

# Analysis on the Development Prospect of Low-altitude Tourism in Hunan Province

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**Abstract:** As one of China's popular tourist provinces, Hunan has a unique geographical environment and rich tourism resources, as well as colorful landscapes and sufficient product portfolio. With the improvement of people's living conditions, the ways people choose to travel are also diversified. People are no longer satisfied with the conventional road tourism, at this time, low-altitude tourism is driven by policies and needs, began to develop rapidly, all over the country began to promote the development of low-altitude tourism, and the aviation industry is booming, China's low-altitude tourism in recent years began to prevail. However, under the prevalence of low-altitude tourism, it is still necessary to proceed from the actual situation, according to the geographical environment and cultural needs of their own province to develop, otherwise it will face huge risks. In the face of the current development trend of low-altitude tourism, Hunan Province began to comply with the requirements of The Times, rapidly develop low-altitude tourism, constantly optimize the corresponding service environment, explore the construction of pilot bases, and thus enrich the types of tourism products. Based on the current changes in Hunan's tourism transportation mode and local tourism resources, this paper discusses and analyzes the status quo and trend of low-altitude tourism in Hunan through literature method, questionnaire analysis and swot analysis, and then puts forward targeted marketing development strategies.

**Keywords:** Low-altitude tourism, General aviation, SWOT, Tourism product.

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## 1. The Concept and Characteristics of Low-altitude Tourism

Low-altitude tourism is often considered to be the same concept as general aviation, which is defined in Article 145 of the Civil Aviation Law of the People's Republic of China as the use of civil aircraft to engage in civil aviation activities other than public air transport, including operational flights in industry, agriculture, forestry, fisheries and construction, as well as medical and health care, rescue and disaster relief, meteorological detection, ocean monitoring, and other activities.<sup>[1]</sup> Flight activities in scientific experiments, education and training, culture and sports.

Low-altitude tourism has been rising in developed countries for many years, but our country is subject to the development of general aviation still belongs to a new form of business, at present, our people believe that general aviation tourism is also low-altitude tourism, people in low-altitude airspace, relying on general aviation transport, general aircraft and low-altitude aircraft, engaged in tourism, entertainment and sports, such as business meetings, sightseeing Tours, leisure Leisure vacation, adventure experience, sports entertainment, etc.<sup>[2]</sup> It is in the background of low altitude opening in China, based on the general aviation industry, scenic spots as the main attraction, to the air aesthetic experience for the purpose of consumer activities, but in fact, the concept of low altitude tourism is not an official statement, but from the people, the more official statement is air tour, currently in the mass tourism period, the use of more civil said law is easier to be Accepted by the market. Through the use of aviation equipment, the integration of the surrounding tourism resources, so as to carry out its own characteristics of air tourism activities, that is, low-altitude tourism.

It can be seen that China's current low-altitude tourism has the following characteristics

1. Low-altitude tourism requires the use of general aircraft, general aircraft currently mainly include aircraft, gliders, rotorcraft, etc. Due to the relatively high purchase and use price, high maintenance cost and difficult maintenance technology, low-altitude tourism still belongs to high-end tourism in China<sup>[3]</sup>

2. Due to the short development time of low-altitude tourism, compared with mass tourism products, the market recognition is low, and because of its industry particularity, the public has doubts about the safety of low-altitude tourism

3. Low-altitude tourism has high requirements for infrastructure, such as navigable airports, take-off and landing points, routes, service stations and aircraft, which require huge initial investment funds, and many enterprises are discouraged.

4. Airspace restriction: The state has strict control over aviation airspace. Even if there are low-altitude tourism resources with huge potential in the local area, subject to aviation control, it is difficult to develop them.<sup>[4]</sup>

Low-altitude tourism belongs to the category of high-end tourism, and the competition of high-end tourism products often does not depend on the price, but more depends on the characteristics and experience value of the product. The low-altitude tourism project itself is more similar to a project that integrates flight and tourism. Therefore, the operating subjects of low-altitude tourism are mainly general aviation companies, and the operating locations are mostly in areas where general aviation is relatively developed and airspace restrictions are less.

## 2. Present Situation of Low-altitude Tourism in Hunan Province

With the vigorous development of China's economy, the entry threshold of general aviation is gradually relaxed, and the airspace opening policy is gradually implemented. Low-

altitude tourism has begun to focus on the public's vision. Low-altitude tourism projects have also begun to enter the life of the public intensively in recent years.

In 2014, The State Council issued the "Several opinions on Promoting the reform and Development of Tourism", which proposed to actively develop leisure tourism, including low-altitude tourism, and in 2016 the China General Navigation Commission, the Development Research Center of The State Council forecast data show that 2020 low-altitude tourism potential tourists about 300 million people, the market consumption scale of about 60 billion yuan .

Baiyunxian Aviation Camp in Rucheng City, Chenzhou, opened in 2019, is one of the earliest aviation bases in the province. Today, Baiyunxian Aviation Camp currently offers experiences such as powered delta wing, powered umbrella, paragliding, etc. The most popular one is the powered delta wing, which flies at a height of about 500 meters.[5] Since opening in 2019, the number of domestic and foreign tourists has reached more than 300,000 times, and the revenue of the business has reached more than 20 million yuan

In 2017, it invested in Yueyang Pingjiang Anding Airport and created an aviation-themed hunting and playing sports town. After the launch of the hunting and playing sports town, it provides helicopter, fixed wing, delta wing and other projects, as well as research and tourism around aviation. In the first seven months of this year, it received more than 7,300 people and achieved a revenue of about 2.5 million yuan.

#### 1 Construction of general aviation airport

To develop low-altitude tourism, first of all, it needs the guarantee of general aviation airport. According to data, in 2022, China's general aviation registered management of the number of general airports up to 399, of which Hunan in 2022, a one-time 55 general airports approved, collective general airports approved in the country is the first time, so far in Hunan Province, a total of 61 general airports approved. It has built 14 general airports, nine transport airports with navigable capacity, and plans for 5,000 helicopter take-off and landing points. The national proportion of general airports is about 3.5%, as shown in Table 1.

**Table 1**

sequence	Airport	Airport category
1	Hunan Changsha Kaihui general Airport	A2
2	Hengyang Dapu Airport	A2
3	Changsha Jianshan heliport	B
4	Shaoyang Sun Valley Beach airport	B
5	Pingjiang Anding Airport	B
6	Guiyang Zhenghe Airport	B
7	Guiyang Renyi Airport	B
8	Yuntaishan Airport in Anhua	B
9	Lusong Airport, Zhuzhou	A2
10	Ningxiang alley airport	B
11	Zhangjiajie Sanguan Temple airport	B
12	Yueyang South Lake heliport	A3
13	Hengyang Patriotic Airport	B
14	Anhua Taoxi heliport	B

#### (2) Operation of general aviation companies

According to the statistics of the Flight Information Consulting Platform, in terms of aviation operation and

aircraft, Hunan Province has a total of 12 general aviation enterprises with about 42 aircraft, accounting for 3.2% and 1.8% of the national total respectively, as shown in Table 2

**Table 2**

sequence	The full Chinese name of the holder of the operation specification	Number of aircraft	Number of pilots
1	Hunan Tea travel general aviation service Co., LTD	2	3
2	Hunan Hengfeng general Aviation Service Co., LTD	2	9
3	Hunan Hanxing International Aviation School Co. LTD	5	4
4	Hunan Huaxing general aviation Co. LTD	4	9
5	Hunan nine city general aviation Co., LTD	1	1
6	Hunan Lianbo general aviation Co., LTD	6	8
7	Hunan Shanhe navigation Co., LTD	7	13
8	Hunan Xiangchen general aviation Co., LTD	3	4
9	Hunan Xiangjun General Aviation Co., LTD	2	3
10	Hunan Xiangwei general aviation Co., LTD	6	20
11	Hunan Yuanfang general aviation Co., LTD	2	8
12	CAAC Xiang Hunan General Aviation Co., LTD	1	5

#### (3) Main forms of low-altitude tourism in Hunan

##### Short-distance low-altitude tourist routes

At present, most domestic routes are opened between large cities, and the number of routes between small cities and counties is relatively small. In the case of the favorable national general aviation policy, some general aviation enterprises have seized the opportunity to open some low-

altitude routes between cities and scenic spots. These routes usually use general aviation aircraft to fly, the flight height is generally low,[6] the number of seats is also small, passengers will get a completely different flight experience from large civil aircraft, in fact, the formation of a new low-altitude tourism project, not only convenient transportation between the two places, reduce time costs, but also a new form of

tourism, multiple birds with one stone.

For example, Langshan low-altitude tourism route, each flight can take 3 passengers. Visitors can choose three air tour routes according to their personal preferences, including 15km experience flight, 30km essence flight and 50km panoramic flight, to experience a new air tour and challenge themselves with a fresh and refreshing intuitive feeling.

#### Ii. Low altitude tourism projects

Air tour project is the most common form of low-altitude tourism in the province, including scenic spot over the air tour, urban over the air theme activities and other forms. For example, the glass bridge project developed in Zhangjiajie. These air tour projects often rely on existing scenic spots to carry out tourism, enjoy the scenery of the original scenic spots from different angles in the sky, enrich the tourism form of the original scenic spots, and also have a positive effect on the publicity of the scenic spots

### 3. SWOT Analysis of Low-altitude Tourism in Hunan Province

#### 3.1. Advantages

Hunan attracts many tourists with its rich and diverse natural landscapes. The wonders of Zhangjiajie National Forest Park, the folk customs of the ancient city of Fenghuang in western Hunan, and the magnificent stalactite in Huanglong Cave have become tourist attractions in the hearts of tourists. In Hunan, visitors can appreciate the wonders of nature and the harmonious integration of humanity and nature. Secondly, Hunan has a long history and culture, which is also an important reason to attract tourists. Yueyang Tower, Changsha Mawangdui Han Tomb, Hengshan Zhurong Peak and other historical sites have attracted many history and culture lovers to visit. These scenic spots and low-altitude tourism projects complement each other, so that Hunan has a unique advantage in developing low-altitude tourism.

#### 3.2. Disadvantages

In 2021, the number of tourists in Hunan is 431 million, accounting for 12.1% of the national tourism reception, during the same period, the number of general airports registered with certificates in Hunan only accounts for 2.7% of the country, and the number of low-altitude tourist routes is even less than 2% of the country, in addition, from low-altitude tourism industrial parks to tourist towns, flight camps have not formed a complete industrial chain, upstream and downstream Lack of navigation design, research and development, assembly, maintenance and other professional enterprises, resulting in an increase in costs, at the same time, sales, leasing, exhibition and other aspects of the enterprise is even less, due to the lack of low-altitude tourism supporting facilities, Hunan low-altitude tourism product richness is still lacking<sup>[7]</sup>.

At present, the general aviation projects in Hunan Province are relatively simple, and are basically used for flight training, aviation forest protection and other public projects. Business aviation has developed rapidly over the years, but the proportion is still low, and the proportion of flight entertainment projects is even lower. And because low-altitude tourism is vulnerable to climate and seasonal impacts, such projects can often only be carried out in spring and summer, autumn and winter equipment can only be placed, entering the waiting period, reducing tourism capacity. In addition, due to the restrictions on the development of

equipment, it is difficult to operate in thunderstorm, fog and snow weather, and the utilization rate is greatly reduced. In terms of hardware and personnel, the number of general aviation airports in Hunan Province is relatively small and scattered. The shortage of flight personnel and maintenance personnel is also a key factor restricting the development of general aviation.

#### 3.3. Opportunities

Since 2008, the state has issued a series of policies to promote the development of low-altitude tourism, including the Provisions on the Management of the use of Low-altitude Airspace, Several Opinions on Promoting the Development of the civil Aviation Industry, and Opinions on Deepening the reform of the management of China's Low-altitude Airspace (draft for comment). The most influential was in May 2016, when The General Office of the State Council issued the Guiding Opinions on Promoting the Development of General Aviation Industry, which marked the country's attention to low-altitude tourism. At this time, the Hunan Provincial government has also issued "Several policies on supporting the development of general aviation industry", "Measures for the Management of lifting balloons", "Hunan Province's work plan for Cultivating general Aviation Industry", "Hunan Province Domestic Aviation Development Award Fund Management Measures" and other policy documents, these documents have proposed to vigorously develop the general aviation industry, including low-altitude tourism, including high-end tourism. Under the active promotion of the government, civil organizations such as Hunan Aviation Society, Hunan Aviation Industry Association and Hunan Aviation Sports Association are also actively promoting the development of low-altitude tourism industry in Hunan Province. Low-altitude tourism is a new form of tourism, which is one of the directions to promote the development of regional tourism transformation. The development of low-altitude tourism can promote the development of the whole regional economy<sup>[8]</sup>, improve the quality of employment, and form a huge tourism industry chain. In addition, it will promote the development and improvement of many related industries, including flight training, aircraft maintenance, aviation consulting, aircraft leasing, finance, insurance and so on.

#### 3.4. Threats

General aviation involves a wide range of sectors of the national economy and is highly professional, which leads to a large fluctuation in market demand for low-altitude tourism. Due to the inherent characteristics of aviation operations, low-altitude tourism is largely affected by factors such as weather and seasons. Some tourism programs may increase or decrease with changes in national and regional government policies, especially safety issues. At the same time, due to the large volatility of the general aviation market, various industries are generally faced with financial constraints, which has a negative impact on the expansion of enterprises, and even leads to a vicious circle. With the rise of the general aviation industry as a national strategy, in recent years, the general aviation industry has developed rapidly, especially the construction of aviation industrial park has shown an explosive development trend. Repetitive project construction

## 4. Hunan Low-altitude Tourism Development Strategy

### 4.1. Create themed low-altitude tourism belts

Optimize the layout of low-altitude tourism, make use of the mountain, water and historical accumulation of each city to carry out differentiated characteristic development, gradually investigate the tourism infrastructure, regional distribution and market scale of each region in Hunan, and prepare a five-year plan on low-altitude tourism (2023-2028). Tourism projects try to base on Hunan's distinctive mountains and rivers and red scenic spots, and carry out low-altitude tourism belt layout development around them. (First, it can rely on the natural landscape of Wuling Mountain Range and Hengshan Mountain range, give play to the characteristics of green water and green mountains, sandstone and Danxia landform, take Tianmen Mountain, Hengshan Mountain<sup>[9]</sup>, Mangshan Mountain, Langshan Mountain as the core and radiate around the low-altitude tourism, and use leisure and entertainment projects and low-altitude tourism as the main attraction point. Construction of low-altitude tourism belt around the mountain and scenic spots along the way, focusing on the development of Zhangjiajie Sangongsi Airport, Shaoyang Sungutan General airport, convenient for tourists to commute to use, the development of "looking at the sky, overlooking the ancient village", "Wulingyuan flight one day tour" and other theme flight amusement projects, the second is around Dongting Lake, Dongjiang Lake, Fairy Lake and other well-known lake landscape, Create Chu and Han culture, Yangtze River culture and other characteristic resources, such as Dongting Lake as the core of the helicopter lake tour, land and water flight experience, paragliding and other tourism products, the construction of the "land of fish and rice" theme line, vigorously develop Yueyang South Lake general airport, and focus on the development of "low-altitude tourism + project", the development of sensory impact low-altitude tourism projects<sup>[10]</sup>. At the same time, the development of "air tour Dongting" high-altitude restaurant and other special projects.

### 4.2. Strengthening low-altitude tourism related infrastructure construction

It is necessary to strengthen the planning and layout of low-altitude tourism infrastructure, and introduce relevant laws for scientific management as soon as possible, so as to provide a reliable material basis for the development of low-altitude tourism in the province. As for the key points of infrastructure construction, the first is to have well-equipped low-altitude tourism bases, build world-class ecological and cultural tourism destinations around popular tourist attractions such as Changsha, Chenzhou, Hengshan and Zhangjiajie, and benchmark international general aviation service standards around well-known lake tourist destinations such as Dongting Lake and Dongjiang Lake, strictly control the quality of tourism services. Actively promote low-altitude tourism demonstration projects, and strive to build the first batch of low-altitude tourism demonstration bases in Hunan with large-scale passenger capacity, covering unique geographical landscapes and natural and cultural landscapes, optimize the traffic, consumption and services of low-altitude tourism destination cities, so that tourists can "go and return". Secondly, strengthen the service experience of general airports and optimize the take-off and landing airports. At the

same time, it can give priority to the construction of general airports in poor counties in the west, such as Huaihua, Shaoyang, Yongzhou in the natural tourism resources, but there is no general airport poverty alleviation counties, with regional characteristics according to local conditions to build a suitable low-altitude tourism project general take-off and landing plant. On the basis of complying with rules and regulations, we should develop general airports and public transport airports at the same time as possible, and develop tourism business on the premise of reducing government expenditure. Finally, it is to optimize three-dimensional transportation, low-altitude tourism<sup>[11]</sup>, railways and highways, waterways, comprehensive development, can have the existing 14 general airports priority to create a high-quality low-altitude tourism transportation system

### 4.3. Building a digital low-altitude tourism system

First, to strengthen the "Internet + low-altitude tourism" service model, you can first pilot operation in some mature transport airports, such as Changsha Huanghua Airport, Zhangjiajie Hehua Airport, Hengyang Nanyue Airport, etc., first carry out low-altitude tourism digital innovation experiment, actively promote low-altitude tourism digitization and unmanned process, and introduce relevant technical personnel. Strengthen the exploration of the application of 5G, blockchain and other new technologies in low-altitude tourism, and use intelligent means to empower airport operation management and tourist self-service operating systems. The second is to strengthen the construction of the information platform related to low-altitude tourism. At the same time, combined with the red culture information of Hunan, all counties and cities are concentrated in a large-scale information sharing management platform, the tourism resource data of each county and city is integrated, and the consumer groups of each county and city are analyzed in a portrait. The results are shared in the entire information platform, and the products are accurately developed based on the platform, and the top management and sales strategy are placed. Advertising, etc. The third is to strengthen the "Internet +" experience, vigorously develop related tourism strategy apps, promote the common development of online and offline, and optimize tourists' experience in low-altitude tourism.

### 4.4. Establish a low-altitude tourism-related personnel training system

To promote the long-term high-quality development of low-altitude tourism, the supply of talent elements is essential. Well-known universities in Hunan such as Central South University, Hunan University, Hunan University of Science and Technology can be supported to conduct cooperative research with low-altitude tourism related industries, and jointly train practical and scarce aviation talents. At the same time, vocational education should be developed, such as comprehensive training industries such as skill training and qualification certification of relevant majors in Changsha Civil Affairs Vocational College and Aviation Vocational and Technical College, and Hunan Women's University should be promoted to develop advantageous disciplines such as flight attendant and tourism, and cooperate with relevant airlines to provide relevant service talents. Special subsidies are provided for aviation executives, operations, maintenance and other related positions, and welfare support is provided in

all aspects.

## 5. Conclusion

In the process of developing low-altitude tourism projects in each region of the country, it is necessary to focus on "navigation + tourism" The idea is to make full use of the advantages of aerial landscape transfer and transfer landscape resources from plane mode to three-dimensional mode Type extension, according to the specific landscape layout, reasonable planning of the tour route. At the same time, must be the followingTo pay attention to and invest in, such as consumer market, market guidance, infrastructure, business operation model,Financing ways, do everything well, and then expand and improve the function of low-altitude tourism products, greatly enhance productionThe service quality and activity experience of the product ultimately transform the traditional independent "scenic spot tourism mode" into a new and advanced oneThe "global tourism model" has vigorously promoted the development and growth of the new low-altitude tourism industry in China.

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