

## Chongqing, a City of Vigor — The Strategic Policy-Makings for the Urban Development of Chongqing and the Construction of the City's Sustaining Activity and Harmony

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Chongqing, the economic center of the upper reaches of China's Yangtze River, is located at the junction of the two rivers of Jialing and Yangtze that flows eastward, passes Shanghai and affluxes into the East China Sea of the Pacific. Within the boundaries of Chongqing, chains of mountains make the topography very complicated and the built-up areas have an altitude difference as great as from 190m to 800m, thus Chongqing being noted for both a mountain city and a river city, as well as being a cultural city with an evolution history of over 3,000 years. Chongqing is also China's youngest Zhixia city (municipality directly under the Central Government), a city with the largest land area of 82,400 km<sup>2</sup> and the biggest population of 31.10 million.



Fig. 1 Location of Chongqing



Fig. 2 China's major city economy growth axis



In 1997, ratified by the Congress of the National People's Representatives, Chongqing was became the 4th Zhixia city (after Beijing, Tianjin and Shanghai), its administration zone being considerably enlarged. The 8 years since Zhixia has witnesses a great boom in urban economy, the urban population increased to 6.18 million in 2003 and GDP per capita rose from 1000 US dollars (1997) to 1700 US dollars (2004). Owing to its predominance of location at the joining part of East and West China (Fig. 1), solid industrial foundation and comparatively powerful strength of science and technology, Chongqing is playing a bridge-tower role in the strategy of developing the vast west and it is an important central city in West China, an economic center in the upper reaches of the Yangtze River.



Fig. 3 Location of the urban zone

### 1. Unique Urban Space structure

Chongqing stands in the eastern hilly part of the Sichuan Basin with parallel ranges plus the confluence region of the two big rivers of Yangtze and Jialing and, influenced by the natural conditions of topography, landforms and water system of rivers, the city's spatial structure has formed a spectacularly unique style. All previous master plans insisted the spatial development strategy of "organic distribution, separate concentration, zoning equilibrium, multi centering and clustered community". The city's General Plan drawn up in 2004 adopts the spatial structure of "one city five boroughs, multi centering and clustered communities", namely, one city is the main city, five boroughs refer to the five sections of the main city separated by the two rivers and the four local hills, each being independent spatially and having a considerable size of population (around 1 million). And each borough, serving as a relatively perfect and independent city, has its fully urban functions, complete facilities and a basic balance between employment and accommodation.

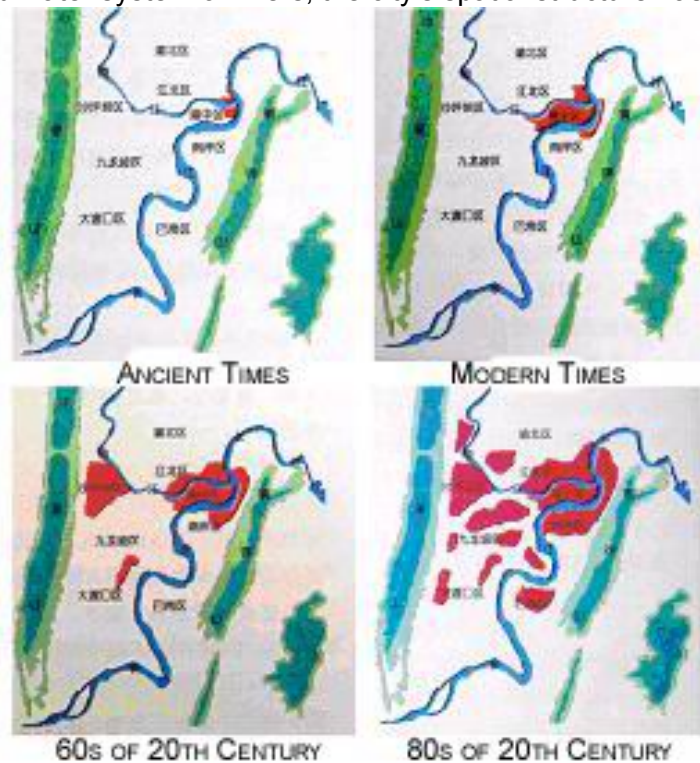


Fig. 4 Chongqing Urban Space Structure Evolution

There are hilly ranges, rivers, forests and farmland to separate the boroughs and good-sized communication means to join them together. Each borough, according to its industrial properties and conditions of land utility, is in turn divided into several clusters, with a population of 30,000 to 800,000 in one. The result is formation an urban construction region where urban functions can be developed in a relatively perfect, compact and focused way. Between clusters, there are park greenspaces, suburban wilds, farmlands and woodlands, and around each cluster, there are several small towns. The whole municipality consists of nine administrative sections, an area of 5473 km<sup>2</sup>, and its population will grow from the current 6.1 million to 6.6 million in the year 2010.



Fig. 5 Urban space structure of 1998

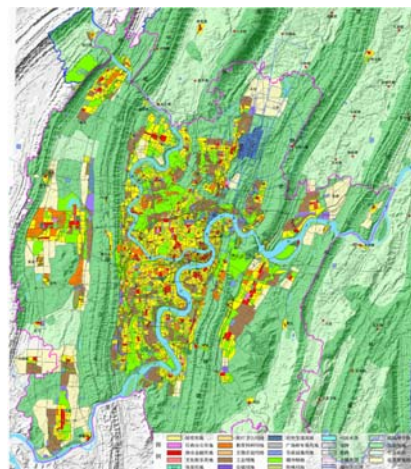


Fig. 6 Urban space structure of 2004

## **2. The Development Strategy of “Urban-Rural Integration”**

The spatial structure of the new Chongqing is actually “the co-existence of a big city and a vast country”, nearly 3/4 of its districts and counties belong to agricultural ones. There is a great difference in economy and culture between urban and rural areas. The total country population of the city is 19,760,500 against the urban population of 11,869,700, the urbanization rate being 38.1%, the huge quantities of rural population being stimulated into an impetus toward the city. In consideration of this, the social-economy growth of Chongqing must go along with the implementation of “the urban-rural integration” policy and, with the radiating and leading role to the city-town system development of the Three Gorges Reservoir region, a development strategy of “big city driving big country” can be embodied to gradually narrow the gap between the city and the country. Chongqing’s social-economy growth is going along with the rational urban space development, resulting in the “urban-rural integration” pattern of the main urban zone → the newly opened urban zones → urban clusters → suburban center towns → outskirt small towns → country villages → agricultural areas.

## **3. Industrial Structure**

Chongqing is one of China’s six old industrial bases of equipment manufacturing and the third auto production industry base. Here there is a full category of industries and a solid foundation. The second industry has always been playing the leading role in the economic growth of the city. Since Zhixia, industrial economy has made a considerable progress and great advancement has also been made in such supporting ways as transportation industry, logistics industry, storage and wholesale facilities. With the recent years’ adjustment on industrial structure and arrangement, factories scattered in the city have gradually moved to the concentrative industrial zone, forming four large Industrial Development Zone in the north, the east, the central and the west parts of the city respectively. An industrial configuration has come into being that consists of such leading industries as automobile, motorcycle, medicine, chemistry, building materials, food, metallurgy, machine tool, electronic & communication equipment manufacturing, chemical industry concerned with products for daily use and industrial chemicals, electron-electrical appliances, bio-chemicals, environmental protection equipment, etc. The automobile and motorcycle industries are gaining a soaring momentum. Light-duty cars, saloon cars, and heavy-duty cars are showing competitive edge in the domestic market; while cars, meters, machine tools, metal products, etc. have competitive power both at home and abroad, and some products are selling in the international market. Efforts are also made to advocate the circulating economy, to develop ecological industries and high and new-technology industries, so as to take a development way of neo-industrialization. In the aspect of agriculture, strategic adjustment has been accelerated on the agricultural structure, aiming at the development of the modern urban agriculture and the touring agriculture. All these efforts are to build Chongqing into an important central city in West China and an economic center of the upper reaches of the Yangtze River.

## **4. Integrated Transport**

With the rapid growth of highway, railway, water carriage and aviation, Chongqing, as the central city in West China and the economic center in the upper reaches of the Yangtze River, has become further outstanding with its role of the transportation hub of the region, its outward three-dimensional transportation system is to be further strengthened and a traffic network that extends in all directions is now taking shape. Within the urban area, motor vehicles increase at the rate of 30% per year and exert a great pressure on Chongqing’s urban roads and traffic system and, therefore, it is necessary to carry out the principle of “public transport first” that guides the strategy of integrated transportation. Form a fluent public transport

network on the basis of multi-nodes passenger flow traffic hubs. Dispose adequate public traffic lines in combination with the urban spatial structure and the features of the citizens daily traveling, thus forming a three-grade public traffic network with the urban public bus lines as the trunks, rail traffic as the main body.

First grade traffic system — rail traffic as the main agent, serving as the main connections between the central city and the sub-centers of newly urban zones, clusters and outside places  
 Second grade traffic system — light rail, fast road traffic and urban railway as the man agent, playing the role of connecting urban sub-centers and the cluster centers, and the role of public traffic nodes.

Third grade traffic system — fast road traffic as the principal role, connecting between centers of urban clusters, between the centers and the main functioning zones and between those second-class highway nodes.

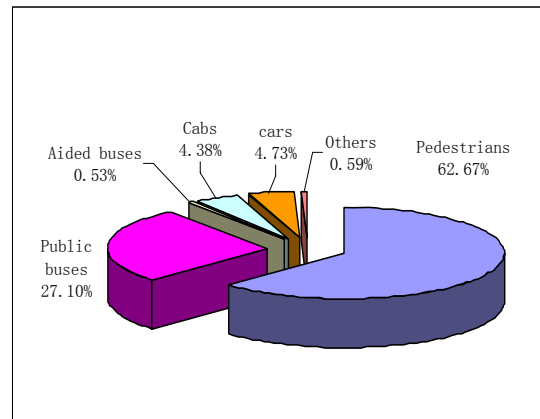
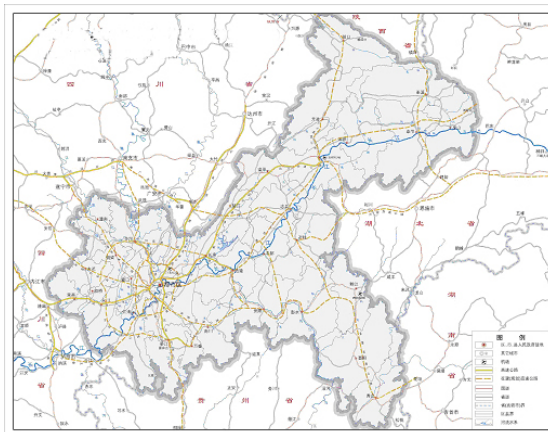
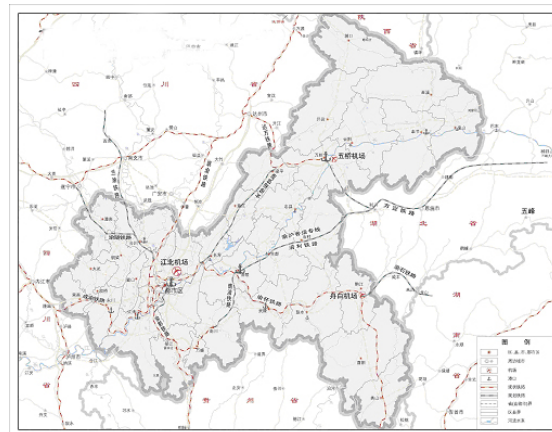


Fig.7 Main city daily traveling in 2002



City Area Freeway Network Plan



City Area Railway, Harbor & Airport Plan

Fig. 8 Chongqing Area Traffic Planning

Areas along traffic trunk lines are the best growing land use location and therefore, in the city, it is encouraged to develop land in such areas. The urban land use disposition also encourages highly intensive, integrated utility of traffic nodes. It is desirable to have employment near the residence (A study made in Dec. 2002 on the main city traffic conditions reveals that citizens' total traveling volume is 9.16 million person-times, 62.67% of which are walking, 27.10% land public traffic). The aim is to cut in the cost of urban traffic operation, reduce the demands for cars and lighten the pressure on land and environment.

On the basis of integrated traffic planning and construction, Chongqing has comprehensively strengthened the infrastructure construction for energy, communication, sewage treatment, integrated utilization and disposal of wastes, etc. and, as a result, enhanced the modernization of the city and its capacity of sustainable development. Owing to promotion of infrastructure and the improvement of investment surroundings, foreign-funded enterprises to Chongqing are increasing. In recent years, over 4 billion foreign capital has actually been attracted to the city.



Fig.9 Planning for Chongqing Integrated Traffic System

## 5. Landscape Eco-Space Structure & Eco-Environment protection

Chongqing boasts the natural conditions of beautiful mountains and rivers, formed in an ecological landscape spatial pattern in which rolling hills, running rivers, terraced fields, dotted cities and towns, stretches of woods and forests — all these elements are knitted into a huge web of vigorous lure.

The urban planning of Chongqing sets forward that the principle of ecology consideration comes first and the urban construction transforms from development-oriented model to the resource-conservation model.

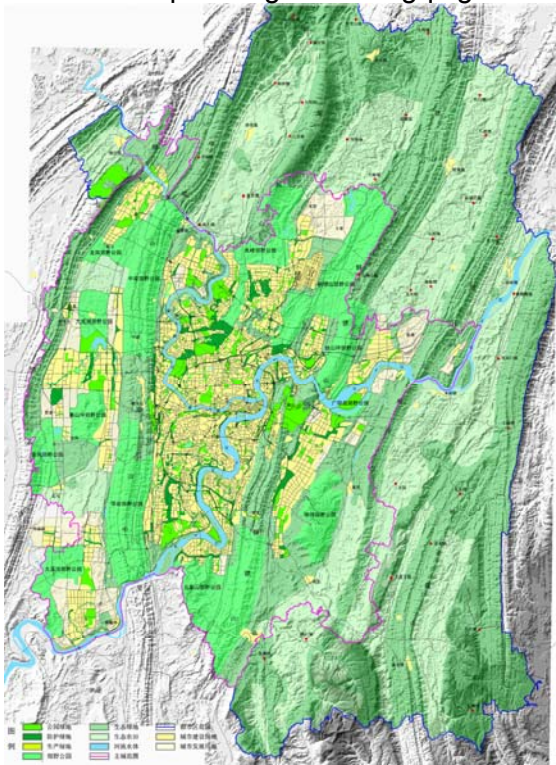


Fig. 10 Main City Greenspace System Planning

Strict protection is made over hilly ranges, water systems, green eco-passages between sections and clusters, ventilation passages, forest eco-barriers, nature reserves, headwater conservation areas, outskirts wild parks, green eco-segregation stretches as farmland and wetland, ridgelines, waterfront lines, etc. These efforts are organically combined with the eco-environment conservation of the Three Gorges Reservoir region, resulting in a vast green “shanshui yuanlin” spatial system for the big Chongqing cared and protected by forceful legislated measures. Through planning, great drive is made to undertake forestation engineering, aiming at the increase of the park greenspace area from the current 5 m<sup>2</sup> per person to 15 m<sup>2</sup>, the greenspace area to 35 m<sup>2</sup>, with the greenspace rate rising from the present 19.6% to 38%.

Through the adaptability evaluation over the land use of the city’s 5473 km<sup>2</sup> area, four categories of land are identified, namely, the construction--forbidden areas, the fundamental farm reserves, non-construction land controlled areas and the building suitable areas. In a building suitable area, sections of different rising stories (high-rise, medium height and low houses) are divided, and so also sections of different building intensity ratio and floor area ratio are marked out.

## 6. Chongqing’s Protection of Historic and Cultural Legacy

Chongqing is a famous historic and cultural city. It was a capital city in three times (a period in the Shang and the Zhou Dynasties, the Song Dynasty and the period of the Anti-Japan War). In its long-time evolution, here are created the unique “Ba-yu Culture”, “Alternate Capital Culture” and “Revolutionary Tradition Culture”. To preserve these excellent historic and cultural heritages is a significant part of building active Chongqing of vigor and vitamin, and so an important task in its urban planning and construction.

The old city of Chongqing has the hilly city’s features of different heights strewn at random, layer upon layer spectacularly; and in the renewal of the old, emphases are laid on reducing the density of inhabitation, enlarging the area of greenspace, lessening the heat island effect, improving the quality of environment, perfecting facilities, and reinforcing the planning and building measures centered around community construction.

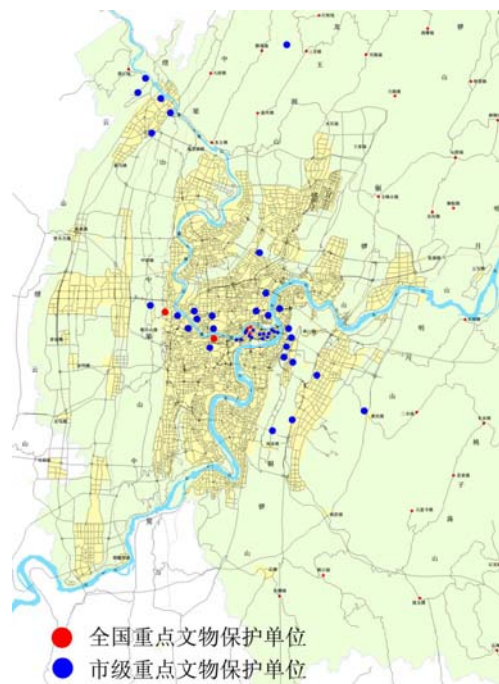


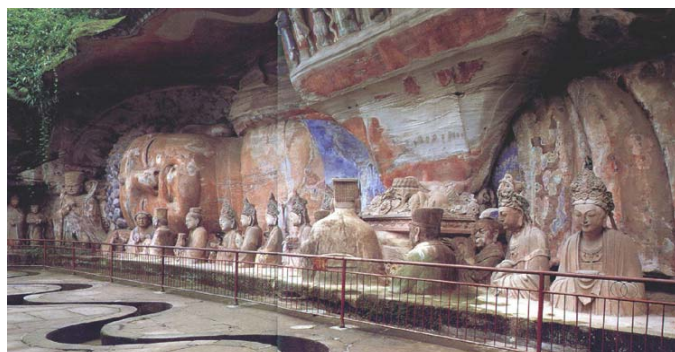
Fig. 11 Distribution of key heritage protection sites



Chongqing People's Great Hall



King Yu Palace of Hu-Guang Guildhall



World Cultural Heritage — Dazu Stone Inscription



Opera Tower Hu-Guang Guildhall

Fig. 12 Sample Cultural Heritages of Chongqing

The final purpose is to build into a city that is rich in all the mountain city characteristics, expressive in its historic and cultural traditions, abundant with appealing and competitive power, suitable for living, for carving out and for development; and, in short, it is a city of vigor and luring individuality.

### About the authors

**Huang Guangyu:** Director of the Research Center for Mountainous Cities & Regional Environment (of the Chinese Academy of Sciences and the Ministry of Construction), Planning Advisor of the Chongqing Government, Vice President of the Expertise Commission of the Chongqing Planning Committee, Professor of Chongqing University; He has been playing a key role in drawing up the city's master plans since the 1960s. RCMCR (the Research Center for Mountainous Cities & Regions) under his leadership has also significant influence on the city's eco-protection.

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