

On Figuring the City Characteristics and Landscape in Overall Urban Design: A Case Study in Xiangyang Central City, China

Guyue Zhu, Liangping Hong

Abstract—Chinese overall urban design faces a large number of problems such as the neglect of urban characteristics, generalization of content, and difficulty in implementation. Focusing on these issues, this paper proposes the main points of shaping urban characteristics in overall urban design: focuses on core problems in city function and scale, landscape pattern, historical culture, social resources and modern city style and digs the urban characteristic genes. Then, we put forward “core problem location and characteristic gene enhancement” as a kind of overall urban design technical method. Firstly, based on the main problems in urban space as a whole, for the operability goal, the method extracts the key genes and integrates into the multi-dimension system in a targeted manner. Secondly, hierarchical management and guidance system is established which may be in line with administrative management. Finally, by converting the results, action plan is drawn up that can be dynamically implemented. Based on the above idea and method, a practical exploration has been performed in the case of Xiangyang central city.

Keywords—City characteristics, overall urban design, planning implementation, Xiangyang central city.

I. URBAN CHARACTERISTICS DILEMMA IN CHINA

A. Phenomenon: Crisis of Urban Characteristics

URBAN characteristics refer to the individual features of a city that clearly distinguish its content and form from other cities. Although the rapid urbanization in China in the past 30 years has been accompanied by the rapid economic development, the loss of urban characteristics as an additional sacrifice has become an indisputable fact in academic circle: historical and cultural environment suffers from fatal destruction, natural features disappear, and cityscape gradually converge. A French philosopher named Paul Ricoeur, said in *history and truth*: “this is our mystery: how to become modern again and to return to our source; how to restore an ancient, dormant culture and participate in global civilization” [1]. Reasons for the loss of special features are related to the system, economy, society and culture, as well as multi-role competition of government, developers, public and planners. It is undeniable that the mistakes in planning and decision-making are one of the important reasons for the “same

expression for a thousand cities”, and that is what this paper intends to discuss.

B. Method: Technical Deviation of Overall Urban Design

China's urban design has experienced a long period of “fast food” design methods, and the general design and modularization construction have led to the prevalence of plagiarism. Rapid urbanization like China's is unique in the world, so the experience of developed countries is not applicable for China. It is necessary to explore a way to create urban characteristics that suit China's national conditions. As urban design is not a legal planning, the compilation style of urban design varies from place to place. The common practice is to decompose urban form into various elements, according to green space, public space, transportation and other systems, and then reorganize and superimpose [2]. This method neglects the time characteristics and evolution laws of urban development, and while building a comprehensive urban system, it is particularly inadequate to respond to specific urban problems. It is not only difficult to highlight characteristics of the city, but also unable to solve actual problems in urban construction.

II. MAIN POINTS OF SHAPING URBAN CHARACTERISTICS IN OVERALL URBAN DESIGN

Characteristic shaping of urban space, promotion of cultural connotation and optimization of spatial environment are always the core concerns of overall urban design. In terms of urban characteristics shaping in overall urban design, the focus is to study the artistic conception of urban overall spatial quality, determine the artistic features of urban overall layout, build the overall landscape framework of urban image and sort out the characteristic landscape system [3]. In the study of urban characteristics, we found that current urban characteristics mainly include four types: overall plane characteristics, historical and cultural characteristics, natural landscape characteristics and modern district characteristics, which all have corresponding space carriers in the artificial environment [4]. In this paper, the following aspects should be paid attention to in shaping urban characteristics.

A. Consideration of City Function and Scale

City function represents the character and development direction of a city. Special urban functions often produce special styles of cities, such as military defense, trade, port and wharf, commerce, tourism, politics, and so on. In overall urban design, the shaping of urban characteristics should reflect

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function of the city. Otherwise, the shaping of the characteristics will be mere formality, without connotation.



Fig. 1 The phenomenon of "same expression for a thousand cities" in China: (a) Uniform European style residential buildings; (b)Tibet's Bayi street, which should have outstanding characteristics, is converging with the Central Plains city

Cities of different scales and levels have different landscape features. Generally speaking, the larger the city, the more diversified its characteristics tend to be, small-scale cities can highlight one or two characteristics. Urban landscape should focus on quality rather than scale. It is necessary to grasp the overall scale of different scale cities and the spatial scale of some landmark areas and landmarks.

B. Consideration of Natural Landscape

The theory of city site selection in ancient geomantic omen theory in China is actually a kind of respect for nature. Understanding the soil quality and topographical advantages has a very profound influence on the site selection and urban planning layout of traditional Chinese cities. Its main idea is through investigating urban natural conditions, topography, soil, vegetation, form the basis for urban conditions, and guide actual urban construction. The difference of natural geographical environment characteristics is often the key to the shaping of urban characteristics. To shape urban characteristics, we must fully understand the topography, landform, climate, landscape pattern and other characteristics of the city, and should adapt to nature, use nature and ultimately express nature.

C. Understanding of Historical Context and Social Culture

At present, the whole urban construction in China is transforming old city in a destructive way, resulting in the breakage of urban context and the destruction of urban texture. However, there are still several cities in China that continue to pay attention to the continuation of historical traditions, such as Suzhou and Xi'an. Due to years of persistence, their urban construction is highly related to the historical origin. Although they were criticized in the early stage (for "counterfeit antiques"), at the same time, the construction of other cities has neither antique nor new good things. Therefore, it is recognized that the efforts of Suzhou and Xi'an are actually valuable.

If urban characteristics formed by the differences of natural geographical environment are an intuitive and external manifestation, then the urban characteristics formed by the

differences of historical and humanistic characteristics are connotation and spirit of a city. Therefore, we should have a high understanding of urban history, humanistic characteristics, and urban characteristics shaping internal relations. Urban history and humanistic features include not only historical sites, ancient buildings, ancient blocks and other physical entities, but also non-material aspects of urban social and cultural atmosphere, various human activities, folk customs, folk feelings and so on. This not only reflects the development and changes, but also accumulates rich spiritual wealth of the city, thus forming city's characteristics. It can be understood from the process of urban self-organization evolution that, while interfering with the systematic evolution of a city towards a better direction, urban design method conforms to the development of the city. Only in this way, can the characteristics of urban historical accumulation be fully retained and operable.

D. Understanding of Modern Styles

Modern style is not the main cause of urban characteristics losing, the understanding of modern style and grasp is. After realizing the importance of urban characteristics, Chinese urban design once fell into the cycle of a new round of urban characteristics crisis in the pursuit of "high, big, new, strange and different" forms. However, the pursuit of modernization and sense of the times must respect nature, history and people, that is, on the basis of coordination with the natural environment, history and culture, to create a humanized place. It is necessary to start from the characteristics of the city itself and use modern technology to explore the expression of modernity and sense of the times with different characteristics. Shanghai's Oriental Pearl Tower, Sydney opera house, etc., are good examples.

III. XIANGYANG OVERALL URBAN DESIGN FEATURE SHAPING

A. Brief Introduction of Xiangyang City and Planning Area

Xiangyang, located in the northwest of Hubei Province, plain area of the middle reaches of Hanjiang River, is a provincial

sub-central city, a famous national historical and cultural city, the main birthplace of Chu, Han and Three Kingdoms culture. It known as "the first city of China" and "the place where military strategists must contend", has a history of more than 2,800 years and has been an important economic and military

place in the past dynasties. In 2017, the Ministry of Housing and Urban-Rural Construction of China listed Xiangyang as the second batch of urban design pilot cities in China, with a view to innovating ideas in the system, technical methods, cultural heritage and urban transformation.

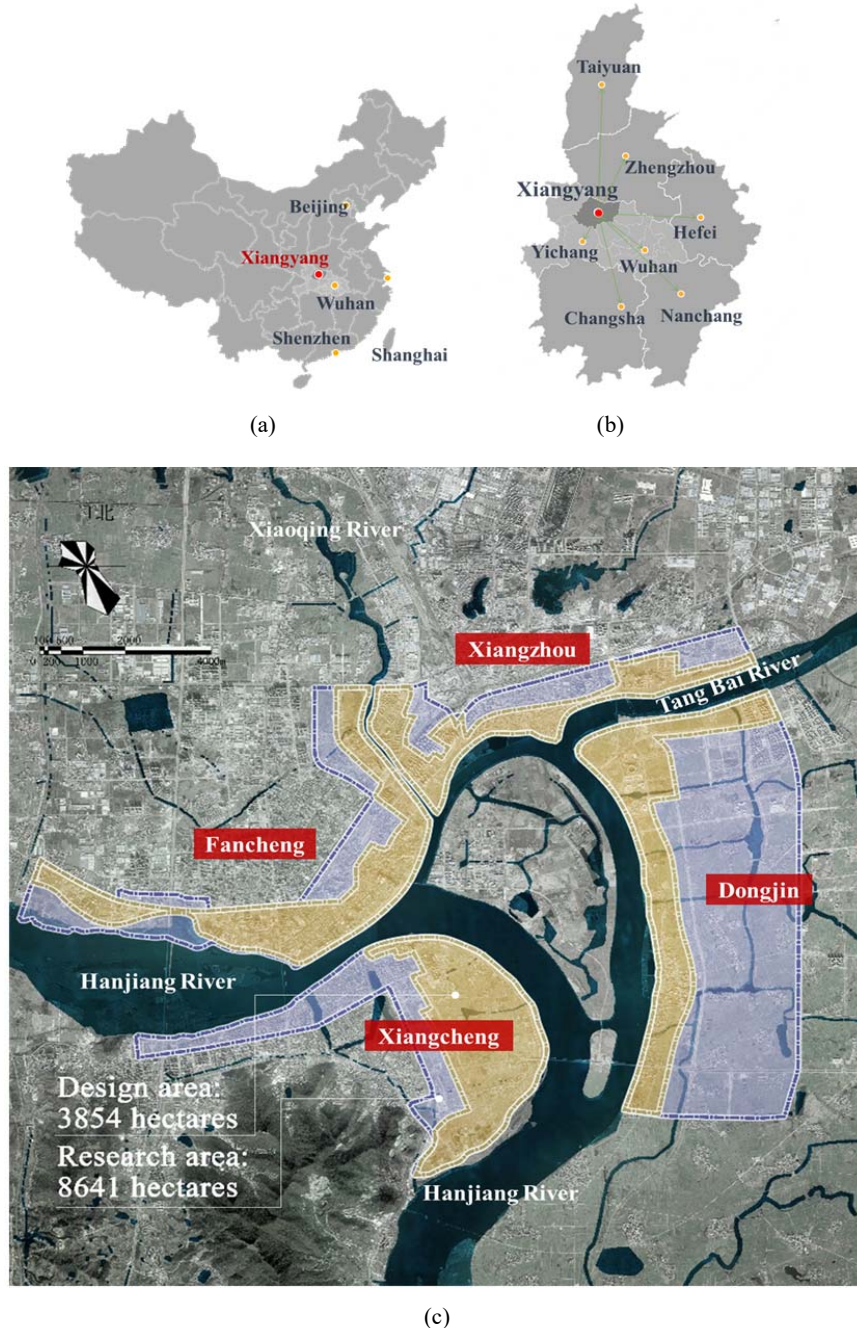


Fig. 2 Urban location map: (a) the position of Xiangyang in China; (b) Xiangyang's position in central China; (c) The planning area and research scope

The scope of this plan includes four districts: Fencheng, Xiangzhou, Xiangcheng and Dongjin, is a riverside area along three rivers in Xiangyang central city, which is the key area to highlight the characteristics of Xiangyang and create wonderful waterfront life. Municipal Party Committee and Municipal

Government attach great importance to the construction of urban riverside landscape. Six of the existing 12 rounds of urban design have reference significance, but the existing planning mainly focuses on a certain area, which lacks the overall research. Therefore, the planning region is in urgent

need of a set of systematic and integrated urban design achievements with strong operability to guide construction activities. This planning is divided into two levels: the research scope and the planning area. The former is that the Hanjiang river, Tangbai river and Xiaoqing river (hereinafter referred to

as three rivers) extend 2 to 3 km inland, covering an area of 86 square kilometers; main task is to carry out the current situation research. The latter is 1 to 2 km inland from the three rivers, with an area of 37 square kilometers, and main task is to carry out urban design.

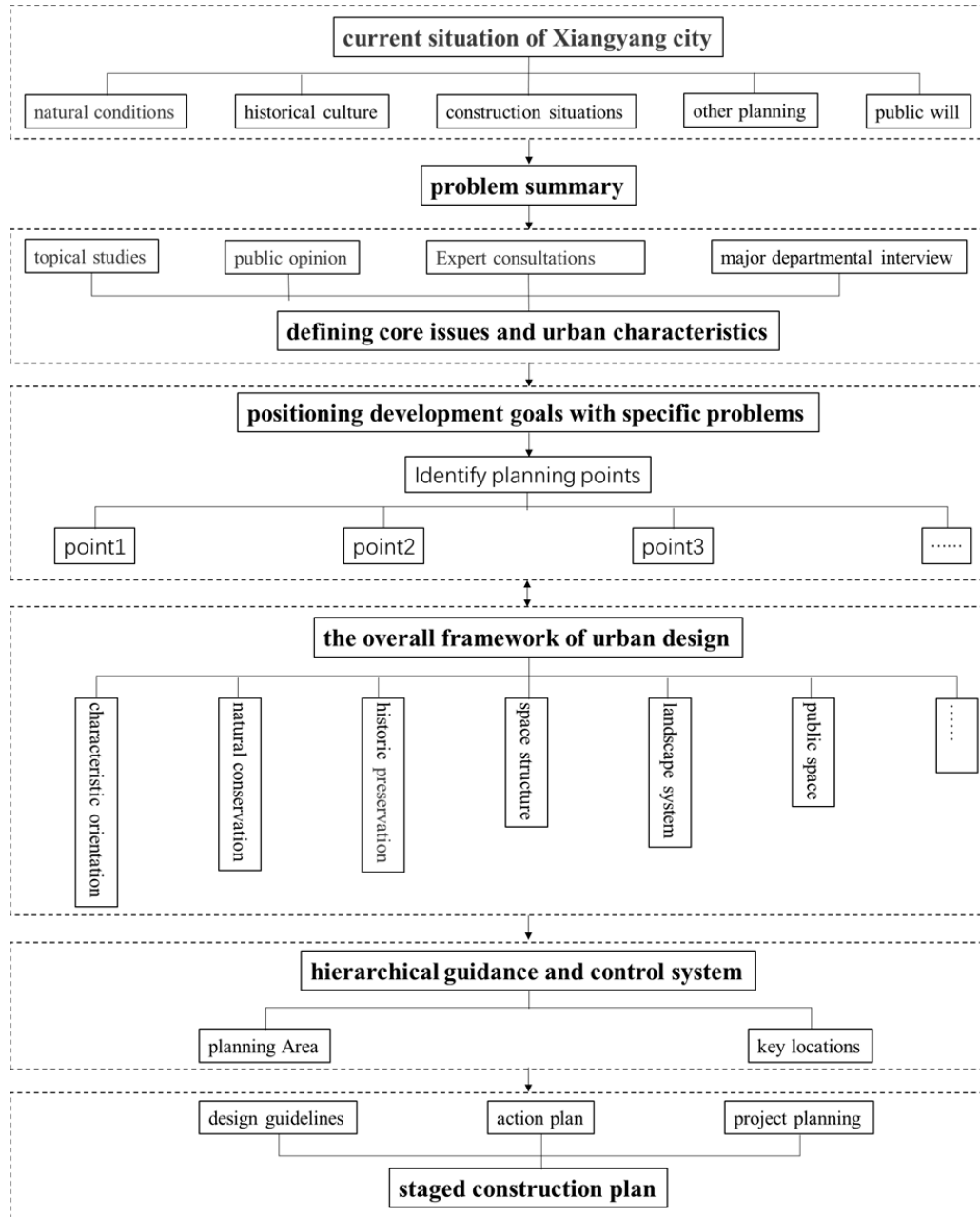


Fig. 3 The general urban design techniques and methods of "core problem location and characteristic gene enhancement"

B. Technical System Construction

Many scholars have realized that urban design cannot be perfect from a rational point of view, because the construction of the urban space exists many contradictions [5]. What planners can do is to treat the imperfection of urban design methods rationally, find core problems that cities need to solve, and intervene in the development of cities towards the direction of optimization. Based on the demand and development trend

of the overall planning and design, we put forward overall urban design ideas and technical methods of " core problem location and characteristic gene enhancement " based on the dilemma of ignoring urban characteristics and complex achievements in China's planning and design. This method strengthens the previous analysis, judges and studies the problems that should be solved at present, and simplifies the results to make implementation specific and feasible. And

through compilation and research of "the overall urban design of Xiangyang central city", the relevant practice and exploration were carried out.

1) Overall Orientation

After preliminary analysis of urban problems and characteristics, we must first establish the positioning of spatial quality in order to depict city's desirable future. The overall purpose of the city is to pursue unity of truth, goodness and beauty in order to realize the harmony between human beings and land and social relations, which is the orientation of urban space development. By grasping the shape relation of landscape and city, refining inherent urban spatial structure and predicting future development trend, overall image of the city is gradually extracted and abstracted. The positioning of features and characteristics belongs to a link of image planning, which is the accurate interpretation of the features and goals, distillation of city's features and characteristics, as well as the integration of city's external publicity and operation, as the publicity slogan for city scape construction, such as Yinchuan: the north of the frontier, Inner Mongolia: paradise grassland. The orientation of the city features and characteristics should run through whole process of urban design, guide development of urban space, guide strategies and implementation of urban design.

The overall urban design of Xiangyang adopts field investigation, data interpretation and spatial research to analyze urban landscape pattern and integrates with government's intention and public's will. Finally, Xiangyang city's characteristic features and images are positioned as "four cities rejuvenate Han river". The main task of shaping the features and characteristics of the overall urban design is to coordinate the unification of development features and development paths of four urban areas and pay attention to shaping of riverside landscape belt. "Historical city, landscape city, modern city" is overall artistic goal rooted in the historical culture of Xiangyang city (Three Kingdoms culture, Tang culture), landscape characteristics (three rivers intersection, south hills and north hills) and future development goals (Xiangyang City Government wants to create a new science and technology zone).

2) Problem Recognition in Shaping Urban Characteristics

According to the working frame of shaping urban characteristics and cognition of present situation in overall urban design, we find main difference between the present urban spatial environment and design goal of Xiangyang lies in as follows.

- a) Overall spatial structure is not clear: four areas are lack of coordination, and the landscape pattern is obvious but urban space structure is not.
- b) Lack of planning for control four districts' features: As a result, new town is not new, old town is not ancient, features are not outstanding.
- c) The construction of urban waterfront space and waterfront life lacks: 90% shoreline and 70% waterfront nodes are not hydrophilic.
- d) Urban landscape pattern and waterfront skyline are in

urgent need of protection: 100 meters of high-rise buildings gather to form a monotonous skyline, while the city-level water corridor is not formed.

It can be seen understanding of urban characteristics in overall urban design should be more concerned in the level of macro pattern, instead of covering all aspects and digging deep into micro issues such as street and architecture. In view of these problems, the paper proposes solutions from the perspectives of spatial structure, features control, construction of living places and control of urban edges. The specific method is to select several key elements such as structure, function, feature, context, transportation, open space and edges based on the existing general regulations and conduct relevant research to design and form corresponding network system. The network system of these seven dimensions will set up an overall framework to guide construction and development of urban space.

3) Construction and Integration of Characteristic Space System

The most important value of overall urban design is to build overall framework of featured space system and multi-dimensional system at macro overall level, which cannot be replaced by other special planning and design or urban design with zoning and block. Therefore, the system of other dimensions in overall urban design should be fully connected and integrated with the spatial characteristic system. Firstly, survey and evaluation of special spatial resources are carried out, mainly through professional research, data analysis and public opinion survey. Then, special zone, special corridors and paths, special nodes and landmarks are demarcated, so as to build a spatial feature system combining surface, line and point. Finally, according to the integration of the network system with seven dimensions above and characteristic space system, spatial characteristic intention is ensured to run through overall framework of overall urban design [6].

In the overall urban design of Xiangyang, characteristic resources of the current situation were sorted out, and overall spatial characteristic structure of "double center and double axis" was determined after understanding development willingness of the government and public. Based on principle of strengthening the protection and utilization of space characteristic resources and emphasizing human perception and experience, related requirements of space characteristics are integrated and implemented into the network system.

4) Implementation of Guiding and Control

Since the core of overall urban design is environmental design and space guidance, the key to overall framework is to decompose and implement these systematic control elements into space carriers, so as to truly and effectively achieve planning and design. This is also one of keys to urban design from theory to operation. The key areas (including characteristic areas), corridors, nodes and other specific spatial elements in overall network system are undoubtedly the space carriers for the implementation of various design and control intentions in overall urban design. This paper proposes a

hierarchical control system, which not only systematically considers urban landscape and spatial environment from macro level, but also chooses some key areas for demonstration in-depth urban design. At the same time, action plan and project

implementation study were added, and important priority construction tasks were pointed out to facilitate planning of government departments to guide the work.

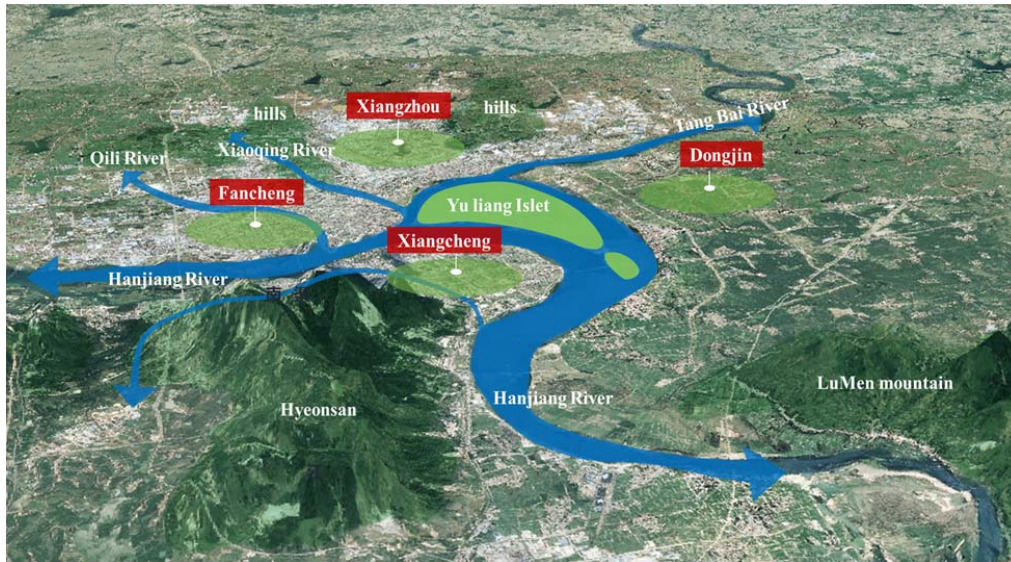


Fig. 4 Urban pattern of Xiangyang

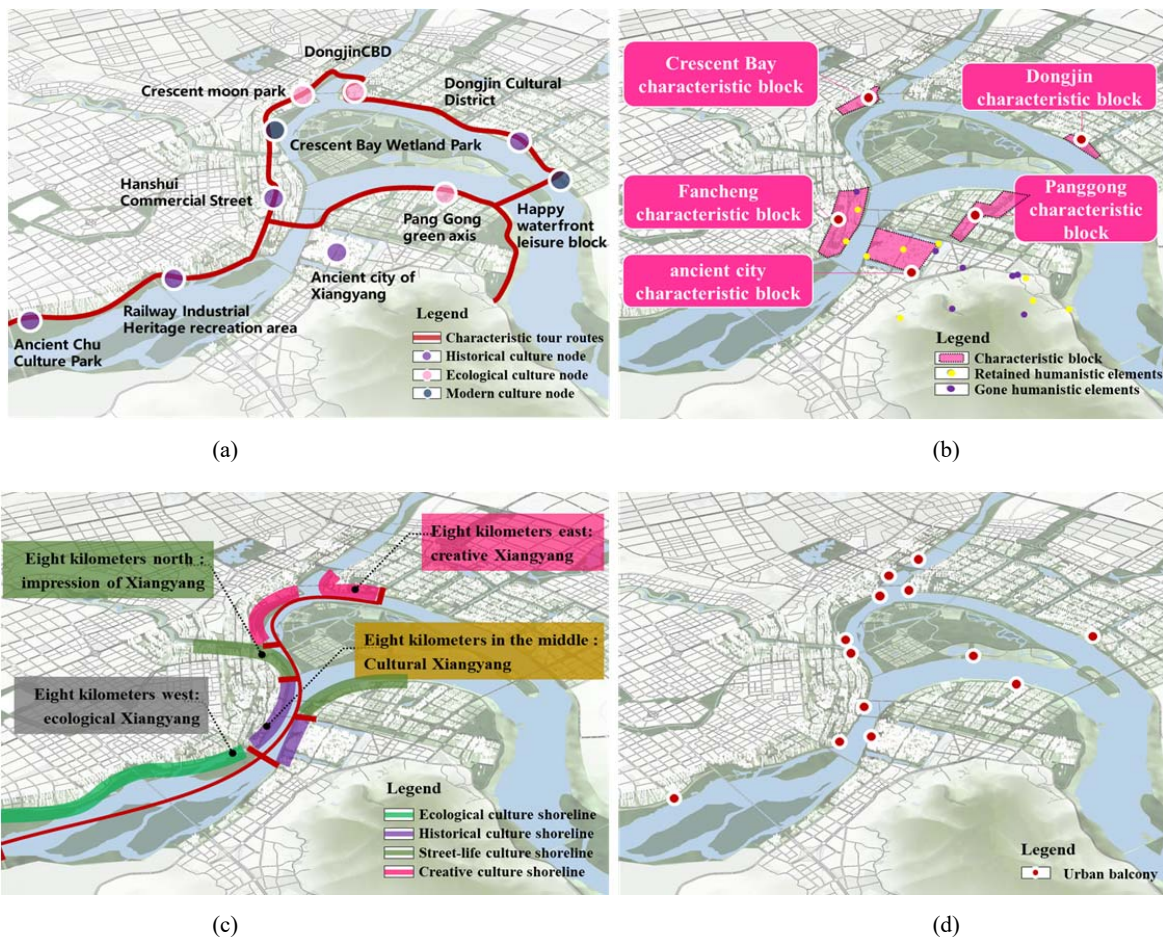


Fig. 5 The characteristic space system in Xiangyang overall urban design: (a) Characteristic tourist lines; (b) Characteristic blocks ;(c) Characteristic edges; (d) Characteristic urban balcony

In the case of Xiangyang, three-layer guidance and control system were adopted. First, on the overall level, control elements are transformed into area, line and point elements, and the action plan and project practice for next step are formulated based on the actual situation and development of the city. At the level of key sections, it aims to shape iconic urban sections, strengthen distinctive perception and experience, specify implementation of city-level and district-level control space carriers and requirements, focus on the open space, height,

vertical-corridor, axis, and main interface of the sections, reorganize traffic system and feedback to overall planning. General areas mainly control overall form and traffic organization. In view of the problems such as inconspicuous and weak operability of previous overall urban design results, four action plans and five projects have been formulated in Xiangyang urban design. The specific contents are shown in Table I.

TABLE I
FOUR MAJOR ACTION PLANS AND FIVE MAJOR PROJECTS IN OVERALL URBAN DESIGN OF XIANGYANG

Plans	Projects	Concrete details
Four major action plans	Landscape pattern protection plan	1、 Protection of the landscape pattern of "one continent, three mountains and nine rivers" in the central urban area 2、 Protection of landscape ecological corridors of "Four wedges and twelve corridors" in central urban area 3、 Control the urban spatial edge and form a good mountain background
	Characteristic elements protection plan	1、 Control of core material space elements and create urban cultural landmarks 2、 Elements of intangible cultural space 3、 Cultural space node design
	Space form control plan	1、 Three dimensional space design 2、 Landmark building layout 3、 Building height zoning
	Color and appearance control plan	1、 Urban color zoning guidance 2、 Key scenic area control and control
Five major projects	City parlor	Build 9 "most Xiangyang" city parlor
	Urban balcony	Build 13 "most artistic" city balcony
	Civic place	Build 8 " most artistic " public places
	Experience line	Create the " most marvelous " city experience line
	Urban night scene	Create "most dynamic" night scene of waterfront city

IV. CONCLUSION

It should be noted that although urban design is becoming more and more important, it is not a panacea [7]. Therefore, accurate positioning of urban design is very necessary. Overall urban design, as general program of urban spatial form planning, is one of the important guiding functions of the building of urban characteristics. In addition, since shaping and formation of urban characteristics is a long historical process, shaping of urban characteristics in overall urban design is only a design exploration from macro perspective of overall urban space environment. The shaping and improvement of special space cannot be accomplished overnight. It is necessary to adapt to urban development, solve key problems, improve environmental quality of general urban areas and effectively improve overall environmental quality of the city.

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