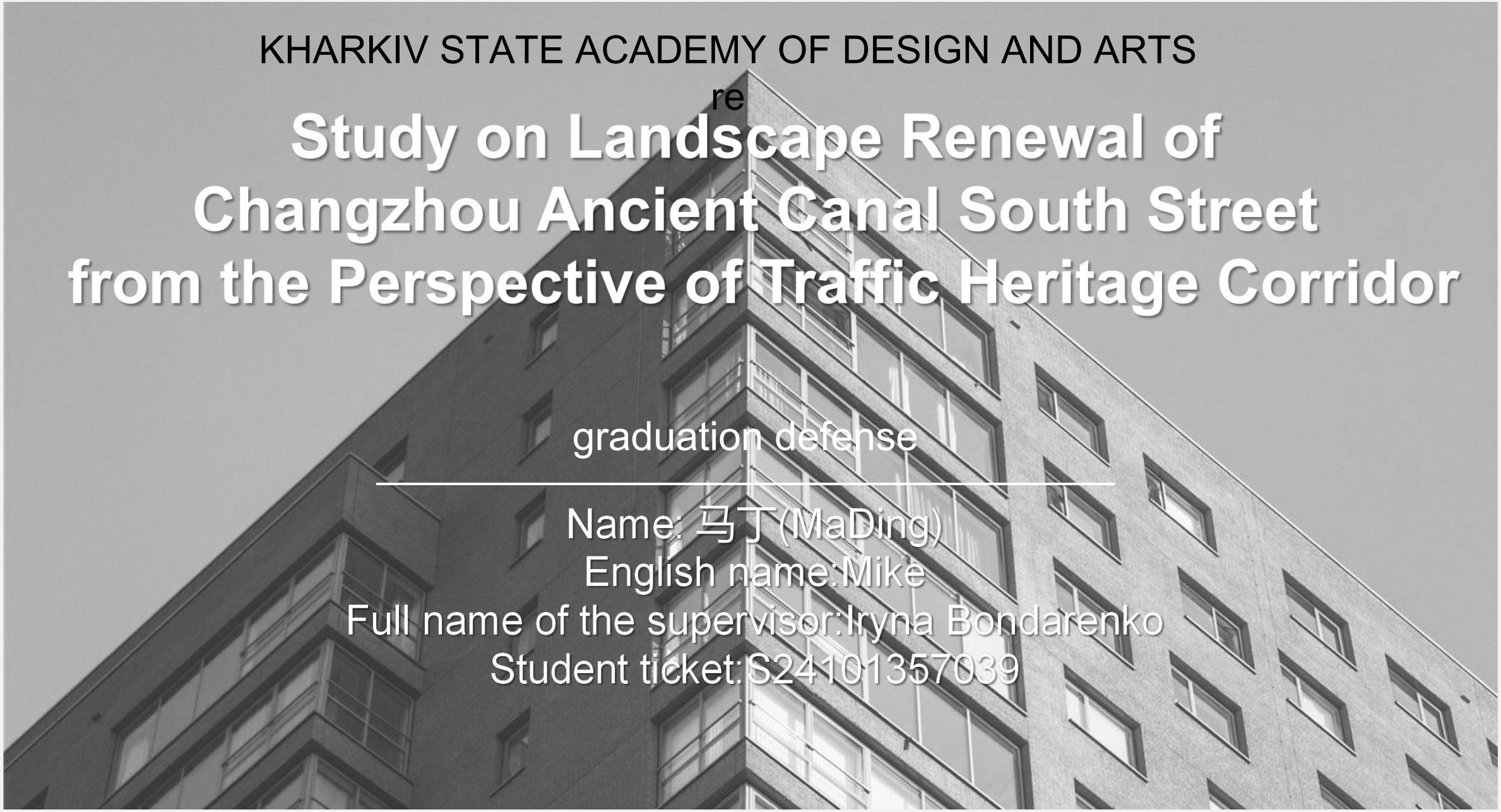

KHARKIV STATE ACADEMY OF DESIGN AND ARTS

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Study on Landscape Renewal of Changzhou Ancient Canal South Street from the Perspective of Traffic Heritage Corridor

graduation defense

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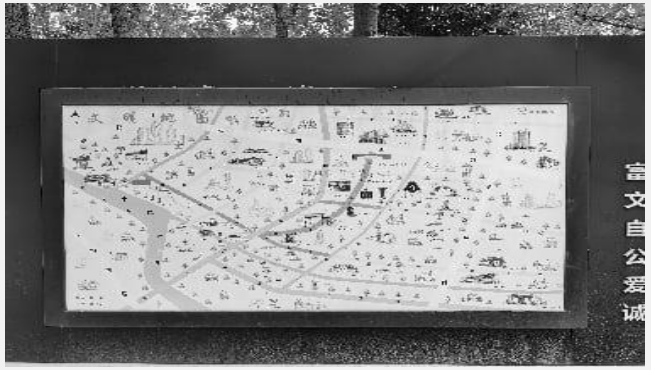






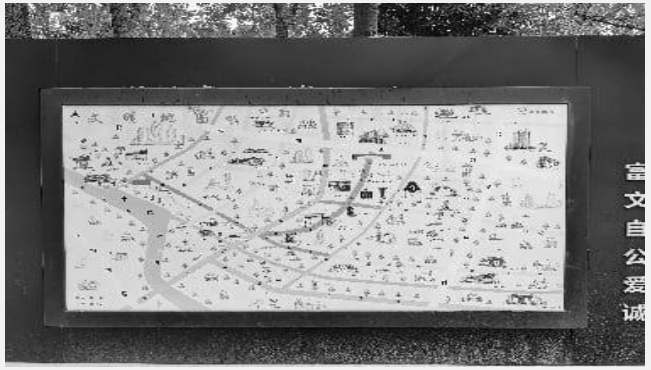
01

The backgronnd

The background

The protection and development of traffic heritage is not simply a nostalgic historical review, but a civilized choice facing the future. With the vision of "heritage is the future", the transportation heritage will be brought into the framework of urban climate adaptation strategy, regional collaborative governance and mutual learning of civilizations, and the value cognition system of transportation heritage will be reconstructed, from "technical history view" to "civilization history view", and the contemporary functions and diversified values of transportation heritage such as railways, ancient roads, canals, towns and villages, factories and mines will be deeply explored in the process of globalization.

At present, the research on historical transportation in China is still short of understanding the concept, connotation and system of national transportation cultural heritage from the perspective of cultural heritage, comprehensive investigation and in-depth study of related heritage, investigation, research, identification, protection and rational utilization of transportation heritage, and the construction of national transportation heritage system. In the current protection and utilization of cultural heritage, traffic heritage is still a new field to be explored and should become an important content in the construction of a "traffic power".







02

The purpose and significance of the research

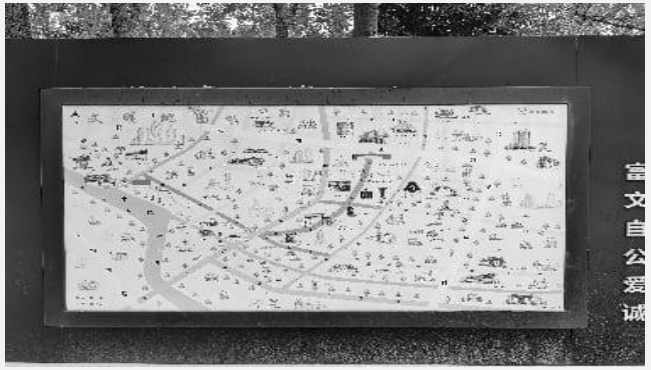
The significance of the research

As a valuable blue-green resource in the city, waterfront area bears multiple missions: it not only reveals the historical and cultural heritage of the city, but also provides an excellent place for citizens to get close to nature and have fun. Among them, the ancient canal, with its unique linear landscape and historical traces, constitutes the most beautiful landscape in the waterfront landscape. They are not only a link in the ecosystem, but also a living fossil of urban memory, organically integrated into the blood of the city, demonstrating the vitality and unique charm of the city. With the accelerated development of the city, the traditional shipping function of the ancient canal has been gradually cancelled, but its function as an urban public space and recreation place has become increasingly prominent, and the public space along the ancient canal is becoming an important urban waterfront. The renovation and beautification of the canal waterfront has always been the focus of international attention, which is not only a reflection on the protection and utilization of the space along the canal, but also a profound embodiment of the inheritance and development of the canal culture. Therefore, worldwide, academic research in the field of canals mainly focuses on issues such as heritage corridors and waterfront landscapes.

The purpose of the research

Improving the quality of urban public space: This study faces the realistic difficulties faced by the south street section of Changzhou Ancient Canal, such as the aging landscape, the lack of public space and the weakening of historical memory. The proposed landscape renewal design strategy and scheme can effectively improve the physical environment and psychological atmosphere in this area, making it a place where citizens are willing to stay and move, thus improving the overall quality of urban public space and the quality of life.

Enhance the vitality of the city and social integration: through the overall landscape renewal of the south street section of the ancient canal, the cultural landmarks in the core area of the city can be reshaped and the "canal culture" of the city can be continued. Matching cultural corridors, increasing public activity space and improving ecological environment can directly improve the quality of life of residents around the canal, enhance the happiness of urban people, and make the achievements of cultural heritage protection benefit the people.







03

Example from practice

Domestic project cases 1



Suzhou section of the "One River and One River" project in Shanghai as an example, it completely transformed the once closed productive coastline by connecting the waterfront coastline, restoring ecological revetment, and planting leisure trails and public service facilities. At the same time, the original old warehouses, factories and other industrial remains were retained and reused in the design, which turned them into cultural exhibitions or commercial spaces, and successfully integrated the protection and inheritance of the Grand Canal cultural belt with the goals of enhancing urban public vitality and improving ecological functions.

Domestic project cases 2



The "Grand Canal Theatre" in Hangzhou, Zhejiang Province and the comprehensive renovation project of surrounding blocks reflect the deep exploration of cultural scene creation and community vitality stimulation in the construction of the "Grand Canal Cultural Belt" in China. Instead of demolishing and building, the project has built a theater building with modern design on the banks of the river, and integrated the original historical blocks, museums and public docks in the west of the bridge, forming a cultural hub integrating cultural performances, tourism, leisure and community life. It has successfully transformed the Beijing-Hangzhou Grand Canal from a historical corridor to an experiential and consumable contemporary "cultural reception room", showing the advanced design idea that the transportation cultural heritage drives the organic renewal of the city.

Foreign project cases 1

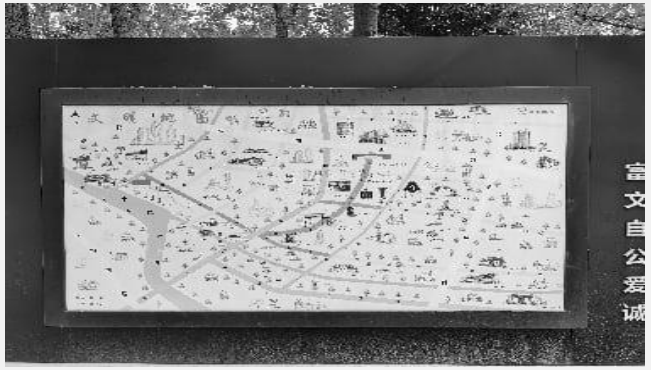


The frontier concept of canal waterfront landscape design abroad emphasizes the integration of ecological restoration, climate adaptation and modern expression of cultural heritage, and regards the canal as a dynamic social-ecological system, aiming at improving its comprehensive resilience as a green infrastructure. For example, the renovation project of Catharijnesingel Canal in Utrecht, the Netherlands, reopened the waterway covered for highway construction in the 1960s, which not only restored the river and vegetation to enhance biodiversity and rainwater management ability, but also reshaped it into a linear park for citizens to rest and move through careful landscape design, skillfully combining the historical waterway shape with the demand of modern urban public space, and became a model of "returning water to the city" and "symbiosis with nature".

Foreign project cases 2



The renovation of Manchester Ship Canal and Salford Quays in England is a classic example of the revival of industrial heritage. Facing the decline of the post-industrial era, the design did not retain its original freight function, but completely reshaped the regional vitality through water purification, adaptive reuse of historical buildings and injection of new cultural functions. Among them, the most prominent representative is the North Pavilion of Imperial War Museum, which was transformed from a wharf warehouse. The bold architectural form interprets the "fragments of global conflicts", which has not only become a landmark, but also transformed into a cultural destination attracting global tourists as an industrial heritage, realizing the transformation from industrial infrastructure to a cultural and economic complex.







04

Design strategy system

Morphological space strategy

Enhance culture

He enhancement of culture is not only to protect the "old", but also to implant the "new" and reproduce history with contemporary design language. Translation of Corridor: From traffic corridor to cultural corridor, the linear space prototypes such as "corridor shed" and "fiber path" that served shipping in history are translated into modern landscape veranda, wind and rain corridor and hydrophilic platform.

Improve hydrophilicity

The site is close to the Grand Canal. Combining water elements into the design, improving hydrophilicity can improve spatial affinity. Hydrophilic platforms and trails are set up near the water area for citizens to enjoy the water features and get close to nature. Canal channel has been used as a transportation channel since ancient times, and some experience projects can also be set up in combination with ships. By planting aquatic plants and setting up landscape sketches, we can enrich the waterfront landscape level and enhance the hydrophilic experience.

Enhance functionality

In order to meet the needs of different people, the canal landscape space should have diversified functions. Specific strategies include: dividing functional areas: according to spatial characteristics and citizens' needs, residents need sports venues, painting venues, entertainment venues and so on. And divide the canal landscape space into different functional areas, such as leisure area, sports area and cultural exhibition area.

Functional space strategy

Placement of appropriate functional types

In the activation of canal landscape space, its functional orientation should be fully considered and appropriate functional types should be placed. Specific strategies include: combining the needs of citizens: understanding the needs and expectations of citizens for the space along the canal through investigation, and determining the functional types according to the needs. Introducing cultural elements: Combining the cultural characteristics of Changzhou, setting up cultural exhibition areas and art installations to enhance the cultural connotation of the space.

Harmonious surrounding environment landscape

The landscape space along the canal should be coordinated with the surrounding environment to form a whole urban landscape. Specific strategies include: keeping style consistent: in landscape design, keeping harmony with the surrounding environment in terms of style and color, and avoiding abrupt feeling. Utilization of surrounding resources: Make full use of the natural landscape, historical and cultural resources around the canal to improve the overall quality of the space.

Improve basic service facilities

In order to improve the experience of landscape space along the canal, basic service facilities should be improved. Specific strategies include: adding lighting facilities: setting reasonable lighting facilities in the space to ensure the safety and comfort of night use. Improve sanitary facilities: set up enough sanitary facilities such as toilets and garbage cans to keep the space clean and hygienic.

Ecological space strategy

Restoring vegetation community

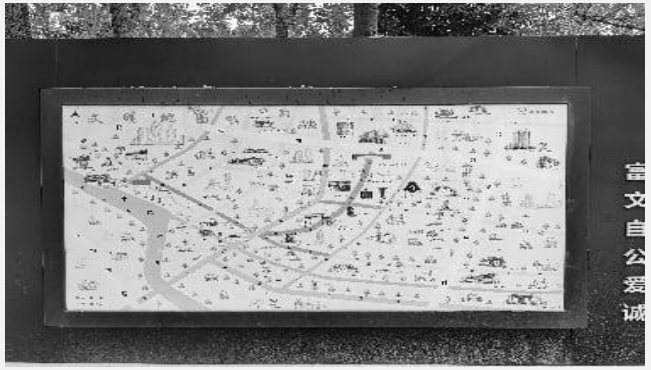
When it comes to revitalizing the landscape along the canal, plant communities are a key way to boost the ecological quality. The specific strategies include: picking the right plants based on sunlight, humidity, and other conditions along the canal; creating multi-layered greenery with trees, shrubs, and ground plants to make a rich ecological landscape;

Soften the hard interface

To make the canal-side landscape feel less stiff, we should soften the hard edges. Some strategies include: adding green belts: place green belts near the hard edges along the canal to soften them with plant growth and spread. using eco-friendly materials: use permeable pavements, eco-bricks, and other ecological materials in the space to improve air and water permeability.

Optimize the water cycle

When revitalizing the landscape along the canal, we should optimize the water cycle and enhance the ecological value of the space. Specific strategies include: setting up a rainwater collection system: install systems to collect and use rainwater for irrigation, cleaning, and other purposes.



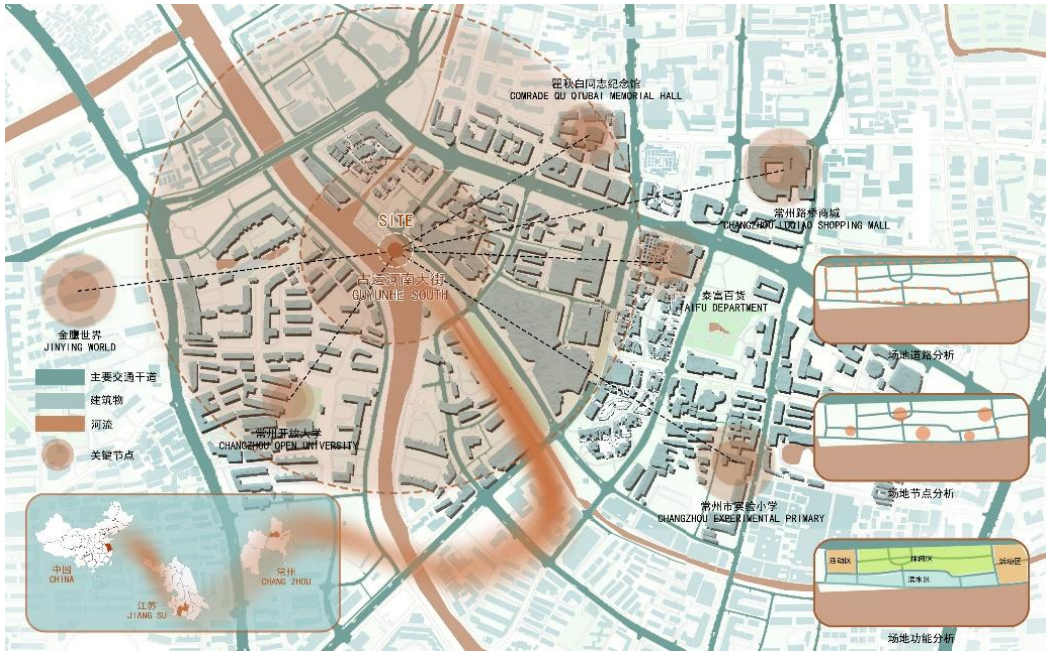




05

View the project

Geographical location



Location analysis map (drawn by the author)

The Changzhou Ancient Canal South Street Cultural Tourism Area is located on South Street in the city center of Changzhou. It's the only canal cultural scenic area in the country where the ancient canal runs through the city center. It stretches from Jinling Middle Road in the east to Huaide Bridge in the west, borders the ancient canal to the south, and is next to Yanling West Road to the north. The area includes five main sections, such as Biji Alley and Xiyingmen City Wall, covering a total of about 300,000 square meters. In 2011, it was awarded the AAAAA-level tourist attraction by the National Tourism Administration.

Geographical location

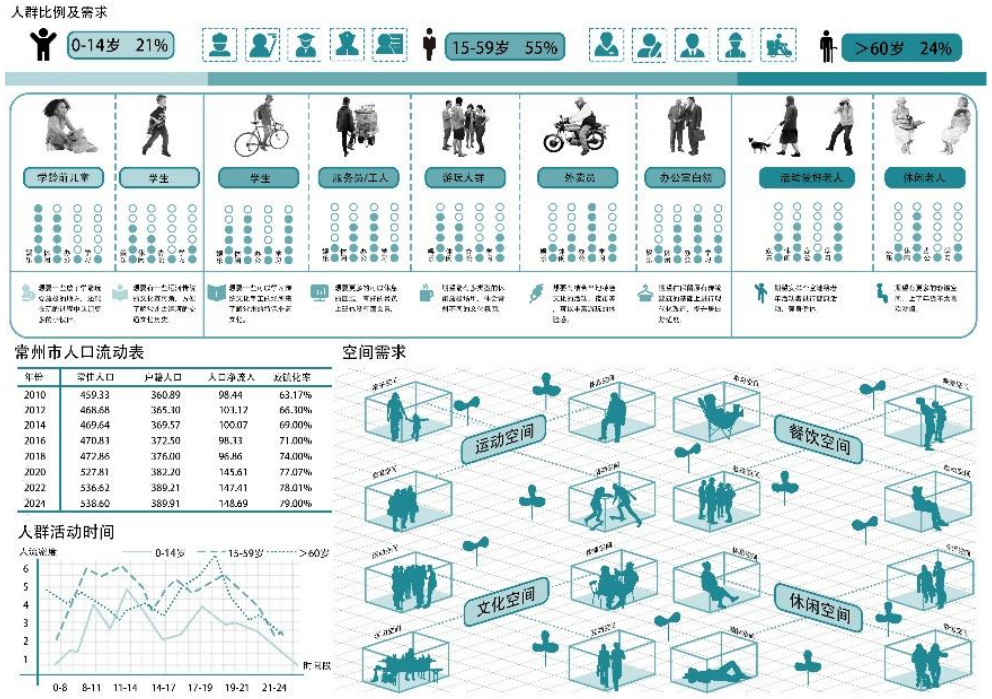


Photos around the site (taken by the author)

The area around Nan Street along the old canal in Changzhou, centered on historic cultural streets like Qingguo Lane and Biji Lane, preserves a rich heritage of canal culture and the traditional Jiangnan water town vibe. At the same time, relying on the Nan Street commercial area and the Canal No. 5 Creative District, it has become a vibrant zone where traditional commerce and modern creative industries blend. In recent years, with riverside pathways, community renovations, and environmental improvements, it has gradually developed into a comprehensive urban waterfront space that combines historical preservation, shopping and leisure, and livable ecology, showcasing the unique charm of Changzhou's ancient city mixed with modern urban life.

Crowd Analysis

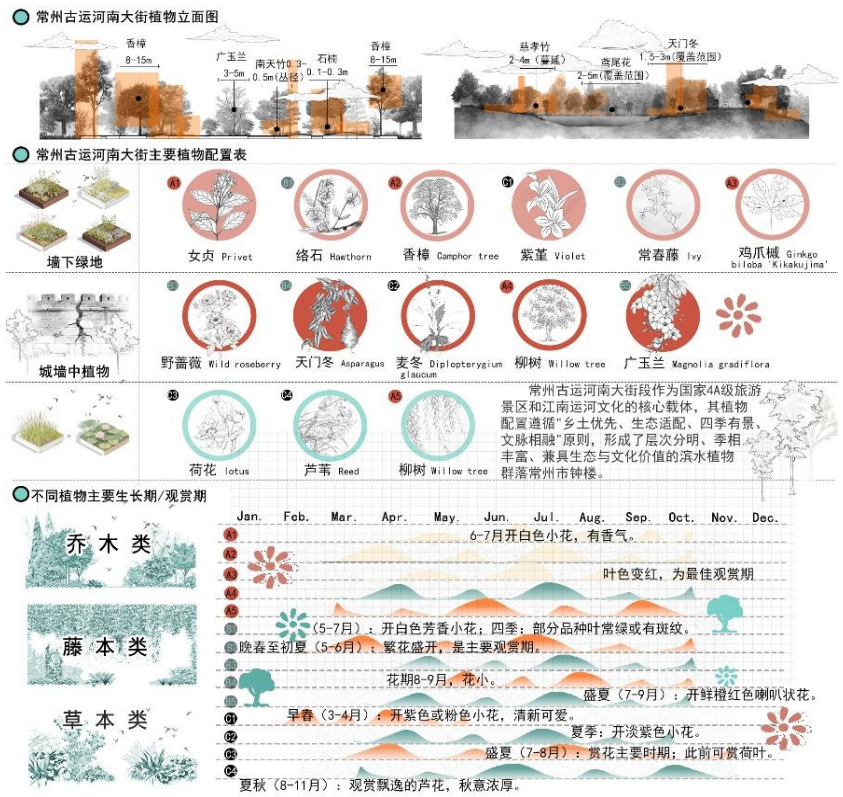
Based on the population mobility data of Changzhou, the people using the site can be divided into three categories: school-age children aged 0-14 make up 21%, young and middle-aged people aged 15-59 account for 55%, and the elderly over 60 make up 24%. There are obvious differences in spatial needs and activity times among these groups.



Crowd analysis chart (drawn by the author)

Young and middle-aged people are the core users of the site, including students, office workers, professionals, and tourists: students want to use the corridors for study tours on canal intangible cultural heritage and shipping culture; local professionals need spaces for short breaks; visitors hope for an immersive canal cultural experience. The elderly are divided into fitness-oriented and leisure-oriented groups, needing open activity areas and quiet viewing spots, respectively. School-age children prefer natural playgrounds where they can experience canal culture through parent-child activities. Considering Changzhou's continuous net population inflow, the site design should combine multiple functions such as parent-child activities, sports, cultural learning, and social relaxation, balancing the daily leisure needs of local residents with the heritage tourism experiences of visitors.

Site Plant Analysis



Site Plant Analysis Diagram (drawn by the author)

The plant layout along the section of Henan Avenue by the ancient canal in Changzhou follows the principles of prioritizing native plants and ecological adaptation. The site's plants are divided into three categories: trees, vines, and herbs. Trees mainly include native species like camphor, southern magnolia, Japanese maple, and willow. Vines like star jasmine, ivy, and wild roses are used for vertical greening on city walls and walls. Herbs such as mondo grass, violet, lotus, and reeds are applied to waterside wetlands and under-wall green spaces, creating a natural canal-side habitat.

SWOT

S——It’s a national 4A-level scenic spot and the only cultural site in the country where the ancient canal runs through the city center. It boasts historic sites like Biji Alley, Xiyingmen City Wall, and Wenheng Bridge, with the 'Biliang Lanterns' being one of Changzhou's famous eight scenic spots.

W——Some buildings are old, which hurts the visitor experience. There's serious business homogeneity, with not enough revitalization of long-established brands, and competition with nearby areas like Qingguo Alley is splitting customers. The space is tightly packed, and the waterfront walkway and pedestrian system aren’t fully connected.



SWOT Analysis Chart (self-drawn by the author)

O——Digital technology empowers immersive canal cultural experiences and light shows. By blending intangible cultural heritage with commerce, events like the Old Brand Wonderful Night can expand cultural tourism consumption. Subway and boat connections form a multi-dimensional sightseeing system.

T——Changing consumer habits mean that younger crowds prefer trendy experiences, so traditional streets are becoming less attractive. Lack of funding might affect maintenance, renovations, and business upgrades, limiting sustainable development.

Overall Layout Plan



General layout plan (drawn by the author)

The site stretches along the old canal in a ribbon-like shape, using the canal as the main heritage corridor. Combined with the city roads behind it, it forms a three-layer traffic structure: 'canal waterway corridor — waterfront pedestrian green corridor — city roads.' The overall area is divided from west to east into multiple themed landscape nodes, connected by continuous waterfront park paths, creating a linear heritage park that carries the memory of canal shipping.

Water transportation



Cruise Ship Dock Rendering (hand-drawn by the author)

A restored boat dock is set up on the east side of the site as a stop for water tours, continuing the transportation role of the Grand Canal for cargo navigation and creating a water tour route for a heritage corridor experience. In the middle section, wooden platforms extend over the water to simulate ancient canal piers, bringing back the spatial memory of landing by the water in the old days.

Slow walking on land



Activity area rendering (drawn by the author)

We’re creating a continuous waterfront main park path along the canal, connecting the previously broken waterfront trail to form an uninterrupted heritage walking corridor. From the main path, several smaller trails branch out, linking different scenic spots to build a clear main-and-secondary walking network. On the north side of the site, a parking lot and entrance plaza are set up along the city’s main road, serving as a transfer point for vehicles and enabling a multi-modal route of 'car—walk—boat,' forming a complete heritage corridor touring system.

Waterfront Spaces



Waterfront quay rendering (hand-drawn by the author)

The shoreline uses an ecological approach combining soft and hard revetments. Some areas keep natural vegetation on gentle slopes, while certain spots have hard waterside platforms, balancing flood control with water-friendly experiences. Floating ecological islands and aquatic plant communities are planned on the water to restore the canal's waterfront ecology and improve the water environment.

Ecological Shoreline Renewal



Viewpoint platform rendering (hand-drawn by the author)

Along the waterfront, multiple viewing platforms and rest spots are scattered, offering sightlines to enjoy the canal and look back at the old town streets. The canal serves as a scenic interface, connecting the waterfront space with the old town on South Street, allowing the heritage corridor landscape to blend through.

Canal Transportation Heritage Cultural Site



Cultural Square Rendering (Hand-drawn by the Author)

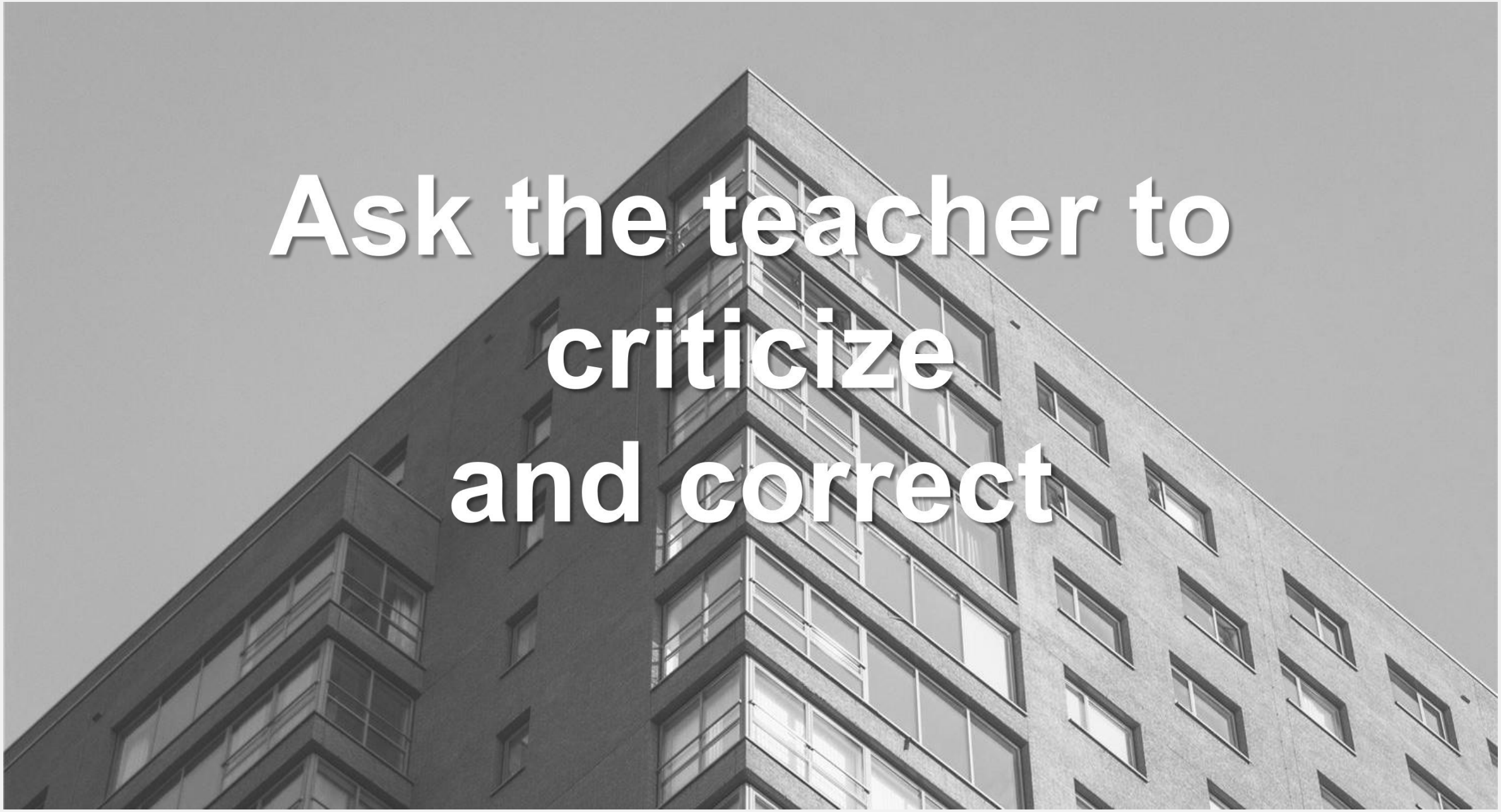
The western circular viewing platform serves as a spot to enjoy distant views of the canal; the middle section features unique landscape elements and light service facilities, creating an immersive canal culture experience; and the eastern main entrance plaza has a central landscape sculpture, acting as the cultural gateway of the heritage corridor and hosting canal traffic culture displays and crowd gathering functions.

Site Planting Layout



Site planting rendering (hand-drawn by the author)

The site’s plant layout uses native trees to create a plant space with varying density. Sparse forests, flower borders, and waterside vegetation are used to shape a rich, layered green landscape, making the green space the green base of the heritage corridor and softening the boundary between the city roads and the canal.


Ask the teacher to
criticize
and correct