Introduction to the low-carbon freight aspects of China's *Opinions on Accelerating the Construction of an Open and Unified Transportation Market*

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In late December 2024, the General Office of the Communist Party of China Central Committee and the General Office of the State Council issued a new policy document, *Opinions on Accelerating the Construction of an Open and Unified Transportation Market* (hereafter referred to as "the Opinions").[1] These contain high-level recommendations for system reform, regulatory and supervisory improvement, and more for the "transportation market," which covers highway, railway, waterway, aviation, and postal transportation. The Opinions cover four key groups of actions and include 21 guidelines (Figure 1).

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1 The General Office of the CPC Central Committe and the State Council of China, "中共中央办公厅 国务院办公厅关于加快建设统一开放的交通运输市场的意见[Opinions on Accelerating the Construction of an Open and Unified Transportation Market]," December 23, 2024, https://www.gov.cn/zhengce/202412/content_6994162.htm.

Figure 1
The 21 guidelines in the Opinions

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In China, opinions such as these are formal documents with recommendations in areas of governance or reform. Though not legally binding, the overarching principles, priorities, and goals they articulate guide lower levels of government and relevant sectors and are important in setting the direction for future regulations and policies from those sub-national actors.

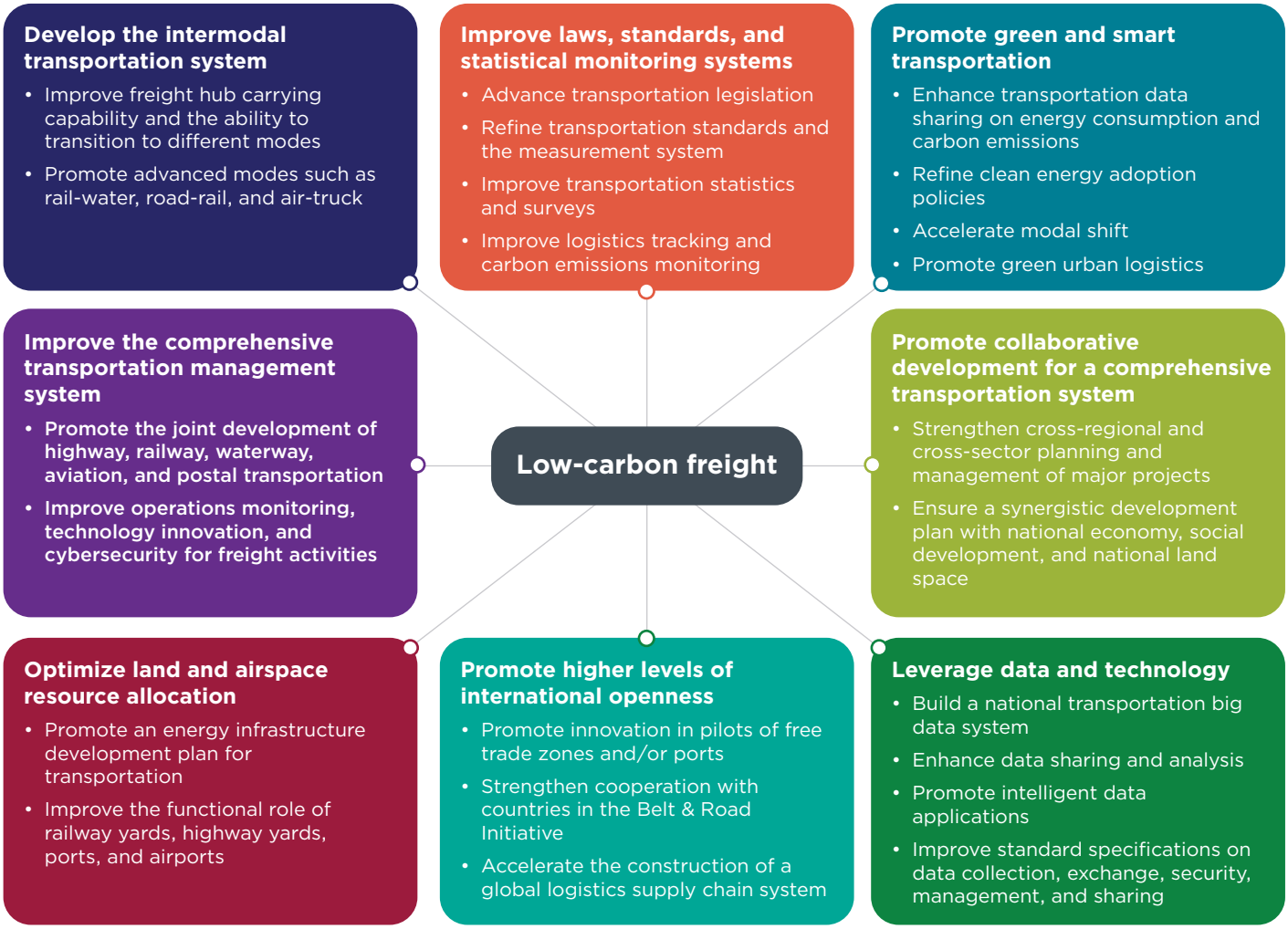
The Opinions are the third strategic document on the transportation system issued by the Communist Party of China Central Committee and the State Council.[2] The first, *Outline of Building a Robust Transportation Country*, was published in 2019 and focused on creating the foundation of an extensive, nationwide transport network. The second, *Outline of Building a Comprehensive Transportation Network*, was published in 2021 and contained targets for growth and the length of the transport network; it is often referred to as the "6 Axes, 7 Corridors, 8 Channels" framework. Together these three are the strategic blueprint from which to build a modern, integrated transport system in China that supports economic growth and regional connectivity.

2 The General Office of the CPC Central Committee and the State Council of China, "中共中央 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;
The General Office of the CPC Central Committee and the State Council of China, "中共中央 国务院印发《国家综合立体交通网规划纲要》[The Outline of Building a Comprehensive Transportation Network]," February 24, 2021, https://www.gov.cn/zhengce/2021-02/24/content_5588654.htm.

SPOTLIGHT ON LOW-CARBON FREIGHT

Eight of the 21 guidelines concern advancing low-carbon freight (Figure 2). These include building an information platform to better track and monitor freight operations and emissions and promoting electrification and intermodal transportation.

Figure 2
Components related to low-carbon freight



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The Opinions highlight the importance of effective coordination between different transport modes and the need to strengthen not only collaboration when implementing key transportation policies but also cross-regional and cross-sectoral planning for and management of major transportation projects. They emphasize using the development targets in the prior *Outline of Building a Comprehensive Transportation Network* to create the skeleton of the national transportation network; that skeleton is, in turn, expected to help guide approaches to improving the flow of people and goods domestically and boosting the efficiency of multimodal transport.

Research is expected to support the scientific underpinning for and improvement of the laws and regulations needed for highways, railways, waterways, aviation, and the postal sector. Unified standards and a common measurement methodology across different sectors and transportation modes are identified in the Opinions as things that improve transportation hubs and multimodal and intermodal transportation. In international logistics, multimodal and intermodal transportation use a combination

of at least two modes of transportation (road, rail, waterway, and so on). However, in multimodal transportation, only one contract (or carrier) is signed, and in intermodal transportation, multiple companies may be engaged. Cargos are shipped in units like containers in both multimodal and intermodal transportation, and the most fundamental difference between them lies in their contract.

In the Chinese policy context, the term "single contract" transportation is often used for multimodal transportation. The term intermodal transportation was first introduced in 2017 and it is defined as a cargo shipping service based on two or more transportation modes with integrated cargo organization that is recognized as intermodal units.[3] In 2023, eight ministries issued a joint document indicating that using "single contract" is an effective way to improve the quality of intermodal transportation. [4]

In addition, the Opinions suggest advancing the construction of intermodal transportation infrastructure to enhance the carrying and connection capacity at freight hubs and ports; this would also support modal shift. Several of the items to promote the development of intermodal transportation are listed in Table 1. These are aspects of a "green" freight strategy that reduces emissions, improves efficiency, and saves costs.[5] Specific development plans from various policymakers are expected to follow the Opinions, including from the Ministry of Transportation and the Ministry of Ecology and Environment.

Table 1
Key tasks to develop intermodal transportation identified in the Opinions

Promote advanced freight modes
• Promote advanced freight modes
• Express railway (high-speed railway)
• Drop-and-hook transport
• Intelligent internet freight logistics
• Direct river-to-sea transport
• Transshipment between waterways
Increase modal shift and the use of intermodal transportation
• Rail-water transportation
• Road-rail transportation
• Air-truck transportation
• Create a "single contract intermodal transportation" regulation
Improve specialized transportation
• Shipment of refrigerated cargos and hazardous chemicals

Another important request in the Opinions is to improve clean energy adoption policies for transportation equipment, especially by promoting new and/or clean energy medium- and heavy-duty trucks, vessels, and green urban logistics. The Opinions also highlight the need to improve the transportation statistics and survey system, and to

3 Ministry of Transportation, "交通运输部等十八个部门关于进一步鼓励开展多式联运工作的通知 [Notice from the Ministry of Transport and 18 Other Departments on Further Encouraging the Development of Intermodal Transportation]," January 4, 2017, https://www.gov.cn/xinwen/2017-01/04/content_5156520.htm#1.

4 Ministry of Transport, "交通运输部 商务部 海关总署 国家金融监督管理总局 国家铁路局 中国民用航空局 国家邮政局 中国国家铁路集团有限公司关于加快推进多式联运"一单制""一箱制"发展的意见 [Accelerating the Development of 'Single Contract' Modes in Intermodal Transportation]", August 21, 2023, https://www.gov.cn/zhengce/zhengceku/202308/content_6899866.htm.

5 Ministry of Transport and National Development and Reform Commission (NDRC), "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]," September 11, 2024, https://www.gov.cn/zhengce/zhengceku/202411/content_6989629.htm.

enhance monitoring and tracking of various passenger transport modes, freight activity, and transportation carbon emissions. This is important because a better understanding of commodity freight flows in China would particularly support stakeholders in setting targets for freight decarbonization. In helping to identify the freight networks and corridors for each commodity, it could also reveal the areas in which modal shift is most feasible and help develop zero-emission corridors and intermodal transportation.

The Opinions encourage international alignment and collaboration. This is for a variety of reasons and with a variety of broad goals in mind. One goal is to develop a regulatory framework of management and supervision that is aligned with global trade rules. Another is to promote institutional and regulatory innovation in the transportation sector via pilots of free trade zones and/or free trade ports. The Opinions seek strengthening of cooperation on transportation connectivity with countries participating in the Belt and Road Initiative based on an existing platform, the Global Sustainable Transport Innovation and Knowledge Center (GSTIKC). All of these are expected to promote the management of China's freight market with world-leading regulations and standards, including low-carbon freight policies.

Improved resource management through better coordination and collaboration between government departments and local authorities, including regarding land use, sea use, and energy use for major transportation projects is highlighted. Data transparency and sharing across different regions, departments, and provinces is also highlighted, as is developing a big data system for transportation and a national comprehensive transportation information platform. The Opinions promote intelligent data applications and improved data security through standards and specifications.

NEXT STEPS AND OUTLOOK

In the months and years ahead, various action plans, targets, and regulations are expected to be published by the Ministry of Transportation, the Ministry of Ecology and Environment, and other regulators. The ICCT's research shows that policies could be most effective if they address a few key areas.

First, stakeholders could make special effort to create the necessary legal basis for developing national freight statistics and policies like greenhouse gas emission standards. For example, it is because of the Air Pollution Prevention and Control Law that the Ministry of Ecology and Environment has the authority to establish vehicle emission standards and regulate pollutant emissions from the transportation sector.

Beyond national freight statistics, the Opinions also open important opportunities to develop a commodity-level freight-flow modeling tool and an emissions inventory that includes road, railway, waterway, and aviation. This is aligned with suggestions in an ICCT-commissioned study of advanced transportation statistics and freight-flow surveys in the European Union.[6] There is also an existing, successful practice of doing a commodity flow survey and using a freight analysis framework in the United States.[7]

Development plans and targets for transportation decarbonization can also be considered, and a 25% reduction in greenhouse gas emissions in 2030 compared with 2020 for the freight sector is one example. Policies that would support such a target include things that set a clear pathway to develop modal shift and intermodal transport, promote the transition new energy vehicles and low-carbon fuels, and provide incentives for developing charging infrastructure.

6 Rui Neiva, Martin López Pavez, and Hugo Ong, *Toward Greener Freight: Transportation Statistic System and Best Practice in Europe* (International Council on Clean Transportation, 2024), https://theicct.org/publication/toward-greener-freight-transportation-statistic-system-and-best-practice-in-eu-aug24/.

7 "Freight Analysis Framework," U.S. Bureau of Transportation Statistics, last modified April 1, 2025, https://www.bts.gov/faf.

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