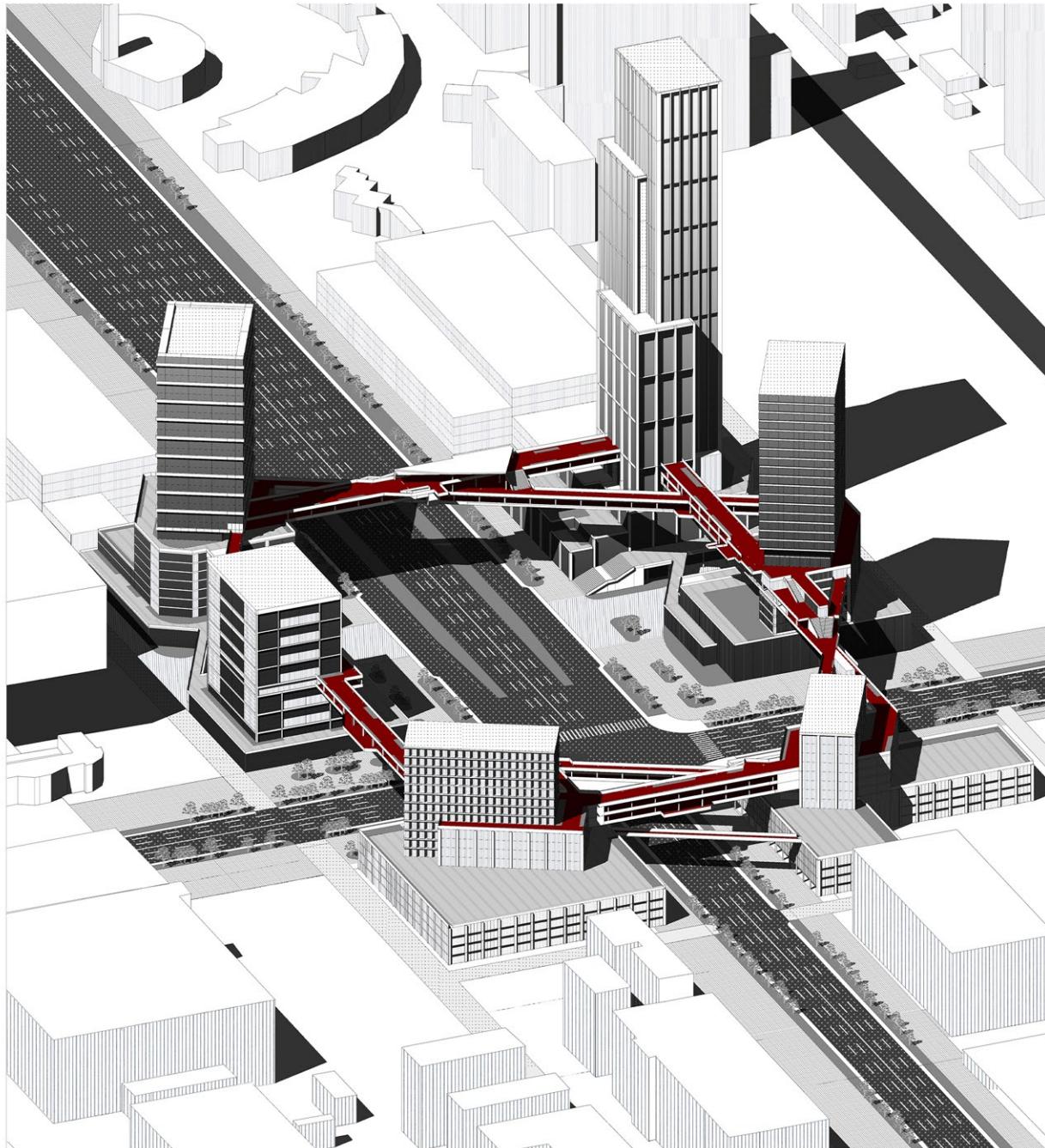


PORTFOLIO

Applicant Number: 23196372

Ran Zhu



01

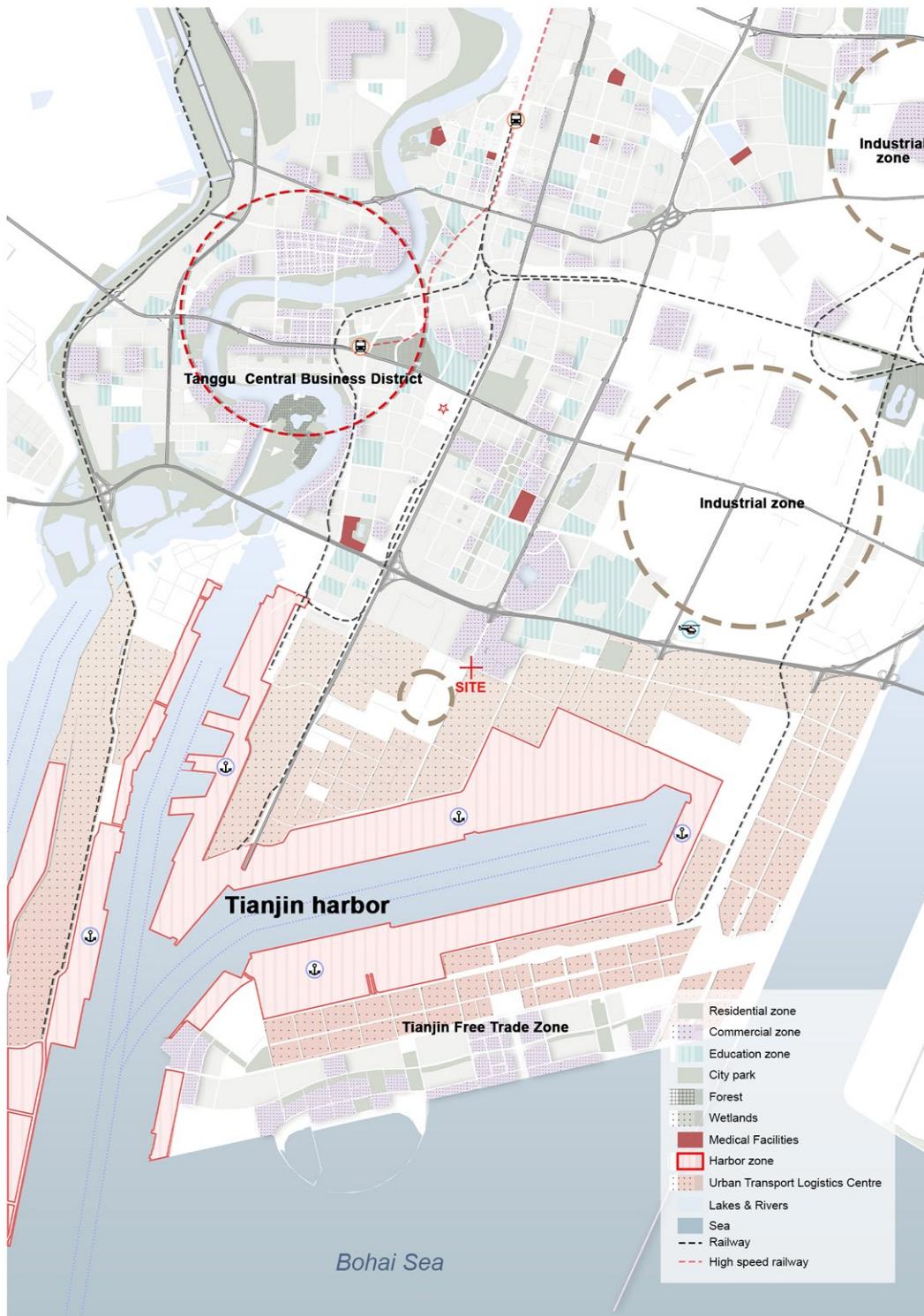
URABN COMPLEX IN LOGISTICS ZONE

Individual Project
Architecture & Urban Design Project
Project theme: Urban vertical traffic circle

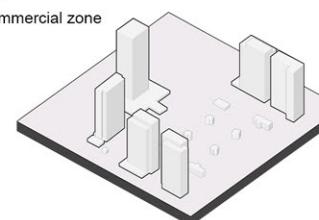
Completion Date: 21.02.2023

The project conceives a convenient urban complex, creating an Urban vertical traffic circle fast track to connect buildings with different functions. A wide range of logistics centers are distributed around the project. This special geographical location and newly built fast lanes enable logistics to bring efficient transportation efficiency to residents and enterprises in the urban complex, and can benefit from it.

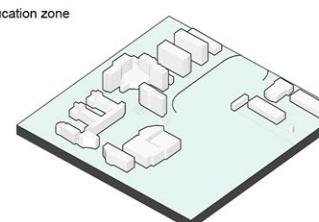
The whole project consists of six buildings with passages between them for quick communication. The project has functions such as office area, commercial area, logistics area, and residential area. The environmental design is friendly to pedestrians, which can effectively control walking time and shorten spatial distance. Pedestrians can easily reach the platform and bridge levels to access other functions. The connection between different functional areas will be greatly strengthened, creating new opportunities for residents and businesses, and improving the livability, sustainability and economic development of the area.



There is a large area of residential zone distributed around the site, the building distribution is relatively dense, the population is dense, and the floor area ratio is moderate.

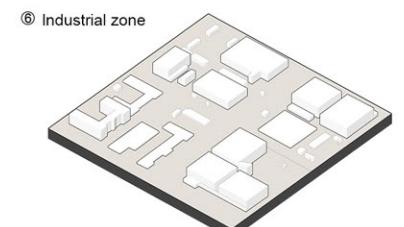


The commercial zone meets the basic needs of life and entertainment of the people around the site, and a part of the site also belongs to the commercial area, including functions such as hotels and shopping malls.



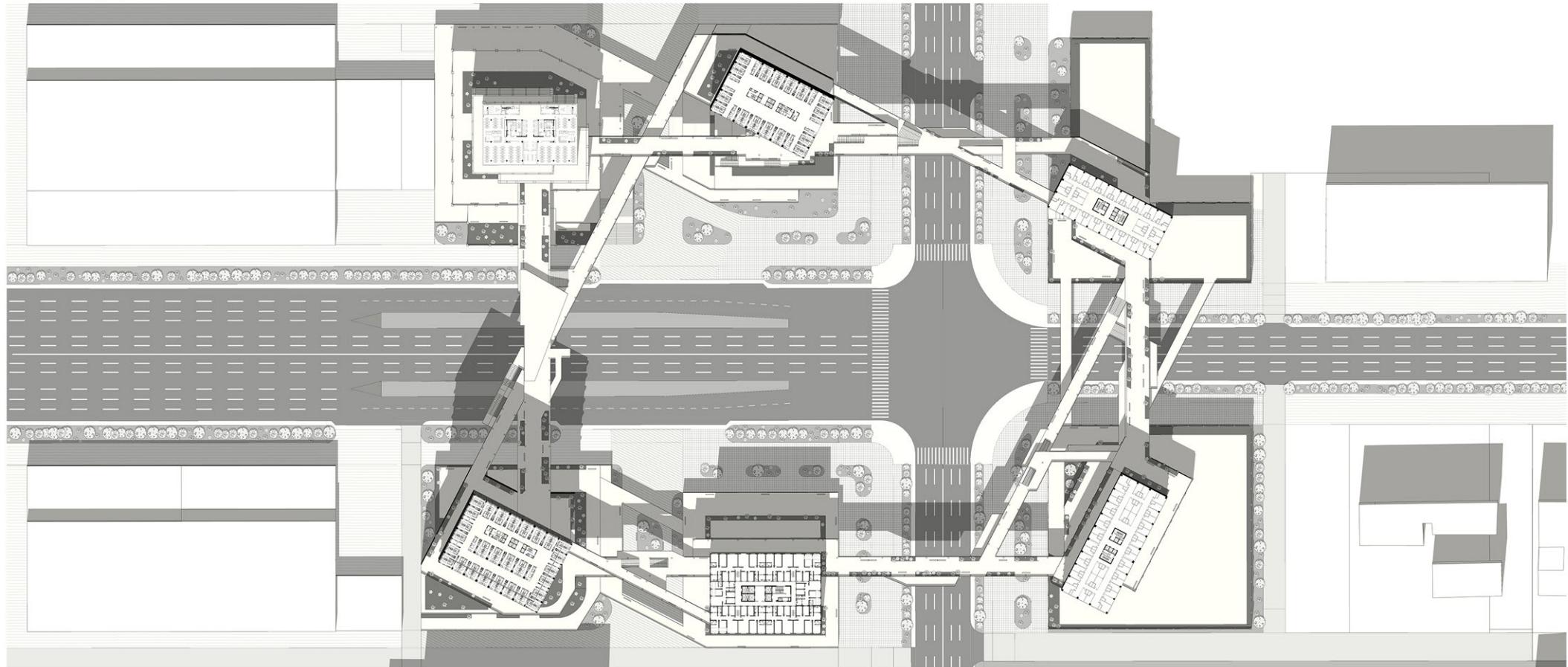
The educational zone includes sports, public cultural facilities, schools, etc., and the building density is low.

The logistics zone is an important part of Tianjin Port. It is distributed in a large area and has a very low building density. The buildings in the site also have logistics and transportation functions.

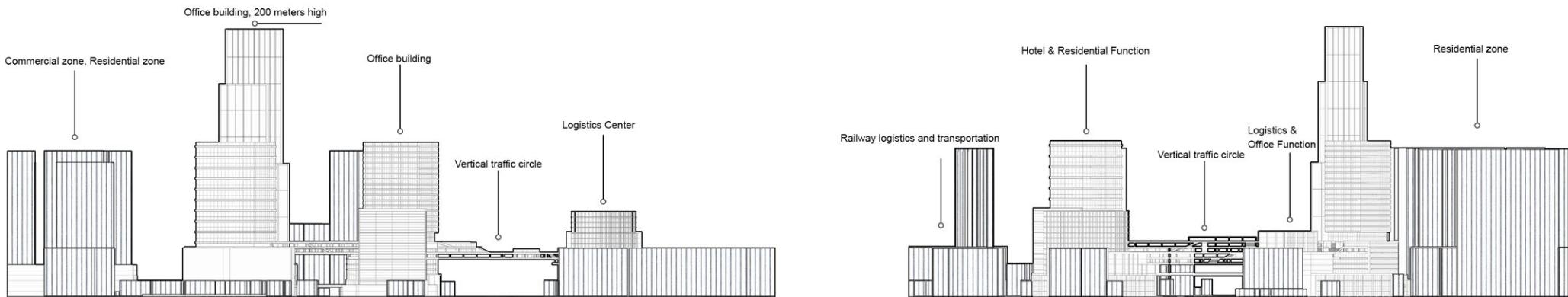


There are industrial areas around the site with low building density.

MASTER PLAN

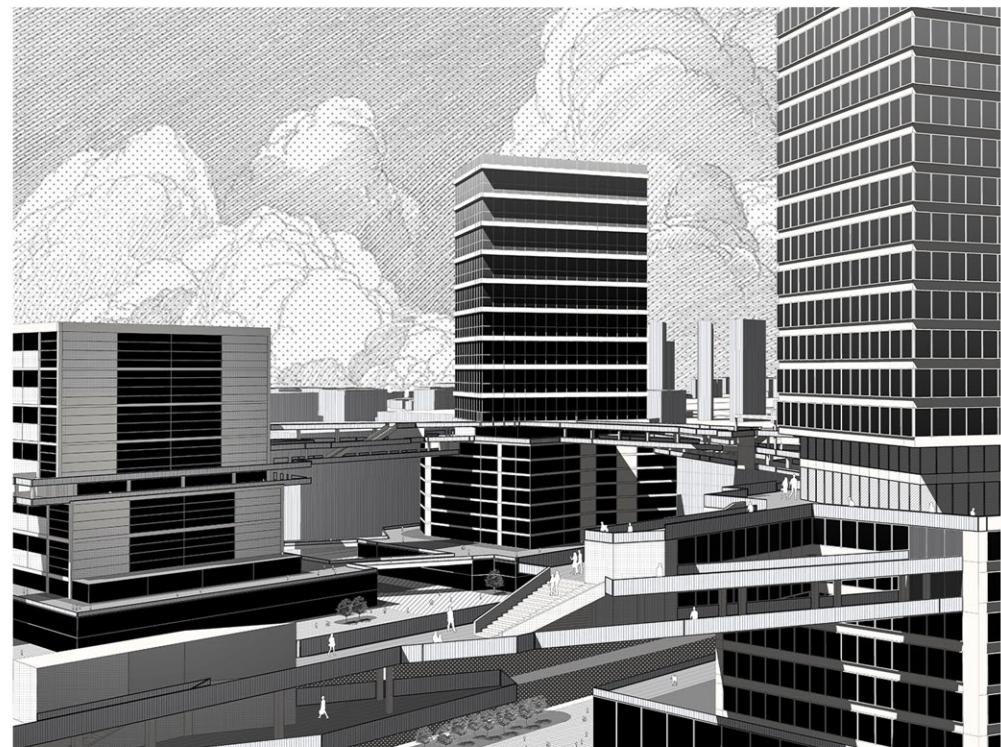
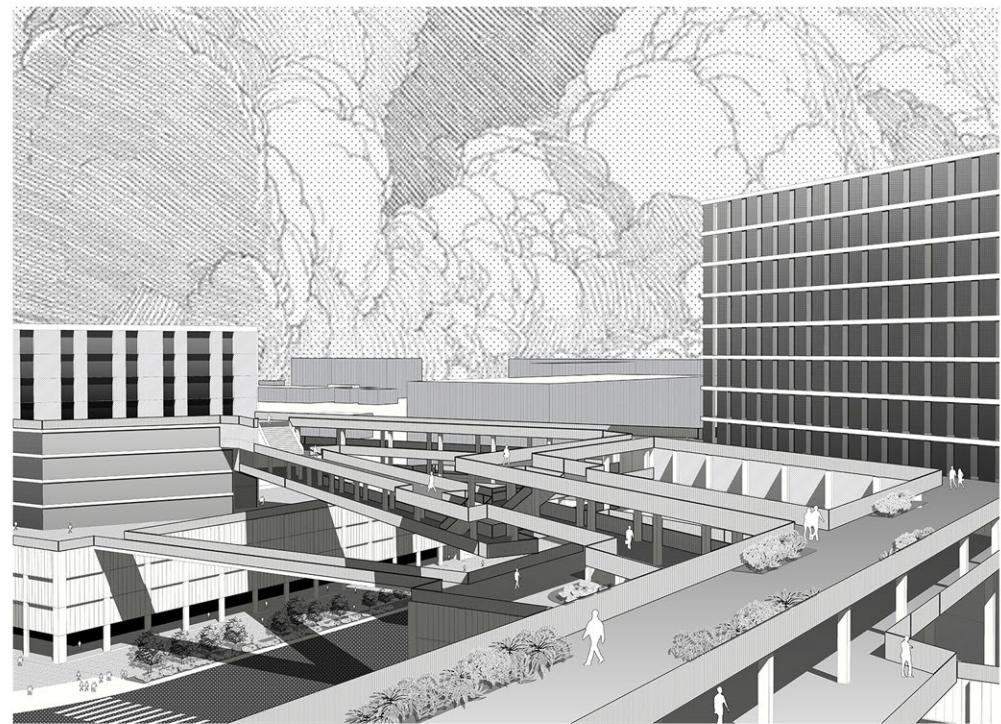
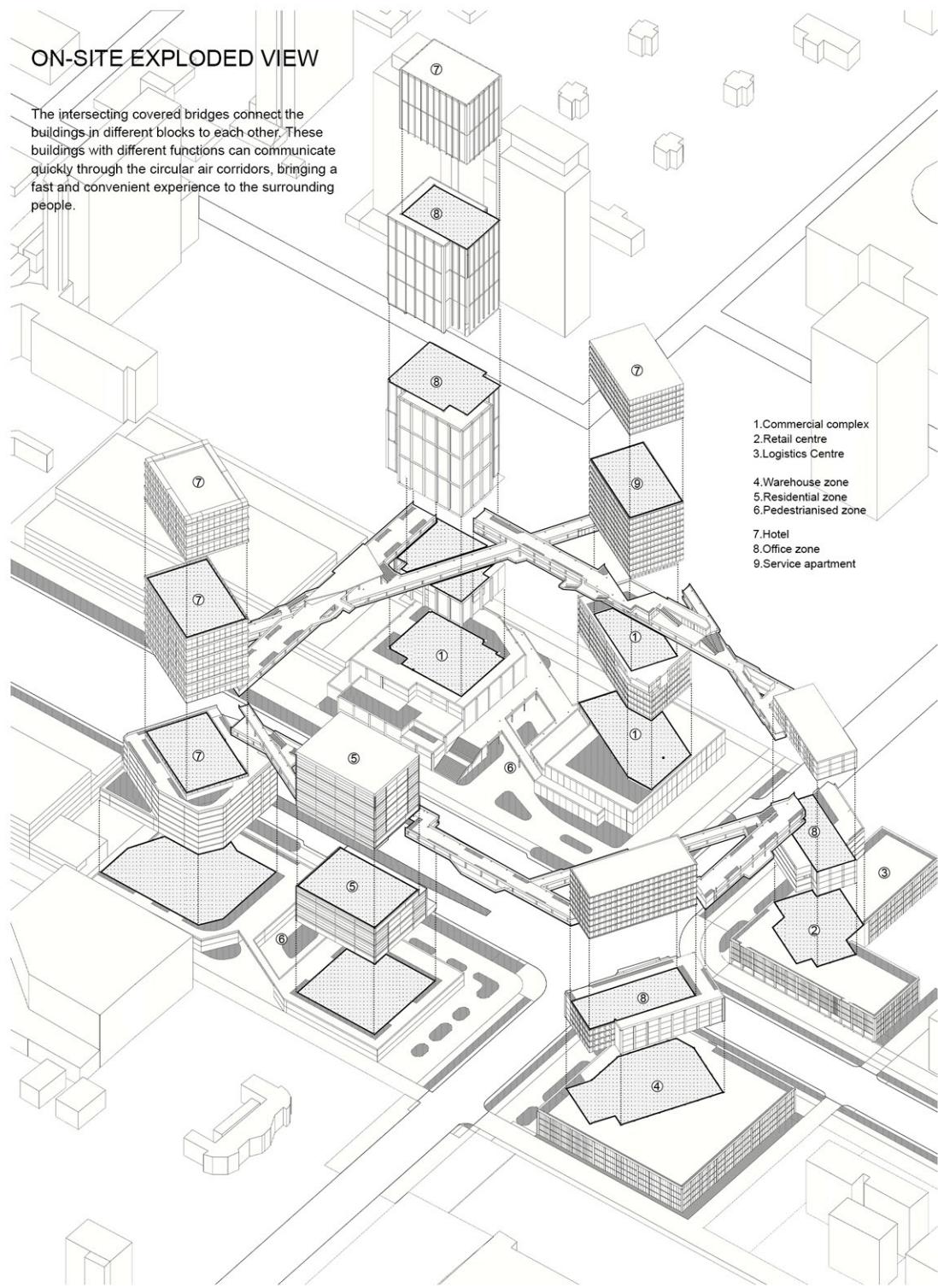


ELEVATION VIEW



ON-SITE EXPLODED VIEW

The intersecting covered bridges connect the buildings in different blocks to each other. These buildings with different functions can communicate quickly through the circular air corridors, bringing a fast and convenient experience to the surrounding people.



02

SIHEYUAN B&B HOTEL

Individual Project
Architecture & Interior Project
Project theme: Renovation of old houses

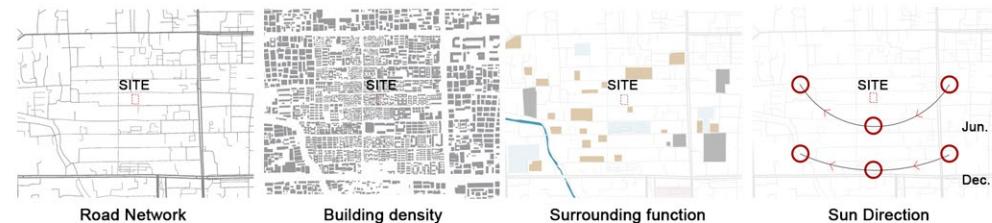
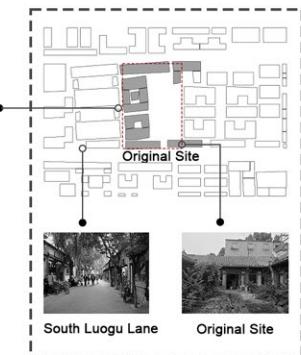
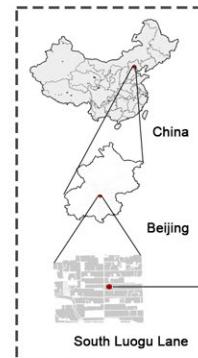
Completion Date: 04.02.2023

Beijing South Luogu Lane has a strong cultural atmosphere and historical heritage. It has the best preserved Siheyuan traditional courtyard buildings in Beijing. Their sheer numbers and long history mean that these traditional architectural structures require frequent repairs and maintenance to keep them pristine. Or it can be revitalized in another way, remodeling Siheyuan, reborn with a modern structure.

At present, when tourists visit the traces of history in order to explore the cultural atmosphere, the Siheyuan building is transformed into a homestay hotel, which can become a good foothold for tourists. After modern structural transformation, Siheyuan not only overcomes the disadvantages of the traditional structure, but also retains the appearance of a traditional house.

The combination of ancient and modern can be the first step for tourists to understand the city and integrate into the city's culture.

SITE INFORMATION

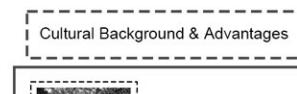


South Luogu Lane is located in the main urban area of Beijing. It is one of the oldest communities in Beijing. Most of the buildings here are traditional Chinese houses. It is also a pedestrian community with dense traffic. The main transportation network is traditional streets and alleys. The location of the site is close to the community center, and it was originally a traditional Chinese Siheyuan house built in a traditional way. The building is old and needs to be renovated and maintained. At the same time, I want to give it a new vitality, so that it can have the function of a hotel and bed and breakfast, so that we can better protect the local culture and feel the local culture.

BACKGROUND

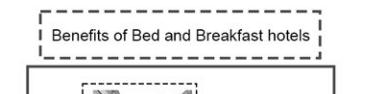


In the city, people are eager to obtain cultural needs. In Beijing, a city with a long history, it seems that it is easy to get in touch with the cultural atmosphere of Beijing, and Bed and Breakfast hotels can bring tourists a good local cultural experience.



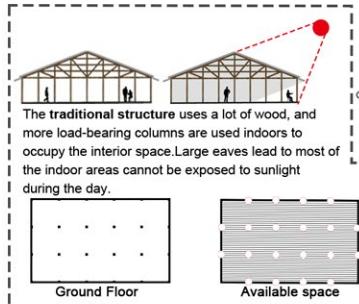
Historical
The community South Luogu Lane where the site is located is a very good place with a long history and complete protection, which meets people's yearning for a cultural atmosphere.

Culture atmosphere
Fusion of ancient and modern buildings



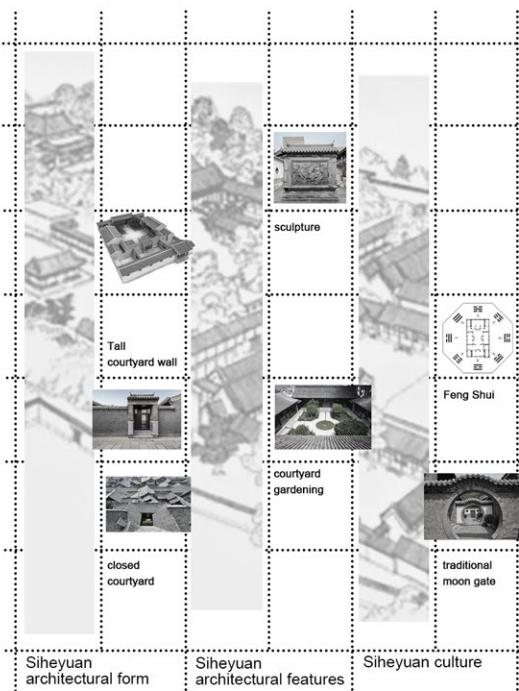
Integrate into the local culture
Bed and Breakfast hotels have many benefits. Siheyuan style traditional architecture is the basic cultural element of Beijing, so transforming Siheyuan can help tourists integrate into local culture and understand customs. At the same time, it also has some advantages that ordinary hotels do not have, such as being close to other travelers and being able to communicate with each other. Absorbing the advantages of traditional structures, Siheyuan's quietness, sense of order, etc., can make people relax.

THE EXTRACTION AND TRANSFORMATION OF ORIGINAL DESIGN LANGUAGE



Modern structural technology can save wood and reduce the weight of the roof, so that the load-bearing columns can be removed indoors, saving a lot of space. On the other hand, in order to allow the interior to be exposed to sunlight, a part of the roof is replaced with a light-transmitting material, which increases the light penetration of the top surface, so that the interior can receive sunlight.

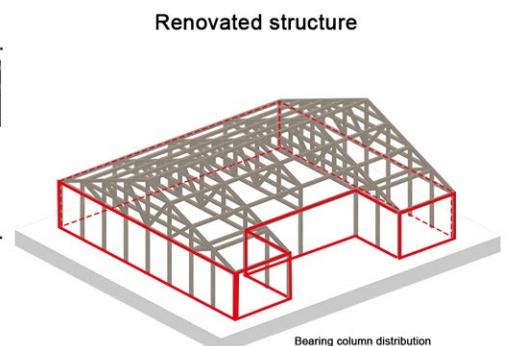
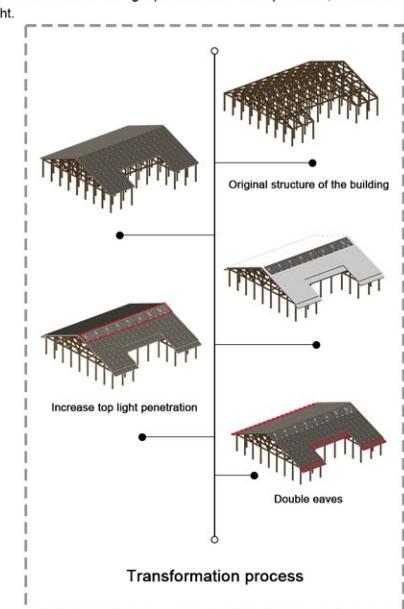
Siheyuan is a traditional Chinese courtyard house. Due to the technical limitations of old buildings, there are often many problems in the building, such as low space utilization and insufficient sunlight. Therefore, the modern structural transformation of the old Siheyuan buildings will be able to solve these existing problems well.



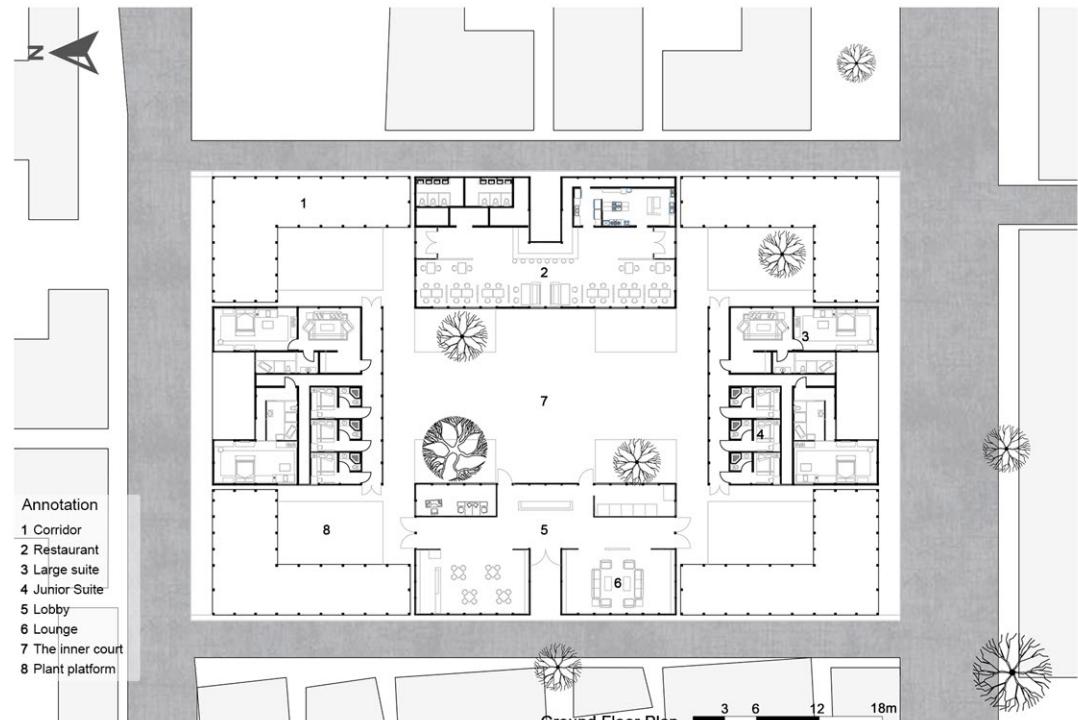
Siheyuan, the courtyard is spacious, the houses on the four sides are independent, and there are corridors connecting each other. The closed house has only one street door to the outside, which has strong privacy.

The decorative details of the courtyard house, stone carvings, brick carvings, and wood carvings are all over the courtyard; the colorful paintings are vivid, the courtyard is winding and deep, and the verandas are connected to each other.

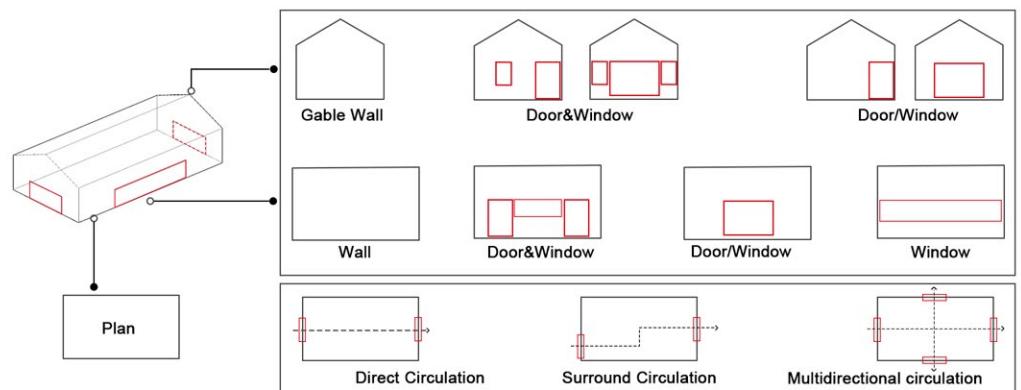
Fengshui theory is actually the architectural environment theory in ancient China. The construction of courtyards pays attention to Fengshui. The selection of site, positioning and the determination of the specific scale of each building must be carried out according to Fengshui theory.

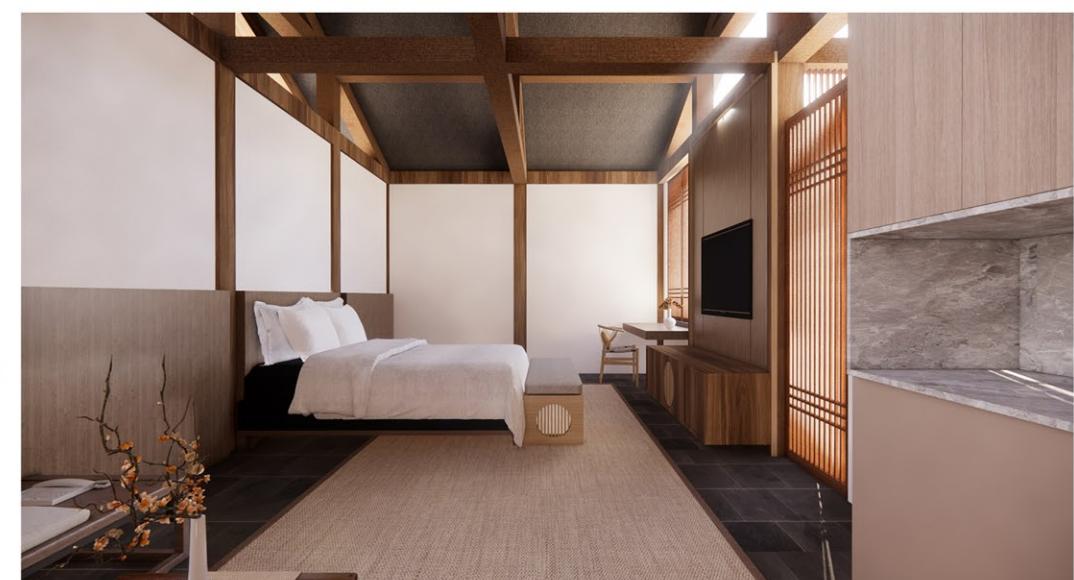


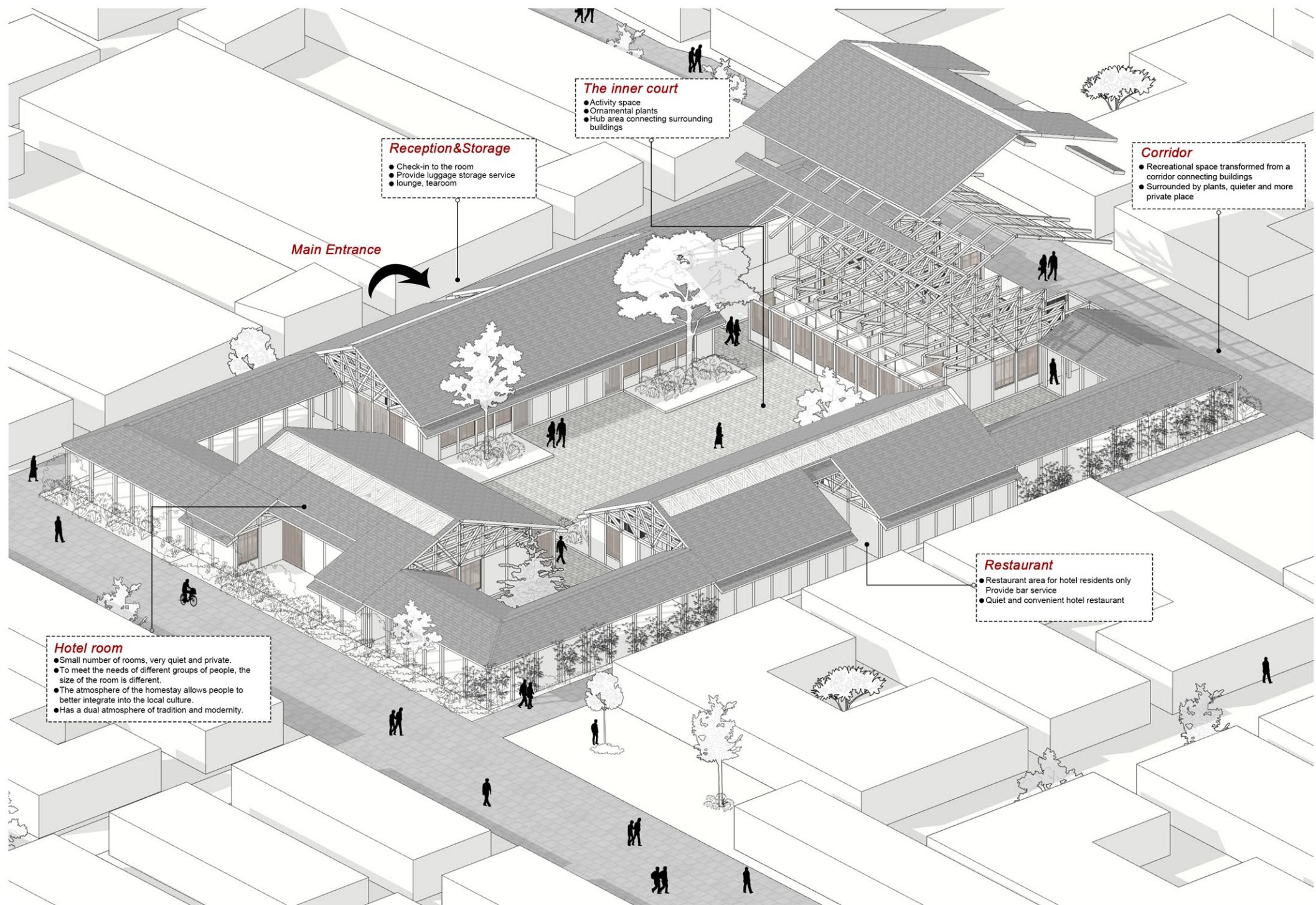
It can be seen that the new building structure after the transformation removes the indoor load-bearing columns, which will greatly improve the internal utilization of the space.



MASSING COMPONENT PRINCIPLES







03

URBAN REGENERATION OF THE WEST BANK OF HAI RIVER IN TIANJIN

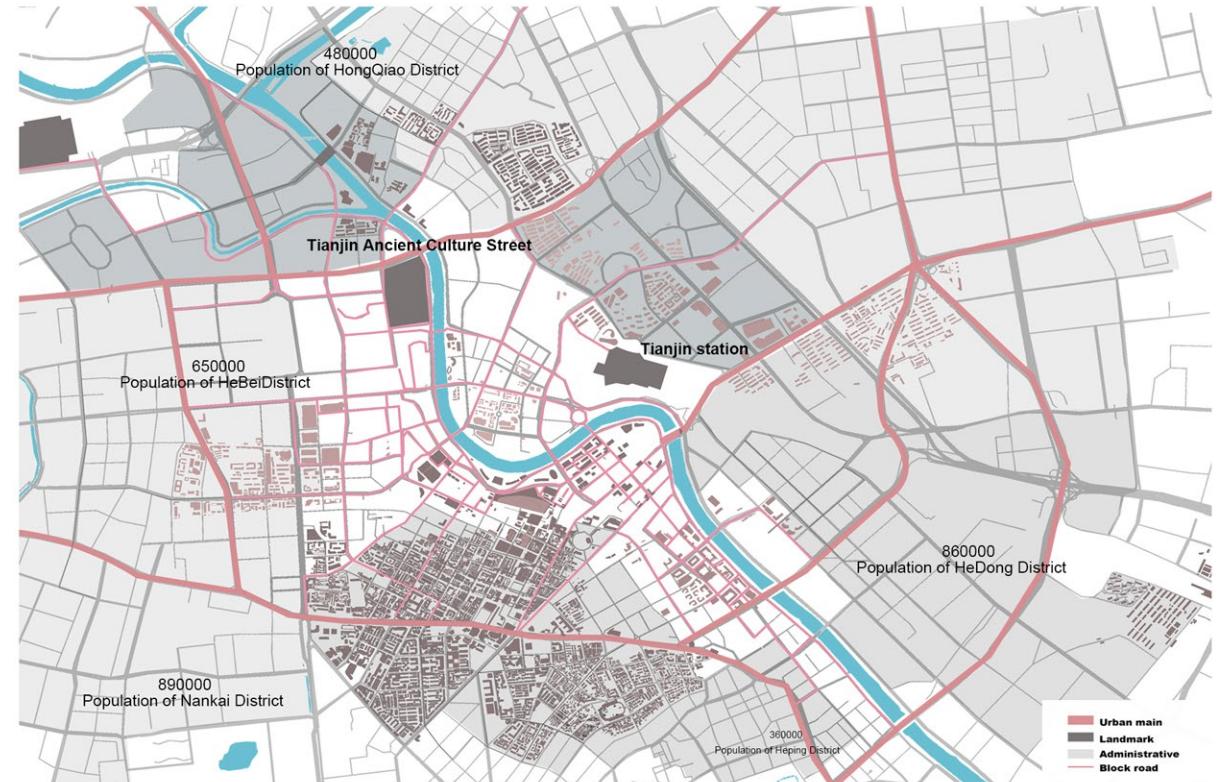
Cooperation Project

Team number: Ran Zhu Tailun Chen

Completion Date: 10.02.2023

With the acceleration of urbanization and rapid population growth, many important problems and challenges have been brought to the development of Tianjin. Rapid changes in the economy require a process of adaptation. Through the investigation of the project area and surrounding areas, it is found that the waterfront area, commercial area, and residential area in this area have a symbiotic relationship with people's lives.

Through analysis, we propose flexible urban designs and provide regulatory, provisioning, cultural and other services. Through the adjustment of the road network, the design plans a more reasonable commercial and economic zone, and combines different terrains to form different waterscapes and green buildings. Reduce the problems of urban traffic and urban ecology in the past, create a new model of sustainable development in which economic production, urban ecology, and social life and culture co-exist, and create a green and economical urban business district.



History of Urban Renewal in Tianjin

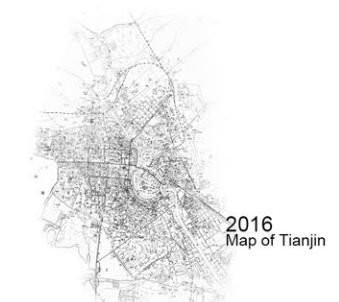
1952	Tianjin has an ancient city block form with a long history, but it is in urgent need of rectification.	
1976	After the Tangshan earthquake, the city's focus turned to earthquake relief, and the overall plan was revised.	
1984	Tianjin completed the transformation of 10 blocks, which lasted 7 years, with a planned land area of 17.43 hectares.	
1986	Tianjin has initiated comprehensive planning for the area within the Outer Ring Road. It is bounded by the Outer Ring Road in the northeast, Haihe River and Beiyun River in the west, and Heping and Hedong Districts in the south.	
1988	Tianjin has completed the construction of 48 planning and renovation sections of the renovation project. In addition, there are eight newly planned residential areas.	



1948
Map of Tianjin



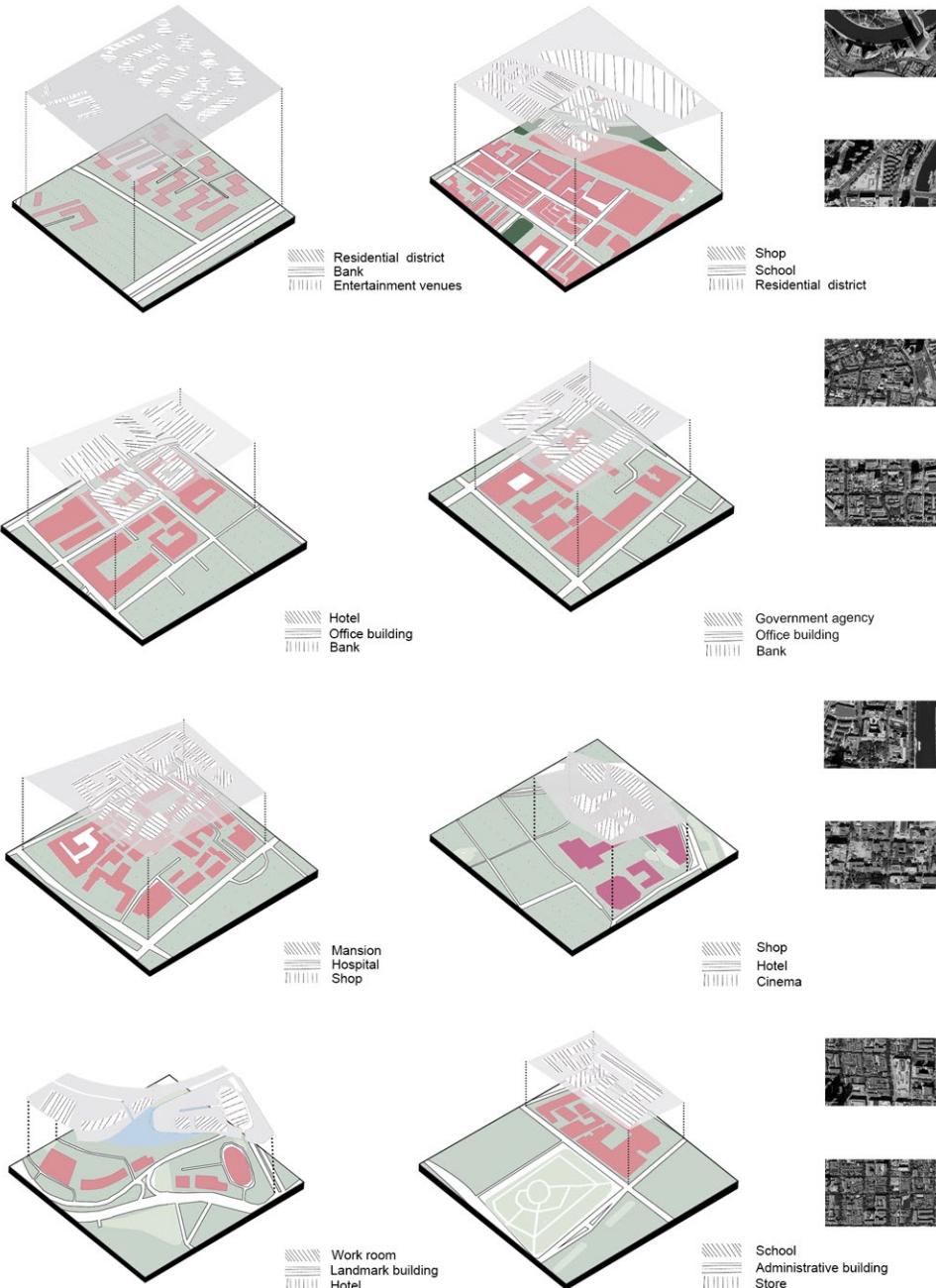
1980
Map of Tianjin



2016
Map of Tianjin

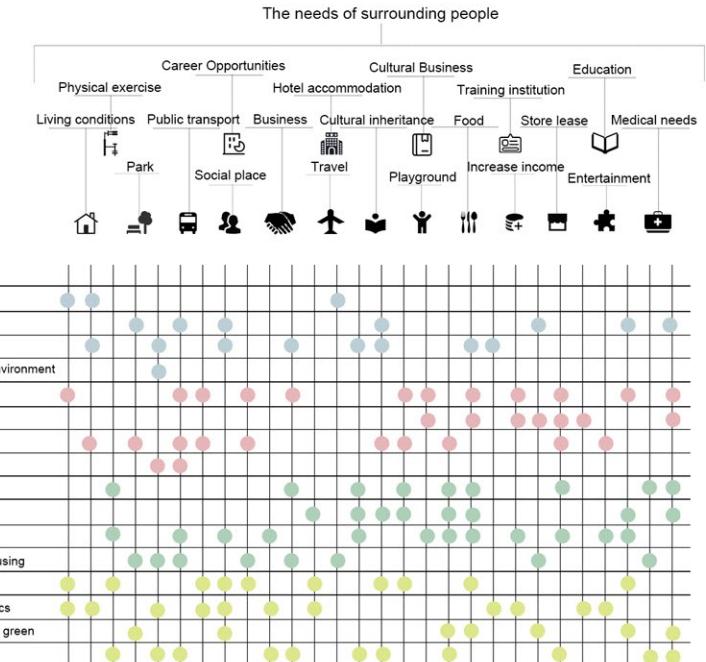
SITE ANALYSIS

There are residential areas, commercial areas, municipal districts and schools in the site, but these areas have scattered contents and fragmented functions. At the same time, the greening rate of the site is very low. Although the roads are carefully divided, some jams will occur and affect the traffic when the traffic flow is heavy.

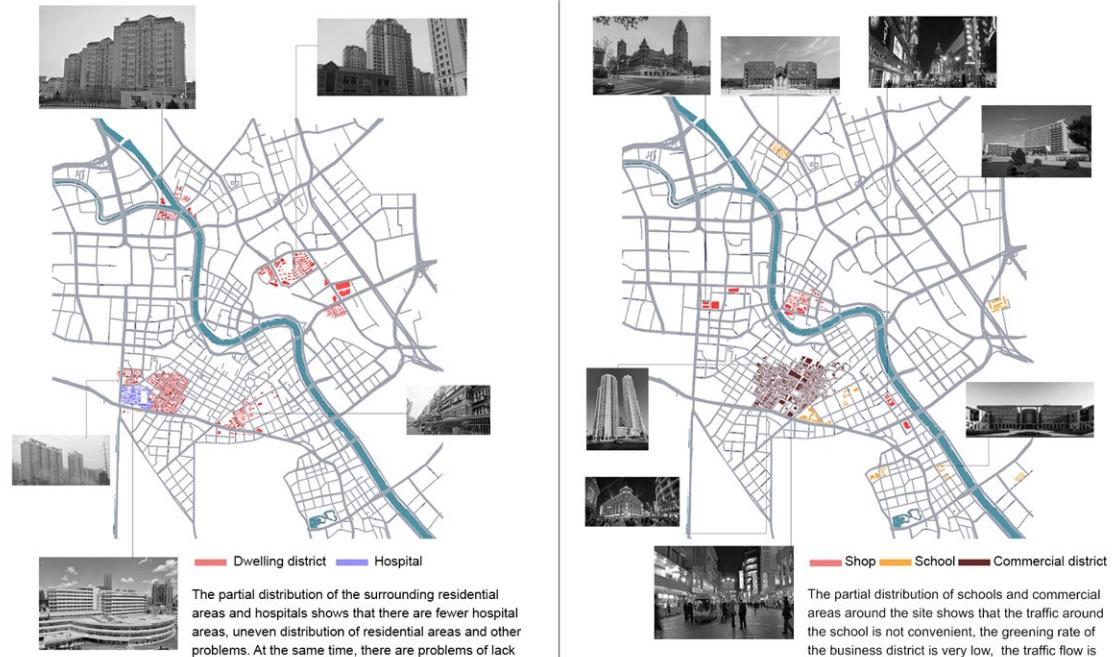


CROWD ANALYSIS

The people around the site can be divided into four categories: local residents, workers, travelers and floating population. Through systematic investigation and research, people have different needs, but the most important thing is that they want to have more street green space to live with, and increase jobs to meet people's economic needs.



SITE SURROUNDING INFORMATION





SECTIONS



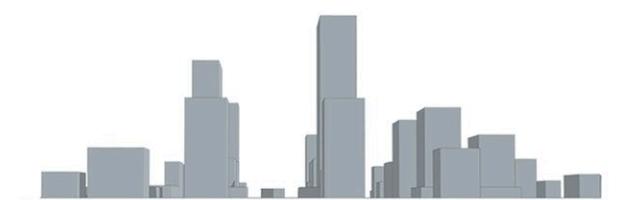
A Section A-A' mainly shows the architectural form of the residential functional area, and the building scale and volume ratio are relatively small.



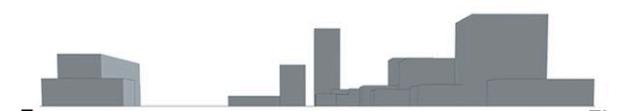
B Section B-B' shows a comprehensive functional area with residential functions and some commercial functions. The figure shows the architectural forms on both sides of the main road.



C Section C-C' shows the central business area of the city, where the building density and volume ratio are relatively high.

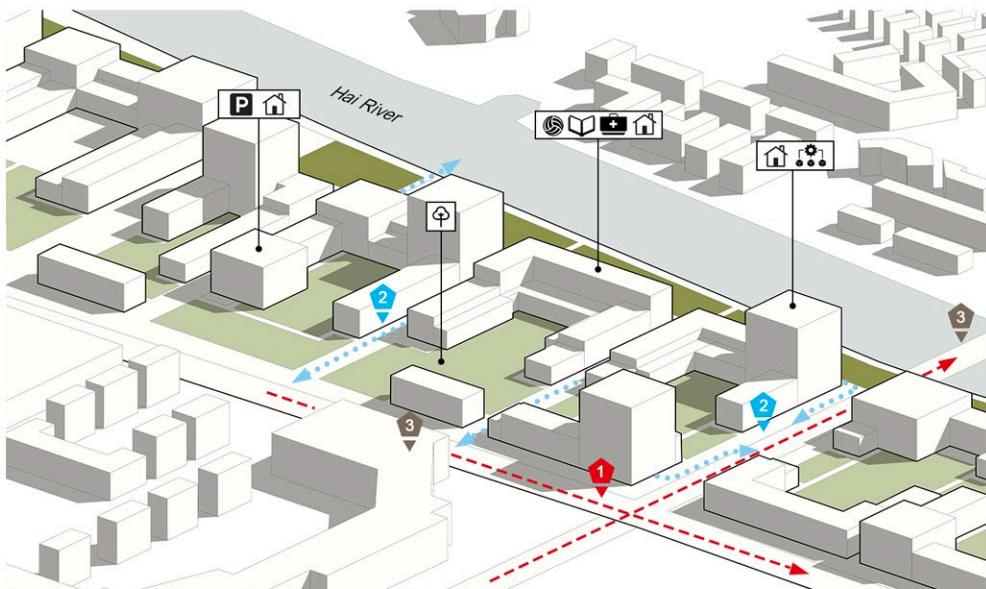


D Section D-D' shows another direction of the commercial functional area, which shows that high-density buildings are located on both sides of the central green corridor.



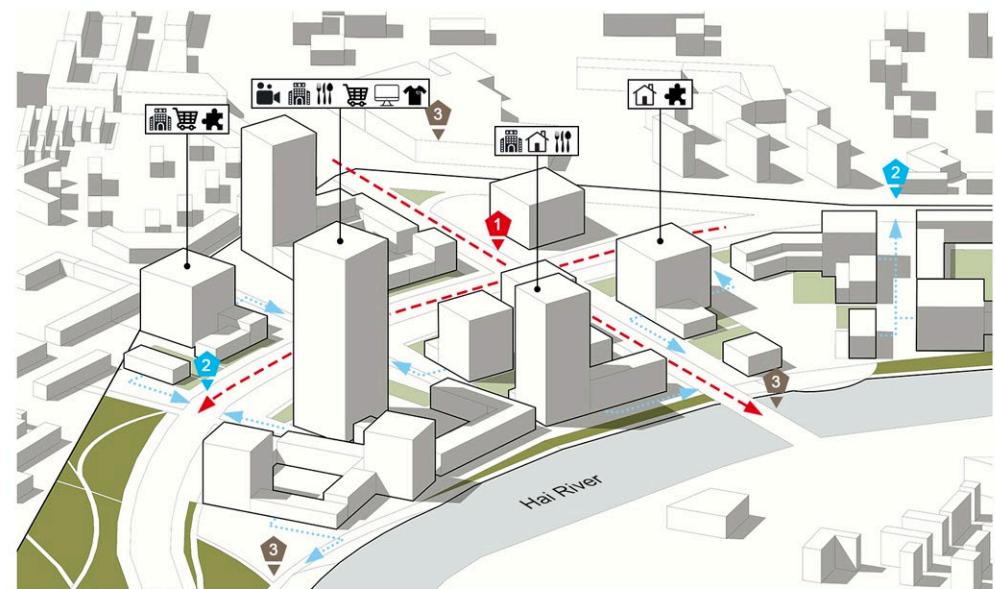
E Section E-E' shows a residential area, where the green rate is relatively high and it is a low-density area.

FUNCTIONAL ANALYSIS



Traffic proposal: ① Main road ② Main Entry/Exit ③ Possible Linkages

Urban residential functional areas are mainly relatively low-rise residential buildings with low building density and floor area ratio and high green area ratio. In addition to residences, there are many auxiliary functions in the functional area: such as parking lot, leisure space, community service, etc.



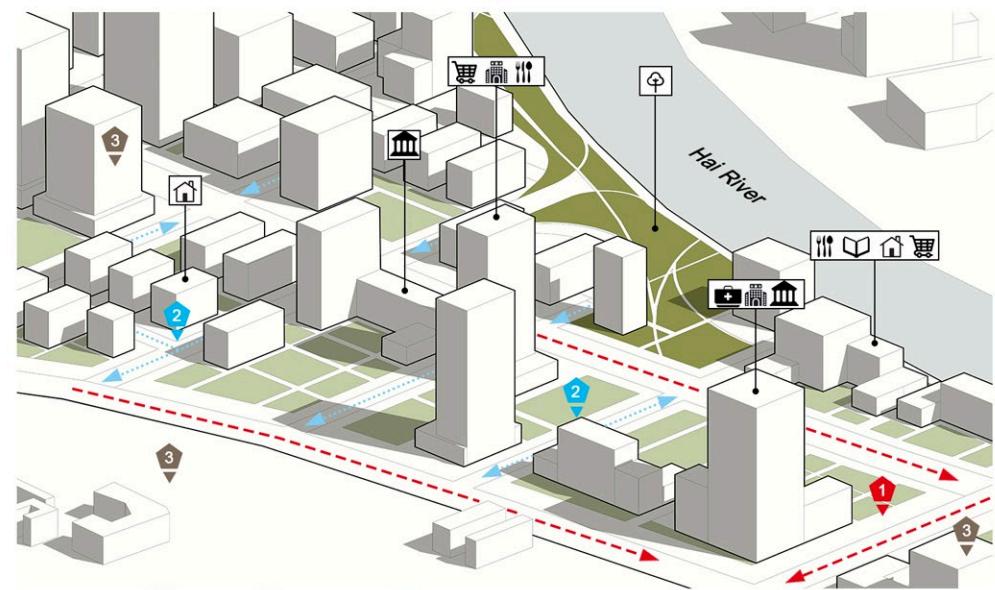
Traffic proposal: ① Main road ② Main Entry/Exit ③ Possible Linkages

The low-density commercial area has relatively high building density and floor area ratio, and low green area ratio. It is located at the intersection of two urban arterial roads, connected to residential areas, and has many service facilities to provide consumption services for a large number of residents in the area.



Traffic proposal: ① Main road ② Main Entry/Exit ③ Possible Linkages

The central business district of the city has a very high building density and floor area ratio. It is located in the center of the city, and the urban economy is highly concentrated. It mainly has functions such as finance, trade, services, exhibitions, and consulting. With a complete transportation network and a wide range of commercial radiation, it attracts consumers from the city and other places. It is a space integrating business, tourism and leisure.



Traffic proposal: ① Main road ② Main Entry/Exit ③ Possible Linkages

The low-density comprehensive area has a variety of different functions, with low building density and floor area ratio and high green area ratio. Urban public buildings, low-density residential buildings and low-density commercial buildings are distributed to a certain extent.

04

VERTICAL FARMING CITY



Cooperation Project

Architectural Project

Project theme: Agricultural symbiosis

Team number Ran Zhu , Hanliang Zhang, Weiyi Xu

Completion Date: 10.11.2022

The project conceives a new mechanism of agriculture and commerce, turning the project into a comprehensive space compatible with innovative agricultural bases, residential and commercial complexes. The framework composed of agricultural and living circles enhances the function of agriculture, reconnects the site with the surrounding texture and strengthens the functionality of the public space.

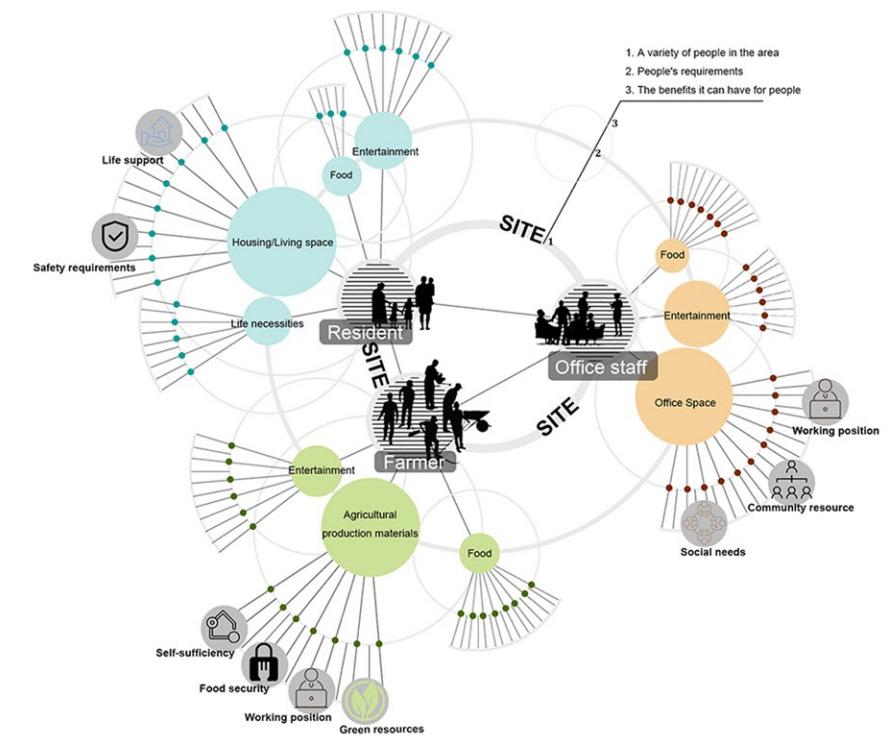
The glass curtain wall of the entire building ensures the beauty and transparency of the building, and visitors and residents can have a panoramic view of the city.

The whole design is divided into clear divisions, the commercial complex on the ground floor, the agricultural base and office area on the middle floor, and the viewing platform and apartment houses on the high floor. The entire building enriches the functionality and accessibility of the site from bottom to top. Each functional space has a higher degree of freedom, and can move horizontally and vertically to experience different functions. The agricultural base built by the project includes ecological exhibition halls and ecological corridors, including edible landscapes, agricultural room temperature, and low-carbon agriculture. These nodes are interactive and socially participatory, which can also improve social employment opportunities, study the vertical development of agriculture, promote agricultural revival, and realize an operable "vertical farming city".

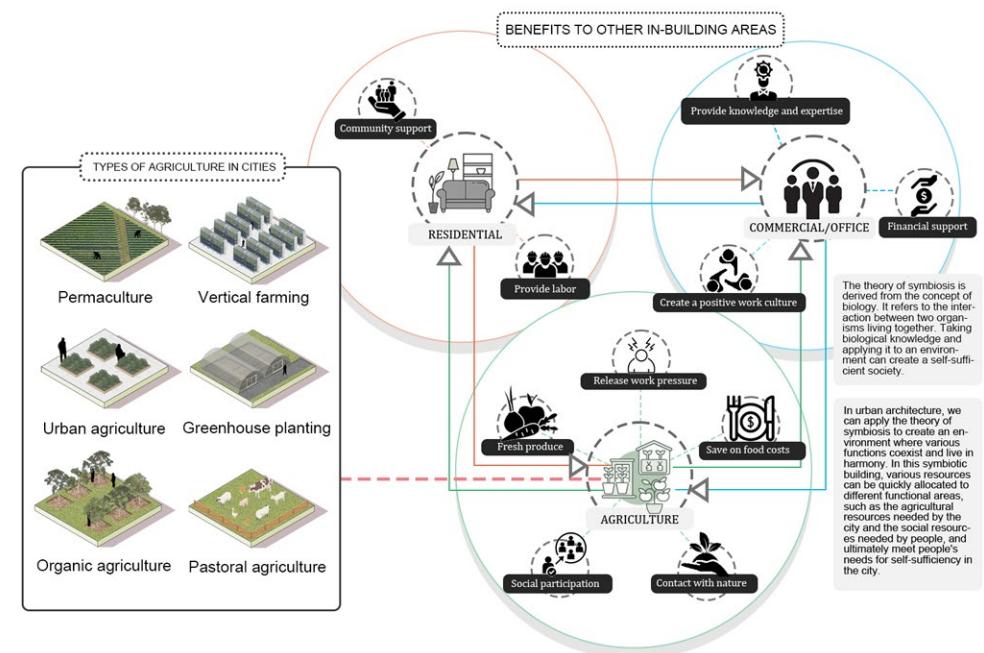
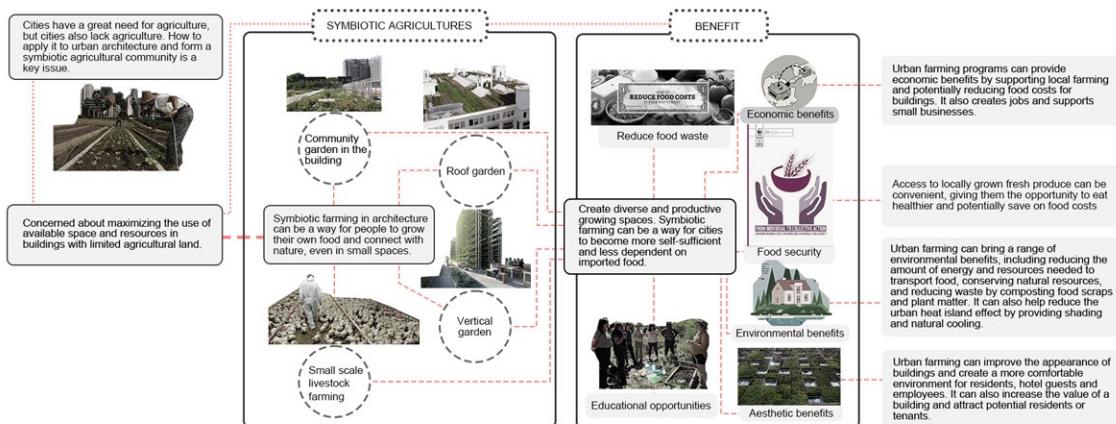
SITE ANALYSIS



PEOPLE RELATIONSHIP

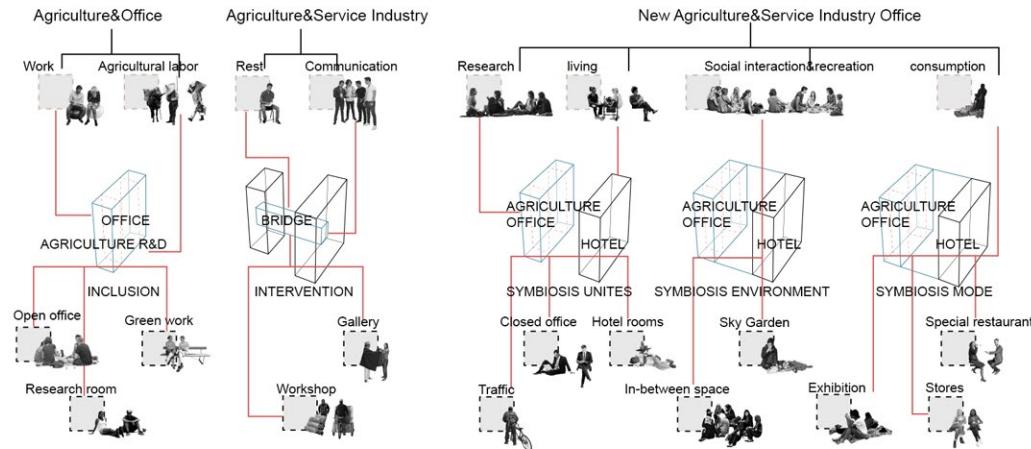


DESIGN CONCEPT



CONCEPT DEVELOPMENT

SYMBIOSIS ELEMENTS



CONCEPT DEVELOPMENT

THE PROPOSAL OF FOUR TYPES OF HYBRID SPACE

Since agriculture and service industries have their own independence and differences, they cannot be confused. Therefore, the degree of mixing of agricultural industry and service industry in the project should depend on the degree of spatial publicity of the program in one of the industries. The higher the degree of publicity, the higher the degree of mixing.

First, according to the general requirements of the hotel design, I concentrate on completing the setting of different projects in the hotel, and then analyze the publicity of different projects according to the PSI model. Based on the achievements and characteristics of different projects in the agricultural industry. Four types of mixed space are proposed for later design.

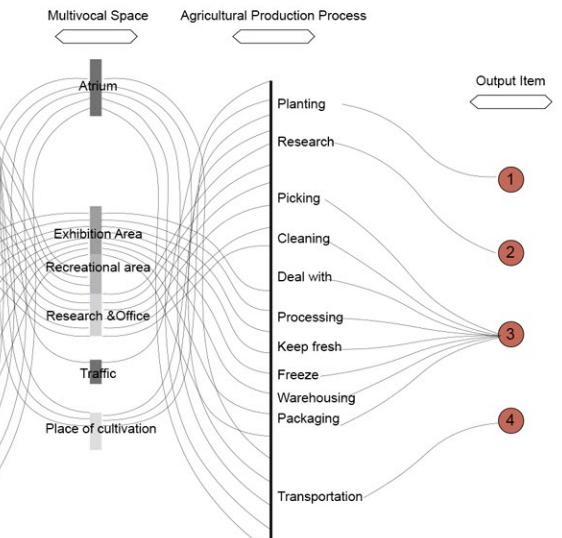
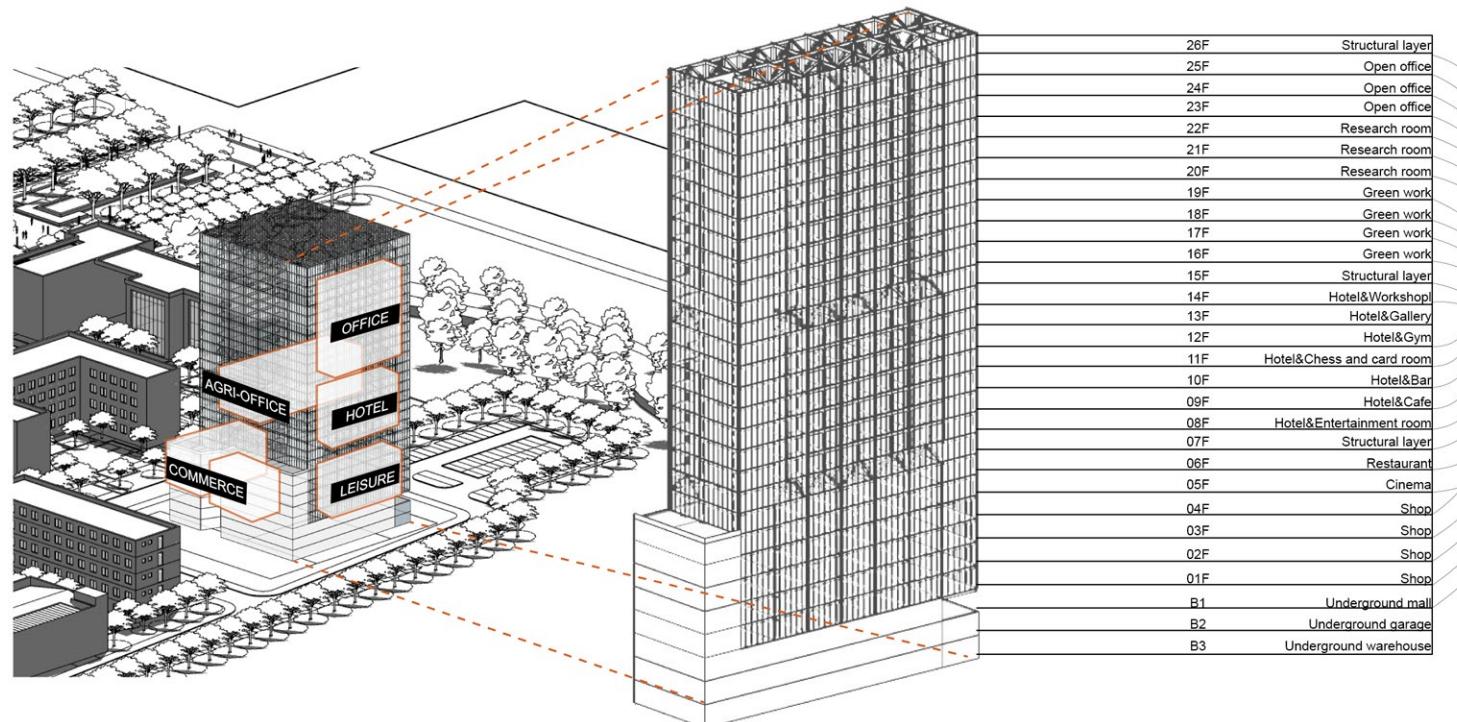
- | | |
|--------------------|---------------------|
| Gallery | Hanging garden |
| Store | Activity room |
| Cafe | Lecture hall |
| Bar | Gym |
| Milk tea | Chess and card room |
| Chinese restaurant | Billiards room |
| Western restaurant | Table tennis room |
| Bookstore | Office |
| Cinema | Production base |
| Hotel room | Hotel support room |

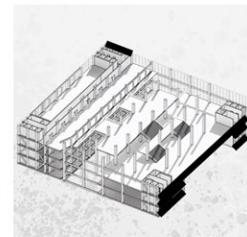
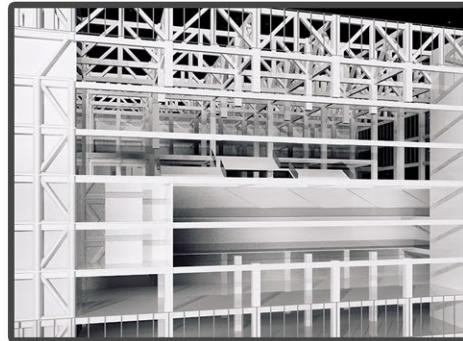
1 Multivocal production base

2 Multivocal scientific and technological research

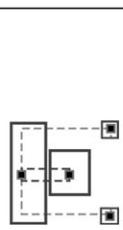
3 Multivocal raw material processing

4 Multivocal commercial atrium





The space rest area is organized in a boxed mode, and tourists watch outside the small box



apartment

viewing stairs

Leisure activity area

Art exhibition area

Image display area

public corridor

ecological corridor

viewing platform

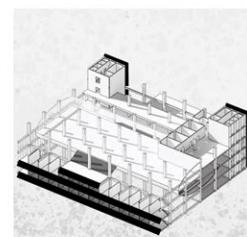
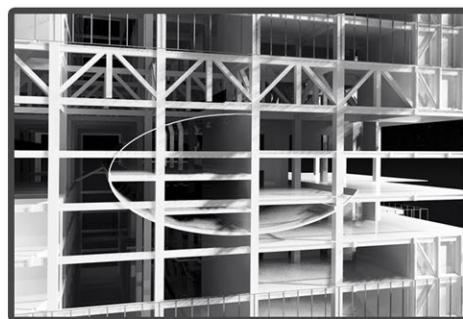
property office

open the atrium

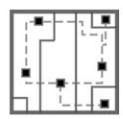
shoping

MIXED SPACE DEEPENDING PROCESS

At this stage, a series of agricultural production and processing processes are placed in four parts of the agricultural group. Each process space is designed to meet its technical requirements. These projects are connected by vertical transportation system.



The ecological exhibition hall has the highest temperature and is a leisure and sightseeing project inside the building. The gap at its top allows sunlight to pass through



Leisure activity area

Art exhibition area

Image display area

public corridor

ecological corridor

viewing platform

property office

open the atrium

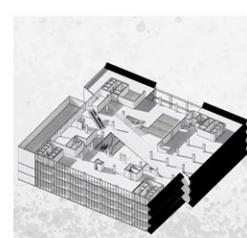
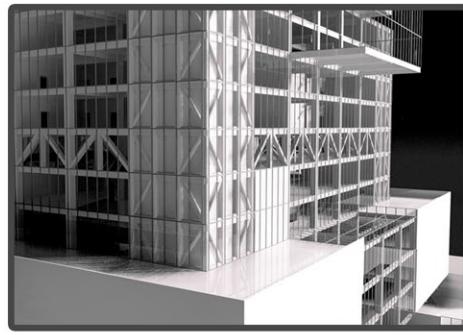
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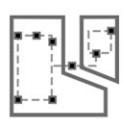
②

③

④



The cafe interacts with tourists on this floor through the air gradient on the huge beam. There are sightseeing areas around this area.



apartment

viewing stairs

Leisure activity area

Art exhibition area

Image display area

public corridor

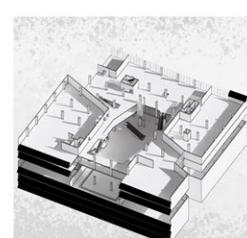
ecological corridor

viewing platform

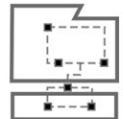
property office

open the atrium

shoping



At the top of the atrium, there is a food packaging area to provide products for tourists and passers-by.



apartment

viewing stairs

Leisure activity area

Art exhibition area

Image display area

public corridor

ecological corridor

viewing platform

property office

open the atrium

shoping

The section of types of hybird space

