Future of transport data 11/08/23

Summary

- The UK's logistics sector is becoming ever more data-driven and integrated.
- The government's Future of Freight plan of June 2022 predicts that the supply chains of the future will be more driven by technology and data.
- While innovation within the logistics sector up to the 1970s was largely focused on vehicles and infrastructure, since then it has also been driven by advances in data management.
- Looking to the future, the need for improved data-based systems and decision-making for the logistics sector is in the interface between the sector and public infrastructure and public services.
- There are eight main areas where data is vital for informing the relationship between the logistics sector, public infrastructure and public services: decarbonisation, connectivity, urban logistics, strategic transport planning, taxation, trade, safety and compliance and skills.
- The DfT Transport Data Strategy of March 2023 provides an assessment of the barriers to transport data sharing. Of these, perhaps the most substantial barrier is "not prioritising or valuing sharing or having a clear sense of purpose as to why we are sharing data." While this barrier in the document is explained as "a lack of leadership in the transport data sector," we would make the case that it results from issues with strategic planning in the transport sector more broadly.
- The Transport Data Strategy asserts that the government will provide leadership and support to help the transport sector ensure data is subject to appropriate governance, is protected, used for its lawful and ethical purposes, and that at the same time its value is maximised. We support this but are clear that it must respect the commercial sensitivity of data and the private-sector and competitive nature of the logistics sector, as well as protecting cyber security.
- A challenge facing the logistics sector is that logistics and freight data (concerned with the movement of goods, inventory management, supply chain optimisation, and efficiency of freight transportation) is generally intertwined with general transport data (including public transport networks like buses, trains, and trams). A better separation and would allow for more specific, tailored strategies that address the unique challenges and opportunities within the logistics industry, enhancing efficiency, and creating more targeted value, particularly in the interface with public infrastructure.

About Logistics UK

Logistics UK is one of the country's largest business groups, supporting, shaping and standing up for safe and efficient logistics. We are the only organisation representing the entire logistics sector.

We represent a sector delivering an increasingly innovative, productive and sustainable system of essential national infrastructure. This system ensures the availability of the products that households, businesses and public services rely on every day, and is supporting the UK's transformation for the future. Our membership of over 20,000 includes global, national and regional businesses and SMEs spanning the road, rail, sea and air industries as well as the buyers of freight services, such as retailers and manufacturers.

Response to inquiry

1. The UK's logistics sector is becoming ever more data-driven and integrated, within businesses and between logistics sites and transport modes. The infrastructure it relies on also needs to become more data-driven and integrated too.
2. The Department for Transport (DfT) Future of Freight plan of June 2022 predicts that the supply chains of the future will be more driven by technology and data.
3. While innovation within the logistics sector up to the 1970s was largely focused on vehicles and infrastructure, since then it has also been driven by advances in data management. For example, in 1975, US company JC Penney created the first warehouse management system that enabled the updating of stock inventory in real-time. In 1982, logistician Keith Oliver coined the term 'supply chain management' to describe how the logistics sector was

increasingly managing the whole journey of goods from point-of-origin to point-of-consumption, including through the use of data. Since the 1990s, e-commerce and the integration of logistics systems has grown rapidly, with new services coming online that take advantage of advances in the internet and online payments, the availability of goods enabled by innovations in warehousing and inventory systems, transport and broader supply chain management, and increases in the efficiency of global trade.

4. Looking at the transport element of logistics, today's logistics operators rely on advanced data-based systems for managing the movement of vehicle fleets, including to mitigate and manage the impacts of the UK's increasingly congested and unreliable transport networks.

5. The growth in the use of battery road vehicles in logistics operations, currently largely for vans, is further increasing the importance of data for transport management, given the need to factor in range constraints and charging time. The use of data for such purposes is only expected to grow as the green transition leads to the sector shifting away from operating fleets that can do most jobs, to having much more tailored fleets with different vehicles for specific jobs and journeys.

The increasing importance of the interface between private and public infrastructure

6. Looking to the future, the need for improved data-based systems and decision-making for the logistics sector is in the interface between the sector and public infrastructure and public services. Most data-based innovation in the logistics sector up until now have been within the sector itself, either within logistics businesses or between them, or between them and their customers. However, the innovations that will drive change in the coming years rely on data that connects public and private systems, and this puts a greater responsibility on the government to develop its plans in partnership with the logistics sector.

7. There are eight main areas where data is vital for informing the relationship between the logistics sector, public infrastructure and public services: decarbonisation, connectivity, urban logistics, strategic transport planning, taxation, trade, safety and compliance and skills.

Decarbonisation

8. Delivering a fair transition to a green economy will rely on logistics operators having good visibility – through data – of vehicle charging locations. Currently, there is no reliable data on the location of public charges with sufficient sized bays to suit vans, let alone battery electric HGVs, and no data on where those chargers are available or operational. This should be rectified to give the sector greater confidence to invest in electric vehicles and to improve the efficiency of logistics operations. We therefore welcome that the DfT Transport Data Strategy of March 2023 sets out that the DfT is working with the Office for Zero Emission Vehicles on how data can improve the user experience regarding charging points.

9. The green transition relies on the logistics sector having visibility of the capacity of the electricity grid, to inform decisions over where to establish depot charging facilities. This data is not adequately shared by network operators. Again, this should be rectified to give the sector greater confidence to invest in electric vehicles, as well as to improve the efficiency of planning processes.

10. To establish how to decarbonise larger logistics vehicles, government-backed trials are needed to produce data on which technologies will work best and how to progress them. However, the crucial DfT-led Zero Emission Road Freight Demonstrator (ZERFD) remains delayed. Once decisions are made, such as through ZERFD or the publication of the delayed DfT low carbon fuels strategy, further data will be required to keep the sector updated on the progress of charging and fuelling infrastructure and supplies, to inform investment and operational decisions.

Connectivity

11. The development of Connected Autonomous Mobility (CAM) is reliant on improved data connectivity between vehicles and between vehicles and transport infrastructure. It has the potential to deliver significant productivity improvements in logistics and therefore the wider economy. However, to enable such innovations, the widespread availability of 5G networks is likely to be required if CAM is to be used across the country, rather than only within the confines of logistics facilities.

12. Connectivity between transport modes, to enable more multimodal journeys, would also benefit from the development of improved data and data systems. This, for example, could include data on the availability of unused capacity on an existing rail freight service enabling logistics businesses to more easily see opportunities to move consignments from road to rail. This and similar applications are already being developed by technology companies working with the logistics sector.

13. Given the above, National Highways' commitment for RIS 3 to build a 'technology-enabled network' is positive.

Urban logistics

14. Logistics is vital for keeping our cities moving and its households, public services and businesses served. With increasing urbanisation, concerns over air quality and efforts to increase public and active travel come challenges for the logistics sector that data can play an important role in managing. For example, a lack of access to kerbside

space or public charging points, can lead to logistics vehicles travelling extra distances, increasing emissions and contributing to congestion. Live data on the availability of such spaces would help to manage this.

15. The above challenges faced by cities have also led to an increase in the imposition of Clean Air Zones, Low Emission Zones, congestion charges and Low Traffic Neighbourhoods, intended to reduce NOx emissions and particulates. However, such schemes can inadvertently increase carbon emissions by leading to logistics vehicles taking longer routes or using multiple vehicles in place of one. In addition, local authorities too often do not explore alternative measures that could have beneficial effects, such as electric vehicle charging infrastructure improvements, better traffic management to reduce congestion such as enabling more freight movements at night, measures to discourage single passenger vehicles and ensuring sufficient kerbside space is available for deliveries and services to homes and businesses. We would like to see these decisions better-informed by data.

16. Data should also be used to better inform urban planning, enabling more efficient urban logistics systems. This includes using data to help locate and protect land for logistics sites, including warehousing, driver facilities, wharfs and intermodal facilities, as well as using data to better integrate local and national transport networks.

Taxation

17. There is a widespread expectation that the transition to electric vehicles will see significant reform of vehicle taxation, as fuel duty receipts to the Treasury fall as a result of the shift away from petrol and diesel vehicles. Similarly, there is an expectation the tax receipts will, eventually, be replaced by road charging – a data-based system to charge road users for the road capacity they utilise. Should this occur, the logistics sector wants to see the system based on maximising of the value of our road network, not the penalisation of those using the roads for essential purposes, such as logistics. The sector also wants to see transport pricing considered in the round, rather than focused on road only, so that it supports the efficient utilisation of the whole transport network, to achieve economic, social and environmental goals.

Strategic transport planning

18. Strategic, national transport investment decisions also require data. For several reasons, from the decarbonisation agenda, a lack of land and challenges with planning and fiscal constraints, it is vital that we maximise the value of the existing transport network. For logistics, this largely means improvement in two areas:

    - Investing to resolve congestion hotspots and bottlenecks on road and rail and at ports and airports, to enable that infrastructure to operate more efficiently. Decisions in this area should be data-driven, taking into account the level of congestion and the value of the transport impacted by it.

    - Investing to better integrate the transport network, to enable the movement of goods in the optimum productive, strategic and green way. Again, decisions in this area should be data driven to, for example, identify where freight flows are currently happening by road but would be better undertaken by rail, and could be done so if intermodal facilities were established in the right locations. The logistics sector supports the commitment in the DfT Future of Freight Plan to identify a National Freight Network, as this exercise will be crucial for informing strategic, multimodal decisions.

Trade

19. Efficient data systems are increasingly important to reduce trade friction, particularly following the UK's exit from the EU. Amongst the developments in this area, the two that are currently most important for the UK logistics sector are the Border Target Operating Model and, central to this, the Single Trade Window (STW).

20. The Border Target Operating Model which, if enacted, will see new import controls introduced is not a data-system itself. However, it will see numerous changes that logistics businesses will have to integrate into their existing IT systems in order to keep trade flowing. Adaptation of business operations and models, including developing, testing, and operationalising new IT systems will take a minimum of six-12 months, once all the required details are published. Not publishing these details in a timely fashion poses a significant risk to UK imports.

21. The STW will be a significant advance on the current multiple government trade systems. However, it is vital that it is comprehensively tested before it is introduced and replaces the current approach as, if there are any significant issues with it, there is a risk of widespread border disruption. Commercially sensitive information must be robustly protected, and government must give assurances that there will be no intentional or unintentional overreach in the use of data supplied via the STW.

Safety and compliance

22. Quality data on matters of safety and compliance such as data on vehicle maintenance/inspections and freight crime, is vital for ensuring a positive relationship between the logistics sector, the DVSA, police and other regulatory and enforcement bodies. For example, it supports constructive engagement on the appropriate allocation of resources when trends can be interpreted out of the data.

23. Two live issues that the sector is engaging with public authorities on are: Transport for London's proposed changes to the Direct Vision Standard, which we argue will see significant cost added to the sector without the data and other

evidence to warrant the changes; and the lack of an official 'freight crime' category in police reporting, meaning there is insufficient data and, as a result, focus on tackling this.

Skills

24. Rich data in the area of skills and training courses would also assist the logistics sector, by enabling it and policy makers to allocate resources appropriately. Logistics UK tracks the skills needs of the sector, sharing this with policy makers. However, there is currently a lack of transparency and data in government and public data that would assist constructive engagement, such as data on: usage of the apprenticeship levy by sector; availability of relevant training courses; the true cost of delivering such training courses vs the funding allocated; the numbers of people completing relevant skills boot camps; and forecasts on skills spending required due to the aging population, exit from the EU and need for new skills to support the green transition.

Data sharing

25. Addressing the above challenges requires data sharing and partnership. However, as set out in the DfT Transport Data Strategy "too often, transport data resides in silos and is not shared, which prevents the value of data being realised and opportunities unlocked." The document also sets out that there are several reasons for this.

26. We recognise the reasons set out in the strategy and asses that, of the reasons provided, perhaps the most substantial barrier is "not prioritising or valuing sharing or having a clear sense of purpose as to why we are sharing data." While this barrier in the document is explained as "a lack of leadership in the transport data sector," we would make the case that it results from issues with strategic planning in the transport sector more broadly. Put another way, we assess that clearer goals for those responsible for strategic transport infrastructure and related energy infrastructure would lead to greater clarity over what data would be most useful to be shared.

27. Of the themes for improvement in the strategy, we have the following assessments:

28. *Supporting data users to better share, find and access transport data, so that transport users benefit from it.*

    - We fully support this.

29. *Developing and promoting the use of data standards in transport, so that data is interoperable across modes of transport and with other systems such as energy and smart cities.*

    - We support this but note that much of this data is held by the private sector and it is vital that the government takes into account the costs for businesses of changing how they collect data. There will also be regulatory barriers to overcome in some instances, where businesses have to collect data in a certain way.

30. *Leading and promoting a data driven culture across the transport sector by improving data literacy and providing targeted support to raise the skills base, as well as creating clear visions for the data programmes and services.*

    - The logistics sector is highly data driven and literate.
    - We would like to see those responsible for strategic transport policies, transport infrastructure and related energy infrastructure improve their use of data to inform decisions.

31. *Keeping users and industry informed of progress.*

    - We fully support this.

32. *Providing leadership and support to help the transport sector ensure data is subject to appropriate governance, is protected, used for its lawful and ethical purposes, and that at the same time its value is maximised.*

    - We support this but are clear that it must respect the private-sector and competitive nature of the logistics sector. This sector is comprised of over 200,000 logistics businesses plus a large number of other businesses with logistics functions. These businesses collect and use data to optimise their operations in order to deliver for customers and competitive prices. It is therefore essential that the government's approach does not inadvertently undermine the competitive nature of the sector which enables it to deliver value to households, businesses and public services, every day.
    - We are also clear that cyber security must be prioritised in any data sharing regimes. The digitalisation of logistics systems and supply chains increases exposure to cyber threats, and this risk increases with data sharing between companies and organisations if not carefully managed.

33. In addition to the points made in the DfT Transport Data Strategy, another challenge facing the logistics sector is that logistics and freight data (concerned with the movement of goods, inventory management, supply chain optimisation, and efficiency of freight transportation) is generally intertwined with general transport data (including public transport networks like buses, trains, and trams). As well as transport data, this issue also applies to Office of National Statistics and decarbonisation data. We recommend improving the separation and management of logistics/freight data from general transport data. This distinction would allow for more specific, tailored strategies that address the unique

challenges and opportunities within the logistics industry, enhancing efficiency, and creating more targeted value, particularly in the interface with public infrastructure.

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