Zhongshan Avenue District Renewal

People-centered lively street through participatory, collaborative and innovative planning

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Background

Wuhan Zhongshan Avenue, built in 1906, has an over century-old history. Over the years it has gathered various commerce and trade, and historical buildings along the avenue. It is the most important commercial and main transport artery of Hankou old town. The street was closed by the Wuhan Municipal Government, for construction of the first phase of Metro Line 6 along Zhongshan Avenue between Wusheng Road and Jianghan Road. The street closure for construction was taken as an opportunity by the Wuhan Land Use and Urban Spatial Planning Research Center (WLSP) and Ben Wood Studio Shanghai to accomplish the ‘Zhongshan Avenue District Renewal Planning’, and to drive the development of the surrounding areas, creating a lively and pleasant street public space with rich historical cultural atmosphere.

Objectives

The plan focused on the planning concepts of public transport orientation, creating attractive street space, protecting history and culture, encouraging community inclusion and public participation. Zhongshan Avenue will be developed as:

• a pilot case of the public transport oriented street
• a commercial street integrating the public space with urban life
• a cultural and tourism street reviving the historical image
• a mixed used district with economic vitality
• self-managed communities within social inclusion

Location and Planning Scope

Zhongshan Avenue (Yiyuan Road to Wushang Road) is about 4.7 kilometers long. With the Zhongshan Avenue as its axis and inclusion of two street blocks on both sides, the total planning area is about 2.54 square kilometres. This project focuses on the systematic research about land development, commercial format upgrade, and vehicular traffic. The space between Yiyuan Road and Qianjin First Road was
chosen as the initial and key section in this project. This section is about 2.8 kilometre long and has an area of 9 square kilometres. The comprehensive planning of this initial section includes the planning and design for district renewal, streetscape, building facades, street sections, landscape, and street facilities.

Site Characteristics

Street space characteristics of the three sections
East Zhongshan Avenue (Yiyuan Road-Jianghan Road) has an appropriate street scale, providing pleasant space for citizens. There are numerous good quality historical heritage buildings in this section including concession buildings, and traditional Li-fen buildings. In the middle Zhongshan Avenue (Jianghan Road – Qianjin First Road), the street gradually widens, and has a mixed layout of historical and modern buildings. West Zhongshan Avenue (Qianjin First Road - Wusheng Road) is the widest. In this section most of the buildings are newly built and are of good quality.

Long history and profound culture
There are many historical and cultural resources along Zhongshan Avenue such as famous residential buildings in Li-fen and historical buildings in concession. This area provides a mixed exhibition of various architectural styles from different periods. A mix of classical, eclectic, Russian and Spanish architecture styles is present in this area.

Commercial vitality
The predominant function along the Zhongshan Avenue is commercial activities. Currently there is a strong commercial atmosphere with different commercial formats, such as department stores, cultural entertainments, and retail businesses. However, the East and Middle Zhongshan Avenue, located at the old town, are facing economic decline.

Challenges

• Mixed traffic: Currently, there is a large volume of passing through traffic in Zhongshan Avenue. Meanwhile, there are many conflicts between passing through traffic and destination traffic. Pedestrians and vehicles traffic are disorderly and safety is an issue for the pedestrians crossing the street.
• Inappropriate treatment and poor condition of the historical buildings is significant problem. Resolution of issues of declining use of historical buildings, facade covered with advertising and air-conditioners, broken windows, messy balconies, illegal attached buildings are outstanding. As a consequence, the historical value of those buildings has been obscured.
• Street environment lacks consideration for human activities because of
discontinued sidewalks, and very narrow or even no space for pedestrians in certain parts, seriously damaged pavements, lack of street green spaces, and poor state of street facilities.

- Decrease of commercial vitality due to inappropriate commercial activities, poor cultural experiences. As a result, the commercial activities are fading out.
- Community lifestyle: there are many traditional Li-fen communities and old residential buildings located in the East and Middle Zhongshan Avenue. There is a lack of green spaces and parking facilities in those areas. Potential safety problems for those buildings are significant and the living environment is poor.

**Four planning strategies**

*Focus on public transport and slow traffic, reduce car use, combined with functional characteristics of each part of Zhongshan Avenue, reconstruct street section with differentiated methods*

- Wuhan No. 6 Metro Line located along Zhongshan Avenue will have 4 stations located in the study area on its completion. Access through those stations to the metro will dramatically reduce the traffic pressure in the area. Therefore, based on the comprehensive assessment of eventual regional traffic, the street space and the right-of-way are re-divided. The pedestrians are prioritized; the second priority is for public transport and bicycle, while the automobile comes the last. By narrowing space for private motor vehicles, improving the width of sidewalks and adding the bike lane, linking the current discontinuous pedestrian spaces, providing continuous and comfortable spaces for walking and other outdoor activities the plan will greatly improve Wuhan’s citizens’ experience of the area.
- In the western part (Wusheng Road Qianjin First Road) the main function will be transport. Setting up two-way four to six traffic lanes, keeping the kerb lane as the bus lane, will reorganize traffic and guaranteeing the sidewalk along the street is over 5 meters.
- The middle part (Liuduqiao Road - Huangshi Road) the main function will be commercial. In this part space for vehicular traffic will be narrowed from the current four lanes to two lanes, public transport will be emphasized and sidewalks and outdoor open spaces will have a width of over 8 meters.
- In the eastern part (Huangshi Road - Yiyuan Road) the main function will be culture and tourism. That objective will be achieved by connecting previous British, Russian and French concessions with a large amount of historical sites. In this area the travel demand is relatively low. The current two-way two to four lanes will be reduced to two-way two lanes, while the sidewalks will be expanded from 1-3 meters to 3-7 meters.
Figure 1. Background

Location In Wuchan

- The main city of Wuhan
- Qiaokou District
- Jianghan District
- Jiangan District

- 武昌 (Wuchang)
- 汉阳 (Hanyang)
- 南湖 (South Lake)
- 汉口 (Hankou)
- 汉江 (Han River)

Foreign Merchants
- British Concession
- French Concession
- Russian Concession

Key renovation design section (2.8 km)
The scope of overall plan (4.7 km)

Local Merchants
- Chinese Merchants
- Local Merchants

Foreign Merchants
- British Concession
- French Concession
- Russian Concession

Zhongshan Avenue, a century-old commercial street
- Haikou street detailed drawing in 1928

Zhongshan District
- Qiaokou District
- Jianghan District
- Jiangan District

Yangtze River

- Yiyuan Road
- Shengli Street
- Hanzheng Street (Wan-Li of Ming Dynasty)
- The birthplace of modern commerce and trade
- Haikou street detailed drawing in 1928

Jiqing Street 1933-now
- Street food culture

Lihuangpi road 1896-1945
- Concession prosperous area bristles with foreign banks and firms

Jianghan Road 1906
- Qiaokou Road
- Minyil Flat Road
Promoting metro and bus travel mode, organizing regional and local traffic flows

- Bus routes reduction: to avoid the duplication and waste of public transportation resources, five bus routes parallel to metro lines are cancelled, in the meanwhile 17 bus routes are kept and their stations are adjusted and optimized.
- Regional traffic organization adjustment: redeveloping streets parallel to Zhongshan Avenue, like Jianghan Avenue, Shundao Street and Jianghan Second Road to improve regional traffic organization and capacity; turning some one-way streets into two-way, and to provide traffic convenience for large commercial area and residents.

Aiming at the scale characteristics of street space, organizing safe and continuous slow traffic space

- Large-scale street space: defining spaces by greening facilities, to separate automobile traffic and pedestrian and bicycle traffic, making the macro transportation continuous; planning the layout of bus stations, overpasses and underpasses, rest areas and making the slow traffic space as a complete system.
- Small-scale street space: introducing the concept of “shared street”, slowing down the automobile speed by reducing turning radius, and utilizing pavement with large friction, to create safe street environment for walking and other activities; providing continuous green belt and planting trees to divide pedestrian area, providing commercial sidewalks for various street activities and safe and comfortable pedestrian fast passes.
- Safe and convenient pedestrian crossings: allocating a pedestrian crossing every 100-150 meters along the street, aligned with metro stations, forming the Pedestrian Priority Zone with two pedestrian axis of Jianghan Road Pedestrian Street and Zhongshan Avenue.

Completing auxiliary project planning, guaranteeing the comprehensive improvement of district traffic environment

- Supporting street construction: according to the demands of regional transport, constructing a new street in the surrounding area, and adjusting the organization mode of certain roads.
- Public parking area construction: combined with the construction project along Zhongshan Avenue, several parking garages are planned.
- Ancillary facilities planning: optimizing the planning of bus stations, taxi stands and public bicycle rental points.
Different textures are applied on road junction to slow down cars.

Add street leisure square with seats.

Street furniture

Figure 2. Road Junction narrowing & Landscape design

—— Square in front of water tower
Create a communicational function of street public space

Combined with street section redevelopment, public spaces like central green islands and street greening squares are added, and environmental facilities like planting, infrastructure and pavement are designed. To attract people coming to the street public space having more communication and activities, some important nodes like Art Gallery Culture Plaza, Water Tower and Art Market, and Chinese parasols array will be the main focus.

Art Gallery Culture Plaza
Wuhan Art Gallery is redeveloped and expanded based on previous Hankou Jingcheng Bank Building, which is an excellent historical building in Wuhan. It is also an important cultural landmark of this city. It is proposed to transform the Zhongshan Avenue in the south of Art Gallery to pedestrian-only street, and the historical Li-fen communities on both sides of Art Gallery - Baoyuan Li and Hanrun Li - are redeveloped as pedestrian areas, with activities like street concerts, performances and exhibitions, as a cultural plaza for citizens to enjoy leisure, entertainment and gatherings.

Water Tower and Art Market
Hankou Water Tower is a national-level protected cultural landmark. The entrance of Metro Line 6 under construction is right in its front square. It is proposed that the illegal buildings in this area be demolished. By making the Water Tower as the landscape focus, motorway space of Zhongshan Avenue will be narrowed and the reduced part will be transformed to a tree-lined Art Market. Combined with green facilities, some activity furniture like leisure umbrella seats are designed for people to have rest. Characteristic stalls like fashion art, flower shops, handicrafts are encouraged to camp in to form themed outdoor market during holidays or certain other times. After transformation, the total area of the Art Market is about 3.300 square meters.

Chinese parasols array
From Zhongshan Avenue Hankou Water Tower to Jianghan, the current street space is relatively open and spacious. Considering the north of street face to the sunshine, it is suitable for people to walk and have leisure activities in winter. Therefore, the motorway is proposed to be moved to the south side, making an 18-meter-wide sidewalk in the north, with Wuhan local trees and Chinese parasols. Under the trees, it will be mainly rigid pavement and street furniture, like benches for citizens to have rest or enjoy watching activities around them.
Figure 3. Traffic Organization & Pedestrian Space of Gallery Node Transformation

Road Section transformation

Before: car-oriented street

Baohua Street (before): car-oriented
Zhongshan Avenue (before): car-oriented

After: Public transport and pedestrian oriented

Baohua Street (after): public transport & pedestrian oriented
Zhongshan Avenue (after): pedestrian-oriented
Mix use land use to stimulate the economic vitality

Balancing residences and employment in old communities
Supported by local government, it is proposed to carry out comprehensive planning for municipal infrastructure and for buildings in old communities to provide a safe living environment for residents. Moreover, reasonable population and employment opportunities are guaranteed to support community vitality.

Conducting commercial format replacement to improve economic vitality
With the help from local government, the ownership and function of buildings alongside are investigated. According to the comprehensive development objectives of Zhongshan Avenue, the commercial format principles are provided to guide the commercial format of buildings upgrades.

- For the idle or poorly operated historical buildings owned by government, it is proposed to introduce commercial formats like cultural, traditional local brand commerce, and leisure tourism.
- For private property managers along this avenue, as a prerequisite to meet the planning, are supported to introduce characteristic commercial format by market mechanism, to inspire the community vitality.
- For decaying commercial format, the replacement is guided by local governments and supported by policies.

Mixing different commercial layout to promote commercial prosperity
While assembling a large-scale layout, different small-scale formats are encouraged to be interwoven and distributed reasonably, to promote the format diversity of the avenue.

Recreating communities to enhance the inclusiveness
Zhongshan Avenue District Renewal Planning is related to the improvement and redevelopment of 32 communities living alongside the avenue. The planning is aimed to improve the living environment of historical districts, retain indigenous residents and attract new residents to live and work there by providing various communication spaces and employment platforms, to integrate community functions and residents. The specific approaches include:

Retaining indigenous residents
The proportion of newly developed community is restricted at under 20%. The most important task is to improve the environment and facilities of traditional Li-fen communities, to retain indigenous residents to the maximum extent.
Figure 4. Open Art Market Transformation

Section A-A' (before)

Baiying Plaza
current building

Jiali Plaza

Section A-A' (after)

Baiying Plaza
new building

Section A-A'

Before

After
Adding communication spaces
Emphasizing the living unit as “narrow street, small neighbourhood”, increasing external communicating spaces; integrating Li-fen community (Baoyuan Li) and public buildings (Art Gallery and Plaza), reconstructing the ground floor space of residential buildings along the street, creating multi-functional public centres; adding more neighbourhood green spaces and continuous pedestrian system inside and surrounding Li-fen communities (Sandeli etc.).

Sharing community services
Conducting redevelopment to historical buildings like Heli Ice-making Factory and small public spaces alongside, creating characteristic culture and sports activity experiencing spaces for surrounding communities; combined with several real estate development communities like Yinfeng Area, constructing centralized community centre, providing shared services like education, medical treatments and social welfare.

The transformation of employment for local residents
By improving the commercial format of Zhongshan Avenue District, providing various employment opportunities, encouraging indigenous and new residents to operate the shops alongside the avenue.

Participatory planning to reduce spatial isolation

Multi organizations collaboration
The comprehensive planning proposal covers multiple design units of business planning, architecture, landscape, transportation and municipal engineering, making up a design group alliance, participating in the whole process including planning design and construction coordination.

Expert claim
Zhongshan Avenue District Renewal Planning involves 34 historical buildings. To make the classic reappear, the “Premier Expert Mechanism” is established. Eleven experts are selected in the field of local historical building conservation. Each of them provides guidance in the whole process from remedial design, to site operation, to final completion.

Publicity and consultation with local residents
At every stage of the plan, several activities like “Planning Goes to Community” are publicly held in Zhongshan Avenue and Wuhan Citizen Family. The detailed planning contents are introduced to local residents, and advice is taken from the residents about issues like environment redevelopment, commercial format reviving, and community transformation of this street space.
Figure 5. Community Along Zhongshan Avenue
Open Space & Landscape Transformation —— li-fen (Baoyuan Li, Taian Li)

Taian Li (Before)

Taian Li (After): add green and leisure sidewalk cafes

Baoyuan Li (before)

Baoyuan Li (after): Change the ground floor function of buildings line on the alleys inside li-fen residence, recover the facade to original appearance.

Baoyuan Li (before)

Baoyuan Li (after): add founction on tiny frontage space, create attractive environment
Social participation
Utilizing the planning participation platform of Wuhan Land Resources and Planning Bureau, with Public Planning Wuhan as the medium, regularly publishes the progress of Zhongshan Avenue District Renewal Planning. That combined with occasional mass media information, the social participation of planning could be achieved.

Analysis of contents, process, innovation and sustainability

In December 2014, Wuhan Municipal Government discussed and approved this plan, and approved it as the general outline directing following engineering and construction design. The innovative features of this plan are as following:

- Abandoning automobile-oriented concept, applying human-oriented transportation concept in the street spatial redevelopment
- Initiating the concept of communication street space type, making it as the first street integrating public space and street life in Wuhan.
- Recreating community vitality to maintain culture and memory of this district and through indigenous residents.
- Coordination planning and public participation, including that in landscape architecture, historical conservation, urban development, and providing various means to guarantee the rights to know and community participation.

Public Participation
Since October 2013, Zhongshan Avenue District Renewal Planning has carried out about 30 rounds of discussions. Dozens of domestic and foreign experts with various backgrounds, over 20 related departments, and resident representatives from 32 communities have participated in these meetings. Finally, the practical renewal-planning proposal has been approved, and the results have been disseminated to public through occasional mass media items and Public Planning Platform.

Construction organization
Wuhan Municipal Government has founded Zhongshan Avenue Renewal Construction Headquarter, led by the deputy mayor. It is made up of 20 competent departments, design units and related stakeholders. The headquarter established the weekly joint examination meeting mechanism for coordination and monitoring. Under the headquarter, alongside area involved Jiangan District, Jianghan District, Qiaokou District and related neighbourhoods have founded Zhongshan Avenue Redevelopment Workgroups, which are directly involved in the implementation of the renewal planning. Jiangan District, Jianghan District, Qiaokou District Municipal Government and commercial organizations share the construction funds collectively.
Innovation
By abandoning traditional principle of “Wide Street”, Zhongshan Avenue is the first street in Wuhan that integrates public space and street life. Because of the long history of Zhongshan Avenue, the renewal project has been paid much attention to by Wuhan Municipal Government. The large number of organizations and departments involved, the complexity of related stakeholders, the extent of public participation, and the lasting period are all far more than other projects. It is also the first time, led by the local government, that multiple-departments, multiple-organizations and multiple-stakeholders are participating and coordinating in the whole process of the project.

Sustainability
This project focuses on “Public Space”, transforming the transportation space into integrated space involving life, culture, landscape and commercial functions. From the perspective of “Reverse Planning”, a new spatial format has been found for regional economic renewal, indicating inspiration for sustainable urban regeneration. After redevelopment, walking, cycling and public transport are encouraged on the street. Meanwhile, car-use will be reduced and per capita carbon emissions relating to transport will be reduced.

After redevelopment, about 1.100 alee trees and 10.000-square meter street greening and square space will be added, while hard pavement will be significantly reduced, which will have positive impact on Urban Heat-island Effect. It is the first time planners, engineers, government departments, experts, citizens and business operators came together to collaboratively participate in the whole process from planning to engineering design till construction. This mode is a sustainable work mechanism.

Till the date of submission of this report, underground pipelines and metro construction corridor have been completed. Pavement engineering, building repair and business format investment invitation are still in progress. The first phase of this project is completed and opened to public in December 2016.