Renewal of New Town

——Design Competition of New Urban Green Space System in Beijing Xibeiwang Technology Eco-Town

Urban design

Team work of 4 people

Second semester of postgraduate freshman

2019.06-07

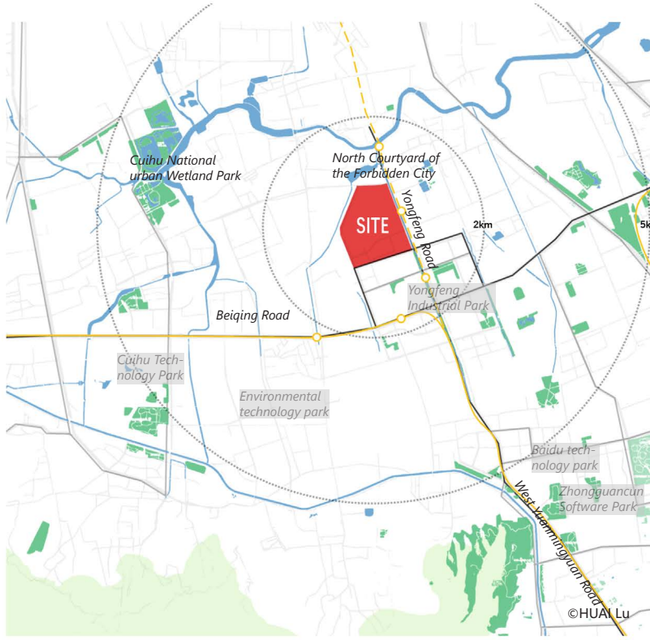
New Urban Green Space System Planning Competition

First Prize

Site Location

Beijing-Haidian *Haidian-Xibeiwang*

The site is located in the core area of Xibeiwang town, Haidian district, Beijing. It is adjacent to the North Court of the Palace Museum in the north and Yongfeng Industrial Base in the south.. In the north, there is a large area of green land surrounded by Cuihu Wetland Park, Sanshan Five Gardens and other high-quality natural basement. The transportation network in the region is well developed, connecting the external areas by metro line 16 and Beiyan section, Beiqing Road, Beijing-Tibet Expressway, Beijing-New Expressway trunk line and so on. Located in a region with a long history of development, strong cultural atmosphere, beautiful environment and resources, strong industrial foundation, rich resources, broad prospects for science and technology, the site is the forefront of the integration of historical culture and modern economy.

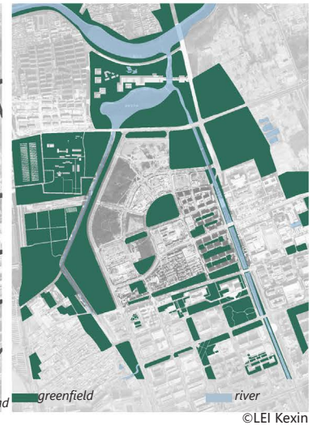


Peripheral Elements

Analysis of Building Function

Analysis of Population Type

Analysis of Traffic Road



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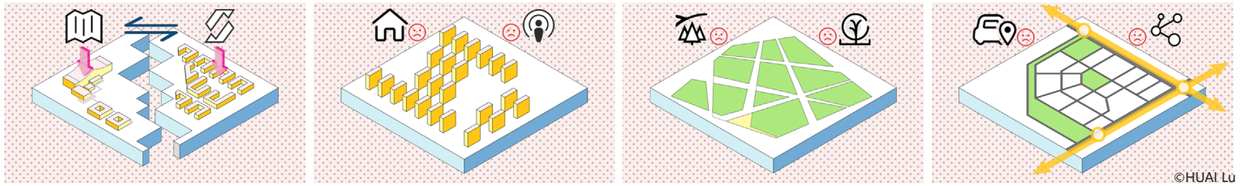
Analysis of Blue-green Pattern

Preliminary analysis

Site problem



Production

Upper planning of the location of the base for science and technology innovation industrial park, and the Palace Museum will be built north courtyard somewhat contradictory.

Life

Yongfeng industrial park on the south side is short of housing and public service facilities.

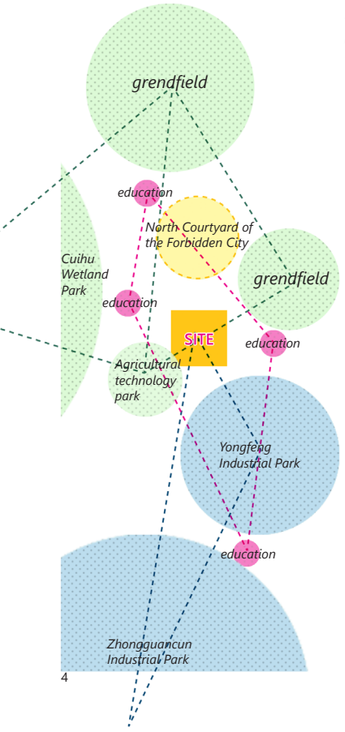
Ecological

The green space system in the base is broken and the open space is broken, and there is no system formed with the surrounding areas. The ecological benefits are weak.

The traffic

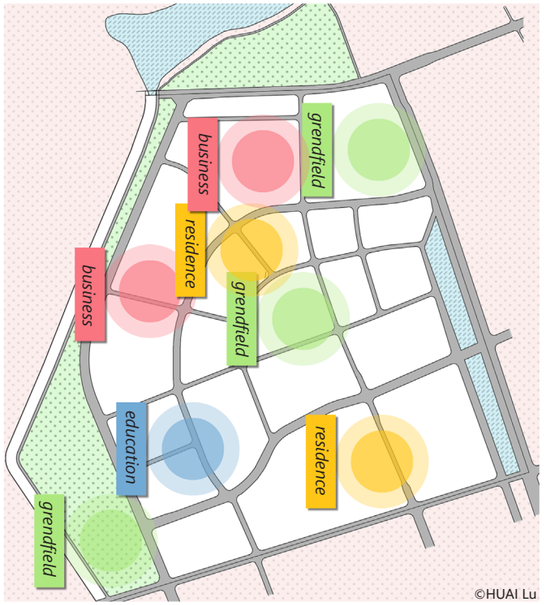
The connection between the base and the surrounding site is weak, and there is no clear transportation organization inside.

Environment Nearby

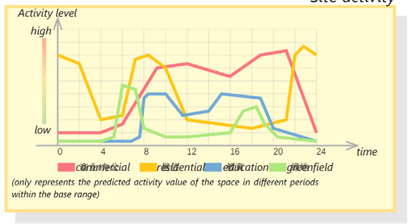


People Demand

After the completion of the base, the types of main users and the site activity, site demand and crowd density at different periods are predicted, so as to make a reasonable prediction of the development amount and functional layout.

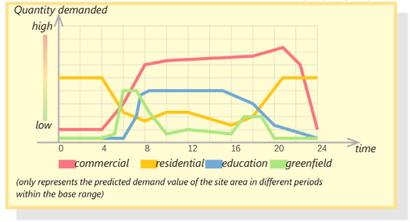


Site activity



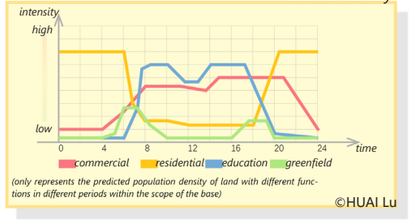
(only represents the predicted activity value of the space in different periods within the base range)

Site demand



(only represents the predicted demand value of the site area in different periods within the base range)

Crowd density



(only represents the predicted population density of land with different functions in different periods within the scope of the base)

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Concept Generation

Technology and culture interweave — *Restructuring* — *RestructuringFunction placement* — *Nature infiltration*

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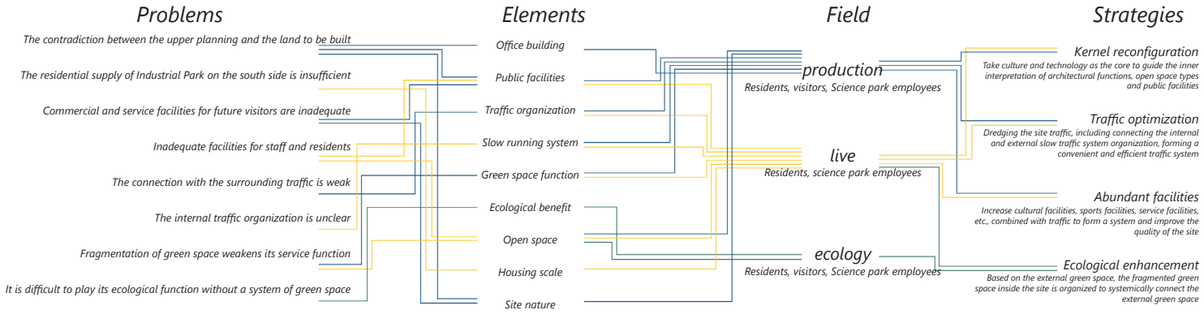
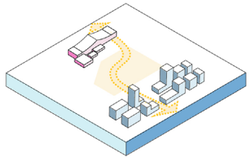
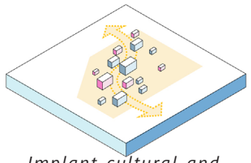
Problems and Strategies



Construct the core area

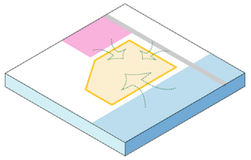


Connect culture and technology

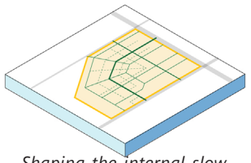


Implant cultural and technological elements

Optimize traffic

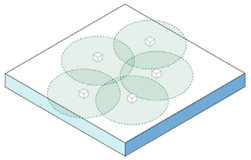


Enhanced external traffic accessibility

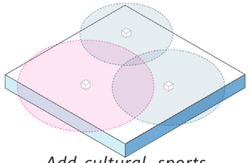


Shaping the internal slow motion system

Supplementary facility

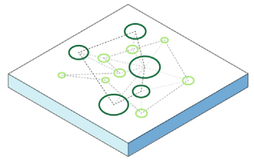


Increase service facilities

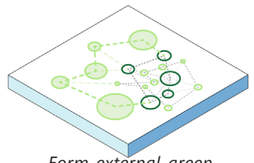


Add cultural, sports and other facilities

Enhance ecology



Sort out the internal green space system



Form external green space connection

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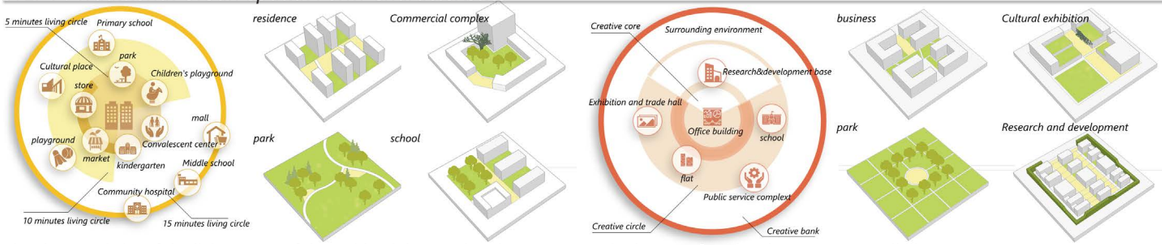
① Intelligent park
② Joy City Experiential Shopping Center
③ Maker Commune
④ R&d science and innovation Center
⑤ Smart commercial and residential
⑥ Smart apartment
⑦ Vitality corridor
⑧ An ecosphere
⑨ Two-layer mobile platform
⑩ Culture and art center
⑪ Neighborhood center
⑫ Middle school
⑬ kindergarten
⑭ Science and technology activity square
⑮ Wisdom Square
⑯ Tree array square
⑰ Traffic hub square
⑱ Pocket park
⑲ Sports park
⑳ Civic stadium
㉑ Ring stand
㉒ Street dynamic space
㉓ Happy street
㉔ Roof greening
㉕ Ecological green belt
㉖ alameda
㉗ Multifunctional sunshine lawn
㉘ Forest land
㉙ marker
㉚ Creative old factory
㉛ Book park

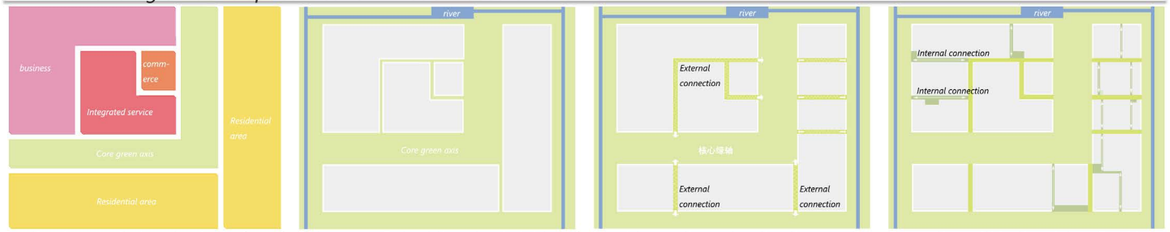
Design Interpretation

STEP1 : Traditional Urban Spatial Form Characteristics



The characteristics of the living space of the residential area: closed green space, single space function, low space accessibility;
The characteristics of spatial form of life circle of industrial: space privatization, lack of continuous space and low identification of green space.

STEP 2 : Building a Public Space Network Model Based on the Site



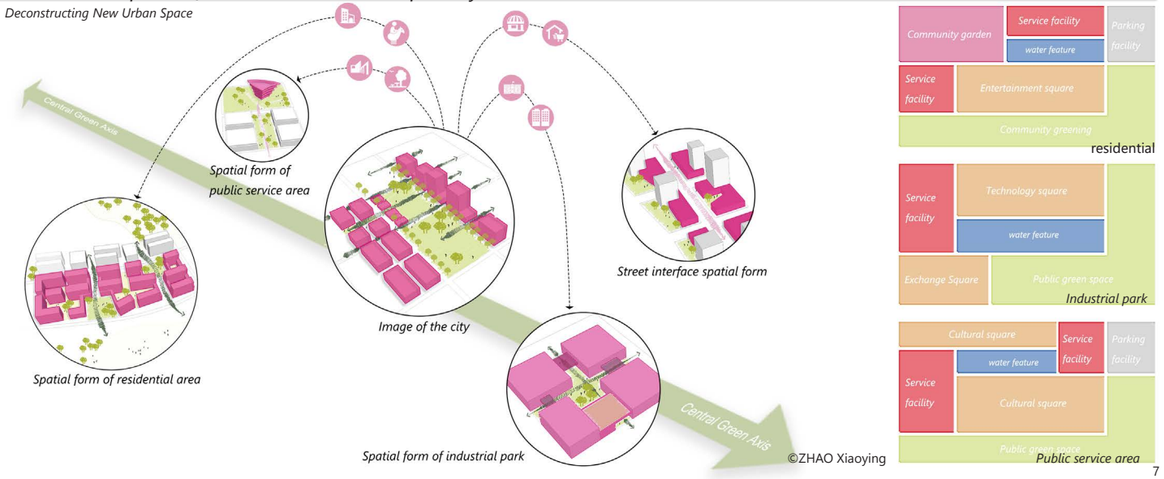
Functional composite layout -- In the face of diversified urban development needs, combining the functional layout characteristics of residential areas and industrial parks, integrating the existing urban functional structure.

Status quo -- Sort out the network skeleton of the current public space, and build a public space network by combining the existing green space and river system in the center.

Interplot connection -- strengthen the connection and penetration between plots, and strengthen the spatial integration of central green space and riverfront green belt.

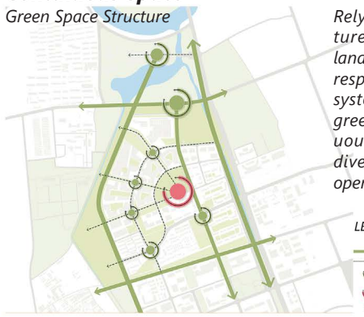
Connecting within the plot -- Combining functional layout and public participation inside the site, the public space corridor is set up to maximize the benefit of public space.

STEP 3 : Conception of a New Urban Green Space System



Continuous Space

Green Space Structure



Relying on the blue-green structure, integrating the concept of landscape, activity and sponge city, respecting the regional ecological system, establishing a multi-level green network, creating a continuous green space system and a diverse and dynamic community open space.

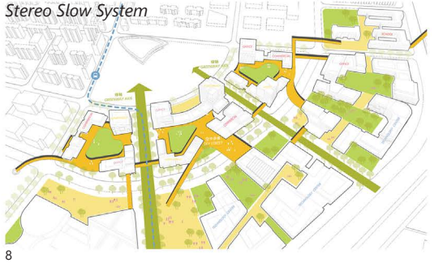
Traffic Organization

A number of roads inside the plot are under construction and the main road network skeleton has been completed. The scheme will adjust some road network lines to ensure that the road line type is straight, which ensures the convenient accessibility and balance of the local blocks.

Sightline Gallery

Combine the road and building texture to create a transparent sight corridor, echo the landscape inside and outside the venue, and guide the walking path while creating a good living experience.

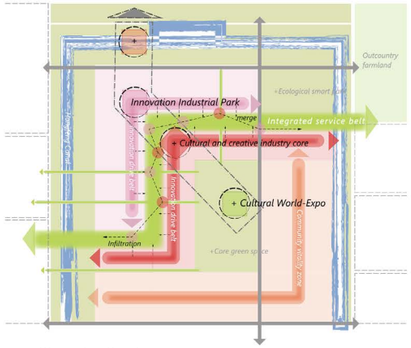
Stereo Slow System



Through the two-story corridor, the technology, business, culture, and residence are integrated with the Central Park to create a multi-level walking space.

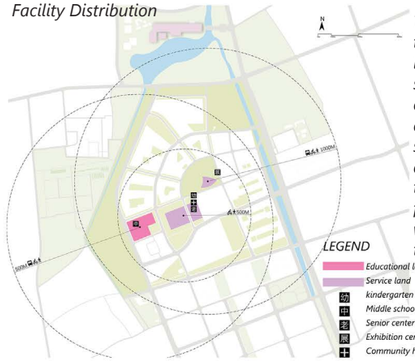
Functional Compound

Planning Structure



Relying on the development of technological elements and cultural elements in the interior and surrounding areas, we will embed innovative service functions such as diversified business, intelligent public service and diversified living, enrich the core functions of the technology platform, form an integrated service belt for the city, and lead the rapid development of the new district.

Facility Distribution



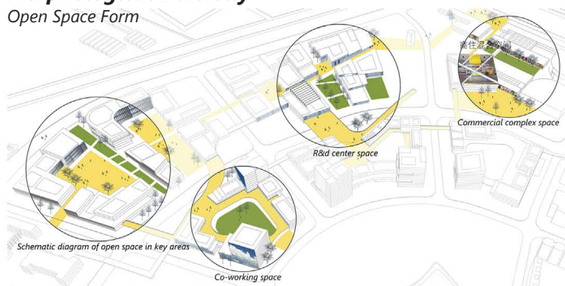
The public service facilities are mainly arranged in the core of the open space, so that the products exhibition, research and education, community service and other facilities are closely integrated with the green space system to form a green service network that can be walked to reach.

Design evaluation:Social & Ecological benefits

Evaluation Summary: 1. The central green space is connected with the neighborhood space; 2. The green main street; 3. The ecological habitat, the integration of nature and humanities; 4. The dynamic slow-moving system and the perfect public transportation system.

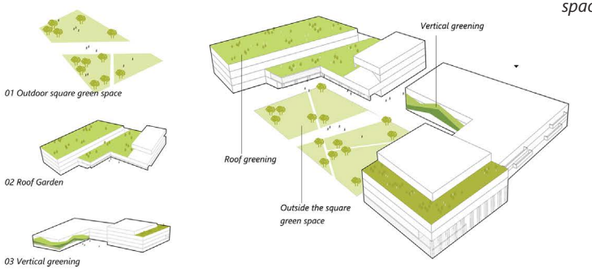
Morphological Diversity

Open Space Form

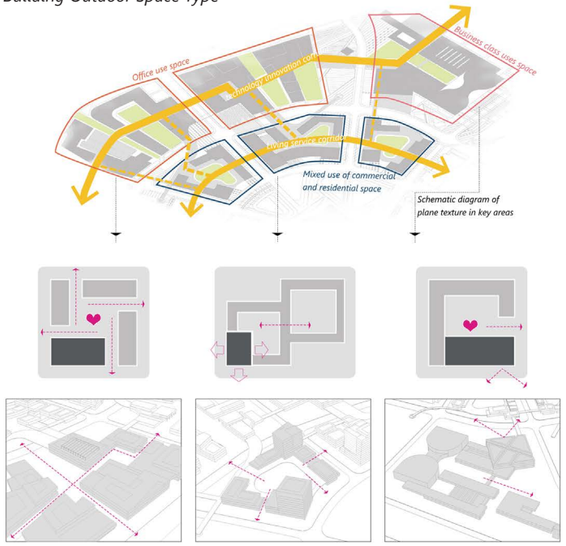


Through the two vitality corridors with different spatial characteristics and functions, it brings diversity to urban development. On both sides of the corridor, a variety of activity spaces are formed, forming a relationship between architecture and open space.

Building Group Outdoor Green Form



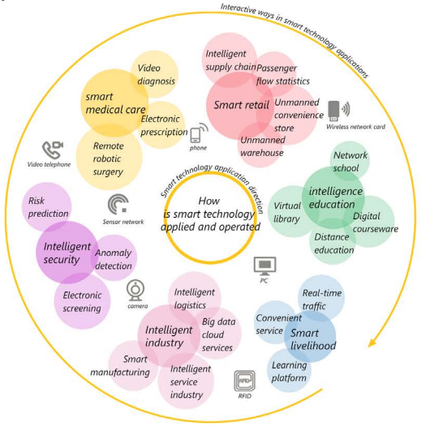
Building Outdoor Space Type



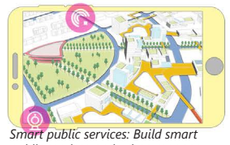
In order to maximize the functional mix of the characteristic zones, the outdoor space of the building has the following characteristics:Sky terrace for greening and connection;Transparent public space network;The varied podium space is used to enclose the public space.

Wisdom Interaction

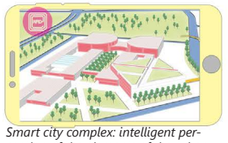
Way of Interaction



Practical Scenario Application



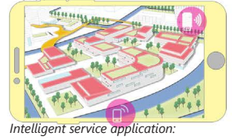
Smart public services: Build smart public services and urban management systems, improve the efficiency of urban operation and the level of public services, and promote the transformation and upgrading of urban development.



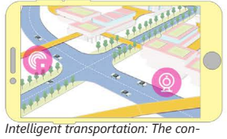
Smart city complex: intelligent perception of the elements of the urban complex, automatic data collection, visualization and standardization of the collected data, so that managers can carry out visual urban complex management.

Smart home services: The integration of information technologies such as the Internet of Things, the Internet, and mobile communications makes residents' lives "intelligent development".

Smart education and cultural services: Promote the construction of a smart education and cultural system, and promote the development of smart education.



Intelligent service application:
1. intelligent logistics;
2. Smart trade;
3. Build a demonstration and promotion base for smart service industries.



Intelligent transportation: The construction of "digital transportation" project, through monitoring, monitoring, traffic flow distribution optimization and other technologies, improve the monitoring intensity and intelligent management level, to ensure the safety and smooth transportation.