

Action plan to improve the quality and efficiency of freight transportation and logistics in China

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The Ministry of Transport and the National Development and Reform Commission co-issued the Action Plan for Reducing Costs and Improving Quality and Efficiency in Transportation and Logistics in November 2024.¹ This plan (hereinafter referred to as the Action Plan) specifies implementation pathways to optimize transportation structures for the movement of freight, promote development of intermodal transportation, improve infrastructure networks, and increase supply chain efficiency.

Corresponding targets to be achieved by 2027 include:

- » Reduce the cost of social logistics from 14.4% of gross domestic product in 2023 to approximately 13.5%.²
- » Increase ton-kilometers of railway freight by about 10% compared with 2023.
- » Grow rail-waterway intermodal transportation of freight containers at ports by an average of 15% per year.
- » Transport more than 80% of port cargo by rail, waterways, enclosed belt conveyors, and new energy vehicles.
- » Implement a single-bill system for freight shipments and a single-container system for intermodal transport.³

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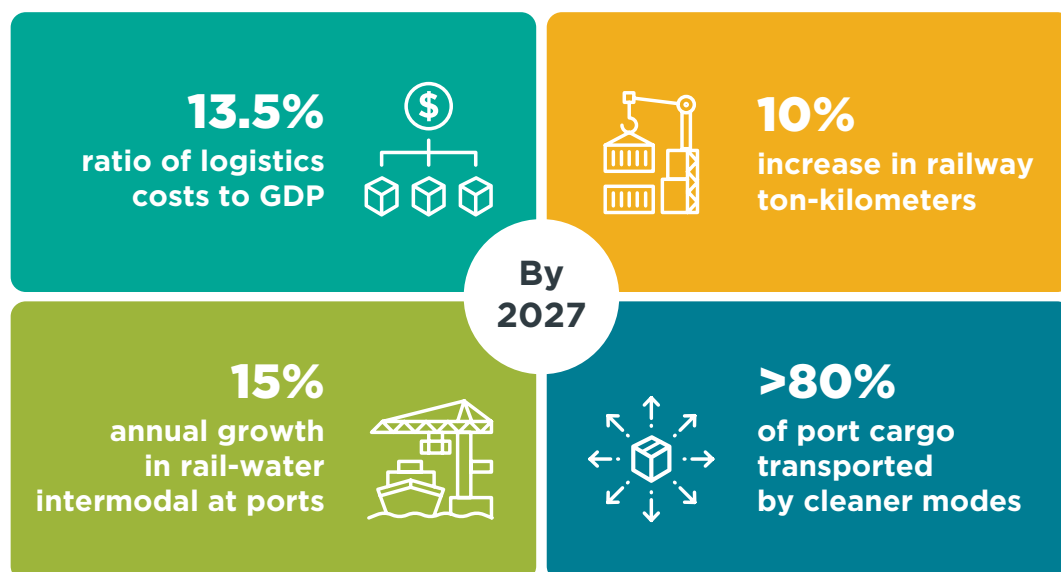
1 Ministry of Transport and National Development and Reform Commission, “交通物流降本提质增效行动计划,” [Action Plan for Reducing Costs and Improving Efficiency in Transportation and Logistics], November 9, 2024, https://www.gov.cn/zhengce/zhengceku/202411/content_6989629.htm.

2 Social logistics cost refers to all expenditures a country spends on transporting, storing, and distributing goods. The indicator measures the efficiency of a country's logistics operations.

3 A single-bill system applies one bill or contract to a whole freight shipment. A single-container system uses the same container throughout the shipment.

Figure 1

Action Plan targets for improving transportation and logistics in China



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The Action Plan emphasizes the role of intermodal transport and clean transportation, aligning with existing policies while setting more ambitious requirements. A key distinction is the plan's extended timeline: Current policies—including the Work Plan for Promoting the Development and Optimization of Intermodal Transport (2021–2025) and the national 14th Five-Year Plan for the Development of a Modern Comprehensive Transportation System, set targets only through 2025.⁴ The Action Plan extends these benchmarks to 2027. This longer time horizon applies to key metrics such as the volume of rail–water container transport and railway freight, reflecting the Ministry of Transport's sustained commitment to system transformation. Additionally, the Action Plan expands implementation of China's ultra-low emission campaign policies for ports by removing regional restrictions and mandating nationwide coverage.

POLICY BACKGROUND

This Action Plan, along with 18 pilot tasks, acts a refinement and extension to the Outline of Building a Robust Transportation Country, published in 2019. The Outline sets the strategic goal of building China into a leading transportation nation by 2035, with “cost reduction and efficiency improvement” as one of its core tasks.⁵ The 14th Five-Year Plan, issued in 2021, explicitly sets the goal of “building a modern logistics system and promoting cost reduction and efficiency improvement.”⁶

Transportation of freight in China relies heavily on roadways, leading to high emissions, significant energy consumption, and increased costs. As shown in Figure 2, on-road freight transportation surged in the last two decades compared with rail and inland

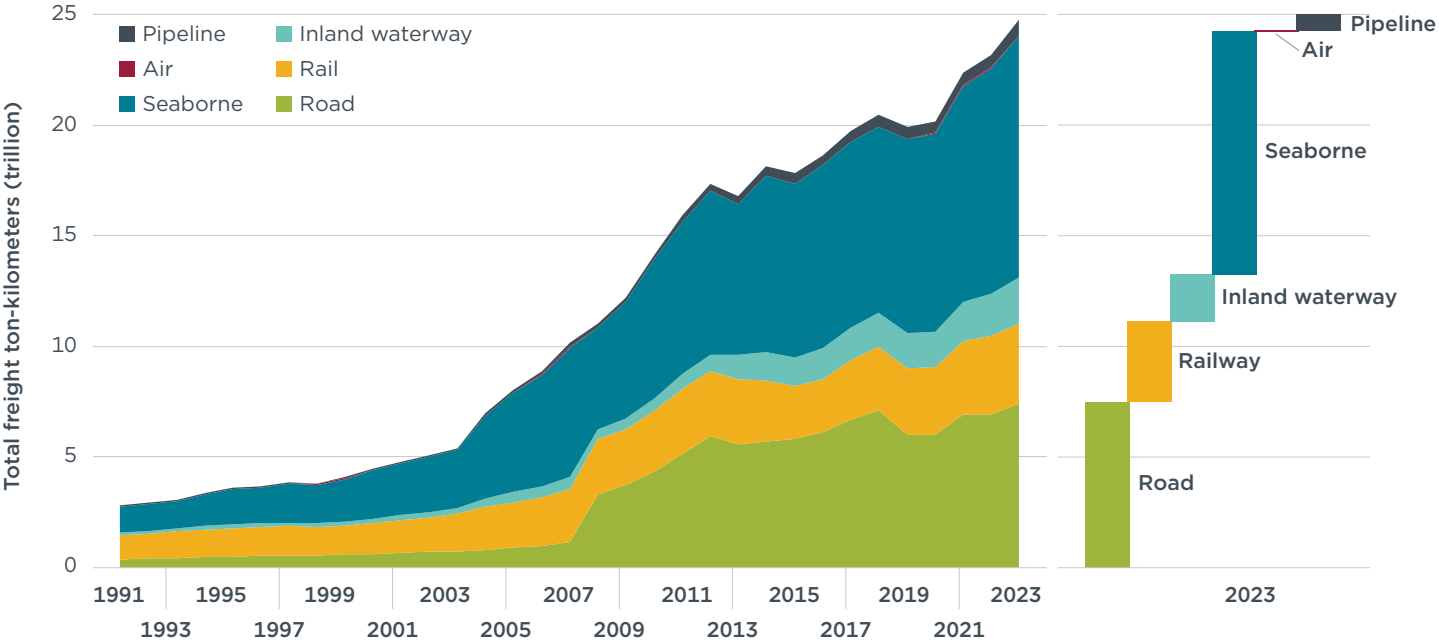
4 State Council of China, “国务院办公厅关于印发推进多式联运发展优化调整运输结构工作方案（2021–2025年）的通知,” [Work Plan for Promoting the Development and Optimization of Intermodal Transport to Adjust Transportation Structure (2021–2025)], January 22, 2022, https://www.gov.cn/zhengce/content/2022-01/07/content_5666914.htm; State Council of China, “《“十四五”现代综合交通运输体系发展规划》,” [National 14th Five-Year Development Plan on Modern Comprehensive Transportation System], January 18, 2022, https://www.gov.cn/zhengce/content/2022-01/18/content_5669049.htm.

5 The General Office of the CPC Central Committee and the State Council of China, “国务院印发《交通强国建设纲要》,” [The Outline of Building a Robust Transportation Country], September 19, 2019, https://www.gov.cn/zhengce/2019-09/19/content_5431432.htm.

6 State Council, “《“十四五”现代综合交通运输体系发展规划》,” [National 14th Five-Year Development Plan on Modern Comprehensive Transportation System].

waterway. The total ton-kilometers for road freight in 2023 is 10 times that of 2003, accounting for 30% of ton-kilometers for all transportation modes.⁷ Rail and inland waterway accounted for 15% and 8% of total ton-kilometers in 2023, respectively, despite being the most fuel-efficient and clean transport options.⁸ In contrast, rail transportation dominates the U.S. long-distance freight market, carrying approximately 40% of freight volume.⁹ The dominance of road transport has contributed to high logistics costs; these expenses represented 14.4% of China's GDP in 2023, compared with approximately 7%–8% in the United States.¹⁰ Intermodal transport offers effective solutions for reducing transportation and logistics costs. The United States achieved \$355 million in savings on transportation costs by doubling intermodal shipments between 2006 and 2013.¹¹

Figure 2
Total freight turnover by mode in China, 1991–2023



Note: The share of air freight is low in all years; it is 0.1% of ton-kilometers in 2023.

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KEY INITIATIVES IN THE ACTION PLAN

The Action Plan identifies 18 areas for implementation. These are categorized below into five major topics with the related key initiatives.

IMPROVE DEVELOPMENT OF A COMPREHENSIVE TRANSPORTATION SYSTEM

The Action Plan emphasizes diverse strategies for different transportation modes. Both the Three-Year Plan on Transportation Restructuring (2018–2020) and the Work Plan

7 Tianlin Niu, Zhenying Shao, and Geyi Zhu, *Toward Greener Freight: Overview of Inland Waterway Transport for Freight in the European Union* (International Council on Clean Transportation, 2024), <https://theicct.org/publication/overview-of-inland-waterway-transport-for-freight-eu-aug24/>.
8 Niu, Shao, and Zhu, *Toward Greener Freight*.
9 Association of American Railroads, “Intermodal for Shippers: A Glance at Clean Freight Strategies,” January 2025, <https://www.aar.org/wp-content/uploads/2023/04/AAR-Facts-Figures-Fact-Sheet.pdf>.
10 National Bureau of Statistics of China, “《中国统计年鉴2024》,” [China Statistical Yearbook 2024], accessed February 11, 2025, <https://www.stats.gov.cn/sj/ndsj/2024/indexch.htm>.
11 Association of American Railroads, “Intermodal for Shippers.”

for Promoting the Development and Optimization of Intermodal Transport to Adjust Transportation Structure (2021–2025) led to a substantial increase in railway freight volume.¹² Building on this progress, the Action Plan further emphasizes enhancing the development of railway and inland waterway networks, and especially connections between the two modes. Key initiatives are:

- » Support 30 cities in building freight logistics hubs.
- » Establish bulk cargo transfer hubs.
- » Optimize transportation and logistics infrastructure to integrate with the development of emerging industries.
- » Facilitate urban–rural logistics by improving rural delivery networks and testing combined warehouse distribution models.

OPTIMIZE TRANSPORTATION STRUCTURE AND DEVELOP INTERMODAL CAPACITY

The Action Plan aims to increase the freight capacity of rail–water and marine–inland waterway intermodal transport. Key initiatives are:

- » Enhance and optimize the quality of intermodal transport services and establish transport service centers.
- » Develop standards for a single-bill system to streamline the entire freight shipment across modes with one bill or contract.
- » Standardize domestic container operations and establish a container sharing and recycling system.
- » Extend railway lines to ports, logistics zones, and industrial zones.
- » Support building 30 cross-regional intermodal transport enterprises and creating 20 branded rail–water intermodal transport routes.
- » Develop specialized international and domestic freight corridors such as a “West to East Coal Transport” corridor and “North to South Grain Transport” corridor.
- » Support “bulk-to-container” transportation and optimize bulk cargo transportation channels.

PROMOTE FREIGHT DECARBONIZATION

This part of the Action Plan focuses on two main areas: building zero-emission truck fleets and tracking carbon outputs. Key initiatives are:

- » Transport more than 80% of port cargo by railways, waterways, enclosed belt conveyers, and new energy vehicles.
- » Implement carbon management systems to reduce emissions, including detailed mechanisms for emissions accounting in the logistics sector.
- » Expand networks for vehicle charging and for swapping batteries to support adoption of electric trucks.
- » Launch self-driving vehicle programs in key regions.
- » Develop zero-emission freight vehicles and vessels for ports, logistics zones, and industrial zones.

¹² State Council of China, “国务院办公厅关于印发推进运输结构调整三年行动计划（2018–2020年）的通知,” [Three-Year Plan on Transportation Restructuring (2018–2020)], September 17, 2018, https://www.gov.cn/zhengce/content/2018-10/09/content_5328817.htm; State Council of China, “国务院办公厅关于印发推进多式联运发展优化调整运输结构工作方案（2021–2025年）的通知,” [Work Plan for Promoting the Development and Optimization of Intermodal Transport to Adjust Transportation Structure (2021–2025)].

PROMOTE SUPPLY CHAIN EFFICIENCY

The Action Plan emphasizes smart logistics, including improved information sharing among ports, regulators, banks, and businesses through public platforms and cross-sector collaboration. Key initiatives are:

- » Enhance supply chain management and integrate upstream and downstream operations.
- » Develop digital documentation systems and smart port and warehouse operations
- » Streamline customs clearance procedures.
- » Strengthen international logistics chain collaboration.
- » Promote innovation in the logistics supply chain and the development of professional logistics service capabilities, especially in the manufacturing of new energy vehicles and electric-vehicle batteries and for moving bulk commodities.
- » Strengthen rural logistics services.

ENHANCE POLICY AND FINANCIAL SUPPORT

To support these changes, the Action Plan calls for comprehensive government support. Key initiatives are:

- » Establish financial support mechanisms and tax-reduction policies for intermodal transportation companies.
- » Strengthen market oversight and improve legal and regulatory compliance.
- » Foster international partnerships to strengthen international cooperation.
- » Optimize the allocation of land resources for transportation and logistics.

INITIAL PILOT TASKS

After announcing the Action Plan, the Ministry of Transportation listed 18 pilot tasks or focus areas aimed at developing efficient freight corridors and logistics platforms.¹³ These pilot tasks were selected based on high demand for freight transport and alignment with national transportation development strategies. For international freight corridors, the program targets three strategic directions: northward through the China-Mongolia-Russia corridor, southward to Southeast Asian markets, and westward to European destinations via central China. Within China, development focuses along two major economic regions, the Yellow River and Yangtze River areas, while also emphasizing specialized freight corridors for key commodities including coal, grain, and lithium-ion batteries. A key goal is to enhance intermodal efficiency, particularly in moving freight between ships and land-based transport systems. Additionally, the pilot tasks propose establishing improved service platforms, including further development of the Hainan Free Trade Port and a digital logistics and supply chain platform using artificial intelligence in Jiangsu Province.

Local governments in key regions (see Table 1) are responsible for implementation of the pilot tasks. These local governments will develop supporting policies through various measures, such as upgrading infrastructure service levels, establishing logistics parks or hubs, supporting enterprise development of intermodal transport logistics, and setting up special logistics funds. The transportation departments of the local governments will submit detailed implementation proposals, and selected projects

¹³ Ministry of Transport, “首批交通物流降本提质增效交通强国专项试点任务名单公布,” [The List of the First Batch of Pilot Tasks for Reducing Costs, Improving Quality, and Increasing Efficiency in Transportation Logistics for the Strong Transportation Nation Initiative], November 13, 2024, https://mp.weixin.qq.com/s?__biz=MzI3MDQwMDQ5NQ==&mid=2247599527&idx=1&sn=8b1d5b9767a87e2366db7d4f610eed9a.

may receive national government subsidies. Successful cases will serve as models for nationwide implementation.

Table 1
Corridors and services targeted for initial pilot tasks

Freight corridors	International	China–Mongolia–Russia Corridor
		Southeast Asia: Bangladesh–China–India–Myanmar Corridor
		The New Eurasian Land Corridor
	Domestic	The Yangtze River Economic Belt Corridor
		The Yellow River Ecologic and Economic Belt Corridor
		Land-Sea Trade Corridor in the Northwestern Region
		North to South Grains Transport Corridor
		West to East Coal Transport Corridor
		Lithium-ion Batteries Transport Corridor
	Intermodal transport	Yangtze River Rail–Water Intermodal Transport Corridor
		Land–Sea Intermodal Transport Corridor in Central Region
		Rail–Water–Sea Intermodal Transport in Western New International Land–Sea Trade Corridor
		Sea–Rail Intermodal Container Transport Corridor
		Inner Land–Sea Trade Corridor
Logistics services and platforms	Hainan Free Trade Port	
	Artificial intelligence digital logistics and supply chain platform	
	Integrated development of passenger, freight, and mail services in both urban and rural areas (urban development is one task and rural development is another task)	
Key provinces and regions	Coastal areas	Hebei Province, Jiangsu Province, Zhejiang Province, Fujian Province, Guangdong Province, Hainan Province
	Areas along inland waterways	Shandong Province, Hubei Province, Anhui Province, Sichuan Province, and Chongqing Municipality
	Areas along freight corridors	Inner Mongolia Autonomous Region, Liaoning Province, Jilin Province, Heilongjiang Province, Henan Province, Guangxi Province, Yunnan Province, and Shaanxi Province

NEXT STEPS AND OUTLOOK

The Action Plan serves as a crucial policy instrument for advancing China's Building a Robust Transportation Country initiative. It establishes a definitive policy framework for developing an integrated transportation system, with a particular emphasis on promoting intermodal transport and minimizing logistics costs, while removing transportation and logistics barriers and improving connections within China and internationally. Additionally, the plan aligns with and strengthens existing policies on clean transportation and the optimization of transport infrastructure. Implementation is led by the Ministry of Transportation and the National Development and Reform Commission, collaborating with other ministries, local governments, and industry groups.

The plan will be put into action through pilot tasks. The initial 18 tasks have already been announced, with more tasks expected to be released in the future. Through these coordinated efforts, China aims to achieve practical results in making transportation and logistics more cost-effective, reliable, clean, and efficient.



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