

IFLA AAPME AWARDS 2024
Award Categories – Culture and traditions

PROJECT BINDER

**ECOLOGICAL RESTORATION AND CULTURAL REVIVAL BASED ON RAILWAY
DEMOLITION IN THE CONTEXT OF URBAN RENEWAL: A CASE STUDY OF
WUCHANG ECOLOGICAL AND CULTURAL CORRIDOR (YOUYI AVENUE TO
JIANSHE 10TH ROAD)**

WUHAN,CHINA

Project Name : Ecological Restoration and Cultural Revival Based on Railway Demolition in the Context of Urban Renewal:
A Case Study of Wuchang Ecological and Cultural Corridor (Youyi Avenue to Jianshe 10th Road)
Project Address : from Youyi Avenue to Jianshe 10th Road
City & Country: Wuhan ,China
Area(sq.m) : 564920.39(sq.m)
Year of Completion: 2023 (Built Project)
Award category : Culture and traditions

Project Statement

Wuhan city flourishes with railways. However, with the development of the city, the century-old Wuhan-Jiujiang Railway North Loop line located at the center of the main axis of the Yangtze River has gradually blocked Wuhan's development. Under the backdrop of city renewal, the project, with preserving the essence of railway cultural relics as the mainstay, has taken "Four Centenaries and four Corridors" as the principle; "integrating railways with cities and balancing cities with ecology" as the design philosophy; "inheriting culture, space sewing, and revitalizing functions" as the strategy. By renovating areas along the railway, the project has witnessed harmony among human landscape, ecological environments, production, and lives. It connects the history and the future, boosts the transformation of the right riverside of the Yangtze River from a regional development challenge to a paradigm, from a regional transportation blind spot to a functioning bond along the Yangtze River, and exemplifies urban culture and civilization in Wuhan.

Project Narrative and Contents

Site status and background

Based on the Wuhan-Jiujiang Railway North Loop line, the Wuchang Ecological and Cultural Corridor is located at the center of the main axis of the Yangtze River, stretching over Wuchang District and Qingshan District. Spanning 17.1 kilometers, the corridor (Wuchang Dadongmen to Jianshe 10th Road) is built in two phases. The corridor at phase I (Youyi Avenue to Jianshe 10th Road) is 13.46 kilometers long with a total area of 564,920.39 square meters. Phase I, including ground paving, slow traffic, landscaping, relevant buildings, bridges, art facilities, lighting works, etc., was started to design in 2018 and put into operation in 2023.

From a port to a modern city with thriving industries, Wuhan has witnessed the contributions of railways in its city pattern. With the development of the city, the Wuhan-Jiujiang Railway North Loop line, formerly known as the Guangzhou-Wuhan Railway (1918-2018) has accomplished its mission. In contrast, the railway has segmented the riverside space on the right bank of the Yangtze River, leading to cultural inheritance being hampered, transportation blocked, environment damaged, historical remains abandoned, and facilities outdated. Under the backdrop of city renewal, it is necessary through the Wuchang Ecological and Cultural Corridor to find solutions to cultural inheritance, land usage, urban renovation, comprehensive development, and other challenges in development for retaining century-old history and reshaping the development main axis alongside the Yangtze River. It is in line with the requirements of the Yangtze River main axis construction and follows the trend of our times with historical necessity.

Design concept & strategies

The project has taken the “Four Centenaries” (inheriting centennial culture, honoring centennial history, setting centennial goals, and building centennial construction) and “Four Corridors” (historical and cultural corridor, ecological and landscape corridor, urban functional corridor, and underground integrated pipe corridor) as the principle; “integrating railways with cities and balancing cities with ecology” as the design philosophy; “inheriting culture, space sewing, and revitalizing functions” as the strategy. The project considered the resilience of the construction of the region in terms of culture, ecology, function, etc., built Wuchang Old City Livable Leisure section, Wuchang Riverside Cultural Experience Section, and Qingshan Ecological Landscape section, and constructed Simeitang Railway Cultural and Creative Park, Badajia Creative Workshop, Qingshan Railway Cultural Park and other landmarks, connecting major functional areas and ecological leisure areas, including Qingshan Park, Qingshan Riverside Business District, and Wuchang Riverside Business District. It has revitalized the century-old railway heritage to build world-class urban public space.

1、 Cultural Inheritance.Recycling and renovating ageing infrastructure through cultural inheritance

The Wuhan-Jiujiang Railway North Loop line has witnessed three development stages, namely the Guangzhou-Wuchang Railway Economic belt connecting Wuhan and Guangzhou with Xujiapeng Railway Station as the destination in 1936, the railway traffic artery between Wuhan and Jiujiang in 1957, and the suburban commuter train after 2005. After 2005, it has gradually become a barrier to Wuhan’s development, segmenting the city. Meanwhile, near 100-year-old construction on the right bank of the Yangtze River expanded along the railway from Wuchang Ancient Town to Qingshan District, linking multiple historical heritages. Therefore, the Wuchang Ecological and Cultural Corridor, which renovated and utilized the railway landscape and remains of historical buildings, has witnessed the development of the right riverside of the Yangtze River, showcased the integration between the railway and urban life, and inherited industrial culture in Wuhan.

Disused railway elements, including railway tracks, crossties, facilities, and industrial equipment, have been engineered and reused as pavement, urban furniture, and artistic installation, etc. The facilities exposed to the ground such as exhaust shafts and hoisting ports of the underground integrated pipe corridor are decorated to unify the style. The project has built and renovated 62 buildings in total. Modern-style new buildings feature railway impressions; renovated buildings are mainly located in Simeitang. Simeitang involving 21 industrial heritages (buildings, Grade III Industrial heritages) used to be the site of Wuchang North Railway Station which was built in 1909. The Simeitang Railway Cultural and Creative Park was built by utilizing the original railway structures, renovating historical buildings, and adding new functions.

2、 Space Connection. Restoring ecology through space connection

Alongside the project are quality ecological landscape resources. However, landscape resource accessibility, slow traffic, riverside traffic, and greenbelt were affected by the railway. The project has connected the space being blocked by the railway to build a city corridor integrating railway culture and ecological landscape through an ecological greenbelt along the route and a slow traffic system.

The project has reconnected 40 city roads divided by the railway, taken a 4-meter wide greenbelt as the framework of slow traffic, and set landscape bridges and underground tunnels at intersections with main roads and river channels. It has built a network linking the Yangtze River greenway, Green Corridor along the Yangtze River, and greenways of East Lake and Shahu Lake to enhance multi-dimensional accessibility of urban space along the route and connect green public leisure space along the project. It is one of the paradigms of serving diversified slow traffic needs in city renewal, representing ecological and livable features. Over 200 kinds of plants are planted along the project, and ginkgo, a long-lived plant, is selected to highlight the century-old ecological culture.

The whole project made use of sponge city technology to transform the city scars into water storage ecological corridors. Technical specification for pervious concrete pavement using color ceramic particle being compiled by participating parties of the project has been released and promoted.

3、 Functional optimization.Reviving economy and revitalizing communities through functional optimization

The project connecting five major city function areas along the right bank of the Yangtze River offers an important platform to showcase Wuhan' s modern service industry clusters and city image. Old urban residential communities are concentrated along the railway and the urban space function link was blocked leading to negative space utilization. The project therefore balances emerging business operations and land development to expand the cultural development space of the city for economic revival and community revitalization. The overall layout of the project has been divided into different segments with diversified sites to satisfy the needs of operations and visits. Linking the past and facing the future, the project is boosting the construction of an urban functional corridor along the main axis of the Yangtze River.

Wuchang Riverside Cultural Experience Section: Simeitang Railway Cultural and Creative Park. By retaining and renovating railway elements and remains of industrial buildings of the site of Wuchang North Railway Station, adding functions including culture, expo, and creative industry, etc., and fostering emerging industries such as cultural tourism, the project has constructed a cultural and creative park featuring railway IP.

Qingshan Ecological Landscape Section: Badajia Creative Workshop. Being designed to meet youngsters' consumption requirements, a service station based on the Badajia Railway Station of Wuhan-Jiujiang Railway, a marketplace Master Workshop with railway features, and a railway-themed commercial block integrating culture, art, and entertainment were built to inject new vitality into the old railway station. **Qingshan Railway Cultural Theme Park.** Preserving the original railway tracks, a forest immersive railway park was constructed combining functions including children's studies, parent-child entertainment, and outdoor leisure with the theme of ecological enjoyment.

Overall Design

Background:

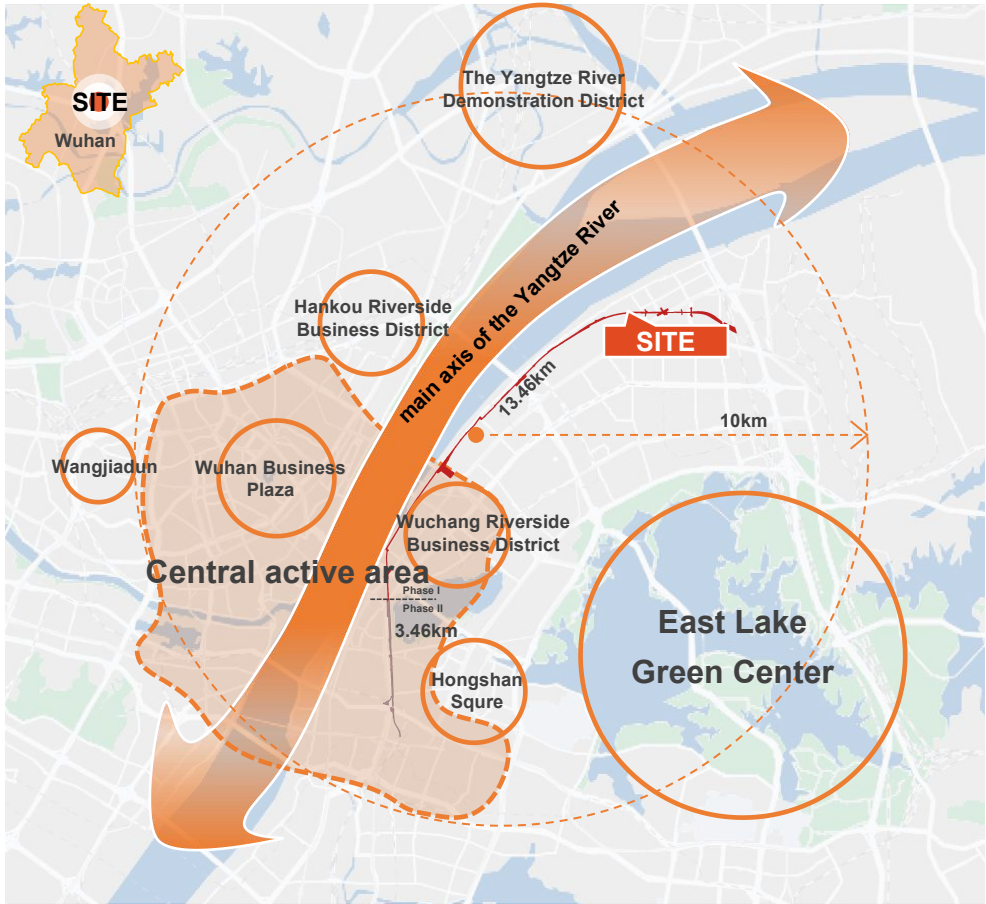
Wuhan city flourishes with railways. However, with the development of the city, the Wuhan-Jiujiang Railway North Loop line located at the center of the main axis of the Yangtze River has gradually blocked Wuhan’s development. Under the backdrop of city renewal, it is necessary to have Wuchang Ecological and Cultural Corridor to preserve centennial history and reshape development axis alongside the river and follow the trend of our times for building a world-class urban public space.



▲ Modern and thriving Wuhan riverside landscape



▲ Urban surface has been segmented by the Wuhan-Jiujiang Railway North Loop line: cultural inheritance being hampered, transportation blocked, environment damaged, historical remains abandoned, and facilities outdated.

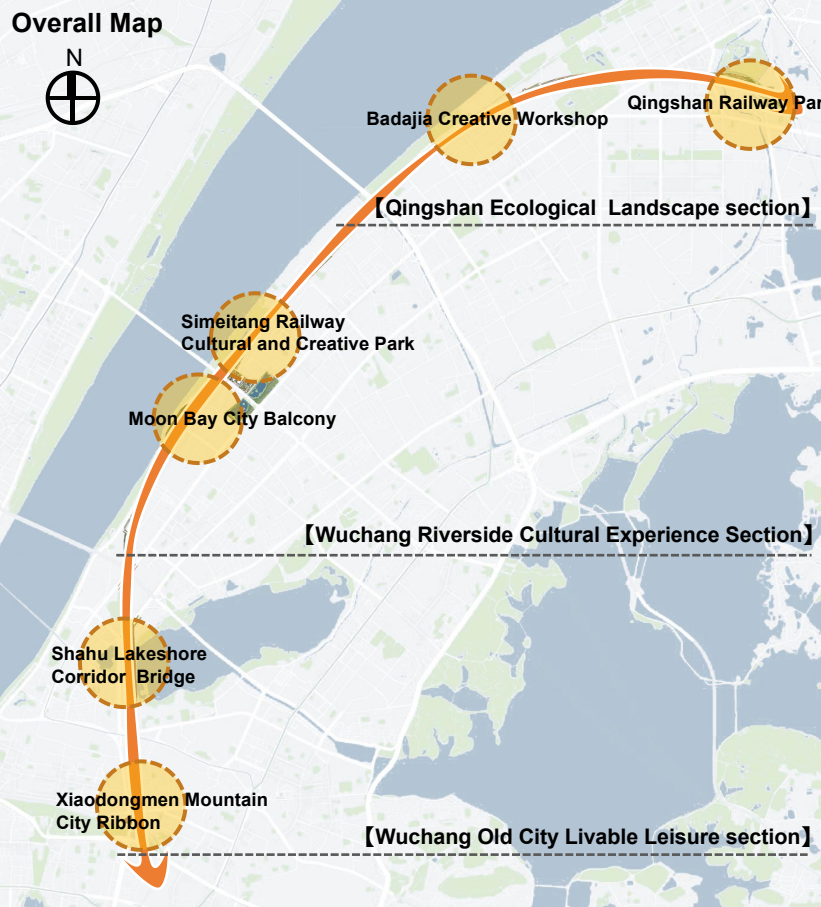


▲ Project location map: the center of the main axis of the Yangtze River

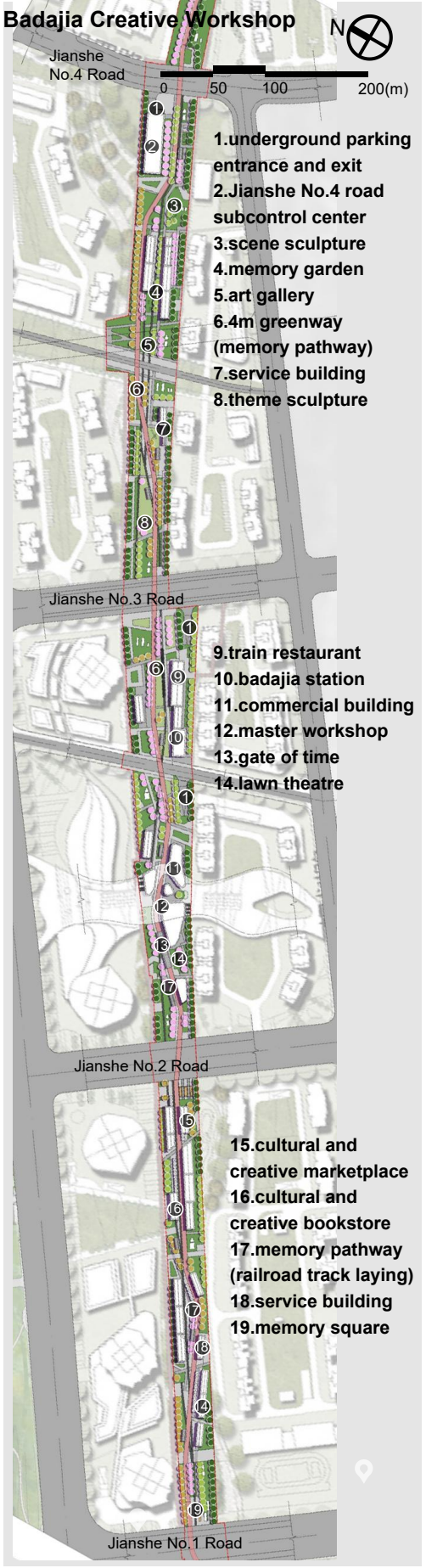
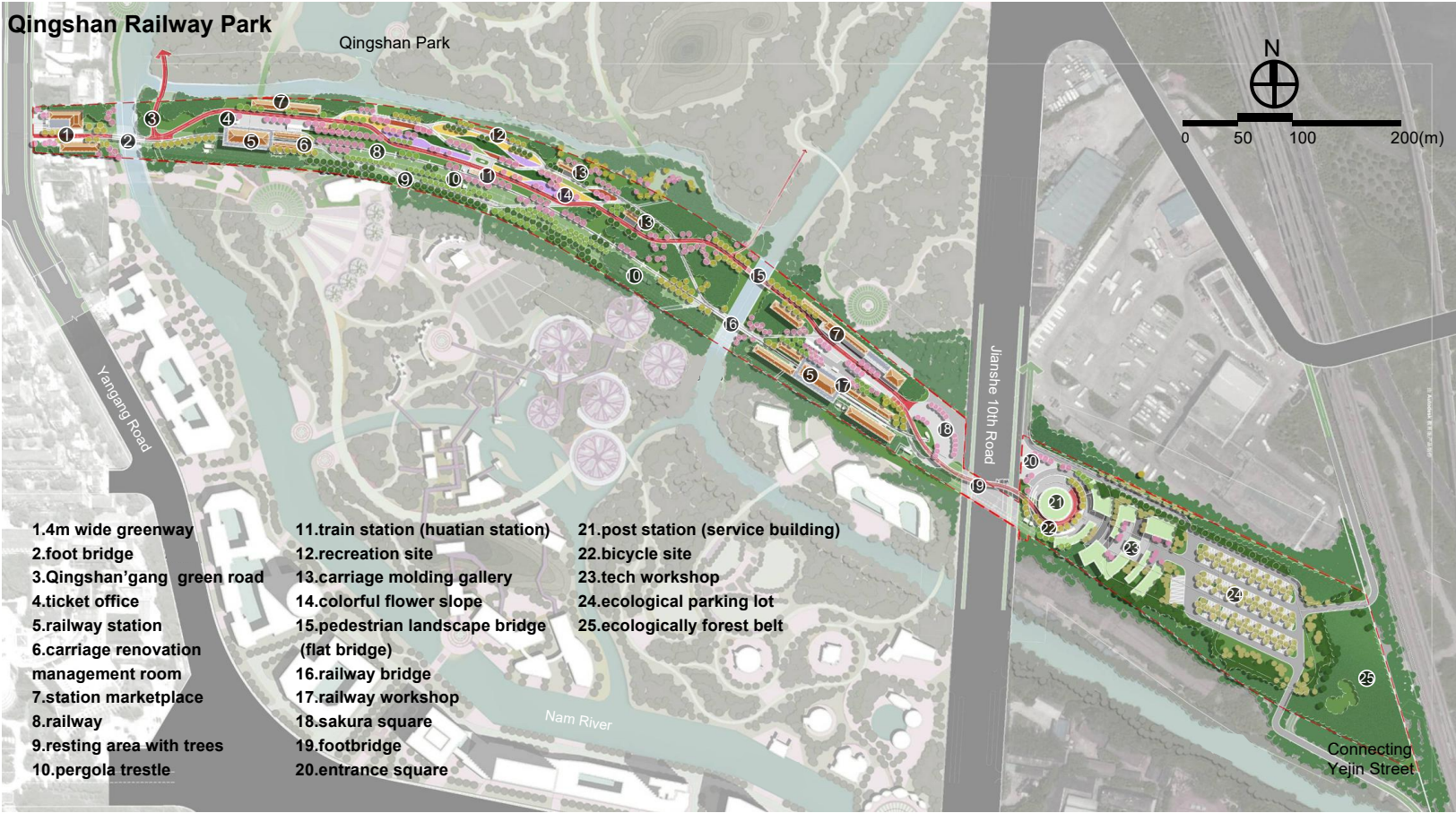
Overall Design:

“integrating railways with cities and balancing cities with ecology” as design philosophy; “inheriting culture, space sewing, and revitalizing functions” as strategy; one line, three districts, six sections, and fifteen scenes as the overall structure. Transform the south bank of the main axis of the Yangtze River from a regional development challenge into a development feature and from a regional traffic blind spot into a riverside functional link.

One line: historical and cultural line inheriting and showcasing century-old railway memory; **Three District:** Wuchang Old City Livable Leisure section, Wuchang Binjiang Cultural Experience section, and Qingshan Ecological Landscape section; **Six sections:** Xiaodongmen Mountain City Ribbon; Shahu Lakeshore Corridor Bridge, Moon Bay City Balcony, Simeitang Railway Cultural and Creative Park, Badajia Creative Workshop, Qingshan Railway Park.

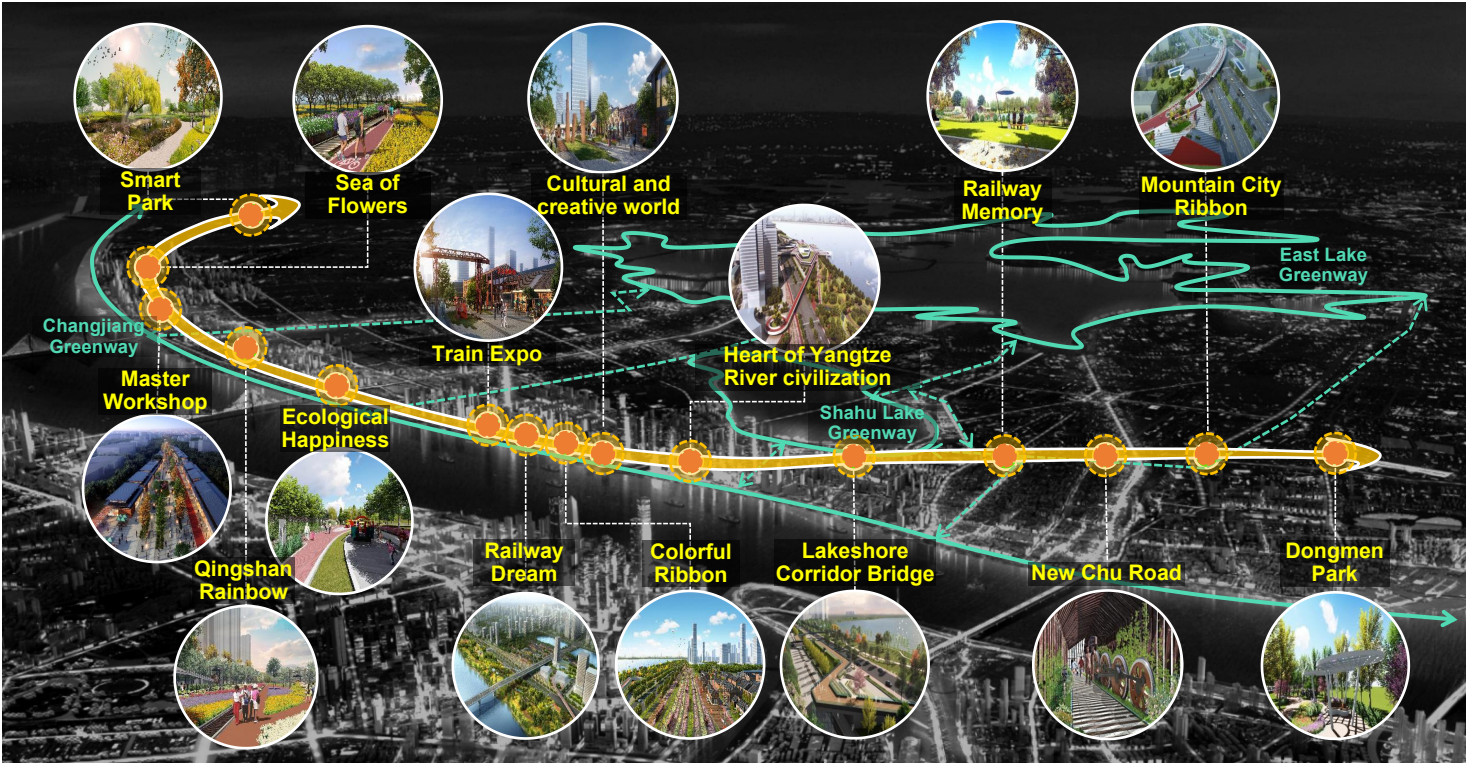


▲ Scheme plan



Creating 15 scenic Spaces, linking the Yangtze River Greenway, Chuijiang Greenway, East Lake and Shahu Lake Greenway to maintain the urban context

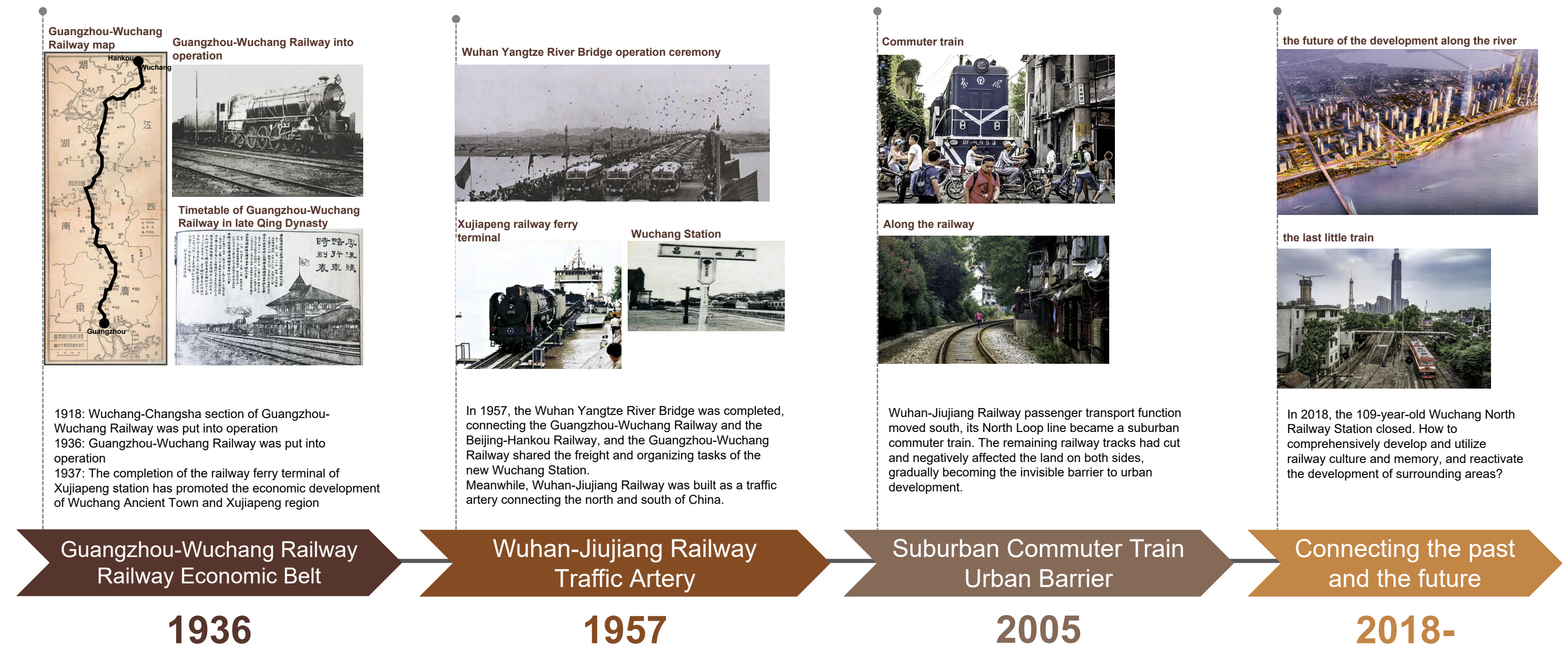
▼ Comparison of Simeitang area before and after completion of the project



Inheriting Culture

Historical and cultural features: the historical and cultural heritages are concentrated, features and characteristics need to be highlighted

Wuchang Ecological and Cultural Corridor, based on the Wuhan-Jiujiang Railway North Loop line, has experienced three stages of development, witnessing the development of the right riverside of the Yangtze River and showcasing railway culture in Wuhan.



▲ Development history: Over the past more than 100 years since 1918, it has promoted the development of areas along the railway including Wuchang Ancient Town, Xujiapeng, and Honggangcheng in Qingshan District

▼ Distribution map of some historical and cultural relics along Wuhan-Jiujiang Railway North Loop line



The railway connects numerous historical relics along its route, but most of them are dilapidated, functionally abandoned, and lack popularity.



Badajia Railway Station

- 1930s-1950s
- The stations along the Wuhan-Jiujiang Railway North Ring Line symbolize Wuhan's industrial era
- Abandoned



Wubei Railway Club

- 1970s
- Once a recreational venue for railway workers, it consisted of an auditorium and a small screening room.
- entertainment



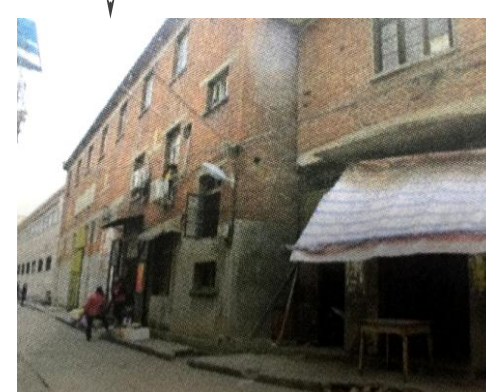
Railway Dormitory

- 1980s
- The dormitory area consists of 5 buildings, all of which are one-storey, double pitched roof structures.
- living



Simeitang Warehouse

- 1980s
- The dormitory area consists of 5 buildings, all of which are one-storey, double pitched roof structures.
- living



**Wuchang Locomotive Depot Old
Office Build**

- 1960s
- The three-storey building has an elegant design and is of good construction quality.
- warehouse

Inheriting Culture

Strategy: Cultural Inheritance.Recycling and renovating ageing infrastructure through cultural inheritance

Renovated and utilized the railway landscape and remains of historic buildings, showcased the integration between the North Loop line and urban life, and inherited industrial culture in Wuhan.



▲ The whole project has engineered, renovated, and utilized railway cultural landscape elements

▼ The project has built and renovated 62 buildings in total. Modern-style new buildings feature railway impressions; renovated buildings are mainly located in Simeitang, retaining the original structures of the old factory buildings as much as possible. Through the preservation and transformation of railway elements and historical buildings, and the shaping of natural landscape, Simeitang area creates a railway cultural and creative park integrating railway cultural experience, display and creativity.



Space Sewing

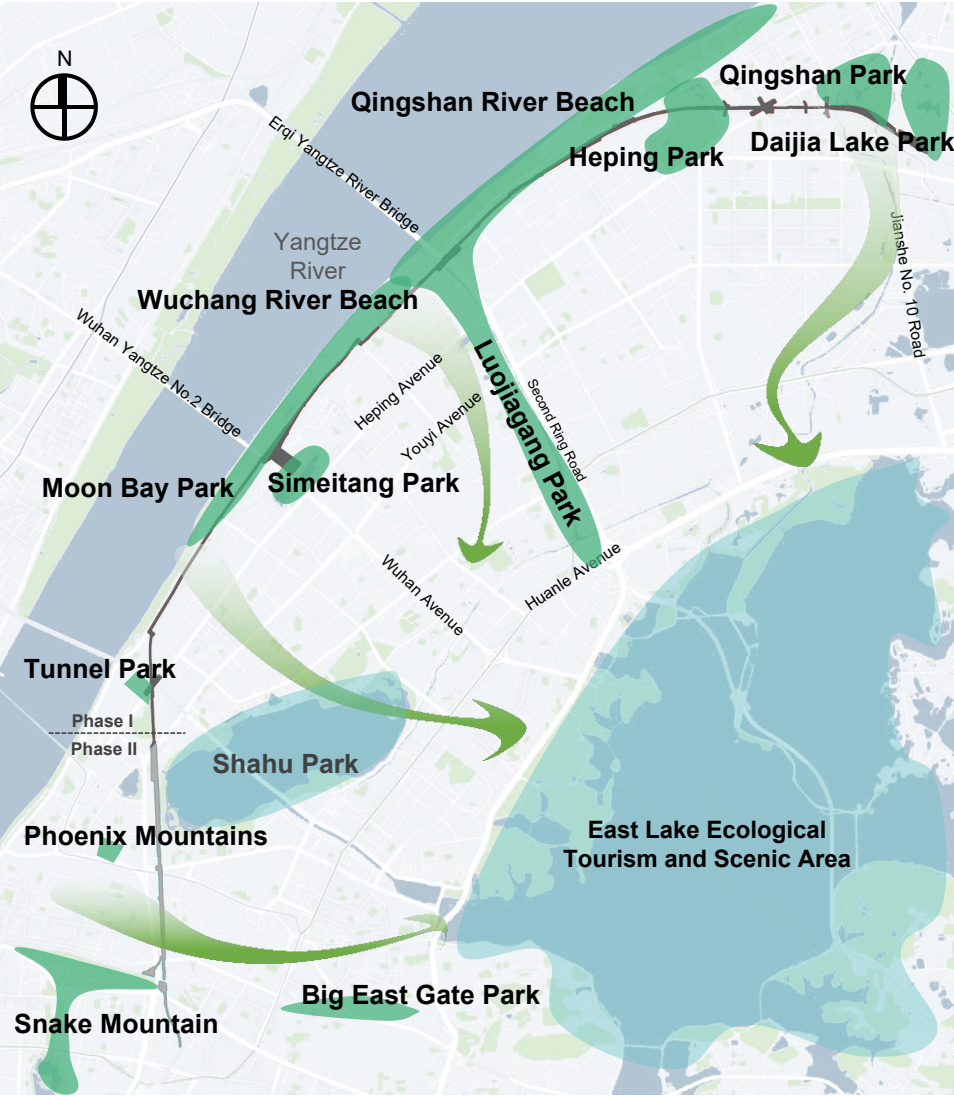
Space features: quality landscape resources are concentrated, overall link between ecology and transportation need to be strengthened

Ecology: The project gathers quality ecological landscape resources along the right bank of the Yangtze River; but poor accessibility; the green space landscape is not systematic.

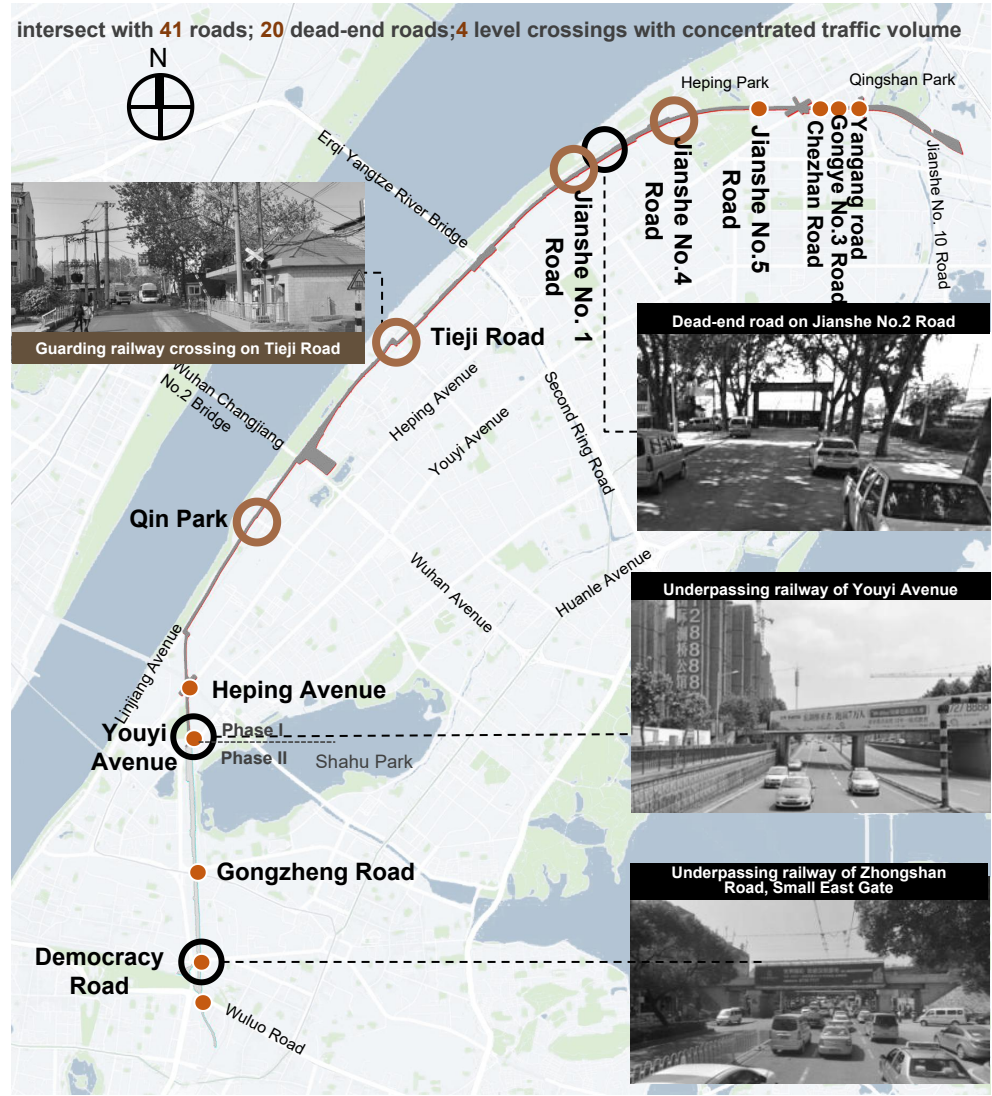
Transport: the traffic layout is concentrated, but the slow traffic connection is insufficient, and traffic along the river is blocked



▲ Photos taken before the renovation



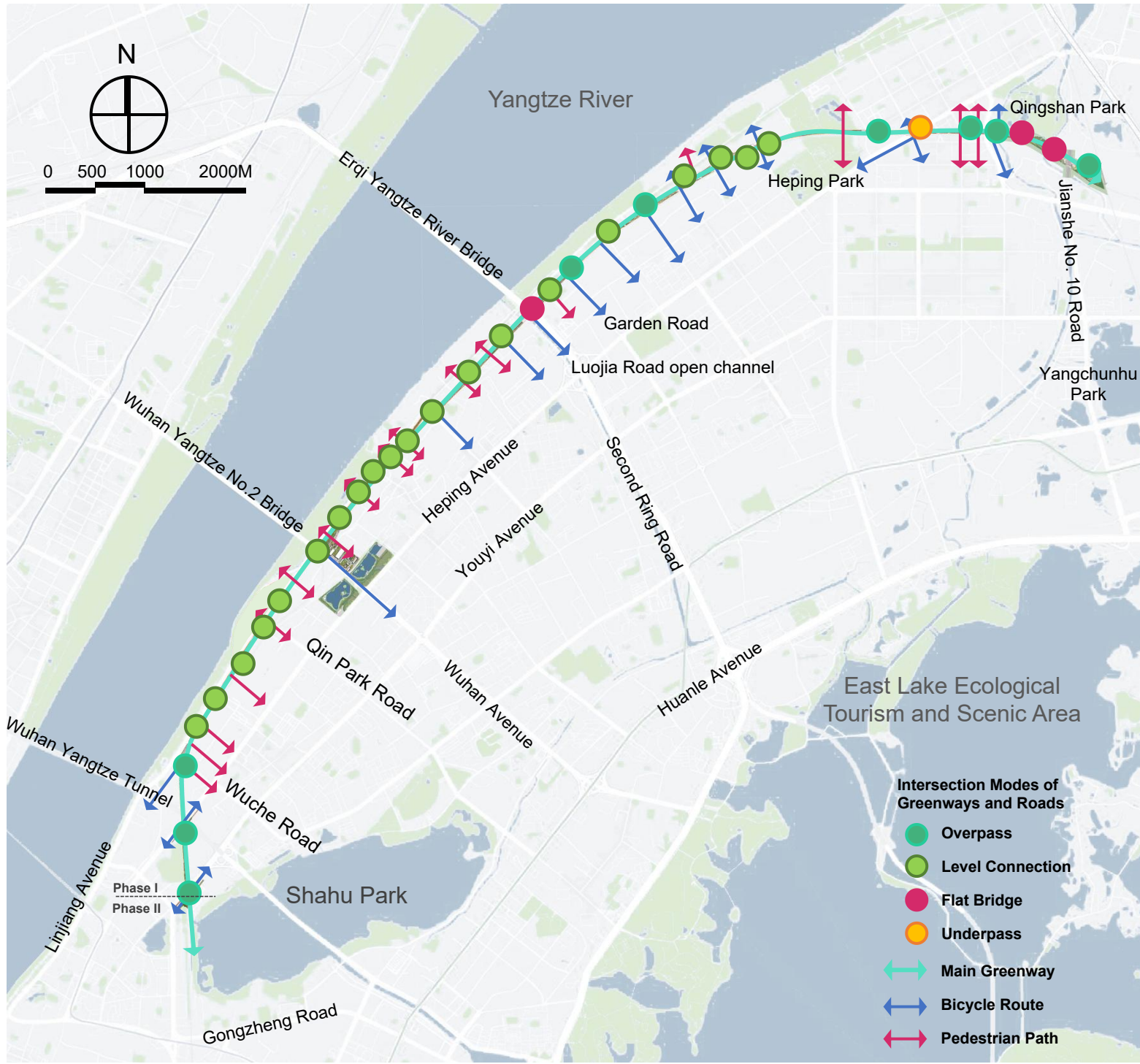
▲ Current ecological landscape resources spatial distribution map



▲ Current traffic analysis diagram

Strategy: Space Connection. Restoring ecology through space connection

The project has connected the space being blocked by the railway to build a city corridor integrating railway culture and ecological landscape through ecological greenbelt along the route and slow traffic system.



▲ Traffic organization chart: the greenway system

After completion, the greenway connects the divided urban space and improves the green space system of the area



▲ Bridges that have been built

▼ The completed greenway and surrounding green space



Function Optimizing

Urban function features: Urban functional areas and old communities along the route are concentrated, and their functions need to be optimized

The project connecting major city function areas on the right bank of the Yangtze River is an important platform to showcase Wuhan modern service industry clusters and city image. But blocked the urban function link along the railway,old urban residential communities are concentrated.



▲ Spatial distribution map of key functional areas along the route



▲ Spatial distribution map of urban villages along the route



▲ Before the renovation, poor urban landscape along the railway, blocked functional connection, and negative space utilization

Strategy: Functional optimization. Reviving economy and revitalizing communities through functional optimization

linking the past and facing the future. The project therefore balances emerging business operations and land development to add new functions for economic revival and community revitalization.. The overall layout of the project has been divided into different stages with diversified function sites to satisfy the needs of operations and visits.



▲ After the renovation, the century-old railway remains have been activated, bringing the vitality of emerging industries