

CHINA'S BURGEONING TRANSPORTATION INDUSTRY

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Introduction

Transportation is a foundation industry of national economy and a precondition for social development and improvement of people's livelihood as well. The level of its development is one of the indicators of a country's modernization.

China is a developing country and its transportation industry was extremely backward in the old days. Since 1949 and especially during the last 20 years of reform and opening, transportation industry has achieved great progress. In spite of this, the capacity of transportation facilities is still inadequate to meet the need of a fast-growing national economy. As a result, the government gives top priority to developing transportation in its national construction. Financial input by the government to the infrastructure construction has kept increasing and construction pace sped up.

China's transportation industry takes railways as the backbone, highways as the foundation, and fully taps the potential of waterways that include inland and coastal navigation and ocean shipping, expands air routes and increase pipeline transports in an appropriate way, thus building up a nation-wide integrated and comprehensive transportation network and system.

Railways To Play The Backbone Role

Railways constitute the mainstay of China's integrated transportation network and serve as the arteries of traffic in China.

China is a big country, vast in territory and huge in population. Its interiors are extensive and remote. Uneven distribution of resources and unbalanced economic development are evident. So there is a need for long- and medium-distance transport of large quantity of goods. Right now, coals and cottons in the west are transported to the east; grains in the north to the south and minerals in the south to the north. Railways make all these possible as the main means of transportation on land with their advantages in long- and medium-distance circulation and distribution. They have become the linkages of economic interchanges between regions and areas of great disparities.

China has now 66,800km in length of railways in operation, with annual volume of passenger traffic at 1 billion persons while that of freight at 1.5 billion tons. Technical levels have been greatly enhanced. Electrified lines have reached 12,000km, accounting for 15.5 % of the total and double-tracked lines stand at 27% of the total. A railway network linking different parts of the country and Asia and Europe has basically come into existence.

In order to satisfy the need of regional economic growth, railway construction will be targeted for building up transport passageways of great capacity for passenger and freight traffic, getting through the major restrictive inlets and improving transport structure. At the same time, a policy of the simultaneous development of technological renovation and construction of new lines will be carried out. For instance, plans call for building new lines between Shenmu (in Shaanxi Province) and Huanghua (in Hebei Province) which will facilitate the outbound transports of coal in China's northwest; between Xi'an (capital of Shaanxi Province) and Ankang (in Shaanxi Province) and between Neijiang (in Sichuan Province) and Kunming (capital of Yunnan Province), which will link northwest and southwest; the Yuehai Tunnel stretching across the Qiongzhou Strait between Guangdong and Hainan Provinces; train ferry on the Bohai Bay; the South Xinjiang (Uygur

Autonomous Region) line which will promote economic growth in the minority nationalities region; the doubling of Baoji (in Shaanxi Province) -Chengdu (capital of Sichuan Province) and Zhuzhou (in Hunan Province) -Liupanshui (in Guizhou Province) lines; electrification of Wuchang (in Hubei Province) -Guangzhou (capital of Guangdong Province) line and special passenger line between Qinhuangdao (in Liaoning Province) and Shenyang (capital of Liaoning Province), etc. By the year 2002, total mileage of railways open to traffic will amount to 70,000km, making it possible to meet the requirements of national economic development and social progress.

At present, railway transport to the northwest part of the country is the busiest while in the north-to-south direction, the busiest sections are that of the Beijing-Shanghai and the Beijing-Guangzhou lines. The Beijing-Shanghai line is 1,462km in length, accounting only for 2.8% of the total rail mileage in operation, but its density both in passenger and freight transport is 5.2 times and 3.6 times respectively that of the country's average. It is the most busiest rail section in density in the world and is badly in need of a new line. Moreover, the Beijing-Shanghai line passes through four coastal provinces in the east and such big cities as Beijing, Tianjin (one of the four municipalities under direct administration of the central government) and Shanghai. It links up two economic zones of Beijing-Tianjin-Tangshan (in Hebei Province) and that of the Yangtze River Delta. The population along the line makes up 26.6% of the country's total; the industrial and agricultural output values stand at 43.6% of the country's total and the average national income per capita is more than 2 times that of the country's average. Because of its smooth terrain, the line is the first choice for a new express railway.

The Beijing-Shanghai express railway is now under first-phase preparations and argumentation process.

Highways To Play The Foundation Role

Road traffic and transportation has increased far more rapidly in recent years than the other modes of transportation due to its flexibility, mobility

and convenience as well as its ability to render door-to-door services. Moreover, it plays an important part in the economic development of urban and rural areas due to its depth and coverage. In central and western China and some less-developed regions, road transportation has become major conveyance. In the integrated transportation network, proportion of passenger and freight traffic by road and highway is constantly on the increase. Up to now, proportion of passenger and freight volume by road and highway reaches 88% and 76.6% respectively whereas that of passenger and freight turnover volume by road and highway account for 50.5% and 13% respectively.

By the end of 1998, China had 1,278,000km of public roads, with a density of 13.32km per 1 million square km of the country's land areas. More than 98.7% of townships and 87.7% of villages in China have access to roads and highways. A rational-distributed highway network, open to all sides and linking trunk with branch lines, has basically been set up. Yet against the vastness of the country, the number of roads and highways is small and their qualities very low. With the deepening of reform and opening, the importance of highway transportation has increasingly been recognized and the pace of highway construction accelerated. In recent years, more than 200 billion yuan RMB (US\$ 24 billion) were allotted to highway construction every year and mileage of new roads and highways increased by 30,000km.

China's expressways started rather late but developed quite rapidly. The first 19-km-long Expressway linking Shanghai with Jiading (under Shanghai administration) was completed only in October, 1988. In September 1990, Shenyang-Dalian (seaport in Liaoning Province) Expressway of 375km in length was built and open to traffic.

By using several five-years' periods, the government plans to construct main roads of national highway network that are significant for the development of national economy. The main road system will be composed of 12 high-grade highways of roughly 35,000km in length, which will constitute the backbone of the national transportation network. They will link Beijing, the capital city of China, with municipalities under direct administration of the central government, capital cities of the provinces and

autonomous regions as well as other major cities. The main road system will attract more auto traffic with its large capacity and advantages in rapidity, safety, economy and comfort. Up to now, the plans have been carried out smoothly. From 1991 to 1995, new addition of expressways per year averaged 324km in length. From 1996 onward, 1,000km's of expressways were added each year. By 1999, China's expressways totaled 11,000km in length, with another 10,000-km high-grade highways under construction.

Now I would like to brief you on some of the recent developments of the Beijing-Dandong (in Liaoning Province) highway section.

This highway section consists of two parts: Beijing-Shenyang Expressway and Shenyang-Dandong Highway. The 658-km-long Beijing-Shenyang Expressway is a key transport passage leading from north China to northeast China, and forms a major component of the national highway network. As traffic on this section is heavy, this expressway is designed and constructed with higher standards. It has been planned that it be built in 6 lanes at present time but reservations for an 8-lane highway made in advance. In order to minimize difficulties in future construction work, some extremely large bridges, main intersections, service areas, etc are built in 8 lanes once for all. A 5-meter-wide seeded strip has been set apart along the roadbeds of the whole section. The speed limit by design is 100-120km per hour. The project has been going successfully. The Beijing-Jinzhou (in Liaoning Province) section of the highway has already been built while the whole Beijing-Shenyang Expressway will be brought to completion by the end of 2000.

The Shenyang-Dandong Highway is also one of the components of the national highway network and forms a part of the Dandong-Lhasa (capital of the Tibetan Autonomous Region) main trunk highway. As the volume of traffic on the road is little, it is designed in 4-lane truck. Of the Shenyang-Dandong Highway, the Shenyang-Benxi (in Liaoning Province) section was completed and open to traffic in October 1996 while the 134-km-long Benxi-Dandong section will be finished in 2001. Until then, the whole section of Beijing-Dandong Highway will have been linked up.

To Further Strengthen Sea Routes and River Transportation

China is rich in resources of water transport. There are many long rivers, such as the Yangtze River, the Yellow River, the Pearl River, the Haihe River and the Heilongjiang River, etc. Internal rivers, lakes and coastal lines are interwoven. Potentials for developing inland navigation are great but are not fully utilized. At present, total length of navigable inland waterways is 110,000km, of which 5,800km is navigable by ship of 1,000 tons and 11,000km by ship between 300-500 tons.

In the future integrated transportation system, water transportation shall play a bigger role with its advantages in large capacity, low consumption of energy and cheap costs. Emphasis will be given to the development of deepwater channels, dredging of waterways and raising of waterway classifications. Efforts will be centered on constructing a waterway network that includes the Yangtze river trunk line, the Xijiang river trunk line in Guangxi Province, the Beijing-Hangzhou (capital of Zhejiang Province) Grand Canal (Jiling-Hangzhou section) and the Yangtze River Delta and Pearl River Delta waterways. In so doing, it is expected to enlarge the passage capacity of inland navigation and increase in through transports of main and branch rivers and river-to-sea through traffic.

More than 90% of China's foreign trade cargo are shipped by seaports and routes. Therefore seaports and ocean shipment are of great importance to the expansion of opening to the outside world and strengthening of international economic and technical interchanges and cooperation. With a coastline as long as 18,400km, many good harbors and more than 6,500 islands, China enjoys exceptional advantages for developing ocean shipment. There are now more than 200 ports of various sizes and 4,300 quay berths, among which 570 berths are capable of hosting vessels of 10,000 tons and above. Annual throughput of the main ports reaches 1.3 billion tons. There is also an ocean-going fleet consisting of various types of ship with a tonnage of 22 million DWTs.

Plans call for construction of more deepwater terminals in order to meet the need of national economy and foreign trade. To adapt to changes in the

structure of foreign trade commodities, attention will be given to the construction of container ports of various grades in addition to specialized ports for handling iron ores, crude oils, grains, etc. We shall also improve the transportation and transmission conditions of the ports.

Civil Aviation Welcomes The Arrival of Great Development With New Gesture

Air transportation is an advanced mode of transportation and shows boundless prospects in future development.

In recent years, China's civil aviation has been developing rapidly with high speed of growth. There are now 647 operating lines, 71 of which are international. The annual carrying capacity of passengers stands at more than 80 millions.

As internal and external interchanges increase and tourism grows, more and more people are conscious of the value of time and call for speedy transportation systems. What is bound to happen is that development of civil aviation has become a certainty of Chinese economy.

China now has more than 100 existing civilian airports in operation. Big and medium-sized airports have been built in all municipalities under direct administration of the central government, capital cities of the provinces and autonomous regions and other major cities. Some of them are capable of handling international flights. For the near future, it has been planned to build new airports or expand the existing ones, including international airports of extremely large size for big cities as well as airports for some important tourist spots. New air routes shall be added and frequency of flights increased according to the flows of passengers. Large and medium-sized airplanes will be joined in the existing fleet and outmoded ones replaced. At the same time, construction of modern navigation systems shall be quickened; automatic air traffic control system, meteorological system and dispatching and directing system be installed.

Pipeline Transportation To Be Developed In An Appropriate Way

Pipelines are important means of transportation for such fluid merchandise as crude oil and natural gas and serve as a symbol of a country's modernization in energy transport. China is an oil-rich country, with total production of petroleum reaching 140 million tons and pipelines as long as 20,000km. In the future, stress will be laid in the distribution of pipeline network structure. As production capacity of crude oil and natural gas increases, more new pipelines are being laid out. The existing ones in eastern China need to be reformed and readjusted according to the flow of oil and the need of imports. Attention will be given to the construction of oil and gas pipelines leading from Xinjiang Uygur Autonomous Region to the hinterland in accordance with development of oil and gas deposits in the western region. Under construction now are gas pipelines transmitting natural gas in north Shaanxi Province to Beijing, which will be connected with gas pipeline network in north China. If completed, it will play an important role in greatly alleviating tension of short supplies of gas in Beijing and throughout the whole north China and improving environmental conditions of the region.

Transportation of liquid coal by pipelines is an effective way of transmitting power generation coal. It is now being experimented with the purpose of creating conditions for actual application.

In Western Region Development, Transportation Infrastructure Construction Will Play The Significant Role of Forerunner

Recently, the Chinese government made an important strategic decision on large-scale development of the western region. In so doing, it devotes much efforts to speeding up construction of infrastructure facilities, particularly those of railway, road, airport and natural gas pipeline with the hope of opening up transportation passageways between the western region and central and eastern regions. The government therefore formulates a policy guideline that "transportation must be sped up in advance of other

sectors”, giving priority to the construction of transportation in the course of the western region development.

In the overall construction objectives, focal point will be directed to the construction of integrated transport routes and pivotal projects between eastern, central and western regions in meeting the needs of transmitting coal, electricity, oil and gas in the west to the east and the building of Eurasian continental bridge. Efforts shall be made to improve transport passages between all provinces, municipality and autonomous regions within the western region and internal transport facilities of each province, municipality and autonomous region in order to accelerate social and economic development of the western region. There is also a need to strengthen relationship and open traffic routes with the circumambient countries and to speed up construction of roads and highways at county, township and village levels.

In addition to increases in investment on construction of transport facilities in the western region, the government adopts preferential policies to expedite development of transportation in the region and encourage domestic and foreign capitals, technologies and talents to get involved in the western region development.

In the wake of substantial growth of the national economy, China’s transportation industry is entering its peak development stage, opening up broad prospects of growth not only for the railways, highways and waterways, but also for civil aviation and pipeline transports. The five modes of transportation, by bringing each and everyone’s strong points into full play and using market mechanism, have formed a unified and comprehensive transportation system under the State’s macro-control.