ERRIN European Regions Research and Innovation Network

OPINION OF THE ERRIN TRANSPORT WORKING GROUP

FOR A NEW EUROPEAN FREIGHT AND LOGISTIC ROADMAP

Established in 2001, ERRIN promotes the regional and local dimension in European research and innovation policies and programmes. The network counts around 120 members who primarily collaborate through our thirteen Working Groups covering both thematic areas and overarching policy issues. ERRIN supports project development and knowledge exchange between members to enhance regional and local research and innovation capacities and to foster sustainable and inclusive growth in all regions.

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The priorities presented can therefore help to inspire future EU policies especially in the context of the Commission's upcoming **Urban Mobility Initiative (UMI)**.This paper builds on an earlier version from 2019, that was refined and updated in the light of the new Commission-initiatives and the ongoing UMI-preparations.

Context

Logistics is essential for the smooth operation of economic exchanges and the production process, for the satisfaction of basic human needs. Logistics represent an area of vital strategic importance for the European Union. Technological evolutions and digital transition are transforming its uses and the ways it is used, from producer to consumer: transport, vehicle, energy, roads, delivery area, real estate, vertical, underground, mixed... Changes must be integrated into the (re)construction of the city of tomorrow. Freight and logistics are an integral part of the overall mobility system and have to be smart, sustainable and efficient to serve prosperous and liveable regions. Regions are thereby the best level for the planning and coordination of such processes and need to be strengthened as locus for future innovation. Regions have a coherent and global vision of the territorial needs -and are as functional urban areas optimal units for economic regional development in combination with traffic issues. How to optimise the supply chain to adapt to the realities of the territories, the demands of their companies and the population?

This opinion paper presents the actions implemented by public and private actors involved in the return of logistics to planning policies, particularly in the field of urban logistics and freight.

I. Strengthening regional competitiveness

With European integration and globalisation, mainstreaming of lean production systems, and the growth of e-commerce, supply chain management is becoming more widespread in most business lines. Increasing the efficiency of freight and logistics activities in a region is a way to strengthen its overall economic competitiveness.

1. More reliable infrastructures

The development of freight and logistics activities requires an adaptation of the transport infrastructure on which they depend. Regions can support the upgrade of roads and parking infrastructures within and around logistics zones to improve their connectivity and their adaptation to heavy goods vehicles. When possible, regions can also support the creation of multimodal hubs, to permit modal shift from road to rail and waterways.

Support for connectivity of logistics areas

Île-de-France Region supports local administrations for the construction, adaptation or securing of access and parking infrastructures next to existing and developing logistics zones.

Projects which are supported include the construction or modernization of access infrastructures next to economic zones receiving logistics activities, the creation or securing of heavy goods vehicles parking spaces next to the primary road network or inside logistics zones and the installation of on-street equipment which permit the deployment of intelligent and cooperative transport systems.

The Region can fund up to 50% of the investments, capped at 1M€.

2. Support innovative actions

Digitalisation and automation create profound changes in the logistics industry and in supply chains of all lines of business. By supporting innovation in supply chain organisation as well as land and real estate management, regions can strengthen their economic competitiveness and capacity for growth. Simultaneously they would promote the inclusion of environmental issues in supply chain management, which also are connected with effects of cost efficiency. In this regard we support the respective ambitious goals in the Commission's new Strategy for Smart and Sustainable Mobility.

Support for innovative actions

Île-de-France Region supports the deployment of process and organizational innovation for logistics chains, logistic real estate, vehicles or logistics data tools.

Projects which are supported permit to anticipate the changes of the consumption and distribution patterns and their impact on all the logistic chains (equipment, vehicles, services, training, etc.). They can focus on the reorganization of supply chain to promote optimization of the routes and combining transport flows, the deployment of connected and shared logistics buildings, the use of clean, connected or autonomous vehicles for all modes (road, air, rail and waterways) or digital tools helping the collection of freight and logistics data.

The region can fund up to 50% of the investments, capped at 500K€.

3. Promotion of Urban Logistics Policies developments

Freight transport within the city causes congestion, pollution and road safety issues. Regions can foster policies development and promote sustainable urban mobility plans that include passengers and also freight transport. We therefore welcome the plans of the European Commission in the upcoming UMI to encourage bigger cities to develop Sustainable Logistic Plans (SULPs), but underline that those need to be part of or closely connected with the overall SUMPs (see also III.3.).

Project example from Stuttgart: SULPiTER

The Interreg Central Europe Project consists on the establishment of Freight Quality Partnership (FQP) meetings between authorities and privates as well as the development of a **Sustainable Urban Logistic Plan (SULP) for each of the seven FUAs (Brescia, Bologna, Budapest, Maribor, Poznan, Rijeka and Stuttgart).** The SULP summarizes freight transport problems with recommendations for suitable solutions. The project is coordinated by ITL. Project partner for FUA Stuttgart is the Stuttgart Region Economic Development Cooperation (WRS).

The idea of the project is to reduce both CO2 and traffic under the superior goal of enforcing cleaner air. Content of the project:
•Understanding freight traffic flows and its interdependencies with planning and traffic decisions.
•What can we do, and which measures will cause which effects?
•Which cooperations are possible among stakeholders, and how to set them going?
For more information, please visit the website

II. Reducing nuisances

The establishment of logistics activities is a source of local and regional economic development. However, it can lead to an increase of the nuisances caused by a growth of heavy goods vehicles, such as congestion, pollution, and illegal parking if the transport infrastructures and vehicles are not adapted.

1. Multimodal integration

Most of the transport of goods within and between European regions relies on road transport. Setting the aim in the Strategy for Smart and Sustainable Mobility to double rail transport of goods by 2050 is therefore a strong signal. Regions can improve the integration of waterway and railway transport in supply chains by funding infrastructures and by setting aside land next to multimodal hubs to accommodate logistics activities. This aspect of infrastructure investments and comprehensive land-use planning to organise multimodality is especially relevant in densely populated Metropolitan Regions. Smaller suburban hubs, promoted by local or regional authorities, can avoid operations of several delivery services on the same routes by an effective use of common package stations. The last mile delivery to downtown could then be electrified.

Support to the integration of inland waterway transport in supply chains

Île-de-France Region fund the Modal shift support package of *Voies navigables de France* (VNF), the French navigation authority responsible for the management of inland waterways.

The Modal shift support package serves to support businesses that want to integrate waterway mode into their logistics chains, thanks to financial support at every step set-up process: transport and logistics engineering, testing of the waterway solution, acquisition of handling equipment and infrastructures.

2. Modernisation of fleets

Regions can support the transition of road, rail and waterways fleets from diesel and heavy fuel oil to clean energy sources (i.e. natural gas, electricity, hydrogen). This can be done through funding new vehicle acquisitions and supporting the deployment of clean energy fueling stations. We therefore welcome the Commission's proposal to transfer the Alternative Fuels Infrastructure Directive into a Regulation and set clear targets for the member states to develop a dense network of sustainable fueling stations. This framework will give innovative regions and companies the means to proceed from pilot projects to mainstreaming.

Support to the modernization of inland waterways fleet

Île-de-France Region fund the Modernization and innovation support package of *Voies navigables de France* (VNF), the French navigation authority responsible for the management of France's inland waterways.

The Modernization and innovation support package is intended to inland waterways fleet operators and owners to support the modernization of their fleet in order to reduce the fuel consumption and pollutant emissions, to promote the use of alternative fuels, to improve the efficiency of waterway transportation and to attract new flows.

3. Holistic sustainability approach: Supply chain innovation and behavioural change

In total, sustainable freight and logistics is more than a change to clean fleets. It means, besides higher efficiency through digitalization and multimodal integration, also new ways of supply organisations and a behavioral change.

Public authorities and logistic service provider need support for research, experimentation and innovation concerning efficient and clean transport chains including last mile delivery (e.g. community/collaborative delivery, transport bike or micro-depots). Also, measures for awareness rising, targeting the connection of individual consume-behavior and the nuisances through increasing transport volume, is necessary. This is even more relevant in the light of the COVID-induced recent changes in consumption and supply patterns.

Wirtschaftsverkehre/Urban Logistics FrankfurtRheinMain

The House of Logistics and Mobility Frankfurt (HOLM), the City of Frankfurt and the Frankfurt Chamber of Commerce are testing together with logistic service suppliers like Deutsche Post, DHL, dpd, UPS or Hermes innovative solutions in city logistics, especially in Darmstadt, Frankfurt, Offenbach and Wiesbaden, like micro depots and cargo bikes, loading zones (including app-mapping), e-mobility and autonomous driving.

Three special working groups on data collection and modelling, concepts for the last mile and construction site logistics are working towards a optimisation of urban delivery traffic in city centers and rural areas of the Metropolitan Region of FrankfurtRheinMain, i. e. improved traffic flow, higher road safety and reduction of emissions. This also includes an exchange of best practices on regional, national and European level.

III. Territorial coordination and integrated regional planning

Freight and logistics activities rely on public transport infrastructures to serve all lines of business and households. These activities are a fundamental tool for territorial development. However, as they are exclusively carried out by private companies, they are rarely considered as such by public administrations.

1. Consideration of freight and logistics activities in regional planning documents

The efficiency and durability of freight and logistics activities as well as the connected nuisances largely depends on location and infrastructure used. To take freight and logistics activities into account in regional strategic planning documents is necessary; however it requires an analysis of the needs and constraints of the activities as well as the potential changes in the field in the coming years. Therefore, regions need to develop a strategic vision of freight and logistics through collecting relevant data and information from freight and logistics actors and transport infrastructure managers. This strategic vision must be aligned with policies at urban level to ensure the last mile activities as the ultimate part of the supply chain.

Proximity of logistics hubs infrastructures to urban nodes

Aragon Logistics Platform (APL), is designed not only as a logistics hub, but also as a logistics park capable to perform last mile distribution in the urban areas, within a distance of 10 km maximum. Within this Aragonese region in Spain, APL has different surfaces for logistics uses that operate as logistics hubs, having integrated large European supply chains, and promoting interoperability with other regional logistics hubs. Recognized as an intermodal hub, APL cooperates with public and private organizations, being supported by educational and research centers such as Zaragoza Logistics Center, whose mission focuses on the development of the logistics sector, and particularly APL. Beyond this, it is remarkable the location of each one of the logistics parks, at a distance no more than 10 km from the urban areas; this fact enable the logistics operators to provide a service integrated into the SUMP and aligned with the SULP. Cooperation among public and private sector at regional and local level is a must to be successful.

2. Interchange with other public authorities and the private sector

The dynamics of the logistics systems are often difficult to observe on a local level. For example, last mile solutions that may be considered as relevant on a local scale will not be viable if their effects on the rest of the chain are not considered. Regions are at the right level to coordinate the interchanges between different public authorities and logistics service supplies and demands, in order to develop a strategic approach to freight and logistics challenges and to answer to the territorial needs and constraints. **An UMI that will also mirror this embeddedness of "urban" mobility and logistics in the regional transport systems will be much better suited to have real impact on the ground**. The further development of respective innovative cooperation and governance mechanisms should be encouraged.

Région îledeFrance

Ongoing call for tenders to address the needs of the territories

Île-de-France Region support partnership-based pilot projects and demonstrators to include logistics in the development strategies of the territories.

The projects have to be jointly developed by local authorities with private stakeholders and have to consider all the aspects of local development (employment, training, reduction of the nuisance, etc.). They can focus on the consideration of logistics in urban development projects and urban planning, the adaptation of the public spaces to the needs of logistics activities, the valorization and modernization of existing logistics zones and facilities, the promotion of clean and automated vehicles or the developments of short distribution channels.

The Region can fund up to 50% of the investments, capped at 1M€.

3. Tackle rising transport volumes trough integrated regional planning

We proposed already in 2019 to focus on a decoupling of enhancing economic competitiveness and the steady transport volume rise in the future. The ultimate aim might be even to prevent a further increase in transport volume – for the sake of more livable cities and regions. Therefore, it is necessary to first, perceive freight and logistics as a central element of the mobility system and planning and second, to integrate these with the land-use planning and the strategic regional development.

To strengthen this integrated approach and master to anticipate and steer future developments, such a planning has to take into account all interdependencies in a functionally interconnected (transport) area and therefore be best developed on a "regional" level (not necessarily understood in terms of the EU NUTS-classification, but the practical realities of respective functional areas or the polycentric Metropolis).

Sustainable logistics as integral part of the FrankfurtRheinMain regional SUMP

With its new Mobility Strategy the Regional Authority FrankfurtRheinMain developed a first SUMP for the whole functional transport area around Frankfurt. It contains a specific chapter on integrated commerical traffic that lists specific flagship-measures like developing a regional commercial transport concept together with the municipalities and the private sector, closely linked with the regional land-use plan. Furthermore, a "Regional Rail Consultant" was introduced and the potential of sidings in the region is examined, both to support the shift of more freight traffic onto rail.

SUMPs and SULPs are a very useful tool to transfer these thoughts into practice. A potential "sharpening" of respective obligations in the UMI and following EU legislation could be accompanied by a push for strengthening of national SUMP-support frameworks (which differ today from member state to member state).

This is even more relevant as the necessary broadening of scope surpassing the administrative boundaries of "the City" and taking the functional area into account can also bring additional efforts for governance and coordination with it.

IV. Logistics in the digital age

1. New data and digital tools to better understand and guide freight flows in urban Regions

Urban Regions need data and digital tools to better understand the flow of goods in their territory. The regions are developing strategies to better control logistics and make them efficient and innovative. **It is essential to combine economic and social performance with environmental excellence at the same time:**

- Strengthen the attractiveness of territories
- Reduce nuisances
- Encourage local development through the logistics sector
- Stimulate innovation
- Coordinate actions and federate actors

To be able to control logistics activities: regions need to collect data on freight and logistics activities, not only on the last mile but on the overall logistics chain.
How to collect the data? How to use it to build a regional strategy. This is a challenge that authorities need to address in partnership with the private sector.
In its recommendations in the new proposal on urban mobility, the Commission could support public authorities in collecting this data by helping them to:

- launch a regional observatory
- create an online platform hosting smart services based on public or private open data and developed through a process of open and collaborative innovation

Région îledeFrance **The Region launched an innovation call for project in 2020**

Objective: support partnership-based pilot projects and demonstrators, jointly developed by private stakeholders and local authorities.
22 projects, 7.7M€ of subsidies:
• Waterway transport and intermodality: 5 projects, 1.43 M€
• Last mile logistics: 5 projects, 1.87 M€
• Innovative and connected equipment and infrastructures: 6 projects, 2.29 M€
• New methods applied for data collection and treatment: 6 projects, 1.99 M€
EVOLUE project
Stakeholders: Aslog, Club Demeter, Institut du commerce, Grand Paris Seine Ouest
➔ Construction and experimentation of innovative transport optimisation solution, based on modelisation using real freight data:
• Collection, normalisation and anonymisation: database construction
• Analysis of the present situation: data analysis, KPI (performance and externalities), « black spots » identification
• Scenarios modelisation: technological and organisationnal innovations, public policies, territorial evolutions…
• Experimentation on the ground: iterative process (simulation – experimentation) and improvement

2. Awareness of PI and core enabling technologies

The Physical Internet (PI) is a vision of how physical objects might be moved via a set of processes, procedures, systems and mechanisms from an origin point to a desired destination in a manner analogous to how the Internet moves packets of information from a host computer to another host computer. In other words, the Physical Internet is applying the principles of the Internet to logistics. A global, open, interconnected network, using a set of collaborative protocols and standardized smart interfaces, in order to send and receive physical goods contained in standard modules – instead of packets of information, as does the Internet.

European Commission and other private and public entities in Europe are fostering this paradigm and regions must be prepared in the coming years. The change in the logistics and transport model triggered by Physical Internet is enormous. Its understanding requires complementary actions at regional level to ensure the correct access and adoption of PI especially by SMEs. These actions should be focus on different topics: mental shift, new role of LSPs in the value chain, advance role of ports and hubs, access model for shippers, shared assets, warehouses, vehicles and infrastructure, etc. In addition, core supporting technologies of PI such as: IoT, Blockchain and Smart Contracts, Federative Platforms for documents and data sharing, simulation and Digital Twin, etc. must be democratized and well known by companies, due to they will be used in the forthcoming years since they work hand by hand with PI paradigm.

3. Physical and Digital Infrastructures

PI Nodes at regional level will be needed to connect big PI Hubs with regional and urban areas. These new logistics facilities and the adaptation of existing ones require investments in terms of infrastructure not only physical but also logical. Physical infrastructure needs are mainly related to autonomous hubs and autonomous handling of goods, harmonizing transport modes, automated material handling, container standardization, etc. Digital infrastructure needs are more related to PI services: supply chain visibility, forecasting and planning, routing, visibility of available capacities, collaboration platforms, advanced and real-time data analytics systems, etc