BUILD RAILWAY LOGISTICS CENTER BASED ON FREIGHT STATION AND MARSHALLING YARD

XUE Feng¹,² Ma Xiaochen¹ and HU Zuoan¹
¹College of Transportation and Logistics, Southwest Jiao tong University, Num.111, First North Segment, Second Loop-road, Chengdu, Sichuan 610031, China; PH(86)28-86466546; email:xuefeng.7@163.com
²Key Laboratory of Comprehensive Transportation of Sichuan Province, Southwest Jiao tong University, Chengdu, Sichuan 610031, China; PH(86)28-87600165

ABSTRACT
China Railway Corporation is gradually advancing freight organization reform, and railway transportation organization will be changed from internal production to market oriented. It is the inevitable direction of railway freight reform that expands the freight transportation function of marshalling yard, and promotes freight station into a modern logistics center. After describing the current situation of Chinese railway freight organization reform, the advantages of railway becoming to a logistics center based on freight station and marshalling yard were analyzed. The basic operation mode of railway logistics center was constructed, and has proposed the relevant strategy, in which include strengthening comprehensive transportation infrastructure construction such as marshalling yard and large-scale freight yard, improving service capacity of cargo storage and handling, constructing modernized logistics center with value-added service function, etc. The solution of constructing railway logistics center based on freight station and marshalling yard can offer decision-making reference for freight transportation reform of railway administrative department.

1. INTRODUCTION
Logistics center is the infrastructure of logistics system, which can enforce the integrated operation of logistics distribution and control. In Europe and America countries, there are advanced service facilities, equipment and technology in logistics center, which can provide well service. They consistently take the customers satisfaction degree as their goal. In recently years, logistics industry has been developed fast. But compared with developed countries, our cost is very high. Railway, as the main artery of our economic, is the backbone of our transportation system. With the development of reformation of railway, it is the natural trend to make the traditional freight service transform to modern logistics.

Developed countries break the traditional single-mode in present, their railway transport service are extended to other transport mode and carry out other personalized service. In the situation that high-speed railway developed fast and existing railroad capacity decreased, merging modern logistics management theory and service into our method, we can increase the comprehensive ability of railway
2. CHINA RAILWAY FREIGHT REFORM

In recent years, railway management departments have raised the quality of their service through the ways of innovating the way of selling tickets, optimizing the train operation plan, improving the environment of stations. But at the aspect of freight, there are still many problems such as complicated process, less connection in transport organization and market requirement. There are not transport cost standard and non-clear transport capacity distribution. For the effect of reform, China Railway Company came up with the reform program in 2013, which make the railway market-oriented but not internal production. The goal of the reform is to solve the freight problem ultimately, to make railway meet the market requirement fast, and to make them become market-oriented firms from planned firms. Based on the change, we can push forward the reform of constructing the modern management and operating mechanism. Freight organization reform content mainly includes four aspects:

1) Reform the admission way. Simple the freight admission process, expand channel, provide an easy, convenience, fair service for customers.

2) Reform the transportation operation mode. The railway department should make the organized plan based on the meet of customers and the market.

3) Standardize the transport charge. Formulate and publish the railway freight transport services fees charging standards. Make the charge clear so as to win the market.

4) Develop the “door to door” service. To speed up the railway freight transform to modern logistics.

Railway freight transports have the characters of high speed, large-carrying-capacity, stability, environmentally, and low cost. Railway freight organization reform can release the railway freight market activity, improve service quality and customer experience, further highlights the railway’s advantage of stable bulk cargo transport over long distances and promote commodities manufacturing and logistics industry linkage (ZHANG Xiaodong and MO Zongnan, 2013). The 12th five-year railway development plan also said it would strengthen the marshalling yards, large freight yards and other comprehensive freight facilities construction. We will build the modern freight yards and logistics center with value-added service functions, improve the capacity of cargo storage and loading-unloading services, and promote freight station transform to modern logistics center.

3. THE BASIC FUNCTION OF FREIGHT STATION AND MARSHALLING YARD

Freight station is the place in which goods are gathered, staged, loaded and unloaded. People can deal with the information and do other activities there. There are five features of the freight station: ① Transport organization ② Transfer function
3) Storage function 4) Multimodal transport and transport agency 5) Comprehensive service functions.

Railway freight station is of the railway network node, its main function is to load and unload cargo, allocate and send cargo. Freight station is important to ensure the smooth of the whole railway goods transportation. Railway freight station becoming isolated point from the whole logistics chain. And the supply chain requirements of railway freight station is more than just a node, it is a connection point of the chain, so freight stations should be refactored to meet the requirement of the supply chain. With the rapid development of economy in our country, the society as a whole is also increasing demand for logistics. Constructing logistics center according to the characteristics of railway freight station will be strengthen. (LIU Bing and ZHAO Peng, 2006).

The railway marshalling yard is the key of railway hub, is often called "train factory", its main task is to decode the train, and some also bear the pickup and delivery vehicle tasks to the freight station. To sum up, the basic function of railway marshalling yard includes: decode and marshal all types of freight trains, empty cargos distribution; organize local traffic, namely transfer train for the local district operation (LUO Anquan, ZHENG Guohua and FANG Zhijun, 2009). As an important part of railway hub, modernized railway marshalling stations is no longer simple transit sites, but an important link of the logistics chain. With the modern logistics concept gradually merge into the railway freight station, it is the certainly outcome that the tradition freight transform to modern logistics.

4. THE ADVANTAGE OF FREIGHT AND MARSHALLING STATIONS DEVELOPING MODERN Logistics

4.1 The Improvement of Freight Station Develop Logistics

The best model to develop railway station to modern logistics is to develop gradually. We can improve the traditional management way, by winding the service content, progressing the logistics technology and reducing the cost, in which ways we can promote the development of existing business and the formation of core competence. Then, we could raise funds, renew the logistics facilities, allocate advanced equipment and build the modern logistic center and their network gradually (YI Chunguang and JU Songdong, 2007). There are following advantages of railway freight station to develop into modern logistics:

(1) The geographical position advantages. Railway freight stations are often located in the center of district. So they have the convenient of "door to door" transportation.

(2) Infrastructure. Railway freight stations have large warehouse, loading and unloading equipment, special line and other facilities, so they have the advantages of storage and transportation.

(3) Resources. Long distance and large capacity bulk cargo transport mainly depends on the railway. Railway has the conditions of providing high quality
logistics service in China.

(4) Market advantage. Railway stations maintain long-term relations of cooperation with the local medium-sized enterprises. This large number of customers provides a good potential market for the construction of logistics center.

(5) Information resources. The railway has a relatively complete communication system of well transportation management information, and a dispatching management system. Railway freight station can make full use of the advantage of information resources for successful transformation.

(6) Management advantage. We can take the advantage of human resource because the existing staff are familiar with the railway transportation organization, who after the training can specialized in logistics business (CHENG Qingbo, CHEN Zhiya and SUN Qingfeng, etc., 2007).

4.2 The Process of Marshalling Yards and Freight Stations Develop in to Logistics

Railway marshalling station developing modern logistics has the following advantages:

(1) The geographical position. Railway marshalling stations are often located in the center of the city, which connecting many trunk lines. It provide well conditions for marshalling stations logistics hub to do business with other regions.

(2) The network superiority. The main railway marshalling stations almost cover all the network nodes. Marshalling station as a traffic hub, have lots of empty cargos. And they have high capacity and low transportation cost.

(3) Technology and equipment advantages. Marshalling station has a lot of technical equipment, including aircraft, vehicles, electrical, station, communication signal and so on. The perfect streamlined production organization method is a reliable guarantee for logistics business (XU Fuzhou and YU Shao he, 2004).

(4) The advantage of information technology. Marshalling station is the original information acquisition point of TMIS system. There is automatic recognition system of wagon number, thus an important source of information source. These are the foundation of information technology to transform into the logistics center from marshalling yard.

5. THE CONSTRUCTION OF RAILWAY LOGISTICS HUB

5.1 Function Extension of Freight and Marshalling Stations

Railway freight station can rely on their own advantages to broaden the scope of logistics services, such as to carry out the circulation processing and packaging operations to make the temporary warehouse become warehouse center. Meanwhile, transportation agency can be developed. Comprehensive logistics value-added services, like warehousing, packaging, circulation processing, information processing, distribution, and a series of extension services can be also carried out. To maximize convenience to the owner of the goods, "door to door" highway transportation
service can be provided too.

5.2 Improvement of Freight Station and Marshalling Yards

Because the freight stations do not offer storage, packing, distribution service. The traditional business of their process go against the development of market management. Freight station and marshalling yard should be developed on the base of meeting consumers’ requirement. It means that, the kinds and contents of assignment we should do is determined by consumers. The logistics center can do any works as long as the consumers agreed (LI Dongxia, 2008).

The basic task of marshalling yard is decoding cars, when the train arriving at the destination terminal, the consignee should go to get their freight at the destination terminal by themselves traditional. After the freight stations develop into logistic center, the freight then are conveyed to the consignee's warehouse or factory by stations car (LIU Sisi, 2007).

5.3 The Operation Mode of Railway Logistics Center

The advantage of rail transport are large capacity, fast speed, low transportation cost but lack of flexibility. And highway transportation has the advantage of flexibility. Relying on the railway freight station and marshalling yard, combined with the highway transportation, the construction of logistics center could adapt to the market development. So we can achieve complementary advantages of various transport modes.

Thus it is possible to railway logistics center provides a complete supply chain service for the production of enterprises. For providing a complete supply chain logistics service, The railway logistics center need form a close partnership with the production enterprises and have an accurate knowledge on the enterprise production and raw materials. With the development of railway logistic center, we can expand the logistics services before it growing up into a large modern logistics centers gradually.

6. THE CONSTRUCTION STRATEGIES OF RAILWAY LOGISTICS CENTER

The construction of railway logistics center needs the reform of the traditional mode of railway management. For forming a seamless interface Supply chain system. We need develop and strengthen the function of the freight marshalling yard and freight station. Freight operation, handling, packaging, storage, distribution and other operations are need consolidated.

(1) Play their own advantages of railway network. Based on strengthening the overall function of road and logistics network, scale and network management could be formatted. By which way can we realize "door to door" service; improve the market share of railway logistics.

(2) Multimodal transport. New ways of rapid transit of railway based on freight station and marshalling yard need be expanded, and the integration transportation
mechanism should be built.

(3) A logistics enterprise alliance. Take the consumers requirement as the goal, establish relations of cooperation between upstream production and downstream sales enterprises, in such way can they reduce operation cost, improve efficiency and achieve win-win situation.

(4) Perfect logistics service system. In accordance with the "physical" transportation, we should develop service system which supported by computer network and information technology.

7. CONCLUSIONS

To effectively develop logistics functions, expand the business scope of railway transportation. A logistics hub that taking advantage of freight stations and marshalling yards can be built. By strengthening the logistics infrastructure, network infrastructure and service facilities, a scientific management with safe, efficient and high quality service of modern railway logistics base can be built. That plays an important role in promoting the development of the logistics industry and national economy of China.

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REFERENCE