

URBAN INFRASTRUCTURE DEVELOPMENT IN THE 21ST CENTURY

XIANYANG MUNICIPAL GOVERNMENT

An undeveloped hinterland city, Xianyang faces the challenge of how to speed up its development, improve its urban investment and living environment, promote urbanization and industrialization, and modernize while preserving its culture.

OVERVIEW

Xianyang is strategically located in mid-western People's Republic of China (PRC), 25 km from Xian, the capital of Shanxi province. Xianyang's international airport is the main airport in the northwest and a key hub for air travel. It serves 16 national airways, including Air China; it is open to 45 other airlines and has regular and chartered flights to Japan; Singapore; Hong Kong, China; and Macao. In 1998, its capacity was 3.2 million passengers. The Longhai electric multiple line of the new European-Asian continental bridge, Xibao expressway, and Xilan Grade-A highway are the main parts of the transportation framework. The Xiantong railway, Xiansong and Xianhu



highways, communication light cable, and natural gas line link Xianyang with other cities.

Xianyang is an important city in the Longhai-Lanxin economic belt. It is one of the oldest textile centers in the PRC; it is also the birthplace of the country's first color kinescope. It has six large and medium-sized State-owned enterprises producing electronics, textiles, chemicals, health-care facilities, machinery, and building materials. In 1998, its gross domestic product (GDP) was Y20 billion; the added value of the secondary industry was Y9.3 billion, or 46.5 percent of GDP. Its revenue was Y1.27 billion, or 11.6 percent over revenue a year earlier. The electronics industry developed especially vigorously, with electronics groups such as Caihong, Pianzhuang, Ruyi, and Kangjia developing well as modern enterprises. Some famous products such as the Caihong color kinescope, Kangjia color TV, and Aoda digital camera sell well at home and abroad. In 1998, output of the electronics industry was Y11.3 billion, or over two thirds the total for electronics in the province.

In the 20 years since the PRC opened itself to the outside world, Xianyang's urban infrastructure has developed quickly, with key road, bridge, water, gas, and heat projects completed one after another. The city's road area increased rapidly and travel became more convenient. Its water supply index was the highest among cities of the same level. The completion of its urban natural gas project made coal burning unnecessary and improved the city's air quality. Its communication facilities are second only to Xian's. In 1999, total infrastructure investment was estimated to reach Y400 million; several key municipal and greening projects were completed or started. The city's infrastructure has the capacity to support large-scale development.

The municipal government administers two regions, one city, and 10 counties, which together cover around 10,000 km², an area that contains rich mineral resources and well-developed farms. Xianyang is famous for its apples and is the vegetable producer in the northwest. It has sufficient resources to continuously support its manufacturing industry.

Xianyang was the capital of the Qin dynasty and of 13 feudal dynasties after that. A rich archeological site, it is a historic city and a popular tourist destination.

URBAN PLANNING

Xianyang's municipal government has the following objectives:

- Promote urbanization and industrialization in the context of the socialist market economy.
- Develop and improve the city's functions.
- Create a modern city.
- Transform the pattern of infrastructure construction.
- Provide the proper environment for economic development.

The Challenge of Rapid Urbanization

The level of urbanization and per capita GNP are closely interrelated. Urbanization brings together people and productive forces, and organizes them in a way that makes intensive development possible. Advanced scientific and management techniques increase labor productivity, creating greater economic value than nonurbanized areas. Xianyang used to follow a policy of "industrialization without urbanization." Although its industrialization rate was 47 percent, its urbanization rate was only about 28 percent—a condition that hindered the healthy development of both urbanization and industrialization.

Xianyang's level of urbanization will reach 30 percent by the end of 2000. Then it will enter a stage of rapid development, during which the municipal authorities must welcome new ideas, dispel their misgivings about urbanization, overcome various manmade obstacles, formulate preferential policies, and promote the development of the central and smaller cities. At the same time, while they must not pursue urbanization indiscriminately, they must be prepared for its inevitability.

Speeding Up Industrialization

Shortly after the founding of the PRC, Xianyang established its textile and light industries. After the 1960s, it built or reconstructed a group of key industrial projects. Since the economic reforms and open-door policy, the State invested in the Caihong kinescope factory, which enhanced the development of the city's electronics industries. The city has entered a stage of accelerated industrialization.

Experience in the PRC and elsewhere shows that industrialization at first depends on urbanization. Conditions in cities accelerate industrialization, optimize use of natural resources, and improve scientific production techniques. Xianyang should not only meet the challenges of the information age, but also cultivate and strengthen the pillar industries, and develop technology- and capital-intensive industries.

Good Urban Design

In February 1999, the city invited some Chinese experts in the fields of architecture, planning, and landscape to a high-level academic symposium in order to discuss the city's images of the 21st century. Using modern urban design theories and methods, they presented a theoretical foundation and overall framework for the urban design of Xianyang in the near future. After the symposium, the city government implemented their proposals, achieving good results.

Xianyang is now a major city in the region, an air transportation hub, and a main producer of color kinescopes. It is internationally famous for its health protection industry. It is one of the PRC's top tourist spots. As a "star city," it should ensure that construction proceeds according to proper scale. It should have sufficient green space, and the proper number of large and high-rise buildings. Its building's architectural style should be neither dull nor eclectic. It is better to have traditional and local architecture around conservation areas, cultural relics, and historic sites. Mod-

ern architecture is better suited to the central district, the seat of high and new technologies. In order to create a light, bright, comfortable, pleasant atmosphere, urban planners should make provisions for gardens and parks and use natural colors for buildings. The authorities should establish a comprehensive system for Xianyang with targeted interventions and projects.

Modernizing the City

Since the 1990s, industrialization and urbanization have developed rapidly, as have technology and management methods. Cities have been transformed from traditional regional centers to multi-functional modern metropolises. In Xianyang, modernization is reflected in politics, economics, culture, society, and the environment:

- City dwellers are now more aware of urban planning, environmental protection, and management methods.
- The city's infrastructure—a three-dimensional traffic system, highly efficient information service, sufficient water and electricity supply, and a dependable disaster-control system—provides the base for modernization.
- The city's planners blend urban physical culture and art with local and historical characteristics in garden art, architecture, sculpture, and public art.
- Urban planners are aware that it is necessary to improve the city's air and water, and to create a comfortable, safe, and pleasant environment.

The municipal authorities, applying the relevant State standards to the current situation in Xianyang and using the other cities' experience as reference, have formulated a 45-item modernization index system to patronize objectives.

STRATEGIC MEASURES IN CONSTRUCTION AND DEVELOPMENT

At a recent symposium in Xian, which was held mainly to discuss the reform and development of State-owned enterprises of five northwestern provinces, General Secretary Jiang Zemin stressed that it was necessary to speed up development in the mid-western region. His speech was an important signal from the central Government—a mobilization order to carry out the regional economic strategy. It heralded the coming of large-scale development to western PRC. The region is bound to attract worldwide attention. Xianyang will especially benefit as it straddles the eastern and western parts of the century.

“Leapfrog Strategy” for Rapid Development

Xianyang lags way behind the eastern cities. If it follows the traditional development mode, it will fall even farther behind. It must employ comprehensive and daring development strategies that will provide high-quality infrastructure and efficient management.

The first step is to (i) optimize spatial and functional structures, (ii) expand the small cities, (iii) strengthen the modern functions of the central city, and (iv) make the leap from low-level to midlevel urbanization. The second is to (i) transform the construction mode from “supply decision” to “demand supply,” (ii) uphold the principle of “people first,” (iii) protect the environment, (iv) stop resorting to short-term measures, (v) improve construction quality, and (vi) place the construction system in the service of the socialist market economy to meet the demand for large-scale development.

The third is to formulate an intensive and extensive master plan. It must consider the construction program not only from an overall, comprehensive, macro point of view, but also from the point of view of specific requirements of urban space and the environment. Urban planners must pay attention to long-term policy aspects, and must be realistic and flexible, so as to provide

more extensive development space and to create a better living environment.

The fourth is to (i) reform urban management methods, (ii) improve the quality of construction teams, and (iii) adopt modern administrative methods. Project management should be integrated with comprehensive renovation, quick inspection with daily administration, business management with public participation, hardware construction with software management.

Conservation, Renovation, and Innovation

The city is a subsystem of the ecological system, like an embryo in the womb. The bigger it grows, the more it takes from the ecosphere. The ecosphere must provide the city with sufficient nutrition and absorb the city's waste. Xianyang's sustainable development depends on rational development; the efficient use of resources such as land, underground water, rivers, and so on; and the reduction and recycling of waste.

The city also needs more parks and gardens in order to sustain ecological balance. It must regulate construction and stop destructive development. The city plan for flood control provides for the establishment of a manmade ecological system along the Wei and Feng rivers. It is necessary to renovate the areas around the rivers, reinforce the dykes, dredge the waterways, and clear away the silt.

Highly polluting factories and projects with high energy needs should be kept out of the planned areas. In order to protect important cultural relics and historic sites, building height, scale, distance, and style should be strictly regulated in conservation areas.

Cooperation, Competition, and Development

This century will witness the integration of Xianyang and Xian, two cities with great potential. Their cooperation will benefit the whole region. Xian is an ancient, world-famous city and a highly popular tourist spot. A regional communications hub, it shares personnel, scientific technology, information, funds, and projects with

Xianyang. Xianyang is not only a major city in the region, it is also an important source of water, energy, agricultural raw materials, and labor for Xian. It is a major provider of air travel services.

Without Xianyang, Xian would be greatly weakened. Xianyang should therefore develop a mutually beneficial relationship with Xian. For example, Xianyang can distribute goods to Xian while it benefits from Xian's science, technology, information personnel, and funds. In the fields of electronics, textiles, and health protection, it can maintain its competitive advantage over Xian. In planning and design, infrastructure construction, basic industry, real estate development, and environmental conservation, however, Xianyang should cooperate with Xian.

Strengthening the City

In order to invigorate Xianyang, the authorities should first rid their minds of feudal and conservative ideas, and do away with the attitude of "wait, depend, ask." In constructing infrastructure, they should (i) seek truth from facts; (ii) heighten awareness of development, the market economy, economic opening up, competition, and efficiency; and (iii) balance planning and ecology so as to build a harmonious and comfortable environment.

Second, they should set up investment mechanisms that conform to the socialist market economy. The authorities should fully consider new environmental demands and the people's desire for a better life. They should act according to the laws of the market economy and of urban development. At the same time, they should also exercise control at the national level over urban planning, construction, and management in order to balance economic efficiency and environmental protection, immediate interests and long-term development, and local and overall interests.

Third, they should develop a system to create knowledge and promote technical and administrative innovation in order to improve the overall level of urban planning, construction quality, and urban management in the 21st century.