

Freight Flows and Supply Chains in Transport

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Freight flows represent the movement of goods from the point of origin to the point of consumption. In the transport system, they connect production, storage, distribution and final users. Understanding freight flows is essential for capacity planning, mode selection and reducing total logistics costs.



Concept of Freight Flows

A freight flow can be understood as the spatial and temporal movement of a certain quantity of goods. It is important to know where the goods originate, where they are delivered, which route they use, how often they are transported and which transport modes are involved.



Origins and Destinations of Goods

Freight origins may include factories, agricultural areas, mines, ports, warehouses and distribution centres. Destinations may include retail facilities, industrial zones, terminals or final users. Planning must connect these points into a functional, reliable and cost-effective transport network.



Modes of Freight Transport

Goods can be transported by road, rail, water, air and intermodal transport. Road transport is flexible, rail is suitable for large quantities, water transport is efficient for bulk flows, while intermodal transport combines the advantages of several modes.



Terminals and Logistics Nodes

Terminals, ports, freight transport centres and warehouses are key nodes in freight flows. Goods are transshipped, consolidated, stored and prepared for further distribution. The efficiency of these nodes directly affects delivery time and transport costs.



Factors Shaping Freight Flows

Freight flows are influenced by production volume, consumption, market location, fuel prices, infrastructure quality, delivery time, service reliability and regulatory conditions. Therefore, freight flow management requires continuous monitoring of economic, spatial and operational changes.



Data for Freight Flow Analysis

Analysis requires data on freight volume, cargo type, transport relations, delivery frequency, vehicle capacities, costs, travel time and terminal delays. The quality of data determines the quality of planning and decision-making.



Efficiency Indicators

Freight flow efficiency is measured through delivery time, vehicle utilisation, cost per tonne or shipment, delivery reliability, number of transshipments, energy consumption and emissions. These indicators help identify problems and priorities for improvement.



THANK YOU!