

Current Situation and Thinking of General Airport Construction and Operation Management in China

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Abstract. the construction significance of general airport is to ensure the normal takeoff and landing of general aircraft, general aircraft in military affairs, police and other public utilities aircraft, so the construction of general airport is necessary. China has made great progress in the construction and operation management of general airports this year. This paper will classify general airports and summarize the current situation of their construction and operation management, so as to put forward corresponding strategies for their future development.

Keywords: general airport; Construction and operation management; Current situation and thinking.

1. General Airport Classification

After classifying general airports, they can effectively conduct more reasonable management for different types of airports. Different types of general airports have different construction standards and specifications, and they can also have higher efficiency in handling approval procedures. At present, there are three kinds of general airport classifications used in China, namely, the impact of the airport on the public interest, the frequency of use of the airport and the location of the airport. According to the above three classification requirements, airports can be divided into three categories. The categories and requirements are shown below in the form of a chart. See figure 1 for details.

Table 1. General Airport Classification in China

Airport type	Number of flights	Number of take-offs and landings per month
First class airport	10-29 aircraft	More than 3000 times
Second class airport	5-9 aircraft	600-3000
Three types of airports	Below 9 aircraft	Under 600

2. Current Situation of General Airport Construction and Management in China

At present, there are some problems in general airport management in China. Firstly, there is a lack of relatively fixed standards in equipment, and there are many related laws and regulations, but the content is relatively vague. In the process of reference by local construction or management departments, there will often be chaos, which will hinder the newly established general airport project to some extent, lead to the delay of the project due to the long approval time, and may result in the failure to achieve the higher goal in the initial stage of goal setting.

According to the survey report in 2017, China had a total number of 2,776 general aircraft and 311 general airports as of June 2017, but the United States, the world's largest flying country, had 273,211 general aircraft and 19984 general airports by the same time. Examining the data in general airports in our country and the development of general aircraft while to make it a certain amount of progress in recent years, but still exists a certain gap with the developed country, will be through the chart below to our country and other countries, in the form of navigation of aircraft, flight time, navigation and proportion of general aircraft number list, see table 2 for details.

Table 2. comparison of general aviation across countries

project	China	Canada	Australia	America
Number of general aviation aircraft	2776	40558	12058	273211
General aviation aircraft flight time (hours)	10097	500000	310000	1870000
Ratio of transport to general aviation	1:0.8	1:64	1:25	1:29
Number of general airports	311	1956	687	19984

3. Principles and Significance of General Airport Construction

3.1 General Airport Construction Principles

In general airport construction principles, the first thing to ensure the safety of flight, so it is necessary to arrange at the level of safety technology. Secondly, in order to ensure that the limited resources can be maximized in the daily operation of general airports, the principle of reasonable allocation should be followed. In terms of the construction scale and the use of construction equipment, in order to minimize the cost, the principle of saving should be followed at this time, so as to maximize the cost of construction on the basis of ensuring the quality of the project.

3.2 Significance of General Airport Construction

Among civil aviation, general aviation is one of the very important components. Different means of transportation have different characteristics, and the advantage of general aviation is reflected in its speed. The average speed of ground transportation is 180km/h, while even the slowest helicopter in general aviation can reach more than 300km/h. At the same time, it is limited by the ground conditions, the distance between destinations is usually a straight-line distance, the mileage is shorter.

In terms of investment returns, the construction of general aviation only requires investment in airport land and equipment, and it does not require high requirements on roads like highway or railway transportation. General aviation has a great advantage in this key investment node. According to the statistics, it takes 20 times as long to build an open railway as to build an airport, and every kilometer of railway is enough to build a small airport.

Finally, in terms of social benefits, the development of general aviation can help the progress of a series of subsequent industries, including aviation oil, aviation building materials, maintenance personnel and management personnel, which can provide considerable economic benefits and job opportunities for the society. Due to the speed and comfort of general aviation, it has become one of the main travel choices for residents to travel, which has a positive impact on the development of tourism. The significance of general aviation in geological exploration, meteorological monitoring, medical rescue, military preparation and other aspects is not comparable to that of ordinary embankment traffic, and the construction of general airport is the foundation of general aviation development.

4. Thoughts on the Construction and Operation Management of General Airports in China

4.1 Relevant Factors Restricting Development

In the construction and operation management of China's general airport, the first constraint is the lack of understanding. The reason for this problem is firstly that the analysis of the positioning, layout

and other factors of the general airport is not in place. Secondly, the current scale of general aviation in China is too small, and general aviation is the foundation of general airport development. Take human resources as an example, there are more than 7,000 pilots of general aircraft in China, which is a huge gap compared with developed countries in this respect. Such a gap will lead to the slow development of general aviation companies, and thus restrict the construction of general airports. Finally, the constraint factor for the development of China's general airports is related policies. Compared with the low-altitude opening policy of foreign countries, China's requirements in any airspace are always very strict, so every flight must go through strict examination and approval. Secondly, the problems of relevant policies will also lead to delays in various procedures required in the construction of general airports, which will also cause delays in the construction of general airports.

4.2 Strategies Related to the Construction of General Airports in China

In order to strengthen the related work of general airport construction in China, we should first formulate unified and effective management standards. As mentioned above, there are many different management standards in China at present, but by comparing them, we can find that there is not much deviation in the central idea. Therefore, in order to simplify the construction approval procedures and accelerate the construction efficiency, different approval methods can be implemented for different types of general airports. For a general airport of such a large scale as the first and second class, site selection audit, project approval report audit, design audit, test flight and other steps should be carried out, while for the third-class airport, the project approval report audit and other work can be simplified due to its small size. Class I airports may undertake the task of lifting and lowering large aircraft in the future, so they have higher requirements on infrastructure construction compared with other general airports. First and second-class airports shall be equipped with high-frequency communication systems and communication recorders. Meteorological information terminal and aviation information terminal, the above equipment is necessary. Most of the three types of airports are temporary airports, and there are no specific requirements in related aspects, but they should also be met as far as possible when conditions permit. Finally, in terms of personnel arrangement, general airports should be equipped with the following four kinds of personnel: air control personnel, channel personnel, meteorological personnel and aviation intelligence personnel.

4.3 China's General Airport Operation Management Related Strategies

In the operation and management of general airports in China, strict control should be carried out first. The specific provisions are as follows: first class and second-class airports may not control general aircraft other than one profitable aircraft, and third-class airports may not control general aircraft without profitable aircraft. In the aspect of fire control of general airports, although China does not specify specific requirements for it, the first class and second-class general airports should prepare at least one fire fighting vehicle in the aspect of fire control configuration, and rely on the fire fighting force at the location of the airport. Mobile fire extinguishers may be stocked at three general airports. Finally, in the configuration of personnel, three categories of the airport on the security guards must be based on the public aviation enterprise aviation security rules with sufficient security guards, in flight personnel equipped, should by the colleges and universities absorb relevant professional graduates, with a higher salary and treatment, avoid the brain drain of shortages.

5. Conclusion

Through the discussion of this paper, the existing problems in the construction of general airports in China at the forefront of the relevant research, this paper puts forward the relevant strategies. The development of general aviation shoulders the development process of civil aviation and transportation aviation, so it is the top priority in the future development of China's aviation industry. I hope this paper can provide help for its future development.

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