

# Countermeasures for the Development of Green Logistics Transportation in Chang-Zhu-Tan Area

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## Abstract

The Chang-Zhu-Tan urban agglomeration, as a comprehensive reform pilot zone for the construction of a "two-oriented society", provides a broad space and opportunities for the development of modern logistics industry in Hunan Province. As an important basic industry, the transportation industry is an important part of economic development. Therefore, the development of the transportation industry is particularly important. Since the beginning of the 21st century, the development of green logistics transportation is an inevitable trend in the development of modern logistics industry, and is one of the important contents of achieving sustainable economic and social development. In this paper, Chang-Zhu-Tan area is taken as an example, from the perspective of sustainable development strategy, the construction of a green logistics transportation system is studied. The article first introduces the relevant theories of green logistics and green transportation. Secondly, combined with the drawbacks of the traditional transportation methods of the Chang-Zhu-Tan urban agglomeration, it analyzes its transportation development status and main existing problems, and explores the development of green logistics transportation in the Chang-Zhu-Tan area. Implementable measures.

## Keywords

Green Logistics; Green Transportation; Disadvantages; Status Quo and Problems; Measures.

## 1. The Meaning of Green Logistics and Green Transportation

Green logistics is a new concept proposed in the mid-1990s, and there is no unified definition yet. Some foreign scholars have different understanding of the concept of logistics. HJW u and SD unn believe that green logistics is a logistics system that is responsible for the environment, including the greening of the forward logistics process from the acquisition of raw materials, product production, packaging, transportation, warehousing, and delivery to the end user, as well as waste Reverse logistics for recycling and disposal of materials. The definition of green logistics in the research report of the American Reverse Logistics Executive Committee is: green logistics, also known as "ecological logistics", is a process of understanding and minimizing the ecological environmental impact of logistics process production (. According to the National Standard of the People's Republic of China "Logistics Terminology (GB/T 18354-2001)", green logistics refers to the realization of the purification of the logistics environment while suppressing the harm caused by the logistics to the environment during the logistics process, so that the logistics can be maximized. Utilization. From the various descriptions of green logistics by domestic and foreign scholars, it can be seen that the definition of green logistics covers a wide range, and all methods, measures and processes aimed at reducing the impact of the ecological environment in the logistics process belong to green logistics. Connotation.

Transportation refers to an economic and social activity that uses public transportation routes and their facilities and means of transportation to realize the spatial displacement of people

and goods. Refers to the transfer of people, property, and things from one place to another. Green transportation refers to the realization of the purification of the transportation environment while suppressing the harm caused by transportation to the environment during the transportation of goods, so that the transportation resources can be used to the fullest. Therefore, if we want to build a green logistics, we must first make reasonable planning and layout of transportation routes, and finally achieve the goal of energy saving and emission reduction through measures such as shortening transportation routes and increasing vehicle loading rates. In addition, we must also pay attention to the maintenance of transportation vehicles, use clean fuels, and reduce energy consumption and exhaust emissions.

## 2. Disadvantages of Traditional Transportation

Traditional transportation is relative to the current green transportation. From the perspective of long-term practice, it mainly has the following disadvantages:

The first is air pollution: The main transportation mode in Changsha-Zhu-tan area is road transportation, and the fuel consumption and fuel pollution of transportation vehicles are the main reasons for the current environmental pollution. According to the survey, in 2012, the highway transportation industry in Hunan Province consumed a total of 4.2232 million tons of refined oil, accounting for 49% of the total consumption of refined oil in Hunan Province. In addition, studies have shown that nitrogen oxides, volatile oxides, and particulate matter emitted by motor vehicles account for 66%, 90%, and 26% of urban pollution sources, which have become the main pollution sources affecting air quality and residents' health in the Changsha-Zhutan area.

The second is road traffic congestion: due to the rapid increase in car ownership, traffic congestion has become a serious urban ailment, which wastes a lot of time and money, reduces the efficiency of the entire society, increases energy consumption, and increases air pollution. Frequent starting, braking, and low-speed driving of automobiles make the exhaust emissions of carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and other pollutants much higher than those during normal driving, which seriously endangers human health.

The third is unreasonable transportation: the so-called unreasonable transportation refers to a form of transportation in which the level of transportation that can be reached under the existing conditions is not reached, which causes waste of transportation capacity, increased transportation time, and freight overruns. From the perspective of the current transportation industry, first, the transportation efficiency is not high, the phenomenon of empty or insufficient loading, convection transportation or roundabout transportation is common, which wastes manpower and material resources, thereby increasing operating costs; second, the level of information management is not high. , Lack of unified scheduling and real-time monitoring of various information, and failure to update the information system in a timely manner, resulting in information lag. At the same time, the choice of transportation methods in the entire transportation process is relatively single, and lacks the concept of optimizing transportation methods by using integrated transportation according to their own comparative advantages, supply characteristics and changes in transportation demand structure.

## 3. The Status Quo and Existing Problems of Transportation Development in Chang-Zhu-Tan Area

In recent years, with the rapid rise of the modern logistics industry in my country, the modern logistics industry has also developed rapidly in the Changsha, Zhuzhou and Tan areas, and the logistics construction has achieved rapid development, and the benefits have become increasingly obvious. However, with the steady growth of the economic development in

Changsha, Zhuzhou and Xiangtan areas, some obvious problems have emerged in the process of logistics development:

### **3.1. "Cars for Goods, Cars for Goods" Industries have Poor Coordination and Vicious Competition with Each Other**

Every time I go to the logistics park, I see a lot of information departments. A large number of trucks are waiting in the parking lot of the logistics park. Sometimes it is normal to wait two or three days for the goods. Each enterprise has its own logistics facilities. Independent operation and self-built logistics network. Therefore, after the driver delivers the goods to the destination, he needs to drive empty to return to the loading place. During this period, it causes a waste of fuel, manpower and other resources. This exclusive ownership of physical goods is bound to cause a heavy burden. The burden of space and energy leads to the result that supply cannot meet demand. Secondly, with the increase in trucks and logistics companies, the entire market is in a pattern of "more vehicles and fewer goods". The competition between vehicle owners and logistics companies and bargaining have led to lower and lower unit freight rates. In order to keep profits under constant conditions, there is only more equipment. As a result, this is a vicious circle. As a result, the more cars are installed, the profits are gradually declining, which leads to the failure of the transportation industry to develop in a healthy and orderly manner.

### **3.2. Problems in Vehicle-to-cargo Matching Mode**

He Liming, president of the China Federation of Logistics and Purchasing, once publicly pointed out that "road freight volume ranks first in this mode of transportation and supports the national economy and social life. However, this field is too much, small, scattered, chaotic, and weak. Such situations have existed for a long time, and the asymmetry of freight information and the opaque freight rate system have severely restricted the development of road freight. "There are problems with the truck-to-cargo matching model: First, the level of standardization in the entire truck freight industry is low. Didi Dache has only one matching condition-geographic location. There are multiple conditions for truck matching: model, tonnage, and route. Second, the non-standardization of the intermediary industry. A large amount of data is needed to match trucks and goods, and most of the source information is in the hands of freight intermediaries, and the intermediaries are very concentrated. However, supply information is a scarce resource for car owners. If the intermediary publishes the scarce supply information on the APP, it will inevitably lead to information transparency and reduce the intermediary's profits. In the long run, the intermediary platform will have no place, so they will collectively resist, resulting in a mismatch of vehicle and cargo information. No protection is provided to the driver. After the driver finds the source of the goods, he needs to drive empty to the place of loading, during which fuel consumption costs are incurred, and the authenticity of the source of goods information can only be confirmed after arriving at the destination.

### **3.3. Infrastructure Construction is Backward and Transportation Efficiency is Low**

Although the utilization rate of logistics equipment is increasing rapidly, the technical equipment for logistics operations, such as storage, packaging, and loading and unloading equipment, is generally relatively backward. Warehouse goods are crowded, especially in the case of very few automated three-dimensional warehouses. There is still a gap in green logistics. The degree of logistics technology and standardization is not uniform, and the standard pallets and containers are not fully realized, which reduces the efficiency of loading, unloading and handling to a certain extent and increases the damage rate during transportation. In terms of logistics materials, there is a big gap between the reusability and degradability advocated by green logistics.

## 4. Measures to Develop Green Logistics

### 4.1. Carry Out the Pilot Work of Road Freight Car-free Carriers

"Car-free carrier" evolved from the term "truck broker" in the United States, and is an extension of non-vessel carrier on land. "Car-free carrier" refers to an individual or unit that does not own a vehicle but engages in the transportation of goods. First, the "Car-free carrier" has a dual identity. For the real shipper, it is the carrier; but for the actual carrier, it is also the shipper. Secondly, "Car-free carriers" generally do not engage in specific transportation business, but only engage in transportation organization, cargo distribution, transportation mode and transportation route selection, etc. The source of income is mainly generated by large-scale "wholesale" transportation. Freight difference. For companies: First, in terms of operations, companies must devote themselves to a strong technology-driven operation model, provide reasonable pricing, mobilize trucks and goods, and handle disputes. Second, in terms of supply, companies should set up teams to develop and maintain large-scale tripartite supply information. Third, in terms of routes, based on the data platform dispatching system, advantageous routes are arranged within the Changsha-Zhutan-tan area to provide drivers with the best return route, to keep trucks in operation as much as possible. Fourth, after the layout is completed, in order to improve the supply information, capacity and quality, as early as the initial delivery system, the company must establish a "strict review" integrity system, and maintain "zero tolerance" for dishonest behaviors such as false information and quotations.

### 4.2. Drop-and-hook Transportation, the "Terminator" of Trunk Road Transportation

Drop and Pull Transport is a load-carrying device that is towed by powered vehicles, including semi-trailers, full trailers, and even cargo boxes on the truck chassis. After being left at the destination, they are towed and filled with others. The device of the cargo returns to its original location or drives to a new location. This kind of transportation in which a powered main vehicle continuously tows more than two load-bearing devices is called Drop-and-hook transportation. Under the same transportation conditions, the efficiency of automobile transportation depends on the three main factors of automobile carrying capacity, technical speed and loading and unloading time. Road drop-and-pull transportation makes automobile transportation into trains, which can correspondingly increase the load capacity of vehicles per trip, thereby improving the work efficiency of drivers, avoiding empty vehicles, and eliminating the waiting time for loading and unloading. Imagine that the company currently has 50 trucks. If full Drop-and-hook transportation is implemented, the company can reduce the purchase cost or lease cost of tractors by more than 50%, increase the average transportation productivity of leased vehicles by 30-50%, and reduce costs. 30-40%, fuel consumption reduced by 20-30%. On the other hand, the road Drop-and-hook transportation realizes the use of mechanized loading and carrying devices for the scattered cargo to be transported, which greatly shortens the time for vehicle parking and cargo delivery, and accelerates cargo turnover. Efficiency creates time benefits; the uniform specifications, fixed volume, and limited load of goods are conducive to the fundamental realization of green logistics transportation. At the same time, it has also effectively promoted the rectification work of "large tons and small labels".

### 4.3. "Internet +" to Realize the Intelligentization of Logistics and Transportation

On the one hand, improve the traffic network control system, comprehensively improve the level of railway dispatching command and intelligence, promote the construction of a new generation of traffic control network and smart highway, and enhance the management ability of road operation network. Build smart ports to improve port management and service

efficiency; promote the application of wireless communication-based train control systems for urban transportation tracks. Promote the networked joint control of traffic management between departments and modes of transportation. Secondly, improve the automation level of equipment and transportation tools. To build an unmanned container terminal system, to advance the automatic logistics and distribution of drones in an orderly manner, and to promote intelligent coordinated scheduling among various transportation methods to achieve information docking, capacity matching, and constant connection. Promote the development of passenger tickets to "one ticket system" and cargo waybill to "one single system". Relying on the mobile Internet to promote the integration of passenger transportation and logistics information, encourage the development of passenger Car-free transportation, and achieve integration. Strengthen the interconnection of specialized operating platforms such as multimodal transportation, transportation hub logistics parks, urban distribution, and dangerous goods transportation, and improve the transportation efficiency of key goods such as bulk materials, containers, and express parcels. On the other hand, strengthen the open sharing of traffic information system information. Promote the inter-regional and cross-type transportation information interconnection of the Chang-Zhu-Tan urban agglomeration, relying on the Hunan Province and industry data sharing and exchange platform and the government data open platform to promote the highly integrated sharing and comprehensive development and utilization of information resources in the transportation field, and improve the comprehensive transportation information Platform function. In accordance with the relevant regulations on open government affairs, government traffic information resources are opened to the society by classification and classification, and basic telecommunications companies and Internet companies are encouraged to open resources to small and micro enterprises and entrepreneurial teams. Encourage the development of transportation big data enterprises, improve processing and analysis capabilities, innovate data products, and better support enterprise operation management and government decision-making.

## 5. Conclusion

The development of the logistics industry is one of the main contents of the construction of the "two-oriented society" in the Chang-Zhu-Tan urban agglomeration, and green logistics transportation is an emerging direction for the development of the logistics industry. In the context of the construction of the "two-oriented society" in the Chang-Zhu-Tan urban agglomeration, to reflect the essential requirements of the "two-oriented society", it is necessary to explore resource-saving and environment-friendly institutional mechanisms to achieve sustainable regional development.

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