolved from the traditional one in Chinese
cultural background is created in this design. It is a
symbiont of tradition and density in the city.

Time: Jan.2016

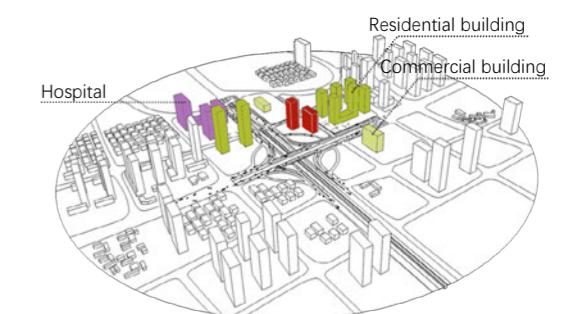




PEOPLE STREAMLINE



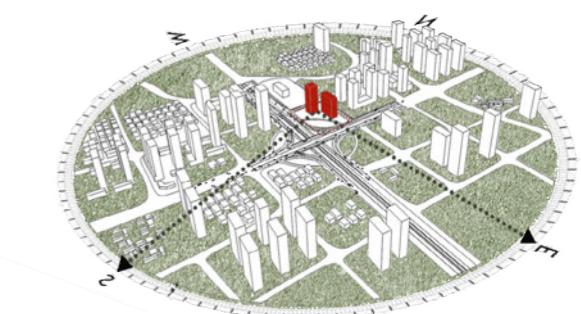
SURROUNDING BUILDINGS



TRAFFIC NET



BUILDING ORIENTATION





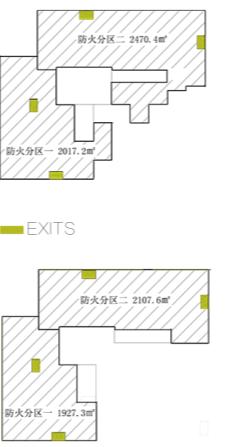
SECOND FLOOR PLAN OF ANNEX



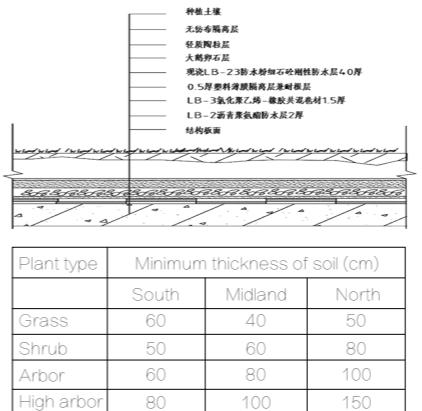
THIRD FLOOR PLAN OF ANNEX



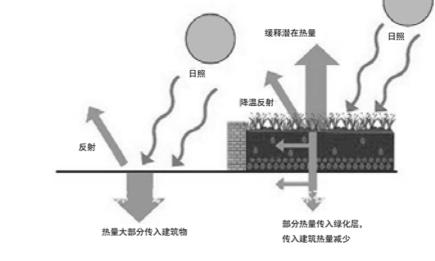
FIRE PROTECTION DISTRICT



ROOF GREENING CONSTRUCTION

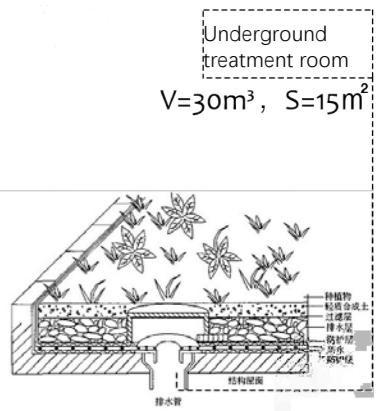


REDUCE TEMPERATURE



	Outside surface	Inner surface	Indoor temperature
Green roof	32.6°C	30.1°C	28°C
Non-green roof	40°C	36.2°C	32.5°C
Difference	7.4°C	6.1°C	5.5°C

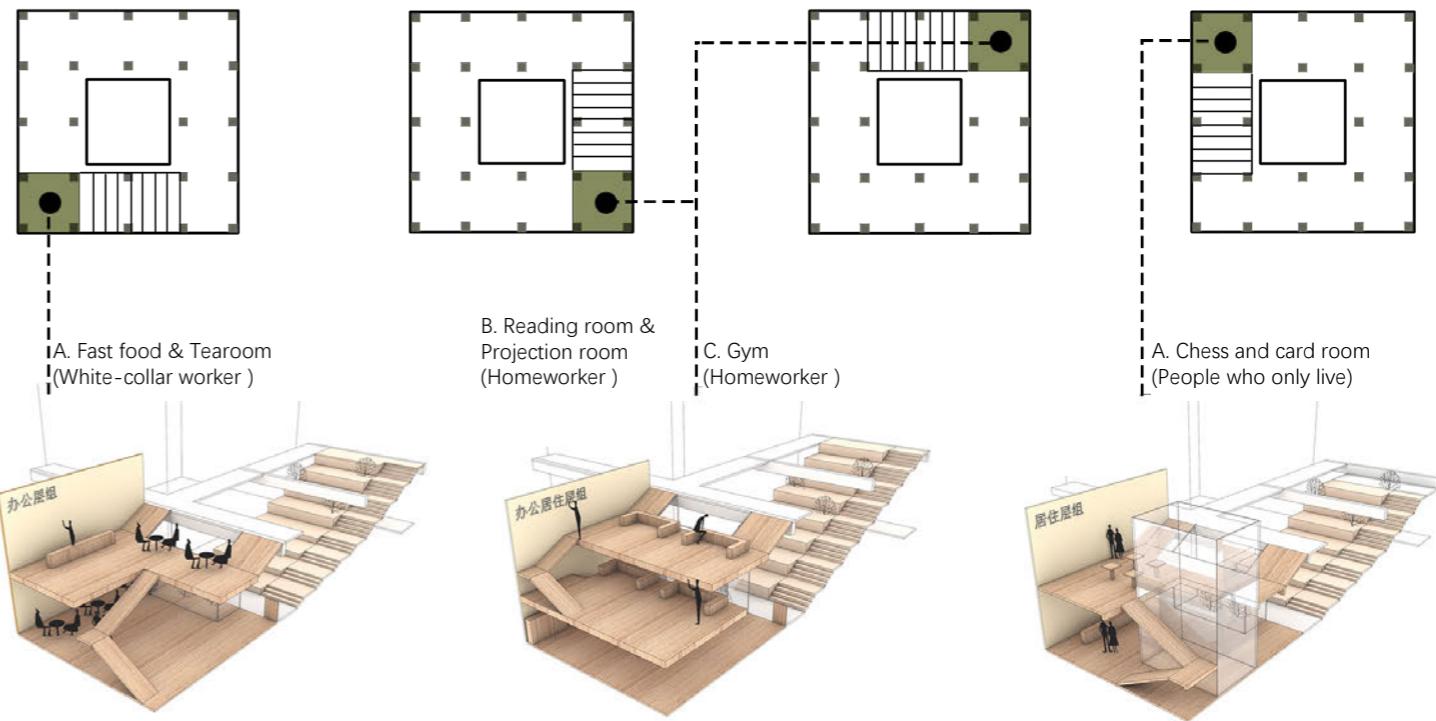
WATER GATHERING





SPECIAL PUBLIC SPACES IN SOHO

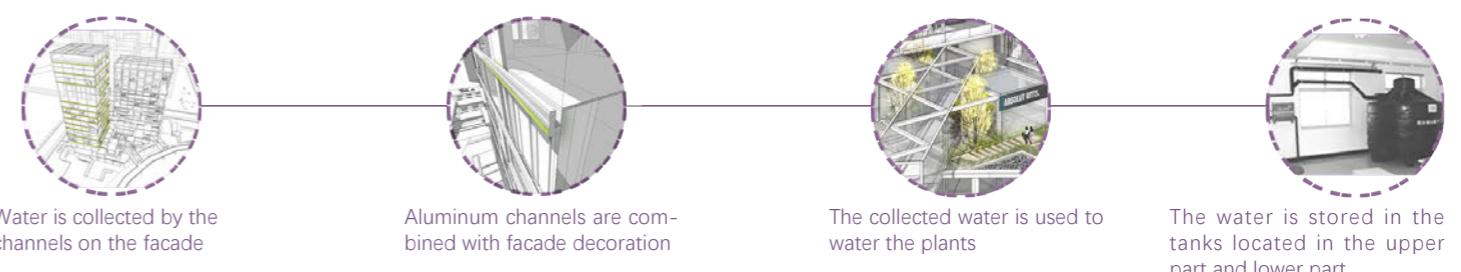
In each vertical partition (A,B,C,D), there is one public space that serves two floors. They are equipped with different functions according to different users



1. RAINWATER COLLECTION

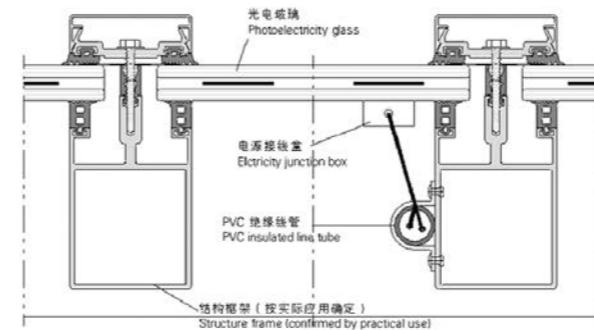
Advantages of rainwater collection in high-rise buildings:

1. Huge facade area
2. Strong functional complexity, high density of people, multiple ways of utilization

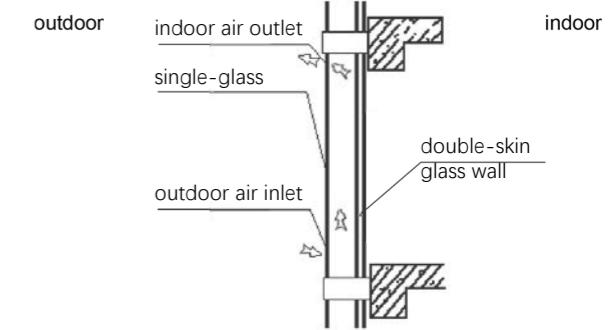


2. ECOLOGICAL CURTAIN WALL CONSTRUCTION

1. The west and south facades use thermal radiation: photovoltaic glass wall



1. The north facade focuses on insulation: double-skin glass wall



KRAKOW MUSIC HALL

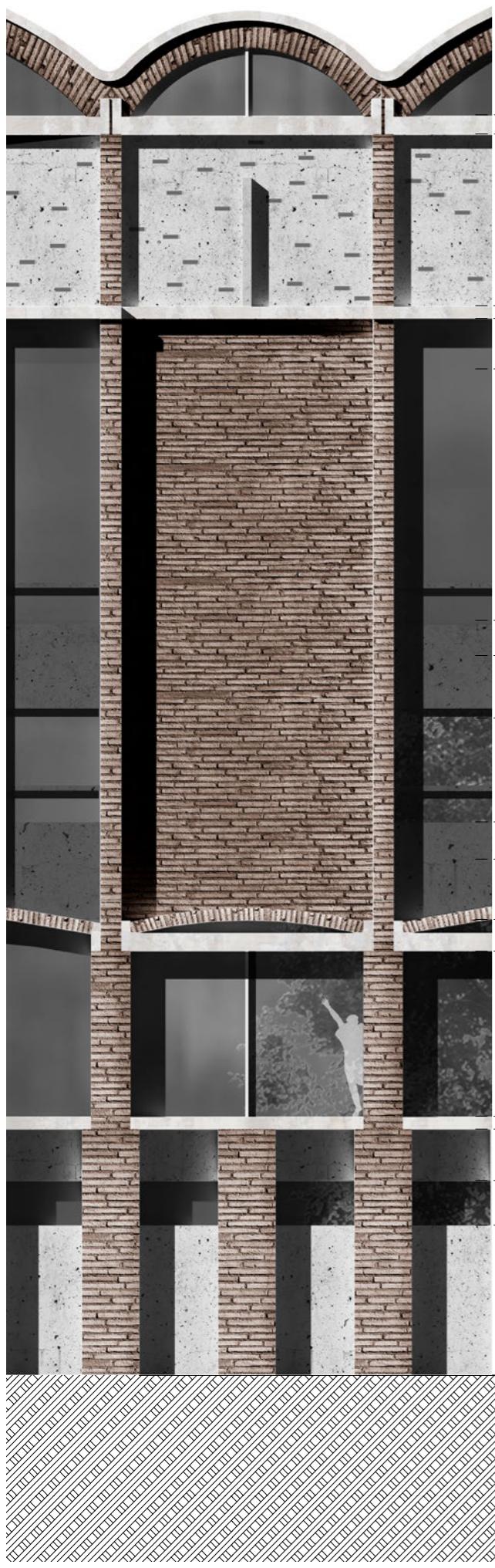
Location: Krakow, Poland

Vision: The key of dealing with inside and outside in this particular site is the height difference. The first ground is made all public and transparent to link the lower part and higher part, forming an "indoor pedestrian" which can compensate for the insufficient pedestrian.

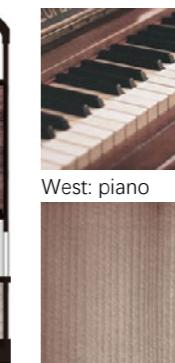
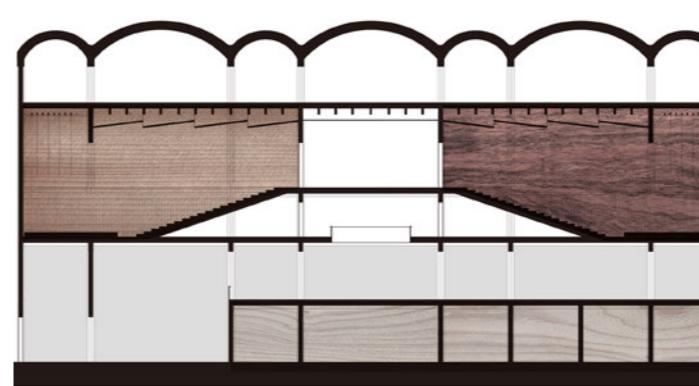
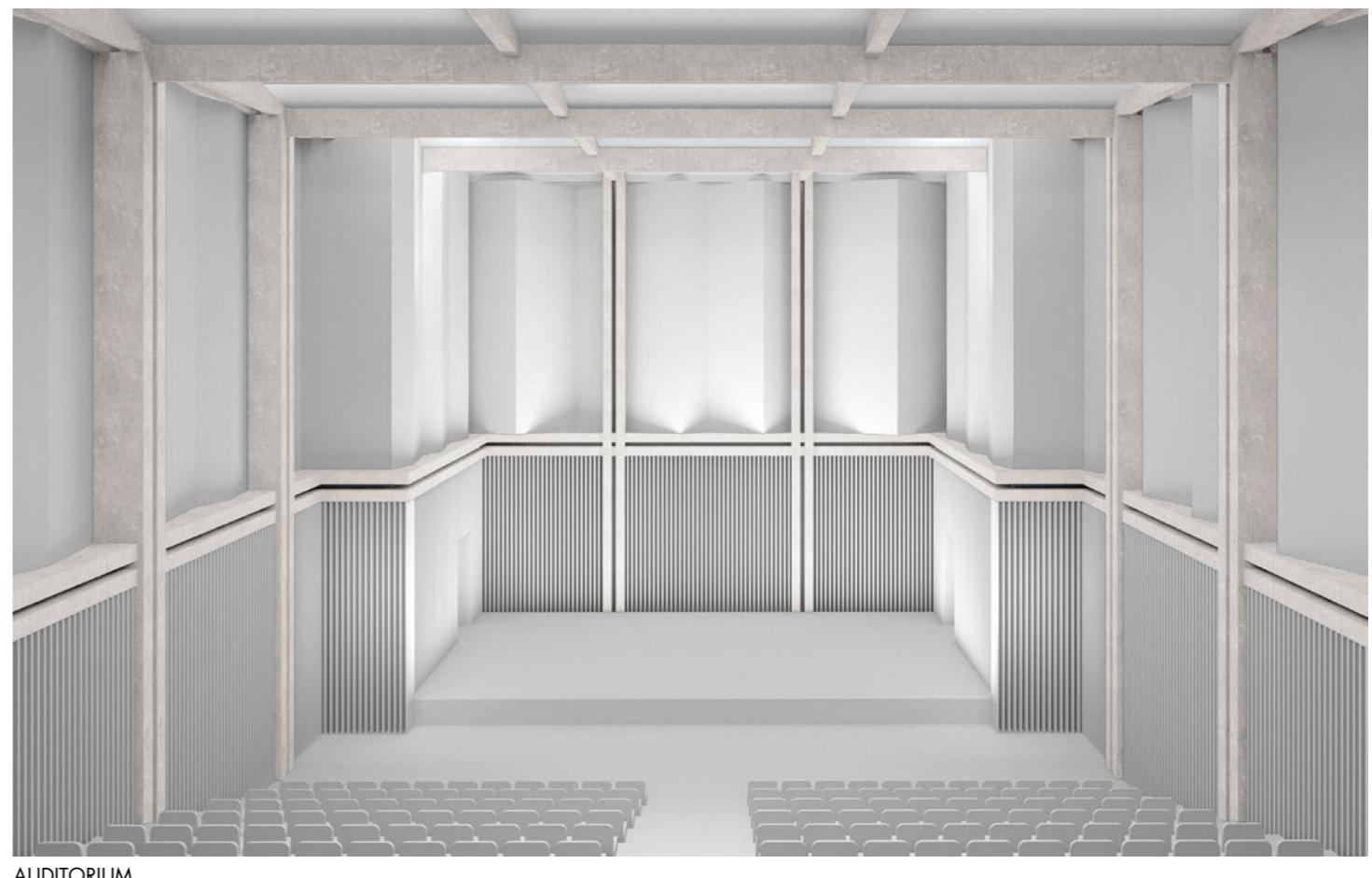
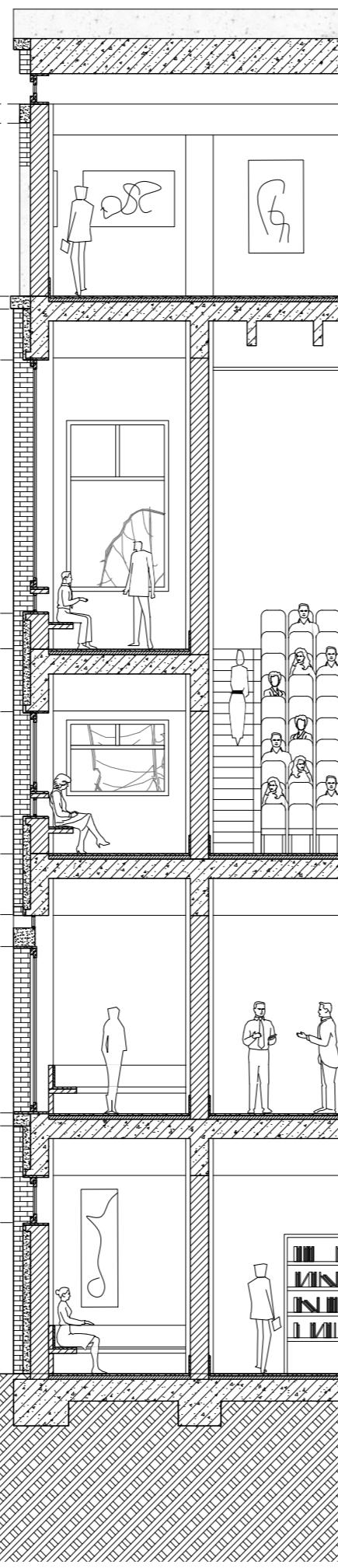
The whole volume is controlled by the street facade, following the beats but not dominate it.

Time: Jan.2019

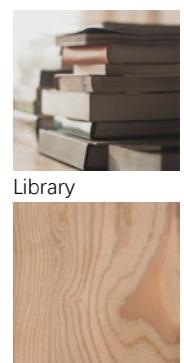
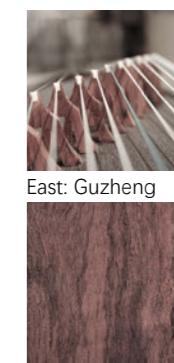




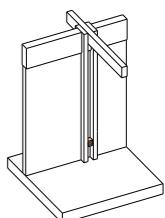
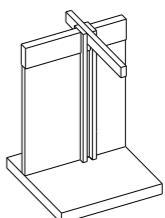
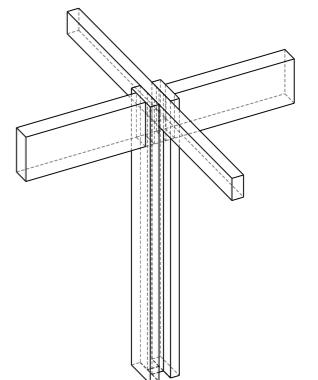
FACADE AND SECTION CUTS M1:30



Spruce wood

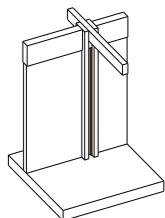
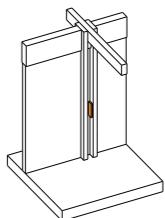


STRUCTURE



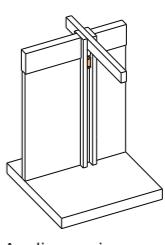
Structure

Power socket



Light switch

Lights



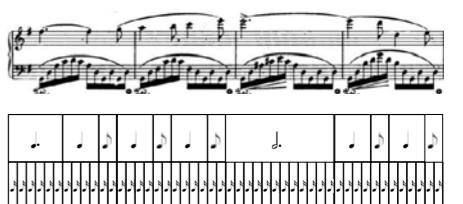
Audio equipment

Chopin's Polonaise watercolor painting by Teofil Kwiatkowski

Poland suffered in the pursuit of national independence, while emphasizing that the Polish people could win the final victory with the help of ancient heroes and art in the underworld. In addition, this work expresses the romantic concept of unity of art such as music, drama and painting.

INTERIOR FACADE

Grosse brillante Polonaise-Chopin



CORRIDOR

CONSTRUCTION OF SAKURA PAVILION

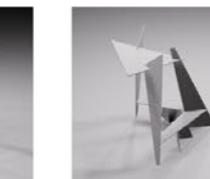
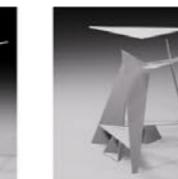
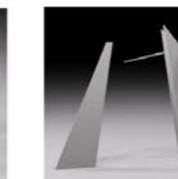
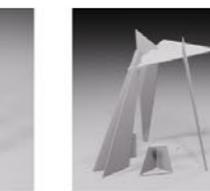
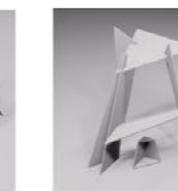
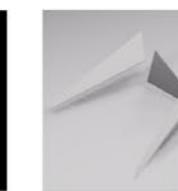
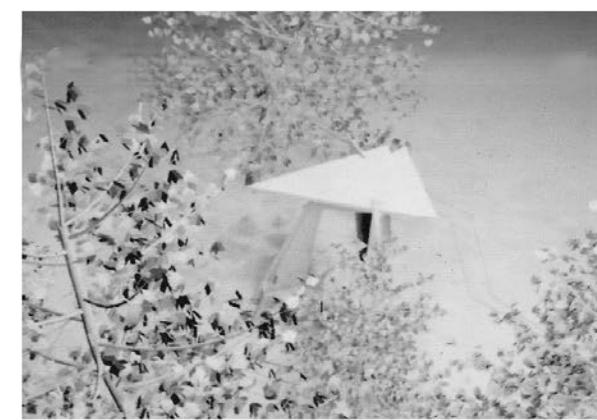
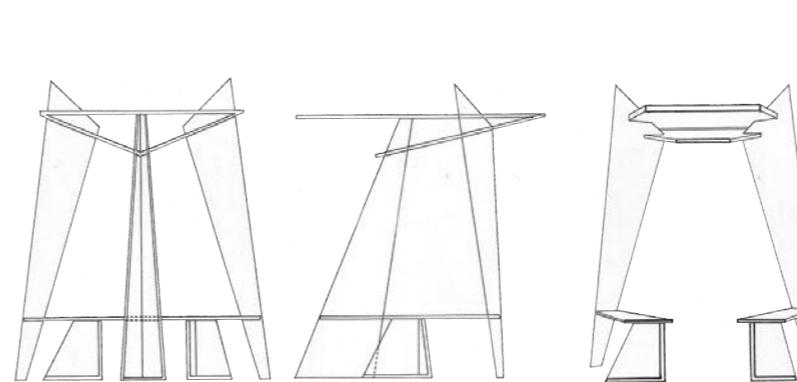
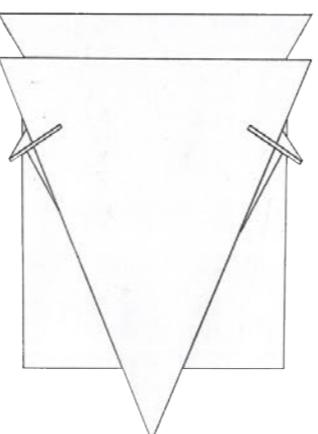
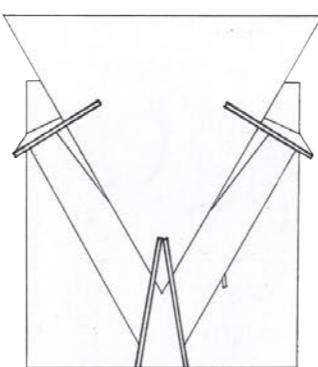
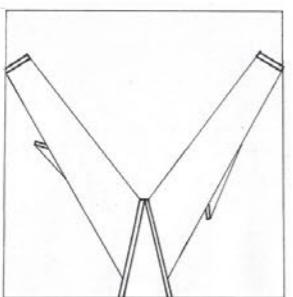
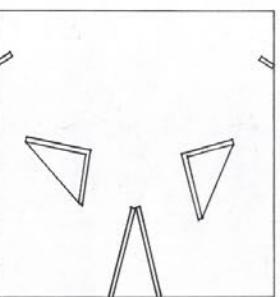
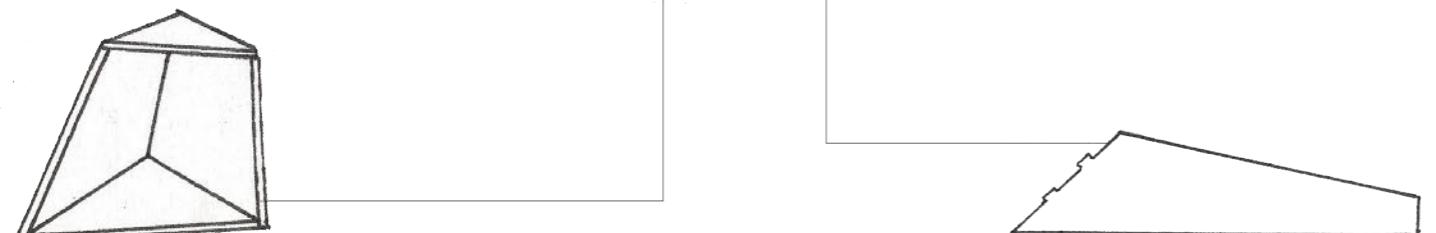
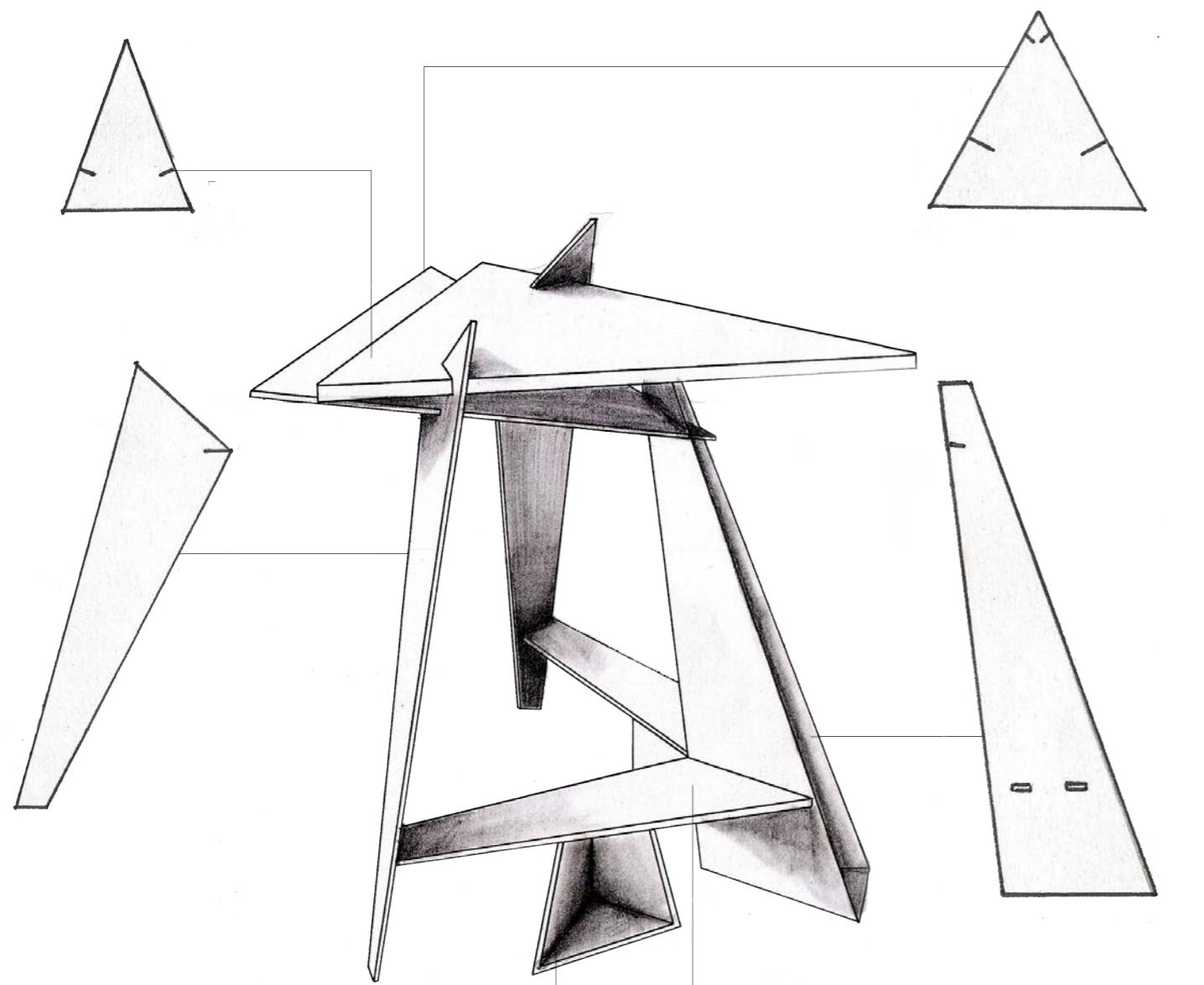
Location: Alongside the Sakura Avenue,
Wuhan University, Wuhan, China

Time: Apr. 2013

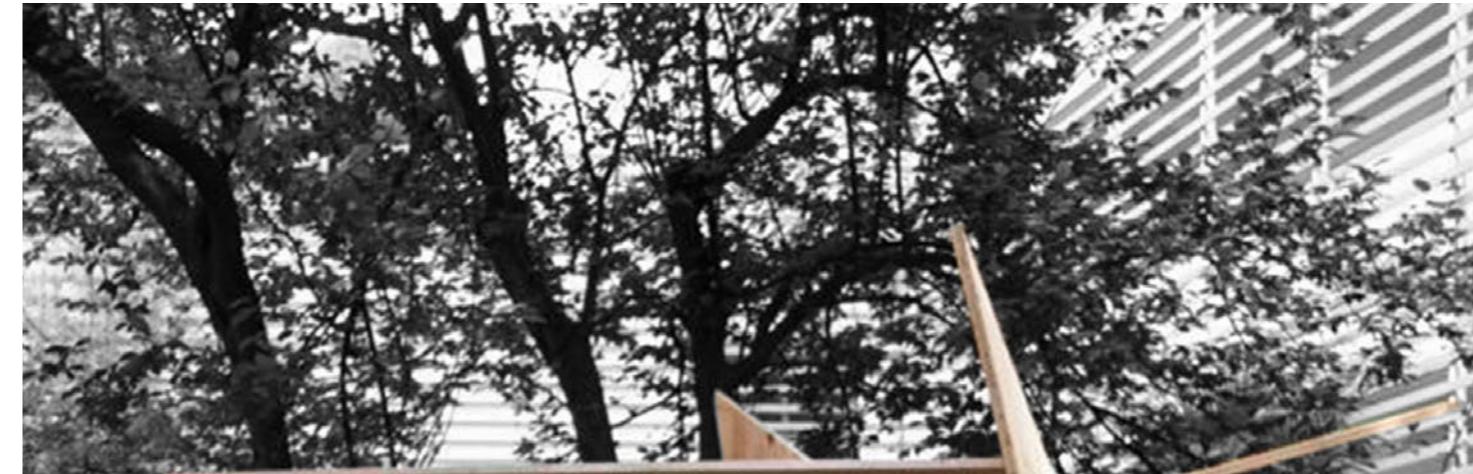
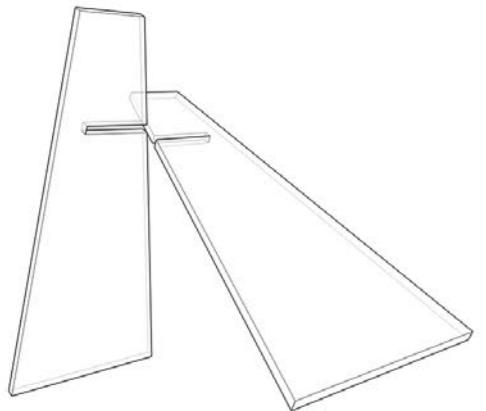
Cost: ¥1050

Inspired by the leaves scattered on the
ground. It is like a folded leaf, providing
shelter for people.

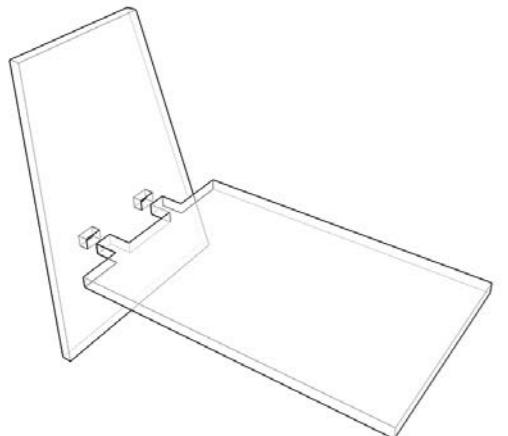




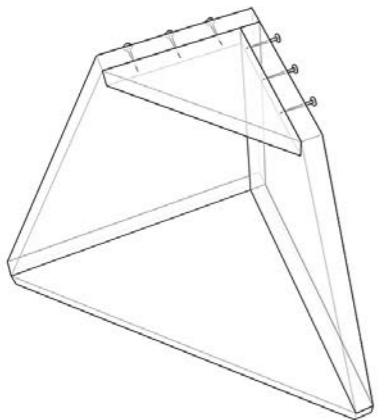
INSERTION



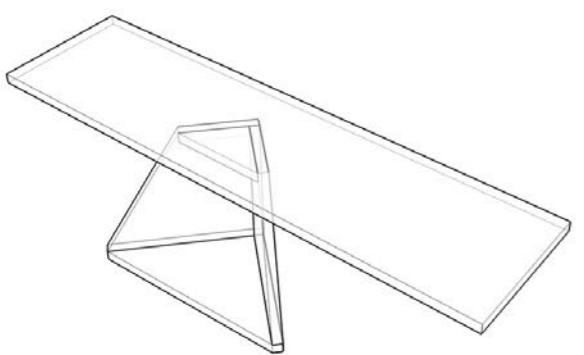
MORTISE AND TENON CONNECTION

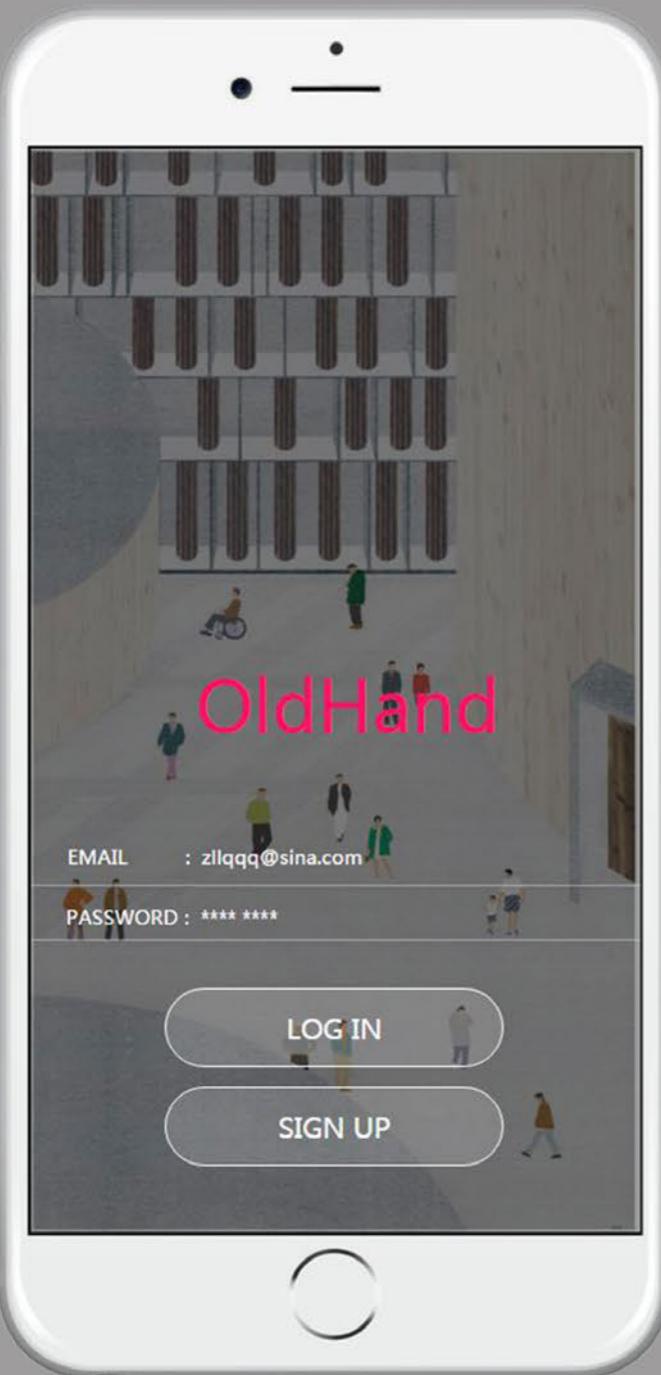


STREAM NAILS

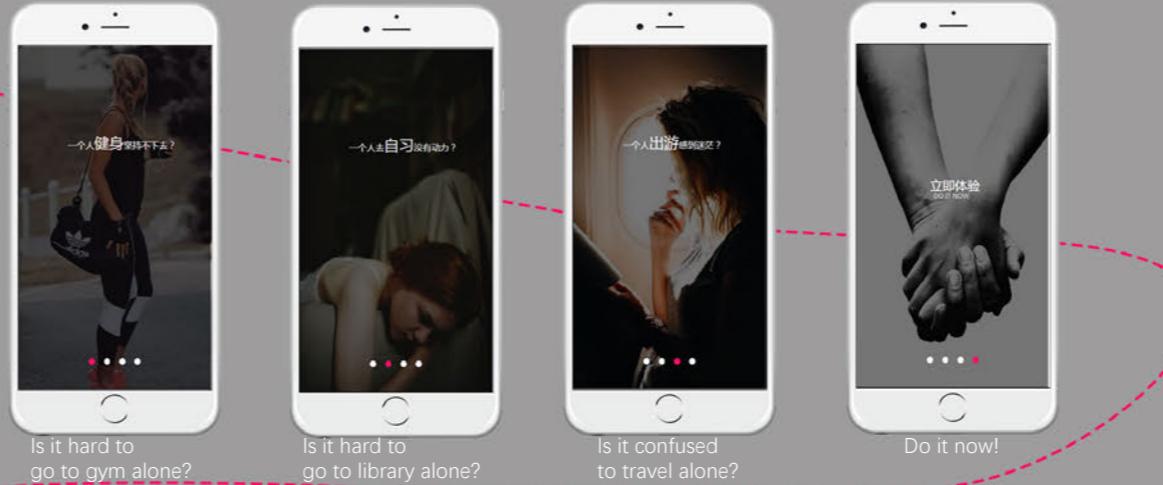


OVERLAP JOINT

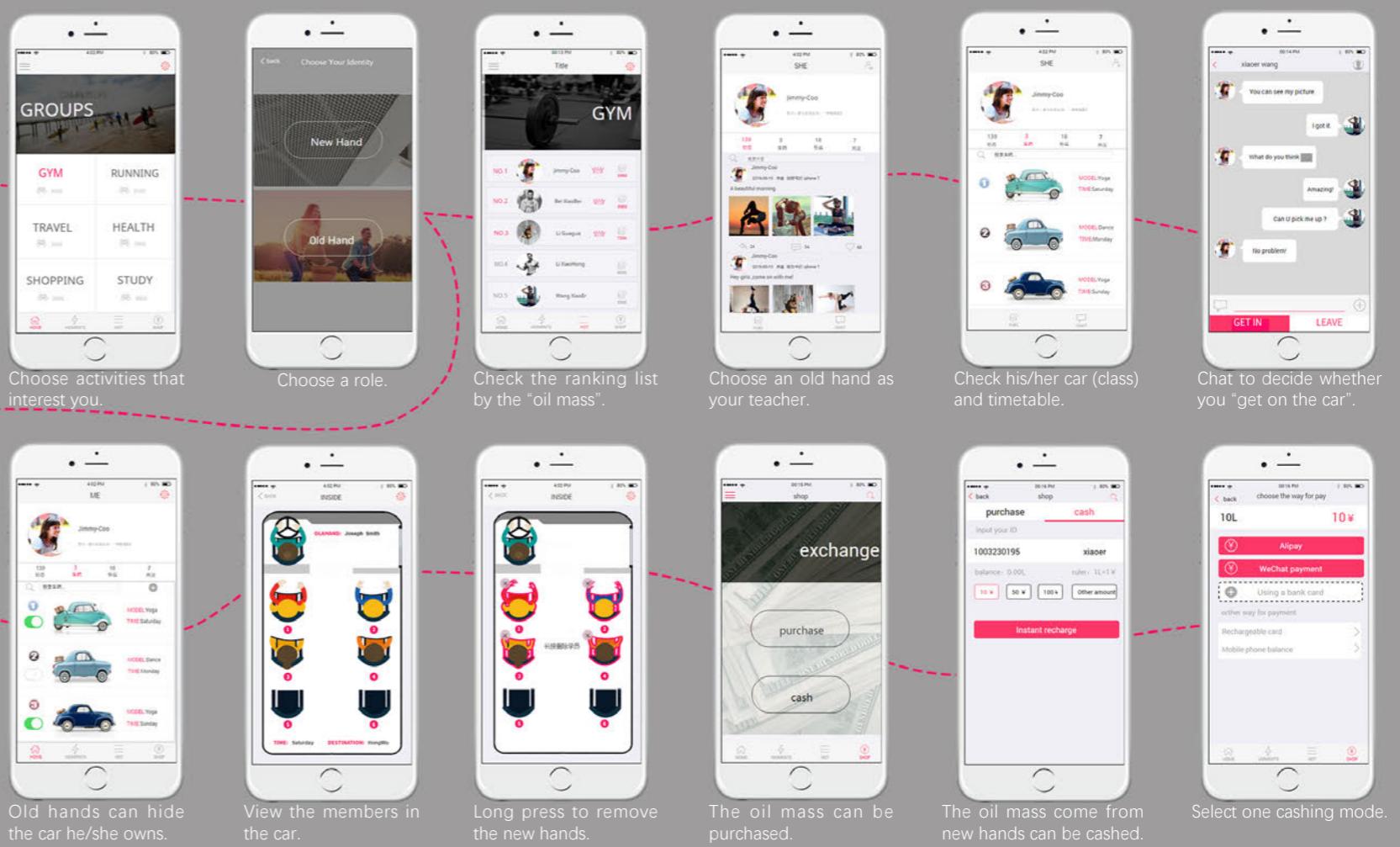




Pain Spot



Greenhand



A solution to campus students who suffer from the bothering that there is no old hand to teach them how to do some things in their extracurricular life. It is also a social platform where students can meet friends with similar interests, even earn some pocket money.

Simulation: JUST IN MIND
Time: Jun. 2016



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