

Research on the development strategy of air logistics in Guangzhou Baiyun Airport

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Abstract : *As the core of the airport group in the Pearl River Delta region, Guangzhou Baiyun International Airport is also the engine of the development of Guangdong-Hong Kong-Macao Greater Bay Area. The development of airport aviation logistics is particularly important. This paper analyzes the current situation and development problems of aviation logistics in Baiyun Airport, and puts forward the corresponding development strategies.*

Keywords –*Guangzhou Baiyun Airport, aviation logistics, strategy*

Date of Submission: 25-07-2022

Date of Acceptance: 08-08-2022

I. INTRODUCTION

Logistics industry is a basic and strategic industry supporting the development of national economy. Logistics is an indispensable part of the operation of national economy. As the hub airport of the "the Belt and Road", Guangzhou Baiyun Airport's aviation logistics capability is an important guarantee to drive the mutual exchanges between the "the Belt and Road" countries and promote the upgrading of China's import and export trade structure. Moreover, the added value of goods using air logistics is generally high, so airports with high air logistics capacity will also have many advanced manufacturing industries gathered around them. Therefore, the improvement of air logistics capacity of Guangzhou Baiyun Airport will radiate and drive the economic development of the Pan Pearl River Delta region.

II. CURRENT SITUATION OF AVIATION LOGISTICS IN GUANGZHOU BAIYUN AIRPORT

Guangzhou Baiyun Airport is one of the three major gateway composite hub airports in China. It has established business contacts with nearly 80 Chinese and foreign airlines. Its routes reach more than 230 navigation points at home and abroad, and its route network covers five continents around the world. In 2021, the import and export volume of cross-border e-commerce at Guangzhou Baiyun Airport exceeded 100 billion yuan, becoming China's first airport port with cross-border e-commerce business reaching the 100 billion yuan mark. In 2021, Guangzhou Baiyun International Airport achieved a new breakthrough of 2 million tons of cargo and mail throughput that year. Among them, the international and regional cargo and mail throughput increased by more than 20% year-on-year, providing a strong support for the rapid development of aviation logistics.

At present, the aviation logistics facilities of Baiyun Airport are mainly composed of three parts: FedEx Asia Pacific transit center, airport cargo center and airport comprehensive bonded zone.

FedEx Asia Pacific transit center covers an area of 63 hectares, with a total construction area of 82000 square meters, and operates 136 flights per week. The transfer center can sort up to 35000 parcels and documents per hour, providing transportation services between 20 major Asian cities, and connecting more than 220 countries and regions around the world through these cities.

The airport cargo center includes domestic cargo terminals, international cargo terminals, inbound and outbound customs supervision warehouses, special cargo warehouses, comprehensive business buildings, etc., with a daily peak cargo handling capacity of 1000 tons. The airport cargo center integrates the functions of air cargo terminal, freight forwarder and logistics, relies on modern logistics information technology, and combines advanced logistics concepts and management means to provide one-stop modern airport logistics services for airlines, shippers and freight forwarders, such as cargo transit security, inbound and outbound handover, warehousing, ground transportation and so on.

The airport comprehensive bonded zone covers a total area of 7.198 square kilometers, spanning Baiyun and Huadu districts in Guangzhou, and is divided into three regions: the south, the middle and the north. It is the largest airport Comprehensive Bonded Zone in China. Relying on Baiyun Airport, it has convenient transportation and integrates port customs clearance, export processing, bonded logistics and other functions, which can help enterprises effectively reduce operating costs. The comprehensive bonded area of the airport has

built comprehensive functional areas such as port customs clearance, bonded processing, bonded logistics, import and export trade, international procurement and distribution, international transportation, after-sales service, maintenance, exhibition, financial services, scientific and technological research and development, and focuses on the development of airport industrial clusters such as aviation logistics, business exhibition, electronic information, etc.

III. PROBLEMS FACED BY THE DEVELOPMENT OF AVIATION LOGISTICS IN GUANGZHOU BAIYUN AIRPORT

3.1 Impact of the COVID-19

At present, the impact of the COVID-19 is widespread and far-reaching. The global economy is under unprecedented pressure. The development of the air transport industry bears the brunt of the huge pressure. The development of the airport economy in an export-oriented economic form is facing challenges. Carrying cargo in the belly of passenger aircraft has always been the main way of air cargo in China. After the outbreak of the epidemic, the number of airline routes fell precipitously, and the navigation points of hub airports fell sharply. The number of passenger flights fell sharply, and the belly capacity of passenger aircraft fell sharply. At the same time, a large number of international cargo companies have suspended flights, which exacerbated the tense situation of air cargo capacity. The contradiction between supply and demand of transport capacity will become more apparent and will continue to exist during the epidemic. At the same time, there are many staff infected with covid-19 infection after contacting goods from abroad, resulting in stricter control of cargo circulation, which has a great impact on the development of air logistics in Guangzhou Baiyun Airport.

3.2 Insufficient support capacity of information platform

For a long time, air cargo terminals have been the "information black hole" of the whole air transport service chain, and the exchange of information lags behind. In the post epidemic era, the shipping market has undergone fundamental changes in transport capacity and cargo attributes. There are many shipping companies and many types of aircraft in the shipping market; There are many kinds of goods, many in bulk, and many plates needed. In this case, in order to provide efficient ground support, air cargo terminals need to provide personalized customization solutions. The key to customization lies in the support ability of the information platform. However, due to the insufficient support capacity of the information platform, it is difficult to load goods in the cargo station, the delivery is delayed, the warehouse is tight, and the trucks transporting outbound goods cannot leave early, and the "long line" around the cargo station moves slowly. The utilization efficiency of production capacity such as personnel and equipment inside and outside the freight station is low, the guarantee pressure increases sharply, and the efficiency is difficult to improve.

3.3 Imperfect comprehensive transportation hub system

The unbalanced and insufficient development of comprehensive transportation in Baiyun Airport is still prominent. Charles de Gaulle Airport is a model of the introduction of railway into the airport. There is a railway station in the airport. The airport is connected with the regional express railway and high-speed railway system through a high-speed railway and a suburban railway, establishing a tight and seamless connection mode. Frankfurt Airport has set up an air rail terminal jointly built by the airport and the railway company, which is dedicated to handling transfer and connection procedures for air rail intermodal transport, and provides intermodal transfer services to air rail intermodal passengers of contracted airlines. In Guangzhou Baiyun Airport, air rail intermodal transport has not been fully formed, and the railway freight channel with Nansha port has not been established. Baiyun Airport is still insufficient in terms of international accessibility and international route expansion. Long distance intercontinental routes, especially European and American routes, are relatively weak, the surrounding roads and urban infrastructure are weak, and the airport portal image does not match the energy level of Baiyun airport hub.

3.4 Fierce competition in surrounding airports

Guangzhou Baiyun Airport, as the core of Guangdong-Hong Kong-Macao Greater Bay Area, is surrounded by Hong Kong, Shenzhen, Zhuhai, Macao and other airports. Hong Kong airport has become the busiest international cargo airport in the world since 1996. In 2021, the cargo volume of Hong Kong International Airport increased by 12.5% year-on-year to 5million tons, surpassing the 4.8 million tons before the outbreak of the epidemic. The take-off and landing volume of cargo aircraft and freight volume reached a record high. Although the cargo and mail throughput of Shenzhen airport is temporarily lower than that of Baiyun Airport. However, in 2020, the freight and mail transportation business volume of express enterprises accounted for 45.4%, which has exceeded the 41.7% share of the freight and mail transportation business volume of traditional large airlines. Moreover, the main base of SF Airlines is Shenzhen Bao'an airport. SF airlines' business has developed rapidly in the post epidemic era, and its market position has been significantly

improved. Therefore, the development of aviation logistics in Shenzhen airport has great potential, while Zhuhai and Macao airports have formed a strategic dislocation. Zhuhai Airport focuses on domestic, while Macao airport focuses on international. There are many airports in the Guangdong-Hong Kong-Macao Greater Bay Area. With the development of the Greater Bay area, the competition between them will only become more and more intense.

IV. DEVELOPMENT STRATEGY OF AVIATION LOGISTICS IN GUANGZHOU BAIYUN AIRPORT

4.1 Accelerate the subsidy policy of air cargo routes

At present, there are two transportation methods of air cargo: belly cargo and full cargo aircraft transportation. The cargo volume of belly compartment is small and inefficient. For example, China Southern Airlines, based at Guangzhou Baiyun Airport, has only 16 full cargo aircraft, and its air cargo capacity is insufficient. The government should appropriately increase subsidies for the development of air cargo, guide airlines to expand cargo aircraft navigation points, encourage airlines to increase the flight density of cargo aircraft routes, continue to promote the development of "passenger to cargo" flights, charter flights and special flights, and expand aviation logistics capacity. At the same time, attract more high-quality freight forwarding enterprises to take root and develop in Baiyun Airport.

4.2 Improve the construction of air cargo supporting facilities

At present, Guangzhou Baiyun Airport has two international cargo terminals, namely, China Southern Airlines cargo terminal and international No. 1 cargo terminal. The most obvious gap between them and Shanghai Pudong Airport is reflected in the construction of air cargo supporting facilities. Shanghai Pudong Airport has four cargo terminals and a logistics center, and the cargo terminals are located on the side of the runway, which greatly reduces the time and distance of cargo transfer to the arrival station. The area of "international No.1 Cargo Station" is only 4.3 square meters. The cargo terminal of China Southern Airlines mainly deals with the flights of China Southern Airlines and some foreign airlines. Cargo terminal 1 handles Air China flights and a large number of other flights. When there are too many goods in the cargo station and the efficiency of handling goods is not high enough, there will often be warehouse explosion. Only the existing two cargo terminals can not fully meet the huge logistics needs of Guangzhou Baiyun Airport, so Baiyun airport needs to focus on promoting the construction of key aviation logistics supporting facilities such as the West cargo terminal, China Southern Airlines international cargo terminal II, SF Express Transfer Center, the Airport East Express Center, the East cargo terminal, FedEx operation center, and further improve the aviation logistics service capacity of Baiyun Airport.

4.3 Enhance the radiation capacity of air transportation

In order to build Baiyun Airport into a core hub airport in the airport group of the Guangdong-Hong Kong-Macao Greater Bay Area, we need to continuously enhance air transport capacity, actively explore foreign routes, and form a strong advantage in air resources. Baiyun airport first needs to optimize the design of route network, improve the airport supporting service process, and enhance the connection with other transportation modes, so as to provide competitive international transit service products. Secondly, Baiyun airport can strengthen communication and coordination with the National Civil Aviation Administration, air traffic control bureau and other relevant departments, increase the route network coverage of Baiyun Airport, develop medium and long-distance international routes and intercontinental routes, build routes to Europe, America, Oceania and other regions, increase the number of international direct flights, and become a competitive international transportation hub.

4.4 Improve the service level and efficiency of airport customs

First, we will vigorously reduce the overall customs clearance time for import and export of goods, and continue to promote the "advance declaration" of import and export goods by deepening the reform of customs business, improving the fault-tolerant mechanism. Secondly, efforts should be made to improve the informatization and intelligence level of port customs clearance. Promote the new generation of tax electronic payment system, realize the second-order payment of taxes and fees, paperless the whole process of tax bill circulation, and reduce the links and time of document circulation. Moreover, we will vigorously streamline the regulatory documents and accompanying documents for import and export. Comprehensively promote electronic customs declaration entrustment, and exempt enterprises from submitting invoices, packing lists and other accompanying documents in the import and export declaration process. For those who need to check the paper materials for business, it is allowed to submit the electronic documents first and then supplement the paper materials.

V. CONCLUSION

At present, China's economic development is entering a critical period of steady growth, structural adjustment and transformation. With its high-end industrial positioning and high value-added attributes, aviation logistics industry will be an important means to drive the transformation of local and even regional economic development mode. The development of aviation logistics in Baiyun airport needs to seize market opportunities, give full play to its own advantages, and formulate practical development plans, so as to stand out in the fierce industry competition and become an important engine for the economic development of Guangdong Province and even the Pan Pearl River Delta.

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Lin Yan, et. al. "Research on the development strategy of air logistics in Guangzhou Baiyun Airport." *IOSR Journal of Business and Management (IOSR-JBM)*, 24(08), 2022, pp. 51-54.