

Study on logistics industry land space organization model of Changchun

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Abstract. [Purpose/significance] At present the urban logistics land has not been included in a separate type of land use, the research objects of domestic scholars on urban logistics land scale and structure are the storage land, traffic land and commercial land and other land use types. Domestic scholars mainly focused on the construction of the logistics park, and no study on urban logistics land. [Method/process] In this study, using data analysis method, field survey method, empirical analysis method and summarized method. [Result/conclusion] In this article, through the above methods analyzing the urban logistics industry land use space organization pattern and the implementation of measures of space organized. For Changchun logistics industry land reasonable space layout, improve the level of land intensive utilization have a positive role.

Keywords: logistics land; space organization model; space layout; Changchun.

1. Introduction

The logistics industry plays an important role in the economic development, almost every city logistics park has been established. Changchun logistics industry is still in its infancy, but development is rapidly, effectively support the development of regional economic development and change of the pattern of economic development. Changchun lack of understanding of modern logistics, most enterprises cannot understand modern logistics, so the current has a lot of Logistics Park, distribution center internal land design is not reasonable, there is no scientific logistics facilities, there is no comprehensive warehouse building, there is no reasonable guidance, and the backward logistics industry make land utilization of the underground, serious resource wasted.

In this paper, the research attempts to solve the following problems: 1. what factors cause Changchun logistics industry behind? 2. How to improve the logistics industry in Changchun? In this paper, through empirical analysis method analyzing the result of the collection of Changchun logistics industry land use spatial organization pattern and space to organize the implementation of measures, reasonable layout for the Changchun logistics industry land, improve the level of land intensive utilization have a positive role.

2. Logistics industry development and spatial layout in Changchun

2.1 Development situation

Logistics industry increasingly plays an important role in economic development, increase the national fiscal revenues, promoting employment, increase the speed of circulation of goods. Changchun logistics industry is still in its infancy, but have a good momentum of development, effectively support the region economic development and change of the pattern of economic development [1].

Total logistics. Three major indexes of Changchun logistics industry showed a positive development trend: the total social logistics to achieve 1.25653 trillion yuan in 2014, up 16.5% from a year earlier, accounting for 0.79% of the total amount of national logistics. Changchun social logistics total cost is 68.78 billion yuan in 2014, up 15.7% from a year earlier, the social total cost of logistics and the GDP ratio of 17.18%, 0.67% lower than in 2013 [2]. Changchun the added value of the logistics industry in 2014 is 27.66 billion yuan, up 18.6% from a year earlier, the proportion of service industry of the whole city was 14.7%, the contribution rate of 6.34% of GDP. In 2013, the added value

of the total social logistics is up to 1.07859 trillion yuan and the logistics industry is 23.318 billion yuan respectively.

Logistics infrastructure. Changchun has formed with the center of the city three-dimensional traffic network [3]. Complete roads in the city construction and expansion of length 322.9 km, the road with a total area of 54.746 million square meters, the length of the road 2575 kilometers, highway mileage of 7056.1 km. Changchun railway, with Jing Ha, Chang Bai Chang Tu railway show big cross intersection here, connected domestic dozens of large and medium-sized cities, and rail mileage of 383 kilometers, and have a total of 51 air freight routes. The city currently has five comprehensive commodity collection and distribution center, business center, 275 communities. The city is gradually formed nine characteristics of commercial Pedestrian Street, six logistics distribution depots surrounded the city. Changchun is an important transport hub and commodity distribution center in the northeast. Gradually improve logistics infrastructure conditions, the traffic facilities scale expands rapidly, logistics park construction beginning, warehousing facilities modernization level unceasing enhancement, a batch of regional logistics center is formed[4]. Speed up the construction of modern logistics, the logistics information construction had a breakthrough.

Logistics management concept. Changchun FAW Volkswagen introduced German logistics management mode, the implementation must be within the scope of supply in time, and finish some parts assembly to the third party company, obviously reduces the logistics and inventory costs, enhance the competitiveness of the enterprises, its logistics management concept has played a certain demonstration leading role in Changchun. Although this new form of scale is small, the level is not high, but its superiority has begun to show, it can reduce social logistics cost, have high efficiency to meet the business requirements, and also convenient for consumers [5]. The emerging of modern logistics management concept will become the new direction of logistics development in Changchun, create a new fashion of logistics management [6].

2.2 Space layout characteristics

Large-scale logistics distribution base. In Changchun, most large wholesale market on the urban traffic arterial, located along the railways and highways. Wholesale market near the railway station the size and the number of compared with other logistics base is bigger. Why the city form such a pattern in the 1980s? The reason is people's living supplies relatively scarce at that time, Changchun as the provincial capital supplies relatively abundant. As a result, many foreign people will come to Changchun by trains, cars, choose to buy some small items back to home to share with my family, or select a large number of wholesale, back to their city to sell, in order to earn some money[7]. Therefore, near the train station of logistics base acquired a lot of customers, a large number of customers and promote the development of the logistics base, therefore form a virtuous cycle, Changchun railway station of wholesale market is developing rapidly. Through continuous development and evolution, and eventually formed the pattern of Changchun wholesale market now.

Logistics land space. The lack of modern logistics system and the logistics status is small, and the management is poor. These restricted the intensive utilization of Changchun logistics land [8]. The scale, management and construction of Changchun logistics land, are in a backward state. Changchun logistics land most trivializes situated, no large-scale centralized logistics park, so far, no large-scale logistics base in Changchun.

Land for Logistics Park. In recent years, Changchun acceleration the construction of large-scale logistics park. Combined with the city's trunk roads and industrial distribution characteristics [9]. Changchun planning to construction the west and the north parts of the city for production logistics development area. The east and northeast part of the city planning to form life logistics development area, finally form six pattern of logistics park development in Changchun. Six big logistics clusters, they are Changchun east - the second international comprehensive logistics clusters, focusing on mechanical manufacturing, agricultural products processing, building decoration materials and wholesale market-oriented logistics; Southwest of Changchun automobile logistics clusters, around the FAW and automobile industry, construction industry logistics park; Changchun northwest - green park locomotive logistics clusters, around the circulation of agricultural equipment services;

Changchun north – Kuan Cheng Yangtze river life logistics clusters, development of livelihood and the logistics of agricultural products, gradually formed the province's largest life data base; Changchun northeast – Xing Long comprehensive bonded logistics clusters, give priority to with bonded processing, bonded logistics, synchronous development of the international transit trade, commodity exhibition, product research and development. Southeast Changchun - green logistics clusters net month, take the green packaging, green storage, green transportation, and green logistics for the construction of demonstration base.

3. The main problems of logistics industry land use spatial layout

3.1 Waste phenomenon

Changchun logistics concept of relatively old, lack of awareness of modern logistics. General understanding of logistics in society still stays on the concept of traditional logistics, most enterprises to modern logistics cognitive degree is low, so the current has a lot of land for the interior of the logistics park, the design is not reasonable, and individual businesses without scientific logistics facilities, there is no comprehensive warehouse building, there is no reasonable guidance, even carries the roads were muddy and transportation [10]. The logistics industry significantly affected the land utilization, should be quick and convenient modern logistics has become dull, tedious, caused many logistics industry waste is serious. And the price competition between the industries led to the development of logistics industry is slow, the resulting logistics resources idle phenomenon is more prominent, causing the waste logistics land. Changchun logistics industry disorderly competition and low barriers to entry is the main cause of inefficient logistics land.

3.2 Bad spatial layout

The most logistics land use types are Logistics Park, logistics center, express delivery and warehousing center in Changchun. Although the city has many logistics industry, but its unreasonable distribution, lack of communication and industry sector has not yet to establish a unified mechanism. Changchun existing logistics industry is small, weak, single function, difficult to meet the needs of the socialization of logistics service quality and efficiency. In the modern logistics management concept is divided into several mainstream in the logistics industry, there is a cross between each of the logistics industry, while in theory they can be a full merger. In Changchun, the current land for this kind of excessive refinement to the logistics industry brought unnecessary waste, also makes the logistics service capability is low. Changchun as the motor city, for example, urban space structure of the auto industry is "block" mixed distribution, distribution is very messy. Cars, trucks, spare parts production and main layout in the green car logistics park; Automotive plastic products, auto glass parts enterprises mainly layout in the economic development zone; Auto electronic products, automobile brake and clutch of company mainly layout in the high-tech zone.

3.3 Weak industry regional correlation

Although Changchun is one of the auto industry as a pillar industry of the city, but in the development of the whole car industry has not formed the perfect industry cluster. Many Changchun auto parts production enterprises and parts production enterprises scattered layout, make auto industry space of regional correlation is not strong, and cannot promote the development of economies of scale. Related industry association degree is low, the similar land use on the space distance is far away, so can't form a market competitiveness of logistics enterprises.

Changchun logistics industry is still in its infancy stage, its scale and rationality cities still has great distance compare with other developed. Industrial land reasonable scale and space science still need further optimization of the organization.

4. Influence factors of spatial land use

Logistics industry planning of the construction of the land is facing the influence of many factors, mainly reflected in the degree of the traffic convenient, location factor and related industry distribution area.

4.1 Traffic

Traffic as a condition of the location of the logistics is the most important, the city logistics nodes and lines of the original site is dependent on the choice of the best geographical center. Early development is rely on the traffic and the development of the urban logistics, with the fierce competition, the logistics industry through the dominant traffic location, to reduce logistics cost and improve the efficiency of logistics transport organization. It is very important for the positioning of urban traffic [11]. Use and give full play to the advantage of the traffic, gradually began to cultivate city logistics network, systematic and scale, is one of the important influence factors of logistics park development in the future. Urban traffic conditions in urban logistics is mainly due to its media function. [You read, the words I feel awkward] traffic in the city's main waterway, railway and so on are the important factors that affect urban space layout. Convenient traffic level in part to guide the direction of the evolution of urban space layout.

4.2 Location factors

Location is refers to the logistics of the construction of the project the basic economic geography conditions [11].Location of the logistics park is very important, usually logistics parks should be arranged in the special enterprise cluster areas. Geographically exist a lot of differences between the markets affect the regional modern logistics system configuration, especially resource layout planning. The layout of the logistics resources should be compatible with the spatial distribution of the market demand and is based on the analysis of logistics resources in a certain space within the scope of the selection of the equipment and quantity optimization. In recent years, with the strengthening of the economic trend gathered, many parts of the world have formed a special policy of industrial area, high-tech industrial parks, export processing zone, bonded zone. Logistics park layout location these areas, which is beneficial to reduce the operation cost and convenient operation coordination with customers, improve the efficiency of the logistics park operation efficiency and management [12]. Comprehensive the above characteristics of location selection, the logistics parks which is most provide international logistics service general layout in the dock, airport, inland port; while the logistics parks which is mainly provide distribution function layout in industrial zone, the industrial development zone or the business district zone [13].

4.3 Related industry distribution

Logistics industry land space layout planning is a continuous process that to properly control the logistics nodes and the logistics park system, to make it into a virtuous cycle system. The inheritance of logistics industry land for original industry logistics node system, outstanding the continuity of the logistics industry layout planning. Therefore, logistics land layout planning must consider the existing related industry logistics node layout and planning problems, must try to make the planning coordination continuously. In addition, the logistics industry land layout planning can promote the development of logistics industry land, land for related industry will make feedback to the original land use planning of logistics and improve the requirements and layout planning of logistics industry and related industries both mutual restriction between logistics distribution, and connect with each other and promote each other [14].

Thus influence factors of city logistics land use scale and the space in the important position in the study of logistics land. Changchun also has the very big development space and development potential about urban logistic. No matter what kind of factors, in it's develop process must contain certain mechanism, the evolution of power, foundation, thrust, the start and the key. These factors make logistics land from independent, decentralized to centralized, logistics land development is the inevitable trend of urban logistics as a whole.

Urban logistics spatial structure evolution law embodied in the cities along the highway from internal to external development of central region, and conform to the city's social and economic development level. Land price, transportation cost and market scope is also influence the evolution of urban logistics space is the most important economic factor. Space form of the urban logistics will experience dispersed, agglomeration and the development of the dispersion and agglomeration, follow the evolution of the "single center" to "the centers"[15].

5. Transformation types of logistics industry land space in Changchun

5.1 The logistics land type of urban

With the advantage of the developed city consumption market and the advantage of capital city, with the help of expanding administrative areas opportunity, develop the urban distribution model of logistics enterprises. On the one hand, definite introduction of international commercial chain, through restructuring, transformation, joint at the same time, promote the development of domestic chain business enterprises and third-party logistics enterprises, and guide the distribution model of logistics enterprise layout, reasonable distribution logistics service center.

5.2 The logistics land type of industrial base

Relying on the logistics market demand of Changchun large industrial concentration area, accelerate logistics center's construction in Changchun, finally forming a logistics industry base service network layout.

5.3 The logistics land type of distribution

Relying on the advantage of capital cities, according to industry characteristics and needs, especially medicine, communication, auto parts, tobacco and other industries, using the company's headquarters agglomeration and industry leading market advantages, develop logistics industry distribution type land [16].

Space form of logistics park should start from the actual needs, give full consideration to the logistics market demand, should focus on improve the efficiency of logistics service, perfect logistics service function, reduce logistics cost, to enhance the comprehensive competitiveness of specialized market and industry. Logistics park construction should adjust measures to local conditions, on the basis of scientific planning, orderly progress the construction of logistic park. Through a space configuration, effectively relieve the strain on the city land use. On the basis of existing logistic park, enlarge the scale of logistics park land and industrial scale, built a circulation service large-scale logistics park mainly have the functions of production services, with import and export goods bonded warehousing, international logistics distribution, built a purchasing and distribution center in the northeast region [17].

6. Spatial optimization measures of logistics industry land use in Changchun

Comprehensive Changchun natural resources, population and social economic resources. Study industrial structure situation of Changchun, explore the Changchun city logistics industry land space organization mode, finally find out Changchun city logistics industry land reasonable way. The future development of the dominant direction of Changchun city logistics nodes should gradually built up a comprehensive logistics park, combination different functions of logistics land in an organic whole, effective connect various land use types.

6.1 Optimize the space layout

Optimize logistics land spatial layout is the key of promote the development of logistics industry in Changchun. It not only perform general logistics function, but increasingly execution scheduling command. It is the soul of the whole logistics network. The analysis of the space layout can be from the internal space layout optimization and the external logistics land layout design.

Land use spatial characteristics transform to gradation, broke the traditional that logistics land only can be construction on the ground. Now can be implemented in different level land for the construction of logistics, realize the integration of space. General dimensional administrative levels in the region of the main activities based on the main body of the cognitive process of logistics area, through the behavior in the process of dynamic observation, create a certain area of dimensional administrative levels. On the basis of the unified level, formed a different space by a variety of adornment gimmick. Logistics warehousing land use in the design of road boundary, need to consider other land coordinated cohesion. And multi-level space can be buffered splicing messy feeling when the different land use types combination.

6.2 Play agglomeration economies of scale

The construction of the urban logistics land must from set out actually, urban logistics land should be combined with a variety of modes of transportation, building perfect service facilities, integrated application of a variety of means of information technology, to utilize the scale effect of city logistics land in the process of site selection and construction[18]. Specific to changchun, according to the function of the urban development planning and the overall trend of the spatial distribution of logistics nodes, combination of changchun urban comprehensive traffic development, logistics industry development, industry development planning, as well as to the future of changchun city logistics node spatial distribution characteristics of total analysis and predict the spatial distribution of changchun logistics nodes mode transforms from single center to center of agglomeration. And put forward optimization measures of the existing logistics node layout, promote the rapid development of logistics industry in Changchun.

When designing urban logistics land can take advantage of the city in a variety of space form, design meets the space of the main body of the scale. Design of internal logistics land space is different from the design of residential space, because residential space has a variety of layout form. Design logistics land for interior space should combine terrain, according to the requirements of different enterprises in the park, the construction of the storage area, processing area, office area in accordance with the use of functional division. To achieve the requirements of the diversified logistics land use [19].

6.3 Effective connect the regional logistics.

Logistics industry development is the premise of the city's economic, social and environmental coordination, speed up the construction of radial modern logistics spatial structure, make full use of the city of changchun developed economy, powerful scientific and technological innovation ability, good industry stand development and advantage, focus on "urban distribution, industrial base, industry distribution of logistics nodes, through transforming logistics cluster platform, forming compound logistics land use patterns, such as logistics parks, logistics centers, distribution node [20].

6.4 Strengthen the construction of Logistics Park

The current Changchun logistics land layout is scattered, structure system is not perfect, did not play the role of logistics center. Embodied in the following questions: warehousing land layout is scattered, logistics development level is not high, aggravate urban traffic pressure; some dangerous goods warehouse located in city center, has the hidden danger; Many storage land along the river, polluting the river, cause disturbance to residents. Existing many problems, but solution is not put forward, so must accelerate put forward the logistics industry of land intensive utilization.

7. Conclusion

The author thinks the logistics park promote the modernization as guide, it should be based on the existing, efforts to achieve three new progress. First, it is achieve new progress in scientific planning. According to the structure of large, medium and small three class, far, near the layout of the three levels, to formulate a scientific development plan adjustment. To prevent the logistics industry lack of land use types at the same time, also prevent redundant construction logistics industry land. Second, it is to achieve new progress on the key industrial park construction. From Changchun the industry characteristics and the reality of the reality of logistics park construction demand, should highlight three key points: namely the expansion of the FAW logistics park project; Livestock products logistics park construction projects; Zero burden of logistics park planning project. Third, it is to achieve new progress on the logistics park upgrade into class. Based on the experience of the Shanghai, Beijing and other places to concentrate financial and material resources and energy, cultivate at least one modernization level higher park, guide the urban construction of modern logistics. This paper, by means of empirical study of Changchun logistics industry made a careful investigation, land space for Changchun logistics industry organization pattern research provides support, and to promote the modernization construction of the logistics industry has a positive role in Changchun.

8. Reference

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